THE ARCHITECTS' JOURNAL

standard contents

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

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No. 2991] [Vol. 115

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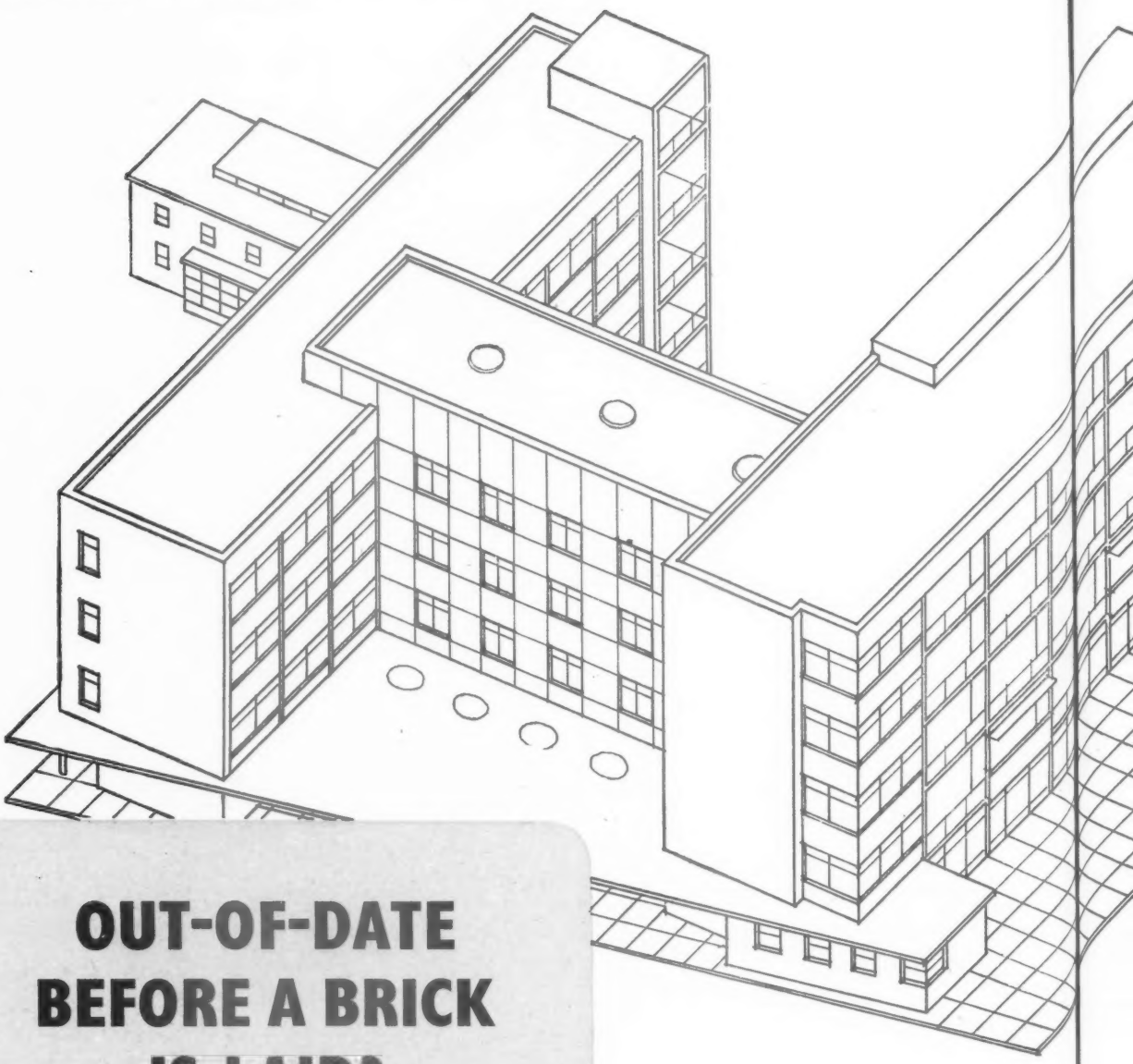
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 75, Eaton Place, S.W.1.	Sloane 3158/1601
IIBD	Incorporated Institute of British Decorators. Drayton House, Gordon Street, W.C.1.	Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1.	Museum 1783
I of Arb.	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197/5176
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
IWA	Inland Waterways Association. 11, Gower Street, W.C.1.	Museum 9200
LIDC	Lead Industries Development Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
MARS	Modern Architectural Research Group (English Branch of CIAM). Secretary: Gontran Goulden, Building Centre, 26, Store Street, W.C.1.	Museum 5400
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1.	Whitehall 3400
MOE	Ministry of Education Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23. Saville Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine-Owners and Manufacturers Council. 94-98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 37, Onslow Gardens, S.W 7.	Kensington 8161
NCBMP	National Council of Building Material Producers, 10, Princes Street, S.W.1.	Abbey5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives, Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 13, Suffolk St., S.W.1.	Whitehall 1693
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1.	Langham 4341
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NSA	National Sawmilling Association. 14, New Bridge Street, E.C.4.	City 1476
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1.	Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Whitehall 9936
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Edinburgh 20396
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8.	Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House, 3921
SIA	Structural Insulation Association. 14, Moorgate, London, E.C.2.	Central 4444
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1.	Langham 1984
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 69, Cannon Street, E.C.4.	City 4444
WDC	War Damage Commission. Devonshire House, Mayfair Place, Piccadilly, W.1.	Mayfair 8866
WEDA	Welfare Equipment Development Association. 74, Victoria St., S.W.1.	Victoria 5783
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford.	Oxford 47988



OUT-OF-DATE BEFORE A BRICK IS LAID?

ONE CHANGE IN THE FITTING-OUT of this new hospital could put it years ahead. Without that change maintenance and cleaning costs of working surfaces—benches, tables, laboratories and facings of corridors and staircases—will be higher than they need be. Much-used surfaces will need frequent renovation and even complete renewal inside a few years.

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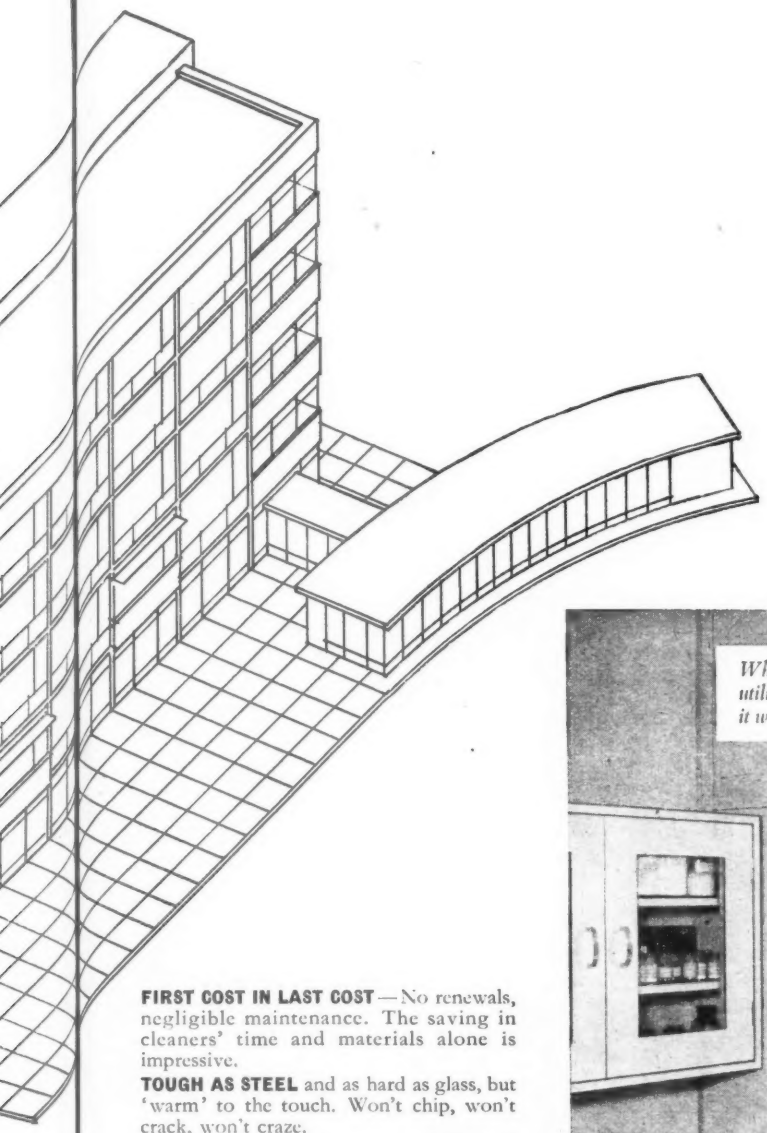
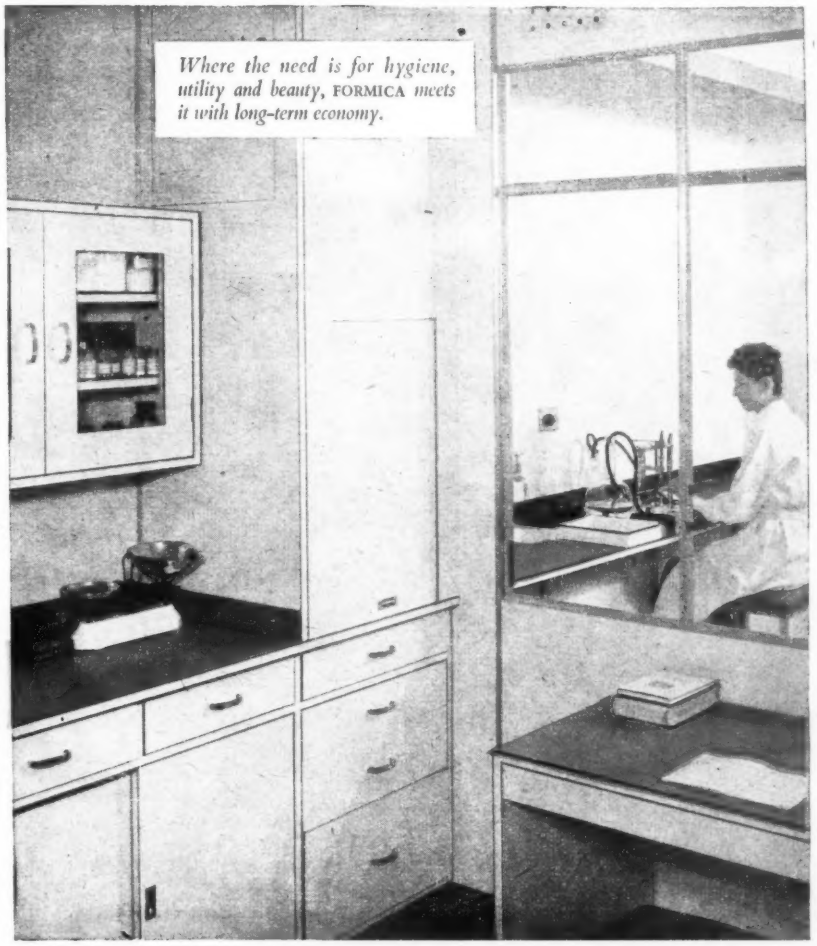


Architects: W. H. Watkins, A. J. Gray, FF/R.I.B.A.



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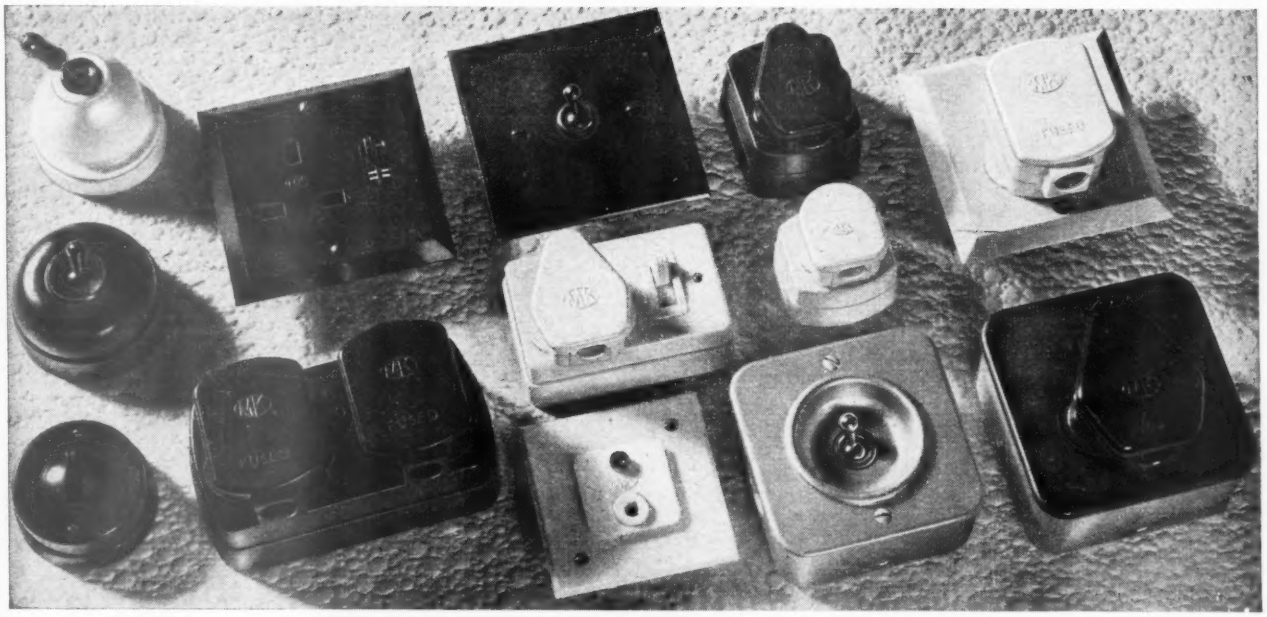

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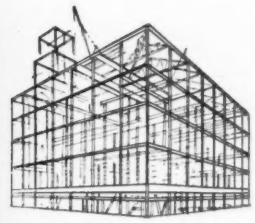

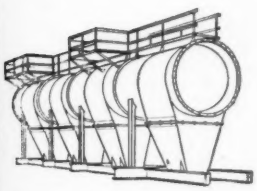

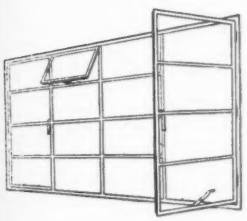

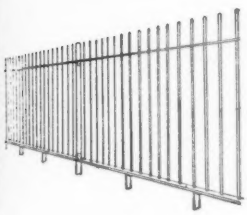

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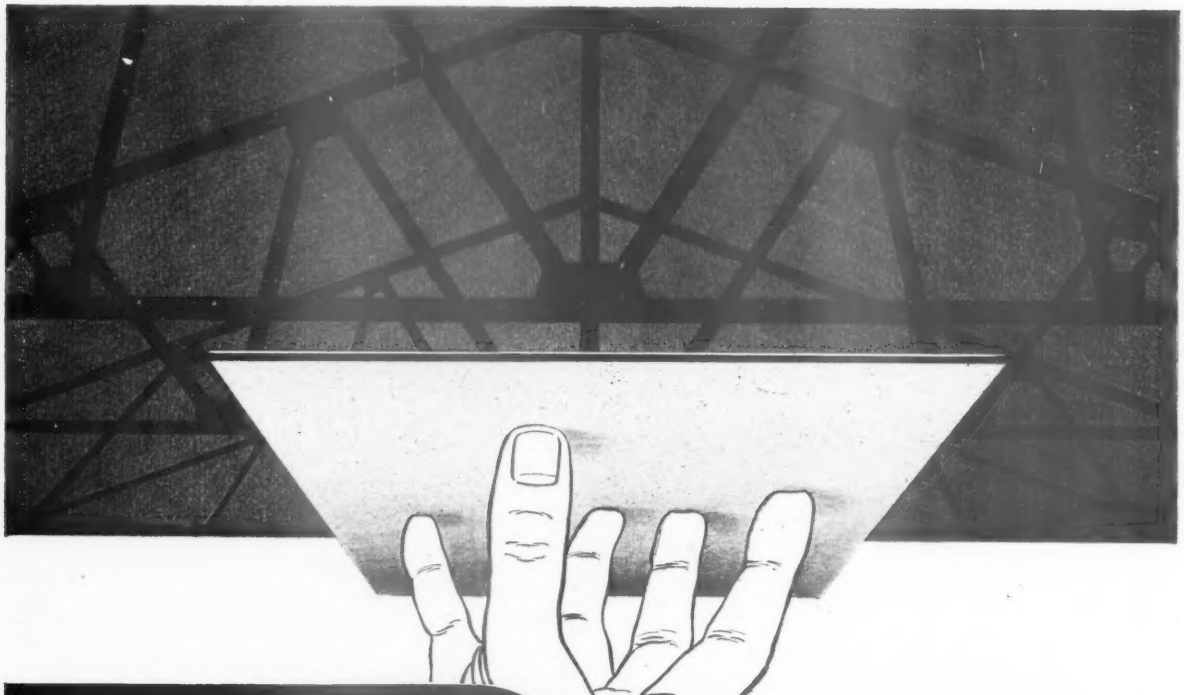

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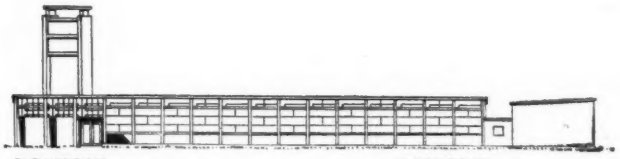

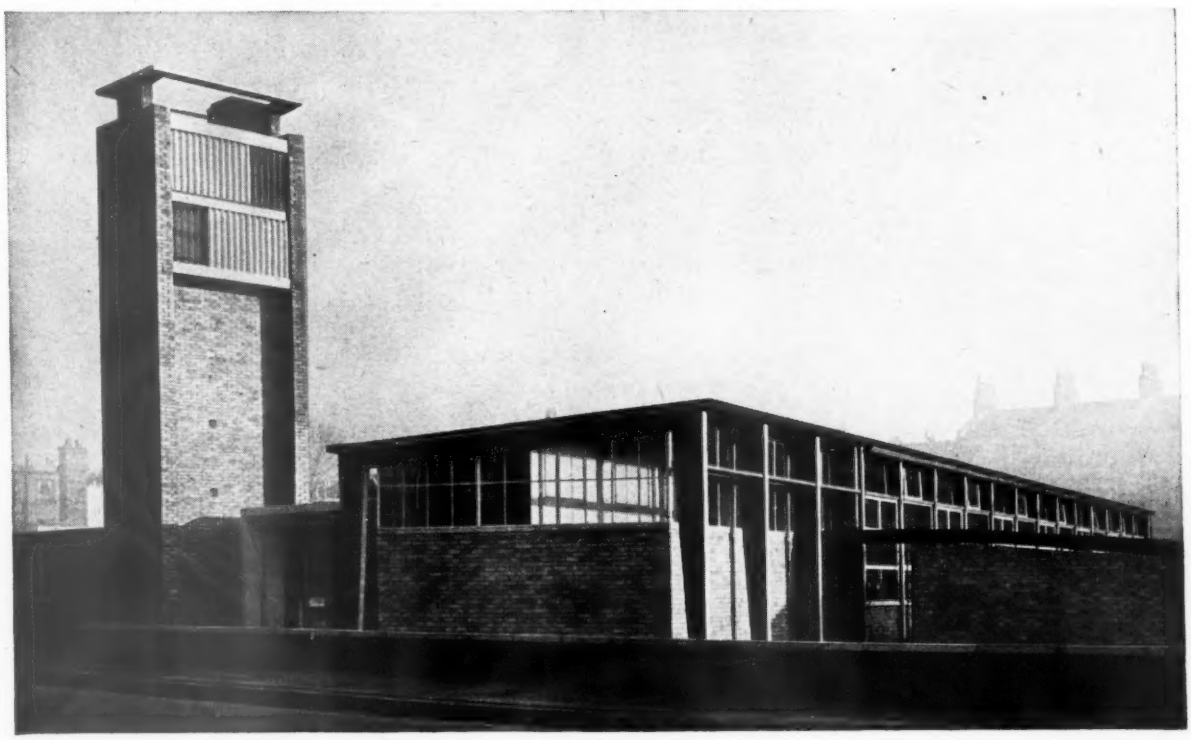

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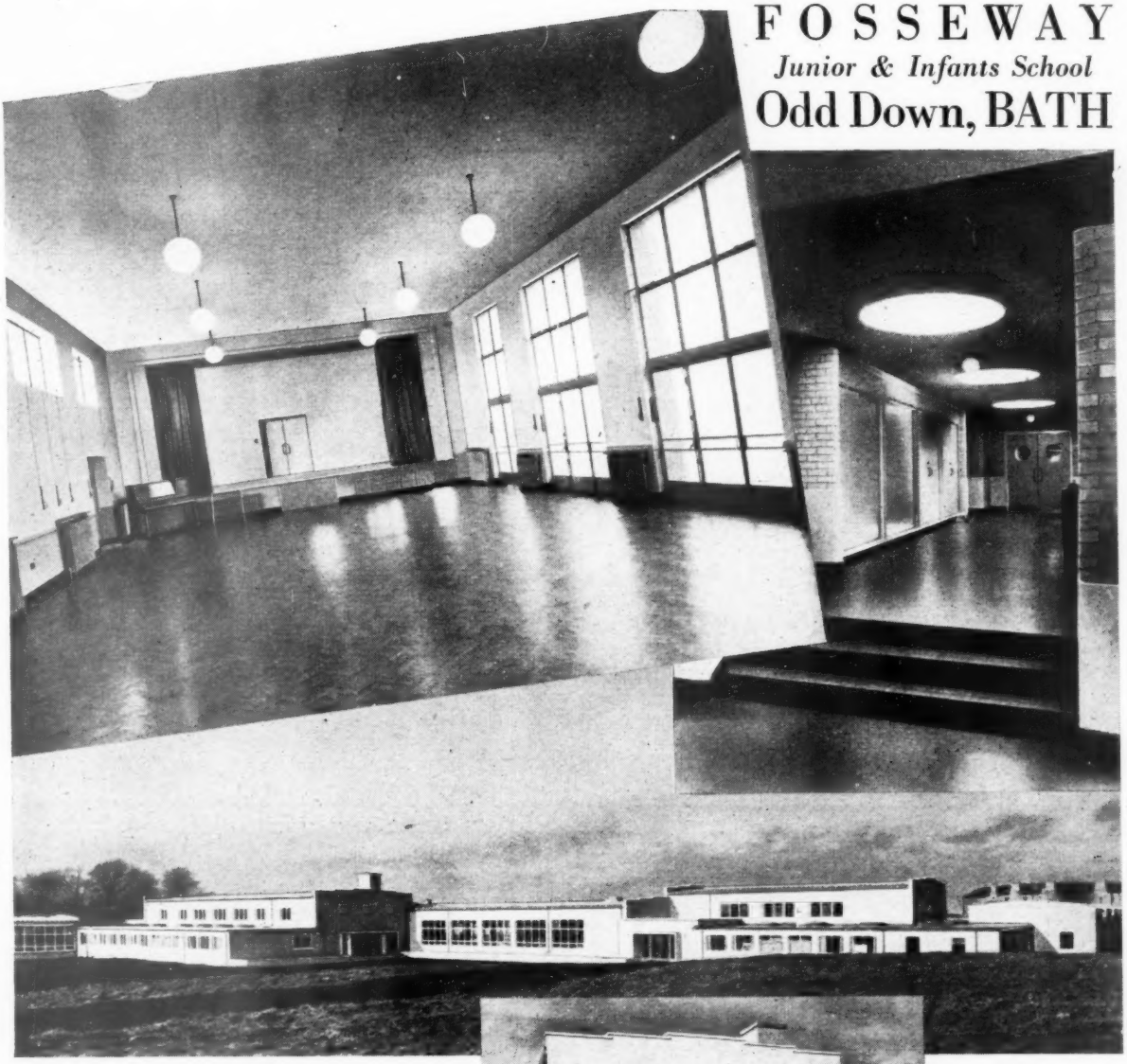

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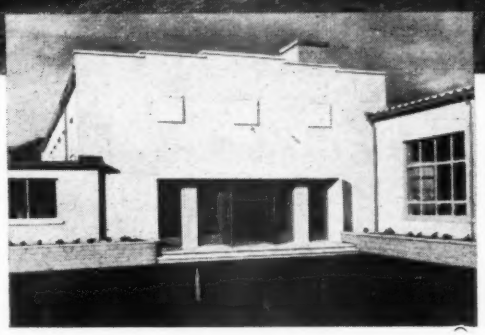

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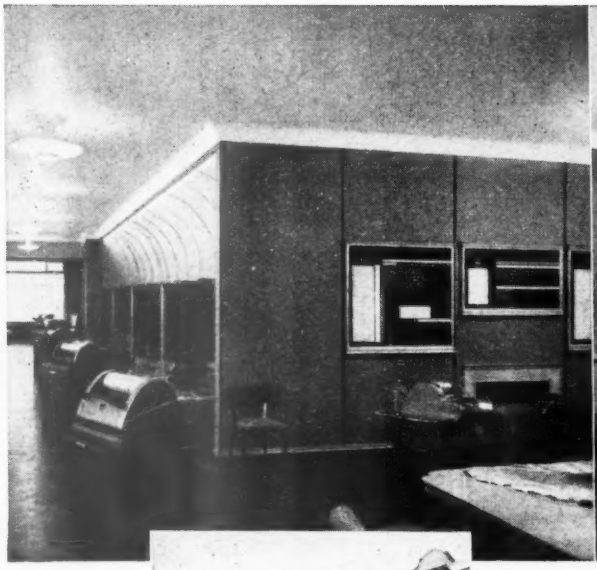

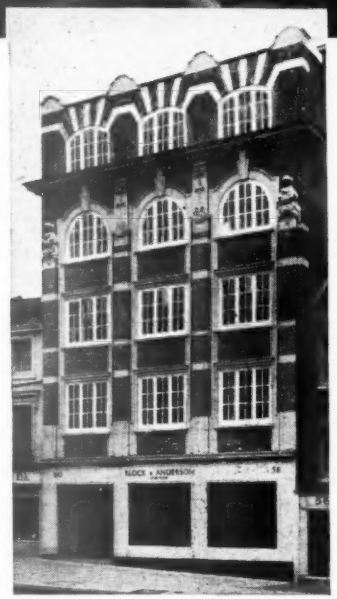

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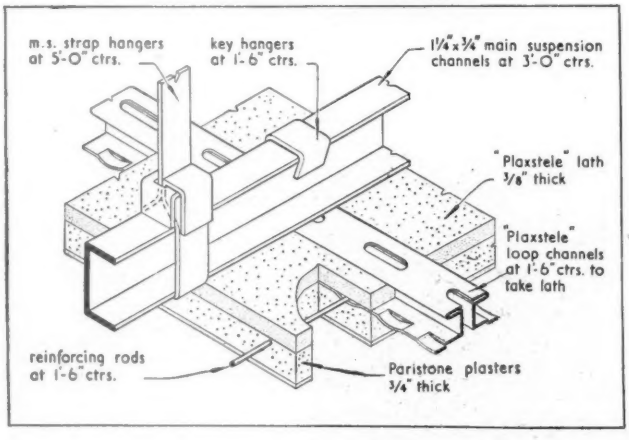

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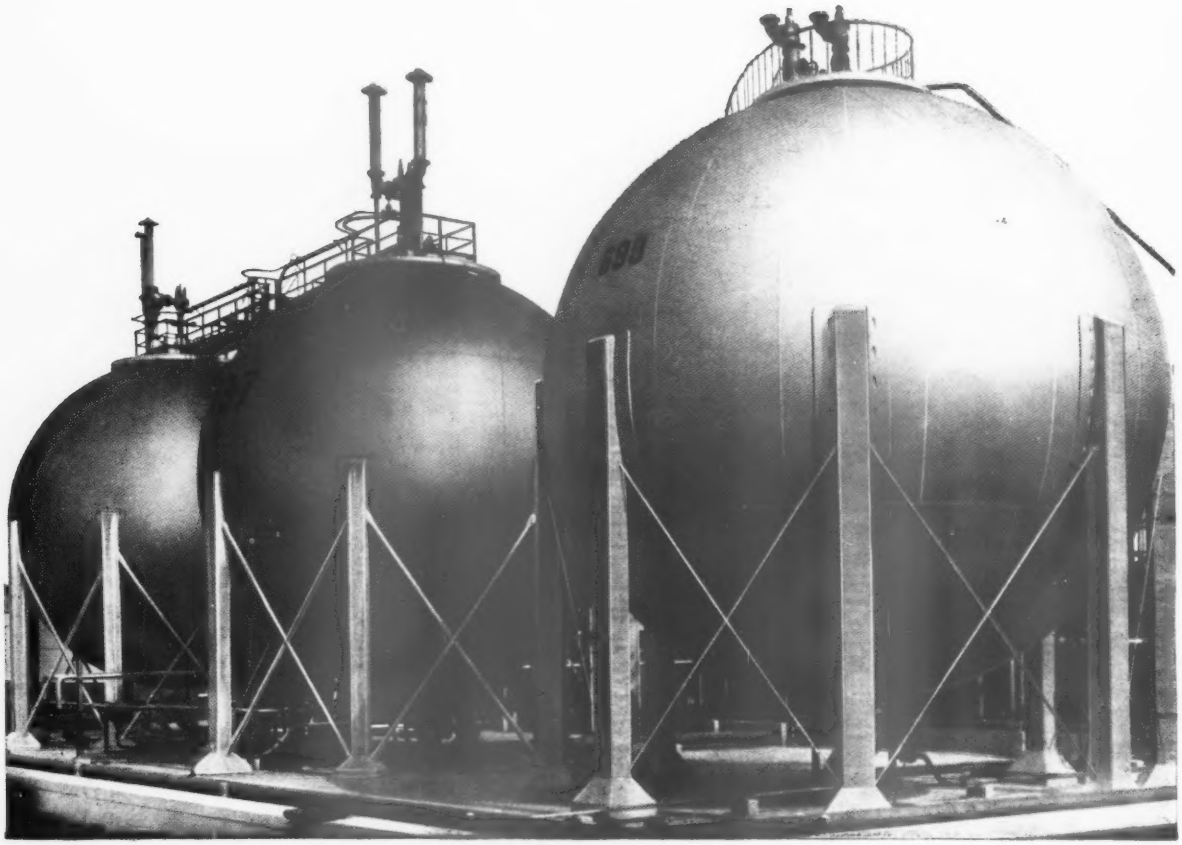
CP5



The versatility of steelwork

The upper illustration shows welded steel spheres for a petroleum company: these are for storing butane.

The columns are encased in their fire protection; that of the bracing is not yet completed.

The lower illustration shows some of the steelwork at the extensive new works of a nylon spinning company.

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ARCHITECTURE IN VOGUE

"To me," said J. Isaacs at the RIBA, last Tuesday, "the *Architectural Review* is very like 'Vogue'." There is, of course, a certain resemblance. They are similar in size and thickness. Both are torn from their wrappers upon arrival with an equal mixture of irritation and interest. Both are easier to look at than to read. Both are classed by the United States Postal Authorities as Second-Class Reading Matter. But there, surely, the resemblance ends, and the resemblance is, after all, superficial. Superficial also, let's face it, even if graceful and entertaining, was the rest of Mr. Isaac's address. Clearly he is a mine—almost a bottomless pit—of information upon the period and subject—"The Gothick Taste"—about which he talked. Equally clearly he found an hour too short, and the audience too unpredictable in their standard of knowledge, for him to be entirely at ease. Nevertheless, it was pleasant to spend a rambling evening among the hermits and ruins of the 18th century, and particularly pleasant to welcome to the RIBA a speaker from outside the familiar world of architecture. Let's hope the Public Relations Committee will spread its net even wider.

*

Such net-spreading, indeed, would seem to be forced upon them. If there is no limit to the number of architectural subjects which can be talked about—a debatable proposition anyway—there is certainly a limit to the number of lectures worth listening to on these subjects. What with the monthly talks at the AA, as well as the RIBA, and regular talks on the BBC and television—to say nothing of the Architecture Club and other societies—the old hands, Summerson, Robert Jordan, Pevsner, Betjeman and the rest are kept constantly, and quite rightly, on the hop. But it may well be asked whether we should not call a moratorium and give them all, and us, six months' rest. Lecture-going can become more a test of one's loyalty to friends (or to an institution) than of one's interest in the subject. When this happens it is time, in ASTRAGAL'S view, to call, if not a halt, at least a hesitation.

O-U-D SPELLS OUD

One way of getting one's ideas into print is, of course, to publish them oneself. ASTRAGAL recently received a pamphlet, privately printed by the Dutch architect J. J. P. Oud, called *Building and Teamwork*, a foreword to which states that it was rejected by the *Architectural Review* because, according to Oud, "architectural circles do not like very much the subject discussed." Leaving aside the possibility that it may have been rejected for other reasons, what is the subject and who is Oud? Well, most of us remember him as one of the great pioneers of the '20's. For a decade or so he disappeared from the scene, to re-appear again after the war with one or two buildings bearing no resemblance to his earlier work, but certainly having a personal, if slightly wayward, character.

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Now he comes out with a churlish attack on architectural teamwork in general and Walter Gropius in particular. "My colleague, Walter Gropius," he writes, "may have a hatred of 'prima donna' architecture; but I fear that a world shaped outwardly entirely according to the architectural principles he advocates, whose products I should like to call 'Chorus architecture,' would hardly be attractive"—rather a confusing mixture of cause and effect. Curiously, the only building he illustrates in his article presumably a design of his own, looks much like any competent hospital produced by one of those American team offices he inveighs against.

*

Are we really so temperamental that we must worry about how or by whom architecture is produced, provided it is good? Much of the best post-war work has been done by teams, quite apart from all the good 18th century stuff whose authors even art sleuths seem unable to exhume. Our concern, surely, is not with the means but the ends. And if teamwork is one way—and at times it seems the only way—of achieving good buildings, then it should be

good enough for anybody. It is a pity that when architects resort to pamphleteering they seem so often to fall out with old friends. It is all a matter of semantics, as the Americans would tell us. To ASTRAGAL it seems that this tract of Oud's is a mistake which the *Review* tried to save him from making.

BUILDING SOCIETIES

Those of you who are regular readers of the *Investors' Chronicle* may have missed the study of building societies and their prospects which was published in a recent issue. This contained a great deal of interest to architects who are concerned with house building. For example, there was an analysis of prices paid for existing houses (with vacant possession) quarter by quarter since September, 1946. This was in the form of an index with 1939 prices = 100. Houses costing more than £2,500, sold at 235 in 1946, and climbed to 342 in December, 1951, with only a year of relative stability at 300-310 in 1950. This year there has been a slight fall to 332 in March. House building costs followed much the same pattern, from about 225 in 1946 to 318 in 1951.

*

The societies naturally hope that the present Government will help them to help lots of people to build or buy new houses, and they point out, quite rightly, that only the block licence system can ensure that new house prices keep sufficiently below the prices of existing houses to make their building worth while. But when Gilbert J. Anderson, of Eastbourne Mutual, writes of a builder being allowed to construct an estate by his pre-war efficient and economical methods, architects begin to part company with him; and the subsequent statement that societies will not encourage sub-standard building does not bring us back. We know those methods and their results. The hard facts are that nine out of ten pre-war houses were badly designed (and too often badly built) and were a blot on a thousand landscapes, on which they were dumped almost at random. Today something like four out of five houses are well designed and properly laid out.

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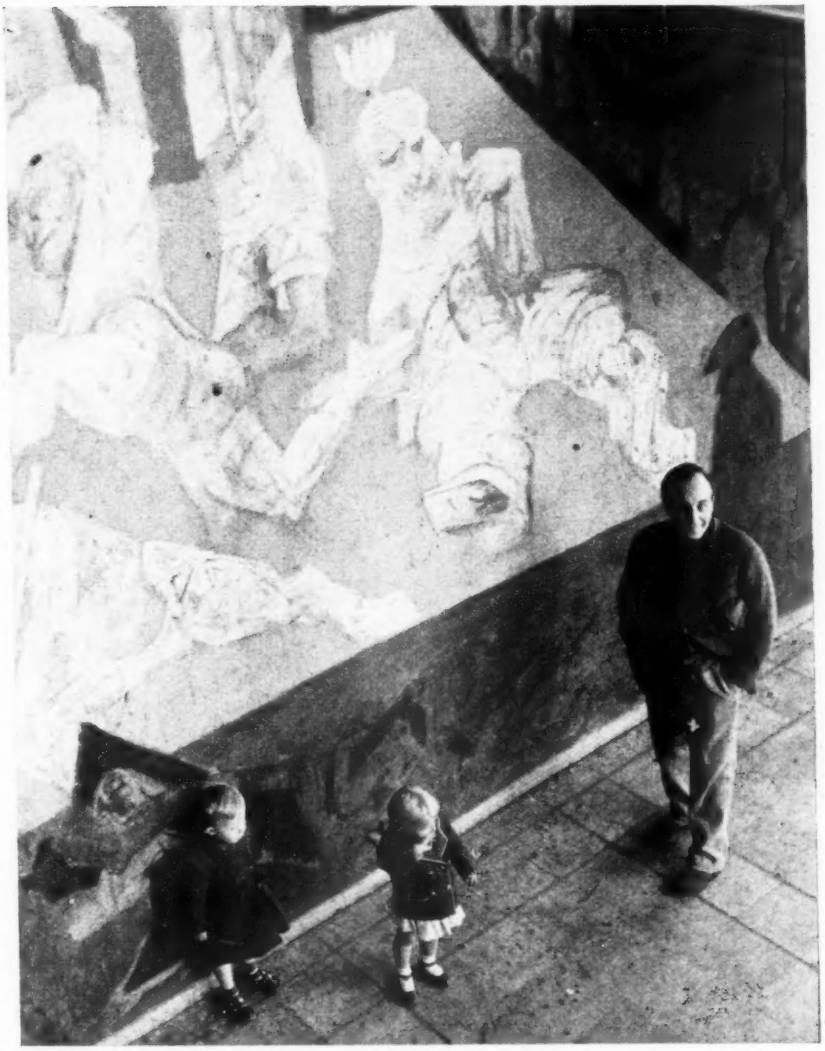
Most architects would welcome more private enterprise houses and recognise the fundamental part building societies should play in providing them. But we do not want them on any pre-war terms except that of low cost.



Two children not bouncing balls against Topolski's murals at Skinner, Bailey and Lubetkin's Busaco Street flats. The artist looks on encouragingly. (*See note below.*)

BOUNCING BABIES UP AGAINST ART

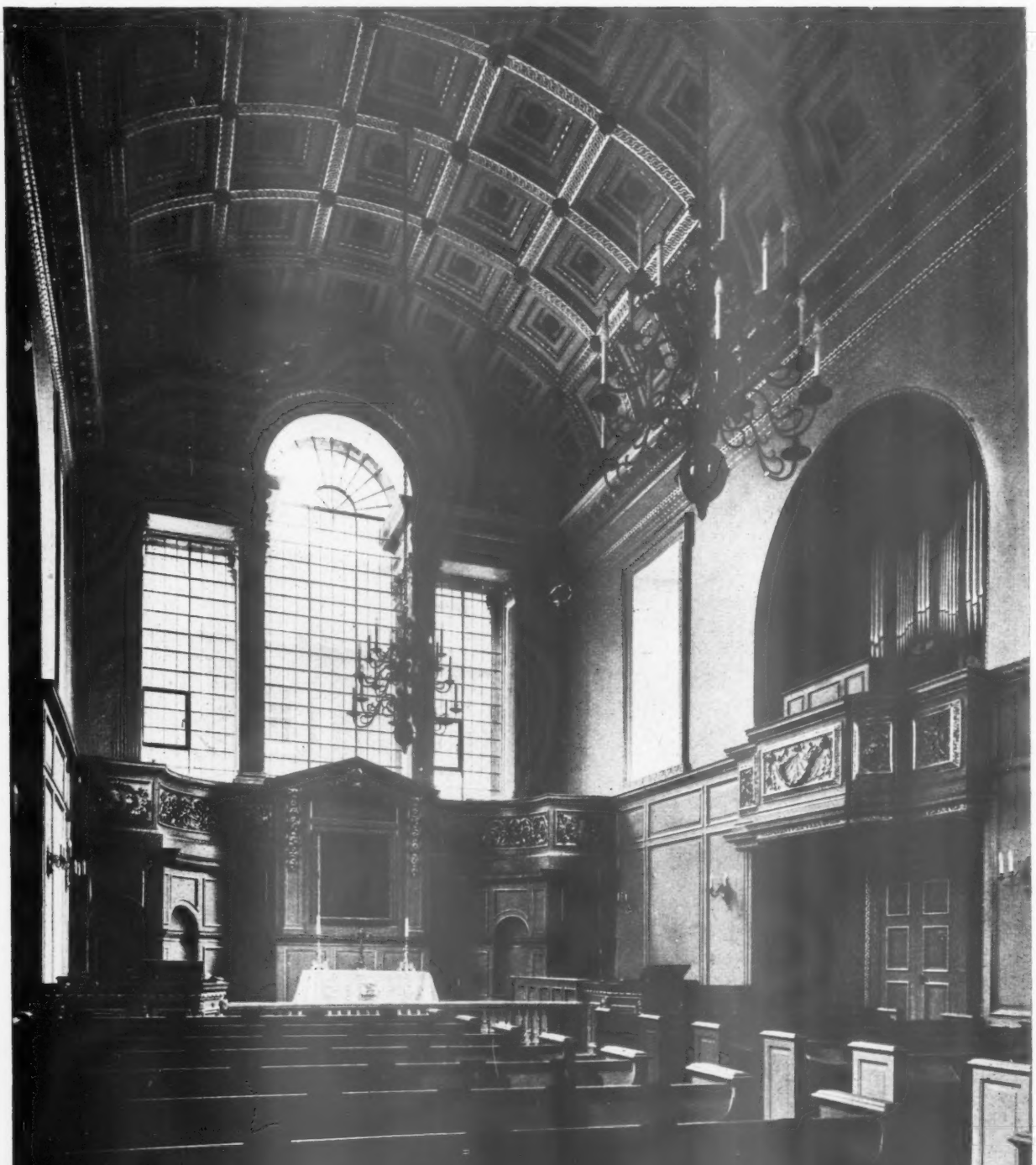
Pursuing still his quest for murals-to-be, those actually in hand, or those already executed, ASTRAGAL recently visited the subject of this week's illustration, Topolski's Murals at the Busaco Street flats, Finsbury. Painted on plaster in what appears to be ordinary house paint (Picasso and John Piper have long known this trick for achieving brilliance) they depict four historical scenes.

*

All four paintings, even in their unfinished state, are gay and attractive, and Topolski has ingeniously made use of the awkward spaces given him. The fact that these spaces *are* so awkward is a pity, particularly as they also appear to be the only suitable walls for children to bounce balls against. It is surprising how well Topolski's sophisticated and delicate paintwork stands up to, and even absorbs, ball marks and incidental "sgraffiti." Congratulations all round—and particularly to the patient and skilful Mr. Topolski, *still* a lover of children.

ARTISTIC COMMERCIALISM

It was Huxley, wasn't it? who said that it's easier to write ten effective sonnets than one effective advertisement. For once ASTRAGAL won't contradict his Aldous—but the key word is, of course, *effective*. A ballad made to your mistress's eyebrows has ten times as much chance of romping home as a poster that tells her to pencil in a new one. The commercial artist needs more tact than his academic equal. It will be all the more interesting, therefore, to see the result of a new Danish advertising scheme under which twenty distinguished Danish painters



The Queen's Chapel

The design of the Queen's Chapel, Marlborough House, has always been attributed to Inigo Jones, who died just three hundred years ago. But only recently has this been confirmed. The design for the chapel, which was intended for the Spanish Infanta and then built for Henrietta Maria, dates from 1623. The furnishing was largely renewed later in the century but the magnificent carved coffered ceiling remains. Together with the banqueting house, which was built shortly before, and the Queen's House, designed in 1616, the chapel bears witness to the brilliant mind of the architect who could grasp the meaning and significance of what had happened in Italy during the last two hundred years. It is also a reminder of his great audacity, for it took courage to break with tradition of Tudor England and to plant this foreign bloom so firmly in the English soil. The fact that Inigo visited Italy just after the end of Mannerism, when a cooler, more classical air prevailed, may well have been responsible for the classical tone of later English architecture. (Photograph by gracious permission of Her Majesty the Queen.)

have been given a free hand with twenty gable walls in Copenhagen, the only limitation being that they must work to the slogan "Milk is Healthy." This seems a really splendid idea; my warm congratulations to the Wahl Asmussen advertising agency who thought up the idea and to the Copenhagen dairies who have bought it. If it is successful perhaps the idea will spread to this country. In any case, "free-for-all" among selected artists on selected poster sites might be a good Coronation stunt for some lively firm or local authority to organize.

*

Incidentally, it was interesting to be told the other day that those horrid poky little "hoarding" gardens, recently attacked on the radio by "The Critics" and by Sir Hugh Casson at an Advertising Conference in Brighton, are in fact unpopular also with the hoarding boys—only on the grounds of cost, of course. Apparently they are put in as a rule at the request of the local authority, acting as usual with the best of misdirected intentions, and no doubt we shall see more of them next June.

CORONATION DECOR

While on the subject of the Coronation which—said Mr. Eccles the other day—the Government hopes will be, visually at least, the best ever, isn't it time we heard something of the official plans for the decoration of the capital? Is each local authority being left to its own devices? Or is the Government—*i.e.* MOW presumably—taking over "The Route" and leaving the rest to street associations and private enterprise? Are advisory architects—or perhaps painters—to be appointed? Is that extraordinary temporary appendage to the Abbey to be rebuilt? The ceremony is only one year off now and these matters all take time—particularly those that involve consultations with property owners, the police or local authorities.

*

ASTRAGAL proffers his sympathy to all those who are shortly to be faced with these problems, wishes them well in their task, and counsels them to watch their step when dealing with heraldry, street lighting, the Metropolitan Police, flag etiquette, and that most menacing problem of them all . . . maintenance.

ASTRAGAL

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The Editors

WILL THE NEW TOWNS LOOK MONOTONOUS?

IT is now possible to assess the quality of housing design and layout in some of the New Towns, and to decide whether the opportunity of producing something of a quality never achieved before has been taken. In this issue we publish the first two of a series of critical reports on London's New Towns, by D. Rigby Childs. These illustrated reports of progress at Hemel Hempstead and Crawley—in which are considered the appearance of houses and flats, the space around buildings, and the relationship between buildings, roads and footpaths—show that, as one might have expected, the layout and design are great improvements on those of pre-war estates.

In what way have improvements been made? Firstly, ribbon development of principal roads has been stopped. Secondly—an æsthetic improvement—the basic unit for design is now the house group; the individual house is part of a larger design unit which embraces a whole street, square or precinct. A third improvement—and this is, of course, an improvement only on the cheaper type of pre-war house—is that the back elevations of houses and flats are designed and built with the same care as the fronts. There is also one fundamental improvement that will not be apparent until the towns are completed. If they are built as planned they will be well balanced communities, with a satisfactory proportion of housing, work places, schools, shops, churches, public buildings and open spaces.

In spite of all this the New Towns fall short, in some ways, of what we hoped for. This is undoubtedly due to the large public demand for the house and small garden. (Planners' work would be much easier if housing in terraces shared one open space.) It is disappointing to see that no advance has been made at Hemel Hempstead and Crawley in the planning of the relationship between houses and their back gardens. And it is becoming clear that the repetition of the house-and-small-garden formula throughout the length and breadth of a New Town can lead to a monotony equivalent to that found in pre-war suburban development.

It seems that architects and planners still have a challenge to answer. They have yet to show that they can respond to the general demand for the house and small garden, and yet produce lively and interesting towns.

RIBA

Students' Hardship to be Considered

An encouraging piece of news has come from the RIBA this week. As readers will remember, a student cannot now qualify for associateship of the Institute until one year after passing his examination, during which time he must be employed in an architect's office. This has led to an outcry from students who think it unfair that the new regulation should come into force before they have finished their training. (They had embarked on a five-year course in the belief that they would qualify at the end of it.)

Until recently it seemed that the RIBA would not consider making concessions on grounds of hardship. But the Institute's Board of Architectural Education has now been "empowered to set up machinery to deal with cases of hardship." The Board is now considering under what conditions applications for relief may be submitted. Another announcement will be made later. The Institute asks that, in the meantime, no application should be made.

Council Election, 1952

The RIBA has announced full details of the results of the election of officers and members of its council. In addition to the new president, Howard Robertson, whose election was announced in the JOURNAL last week, the composition of the council for 1952-1953 is as follows: *Past Presidents*: Harry Stuart Goodhart-Rendel and Michael T. Waterhouse; *Vice-Presidents*: P. G. Fairhurst and three more to be appointed by the Council; *Honorary Secretary* and *Treasurer*: to be appointed by the Council; Members of Council: Professor Sir Leslie Patrick Abercrombie* (Aston Tirrold), C. H. Aslin* (Hertford), Victor Bain (Leeds), Hubert Bennett (Leeds), Sir Hugh Casson, Anthony M. Chitty, Denis Clarke Hall, J. Murray Easton, R. E. Enthoven, R. J. Gardner-Medwin* (Edinburgh), Frederick Gibberd*, Professor W. G. Holford, Leonard C. Howitt*, S. Rowland Pierce, Basil Spence* (Edinburgh), C. G. Stillman, G. Grey Wornum and F. R. S. Yorke.

Associate Members of Council: Hon. Lionel G. B. Brett (Oxford), H. T. Cadbury Brown, D. E. E. Gibson* (Coventry), S. A.W. Johnson-Marshall*, R. A. H. Livett* (Leeds), R. H. Matthew, Peter F. Shepheard, Ralph Tubbs, J. Lewis Womersley (Northampton).

Licentiate Members of Council: S. Vincent Goodman (Bedford), G. H. Morris* (Coventry), S. Lunn Whitehouse (Birmingham).

Six Representatives from the Northern Province of England: C. A. Harding (Northern Architectural Association), William Cecil Young (Manchester Society of Architects), F. J. M. Ormrod (Liverpool Architectural Society), Colin Rowntree (York & East Yorkshire Architectural Society), Noel Pyman (West Yorkshire Society of Architects), S. E. Minns (Sheffield, South Yorkshire & District Society of Architects & Surveyors).

Five Representatives from the Midland Province of England: C. E. M. Fillmore (Birmingham & Five Counties Architectural Association), P. G. Copson (Northampton, Bedfordshire and Huntingdonshire Association of Architects), T. Nelson Cartwright (Nottingham, Derby and Lincoln Architectural Society), C. H. Thurston (East Anglican Society of Architects), and one representative to be nominated by the Leicestershire and Rutland Society of Architects.

Six Representatives from the Southern Province of England: Lionel F. Vanstone (Devon and Cornwall Architectural Society), F. A. C. Maunder (Berks, Bucks & Oxon Architectural Association), Gordon Sutcliffe (Hampshire & Isle of Wight Architectural Association), Harold Conolly (Essex, Cambridge & Hertfordshire Society of Architects), R. W. Paine (South-Eastern Society of Architects), and one representative to be nominated by the Wessex Federal Society of Architects.

Four Representatives of Allied Societies in Scotland: Thomas S. Cordiner (Glasgow), Alexander Cullen (Inverness), Lockhart W. Hutson (Hamilton), W. H. Kininmouth (Edinburgh). *One Representative of Allied Societies in Wales*: J. W. Bishop (South Wales Institute of Architects). *Two Representatives of Allied Societies in Ireland*: Francis McArdle (Royal Institute of the Architects of Ireland), R. H. Gibson (Royal Society of Ulster Architects).

Representatives of Societies in Alliance with the Royal Institute Overseas: J. Roxburgh Smith (The Royal Architectural Institute of Canada), L. Sylvester Sullivan (Representative in UK), Cobden Parkes (The Royal Australian Institute of Architects), A. Graham Henderson (Representative in UK), M. K. Draffin (New Zealand Institute of Architects), R. H. Uren (Representative in UK), D. F. Hugo Nandé (The Institute of South African Architects), Michael T. Waterhouse (Representative in UK), and a representative in UK for the Indian Institute of Architects.

Representative of AA: A. R. F. Anderson. *Representative of ABT*: K. J. Campbell. *Chairman of the Board of Architectural Education*: Anthony M. Chitty. *Chairman of RIBA Registration Committee*: Denis Poulton. *Two Representatives of RIBA Salaried and Official Architects' Committee*: To be appointed. *Chairman of RIBA Allied Societies Conference*: P. G. Fairhurst (Manchester).

* Newly-elected members of council.

MIDDLESEX

Draft County Development Plan Ready

At the meeting of the Middlesex County Council, yesterday, the County Planning Committee submitted the County Development Plan for approval. In accordance with the provisions of the Act the draft Plan will be placed on display to the public for a period of six weeks commencing Tuesday, July 1, at 1, Queen Anne's Gate Buildings, Dartmouth Street, Westminster, S.W.1.

MOHLG

John Laing joins Bailey Committee

At the invitation of Harold Macmillan, and James Stuart (the Secretary of State for Scotland) John Laing, who is a former chairman of the Research Committee of the NFBTE, has agreed to become a member of the Bailey Committee on House Interiors.

Ernest Marples Inspects Houses Built by Direct Labour

Ernest Marples, Parliamentary Secretary to MOHLG, inspected last week five blocks of "People's Houses" at Colchester built by the local authority's direct labour organisation, under the direction of J. S. Orchard, the Borough Engineer.

Despite the fact that these houses were an experiment, as far as this building organisation was concerned, some of them were built in eight weeks and all fifteen were completed in four months. The cost is estimated at approximately £1,240 per house, exclusive of land, roads and main services. The final figures may prove to be lower.

The majority of the houses were built to plans adapted from the MOHLG handbook, "Houses 1952." Two, however, were designed exclusively for Colchester in the Borough Engineer's Department.

NFBTO

Hugh Molson Addresses Delegates

Addressing the annual conference of the NFBTO last week, Hugh Molson, Parliamentary Secretary to the MOW, paid tribute to the broad-minded way in which building workers have co-operated in the introduction of modern equipment and labour-saving devices into the industry. It was a pity, he stated, that the same enlightenment did not exist in all industries.

With regard to supplies of building materials, Mr. Molson reminded delegates that the MOW has had to stop further imports of foreign cement and that we no longer had the resources to import timber freely. However, he continued, there was an "encouraging upward trend" in the output of bricks and cement, and, although there were 30,000 unemployed in the building and civil engineering industries at May 1, the MOW reported at the same time 23,800 vacancies.

DIARY

Town Planning as a Problem of Government. Professor W. A. Robson. At Caxton Hall, Caxton Street, S.W.1. 6 p.m.
JUNE 26

Tomorrow's Furniture: Exhibition. At ICA, 17-18, Dover Street, W.1. Weekdays, 10 a.m. to 5 p.m. Sundays 2 p.m. to 6 p.m.
UNTIL JUNE 29

The New Towns. Sir T. P. Bennett. At 66, Portland Place, W.1. (Sponsor, LMBA.) 6 p.m. JUNE 30

Inigo Jones. John Summerson and W. Macqueen Pope. At St. Paul's, Covent Garden, W.C.2. 6 p.m. JULY 2

For Bill and Betty—Or Setting Up Home. At the Whitechapel Art Gallery, High Street, E.1. (Sponsors: Oxford House in Bethnal Green and the Whitechapel Art Gallery.) Weekdays (excluding Mondays) 11 a.m. to 6 p.m.; Sundays 2 p.m. to 6 p.m.
UNTIL JULY 24

In their article of May 15 the Guest Editors stated that they had invited two young architects of proved ability, who had worked as members of groups in offices where the group method had been developed, to give their opinions on the organization of the large office. They came out strongly in favour of breaking down the large offices into groups but they put forward a number of conditions which they felt must be fulfilled in order that the system should work successfully. First, on the size of the group, they thought that ten qualified architects was approaching the upper limit (this number excluded draughtsmen and clerical assistants). Second, they considered that the group leader should have considerable authority, including responsibilities for discipline and conditions of work, and, in passing, they thought that some of the more irritating disciplinary details which have crept into the public architectural office from other sources should be reviewed. Then, they thought that the group leader should be brought closely into contact with the committee for whom he was designing, and that the architects within the group should have direct contacts with their opposite numbers in the client departments—such as the education department in the case of school buildings. Finally, and perhaps their most important need, was that the chief architect should be accessible for consultation at frequent intervals. In any case he should be free to visit the groups sufficiently often to identify himself with the work being done by all of them, and to have a clear appreciation of the abilities and limitations, as well as the personalities, of their architect members. The Guest Editors have obtained the following description by a group leader, W. D. Lacey, of how group working develops in practice. Mr. Lacey is in the Hertfordshire Architect's Department, where the group method has been working for some time.

AN EXAMPLE OF GROUP WORKING

By W. D. Lacey, a Group Architect.

THESE notes deal with the problem of organizing a group within the large architect's department of a local authority. The office referred to in this article is the Primary Schools Group of the Architect's Department of the Herts. C.C. The method of working is based on the conception : first, that better contemporary architecture can be produced by the combined efforts of a group than by the separate efforts of individual architects. Second, that each architect should have the opportunity to supervise the building of his own work. Third, the programme approach, in which the jobs are treated as a series using standard constructional details, instead of independent jobs, each tackled in a different way.

It is realized that an annual programme of approximately ten primary schools per year does lend itself readily to group working, based on these principles, but even with a programme of a small number of large jobs, which is more difficult to organize since each architect cannot be responsible for an individual job, I suggest that the same principles can probably still be applied, although the detailed working will obviously have to be modified.

SIZE OF THE GROUP

The group described consists of ten architects. The size of any group is, of course, regulated by the volume of work in the programme but experience suggests that ten to twelve architects is a desirable maximum in one group. With a unit larger than this it is difficult to build up the good personal relationships and respect for the other chap's point of view, which are necessary components in the creation of a harmonious architectural approach. Also, when the group is too large, differing opinions tend to develop into the formation of rival factions.

SELECTION AND RECRUITMENT

As a result of the present method of appointing staff by means of public advertisements and short lists, the group is made up of architects who, until they came to this office, were unknown to each other. The majority —especially whose who have been recently trained at a school of architecture—arrived with a basic appreciation of the approach towards contemporary building. But more than this is necessary in the true member of an architectural group. As I will show later, he must be prepared to have his designs discussed and criticised by the rest of the group and to profit from these discussions.

A further personnel problem is that from time to time the structure is weakened by a member leaving to take up a better job. Again, the experience of the past few years shows that although the department is keen to retain its experienced architects, it is not possible to promote more than a small number each year to the senior staff. The whole subject of salaries and promotion is too vast for these notes, but the immediate effect on the organization of the group is that the annual loss of some experienced members and the integration of new architects has to be reckoned with.

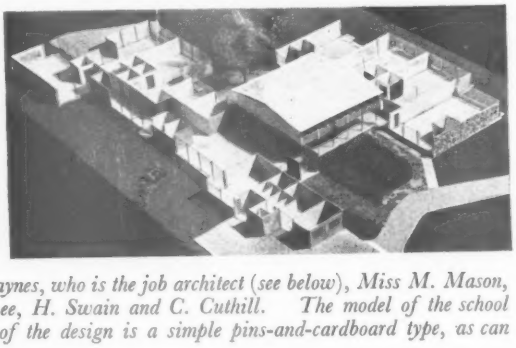
GROUP LEADER

Although the internal arrangement of the group can be informal, a group leader who is responsible to the chief architect for getting the work out is an administrative necessity in the running of a large department. He must identify himself with the architectural approach and be experienced in the working of local government. Evidence shows that the majority of his time will be spent in dealing with estimates, tenders, committee reports, programme charts and problems of architectural practice. In addition, he has to co-ordinate the working of the other members of the group. He will therefore have little time available for working on the drawing board, but he can contribute considerably to the standard of the designs produced by means of discussion and the organization of the main effort of the group.

GENERAL ORGANIZATION

The work is distributed so that each architect is the job architect responsible for the design, organization and running of *one* of the jobs in the programme. This ensures continuity, not only in the development of the design, but also in the relations between the office and the contractor and sub-contractors on the site. But, at each stage in the development of the scheme, the proposals are submitted to the whole group for discussion. In practice it has been found that these stages can be classified as :

(*a*) the preliminary plan—this is the period during which discussion can



Above, the Hertfordshire Primary Schools Group discussing the paving layout and landscaping of a junior mixed infants' school at Kenilworth Drive, Boreham Wood, which is part of the 1951 programme illustrated below. From left to right are: C. H. Aslin, County Architect, A. P. Tait, W. D. Lacey, M. Wolicki, R. Haynes, who is the job architect (see below), Miss M. Mason, A. Donnan, R. Brewerton, V. Lee, H. Swain and C. Cuthill. The model of the school which is used to help discussion of the design is a simple pins-and-cardboard type, as can be seen in the detail view, right.

be most fruitful. Experience suggests that the alternative approach to the problem can generally be more quickly defined by a group clearly discussing it than by the architect working alone. The recommendations resulting from a group discussion are confined to principles, and the detail working up is the responsibility of the job architects. During the preparation of a sketch plan, three or four group criticisms will probably be necessary until, ultimately, a scheme acceptable to the job architect and the group is achieved.

(*b*) Finishings—this criticism takes place towards the end of the working drawing period and includes internal and external wall surfaces, flooring materials and patterns, external pavings and any special job details.

(*c*) The colour scheme.

(*d*) The planting scheme.

The two latter discussions take place during the course of the construction of the job. As a means in the development of the design, and to facilitate discussion, a simple pins-and-cardboard model of the project to a scale of $\frac{1}{8}$ in. equals 1 ft. is made of all jobs during the sketch plan period and is used in the detail development of the scheme. (It is especially valuable during the preparation of the colour scheme.)

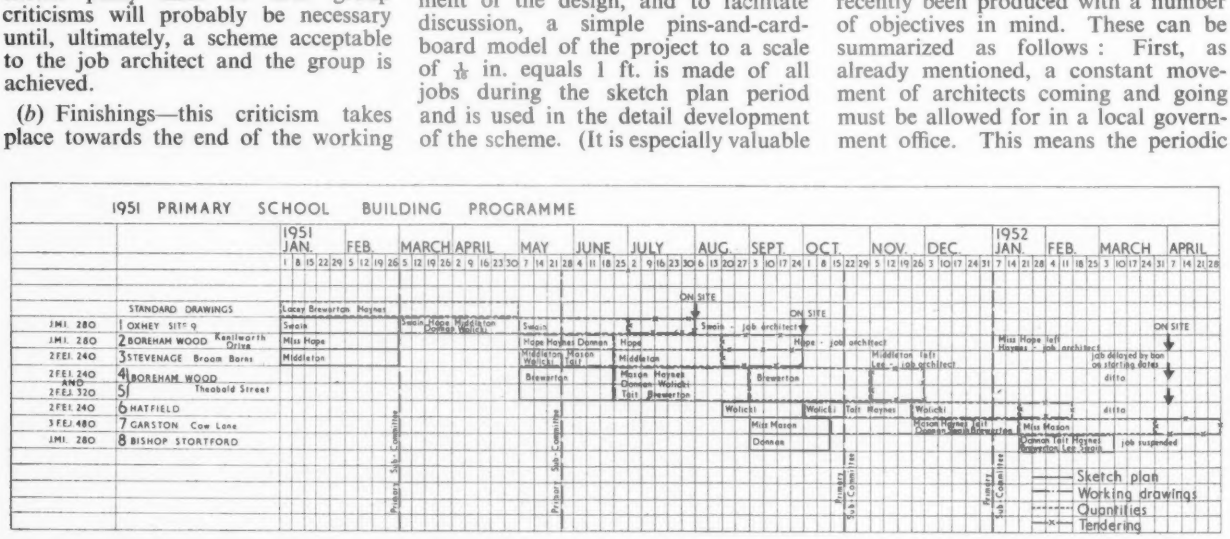
This method of working has been criticized as being too severe on the sensitive designer, but, on the other hand, can anything but the best answer be accepted when £50,000 or more is being expended? By this method, the best in the opinion of not one, but a dozen architects, can be achieved. In addition, such discussions at all stages of the job keep the problems of architectural design in their rightful position of importance.

GROUP MEETINGS

The design discussions form part of regular group meetings, at which the work in progress is reviewed. A convenient pattern for these has been evolved which is as follows. First, a progress report on the working drawings which are in hand. Second, a progress report from each job architect on his own job. Third, the design discussion. Variations have, of course, to be made to this pattern but the regular series of group meetings is the basis of the organization of the group. For the group leader, it enables him to keep a check on the drawing office progress, without having to "tour the boards" every few days. It also enables him to put over, and discuss, administrative directives and programme policy decisions which affect all jobs. For the job architects, in addition to the value of the design discussion, it enables them to keep an eye on the progress of the whole programme.

INFORMATION BOOK

A loose-leaf Information Book has recently been produced with a number of objectives in mind. These can be summarized as follows: First, as already mentioned, a constant movement of architects coming and going must be allowed for in a local government office. This means the periodic



This chart shows the programme of work actually carried out by the group last year. It was a difficult year due to the national shut-down on starting dates, and that is why four of the jobs show a gap between the receipt of tenders and the actual starting of building on the site. The preparation of sketch plans has to be organized to fit in with the committee dates. Theobald Street, Boreham Wood, was a special job put into the programme at a late stage and was dealt with by a special committee. The gap of one month between working drawings shown in September was a time allowance to cover the holiday period. In addition, this chart shows the continuity of an architect's work over the year.

loss of experience, probably acquired over several years, and the only way to offset this loss seems to be to ensure that year by year the experience and lessons are recorded. Second, it is important that all job architects have available, in easy reference form, a check of the procedure to be adopted at every stage of the job. Third, it is an advantage in the preparation of job drawings if the detail at any point of the structure can be checked by reference to a small composite drawing instead of having to sort through numerous standard drawings. Fourth, it is hoped that by recording the successful points of the earlier work the general design standard will not only be maintained, but improved.

The book is divided into two sections, the first dealing with administrative information and the second with design information. Section A sets out the procedure to be adopted at the sketch plan, working drawing, quantities, contract and site supervision stages, including relations with the client, contractor and sub-contractors ; a check list of the information to be given on all job drawings ; the method of carrying out a site meeting and a maintenance inspection and the procedure on P.C. sums.

The first part of Section B is a set of composite drawings dealing with the steel frame, walling, windows and roof construction. The second part of Section B describes the materials available for internal finishes, the general policy with regard to them and the previous jobs in which they have been successfully used. These are listed as paint and colour, brick, pin-up board, wallpaper, acoustic materials, curtains and alternative forms of flooring. The third part of Section B deals with planting and the preparation of landscape layouts, the fourth with furniture and the last with the policy and procedure on works of art.

It is realized that this does not adequately deal with all the components that make up a building but it is a framework to which it is hoped to add further sheets from time to time and to which revisions can easily be made.

DRAWING OFFICE WORK

The fact that all the schools in the programme are similarly constructed means that the detailed drawings can be prepared once for the whole programme and not separately for each job. These standard drawings on the current programme of primary schools total 90, and cover the structural items, such as windows, wall blocks, eaves gutters ; the finishings, such as fibrous plaster and skirtings ; and the fittings such as chalkboards, lavatory units and cloakroom fittings.

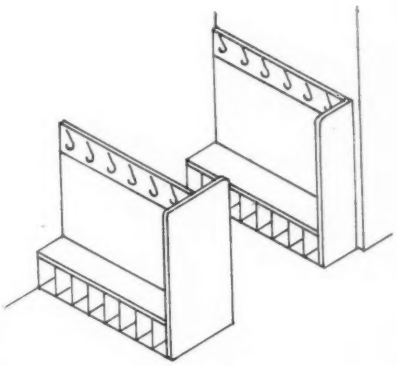
As can be seen from the programme chart, these are prepared by several members of the group during the early period of the programme. For the individual job, job drawings only have to be got out, those for a primary school are, in the main, eighth scale drawings ; details of special items peculiar only to this job (for although the buildings are similarly constructed, each is considered as an individual piece of architecture) ; and the site work details. The office records show that the time required for the preparation of these job drawings is approximately 110 man days per job for a primary school.

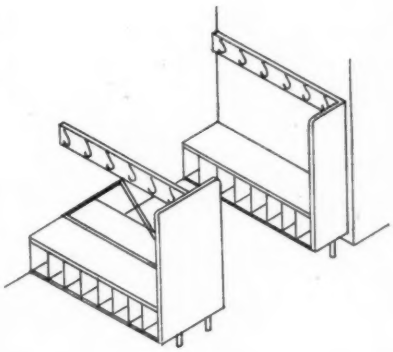
On this particular series of programmes, it has been found convenient to overhaul the standard drawings in a two or three year cycle, since this period allows the design and building time, plus a reasonable period for the accumulation of experience of the details in use. Modifications are, of course, being constantly carried out within this cycle.

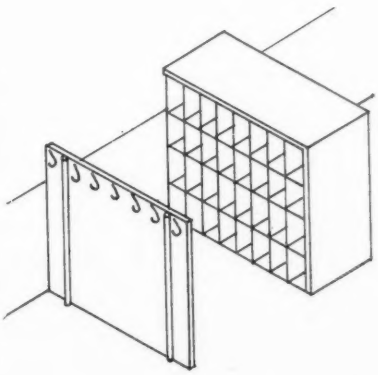
JOB ARCHITECTS

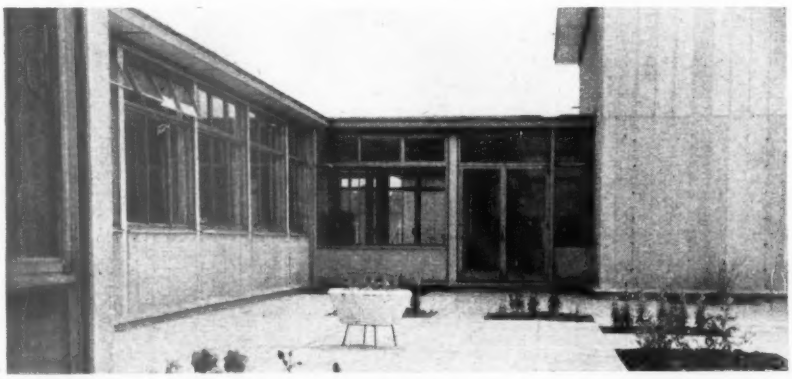
The point at which a new member of the group is competent to take over a job varies, of course, with the sort of previous experience the architect has had and his natural ability. But the form of group organization outlined in these notes does mean that the

One of the advantages of a school-building programme is the opportunity it gives for the systematic development of detail. The top sketch indicates roughly an early type of cloakroom fitting used in the Herts. schools. Made of fibrous plaster, at a time when timber was short, it was liable to break on arrises—otherwise a pleasant detail. The second sketch shows a more human design. More timber was available and it reads more as furniture than as part of the wall. It stands up to rough use better. The third sketch shows the latest, but not the last, development : the shoe lockers have been separated, thus saving space and the top is used as a workbench.









An example of a school designed by a member of the group in an earlier programme for comparison with the school shown under construction overleaf and in the JOURNAL *for April 3, on pages* 420-426. *It is a junior school at Grange Estate, Letchworth, which was in the* 1950 *programme. Miss M. Mason was the job architect. Out of this* 1950 *programme has directly developed the plan and structural approach used in the current* 1951 *programme.*

able young architect can be entrusted with a job as soon as he has thoroughly absorbed the structural vocabulary. This has been purposely aimed at, because most young architects are extremely keen to build and if this can be allowed then the stimulant which it gives is a considerable asset in the general running of the office. The responsibility attached to the job is impressed on all job architects but, at the same time, they are encouraged to bring up difficult points for discussion with the group leader or chief architect before making a decision both when the scheme is on the boards and under construction. In some cases the facility to give the young architect a job does not occur for a year or more, but, on the other hand, able, but newly qualified architects, who have been given a sketch plan after six or nine months in the office, have carried it through and produced a satisfactory job.

Specialization by individual members of the group has not been found necessary. The work of preparing the working drawings is spread throughout the group. Each architect spending a part of the week on working drawings, in addition to running his own job.

Development work affecting the programme is confined to the initial period when the drawings of the standard components are being prepared. The accumulated evidence from the jobs on the ground will indicate the items which should be examined and redesigned. In this, the specialized approach in which the group deals only with one type of building as compared with the varied approach in which the group may deal with, say, primary, secondary and Further Education buildings, is important. It is only by the objective study of jobs being built and a gradual improvement on existing details that a high standard of school buildings, which are also cheap, can be achieved. It is important, therefore, that the field of study be relatively restricted. At the same time, the architects will not get "browned off" with designing one type of building, if they are given the opportunity to exercise their design talents in the improvement of existing standards.

The problems and risks involved preclude the development of anything approaching a new structural system on this programme basis, but much improvement of detailing can be effected.

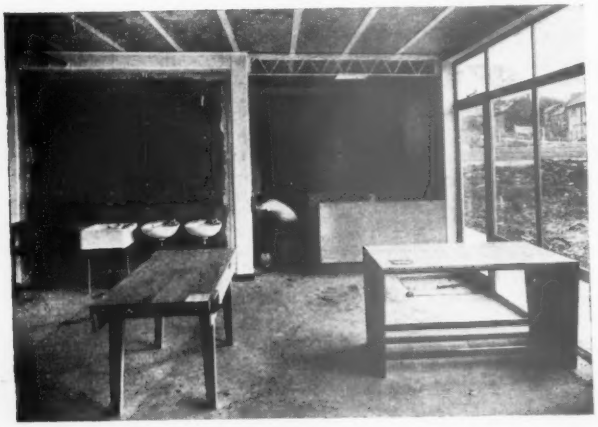
The period for which architects can happily remain on one type of building varies with the individual, but it is probably much longer than has been assumed in the past. Evidence shows that most architects having designed and supervised one building are keen to go on and build another of the same sort, in order to improve on the points which they were not satisfied with in the first attempt. The opportunities to break new* ground with improvements in planning and structural details, which can be provided in the local government office are the key to this aspect of the problem, and provided the architect can feel that he is building something which is better than the similar types of the past, then he will go on happily for three years or more.

CONCLUSIONS

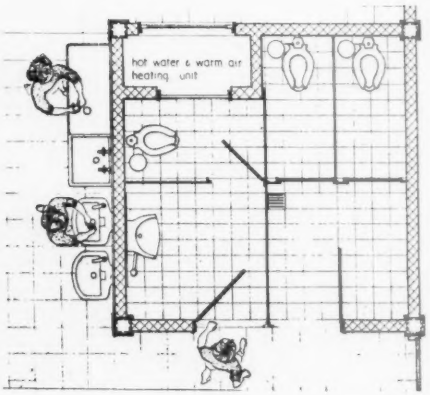
1. These notes have attempted to show that by breaking the large office down into units which are comparable to the good private architect's office in size and volume of work, the individual architect can enjoy as great a degree of freedom as in a good private architect's office.

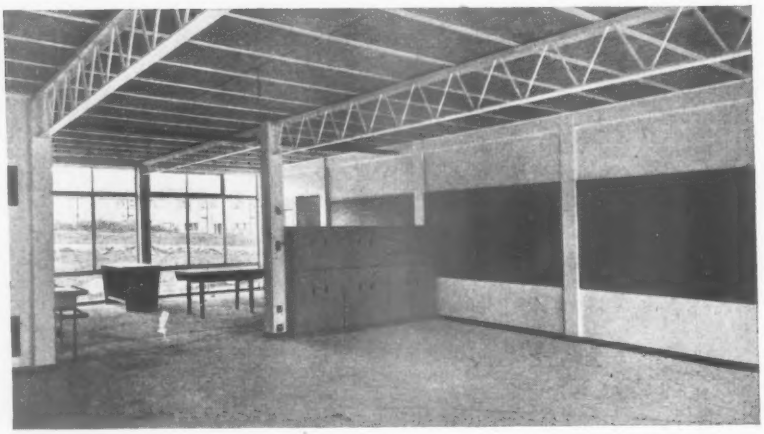
2. More architects each year are going into local government offices. This should be more widely acknowledged in the schools of architecture where the aim should be to train architects for working in local government groups and not only a large number of architectural personalities. Better liaison between the local government office and schools of architecture would mean that on entering the office, the ex-student would be aware of the organization in which he will have to work.

3. The largest single problem in local government at the moment is the comparatively small number of good jobs. This means that most architects are rather apprehensive about their future.



A junior mixed infants' school at Oxhey Site No. 9, showing the most recent development of classroom design nearing completion. Left, and below, view and plan of the cloakroom and lavatory unit. Below, a general view of the new teaching unit. The job architect is H. Swain.



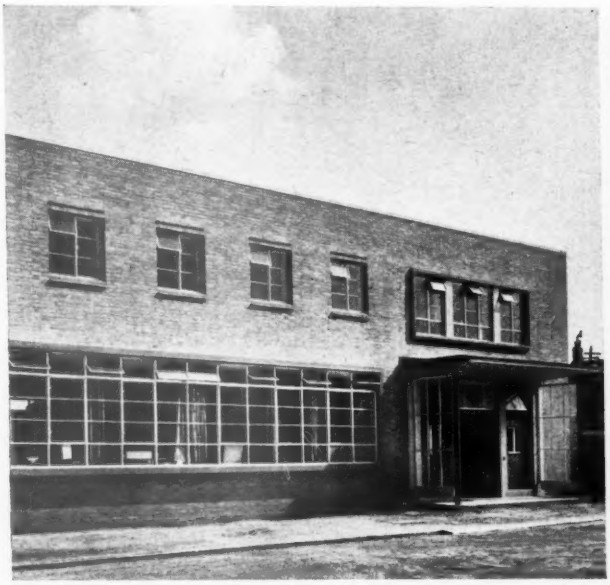


*Scope for development and design:
(*a*) Lighting and its fittings—so bad even now.
(*b*) Heating—ditto.
(*c*) Minor modifications to structure.
(*d*) Modifications to any details of structure and to finishes.
(*e*) Sanitary fittings.
(*f*) Plumbing, including fittings—still very poor.
(*g*) Furniture.

Few of these (except perhaps *c*, *d* and *g*) have been touched by the architect during the last 50 years, and it is high time he had a say in their design—if he knows enough about them in terms of function, use, price and manufacture as well as æsthetics.

WORK BY RIBA'S NEW PRESIDENT

On this page is shown some post-war work by Howard Robertson (above), whose election to the presidency of the RIBA was announced in the JOURNAL *last week. Above right, a block of 23 flats in St. John's Wood, from the west, for Marylebone Borough Council (completed in* 1950*). Right, the small lounge on the* 20,000*-ton* Rangitoto*, a one-class, four-hundred passenger ship—one of three belonging to the New Zealand Shipping Company for which Easton and Robertson have designed interiors (see October* 6, 1949*). Below right, modifications to the foyer of the Berkeley Hotel,* 1950*. Below left, offices for Howards and Sons at Ilford (see* JOURNAL *for January* 12, 1950*).*



HOUSING LAYOUT IN LONDON'S NEW TOWNS

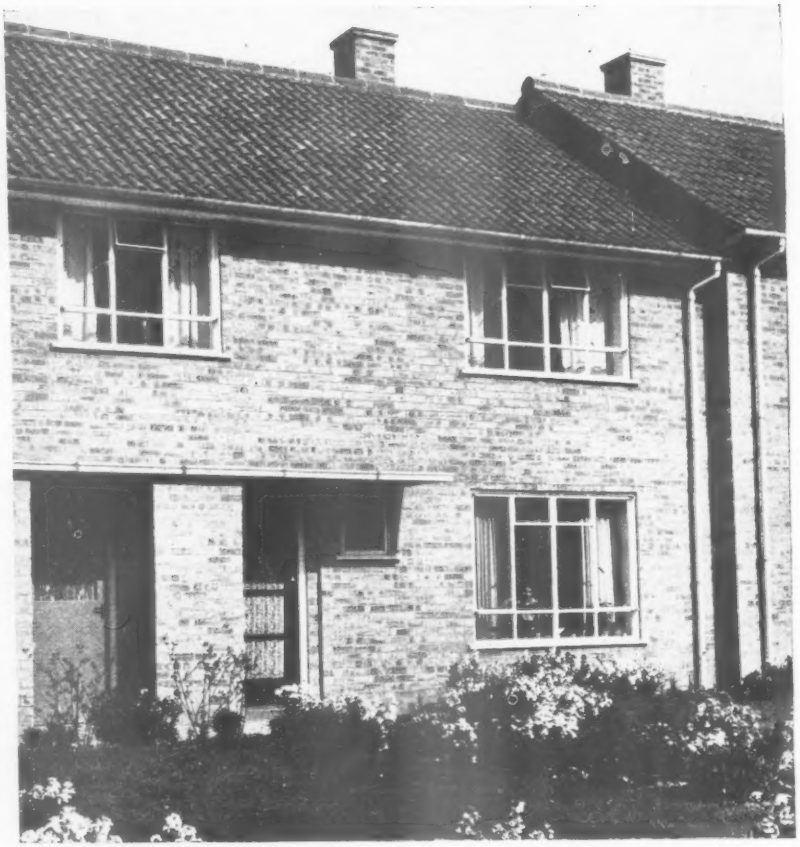
In his reports on London's New Towns, of which the first two are published here. D. Rigby Childs will discuss three important points : the exterior design of houses and flats ; the grouping of houses and gardens, and the relationship between buildings and roads. He has chosen part of a neighbourhood in each town for his illustrated reports.

1 : HEMEL HEMPSTEAD

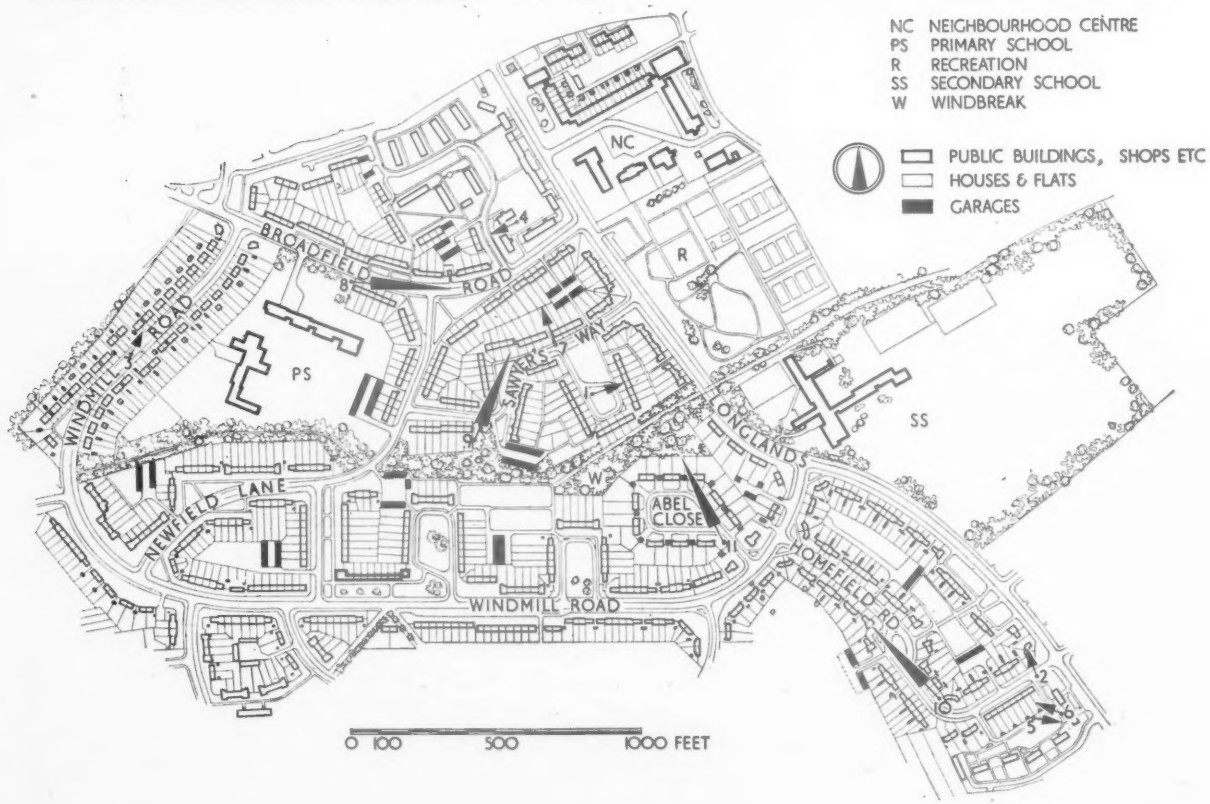
By D. Rigby Childs

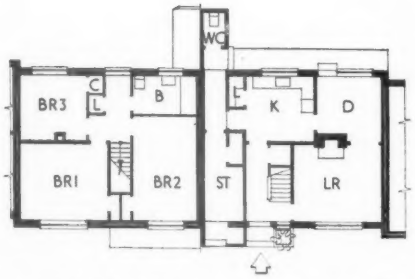
HOUSING DESIGN.

A report on housing layout must begin with the house plan, but as it is not my purpose to comment on internal planing arangements, I propose to go no further than to show in diagram form some of the plans on which the housing layout is based. While the Corporation has not produced a large number of basic plans of houses and flats (the current edition of " Your New House in Hemel Hempstead " lists fifteen different types) it is keeping a very careful check on

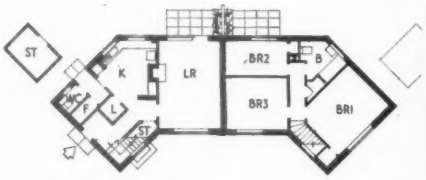


Site plan of part of Adeyfield Neighbourhood.
(Numbers refer to viewpoints from which photographs were taken)

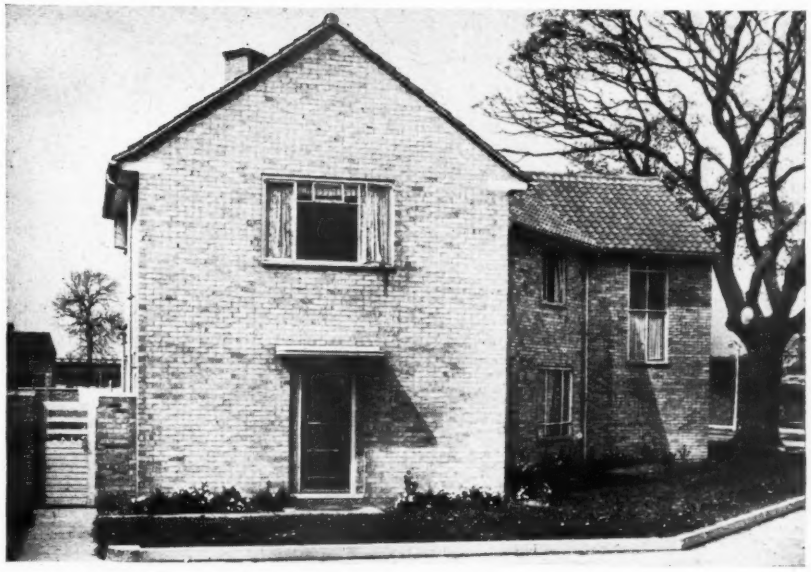




Ground and first floor plans : (1) on site plan : photo, opposite page [Scale : $\frac{1}{16}$" = 1' 0"]

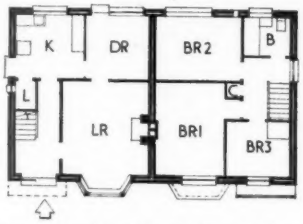


Ground and first floor plans : (2) on site plan : photo on right [Scale : $\frac{1}{16}$" = 1' 0"]

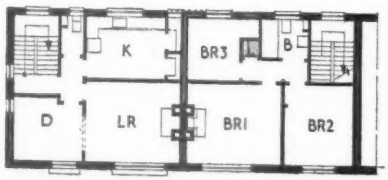


HEMEL HEMPSTEAD : HOUSING DESIGN

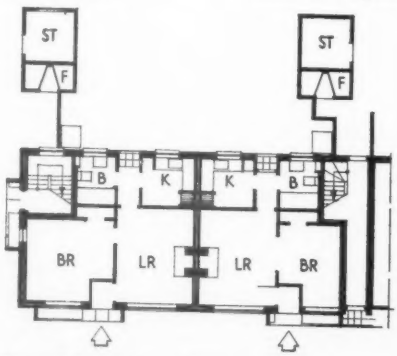
Adeyfield Neighbourhood scheme : designer, Development Corporation's Chief Architect : H. Kellett Ablett. Opposite page : This three-bedroom house—(1) on site plan—has "a pleasant blend of colour" with its multi-colour facing brick and red Roman cement tile. Above : (2) the butterfly plan of this housing "enhances the appearance of a corner site, but has the disadvantage of making gardens triangular." Right : (3) early work in the building scheme : these "hark back to pre-war practice." Bottom : "the latest development" : four units, each comprising a ground floor single-person flat with three-bedroom maisonette over.



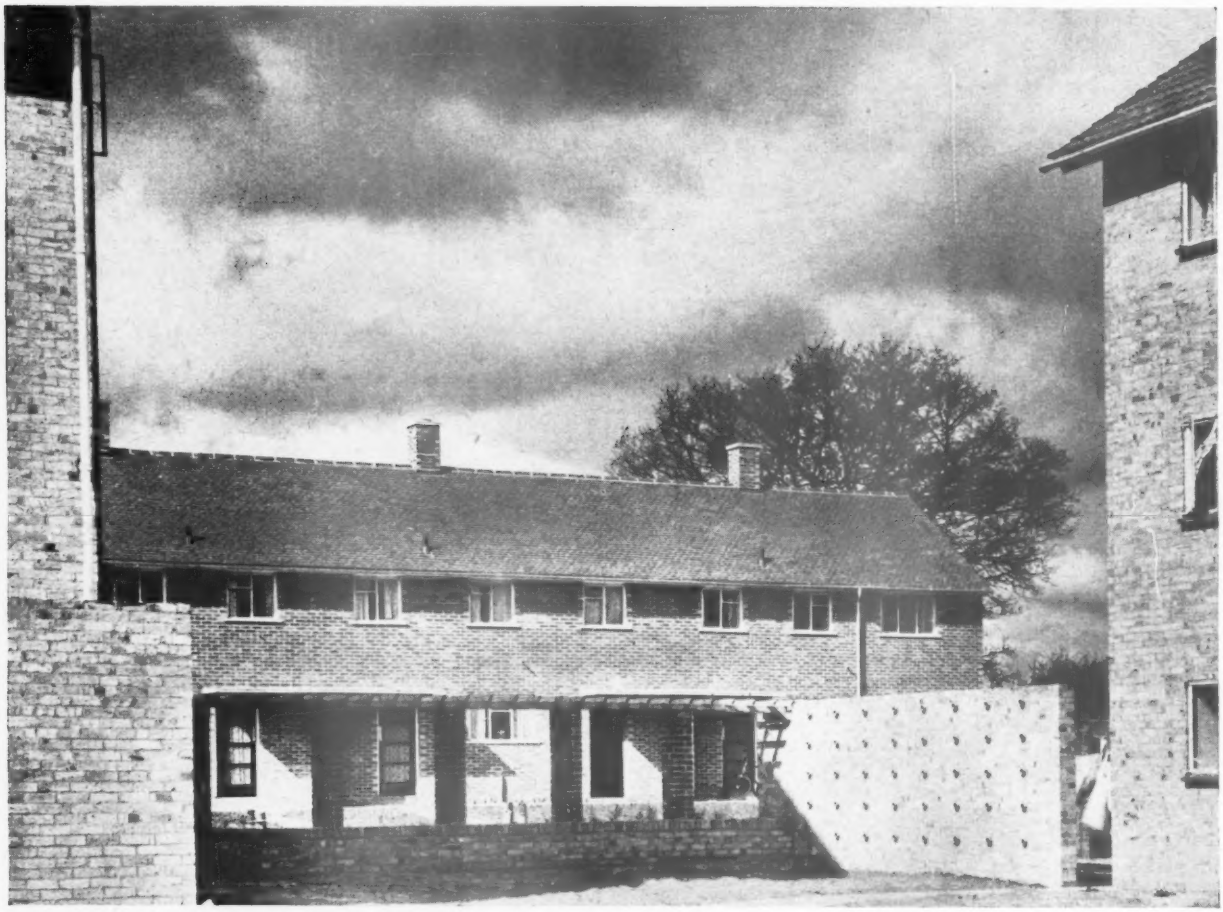
Ground and first floor plans : (3) on site plan : photo on right [Scale : $\frac{1}{16}$" = 1' 0"]



First floor plan Second floor plan



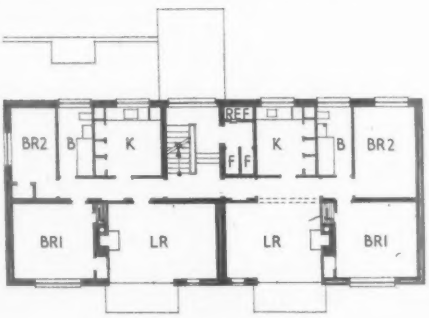
Ground floor plan : photo on right [Scale : $\frac{1}{16}$" = 1' 0"]



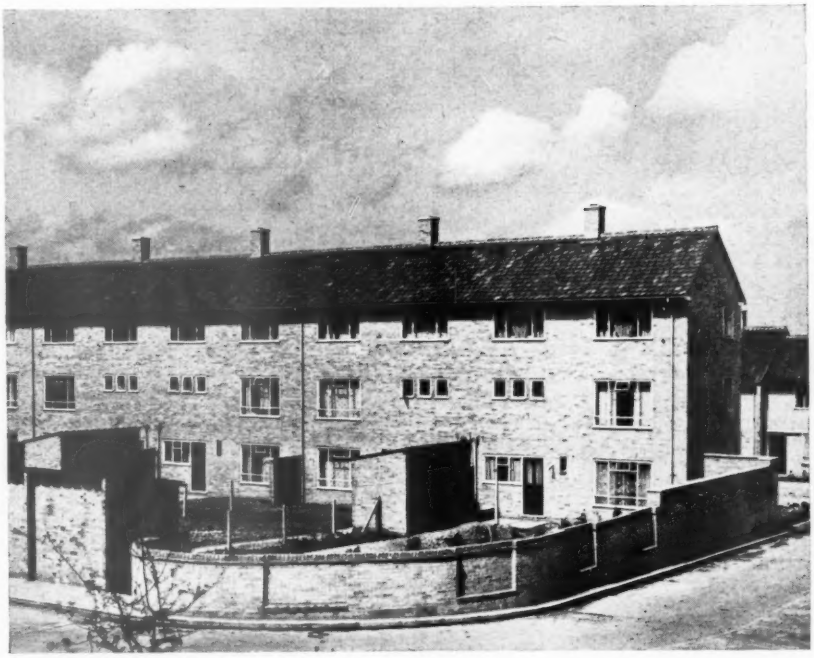
HEMEL HEMPSTEAD: SPACE AROUND HOUSES

Above: view (**4**) *on site plan shows a clothes drying yard, attached to a three-storey block of flats, screened from the view of other gardens. (Note the use of drainpipes in the screen wall which give surface pattern and ventilation.) Left:* (**5**) *another screen wall, joining blocks of flats. These flats flank the short back gardens of the terrace of three-storey houses* (**6**) *seen at the top of the opposite page. "It is doubtful," says the writer of this article, "if the corrugated iron roofs of the stores enhance the architectural effect of balconies, screen walls and lawns." The view beneath it* (**7**) *shows the space behind houses similar to the one on page 790. This view, says Mr. Childs, "is characteristic of the New Town scene behind the carefully studied fronts—the rigid poverty of the concrete posts, the wire fencing and the concrete clothes-line post."*

Ground floor plan of flats [Scale : $\frac{1}{24}$" = 1' 0"]
(5) on site plan: photo above



First floor plan



people's needs for different types of house plans, and it is aware that housewives often have opposing views. For instance, an investigation into preferences for a kitchen facing a back garden or for one facing the road showed that as many women were strongly in favour of the former as of the latter!

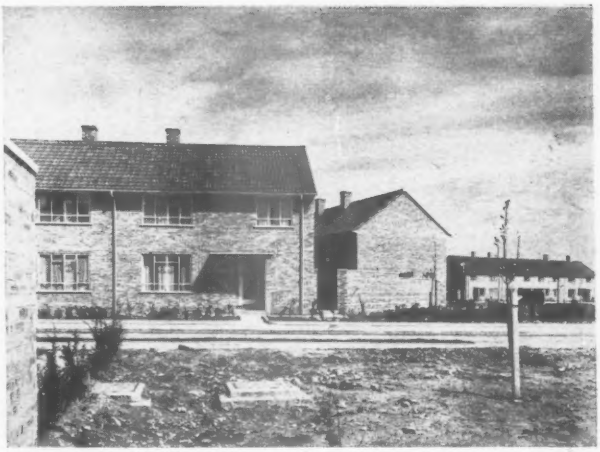
The distinguishing feature of the housing is the general use of brick and tile and careful proportioning of elevations. My first view is typical of the work being done at Adeyfield. This is a three-bedroom house (1) facing a close. The appearance is clean, straightforward, and neat, and the multi-colour facing brick and the red Roman cement tile give a pleasant blend of colour. The chimney stacks protrude decently above the ridge. On the first housing site a departure was made from the orthodox terrace plan by the building at the corners of a block, 3-bedroom, semi-detached houses laid out on a butterfly plan (2). This arrangement enhances the appearance of a corner site but it has the disadvantage of making gardens triangular. Very early in the building scheme a number of houses were constructed at Windmill Road, which in their planning and layout hark back practically to pre-war practice (3). The latest development, however, is being built outside the area I have chosen for study, but fairly close to the central part of the neighbourhood. This is a block, known as R2 type (photo, page 791, bottom) consisting of 4 units, each comprising a ground floor single person flat and a 3-bedroom maisonette over—an arrangement which may be useful for the young family who have an older relation living with them.

It is, of course, more economical in building and land costs than the building of a separate old persons' bungalow, and it is also a means for the architect to get variations in heights and blocks. The design of this block is reminiscent of the Georgian terrace; the lofty proportions of the first floor window are seen to their best advantage in a view from the front garden.

SPACE AROUND HOUSES

It is the sum of views seen as one goes about a neighbourhood that make an overall impression of good or bad quality. At Adeyfield, the views from the roads are frequently pleasant; less pleasant are the views from the houses on to the back gardens.

A walk round them shows the great care architects have taken to screen back gardens and yards from the front of the houses by providing screen walls between terraces, at corners, and around yards belonging to flats. My viewpoint (4) is a good example of what has been done to enclose the clothes drying yard attached to a block of three-storey flats. These yards are an alternative to clothes hanging out on



HEMEL HEMPSTEAD: ROADS AND FOOTPATHS

Principal roads at Adeyfield have 24-ft. carriageways as above left —(8) on plan—where "the perspective effects that can be had as one follows the curve of the road already bear signs of good quality." Above, (9) at the cranked bend of a 16-ft. road footpath access is provided to two terraces. Left: (10) front gardens; the verges are laid out on one or both sides of the road according to the run of the services.

the balconies; and at Adeyfield the yards are a working proposition. The device of using drainpipes to give surface pattern and to assist ventilation shows up well. This most attractive corner is completed by a dwarf wall, containing a flower trough, and the piers and pergola. Another treatment for the screen wall is seen at the end of Homefield Road (5). These flats face on to the St. Albans Road, an inter-neighbourhood road, and back on to the lawn seen in the photograph and the short back gardens (6) of a terrace of eight three-storey houses, but it is doubtful if the corrugated iron roofs of the stores to the latter enhance the architectural effect of balconies, screen walls and lawns. My next view is the prospect through an open side gate and displays a view of the space behind the houses of the type very similar to (1). How characteristic is this view of the New Town scene behind the carefully studied fronts—the rigid poverty of crete post, the wire fencing and the concrete clothes-line post.

Back gardens have been laid out on a traditional pattern but with a reasonable shape wherever practicable. Their appearance has not been improved by the development of the internal store which has led to back gardens being completely open on each side. It is rather better where a reserve is made for allotments or children's play space, and the Corporation has been able to plant trees on the fringes of the reserves, as behind Homefield Road. Experience is being gained on the area required and on the disposition of allotments, but there is considerable uncertainty about the kind of provision that should be made for children's play spaces in an area of relatively low density. The problem arises because of the distance children may have to go to play spaces unless a very extravagant provision is made.

The Corporation, I understand, is likely to approve the provision of three play spaces experimentally, one being rather complex, with a certain amount of mechanical equipment, the second for older children, using natural objects (mounds, wooden bridges, etc.), and the third simply a sandpit and a mound for small children. This programme has the advantage of not raising too formidable a problem of finance and will enable the Corporation to discover which type is used most, and by whom.

ROADS AND FOOTPATHS

After the close-up at (7) it is time to look outwards again and to look at the effects which Mr. Ablett has achieved in relating roads and footpaths to buildings. The road pattern at Adeyfield is straightforward: the principal roads have 24-ft. carriageways—these are bus routes, and bus routes do not always take the shortest cut—and other roads are either 18 or 16 ft. wide; there is a marked preference for curving roads which assist in the architecture of the street. Apart from the use of setbacks at bends, closes and some culs-de-sac, full frontage development has been maintained, with road access, generally, to every house.

A study of the plan (p. 790) shows how closely road design has been a partnership between the architect and the engineer. The perspective effects that can be had, for instance, as one follows the curve of the 24-ft. Broadfield Road (8) already bear signs of good quality—in spite of the harsh appearance of the concrete road and the lamp-posts. An example of the 16-ft. wide road is Sawyers Way; at the cranked bend (9) footpath access is provided to two terraces. Footpath access has been used infrequently, and where it has been used the Corporation has agreed with the local authority to limit the access to 60 ft. at the maximum. This is done to assist delivery and collection by road vehicle: as it has been succinctly remarked, "the coffin does not walk." Another example of the 16-ft. wide road is Homefield Road, where a loop was made in the length of the road to keep the width down to 16 ft. At the bend (10) two four-bedroomed houses stand like a couple of lodges. This photograph also shows the treatment of front gardens, and verges, which are laid out on one or both sides of the road according to the run of the services. Verges of stabilized hogging, surfaced with pea gravel or similar

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CONCRETE | REINFORCED | SLAB DESIGN

The Architects Journal Library of Information Sheets 369. Editor: Cotterell Butler, A.R.I.B.A.

slab thickness	permissible superimposed loads in lb./sq. ft. for spans in feet																
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	30
3"	276	181	123	86	60	42	29	18	10								
3½"	425	282	196	140	102	75	54	39	27	18	10						
4"	606	406	285	207	154	115	87	65	49	35	25	16	9				
4½"	814	549	389	285	214	163	126	97	75	57	42	31	21	13			
5"	1031	698	497	366	277	212	165	129	101	79	61	46	34	24	15	8	
5½"	1299	882	631	467	355	275	216	171	136	108	85	67	52	39	28	19	
6"	1600	1089	781	581	444	346	273	218	175	141	113	91	72	57	43	32	
7"	2216	1512	1089	814	625	490	391	315	256	209	171	140	114	93	75	59	
8"	3020	2068	1494	1121	866	683	548	445	365	301	250	208	174	144	120	99	
9"	3951	2710	1962	1476	1146	906	731	597	492	410	343	288	243	205	173	145	
10"	4880	3350	2430	1832	1423	1130	913	748	620	518	435	368	312	265	226	192	19
12"	7326	5044	3666	2774	2162	1724	1400	1153	961	809	686	585	502	432	373	323	63
15"		8218	5990	4544	3555	2844	2320	1920	1609	1363	1164	1001	866	753	658	576	156
18"			8364	6356	4979	3989	3258	2705	2273	1928	1653	1427	1241	1082	948	836	251

SIMPLY SUPPORTED SLABS.

slab thickness	permissible superimposed loads in lb./sq. ft. for spans in feet																
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	30
3"	354	235	163	116	84	61	45	31	21	14							
3½"	542	363	255	186	138	104	78	59	44	33	23	15					
4"	770	520	368	271	204	156	121	93	73	56	43	32	23	15			
4½"	1032	700	499	370	281	217	171	135	107	85	66	52	40	30	21	13	
5"	1304	888	636	472	361	280	221	176	141	114	91	72	57	45	34	25	
5½"	1640	1120	805	601	460	360	286	230	186	151	123	100	81	65	51	40	
6"	2018	1379	996	744	573	450	359	290	237	194	159	132	108	89	71	58	
7"	2792	1911	1382	1039	802	634	510	415	341	282	234	196	163	137	114	94	
8"	3798	2609	1892	1426	1107	878	708	581	479	400	336	284	241	204	174	148	12
9"	4966	3412	2480	1872	1459	1159	940	773	642	540	456	387	331	283	243	208	32
10"	6122	4118	3068	2320	1808	1445	1171	966	805	678	574	490	420	361	312	270	54
12"		6341	4626	3501	2729	2191	1786	1477	1237	1048	894	767	664	576	502	440	115
15"			7530	5730	4490	3600	2945	2446	2055	1748	1500	1296	1127	986	868	764	240
18"				7999	6274	5044	4131	3436	2894	2468	2121	1840	1602	1406	1241	1098	363

CONTINUOUS SLABS.

REINFORCED CONCRETE SLAB DESIGN. 1:2:4 MIX. Compiled by J. A. Eddison, A.M.I.C.E., A.M.I.Struct.E.

6.A20 REINFORCED CONCRETE SLAB DESIGN—1 : 2 : 4 MIX

This Sheet is the first of two dealing with reinforced concrete slab design. The tables on the face give the safe uniformly distributed loads which various thicknesses of reinforced concrete slab will carry over different spans. In both cases the tables give values for slabs of 1 : 2 : 4 mix, the upper table being for simply supported slabs and the lower table for continuous spans.
Sheet 6.A21 gives the values for slabs of 1 : 1½ : 3 mix.

Permissible Concrete Stresses

Permissible concrete stresses are as given in British Standard Code of Practice CP 114: 1948.

Bending Moments

Simply supported slabs : The table values are based on a bending moment of $\frac{WL^2}{8}$.

Continuous spans : The table values are based on a bending moment of $\frac{WL^2}{10}$ as the limiting value occurs at the end span. Where the end spans of a series of continuous spans are less than 0·8 of the remaining spans the loads in the lower table may be increased by a factor of 1·2.
Note.—When designing slabs spanning less than 8 ft. it should be borne in mind that British Standard Code of Practice CP 3 Chapter V : 1944 *Loading* lays down minimum loads on slabs per foot width for the various loading classes.

Use of Tables

Loads to right of heavy dotted line : When the selected loading for a given slab falls to the right of the heavy dotted line, the deflection will be greater than that laid down in British Standard Code of Practice CP 114.100 : 1949 (with amendment PD 1054, June, 1950).
Loads to left of heavy full line : When the selected loading for a given slab falls to the left of the heavy full line, the shear stress should be investigated.

Effective Depth of Slab

The effective depth for each thickness of slab is given in the table below and has been based on the cover and reinforcement diameter given. The reinforcement suggested is heavy and uneconomical. Where possible the designer should choose a slab thickness with an ample margin of strength. When the superimposed load to be carried by a given slab over a given span is not as high as the maximum shown in the tables on the face of this Sheet, the area of reinforcement per foot width of slab may be reduced *pro rata*.

Slab depth (in.)	Effective depth (in.)	Resistance moment (lb. in.)	Area of steel required (sq. in.)	Steel dia. and spacing (in.)
3	2·25	11,720	0·340	½ at 7
3½	2·75	17,510	0·416	½ at 5½
4	3·25	24,520	0·493	½ at 4½
4½	3·75	32,600	0·568	½ at 4
5	4·2	40,900	0·634	⅜ at 5½
5½	4·7	51,200	0·712	⅜ at 5
6	5·2	62,700	0·788	⅜ at 4½
7	6·1	86,200	0·924	⅜ at 3½
8	7·1	116,900	1·076	⅜ at 4½
9	8·1	152,200	1·228	⅜ at 4
10	9·0	187,500	1·361	1 at 6½
12	11·0	280,200	1·666	1 at 5½
15	14·0	453,600	2·118	1 at 4
18	16·5	631,000	2·500	1 at 3½

Approximations

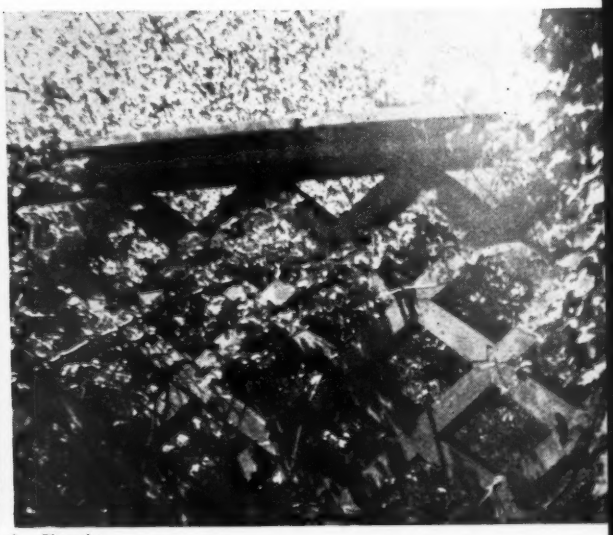
The following rough rules of thumb may be used when considering simply supported slabs of 1 : 2 : 4 mix :—
(*a*) A slab will carry 200 lb./sq. ft. over a span whose length in feet is equivalent to twice the slab thickness in inches (i.e. 5 in. slab over 10 ft. ; 8 in. slab over 16 ft. etc.)
(*b*) A slab will carry 60 lb./sq. ft. over a span whose length in feet is equivalent to three times the slab thickness in inches (i.e. 4 in. slab over 12 ft. ; 6 in. slab over 18 ft. etc.).
It should be noted that these rules cannot be applied to big spans, that they do not take into account deflection nor are they broad enough to cover more than a few cases.

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

1. Not enough contrast

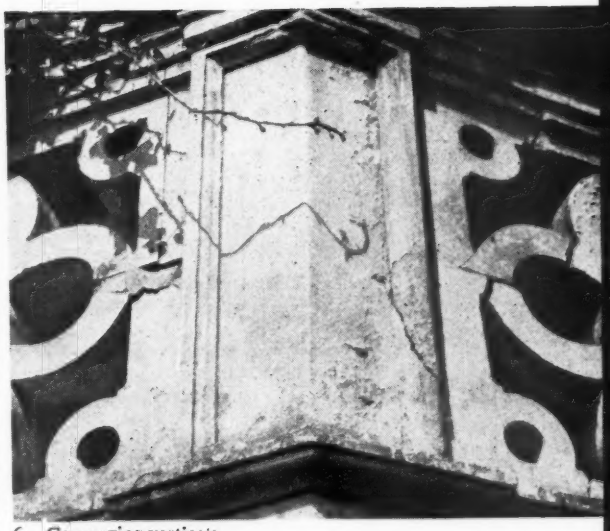
2. Too much contrast

3. Poor definition generally



4. Fogging

5. Coarse grain



6. Converging verticals

ARCHITECTURAL PHOTOGRAPHY : TRACING FAULTS

1.A3 ARCHITECTURAL PHOTOGRAPHY : TRACING FAULTS

This Sheet illustrates common photographic errors. All the examples illustrated were taken under circumstances in which a perfect result could have been obtained. Similar troubles in exaggerated form will occur under conditions of unfavourable lighting, etc.

Fault	Diagnosis	Cure
1. Not enough contrast	Over-exposure	Obtain correct exposure from photo-electric meter or tables : reduce lens aperture or decrease exposure.
	Old negative material	Scrap it : keep negative material dry and do not store for too long a period.
	Exhausted developer	Use fresh developer of correct strength for each film or batch of plates.
	Flat lighting: weak or hazy sun	Print on harder paper.
2. Too much contrast: hard sky, lack of shadow detail	Over-development	Reduce development time.
	Under-exposure	Obtain correct exposure from photo-electric meter or tables: use wider lens aperture or increase exposure.
	Under-development	Increase development accordingly.
	Developer or negative material too hard : sky in fact hard and white	Use softer working developer, softer gradation negative material, panchromatic material.
3. Poor definition generally	Lens not in focus	Check focusing scale and/or view finder for accuracy : measure distances in future or use range finder.
	Poor lens	This is unusual. Have lens checked if all other remedies fail.
	Dirty lens	Clean lens with a fine camel hair brush: do not rub lens with coarse cloth.
	Camera unsteady	Use firmer tripod: take more care in releasing shutter, preferably using cable release to avoid shaking camera.
Poor definition in parts	Insufficient depth of focus ..	Stop down lens and increase exposure.
4. Fogging: local	Light entering camera: dark slide	Have camera and dark slides checked.
Fogging: general	Old negative material	Scrap it.
	Defective darkroom or darkroom light: developer too warm	Check. No darkroom light is permissible with panchromatic material generally. Developer temperatures over 70° F. may lead to fogging.
5. Coarse grain	Negative material too fast : coarse grain developer used: over-developed: over-enlargement for size of negative	Use slower, finer grain material and fine grain developer.
6. Converging verticals	Camera tilted	Don't tilt camera: take photograph further away from building : use camera with rising front.

(11) *houses for the higher income groups.*

dressing, have been preferred to grass, unless the latter can be of considerable width. The front gardens, as in the photograph, are frequently open; the curb and hedge is provided. Many gardens have still to be laid out, but how charming they can be was seen in (1).

Garages are being built in the ratio of one to every four dwellings. They usually occur in groups of about twelve, except where they are attached to larger houses, as was seen in (3) and as in my last view (11) which is of Abel Close, designed for the higher income group who can pay rents of about £150 a year. The garages in Abel Close seem to sit rather lumpishly on the ground in relation to the houses, which have been partly faced with tiles to set them apart from the weekly rental groups. The central lawn in Abel Close may be laid out for tennis.

The landscaping of Adeyfield has been conceived as an integral feature of the design. Landscaping was originally in the charge of Richard Sudell; H. F. Clarke is now in charge under the direction of the Chief Architect. The Corporation is allowed to spend on landscaping the equivalent of £12 per dwelling, including fees. Much planting of evergreens, shrubs, flowering shrubs and trees at corners and along principal roads is also being done. The Corporation also lays out and maintains the grass and lawns of houses and flats fronting on to the principal neighbourhood roads.

CREDIT AND DEBIT

In about five years' time many parts of the neighbourhood should present a charming appearance. Planting is following hard on the heels of building and, when the work of the landscape gardener has had time to mature and that of the architect to weather, a most satisfactory appearance should result from the blend of greens of grass, shrubs and trees, brightly-coloured flowers and the discreet colours of facing bricks, such as the Leicester Blaby, Peterborough Saxon Lights, Marston Valley autumn tints, the Eastwoods' pink facings, and the occasional example of rustic fletton treated with Lillington, and tiles such as Bridgewater clay pans or the Alban Double Roman pantile. It is also noticeable that the embryonic neighbourhood centre is alone transforming Adeyfield into something more than a housing estate.

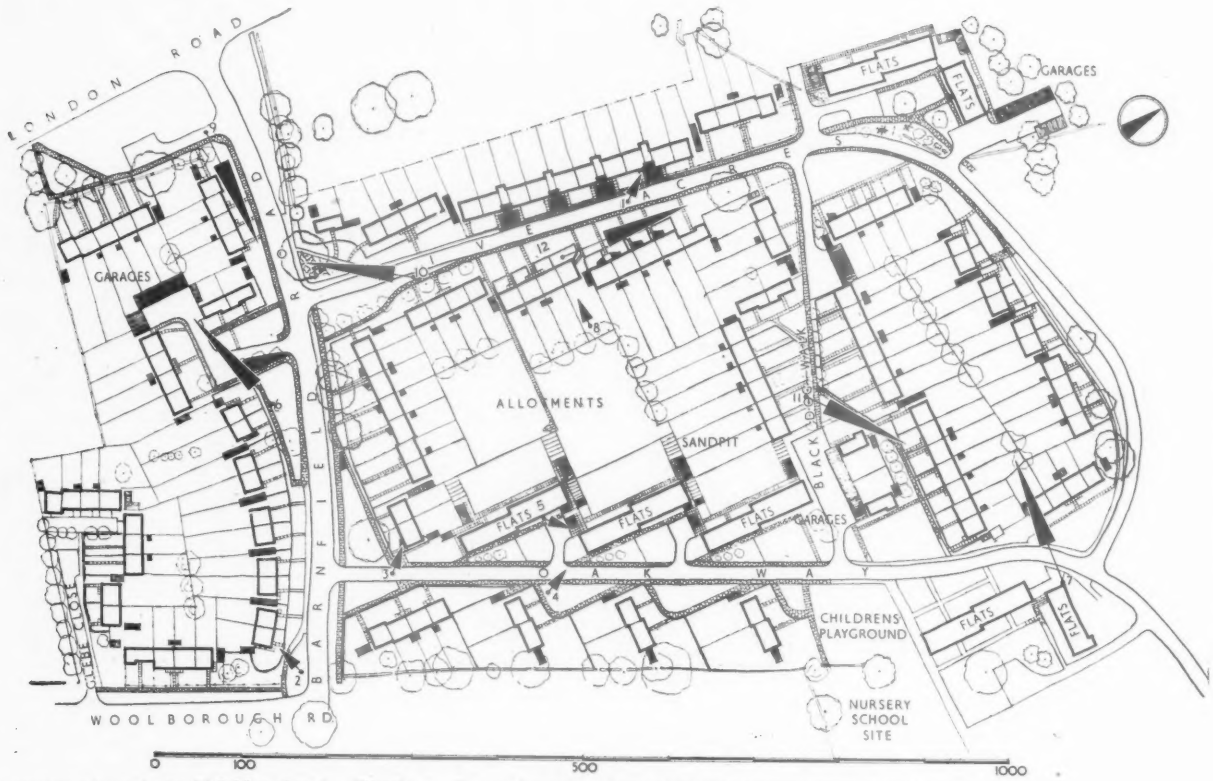
That is on the credit side: on the debit side is the inadequate treatment of garden space behind the houses. The standard is not really one jot better than gardens in almost any pre-war twelve-to-the-acre estate.

The Corporation may well be entitled to ask a critic: well, what can be done about it? At a time of rising costs the rents which are calculated on the overall cost of houses, screen walls, fencing, landscaping and servicing, can not be raised proportionately higher. If more money is spent on better fencing around part or whole of the garden, some other part of the building, etc., will have to be sacrificed. The tenant or leaseholder can, of course, always plant trees, shrubs and flowers or make what use he likes of the back garden space. This may happen, and did happen before the war, but today it is sometimes being found that tenants are not always very ready to invest money into a garden over which they have no *security of tenure*. I am doubtful whether the answer to the problem should really rest with the tenant.

FUTURE PROGRAMME

Hemel Hempstead is to be a town of 60,000 people. The New Town will spread out on either side of the Gade valley; the main architectural features will—and I think should—be, down in the valley where there is already a corpus of multi-storey building. Adeyfield lies on the plateau to the north-east of the valley; the next neighbourhood to be developed is Bennet's End, which has a steeply sloping site, from which there will be fine views over the adjoining countryside and the New Town, especially from the site of the proposed neighbourhood centre. The basic design, which is by Booth and Ledeboer, is essentially a cottage and garden development on an overall net density of about 45 persons to the acre, compared to that of about 37 at Adeyfield. The neighbourhood has been planned as an extension to a nucleus of existing housing. Housing is being designed by Booth and Ledeboer, Culpin, and Jellicoe. Work began on the neighbourhood early this year.

The third neighbourhood, which will be on the west side of the valley, will be designed by H. K. Ablett. The surroundings are more rural than at Adeyfield, and the theme of the design is now being considered. Dr. Sharp has been appointed consultant for the fourth neighbourhood. The policy which the Corporation thus appears to be following to attain variety between neighbourhoods is to utilize changes in topography and to employ consultants to work in conjunction with the Corporation's Chief Architect.



Site plan of Northgate Neighbourhood. (Numbers refer to viewpoints from which photographs were taken)

2 : CRAWLEY

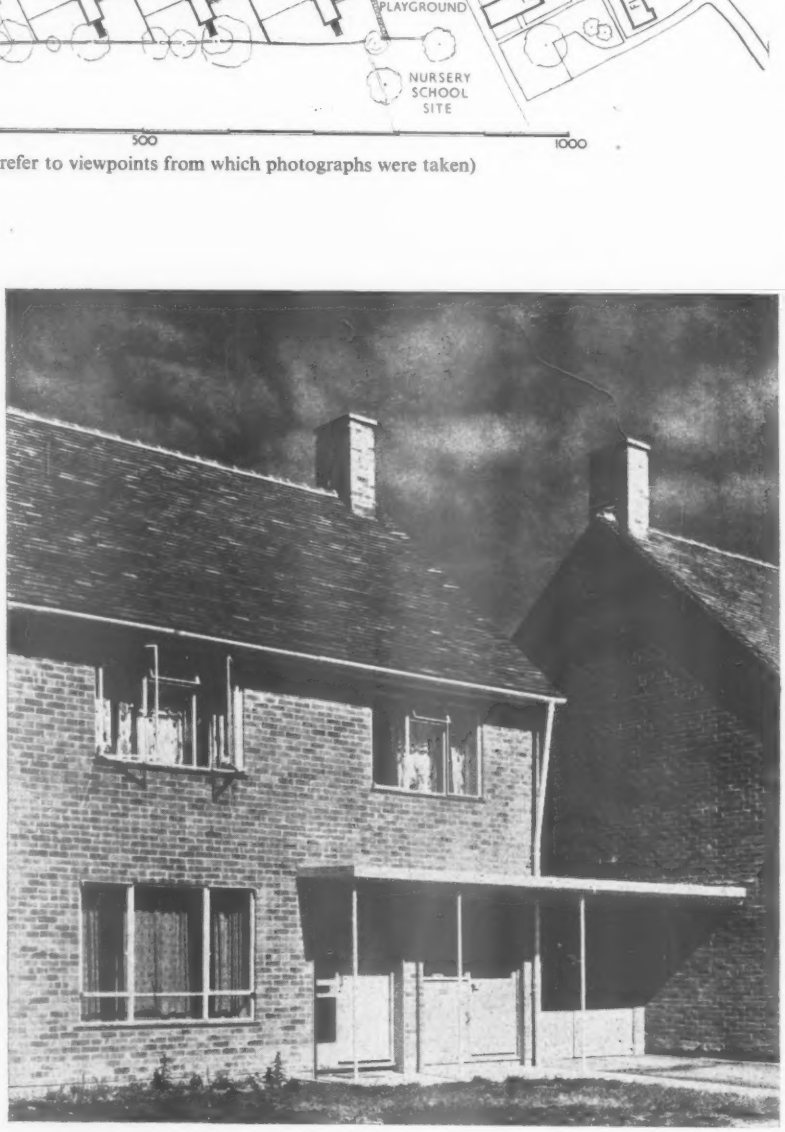
By D. Rigby Childs

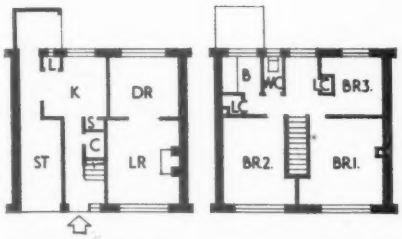
THE SITE

How different from Hemel Hempstead is the atmosphere at Crawley. Lying in the Sussex Weald and protected by the North and South Downs the town has a much milder—almost relaxing—climate compared with that of Adeyfield. One might almost describe the old town of Crawley as a cosy town; and the land around it is far more wooded. In some ways the style of architecture in these two New Towns already reflects these differences.

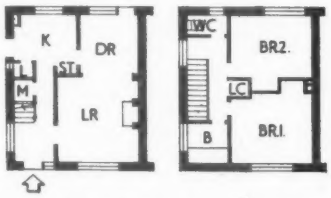
West Green, the first neighbourhood to be developed (page 802), is nearing completion. It is an amalgam of housing designed by the Corporation, by private architects commissioned by the Corporation, by the local Rural District Council and of pre-war development. The layout is largely governed by topography and by existing development, and the resulting layout is rather more formal than is to be seen elsewhere in the New Town. Many different types of house plan were tried out in West Green, including the well-known examples of the three-storey star blocks of flats.

The area of Crawley I have selected for illustration is a section of the second neighbourhood, Northgate, where the topography is flatter than that at West Green. Northgate Neighbourhood will comprise about 1,200 dwellings (11% flats and 89% houses), including about





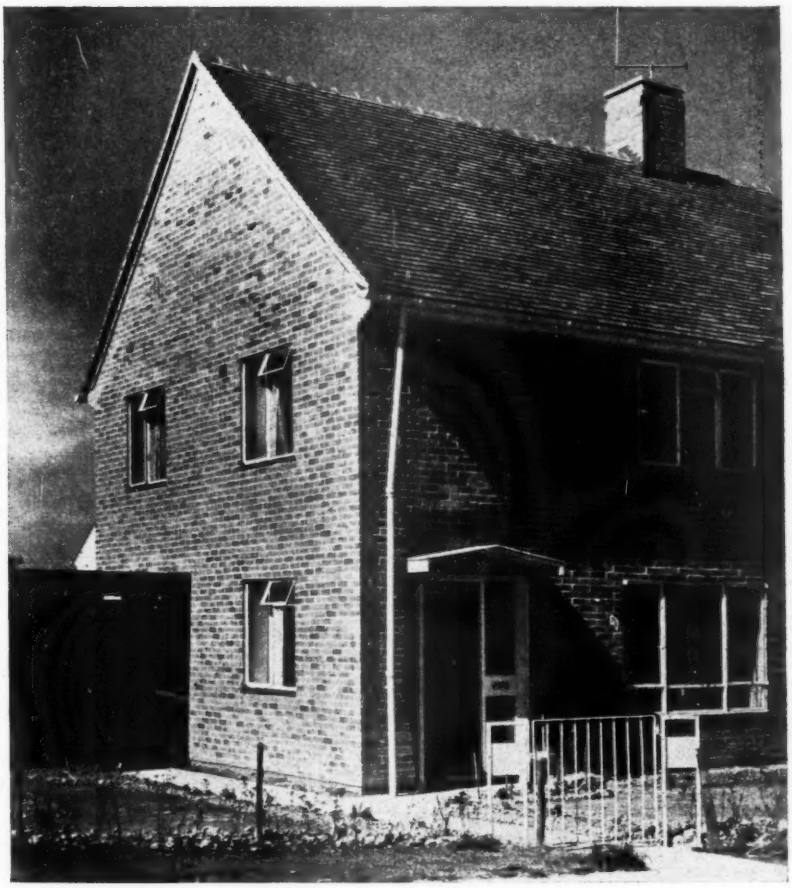
Ground and first floor plans : (1) on site plan : photo on left [Scale : $\frac{1}{16}$" = 1' 0]

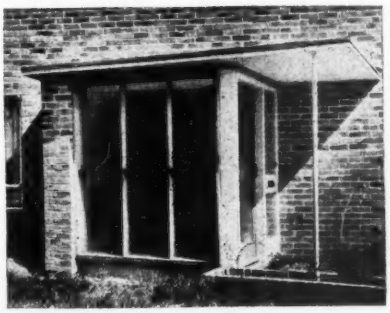


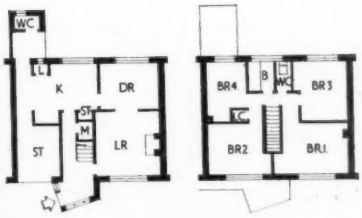
Ground and first floor plans: (2) on site plan: photo on right [Scale : $\frac{1}{24}$" = 1' 0"]

CRAWLEY : HOUSING DESIGN

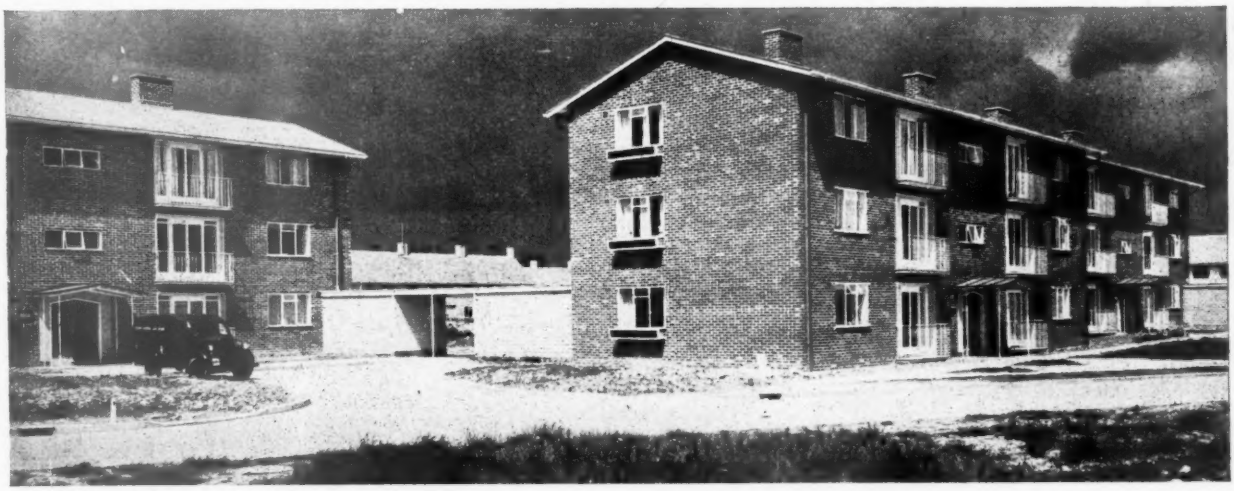
In the part of Northgate Neighbourhood, Crawley, illustrated in the next few pages, the designing was carried out during A. G. Sheppard Fidler's term of office as Chief Architect, with Nelson Foley in charge of the design team. This small part of Northgate is really only one street block, says D. Rigby Childs in his article, "but it is representative of the Corporation's approach to its task." Opposite page : this three-bedroom house with internal store and garage attached is (1) *on the site plan. "The design of the house and store entrance doors does not quite overcome the feeling of duality which may, in practice, lead to confusion." Porches are a prominent feature : the pediment type* (2)*, above right, "is in danger, through mass production, of becoming a Crawley porch." A variation on the porch* (3) *is seen beneath this picture ; this type of porch "gives a sense of spaciousness to the halls internally." Below* (4) *is a picture of two of three blocks of three-storey flats, built with dark rustics ; they have green felted roofs which make a pleasing contrast to the light colour-washed houses, with terra-cotta coloured tiles opposite, and with the yellow concrete brick on screen walls. Plans overleaf.*

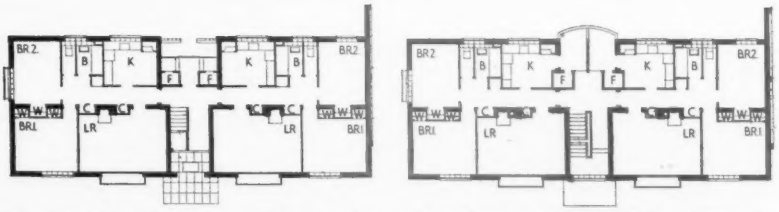






Ground and first floor plans: (3) on site plan: photo on left [Scale : $\frac{1}{32}$" = 1' 0"]





CRAWLEY : SPACE AROUND HOUSES

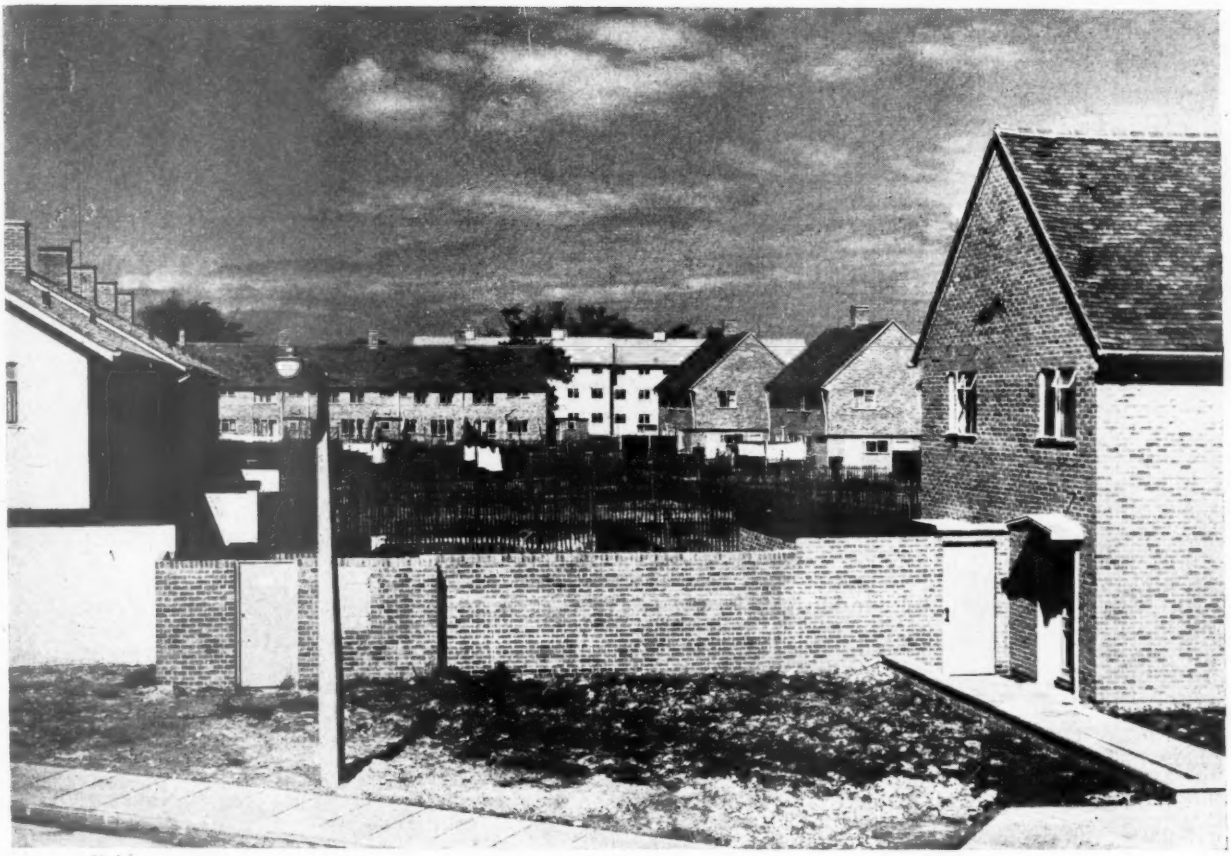
Above : A view showing the use of a screen wall—(5) *on site plan. Below :* (6) *gives an idea of the relationships between colour-washed houses (background), garages (in front of them), bungalows (on right) and landscape. Views* (7) *and* (8) *opposite show the " wilderness of chestnut-palings and clothes lines " of gardens which give no privacy.*

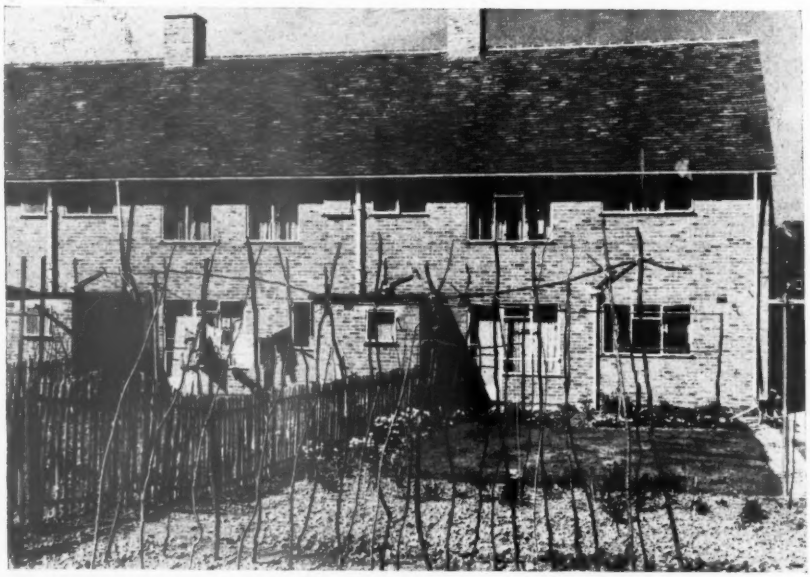
Ground and first floor plans: (5) on site plans: photo above and bottom of page 797 [Scale : $\frac{1}{32}$" = 1' 0"]

250 pre-war houses. The new housing is being designed by the Corporation, by Johnson and Crabtree, A. W. Kenyon, Norman and Dawbarn, and the Rural District Council. In the part of Northgate selected for study, building is almost complete and landscaping is progressing. The area, known for contract purposes as Site 1-1A, was designed during A. G. Sheppard Fidler's term of office as Chief Architect, Nelson Foley being in charge of the design team. This small part of Northgate—it is only 18·5 acres in extent—is really only one street block but it is, I believe, representative of the Corporation's approach to its task.

HOUSING DESIGN.

The trend at Crawley is to build fewer flats than originally planned. The Corporation are finding that tenants coming into the country to live almost unanimously prefer a house with a garden, and that flats above 2-storeys



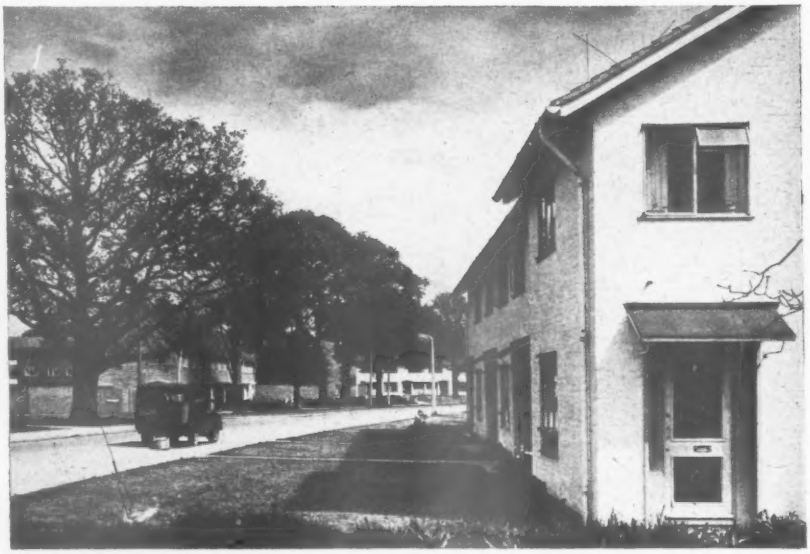


not only cost more per square foot of space created than houses, but also cost a great deal more to administer.

Site 1-1A being close to the town centre and the town park has been planned to contain a high percentage of flats, 35% compared to 11% for the whole neighbourhood; consequently the ratio of different house types also varies. In terms of houses only, the percentage of 1-bedroom houses in 1-1A is 6·8, 2-bedroom houses 13·6, 3-bedroom houses 70·0, 4-bedroom houses 8·2, and 5-bedroom houses 1·4; the comparative figures which have been adopted for Northgate as a result of experience are 5, 25, 64, 5 and 1%.

The layout of site 1-1A is on an intimate scale; special attention has been paid to the achievement of a constantly changing street scene to avoid the monotony characteristic of most subsidized housing. Apart from the variety attained in layout, prominent use has been made of colour and facing materials. My first view (1) is of a three-bedroom house with internal store and garage attached. The positioning of the garage and overhang of the porch is a very neat arrangement, but the design of the house and store entrance doors does not quite overcome the feeling of duality which may, in practice, lead to confusion. At the other side of the site, facing Barnfield Road, is a row of semi-detached houses (2). As in Five Acres, these have the down-pipes from the gutter painted white, and the raking upper portions when seen on a number of houses are reminiscent of the South Bank. Porches are a prominent feature at Crawley. The little pediment type (2) is almost in danger, through mass production, of becoming a Crawley porch. A variation which has been tried out, for instance on the opposite side of Barnfield Road, is the projecting porch with fluted glass windows. These give a sense of spaciousness to the halls internally. By walking a few yards along Oakway from viewpoint (3) you will reach an almost North African scene (4). This is a group of three blocks of 3-storey flats, built in Lingfield dark rustics with green felted roof (originally designed as copper), which contrasts with the light colour washed houses with terra-cotta coloured tiles opposite, and with the yellow concrete brick on edge screen walls, in which the

frogs have been used to provide an interesting texture. The white balustrades against the white woodwork give a touch of lightness and delicacy.



SPACE AROUND HOUSES

The merits and faults of the space around houses which were noticed at Adeyfield can also be seen at Northgate. In the view (5) which shows in greater detail the wall, mentioned under (4), there can be seen the entrance to the stores and gardens attached to the flats. My next view (6) gives an idea of the relation which has been worked out between houses, bungalows, garages, and landscape in a small close off Barnfield Road. On the right there is an old person's bungalow and on the corner stands a sensibly designed lamp-post; in the centre at the back there is a row of lock-up garages which are built in the ratio of one to every eight houses, though the planning allows for one to five houses with possibilities for further expansion if required. Well behind the garages is a terrace of colour-washed houses overlooking London Road (see plan) —not to mention the valued presence of trees still in their prime.

After the seemliness of the last view, it comes rather as a surprise to find a view (7) such as can be had on looking over a wall screening the exposed flanks of a housing group into the garden space visible to any of the inhabitants in the group. The view is an unbroken mass of back gardens back to back, each measuring about 25 ft. by 70 ft., though a few are slightly wider. In this wilderness of chestnut palings and clothes lines the scene may be slightly improved once a few trees are planted, as shown on the plan. A closer view, as at (8) shows how a garden-minded tenant has got down to his hobby, but between the gardens there is almost complete absence of privacy and there is no adequate wall against which plants or shrubs may be grown.

Where there are allotments there is greater privacy between houses or flats backing on to one another. About one acre per thousand population is being set aside for allotments, mostly in fairly small units closely adjacent to the houses served, and reserve areas for large-scale allotments are available if there is a great demand. The Corporation is to allow each neighbourhood at least one playground large enough to provide separate areas for juniors and infants, with the possibility of accommodation for ball games for the former. Additional play spaces for infants, with modest equipment, are provided as part of the housing layouts, particularly in areas where there are flats. Unequipped play areas are provided in the form of small greens at the head of culs-de-sac, etc.

CRAWLEY : ROADS AND FOOTPATHS

The view left (9) *on site plan—is seen at the entrance to the Northgate Neighbourhood from London Road. The Development Corporation has not adopted a policy of open fronts or of closed garden for tenants , the pattern of the layout is emphasized by the enclosing or exposure of frontages. Where houses are lined up in streets, the gardens are enclosed ; where the layout opens up to squares and greens, there are communal front gardens. Thus privacy is given where it is most needed and contrast is given between the corridor effect of the street and the open square. The layout of footpaths in this area is enterprising ; " it will contribute," says the author of this article, " to the scene at* (10) [*opposite, centre*], *though a greater variety in the use of pavings would be welcome, especially, say, along Black Dog Walk* (11) (*opposite, bottom*), *where access is mainly by footpath." Top of this page :* (12) *a scene which, " when completed, will be the most pleasing of all on this site " : the group of flats at the end of the carriageway are of an attractive, light, warm brick and have black balustrades.*

ROADS AND FOOTPATHS

Special attention has been paid at Northgate to achieving a constantly changing street scene in order to avoid the monotony characteristic of most subsidized housing.

To introduce this section I have chosen a viewpoint (9) which is seen when an entry is made into Northgate from London Road. A very pleasant informal treatment is given to Barnfield Road, with its 24 feet wide carriageway, which is typical of the method of forming a constantly-changing street scene by opening out and closing up, angling of blocks and alteration of built-up frontages and blocks angled to the road. As can be seen in this photograph, a start has been made in laying out front gardens. The Corporation has not adopted a policy of open fronts or of individually enclosed gardens for tenants, the pattern of the layout being emphasized by enclosing or opening up frontages. The general rule is that where houses are lined up in streets the gardens are enclosed, but where the layout opens up to squares and greens there are communal front gardens. This has the advantage of giving privacy where it is most needed and at the same time solving the problem of giving contrast between the corridor effect of the street and the openness of the square.

At first a fairly high proportion of gardens were designed to be open, but with experience it was found, I understand, that not only are they costly for the Corporation to maintain, but tenants prefer to have their own enclosed front gardens. These are now being provided for 80 per cent. of the buildings.

The layout of footpaths in Site 1—1A is enterprising; it will contribute to the scene at (10), though a greater variety in the use of pavings would be welcome, especially, say, along Black Dog Walk, where access is mainly by footpath (11). With footpath access the Corporation has experienced no trouble in working to the Housing Manual limit of 120 feet.

Now, to my last viewpoint in this series (12). A view looking down the 16 feet wide carriageway of Five Acres towards another group of flats which are carried out in a very attractive light warm brick and have their balustrades painted black. This is a more general view of (1); it is a scene which when completed will, I think, be the most pleasing of all on this site at Northgate.

CREDIT AND DEBIT

On the credit side, it is manifest from these photographs that the general effect at Northgate, as represented by Site 1-1A is already most attractive. The layout of houses is interestingly arranged about the site, and the groupings have been carefully treated in relation to colour. There is also a pleasant relationship between house and road.

On the debit side, however, as at Hemel Hempstead, the problem of the small back garden appears to have been either neglected by the Corporation or to have been found insuperable.

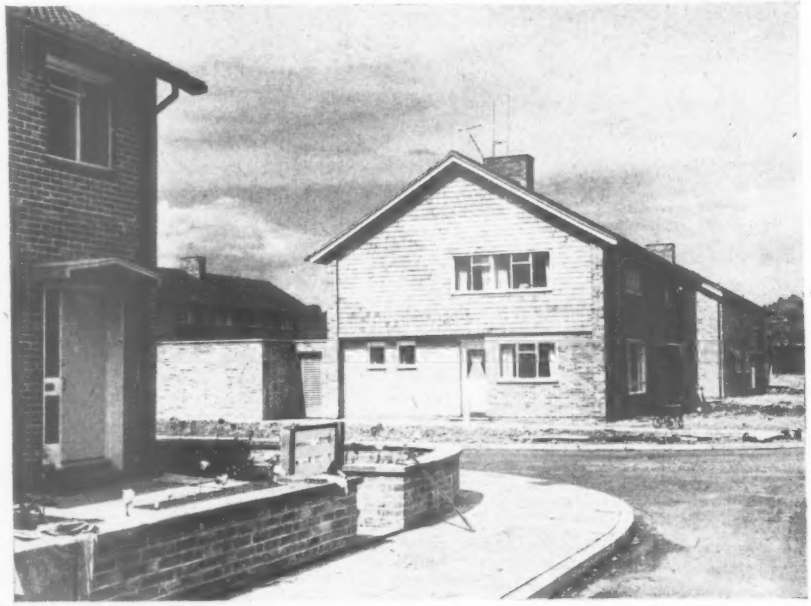
FUTURE PROGRAMME

I have previously told* of how detailed plans have been prepared for six out of the nine neighbourhood units of the complete plan for Crawley. It was originally intended that the outer neighbourhoods should be at lower densities than the inner ones. The first two inner neighbourhoods — West Green and Northgate—were planned at approximately forty habitable rooms to the acre, although individual site densities were higher in areas of standard housing and over seventy on sites developed with 3-storey flats. (The net accommodation density for Site 1-1A is 42·7.) How-

*See A.J. April 10, 1952. page 452.

ever, the rise in cost of site development since the town started make it unlikely that densities of just over eleven dwellings to the acre at present being achieved for standard housing will, in fact, be lowered in the outer neighbourhoods. The inclusion in these neighbourhoods of a slightly higher proportion of better grade houses than those built to date will decrease the overall density, but not, I should say, by very much.

The first opportunity the Corporation has had of planning a neighbourhood from scratch on a virgin site has been in designing an outer neighbourhood at Langley Green. The theme of the design, on which the architects have reached the detailed planning stage, is a basic two-storey development for a population of about 5,400 arranged in a practically continuous ring around the primary school site, which is the only open space, apart from narrow park strips along certain roads within the neighbourhood. The principles behind the layout appear to be the merits of economy in cost of providing public services in a scheme with a compact layout; economy through building two-storey dwellings and the general wish of people to have a house and garden of their own. The layout develops the trend of design to be seen at Northgate and in so doing has become extremely stylised. It has almost the atmosphere of a mediæval fortified town, with its continuous ring of housing and the constant opening and closing of the street scenery. No one part of the layout appears to be distinctive from another.



Another Crawley Neighbourhood—West Green. A pleasing design for a gable end; the upper floor is faced with cedar shingles.

A SUMMING UP

It is at Crawley, rather than at Hemel Hempstead, that it is possible to see the most complete acceptance of the factors which are influencing housing layout in the new towns.

There are four factors which stand out:—

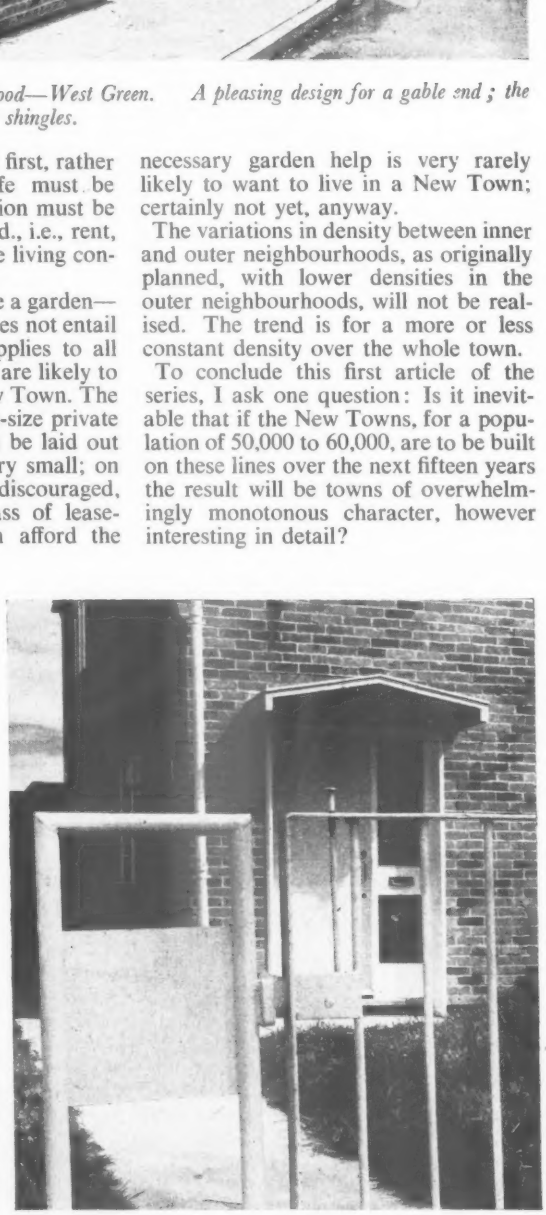
If the New Towns, the London New Towns, anyway, are to succeed in the primary objective, which is to draw off population from the metropolis, they must meet the basic needs of people. In other words, the New Towns cannot afford to be eccentric; they must seem to the largely unsophisticated incoming population to be perfectly right and natural.

To succeed, the New Towns have to tempt people to migrate from familiar surroundings to new and, at first, rather raw surroundings where life must be started again. The temptation must be a good one in terms of £ s. d., i.e., rent, and cost of living, and in the living conditions offered.

The popular wish is to have a garden—but a small garden which does not entail too much upkeep. This applies to all classes of population which are likely to be attracted to live in a New Town. The number of large or medium-size private gardens which are likely to be laid out in a New Town will be very small; on planning grounds they are discouraged, and, in any event, the class of leaseholder or tenant who can afford the necessary garden help is very rarely likely to want to live in a New Town; certainly not yet, anyway.

The variations in density between inner and outer neighbourhoods, as originally planned, with lower densities in the outer neighbourhoods, will not be realised. The trend is for a more or less constant density over the whole town.

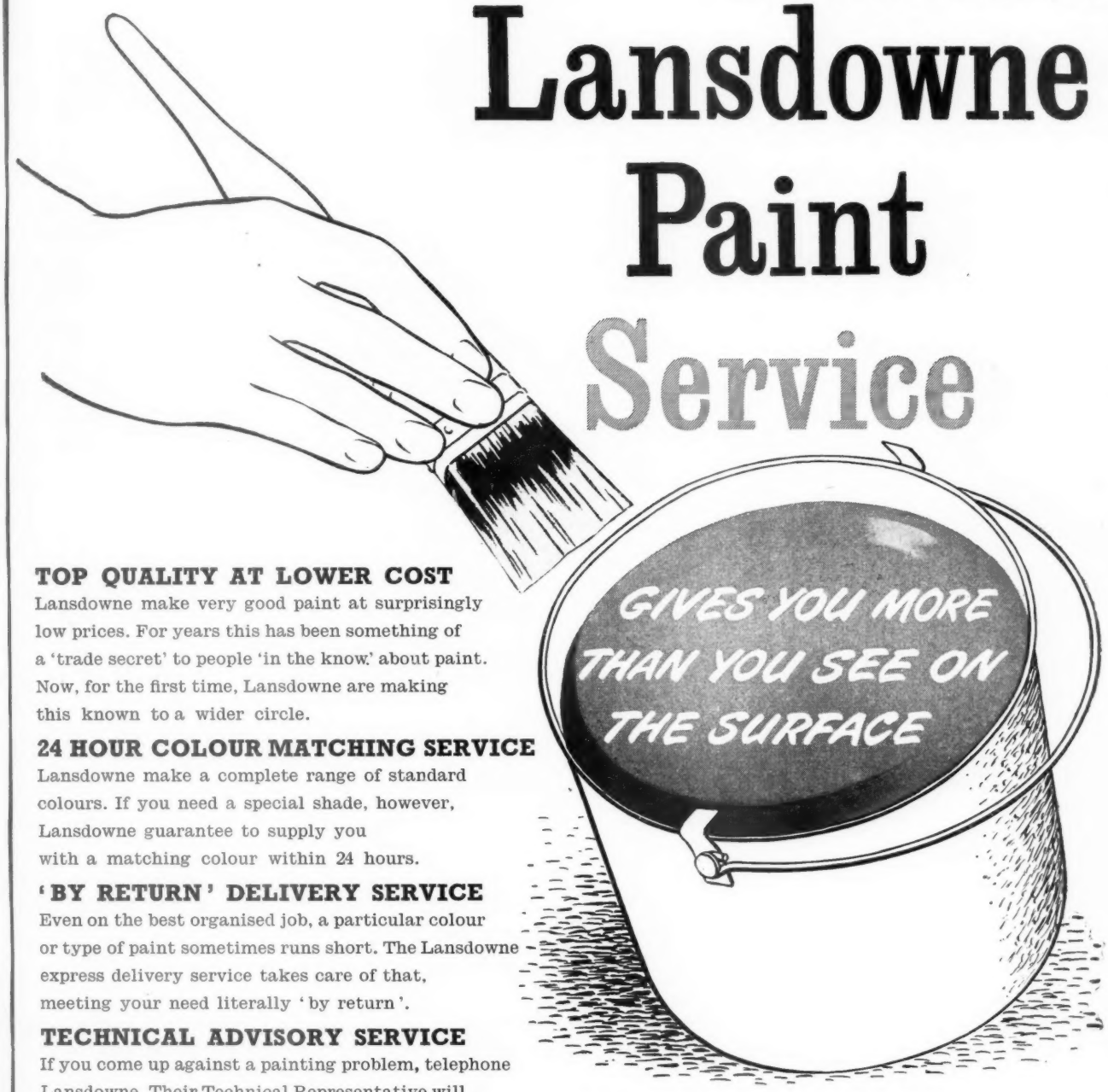
To conclude this first article of the series, I ask one question: Is it inevitable that if the New Towns, for a population of 50,000 to 60,000, are to be built on these lines over the next fifteen years the result will be towns of overwhelmingly monotonous character, however interesting in detail?



A CAUTIONARY TAILPIECE

How will this look in five years' time? asks Derrick Rigby Childs. Has sufficient thought been given to the effect of weathering? Much care has obviously gone into the design and planning of these houses. But white painted gates, white posts, white rainwater pipes, brightly coloured doors and concrete hoods, however charming, need far more maintenance costs than darker colour-schemes. Is it not questionable whether the Corporation will be able to afford this expenditure to keep these houses from looking not only shabby but actually dirty?

Lansdowne Paint Service



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TECHNICAL SECTION

At last year's Building Research Congress several papers were presented on the subject of quality control of concrete. Each of the authors stressed its importance, not only when high-grade concrete is required, but at all times. For, to quote R. F. Blanks of The Bureau of Reclamation, Denver, USA, " the principal objective in concrete control is to ensure that the concrete . . . will be *uniform*." On the one hand, higher quality than is needed increases costs unnecessarily; while, on the other hand, a reduction in quality at a vulnerable point may prove disastrous.

In this week's special article two measures conducive to the control of concrete quality are described. The delivery and storage of cement in bulk, instead of in paper bags, prevents the deterioration which often occurs when paper bags get damaged and the use of a site silo makes accurate measuring easier.

Going a stage further, the use of ready-mixed concrete, made under ideal conditions at a central plant, brings to the small builder on the small site all the advantages which can otherwise only be gained by the use on the site of elaborate equipment which small builders cannot afford. By specifying ready-mixed concrete, in districts where it is available, architects can ensure that the required quality of concrete will be used throughout the job, without wasting any of the country's valuable cement.

This week's special article

14 MATERIALS : CONCRETE
ready-mixed concrete and bulk delivery of cement

The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year.

*This week's special article is in two parts; the first half * deals with the use of ready-mixed concrete—concrete mixed on special lorries and delivered ready for use; the second half deals with the bulk delivery and storage of cement, and, in particular, the extension of this practice to small building sites.*

READY-MIXED CONCRETE

American practice in the use of ready-mixed, or transit-mixed concrete was one of the subjects surveyed by the British Building Productivity Team when it visited the USA for the Anglo-American Council on Productivity. The team recommended in its report that the technical possibilities of using this material in major centres in this country should be investigated.

Experience with ready-mixed concrete is not very extensive in Great Britain but there are at least five firms supplying it and a BSS is being prepared. Ready-mixed concrete is obtainable to any desired specification. The dry materials are first mixed at central stations equipped with efficient weigh-batching plant and manned by experienced staff. They are then transported to the site in mixers mounted on special trucks and the exact amount

of water needed is added during transit. It is generally agreed that the product is of a higher and more uniform quality than is normally attained by site-mixing except on large jobs where similar equipment is installed and quality control is of a high order. Producers usually guarantee the quality of their product and users who have carried out tests confirm that the guaranteed standard is well maintained.

The use of ready-mixed concrete gives scope for a considerable saving of labour on site operations, an important feature under present conditions. No mixing team is required on the site and if arrangements are made to discharge trucks direct into formwork, labour for spreading can also be reduced. The increased speed in concreting may save time on the whole job.

Ready-mixed concrete offers many advantages on congested sites and is particularly valuable for maintenance work and alterations in factories where the use of floor space can cause serious delays in production. No space is required for a mixer or for dumps of material, no shelter is needed for cement stocks and a special water supply is unnecessary.

The use of ready-mixed concrete also avoids some of the difficulties that beset concreting in winter and many of the delays to which site mixing is subject in adverse or unreliable weather.

When using ready-mixed concrete it is more important than ever to plan the progress of work very carefully. Delay in discharging trucks increases the cost of delivery and if delivery is too slow placing may be held up causing extra cost on the site. The concrete is usually delivered in loads of 2 or 3 cubic yards. The whole load must be placed promptly or there may be a risk of premature setting.

Suppliers have achieved a reputation for making deliveries on time but it may be very difficult to maintain scheduled deliveries to sites in congested city areas. On small jobs it is sometimes found difficult to ensure that the last load is delivered in time to complete spreading before the normal finishing hour.

Delivery trucks require a firm road right up to the discharge point. If access to the site is poor it may not be possible to discharge direct into the formwork and extra handling and spreading costs will reduce the advantage of using the material. The quality of ready-mixed concrete is generally high but its reliability could be affected by inaccurate control of mixing water during transit. This, however, should not happen with experienced truck drivers. There is also a risk of ready-mixed concrete being spoiled on the site by the addition of water to make it more workable. It is important to place the concrete as soon as it is delivered without altering its condition in any way.

It is difficult to compare the cost of ready-mixed concrete with site-mixed concrete. The cost of site-mixed concrete varies with the size of the job, weather conditions and details of organization, while the cost of ready-mixed concrete depends greatly on the distance travelled and the extent to which the material can be discharged straight into position from the truck. Ready-mixed concrete is likely to be dearer on many jobs, estimates of the difference varying from 5s. to 8s. a cubic yard, but the advantages of using it can offset its actual cost. As might be expected, in small quantities required intermittently within ten miles of a loading station, it is cheaper.

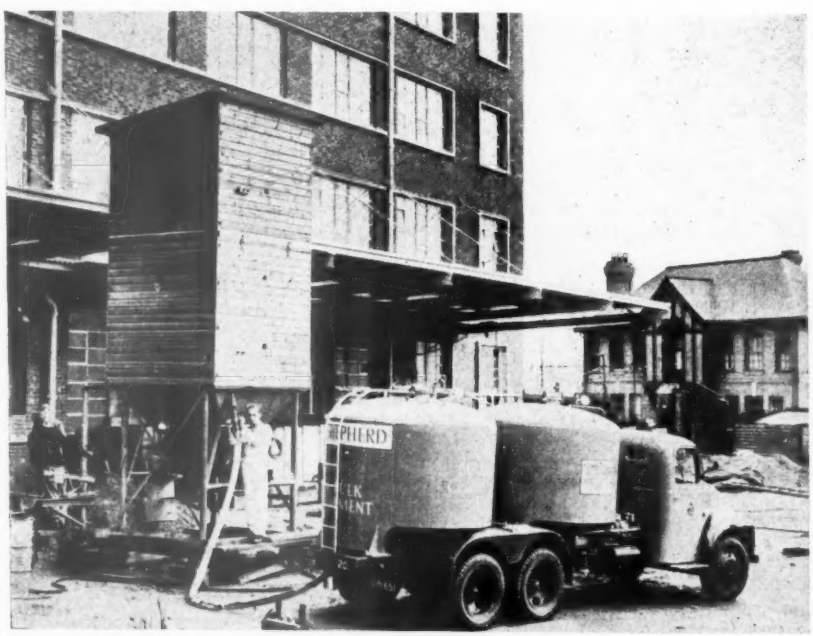
In general, it should be advantageous to use ready-mixed concrete:

(*i*) When it is essential to save time and arrangements can be made for rapid placing.

(*ii*) Where the site is congested or if occupation of floor space may hold up other important work.

(*iii*) When it is important to avoid delays due to adverse weather conditions.

Travelling distance from a loading station should usually be less than twenty miles but in some cases it may be worthwhile transporting the concrete longer distances.



Cement, aerated under pressure, being delivered from containers on a special lorry, through a flexible hose, into a simple site silo. (Photograph by courtesy of F. Shepherd & Son, Ltd.)

BULK DELIVERY OF CEMENT

Satisfactory systems for handling cement in bulk for large building and civil engineering projects have long been available. But the present high cost of paper bags (about 20s. per ton of cement, representing nearly 30 per cent. of the cost of the cement) makes it desirable to extend bulk delivery to small sites too. The acute shortage of kraft paper for the bags makes the matter even more urgent.

A system of bulk delivery of cement is now available which is suitable for small and medium-sized contracts. In brief, the cement is aerated with compressed air in pressure containers mounted on the delivery lorry and, on arrival at the site, can be delivered through a 2½-in. dia. flexible hose pipe into the silo. The system has proved highly successful in Sweden and a similar method of handling pulverized coal has been in use in Great Britain since 1937.

Apart from the saving in paper bags, bulk-handling of cement by this method eliminates the need for an unloading gang; avoids waste of cement, due to damaged bags; eliminates the problem of disposing of empty bags and makes the handling of cement a much cleaner operation.

A simple cement silo with a capacity of 8 ton need not cost more than about £60, against which must be balanced the saving on the erection, dismantling and hire charges for a site storage hut. Moreover, when cement is stored in a silo greater accuracy can be obtained in measuring out the cement and another occasion for waste eliminated. When a flexible hose is used it is not necessary for the cement carrying vehicle to get right up to the silo.

The use of compressed air for elevating the cement was considered most

suitable for several reasons: Firstly, the cement should be in an elevated container on the site, in order to ensure gravity feed to the mixer. Secondly, the equipment on the site should be as simple as possible, therefore the elevating equipment should be on the lorry. Thirdly, the use of compressed air eliminates any need for the cement to come into contact with moving parts, so that its abrasive effects are confined to the containers and the tube through which it passes.

The delivery lorries (one can be seen in the photograph on p. 804) were specially designed by Mr. Caswell, of the Yorkshire Engineering & Welding Co., who had previously been associated with the development of lorry-mounted equipment for handling pulverized coal. Each lorry carries two containers, each with a capacity of 3½ tons and designed for a working pressure of 40 lb./sq. in., an engine-driven compressor and the pipe lines, valves, etc.

F. Shepherd & Son, Ltd., a firm at present delivering cement in bulk by this method in the Hull and York districts, states that in conjunction with a simple site silo, it is an economic proposition for small building sites, and, moreover, however cheap paper bags become in the future, the advantages of bulk delivery should always make it a commercial proposition.

It is suggested that, as in Sweden, the cement manufacturers should take over the responsibility for bulk delivery, and that a logical development would be the setting up of large silos at suitable centres near railheads or rivers, kept full by deliveries by train or barge respectively, and a source of supply by the system described above for all sites in the locality.

INFORMATION CENTRE

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

9.28 design: general

ASBESTOS CEMENT

Fire Tests of Wood-Framed Walls and Partitions with Asbestos-Cement Facings. Nolan D. Mitchell. (Building Materials and Structures Report 123. US Dept. of Commerce. 1951. 15 cents.)

Results of tests on wood frames faced with asbestos-cement with and without additional protection of gypsum board sheeting and mineral wool fillings. The method of nailing the asbestos affected results.

10.94 design: building types

ROYAL FESTIVAL HALL

Science and the Design of the Royal Festival Hall. J. L. Martin. (RIBA Journal, April, 1952.)

There have been a number of papers describing the technical aspects of the Royal Festival Hall. This paper, by one of the architects chiefly responsible, is interesting for its general treatment of the subject from the architect's point of view.

Dr. Martin describes the contribution made by scientists to the design of the Festival Hall, particularly with regard to the acoustics and sound insulation. The scientists provided facts upon which the architects could work, but this did not mean that the way the facts should be used was predetermined; that was a job for architects and not scientists. The whole paper is indeed an excellent explanation of how co-operation between science and art should be achieved in modern building. It would be interesting for this reason alone but in fact it also contains a useful description of the building. Discussion by Hope Bagenal, William Allen and Robert Matthew is also reported.

16.86 materials: miscellaneous

ALUMINIUM

Aluminium and Aluminium Alloys in Building (Part II). BRS Digest No. 40. (HMSO. March, 1952. 3d.)

Selection and protective treatment for construction, cladding, frames, rainwater goods, electrical conduit and other uses.

Part I (see 16.83: 27.3.52) deals with the general properties of aluminium and its alloys. Part II deals broadly with selection and use for specific purposes. A useful table lists the chief uses and gives the suitable types of metal for each. Reference to the earlier Digest (Part I) is necessary to understand the references to types of metal. There are useful notes on selection; for instance, die-cast and fabricated windows are compared. It is clear that it is not enough simply to chose "aluminium"; for example, the need for maintenance must be considered. (Even the best types of aluminium require some maintenance if they are to retain a good appearance.)

A useful table is given showing what protective methods to use to safeguard against deterioration from various hazards, such as contact with lime, cement, concrete, timber and other metals.

A useful reference.

19.152 construction: details

WINDOWS

Aluminium Windows—Selection and Detailing. L. M. Dunn. (Progressive Architecture [USA]. April, 1952.)

Seven-page article which, although based on American practice, gives some useful information on properties of aluminium windows, corrosion, protective treatments, specifications for limiting air infiltration through cracks, sliding types, installation, types of fixing. Does not include details of sections or illustrations of window types, but is a useful general article.

20.211 construction: complete structures

LIFTING SHELL ROOFS

Reinforced Concrete Hangars at Marseilles. J. Grindrod (The Builder, Feb. 15, 1952. pp. 249-250.)

World's largest reinforced concrete hangar roof built on ground and jacked into position.

Each double hangar consists of two similar components each of 328 ft. span and 197 ft. depth joined together by a covered middle structure of 61 ft. span.

The roof consists of a series of 6 concrete barrel arches of a thin (2·4 in.) shell design giving the overall appearance of a huge curved and corrugated sheet. The "corrugations" are 32 ft. span and 7·25 ft. rise and they are stiffened at 32 ft. centres by diaphragms. The main arches are tied across the 328-ft. span by high tensile rods encased in concrete, the tie-beam being supported by hangers at the same 32 ft. centres as the shell diaphragms. The clear height of the hangar is 63 ft. and the rise of the main arches a further 43 ft. The roof was constructed on the ground and then jacked up the 63 ft. by sixteen 300-ton jacks at the rate of about 3 ft. per day. The advantage was that much of the preliminary work could be carried out at ground level and much scaffolding and hoisting was eliminated.

Columns are 40 in. square gradually built up from prefabricated elements fitting around the jacks and lateral stability is provided by four buttress frames placed perpendicular to the back of the building.

26.98 services and equipment: miscellaneous

SPRINKLERS

Sprinkler Systems. BS C of P 402.201. (British Standards Institution. 1952. 2s.)

General principles. Reference to requirements of Fire Offices Committee Rules which must be followed if insurance benefits are to be obtained.

26.99 services and equipment

HYDRANTS

Hydrant Systems. BS C of P 402.101. (British Standards Institution. 1952. 2s.)

General information. Covers full-size hydrants, small-bore, hose-type for use by untrained occupants of buildings, combinations of these and small-bore appliances with permanently-attached hose reels. The need for regular inspection and testing should be noted.

THE LIBRARY OF INFORMATION SHEETS

27.B10 *REFERENCE BACK*

Readers are asked to note that on the reverse of the Sheet under the heading "Tiles" the thickness of the type C.3.G. *tiles is incorrectly stated as* $\frac{3}{16}$ *in. This should read* $\frac{13}{16}$ *in.*

THE INDUSTRY

From the Industry this week, Brian Grant reports on the issue of a number of useful booklets and leaflets available free to architects, a new material — "glass-resin," and a new system of filing drawings.

CAFES AND TEA ROOMS

The Gas Council has published a number of booklets on the commercial uses of gas; the most recent one, No. 5, deals with cafés, tea rooms, and milk bars. As might be expected, space is devoted to a description of the various gas appliances suitable for use in these premises—ovens, grillers, refrigerators and water heaters—but there is also a lot of useful information about space requirements, according to the number of customers, for storage, preparation, cooking, service and washing up.

Typical layouts and seating arrangements are shown for restaurants with self-service and with waitresses. This is a useful little publication, the only criticism being that in describing counters at which customers sit, it should have been mentioned that it is usually desirable to provide a shelf of some kind for taking customers' hats and parcels. (*The Gas Council, 1 Grosvenor Place, London, S.W.1.*)

HOSPITAL FITTINGS

A useful catalogue has just been published by Rowe Bros. & Co. Ltd. illustrating and describing the types of equipment the installation of which can be regarded as representing standard practice for most hospitals. For special types of equipment the company maintains an advisory staff and can produce fittings of many different kinds. Illustrated in this publication are lavatory basins and surgeons' wash-ups, sterilizing cabinets, slop sinks and other sinks of all kinds, baths for babies, infants, children and adults, and mortuary slabs and post-mortem tables. Special-purpose taps, mixers, and other fittings are also included. (*Rowe Bros. & Co. Ltd., 7 Unity Street, College Green, Bristol, 1.*)

FINDING DRAWINGS

Most architects will have come up against the old problem of filing drawings so that they can be found in a tolerably useable condition. The plan chest is by no means a completely satisfactory solution—filing systems easily break down and drawings become crumpled and torn, particularly when they are being replaced. Almost every office has its favourite system, foolproof, no doubt, for just as long as the users are all prepared to co-operate.

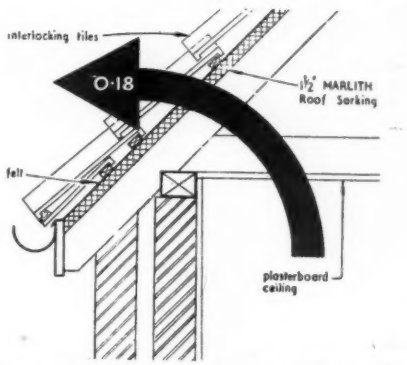
A new system which may sound a little elaborate, but which might work very well in practice has recently been evolved by a firm called Plandex Ltd., who are marketing packs in all standard sizes from half imperial to antiquarian, and holding up to fifty drawings. In these packs each drawing has its own separate pocket and a record card shows which drawing is in which pocket, so there should be no excuse for putting a drawing in the wrong place.

For the double elephant size the cost of the pack for 50 drawings works out at 1s. 4d. per drawing, and the packs can be stored upright. (*Plandex Ltd., Dublin.*)

WOOD-WOOL SLABS

The Marley Tile Company has just issued a series of leaflets dealing with their "Marlith" wood-wool slabs, and giving details of their insulating qualities and structural strength. The section below show "Marlith" applied as a 1½-in. thick sarking to a traditional pitched roof. (For purposes of comparison it should be noted that a similar construction, but with ⅜-in. boarding and felt, has a U factor of 0·27. Similarly, with flat roofs, a 3-in. decking has a factor of 0·16 compared with 0·48 for hollow tiles with an asphalte or felt finish.

"Marlith" slabs are made in standard sizes, 6 ft. by 2 ft., and in thicknesses of 1, 1½, 2, 2½ and 3 in., the weight per slab being 30, 50, 60, 70 and 80 lb. respectively. They are, therefore, reasonably easy to handle, and need no special care on the site; if they get wet they should be allowed to dry out and they will then revert to their original strength. (*The Marley Tile Co. Ltd., London Road, Riverhead, Sevenoaks, Kent.*)



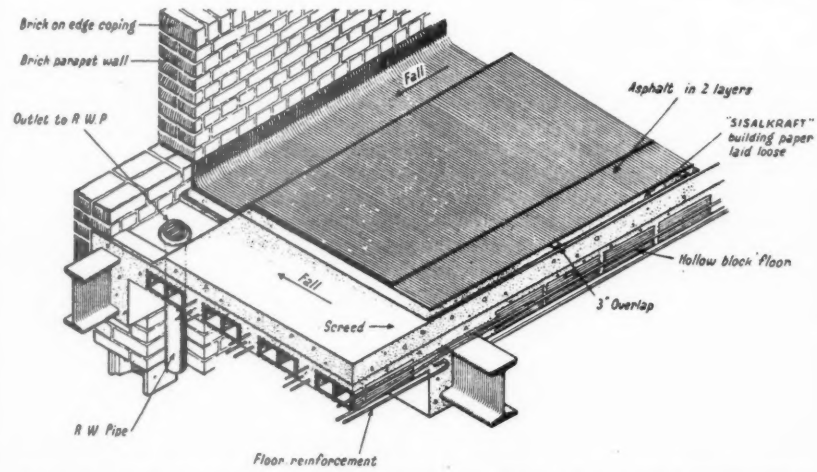
The effect on the U value of a pitched roof of a sarking of 1½-in. "Marlith."

GLASS-RESIN

Last month Fibreglass Ltd. organized a "Glass-Resin" Convention, and summaries of the various papers presented are now available. In this country we have only used resin-bonded glass fibres to make some small dinghys, which were remarkably light in weight, and some aircraft parts. In America, however, this material is more widely used, notably for the moulded seats and backs of chairs. Glass fibre and resin laminates have a high strength-to-weight ratio and excellent impact strength, and are being developed rapidly in the aircraft industry, for which they are particularly suitable. So far as the building industry is concerned applications will probably be a little slow; but no doubt manufacturers of appliances have the material in mind, particularly in view of the acute shortage of nearly all metals. The products have to be moulded under heat and pressure, so there is little chance of any "one off" design being produced at a reasonable figure. (*Fibreglass Ltd., Ravenhead, St. Helens, Lancs.*)

BUILDING PAPER

J. H. Sankey & Son has just issued a number of leaflets showing the uses of all grades of "Sisalkraft" building paper, which is available not only in the usual grades as an underlay or for curing concrete, but also in various heat-reflecting forms, faced with metal foil on one or both sides. This is sensible publicity which can be easily filed. (*J. H. Sankey & Son Ltd., Aldwych House, Aldwych, London, W.C.2.*)



Above, "Sisalkraft" building paper used as waterproofing to a hollow-tile flat roof. Right, one of the exhibits at the Glass-Resin Convention, organized by Fibreglass Ltd., an "Eames" chair by Hermann Miller Furniture Co. and Owens Corning Fiberglas Corporation.

ENQUIRY FORM

I am interested in the following advertisements appearing in this issue of "The Architects' Journal." (BLOCK LETTERS, and list in alphabetical order of manufacturers' names please).

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Please ask manufacturers to send further particulars to :—

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AJ 26.6.52

Buildings Illustrated

Adeyfield Neighbourhood, Hemel Hempstead New Town, Herts. (Pages 790-795.) Architect: H. Kellett Ablett, F.R.I.B.A., M.T.P.I., Chief Architect. General Contractors: J. Mead Ltd. (Contract No. 1); Circle Construction Co. (Contract No. 1A); George Wimpey & Co. Ltd. (Contracts No. 2, 3, 4, 5 (i), 5 (ii), 5 (iii), 9 and 12); J. L. Constantine & Co. (Contract No. 8B); C. Miskin & Son Ltd. (Contract Nos. 6 and 6A). Subcontractors: electrical, Alpha Electrical & Manufacturing Co. Ltd. (Contract No. 1); Henry H. Gale (Contracts No. 1A, 5 (ii) and 5 (iii)); A. Appleby & Co. Ltd. (Contract Nos. 2, 3, 4, 5 (i) and 12); Lewis Electrical Co. Ltd. (Contract Nos. 6, 6A, 8B); Stevenage Electrical Co. (Contract No. 9); plumbing, Structural Services (Contract Nos. 1, 6, 6A); F. Jarret (Contract No. 1A); Schooledge (Contract Nos. 2, 3, 4, 5 (i), 5 (ii), 5 (iii), 9 and 12); G. Gross (Contract No. 8B); plastering, W. Hunt (Contract No. 1); Messrs. Robinson Bros. (Contract No. 1A); Tuohey Bros. (Contract Nos. 2, 3, 4, 5 (i), 5 (ii), 5 (iii), 9 and 12); Hammond (Contract Nos. 6 and 6A); W. G. Venn & Sons (Contract No. 8B); floors, Marley Floor Tile Co. Ltd. (Contract Nos. 1, 2, 3, 4, 5 (i), 5 (ii), 5 (iii), 6, 6A, 8B, 9 and 12); Helical Bar & Engineering Co. (Contract No. 1A); painting, Hendy & Williams (Contract No. 1A); C. Hastings (Contract Nos. 2, 3, 4, 5 (i), 5 (ii), 5 (iii), 9 and 12); Winstanley Ltd. (Contract No. 6 and 6A); W. & W. Ltd. (Contract No. 8B).

Northgate Housing Sites 1 and 1A, Crawley New Town, Sussex. (Pages 796-802.) Architects: A. G. Sheppard Fidler, F.R.I.B.A., Chief Architect (now H. S. Howgrave-Graham, A.R.I.B.A., A.M.T.P.I.); Nelson Foley, A.R.I.B.A., A.I.L.A., in charge of Design Team (*Site* 1). General Contractors: Rice & Son Ltd. Sub-contractors: windows, Henry Hope & Sons Ltd.; larder vents, Greenwood's & Airvac Ventilating Co. Ltd.; gas, South Eastern Gas Board; roof tiling, Henry J. Greenham (1929) Ltd.; sanitary fittings, Rownson, Drew & Clydesdale Ltd.; metal door frames, Joseph Sankey & Sons Ltd.; doors, Cygnet Joinery Ltd.; fireplace surrounds and hearths, M. P. Harris & Co. Ltd.; domestic boilers and Marathon fires, Rownson, Drew & Clydesdale Ltd.; electric consumer control panels, Mantel Metalworkers Ltd.; electrical installation, Rice & Son Ltd.; ironmongery, Comyn Ching & Co. (London) Ltd.; kitchen fittings, Peerless Built-in Furniture Ltd.; floor finishes, Leatherflor Ltd., "Accotile" (laid by Korkoid Decorative Floors); fencing, Horsley Smith & Co. Ltd.; landscape, Hackenden Nurseries; metal garden gates, O'Brien Thomas & Co. Ltd.; electric fires, Bratt Colbran Ltd.; reconstructed stone, Tarmac Ltd. (Vinculum Department); Dorking pressed sandfaced multifacing bricks, The Sussex & Dorking Brick Co. Ltd.; rustic fletton bricks, "Cortex" bricks, London Brick Co. Ltd.; manholes, "Waterhouse," Trollope & Colls Ltd. (*Site 1A*). General Contractors: Carlton Contractors Ltd.; specialist floor construction, Smith's Fireproof Floors Ltd. Sub-contractors: metal windows, Henry Hope & Sons Ltd.; facing bricks, Sussex & Dorking Brick Co. Ltd.; metalwork, H. Teale & Sons Ltd.; electrical work, J. H. Plant Ltd.; fireplaces, Bratt Colbran Ltd.; plumbing, J. H. Shouksmith & Sons Ltd.; ironmongery, Comyn Ching & Co. Ltd.; gas, The South Eastern Gas Board; joinery, Jayanbee Joinery Ltd.; sanitary fittings, Stitsons Sanitary Fittings Ltd.; floor finishes, Korkoid Decorative Floors Ltd.; kitchen fittings, Peerless Built-in Furniture Ltd.; electricity (consumer control units), Mantel Metalworkers Ltd.; fires, Rownson, Drew & Clydesdale Ltd.; precast stairs and flower boxes, Tarmac Ltd.; landscaping, Hackenden Nurseries.

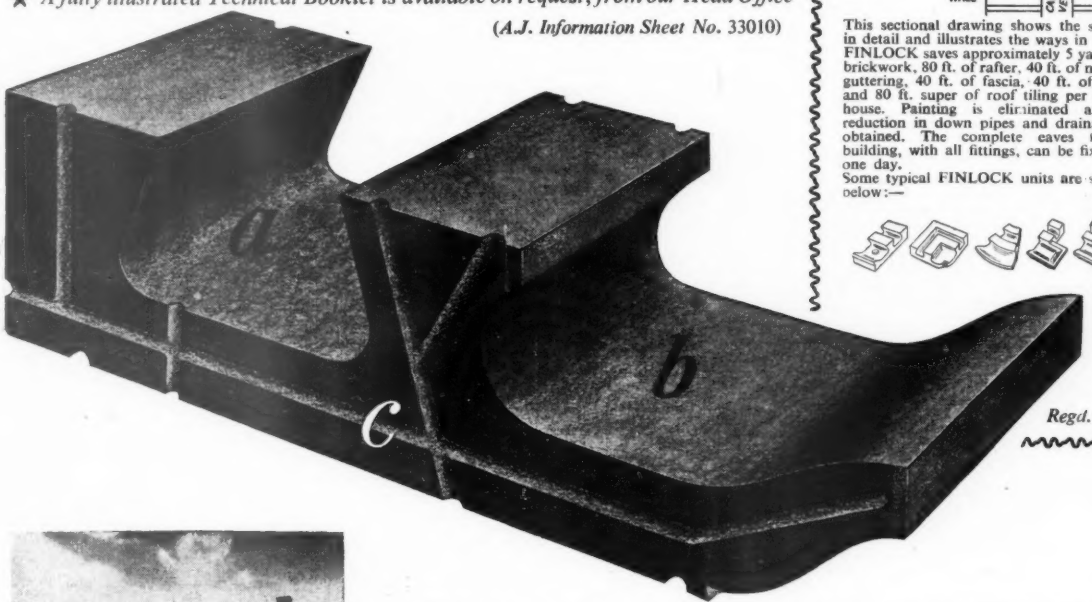
USING this system of Guttering shows a tremendous saving in cost, material and maintenance charges. Finlock Gutters are made with a fine waterproof concrete—simple in design, easy to use and *permanent*.

Finlock forms the eaves and gutters (*says Mr. Fin*)

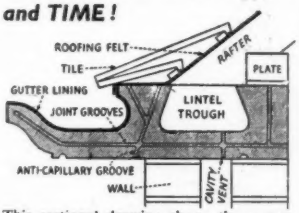
. . . and saves £15 per house! (*says Mr. Lock*)

On the illustration below "a" shows the trough in which lintels can be cast *in situ* if required, "b" shows the large sectioned gutter channel which permits laying without fall. Strong enough to walk in and to withstand all building stresses. Completed by a bituminous lining after laying. "c" indicates the jointing grooves.

★ *A fully illustrated Technical Booklet is available on request, from our Head Office* (*A.J. Information Sheet No.* 33010)



HOW FINLOCK SAVES MONEY and TIME!



This sectional drawing shows the system in detail and illustrates the ways in which FINLOCK saves approximately 5 yards of brickwork, 80 ft. of rafter, 40 ft. of normal guttering, 40 ft. of fascia, 40 ft. of soffit and 80 ft. super of roof tiling per single house. Painting is eliminated and a reduction in down pipes and drainage is obtained. The complete eaves for a building, with all fittings, can be fixed in one day.

Some typical FINLOCK units are shown below:—

Regd. Pat

Finlock Gutters are being used by the following County Councils: CAMBRIDGESHIRE, DERBYSHIRE, EAST SUSSEX, GLAMORGANSHIRE, GLOUCESTERSHIRE, KENT, LONDON, MIDDLESEX, NORFOLK, SURREY, STAFFORDSHIRE, WARWICKSHIRE, WORCESTERSHIRE.

Over 200 local authorities are now using Finlock.

‡ The buildings shown are in accordance with the winning design in the £1,000 low cost housing competition organised by "THE BUILDER". By courtesy of J. L. Womersley, Esq., A.R.I.B.A., A.M.T.P.I., Borough Architect for Northampton.

FINLOCK GUTTERS LIMITED

20 ST. JOHNS RD., TUNBRIDGE WELLS, KENT

Telephone: Tunbridge Wells 20396/7/8

7 WORKS FOR SPEEDY DELIVERIES TO ANY PART OF GT. BRITAIN · BARNSTAPLE, DEVONSHIRE · LEEDS, YORKSHIRE · EDINBURGH, SCOTLAND · CWMBRAN, SOUTH WALES · SOUTHAM, WARWICKSHIRE · TUNBRIDGE WELLS, KENT · BELFAST, NORTHERN IRELAND

DHB

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

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

CORPORATION OF GLASGOW
ASSISTANT ARCHITECTS
ASSISTANT CIVIL ENGINEERS
ASSISTANT QUANTITY SURVEYORS

Vacancies for the above technical personnel exist on the Housing Department permanent staff at salaries in accordance with National Scales APT. II-APT. VIII (£490-£840). Applications are invited from suitably qualified persons who have had experience in any of the following branches:—

Design and construction of housing developments;
Surveying and contouring of land;
Design and construction of roads and sewers; and
Preparation of schedules and final measurements.

The commencing salary will be at a point within the above scales, adjusted in accordance with the age, experience and qualifications of selected candidates. Notwithstanding the point of entry, it will be possible at certain stages to qualify for an acceleration of increment.

Appointments will be subject to the provisions of the Corporation Superannuation Scheme and to the passing of a medical examination, and will be terminable by one month's notice on either side.

Applications, stating age, full particulars of experience and qualifications, accompanied by not more than three testimonials, together with the names and addresses of two referees, should be addressed to the undersigned within fourteen days of the publication of this advertisement.

A. G. JURY,
City Architect and Planning Officer, Director of Housing.
20, Trongate, Glasgow, C.1. 6914

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

ASSISTANT QUANTITY SURVEYORS required for measuring and pricing minor works executed under schedule contract. Professional qualifications not essential but experience in builders' estimating required. Salaries up to £696. Application forms from Architect (quote EK/QSA/3) County Hall, S.E.1. (626) 6980

GLOUCESTERSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT on A.P. & T. Grade IV (£530—£575) in the above Department. Candidates should have passed the Intermediate Examination of the R.I.B.A., and had general experience in design and construction.

The appointment will be subject to the Local Government Superannuation Act, 1937, and will be terminable by one month's notice on either side. The selected candidate, before appointment, will be required to pass a medical examination.

Applications, stating (*a*) name and address, (*b*) married or single, (*c*) age, (*d*) qualifications, (*e*) present position, salary and date of appointment, (*f*) previous positions, (*g*) particulars of experience, together with names and addresses of two persons to whom reference may be made, should be sent to S. E. URWIN, F.R.I.B.A., COUNTY ARCHITECT, SHIRE HALL, GLOUCESTER, not later than WEDNESDAY, the 2nd JULY, 1952.

GUY H. DAVIS,
Clerk of the County Council.
Shire Hall, Gloucester. 6987

DERBYSHIRE COUNTY COUNCIL
DEVELOPMENT OF NEW TECHNIQUES IN THE CONSTRUCTION OF A MODERN SECONDARY SCHOOL IN DERBYSHIRE

Two permanent SENIOR ASSISTANT ARCHITECTS (salary scales £735—£810 and £645—£710 p.a. respectively) are required to work for the first two or three years at the Ministry of Education in London on the above project. An additional allowance of up to £30 will be payable whilst working in London. The County Council are collaborating with the Ministry in this matter, and the appointments offer excellent facilities for the study of the subject.

Experience in the design and construction of new schools desirable.

Appointments pensionable and subject to medical examination. Canvassing disqualifies. Application forms and further details from the undersigned. Closing date July 8th, 1952.

F. H. CROSSLEY,
Dipl. Arch. (L'pool), F.R.I.B.A.
County Architect.
St. Mary's Gate, Derby.
26th June, 1952. 7012

LONDON COUNTY COUNCIL
QUALIFYING EXAMINATION FOR THE OFFICE OF DISTRICT SURVEYOR.

An examination for certificates of proficiency to perform the duties of District Surveyor will be conducted in London in the week commencing 20th October, 1952. Minimum age for candidates 25.

Possession of this certificate necessary for appointment as District Surveyor (£1,190 to £2,100 a year) or as Assistant District Surveyor (£1,002 to £1,143).

Subsequent examinations will be held annually.

Apply to The Architect to the Council, County Hall, Westminster Bridge, S.E.1, for application forms and further particulars. (450) 6839

COUNTY BOROUGH OF SWANSEA.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following established posts:—

(1) TWO SENIOR ASSISTANT QUANTITY SURVEYORS, Grade VII, £685-£760 per annum.
(2) ASSISTANT QUANTITY SURVEYOR, Grade V, £570-£620 per annum.
(3) TWO JUNIOR ASSISTANT QUANTITY SURVEYORS, Grade III, £500-£545 per annum.

For the post of Senior Assistant Quantity Surveyor, Grade VII, and Assistant Quantity Surveyor, Grade V, Associateship of the R.I.C.S. (Quantities) is required, and for the post of Junior Assistant Quantity Surveyor, Grade III, the Intermediate Examination of the R.I.C.S. must have been passed.

Candidates must be under 45 years of age unless in Local Government Service. The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

The appointment may be terminated by one month's notice on either side.

Forms of application may be obtained from the Borough Architect, Mr. H. T. Wykes, F.R.I.B.A., The Guildhall, Swansea, and are to be returned to the undersigned not later than Monday, 14th July, 1952.

Canvassing, directly or indirectly, will disqualify.

T. B. BOWEN,
Town Clerk.
The Guildhall, Swansea.
June, 1952. 7024

SWINDON AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE.
CLERK OF WORKS.

Applications are invited for the post of Clerk of Works, at a salary of £450 per annum, rising by annual increments of £20 to £550 per annum. The post is superannuable and subject to medical examination.

Applicants must have served an apprenticeship in the building industry, be capable of preparing sketch plans, specifications and reports, and have had practical experience in the supervision of structural and maintenance work and staff. Preference will be given to applicants holding the higher national certificate in building or its equivalent.

The duties of the post include supervision of the maintenance of eight hospitals; five in Swindon and three in the Marlborough area.

Forms of application may be obtained from the undersigned, to whom they should be returned within 14 days of the appearance of this advertisement.

W. J. LEWIS,
Group Secretary.
7, Okus Road, Swindon.
17th June, 1952. 7023

CITY OF NOTTINGHAM EDUCATION COMMITTEE.
COLLEGE OF ART AND CRAFTS.

Principal: ALFRED H. RODWAY, A.R.C.A.
Head of School of Architecture: D. W. NOTLEY, B.Arch.(Hons.) L'pool., A.R.I.B.A.

Applications are invited for the post of full-time STUDIO MASTER in the School of Architecture, which is recognised for exemption from the R.I.B.A. Final Examination. Duties commence on the 1st September, 1952, or nearest date possible thereafter. Candidates should be fully qualified Architects, preferably holding the degree or diploma of a recognised school. Subject to the conditions governing full-time teaching service, the person appointed will be given such opportunities as may be practicable to maintain professional practice.

Salary: Burnham Scale for Grade B Assistants—£450×£25—£725 (women £405-£580), plus allowances.

Application forms and further particulars from the Principal, College of Art and Crafts, Waverley Street, Nottingham, to whom the forms should be returned within ten days of the publication of this advertisement.

F. STEPHENSON,
Director of Education.
Education Office, South Parade, Nottingham. 7019

ESSEX EDUCATION COMMITTEE.
SOUTH-EAST ESSEX TECHNICAL COLLEGE AND SCHOOL OF ART, LONGBRIDGE ROAD, DAGENHAM.

ASSISTANT (Grade B), with recognised qualifications in Architecture, required September. Professional and Teaching experience advantageous. Duties include Studio work, Building Construction and Draughtsmanship to Inter. R.I.B.A. standard, and some final work (day and evening). Salary: £450×£25—£725 per annum (man). Allowance for previous recognised experience, and additions for Graduation and training, also London allowance. Further particulars and application form from Clerk to Governors (stamped addressed foolscap envelope). 6991

CANNOCK URBAN DISTRICT COUNCIL
ASSISTANT QUANTITY SURVEYOR

Applications are invited for above-named appointment in the Architect's Department of the Council, the commencing salary to be fixed according to the qualifications and experience of the successful applicant, but not to exceed the maximum of Grade APT. V(*a*) (£660 per annum).

The provision of housing accommodation for the successful applicant, if required, will be considered by the Council.

Forms of application and further particulars are obtainable from the undersigned.

Closing date, 14th July, 1952.

W. C. SPEEDY,
Clerk of the Council.
Council House, The Green, Cannock, Staffs.
17th June, 1952. 7013

CITY OF COVENTRY
CITY ARCHITECTURAL AND PLANNING DEPARTMENT
SCHOOL DEVELOPMENT TEAM
TWO GRADE VIII ARCHITECTS

Applications are invited from qualified architects for two Grade VIII appointments (salary £735 by £25—£810). The successful candidate will be engaged in development of school planning and building techniques. Initially, for a period of about eighteen months, they will be required to live in London and work in collaboration with the Development Group in the Architects and Building Branch of the Ministry of Education on the design and construction of a new school to be built in Coventry. On completion of these duties, it is intended that they should continue to work on the Authority's school building programme within the City Architectural and Planning Department in Coventry.

Applications should reach me not later than Wednesday, July 9th, 1952.

DONALD GIBSON,
City Architect and Planning Officer.
Bull Yard, Off Warwick Row, Coventry.
26th June, 1952. 6996

COUNTY OF ESSEX
ILFORD COMMITTEE FOR EDUCATION

The Essex County Council invite applications for an ASSISTANT ARCHITECT in the Office of the Borough Engineer of Ilford.

Applicants must be members of the Royal Institute of British Architects and have had considerable experience in the planning, designing, construction and supervision of school buildings and have had administrative experience.

The scale of salary will be in accordance with the National Joint Council A.P.T. Division Grade VII:—£685 by £25 to £760, plus the appropriate London Area Allowance. There will also be paid such travelling and subsistence allowances as may from time to time be determined by the Council.

Applications should be made on a form to be obtained from, and returned to, the Borough Education Officer, Town Hall, Ilford, together with copies of not more than three recent testimonials, within 14 days of the appearance of this advertisement. 6997

UNIVERSITY OF CAMBRIDGE. ASSISTANT LECTURESHIP IN THE DEPARTMENT OF ARCHITECTURE.

Applicants, who should be professionally qualified, may obtain full particulars from W. P. Dyson, M.A., 1, Scroope Terrace, Cambridge. Latest date for applications: Saturday, July 5. 7006

CITY AND COUNTY OF BRISTOL.
COLLEGE OF TECHNOLOGY.
Principal: F. W. PARTINGTON, M.Sc.

Applications invited for post of full-time ASSISTANT LECTURER (Grade A) in Architectural and General Building Subjects. The work involves part-time courses in Architecture, Surveying and National Certificates in Building. Suitable qualifications in Architecture or Surveying required. Salary, Burnham Technical Scale, £375×£18—£630, with increments for teaching and industrial experience and graduate qualifications. Further particulars and application forms (returnable as soon as possible) by sending stamped, addressed envelope to Registrar, College of Technology, Unity Street, Bristol, 1.

G. H. SYLVESTER,
Chief Education Officer.
Council House, College Green, Bristol, 1. 6995

QUANTITY SURVEYORS, MINISTRY OF WORKS.

Quantity Surveyors and Assistant Quantity Surveyors are required throughout the United Kingdom by the Ministry of Works, Admiralty, War Department, Air Ministry, and occasionally overseas by the Admiralty, Air Ministry and War Department. Although these are not established posts some of them have long term possibilities, and competitions are held periodically to fill established vacancies.

Salaries for these professional posts in London for Officers over 26 years of age range from £600 to £900 per annum in lower grades and from £900 to £1,200 per annum in the higher grades. They are slightly lower in the provinces. Salary on entry will be in accordance with age, qualifications and experience.

Vacancies also exist for Quantity Surveying Assistants and others having some experience in a quantity surveyor's office, at salaries ranging from £300 per annum upwards.

Applicants should write, quoting ref. J.Q.S., to Room 403, Ministry of Labour and National Service, Technical and Scientific Register, Almack House, 26, King Street, London, S.W.1. 6993

BOROUGH OF ILFORD
APPOINTMENT OF ARCHITECTURAL ASSISTANTS

(*a*) A.P.T. Grade VII.

Applicants should be Associate Members of the R.I.B.A. and have a thorough knowledge of Architectural works with practical experience in the design and development of buildings of all types, preference being given to candidates with specific experience in connection with post-war Housing schemes, including Flats.

Salary will be in A.P.T. Grade VII of the National Scales, viz.: £685—£25—£760, plus London Weighting.

(*b*) A.P.T. Grade IV.

Candidates for this appointment should possess approved qualifications and have general Architectural experience, particularly with regard to the preparation of contracts and working drawings. Preference will be given to candidates who have passed the Intermediate Examination of the R.I.B.A.

Salary will be in A.P.T. Grade IV of the National Scales, viz.: £530—£15—£575, plus London Weighting.

The Council is not in a position to offer housing accommodation in connection with either of these appointments.

The appointments will be superannuable and be subject to one month's notice on either side, to the National Conditions of Service and to the passing of a medical examination. The appointments will be whole-time ones (private practice being prohibited).

Forms of application may be obtained from the Town Clerk, Town Hall, Ilford, and should be returned by the 5th July, 1952. 6994

CAMBRIDGESHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.
PLANNING OFFICER (ENGINEERING).

Applications are invited for the appointment of a Planning Officer on Grade A.P.T., VII, of the National Joint Council's Scales (salary £685-£760 per annum).

The successful applicant will be concerned with the engineering aspects of the work of the Planning Department. Knowledge and experience of the design and layout of roads, of sewerage and water schemes, and of land drainage will be required.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, the Council's Conditions of Service, and, to the successful candidate satisfactorily passing a medical examination. Financial assistance, up to £2 weekly for a period not exceeding six months, may be given if the person appointed cannot obtain housing accommodation and has to maintain his own present residence in addition to the expense of lodgings in Cambridge.

Applications, stating age, past and present appointments (with dates), experience, qualifications, present salary, and the names of two referees, should be received by the undersigned not later than 7th July, 1952.

CHARLES PHYTHIAN,
Clerk of the County Council.
Shire Hall, Castle Hill, Cambridge. 7014

LONDON COUNTY COUNCIL.
HAMMERSMITH SCHOOL OF BUILDING AND ARTS AND CRAFTS.

LECTURER IN ARCHITECTURE (for A.R.I.B.A., preferably with diploma of a recognised school of architecture) required as Studio Instructor in Design and Construction: should offer subsidiary lecture subjects. Salary: £900×£25—£1,000, plus London allowance of £36 or £48, according to age. Particulars and application form from the School, Lime Grove, Shepherds Bush, W.12, to be returned by 4th July. (620) 6990

THE NORTH WESTERN ELECTRICITY BOARD
APPOINTMENT OF QUANTITY SURVEYING ASSISTANT (GENERAL ASSISTANT ENGINEER), CONSTRUCTION SECTION, CHIEF ENGINEER'S DEPARTMENT

The duties will consist of general assistance in the preparation of Bills of Quantities, and particularly in abstracting, billing and site measurements, and in taking off and preparing final accounts.

Preference given to applicants who have passed, or are about to enter, for the Intermediate Examination of the R.I.C.S.

Salary scale: £481—£674 p.a. Grade AX/DX.8. N.J.B. Conditions.

Applications to the Establishment Officer, The North Western Electricity Board, Cheetwood Road, Manchester 8, by 5th July, 1952. 7026

STAFFORDSHIRE COUNTY COUNCIL.
EDUCATION COMMITTEE.

Applications are invited for the appointments of HEATING ENGINEERING ASSISTANTS on the staff of the Education Architect's Department at appropriate salaries on grades up to A.P.T., VI, Division of the National Scales (maximum £710 per annum), according to qualifications and experience. Applicants must have experience in the design and installation of low pressure hot water heating apparatus, domestic hot water supplies, etc., in all types of school buildings, and be competent draughtsmen. Applications should be submitted to the Architect to the Education Committee, Green Hall, Lichfield Road, Stafford, stating qualifications and experience, and accompanied by a copy of one recent testimonial and the names of two referees. Applications are to be received by the 2nd July, 1952.

T. H. EVANS.
Clerk of the County Council. 7011

SUDAN GOVERNMENT.

The Ministry of Education requires SENIOR ASSISTANTS (LECTURERS) and ASSISTANTS for the Department of Building of the Khartoum Technical Institute. Successful candidates will be required to teach building construction and allied trades to full-time students up to National Diploma standard.

Candidates for the post of Senior Assistant should hold a degree or its equivalent, *e.g.*, Royal Institute of British Architects, Royal Institute of Chartered Surveyors, Institute of Civil Engineers, Institute of Structural Engineers, and Corporate Association of Architects and Surveyors. Industrial and teaching experience would be an added advantage.

Candidates for the post of Assistant should hold the Higher National Certificate in Building, Surveying or Structural Engineering.

Appointments will be on probation for Short Term Contract (with bonus) for two years, extendable by agreement, in the salary scale £E.950 to £E.1,675 for Lecturers and £E.750 to £E.1,400 for Assistants. Starting salary determined according to age, qualifications and experience. A cost-of-living allowance may also be payable. Outfit allowance of £E.50 and free passage on appointment. Annual home leave after first tour. There is at present no income tax in the Sudan.

Further particulars and application form will be sent on receipt of a postcard only addressed to the Sudan Agent in London, Wellington House, Buckingham Gate, London, S.W.1, quoting "Senior Assistant 1010a," or "Assistant 1010b," and name and address in block letters. 6989

NATIONAL COAL BOARD.
NORTH-WESTERN DIVISION.

Applications are invited for the following appointment:—

CLERK OF WORKS, Grade II. Salary scale: £450×£25—£600 p.a.

Applicants must have been building tradesmen, with extensive and recent experience of the site supervision of five- or six-figure contracts, preferably under the control of an Architect, and should have a sound knowledge of heating and electrical layouts and reinforced concrete work, and understand contract procedure.

Applications, stating age, education, qualifications, experience, present appointment and salary, must be submitted within 14 days of the date of this advertisement, to the Divisional Establishment Officer, National Coal Board, North-Western Division, 40, Portland Street, Manchester, 1. 6988

THE POLYTECHNIC, 309, REGENT STREET, W.1.
SCHOOL OF ARCHITECTURE, SURVEYING, AND BUILDING.

Applications are invited for a full-time appointment as STUDIO MASTER IN ARCHITECTURE, duties to commence if possible on 1st September, 1952.

Candidates should possess a degree or diploma of a recognised School of Architecture, and will be required to teach design and construction.

The salary is in accordance with the Burnham (Further Education) Scale, Grade A. Minimum £375 per annum, rising by annual increments of £18 to a maximum of £630 per annum. Additions to the scale are: graduateship, £60 per annum; approved study or training, £18-£54 per annum; and London allowance, £36 or £48 per annum. The commencing salary may include increments in respect or war service and previous teaching and professional experience.

A form of application, which should be returned within 10 days of the publication of this advertisement, may be obtained by sending a stamped addressed foolscap envelope to the undersigned.

J. C. JONES,
Director of Education. 7016

HEBREW INSTITUTE OF TECHNOLOGY, HAIFA

Applications are invited for the post of PROFESSOR in the FACULTY OF ARCHITECTURE AND TOWN PLANNING. Conditions of appointment may be obtained from the Secretary, THE TECHNION SOCIETY OF GREAT BRITAIN, 13, Mansfield Street, London, W.1. 7032

CITY OF COVENTRY
CITY ARCHITECTURAL AND PLANNING DEPARTMENT
SCHOOL DEVELOPMENT TEAM
TWO SENIOR QUANTITY SURVEYORS

Applications are invited from qualified Quantity Surveyors for one appointment on Grade VIII (Salary £735 by £25—£810), and the other on Grade VII (Salary £685 by £25—£760).

The successful candidates will be engaged in development of school planning and building techniques. Initially, for a period of about eighteen months, they will be required to live in London and work in collaboration with the Development Group in the Architects and Building Branch of the Ministry of Education on the design and construction of a new school to be built in Coventry. On completion of these duties, it is intended that they should continue to work for this Authority in the Quantity Surveying Section of the City Architectural and Planning Department at Coventry.

Applications should reach me not later than Tuesday, July 8th, 1952.

DONALD GIBSON,
City Architect and Planning Officer.
Bull Yard, Off Warwick Row,
Coventry.
26th June, 1952. 7034

CITY OF LEICESTER—CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments on the permanent staff in the Housing Section:—

(*a*) ASSISTANT QUANTITY SURVEYOR. A.P.T., Grade VII. Salary: £685 to £760 per annum.

(*b*) QUANTITY SURVEYING ASSISTANTS (one each A.P.T., Grade V, and A.P.T., Grade IV). Salary: £570-£620 per annum, £530-£575 per annum.

(*c*) JUNIOR QUANTITY SURVEYING ASSISTANT. General Division Grade (salary according to age).

(*d*) MEASURING SURVEYOR. A.P.T., Grade II. Salary: £470-£515 per annum.

Applicants for (*a*) and (*b*), Grades VII and V, must be A.R.I.C.S. (quantities sub-division), and those for Grade IV must have passed the Intermediate Examination.

The appointments will be subject to the National Scheme of Conditions of Service, the passing of a medical examination, and to one month's notice on either side.

Applications, stating age, experience, qualifications, past and present appointments with present salary, together with copies of two recent testimonials, should be sent to the undersigned not later than Monday, 7th July, 1952.

J. H. LLOYD OWEN, B.Arch., A.R.I.B.A.
City Architect.
Municipal Offices, Charles Street,
Leicester. 7015

CORBY DEVELOPMENT CORPORATION

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

(*a*) ASSISTANT QUANTITY SURVEYOR at a salary of £600 by £25—£700, preferably with A.R.I.C.S. (Quantities) and experienced in taking off estimates, site measurements, valuations, and settlement for housing and public buildings.

(*b*) ARCHITECTURAL ASSISTANTS (2) at a salary of £600 by £25—£700, one with some experience of town planning and development plans, and both with experience of post war housing schemes.

(*c*) JUNIOR ARCHITECTURAL ASSISTANT at a salary of £500 by £25—£550.

The appointments are in connection with large-scale construction projects associated with the development of a New Town. The successful candidates will be required to pass a medical examination and to contribute either to a superannuation or an assurance scheme. Applications stating age, education, training, qualifications, past and present appointments and salaries, together with the names of two persons who can speak from recent personal knowledge of the applicant, and to whom the Corporation can refer, must be received by the undersigned not later than 7th July, 1952. Envelopes and applications must clearly indicate the appointment for which application is made. Housing for married candidates may be available.

R. F. BROOKS GRUNDY,
General Manager.
The Stone House,
South Road, Corby, Northants. 7028

NEWCASTLE REGIONAL HOSPITAL BOARD
SPECIAL AREA COMMITTEE FOR CUMBERLAND AND NORTH WESTMORLAND
CITY GENERAL HOSPITAL, CARLISLE
PROPOSED NEW 56-BED WARD BLOCK
APPOINTMENT OF CLERK OF WORKS

Applications are invited for the above appointment in connection with the Committee's proposal to build here a new 56-bed ward block at a cost of about £80,000.

Applicants should have had experience in similar appointments or hold a responsible position in the building industry. They should possess a thorough knowledge of building construction, site organisation, and the work of specialist trades, and should be able to measure work against Bills of Quantities.

The salary offered is £12 12s. 0d. per week The appointment is temporary but will probably extend over a period of two years. It will be terminable by one month's notice on either side.

The work will be carried out under the direction of the Architect to the Board, P. H. Knighton, M.B.E., A.R.I.B.A.

Applications stating age, qualifications, present position and details of previous experience, accompanied by the names of two persons to whom reference can be made, should be received by the undersigned not later than mid-day Wednesday, 23rd July, 1952.

W. J. BALL,
Clerk to the Special Area Committee.
1, Lonsdale Street, Carlisle. 7027

NATIONAL COAL BOARD—EAST MIDLANDS DIVISION
ARCHITECT'S DEPARTMENT

Applications are invited for the permanent and superannuated appointments of:—

S.V. 203. ARCHITECTS—GRADE II.

Salary: £575 by £25—£650 by £30—£900.

Applicants must be Associate Members of the Royal Institute of British Architects.

S.V. 204. ARCHITECTURAL ASSISTANTS—GRADE I.

Salary: £475 by £25—£650.

Applicants should have passed the Intermediate Examination of the R.I.B.A. and have at least three years' experience in an Architect's Department.

S.V. 205. ARCHITECTURAL ASSISTANTS—GRADE II.

Salary: £400 by £20—£500.

Applicants should have passed or be preparing for the Intermediate Examination of the R.I.B.A.

and have some practical experience in an Architect's Office.

The Grade and point of entry into the above salary scales will depend on the qualifications and experience of the applicant, and subject to satisfactory service, opportunities will be available for promotion to higher grades.

Part time studying facilities are granted, in certain circumstances, to Assistants for the purpose of availing themselves of the advantages of the Nottingham School of Architecture.

S.V. 206. CLERK OF WORKS—GRADE II.

Salary £450 by £25—£600 per annum.

Candidates should preferably be Clerks of Works with experience of Pithead Baths or other types of Industrial and Welfare Buildings.

They should be experienced in the supervision of steel and reinforced concrete structures and have a sound knowledge of sewage disposal; heating; ventilating and electrical plants; and all services connected with Industrial and Welfare Buildings.

Applications stating age, education, qualifications, present appointment and salary, should be submitted within seven days of publication of this advertisement to: The Secretary, National Coal Board, East Midlands Division, Sherwood Lodge, Arnold, near Nottingham.

Envelopes and applications should be marked with the appropriate "S.V." reference and original testimonials should not be sent. 7025

Tenders for Contracts

6 lines or under, 12s. 6d.; each additional line, 2s.

BOROUGH OF WORTHING
BUILDING CONTRACTS

The Corporation proposes to maintain a list of approved Building Contractors for housing and educational projects to be carried out and invites applications from suitable firms wishing to be considered for inclusion in such list.

Applicants, who should state the type of work for which they consider themselves best suited, the character and approximate value of any such work carried out post-war and the names of Corporations, public bodies or persons to whom reference may be made, should submit particulars to the Borough Engineer and Surveyor, Town Hall, Worthing, as early as possible and in any case within two weeks of the appearance of this advertisement.

ERNEST G. TOWNSEND,
Town Clerk.

Town Hall, Worthing.
10th June, 1952. 6985

METROPOLITAN BOROUGH OF CAMBERWELL.
DULWICH LIBRARY AND CONVENIENCE, LORDSHIP LANE, S.E.22.

Tenders invited for rebuilding and extensions to existing Library and rebuilding Public Convenience.

Drawings may be inspected in Borough Engineer's Department at the Town Hall between 10 a.m.-4 p.m. (Mondays to Fridays), 10 a.m.-12 noon (Saturdays).

Bills of Quantities and Forms of Tender forwarded on payment of £2 2s. to the undersigned, which sum will be refunded to *bona fide* tenderers after the tenders have been considered by the Council.

Tender Documents will be sent not later than 27th June.

Tenders upon the form supplied and in the official envelopes, together with sealed copies of the Bills of Quantities, to be delivered to the undersigned not later than 12 noon, 22nd July, 1952.

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

S. J. HARVEY,
Town Clerk.

Town Hall, Peckham Road, S.E.15. 6992

Architectural Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

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

ARCHITECTURAL ASSISTANT required—must be keen and willing to take responsibility; apply in writing giving age, training, experience and salary required. Antony Lamb, A.R.I.B.A., A.M.T.P.I., The Town Hall, Ottery St. Mary, Devon. 6977

EXPERIENCED ARCHITECTURAL ASSISTANT required in the Architect's Department at Head Office of large London Building Society, for work on the Society's Office premises in London and the provinces. After a probationary period, the appointment will be permanent and pensionable. Apply in writing, stating age, experience, salary required and when available, to Box 6969.

SPARE TIME ASSISTANCE required, evenings, weekends, etc., must be exceptionally neat draughtsmen. Good remuneration for right applicants. Box 7001A.

CADBURY BROTHERS LIMITED require an Architectural Assistant with knowledge of industrial design, able to assist with a large new factory on which construction is now commencing. Write, stating age, experience and salary required to E.M.A., Cadbury Brothers Limited, Bournville, Birmingham. 6999

ARCHITECTURAL ASSISTANT required for office in London, W.1. Must be good draughtsman. Details and salary required to Box 6998.

ARCHITECT'S ASSISTANT required, at Intermediate or Final standard. Experience in Flats, Housing, Factories, etc., to work directly under Principal. Victoria, S.W.1 district. Apply Box 7010

ARCHITECT'S ASSISTANT required, Inter R.I.B.A. standard. State age, experience and salary required. Francis W. Keyworth, Chartered Architect, 28, Nottingham Street, Melton Mowbray. 7009

SOUTHERN RHODESIA. Intermediate standard assistants contemplating emigration should contact the Overseas Technical Service, 5, Welldon Crescent, Harrow, quoting reference OSS.47/3 for details of three vacancies. Salaries up to £600 p.a. No assistance given with passage. 7007

TWO SENIOR ASSISTANT ARCHITECTS required. Varied projects (mainly industrial), with opportunity of contemporary development. Five-day week. Apply, stating age, experience, and salary required, to Farmer & Dark, Chartered Architects, Terminal House, Grosvenor Gardens, London, S.W.1. 7031

ARCHITECTURAL ASSISTANTS, preferably school trained, required for private Architectural practices in Norwich and Great Yarmouth. Applicants must have good all round experience in all forms of contemporary construction and design. Reply in writing, giving full particulars of experience and qualifications, and salary required. A. D. Cooke, A.R.I.B.A., 78, Prince of Wales Road, Norwich. 7022

EXPERIENCED ASSISTANT ARCHITECT required in small but busy provincial practice. Experience in detailing, specification writing and office routine essential. Knowledge of and interest in church repair and restoration an advantage. Salary: £600 to £1,000, according to experience and ability. Prospects of an early partnership after trial period. Apply, with full particulars, to Box 7021.

Architectural Appointments Wanted

SENIOR ASSISTANT ARCHITECT, Registered (42), desires permanent post where sound training, ability, and a lifetime's experience of all classes of work, particularly industrial, count for more than eligibility for pension scheme. Sketch plans to final account on own initiative, including surveys, levels, specifications, quantities, R.C. and structural steel design and detailing, and control of staff. Box 6954

A.R.I.B.A. (27) school trained, with experience of building in London, requires position in office with contemporary outlook in Southampton area. Box 476.

ARCHITECTURAL DRAUGHTSMAN; capable all work; drawings; desires appointment London. Box 477.

YOUNG LADY, Inter., 2 years' experience, requires position London or Essex. Box 479.

ARCHITECTURAL ASSISTANT seeks work in London. 3 years' full-time training, 18 months' office experience on varied work. Salary £6 p.w. Box 463.

ARCHITECTURAL REPRESENTATIVE desires contact with Brick and Tile manufacturers with view to representation in the London area. Thorough knowledge of the brick trade and constructional work. Box 478.

A.R.I.B.A. (Dip. Arch.), aged 36, seeks situation as SENIOR ASSISTANT. Box 480.

ARCHITECTURAL ASSISTANT, 4 years' day school, 3 years' office experience, seeks a part-time position in London office. Box 7033.

CLEAN shaven, and not the possessor of a duffle coat or blue jeans; yet despite these "handicaps," a school trained A.R.I.B.A., with 3 years' experience, claims to be contemporary minded, and seeks a permanent and progressive situation. Box 481.

Other Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

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

MAINTENANCE SURVEYOR required by United Dairies Limited to operate in London area. Applicants to state age, experience in surveying properties and preparation of specifications. Apply in writing stating qualifications and salary required, to Chief Architect, 31, St. Petersburgh Place, London, W.2. 6976

EXPERIENCED SECRETARY required in Septe ber by Architect in Salisbury. Write, stating age, experience, and salary required. Box 7004.

REINFORCED CONCRETE DRAUGHTSMEN, experienced, age about 25, required in old-established structural flooring Company in Hampton Court district. Architectural Draughtsmen, with theory of Structures, knowledge up to Higher National Certificate standard, would be considered for the positions, which provide scope for development due to current reorganisation. Apply for application form in first instance to: Smith's Fireproof Floors, Ltd., Imber Court, East Molesey, Surrey. Emberbrook 3300. 7000

SALESMEN and AGENTS, calling on Local Authorities, Builders and Builders' Merchants, wanted by first-class Company to sell Building Accessories on commission in all areas. Must have excellent connections. Apply, giving experience and area covered, to Box 7001.

Partnerships

6 lines or under, 12s. 6d.; each additional line, 2s.

FELLOW R.I.B.A., seeking partnership with architect of established reputation, at home or abroad. Box 6930.

CONSULTING STRUCTURAL ENGINEER with own staff and experienced in most modern methods of construction, requires partnership with Architect. Box 6975.

Services Offered

4 lines or under, 7s. 6d.; each additional line, 2s.

FELLOW R.I.B.A., returning to England June to September, prepared to assist in any part-time architectural work or perspective drawings at moderate remuneration. Box 6929.

DUPLICATING AND TYPEWRITING, Bills of Quantities, Specifications, etc.; all grades of Office Staff supplied.—Trinity Bureau, 50, Bedford Street, Strand, W.C.2. TEM. 3002. 6983

BIRMINGHAM DISTRICT, L.R.I.B.A. offers spare time assistance. Box 6971.

SECRETARY, over 4 years' experience in Architect's office, desires similar position in or near London. Box 7029.

ARCHITECTURAL ASSISTANT, willing to assist Architects (in own home), with Architectural and Structural Design, Detailing, etc. Week-ends and evenings. Box 7017.

A.R.I.B.A., practising Architect, offers assistance, by arrangement, to Architects; Manchester or Liverpool areas. Box 7008.

TYPEWRITING, DUPLICATING.—Bills of Quantity, Specifications, etc., expertly typed/duplicated. Express service. Work collected/delivered. JOSEPHINE HALL & PARTNERS, 501/2, GRAND BUILDINGS, TRAFALGAR SQUARE, W.C.2. WHI. 6411/2, and 87, High Street, Tunbridge Wells. Telephone: 1255. 7005

For Sale or Wanted

4 lines or under, 7s. 6d.; each additional line, 2s.

WANTED—Small architectural practice on the Fylde coast, or alternatively, partnership considered. Full details to Box 6941.

RECONDITIONED EX-ARMY HUTS, and manufactured buildings. Timber, Asbestos, Nissen type, Hall type, etc. All sizes and prices. Write, call, or telephone, Universal Supplies (Belvedere) Ltd., Dept. 25, Crabtree Manorway, Belvedere, Kent. Tel.: Erith 2948. 6803

EXPRESS LIFT for 8 persons to serve 8 floors, almost new, for sale. Apply Messrs. Allard & Saunders Ltd., 73, Upper Richmond Road, Putney, S.W.15. Tel.: Vandyke 2334 6954

WANTED, by Architect, a Flat of 2 or 3 rooms in London area, with, if possible, a large room for use as studio. Would do own conversion work if necessary. Box 7030.

ARCHITECTS have for disposal one "Antiquarian" and three "Double Elephant" Drawing Boards, all with Parallel Motion, and metal stands, to be sold individually or together. Telephone: WELbeck 0926. 7002

SPIRAL STAIRCASE for sale, immediate delivery, height 11 ft. 11 in., dia. 3 ft. 6 in., 17 treads. Price £50. Apply Leopold Farmer & Sons, Surveyors, 46, Gresham Street, E.C.2. 7018

Miscellaneous

4 lines or under, 7s. 6d.; each additional line, 2s.

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment. Harvest Works, 96/107, St. Paul's Road, N.1. Canonbury 2061.

FENCING FOR ALL PURPOSES supplied and erected. Established over 100 years. Cloakroom equipment also a speciality. Write Parker, Winder & Achurch Ltd., 80, Broad Street, Birmingham, 1. (MIDland 5001.) 6526

EX-FESTIVAL OF BRITAIN.—For disposal: Steel Framed Building, quantity of High Quality Double Swing Entrance Doors in Dural, Mahogany, Teak, etc.; also 65 high quality Dural Windows, all suitable for high class work. Apply Craven (Builders), Ltd., 313, Saffron Lane, Leicester. 7003

BUSINESS ACCOMMODATION TO LET

TO let on lease from 1st January, 1953, near centre of Redhill. Room 32 ft. by 30 ft. Well lighted (day and artificial). Suitable for drawing office or similar purpose. Applicants submit details of proposed use. £104 per annum exclusive. Box 6942.

Educational Announcements

4 lines or under, 7s. 6d.; each additional line, 2s.

R.I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Tutor Sch. of Arch., Lon. Univ.) and G. A. Crockett, M.A./B.A., F./A.R.I.B.A., M./A.M.T.P.I. (Prof. Sir Patrick Abercrombie in assn.) prepare Students by correspondence tuition. 10, Adelaide, Street, Strand, W.C.2. TEM. 1603/4.

R.I.C.S., I.A.A.S., and I.Q.S. Exams.—Postal Courses conducted by the Ellis School (Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.), 103B, Old Brompton Road, S.W.7. KEN. 4477/8/9. Descriptive booklet on request. 7020

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