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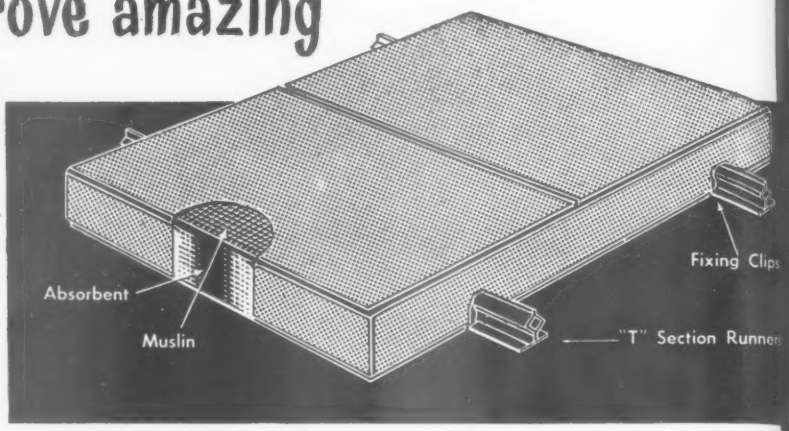
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 5, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
APRR	Association for Planning and Regional Reconstruction. 34, Gordon Square, W.C.1.	Euston 2158-9
ArchSA	Architectural Students' Association. 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
AScW	Association of Scientific Workers. 15, Half Moon Street, Piccadilly, W.1.	Grosvenor 4761
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 17, Amherst Road, Ealing, W.13.	Perivale 6869
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Flaxman 7766
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BIAE	British Institute of Adult Education. 29, Tavistock Square, W.C.1.	Euston 5385
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Millbank, S.W.1.	Whitehall 5140
BRDB	British Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 2246
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. 28, Victoria Street, S.W.1.	Abbey 3333
BTE	Building Trades Exhibition. 4, Vernon Place, W.C.1.	Holborn 8146/7
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Borough Architect, Town Hall, Newport, Mon.	Newport 3111
CAS	County Architects Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. Tilbury House, Petty France, S.W.1.	Whitehall 6322
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DPT	Department of Overseas Trade. 35, Old Queen Street, S.W.1.	Victoria 9040
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 8, Buckingham Palace Gdns, S.W.1.	Sloane 2837
FASSC	Federation of Association of Specialists and Sub-Contractors, 5, Arundel Street, Strand.	Temple Bar 6633
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4041
FS (Eng.)	Faculty of Surveyors of England. Buckingham Palace Gdns., S.W.1.	Sloane 2837
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 27, Grosvenor Place, S.W.1.	Sloane 2844
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215

N.P.L Tests prove amazing efficiency of (New) Acoustic Tiles



Soundproofing takes a new step forward! Burgess have produced—and the National Physical Laboratory have tested (Report Ref. 1015 of 12th June 1950) an Acoustic Ceiling Tile with an exceptionally high sound absorption coefficient. (See N.P.L. chart under diagram). Construction—a specially perforated metal tray, size 24in. by 12in. by 1¾in., fitted with clips containing a non-inflammable, non-hygroscopic, sound absorbent pad. The clips make for rapid and easy attachment to the specially shaped tee bar runner. The Tiles are stove enamelled which gives this treatment an exceptionally uniform and neat appearance.

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Frequency c.p.s.	125	250	500	1000	2000	4000	6000	8000
"A" 3/32in. dia. hole.	0.15	0.50	0.75	0.80	0.75	0.75	0.75	0.75
"B" 1/8in. dia. hole.	0.15	0.45	0.70	0.75	0.80	0.85	0.85	0.85

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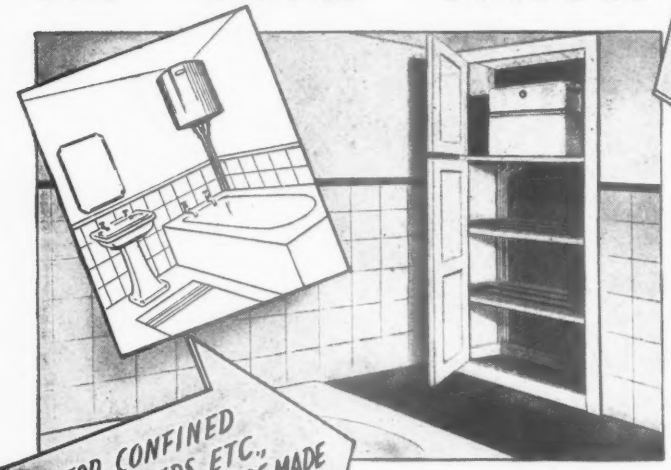

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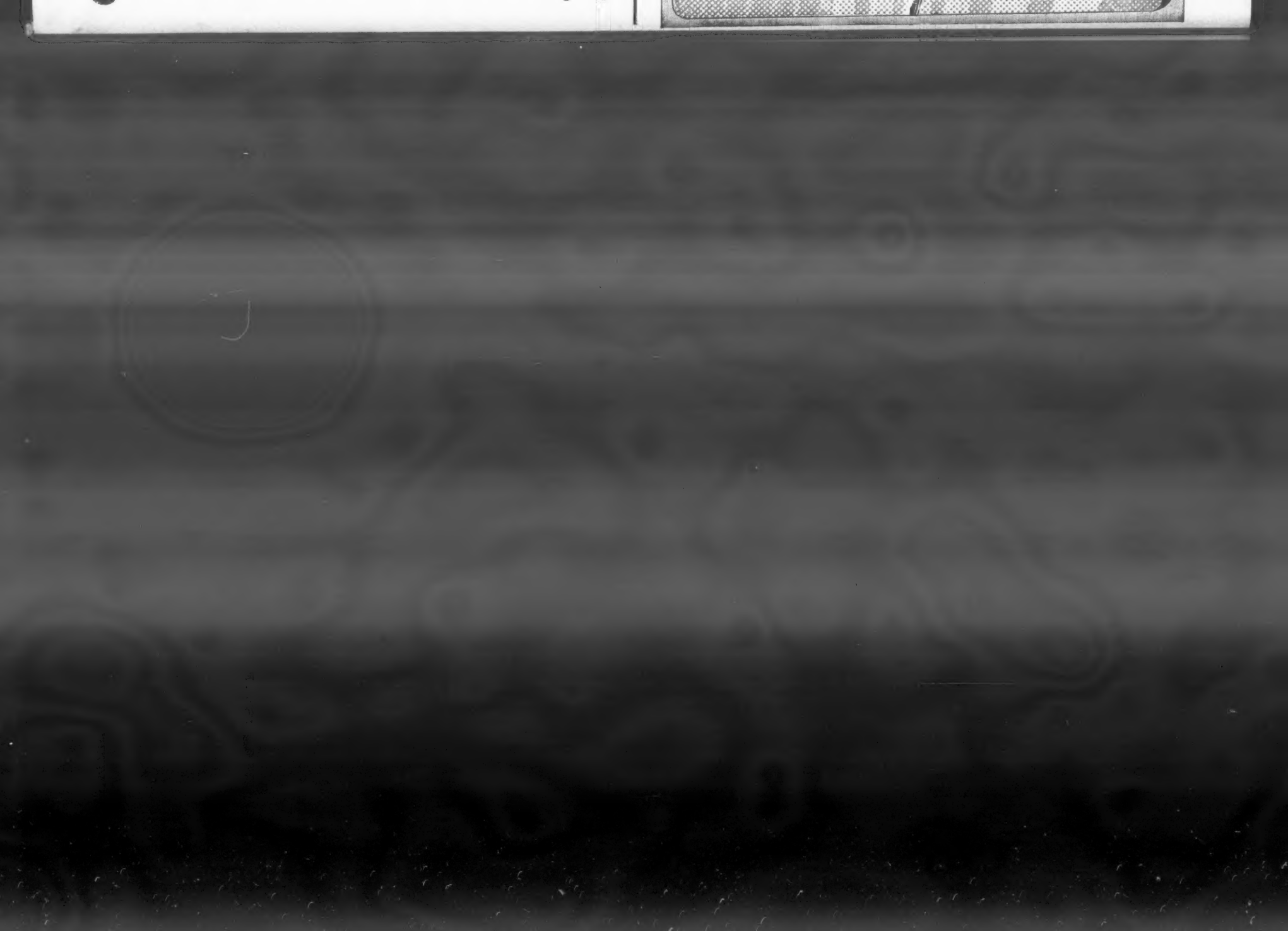

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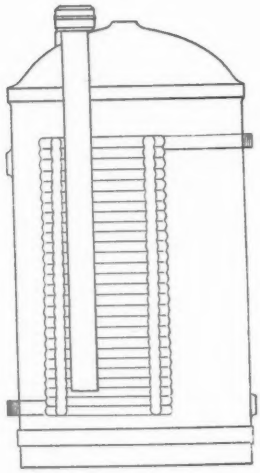

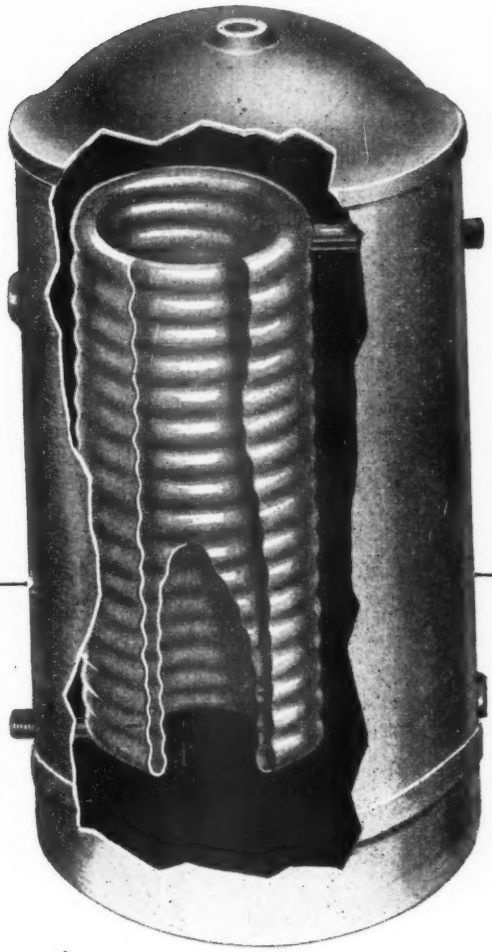

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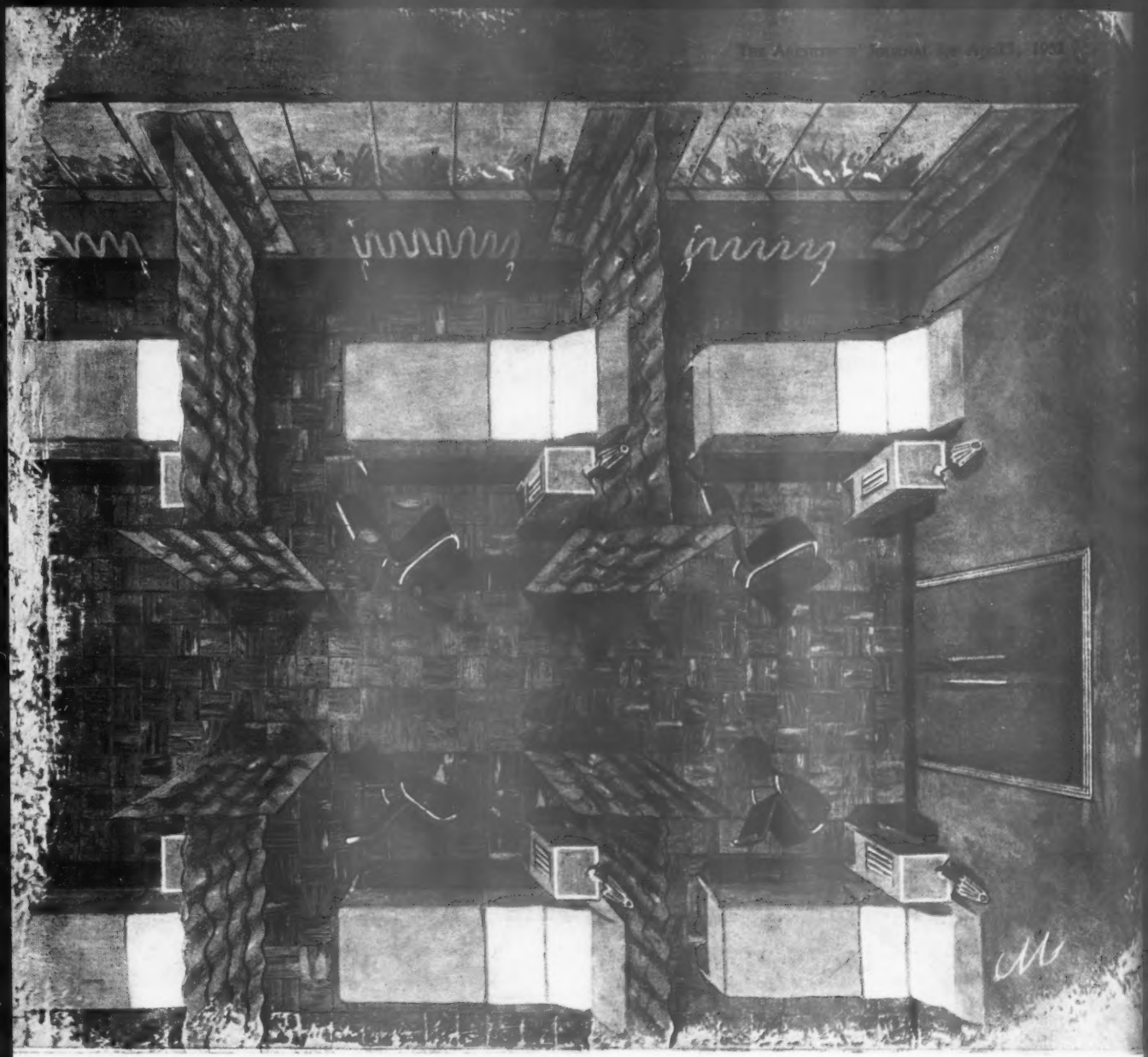

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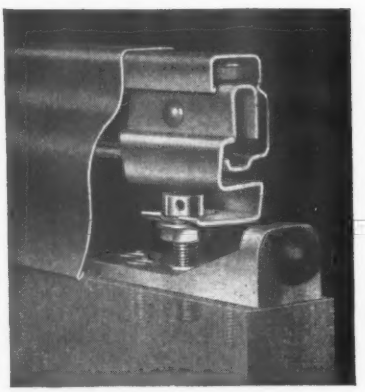

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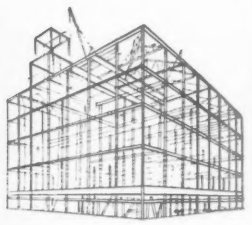

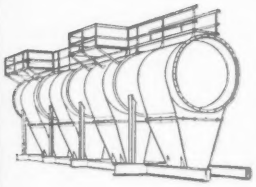

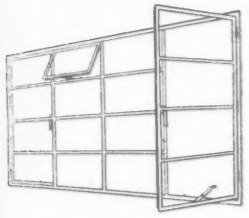

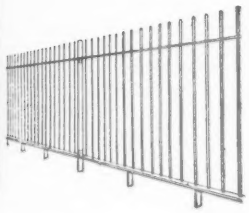

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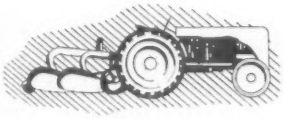

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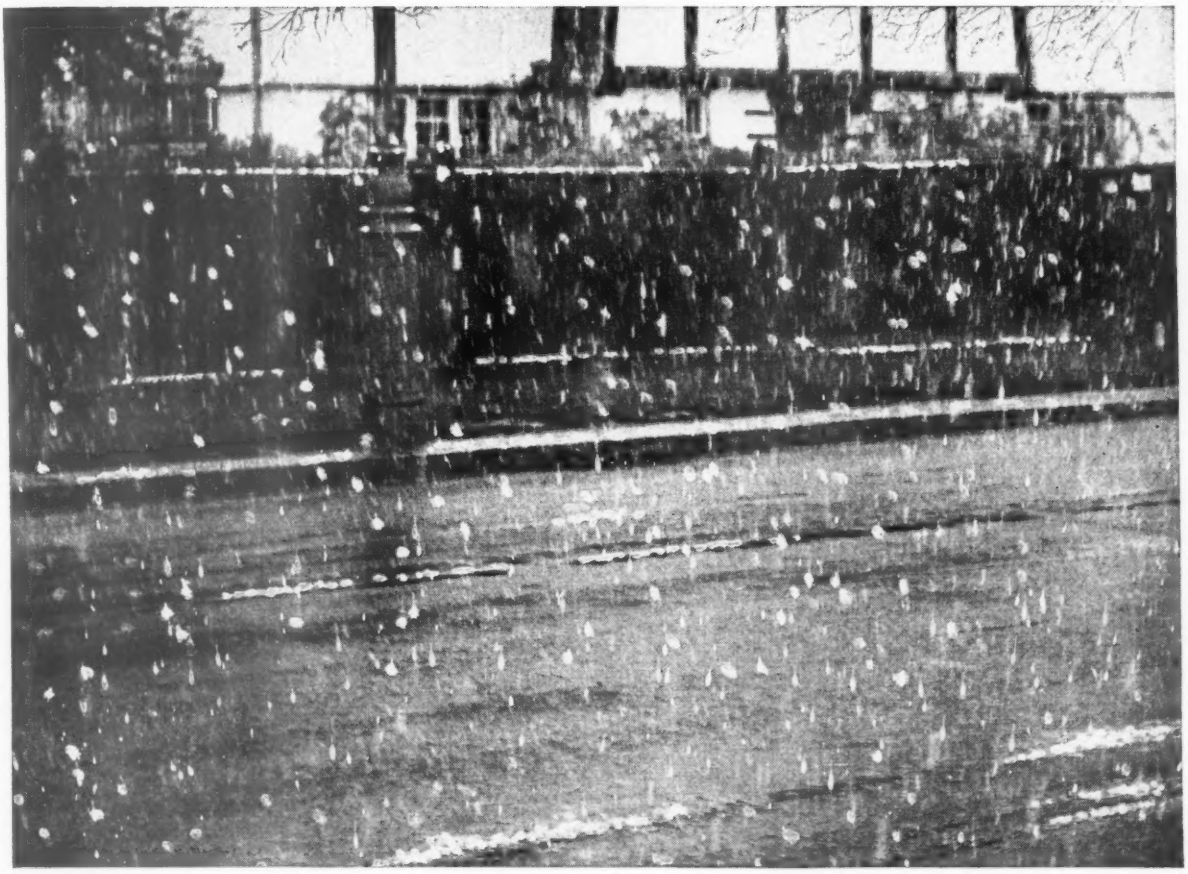

THIS COUNTRY'S CLIMATE CALLS FOR CRANE

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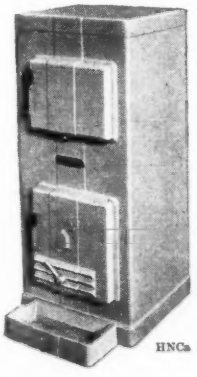

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Tangible Proof

(*Photograph by courtesy of F. W. Winchester Ltd.*)

The accompanying photograph shows one of the tiles recently removed during work on a Tunbridge Wells hotel. Its face is inscribed: "Thomas Rack his tile June the 21, 1777" and on the back it bears the name of the burner. The tiles were replaced for a further period of service.

In every town and village there is ample proof of the unrivalled durability of the Clay Roofing Tile. The picturesque old roofs of the English countryside are a constant reminder that the roofing tile tradition was founded on the unique physical properties of burnt clay.

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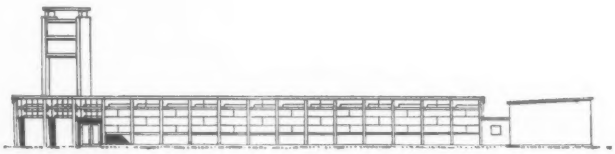

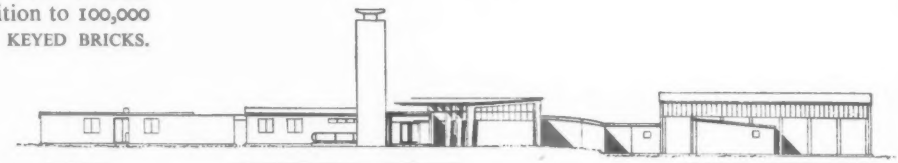

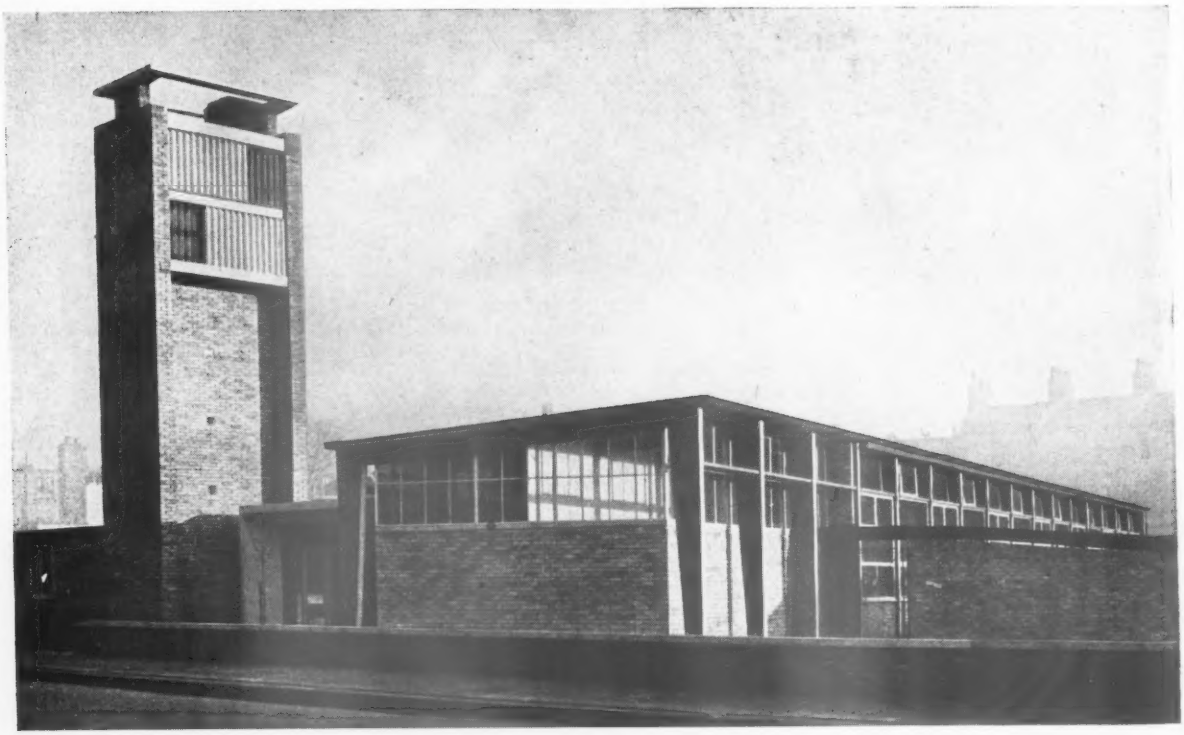

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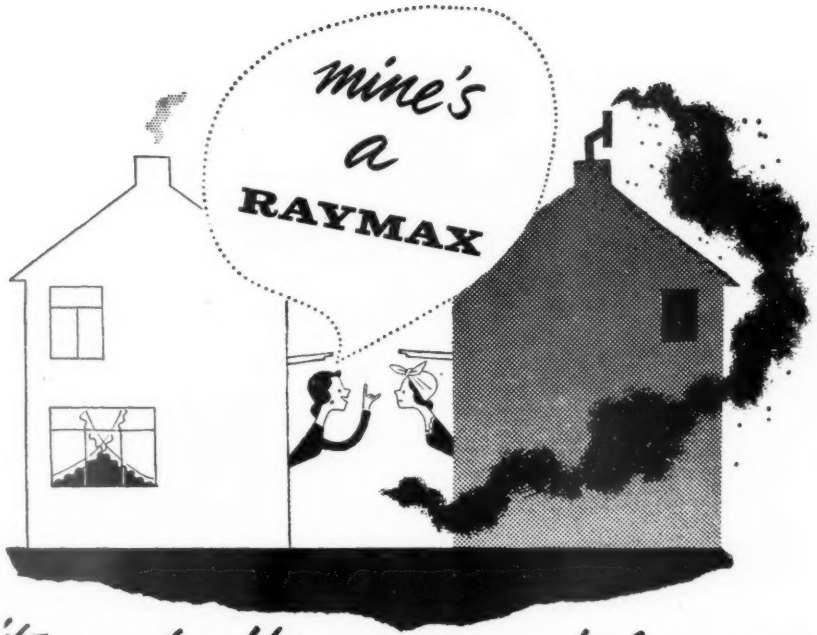

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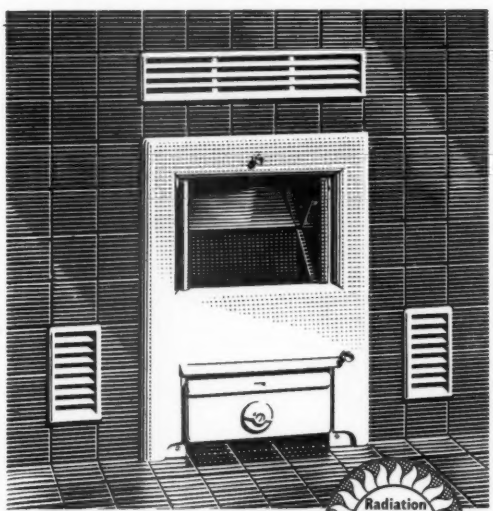

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to solve your heating problems

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provide gas installations throughout the

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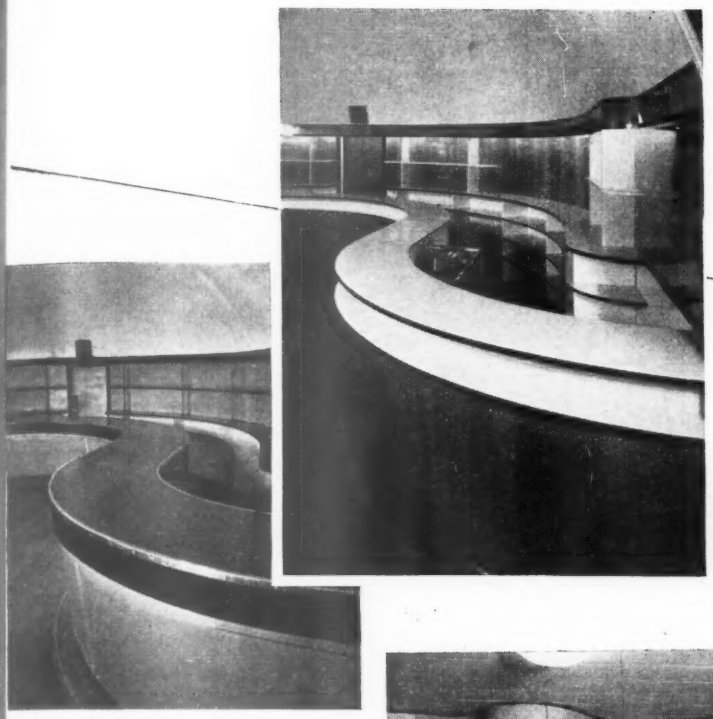

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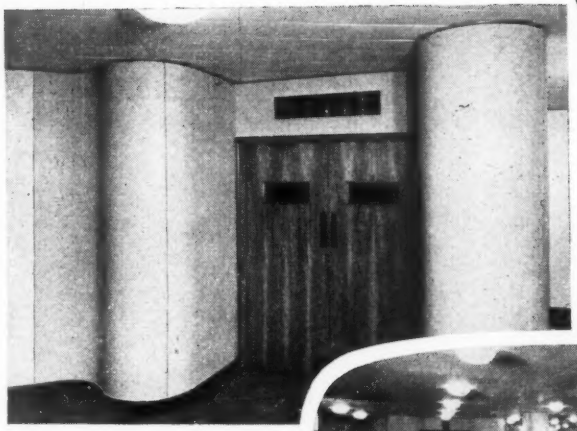
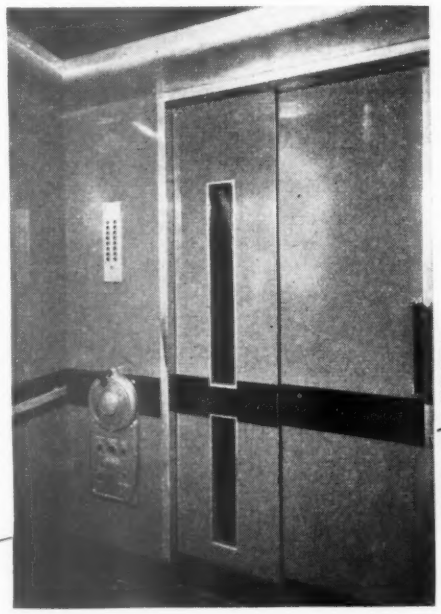


The main bar counter and cabinets at the WEMBLEY STADIUM were remodelled on site by Permatops Ltd., using Formica. In common with all work carried out on licensed premises, normal trading hours were not interrupted.
Colour Scheme: Sappele Realwood Formica and Buff Linette.



Passenger lifts at THE MOUNT ROYAL Marble Arch, modernised by Permatops Ltd. They were lined with Formica—no cover fillets have been introduced for fixing. Colour Scheme: Red with Black inlays at Dado height.

At the B.B.C. STAFF RESTAURANT in Bush House Formica is used for wall panelling. Permatops Ltd. have veneered $\frac{1}{16}$" Formica direct to normal cement rendered walls without the introduction of backing materials or grounds.
Colour Scheme: Grey Linette and Bird's Eye Maple.

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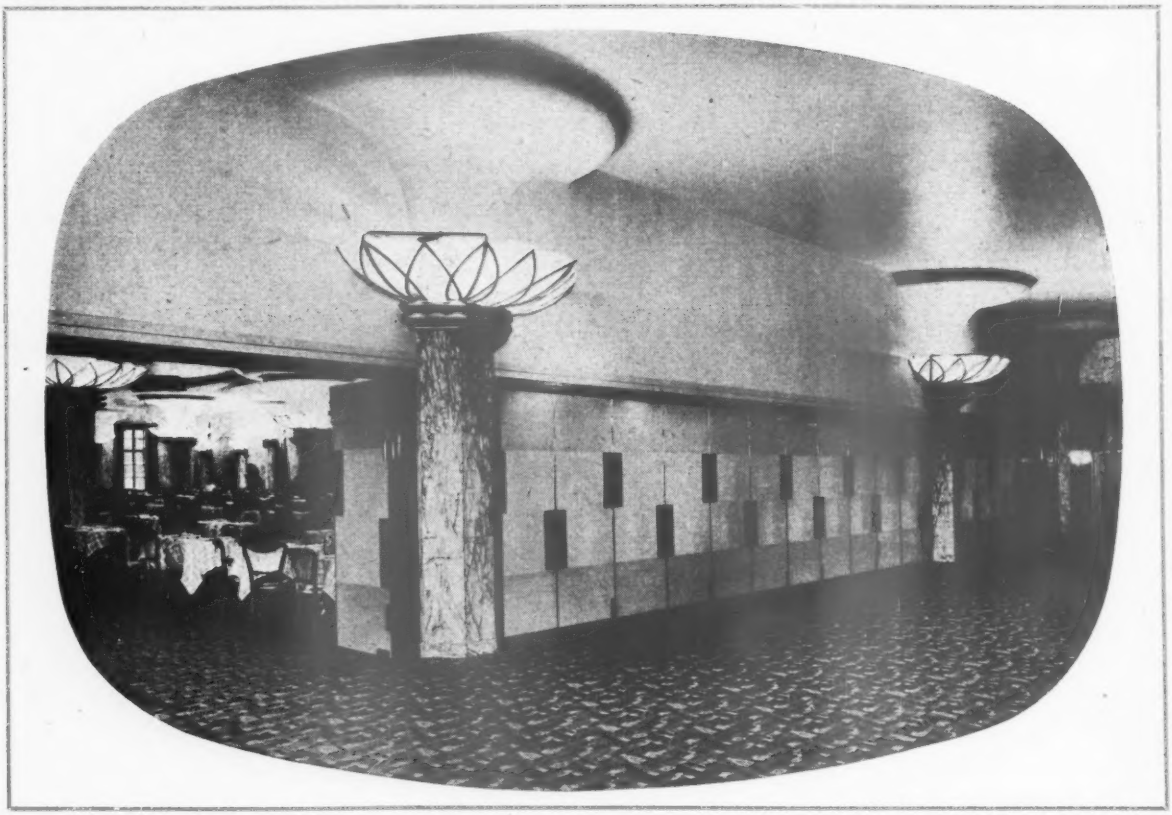
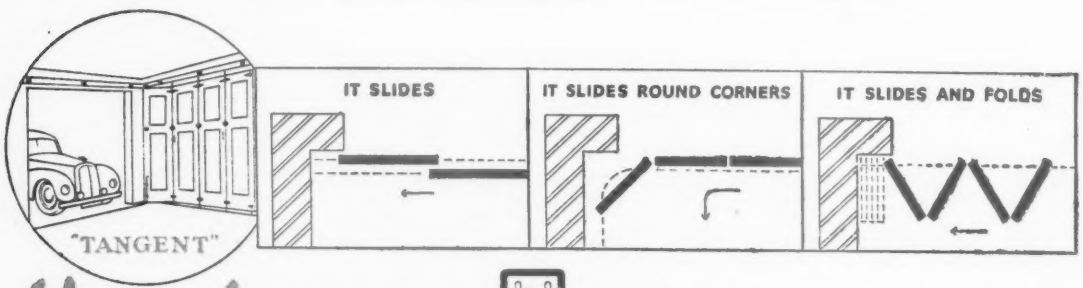


Henderson SLIDING DOOR GEAR at a Lyons Corner House

These famous restaurants have become an institution by virtue of their service, comfort and good food. To improve the facilities available at the Oxford Corner House, J. Lyons & Co. Ltd. have recently installed Henderson 'College' end-fold partition gear on the first floor. When extended it forms a complete and virtually sound-proof wall of pleasing appearance separating the Restaurant and the Banquet Room. When folded the combined floor areas form one vast Restaurant. In-built double swing doors provide easy transit for service when the partition is extended.

Architects: J. Lyons & Co. Ltd. (Architectural Dept.) *Installation by Frederick Sage & Co. Ltd.*



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AJ

THE ARCHITECTS' JOURNAL

No. 2979 April 3, 1952 VOL 115

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AN OPPORTUNITY MISSED

Is an era of frustration compelling us to divert our energies towards the organization of too many exhibitions? "Fewer and better" should, from now on, be a maxim. With the best will in the world one couldn't give full marks to the Italian Exhibition which has just opened at the RIBA. (See photos on pages 414 and 418.) It is all very disappointing; especially when one remembers that it was designed by the Italians themselves, who are capable of such brilliant work in this field—witness some of the rooms at the Triennale.

*

The present exhibition, though depressing in the manner of its presentation, is more interesting, more lively and much more significant in its content than the recent Swedish show at the BC, but you have to concentrate hard on architecture in order to get past the barrier of a dreary exhibition technique. The Italians have something to say; here are clarity of form and structure supported, needless to remark, by excellent craftsmanship. Unlike the Swedes, the Italians are not tired of being modern and they are not yet inhibited in that terrible Norse way; on the contrary, they are on top of the wave—very busy, very contemporary, and very Italian. How sad, therefore, that Italian CIAM should have given us such inadequate photography and such lamentably small photographs anyway. It would, one feels, be much easier and more rewarding to go upstairs to the library and read *Domus*.

*

In all this, of course, the RIBA are not to blame. They took the exhibition as it was sent to them. In fact it seems that it was only because of a great deal of blood and tears in Portland Place that there was ever an exhibition at all.

. . . AND ONE TO BE TAKEN

One pleasant event, however, which arose indirectly out of the Italian Exhibition was Ernesto Rogers' lecture at the Italian Institute in Belgrave Square. Rogers spoke charmingly and the faulty English added, as it so often does, to the charm. He certainly explained the link—a very strong one—that joins Italy's great past to her uncompromising modernity.

*

The Italian Institute is a place architects should know more about. It is in a fine Belgrave Square House and it arranges many interesting events. The only disappointing thing is the decor; it is very English and very dull. Let us hope that something will be done about this. Whether the contemporary Italian genius for interior design is made use of, or whether the Embassy can persuade the Government in Rome to occasionally loan great paintings, there is certainly an opportunity here which the Italians should exploit. What I would like to see is a permanent but changing exhibition of what Italian arts and crafts can do.

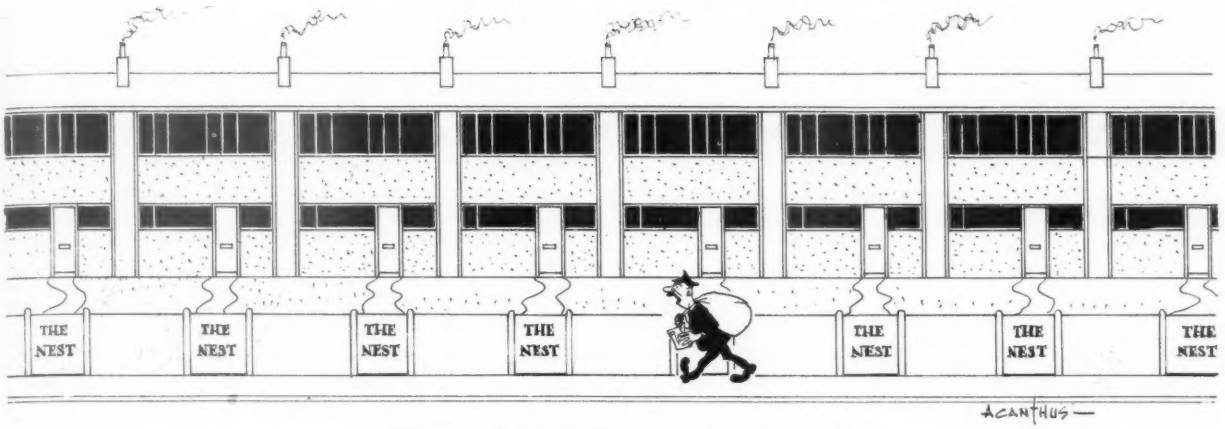
WHEN IS A COLLEGE?

Only the other day I was saying how vast was the improvement over the last twenty years or so in architectural publicity generally. Almost every serious journal now deals with architecture almost as regularly as with painting and music. I was, therefore, delighted to see that *The Spectator*—beloved weekly of country clergy—has also succumbed. This is particularly gratifying, since I have never thought of the visual arts as being among the particular bees which escape rather too frequently into *The Spectator's* columns from the editor's bonnet.

*

The other week "Janus" wrote a waspish little paragraph on Yorke, Rosenberg and Mardall's £2,000,000 job in Leeds. (You may have seen the model in last week's JOURNAL.) This technical college, he said, looks like nothing so much as "an up-to-date textile factory." But, after all, that is precisely what a technical college is likely to be; it hardly comes within the sphere of what *The Spectator* calls "academic architecture." Surely, even architecturally, a technical college should not be a bogus university.

C



" This craze for standardization is getting me down "

TEMPORA MUTANTA . . .

For the portrait of the Queen on the new coinage the Mint is inviting various established artists to submit designs, with the proviso that the unknowns may submit photographs or samples of their work. Much the same scheme is to be followed for the reverses and as an answer to the old complaint that only the established people ever get a chance, it seems a sensible move.

*

It is safe to assume that by the time this note appears the social credit boys will have asked why we need money anyway and that man who wants square coins will have written to *The Times* as well.

*

In the meantime the United States is having a competition for a new Uncle Sam, now a centenarian and no longer thought to express the American *zeitgeist*. If John Bull is to follow suit (certainly he should be less plump) perhaps the editors may even have to do something about Inigo Jones atop my column. But what? Perhaps that little smoking cap will be ever so fashionable again in a few years' time! But hair that length?

CRITICISM TEMPORARILY SUSPENDED

The latest number of the *Journal* of the Bristol Society of Architects is oddly at variance with the policy of critical analysis proposed in the last number. This is due, apparently, to disagreement among members of the Council of the Society as to the wisdom of the policy. This disagreement caused the shelving of the number of the *Journal* then under preparation and the opportunity was taken to substitute for it a survey of the life and work of a late president of the Society, H. S. W. Stone.

*

It is gratifying to report, however, that wiser councils have prevailed and that attempts (if any) to stifle fair comment have met with no success. The treatment of local buildings, to quote the editorial, " should take the form of a review rather than a criticism, and should be a work of collaboration between the architect and the reviewers." As all good architects are fiercely self-critical this seems a most reasonable course to take. Congratulations.

EXCHANGE AND MART

Are you anxious to leave the country for a few weeks? Have you—thanks to Mr. Butler—cancelled those three golden weeks in Venice? Would you like to visit Germany? I have been told of an hospitable German architect, Herr Erwin Schwartzer, of Kornerstrasse 15, Offenbach am Main, near Frankfurt, who would welcome into his home for several weeks a British architect who would later make possible a reciprocal visit to Britain.

*

Herr Schwartzer, aged 43, has a wife and young son, and is head of the state building office at Offenbach am Main in the American zone. There is, writes my informant, a large amount of new building in his area, and altogether this seems a good way of getting to know what is going on abroad.

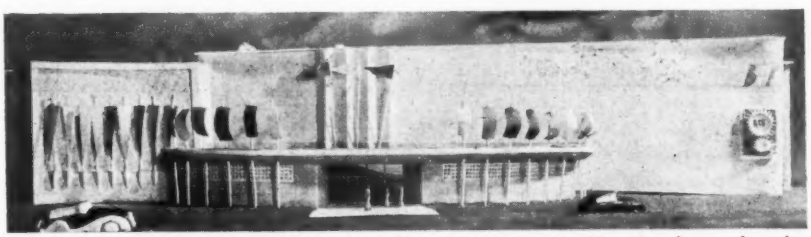
LIVING IN PUBLIC

Those who still think of modern houses in America as occasional freaks in a sea of conventional Colonial and Cape Cod should study the picture-book* by Katherine Ford and Thomas Creighton that has just made its appearance on this side of the Atlantic. The eighty-five houses illustrated are, of course, only a minute fraction of the private houses built in recent years, and most of them come into or near the luxury class. Nevertheless, they do suggest that modernism is not now a mere architectural fashion but part of a social revolution that has come to America to stay.

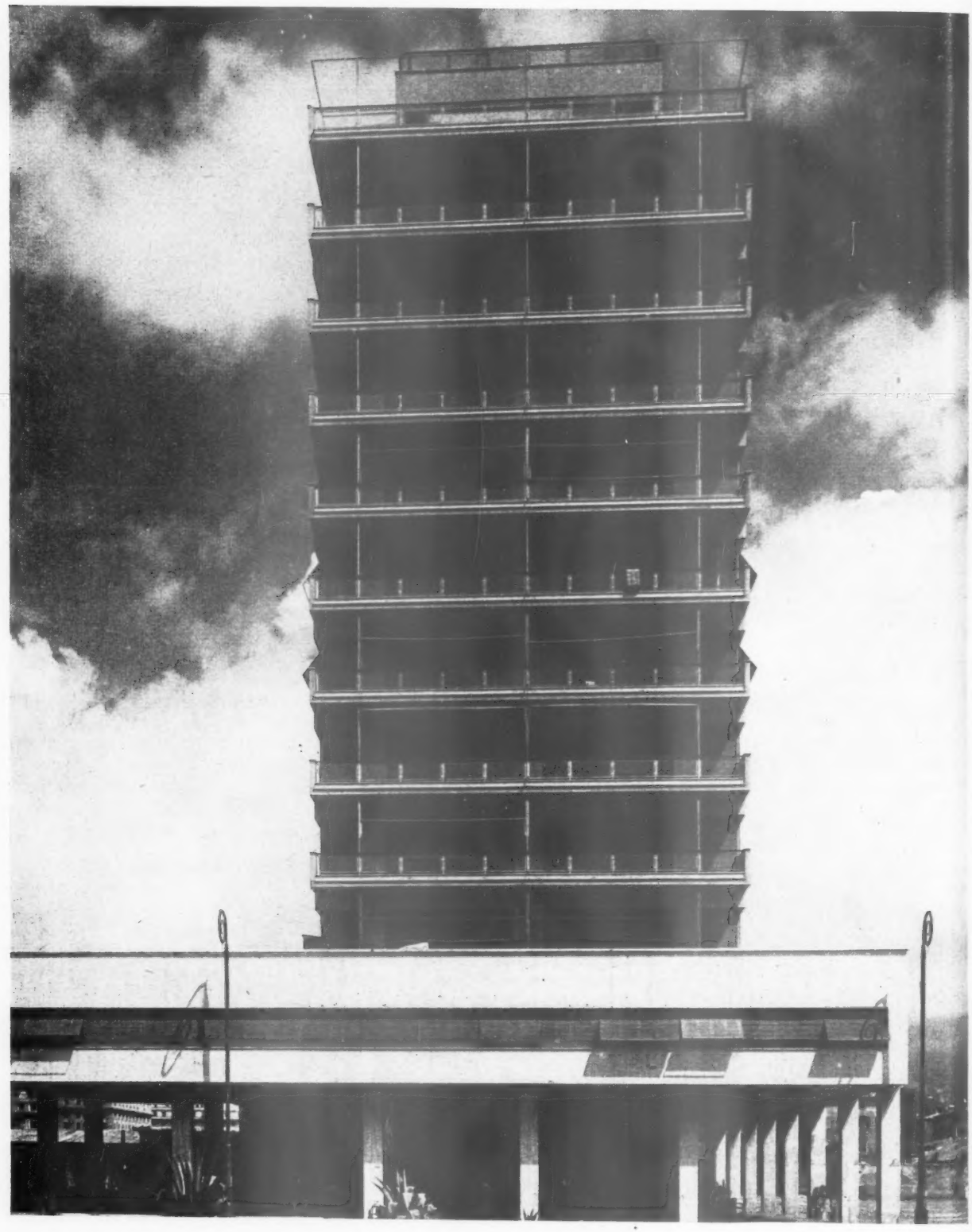
*

The interesting thing about all these houses is not their non-historical style, but the freedom of their planning. The ground floors of most of them—in fact all the accommodation but bedrooms and bathrooms—takes the form of fluid space without fixed divisions, into which patios and terraces merge imperceptibly. Of course, this disintegration

* *The American House Today*. By Katherine Morrow Ford and Thomas H. Creighton. New York: Reinhold Publishing Corp. (London: Chapman and Hall). Price, 64s.



There are some things that speak for themselves. ASTRAGAL *considers the picture above is one of them. This new elevation to the British Industries Fair at Birmingham (opening on May 5) was designed by Harry Weedon and Partners.*



Uninhibited Architecture

To the English architect, the most astonishing thing about the RIBA's exhibition of Italian architecture is the variety of buildings constructed in Italy since the war. If he were not aware of the one great fault in Italian architecture—lack of planning—he would judge by the exhibition that Italy was an architect's Utopia, a country which had the talent and the financial resources to build everything it needed—from houses to luxury hotels. But social problems do not matter to the Italians. And it is this fact, says R. Furneaux Jordan in a booklet on sale at the exhibition, that has given them the chance of finding in pure architecture "a middle way between the vernacular cosiness of the Swede and the formalism of, say, the UNO building." (Above: pre-war flats, Genoa; see also p. 418.)

of the wall is no new idea; we have been taught about it for years as the obvious outcome of modern structure and materials—in fact, ever since Frank Lloyd Wright (who, oddly enough, is not represented in this book). But it is one thing to observe an architectural trend and another to see it meeting a social demand. It really does seem as though American families *want* to live the semi-public, informal kind of existence that the new open planning demands.

*

There are few signs of a similar change of social habit in Britain, due partly perhaps to our innate conservatism and desire for privacy, but also no doubt to our reliance—at least in low-cost housing—on standard type plans which perpetuate traditional ways of living. American tradition, on the other hand, has always contained elements that lead naturally on to the new type of planning, such as the use of the porch as an out-door room.

*

Sooner or later we're bound to follow to some extent, if only because we cannot now afford a self-contained little brick box for every domestic activity. The change no doubt will be welcomed by architects.

TELEPHONES

May I abuse my privileges as a column writer to lose my temper publicly over two telephone worries? First: the eternal wrangle about who holds the line and waits for whom, when the secretaries of X and Y are trying to put their respective bosses in touch with each other. The answer is as plain as a pikestaff. The telephone is an instrument of aggression imposing upon one's privacy and peace; apart altogether from rank or any nonsense of that kind, it is the person who initiates the call who should be put to the maximum trouble.

*

The other one? I ring up Mr. A. The telephonist at his large office says he is engaged, will I hold on? Ten minutes pass. Then: "Mr. A is out of town for the day." It was never anything but his line that was engaged. If telephonists and secretaries can't "liaise" better than this, they should be returned to the employment bureau.

ASTRAGAL

POINTS FROM THIS ISSUE

The Editors

RESEARCH: MORE PUBLICITY WANTED

THE publication of the annual report of BRS is a reminder that results of building research are still taking far too long to reach the industry. The report, which covers work done in 1950, is, as usual, worth reading as a means of keeping abreast of the general trend of investigations. But because it puts more emphasis on work done than on results obtained, there is a danger that architects and builders may pass it over as "just another report."

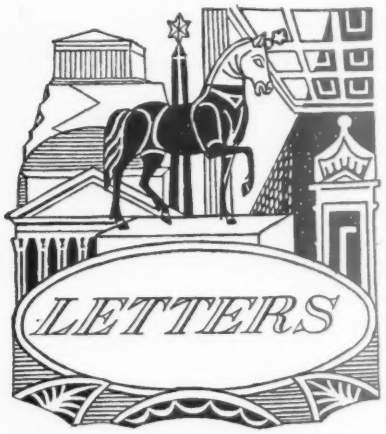
It is true, of course, that the results of research referred to here are few compared with the number promised in "reports in process of preparation." But if they were taken out of the general text and given more emphasis, the publication of the BRS annual report might well become an event eagerly awaited by forward-looking members of the industry.

To take but one example from the latest publication. The effect of lowering the height of domestic rooms to 7 ft. 6 in. has been investigated and found to have no influence on health. It is true that this fact has been referred to in other publications during the last year, but its importance has not been sufficiently realized. One can imagine how a business concern would "sell" such a point. Why cannot the scientists come out of their Garston Wood and shout their findings so loudly that everyone takes notice? Polite papers to the learned societies are all very well, but some good vulgar publicity would do a lot of good.

REPORT ON SCHOOL DESIGN

This issue of the JOURNAL contains a progress report on the design of primary schools in Hertfordshire, written by two members of the county architect's department. The report refers to eight schools designed since 1949, two of which are now under construction. It describes the methods used to bring about the required reductions in floor area. And it explains how economies were effected without a lowering of the standard of finishes which, as the writers of the report point out, have been influential in the success of the designs of post-war schools.

It is of some significance that these writers, who have already experienced and overcome problems arising from enforced cuts in costs and floor areas, believe that they can tighten their belts no more without destroying the present character of the Herts schools.



A. A. MacFarlane, A.R.I.B.A.
John Hemmings
Alan Whitehead, M.S.I.A.
J. Rigg,
Assistant City Planner, Pretoria

Architects' Third Slump

SIR,—The letter of Messrs. Duncan, Brown & Jack, of Perth, in your issue for March 13 was ill-timed and misconceived.

It was ill-timed because they are probably unaware, in the relative security of official employment, that the profession is now entering its third slump since VE day. If they chose to resign their official appointments, applications for the vacancies would flood in, not only from local government officers seeking the normal change but swelled greatly by the growing number of assistants from private practice who are either already jobless or have observed an ominous red light.

It is misconceived in a number of ways, not least in having been sent apparently without first getting the RIBA official attitude explained. The writers accepted official employment at graded salaries which, following the heavy drain at the end of the war, were greatly increased so as to attract back professional staff at a time of shortage. Now they do not like the scales, although there have been increases quite recently and they had the option of leaving local government service and assisting in private practice where there is no scale at all and each man gets what he can. But they preferred not to accept the risks.

There is also a misconception in the reference to status. As what? As architects, or as local government officers, administrative, professional and technical division? If, as architects, they apparently do not realise that a man's value to the community is relative. Architects are no longer members of a small, select profession—there are thousands of them and many make no greater contribution to national wealth than a clerk in commerce. The comparison with the BMA is irrelevant: there is not a surplus of doctors all anxious to accept salaried employment. Moreover, doctors are demonstrably valuable to the community but there is no way of assessing the relative value of an assistant architect. The comparison with tradesmen is even less relevant: they have a real scarcity value and, in contrast to the architectural profession, have shown no enthusiasm for a great influx of learners, so have forced up their rates of pay well beyond what most of our profession think the country can stand.

To expect compensatory salaries for training into a chosen profession is also wrong. The ARIBA diploma has a certain significance but does not entitle the holder to any reward. The "continued experience" may count but it is the amalgamation of professional training, experience and the individual's IQ which gives the value of the services renderable. If the employing body does not see eye to eye with the employee about another step up the grade it is surely up to the employee to prove how right he is by obtaining a higher appointment, possibly with another body. There is nothing to stop any employee from doing this, in any profession or business, apart, of course, from some inconvenience to himself.

It is surely false to suppose that the mere fact of having adopted architecture as a profession entitles a member to claim parity with or superiority over another profession. I thought the teaching profession had already laid claim to be called the Cinderella. There are today many professions in which the rewards are higher than in architecture because of the shortage of competent members. It is too late for the architectural profession to organize a shortage but in self-defence there might have to be more restricted entry or raising of the standard of qualification. If the latter, it would still rest with the individual to prove his superiority over his rival if he is not content to stick in a grade.

A. A. MACFARLANE.

Herts.

Too Casual About Timber?

SIR,—A surveyor, and student of architecture, I find it incredible that so many architects treat the absorbing subject of timber so casually.

Architects will generally most carefully specify, by manufacturer's name, the types of toilet fittings, door furniture, metal windows, etc. All of which items comprise only a small percentage of the cost of the complete job. But when it comes to timber, the most enduring of all mediums, and one which accounts, usually, for the greatest part of a building, many architects will loosely specify a timber by its type—oak, iroko, etc., and then leave the actual selection to the contractor.

As I see it, the latter is the servant of the architect, and as such should be fully instructed. Trees are like fingerprints, no two are alike. One finds therefore, that within a species of tree there is a wide variety of both colour and figure. Therefore, if the architect plans his work with a grey tint of walnut in mind, or an even yellow obeche, he should insist that he gets exactly that. Otherwise a contractor, faithfully supplying walnut may provide a brown one, or surprise the architect with a blotchy yellow and brown obeche.

Similarly with veneered work. I feel that the architect should select most carefully, and whenever possible allow the experts to make up his panels, etc., to exact size. Too often, because of a lack of a true instruction, standard size panels are ordered, to be cut to fit. The result is a patchy, ill matched job, of which I have seen many.

This may not be popular with some architects, but I feel certain that timber should be carefully selected and that the name of the merchant should be specified.

JOHN HEMMINGS.

Surrey.

Traveller's Joy?

SIR,—Once again, those of us who are not going abroad are beginning to think of the places in Britain where we would like to stay. Likewise, that valuable asset, the tourist from overseas is cogitating upon what he would like to see in these islands. He may be the more fortunate potential traveller, tempting booklets with lush spreads in colour may be there to tickle his palate. But not so, for us poor islanders.

Why are our guide books and travel literature so depressing? I am speaking, of course, of the official offerings of our resorts and of those interested in promoting the well being of the tourist. With very few exceptions—among which the industrial city of Leicester must receive honourable mention—our visitors' aids, in most cases present a curious mixture of spilt cocoa and white-wash photographs, are abominably printed, generally devoid of literary merit, and betray a curious blindness to the real merits of the place they are supposed to portray.

No little pocket "Guide Bleu" helps us on our way, in our native offerings we must dig among an unending series of advertisements to find meagre information or a badly drawn map. Then there are those horrid folders with putty bathing beauties portrayed in queasy colour. Not for us the care and design and good printing which we find in the travel literature of Switzerland, Sweden and Denmark. Not for us those fascinating picture books one so often finds in France. True though it may be that we are not the only offenders, company is poor excuse.

This year, as usual, we shall try and recognize the architecture and scenery of our country in the depressing pages of some curious concoction (unless we are perhaps the fortunate possessor of a pre-war "Shell Guide"). Let us make a vow to start one more campaign—for better travel literature this time, along with all the others such as intelligent sign-posting and civilized street furniture. And let us resist the temptation to drop our so-called guide on the pavement or common amongst the rest of the litter.

ALAN WHITEHEAD.

Surrey.

Urban Population

SIR,—During those early post war years when George Ling and his eager staff were trying to implement Professor Abercrombie's plan for a brave new London, I was allotted the area between the Mile End Road and Hackney. I often used to plod my planning "beat" through the pathetic remnants of Bethnal Green in order to get the atmosphere of the problem. The first reaction was to sit down on a pile of bomb rubble and weep bitter tears for a humanity that could get itself into such a mess. The second reaction, prompted by the pale but ever present and triumphant Cockney kids, was to push on with the plan and to press for the establishment of more satellite towns. Most eagerly we listened to the incantations of F. J. (12 to the acre) Osborn, and scoured Tottenham Court Road for copies of Howards' "Tomorrow." Gradually, however, the realization came that there was more in planning than met the practical man's eye. Planning was not merely the handmaiden of the Town Engineer or Architect and was more than the extension of sewers and the siting of houses in sylvan settings: in fact the "grime and greenery" solution was far too simple and reminiscent of Ruskinian sentiment.

There may even have been some truth in the shattering statement of Lewis Silkin that a king-pin planner should be a creative administrator in charge of a whole variety of experts—the thin end of the rapprochement wedge between the Offices of Planning and Trade. It was in this atmosphere that the South Bank Power Station battle was fought, and the post war rationalists routed the three dimensional æsthetes. After both sides had retired to lick wounds and take stock, the horrible truth suddenly dawned that the London problem was incapable of solution: the proposed 600,000 centrifugal decantees would not stem the centipedal bombardment of a vast host of provincial immigrants: the new towns would become mere pimples on the fringe of a more widely supporating wen.

At about this time I solved the dilemma of the 8.15 and left for more distant fields in South Africa, and I have slowly come to envisage the solution of urban overcrowding in Britain as a reversal of the policy that originally caused it. The "divine unbalance" between agriculture and industry led to imports of the former in return for exports of the latter. With an impending world food shortage and the growth of local industry, this unbalance has become a grave handicap, and should be evened out to a certain extent by emigration. A 10 to 15 million reduction in population over the next 20 years would solve many of the problems of crowded cities and would give to the Commonwealth much needed skill and culture in development and the production of food. The solution of the American conquering hero in Linklaters' "Acorned Hog" is worthy of recollection. Perched at the top of the Round Tower at Windsor in the growing dusk, and contemplating the fate of his newly won English domain, he gets the aroma of frying ham and eggs. Inspiration follows: the crowded cities will be evacuated overseas; the buildings bombed to the ground; and the land put back to English oak and the raising of good old English hogs.

The answer is probably not quite so drastic but I believe that it is on a much wider scale than is contemplated in Britain today.

J. RIGG.

South Africa.

OXFORD

Gasworks to be Moved

The Southern Gas Board has given a fresh pledge to remove the Oxford gasworks. The following statement was issued last week:—

"It is the intention and fixed policy of the Southern Gas Board to move altogether from the present site of the Oxford gasworks, both north and south of the Thames, as soon as circumstances permit and present difficulties of removal and of the construction of new gasworks elsewhere can be overcome in order to provide Oxford consumers with gas by other means and from other sources. It is not possible to give undertakings as to date or to announce a definite time-table.

"The board's hope is to cease to use the north works for gasmaking in the course of the present year, though it may be necessary to reserve the retort house there as a standby for an emergency. It would be the board's aim to vacate the north site within 10 years.

"There are obvious difficulties in carrying out the complete transfer of works to another site, but the board has no intention in the meantime of enlarging the present installations."

MOHLG

Hope of Local Government Reforms

The Minister of Housing and Local Government, Harold Macmillan, hopes to present some measure of local government reform in the course of the present Parliament. Announcing this in the House of Commons, last week, the Minister said he could put it no higher than "a hope and an ambition" and could not promise that the Government would be in a position to fulfil it.

There would be no such measure, he added, in this year's legislative programme, and unless there was a substantial measure of agreement between the interests concerned, he saw no prospect of introducing it in 1953.

COID

Scottish Craftsmen Win Furniture Prizes

A first class award of £70 was won by George M. H. Richardson, of Fife, in the competition for hand-made furniture by Scottish craftsmen organized by the COID Scottish Committee which was judged in Glasgow recently.

Two second class awards were made for the entries submitted by Miss Elizabeth C. McCraig, of Wigtownshire, and J. Connel Pringle, of Edinburgh.

The judges were Neil Macneill, James Findlater and Charles Addison.

Twenty-eight pieces of furniture were submitted for the competition which was organized to bring the work of craftsmen to the notice of furniture manufacturers who could, in collaboration with the craftsmen, adapt their designs to mass production and make them available to a larger public.

RIBA

Prizes and Studentships

The pamphlet containing information on the various prizes and studentships, giving details of programmes for the competitions, is now available. The Prizes and Studentships, 1952-1953, pamphlet, price 2s. 6d., can be obtained post free from the RIBA, 66, Portland Place, London, W.1.

FABRIC DESIGN

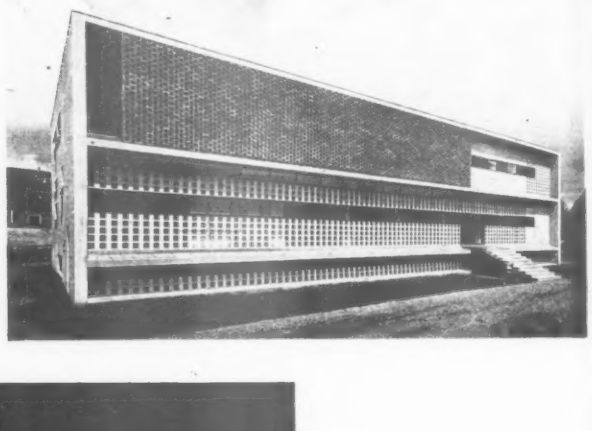
US Award for Lucienne Day

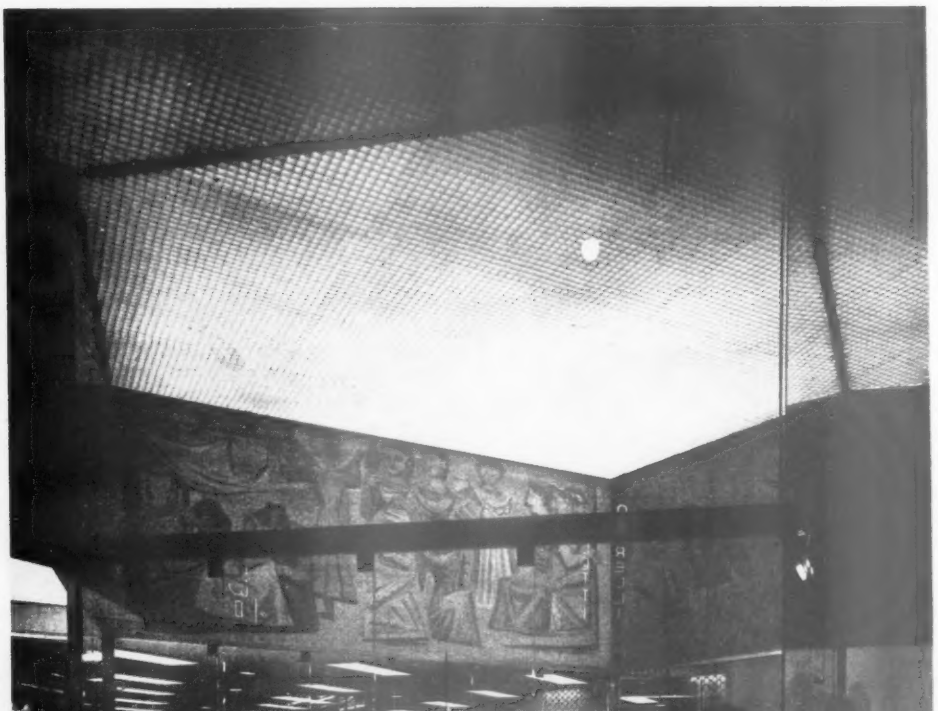
In New York, USA, on March 28, Lucienne Day was awarded the Citation of Merit by the American Institute of Decorators. The award was made for her printed linen fabric design, "Calyx," manufactured by Heal's Wholesale and Export, Ltd. It is expected that the design, together with others which received an award, will be displayed in the showrooms of members of the Institute. There are 1,200 members and the Institute was founded in 1931.

On March 21, Major Gwilym Lloyd-George, the Minister of Food, opened the new experimental slaughterhouse at Guildford, which is illustrated above. The slaughterhouse was designed by the architects' department of the MOW, which is also responsible for another, but larger, experimental slaughterhouse being built at Fareham. At Guildford the slaughterhouse has been planned to supply a population of about 200,000. The maximum daily slaughtering capacity is about 120 units (one unit represents one cattle beast, or five sheep, or three calves) as well as 80 to 100 pigs. Normal building materials and methods have been generally employed, but experiments are to be carried out with internal finishing materials. The floor of the main slaughterhall consists of granolithic material, two inches thick, which incorporates a hardener. On the surface there is an acid-resisting non-slip tile, set in sand and cement screed and treated with a hardener. The walls of the whole operational area have been finished throughout with chlorinated rubber paint which also has acid-resisting qualities. The cost of the building was £85,000.

ITALIAN ARCHITECTURE EXHIBITION

These examples of pre-war and post-war architecture in Italy from the RIBA's exhibition (see diary, page 420) are :— below, anti-tubercular clinic at Alessandria, designed in 1937 by Ignazio Gardella ; right, four flats on Via Salaria, near Rome (1951), designed by Vincenzo Monaco and Amedeo Luccichanti ; bottom, Rinascente Department Store, Milan (1950-51), by Carlo Pagani. See also frontispiece, page 414.





DSIR

Information Wanted on Cathodic Protection

Replacement of corroded underground pipes is estimated to cost this country £50 m. each year. The need for cathodic protection has already been stressed and the British Iron and Steel Research Association's Sub-committee on the Corrosion of Buried Metals has prepared a standard form for describing cathodic protection installations. The form, which can be treated as confidential if desired, consists of a questionnaire on the protected pipeline and the site in which it is laid, details of any cathodic protection and the conditions before and after installation. It is hoped that the form will be widely used to enable the sub-committee to make an accurate evaluation of the extent and effectiveness of cathodic protection of buried pipelines in this country.

The form can be obtained from E. E. White, BISRA, 140, Battersea Park Road, London, S.W.11. When completed it should be returned to the Chemical Research Laboratory of the DSIR at Teddington.

STEVENAGE

New Chief Architect and Planner

It has been announced that Donald Patterson Reay has been appointed as Chief Architect and Planner to the Stevenage Development Corporation. He succeeds Clifford Holliday who will leave this month to take up his appointment as Professor in Town Planning and Housing at Manchester University. Since 1948, Mr. Reay has been Chief Architect and Planning Officer to the East Kilbride New Town Development Corporation.

CRAWLEY

Higher Rents in New Towns

The rise in building costs and the increased rate of interest charged by the Treasury has caused the Crawley Development Corporation continued anxiety. As a result of these increases the corporation has been compelled to increase the ground rent charged for land in the industrial area, and the price for the new standard factories will have to be 4s. 6d. a sq. ft. rack rent, compared with 3s. a sq. ft. when the factories were first building.

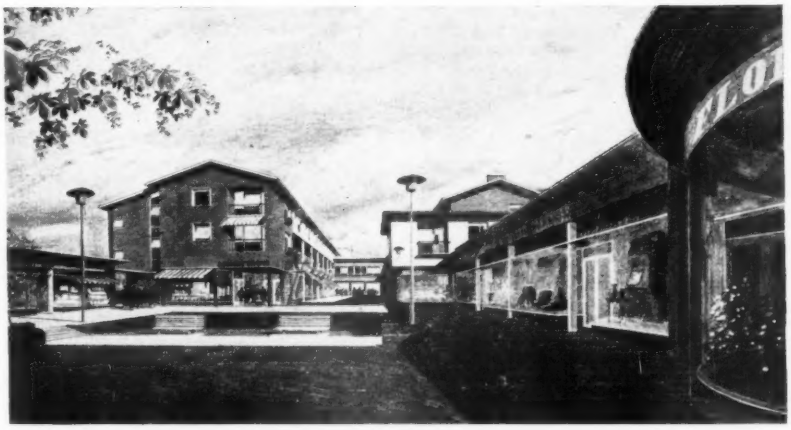
This was announced last Saturday by Sir Thomas Bennett, chairman of Crawley Development Corporation, when he gave his annual report to a meeting of elected representatives. He said that the corporation regretted making such an increase but pointed out that even at the higher rents there had still been an ample number of industrialists securing factory space.

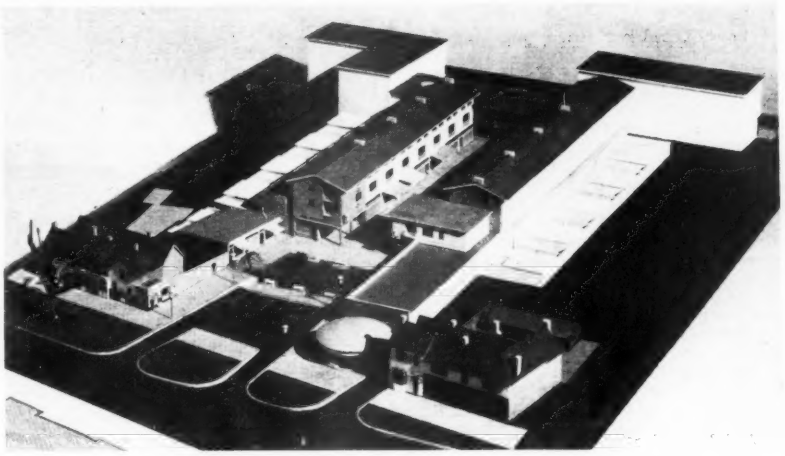
It would also be necessary, he said, to raise house rents from mid-April by amounts varying from 1s. 9d. to 4s. 6d. a week—similar increases to those imposed in June, 1951. The new increases would apply only to future applicants.

Sir Thomas Bennett gave figures for the amount of work carried out and in hand. (These will be published in the JOURNAL next week in a factual survey of six new towns.) He also called attention to the Crawley town centres, plans of which had now been settled. (A model and sketch of this centre are shown on this page.)

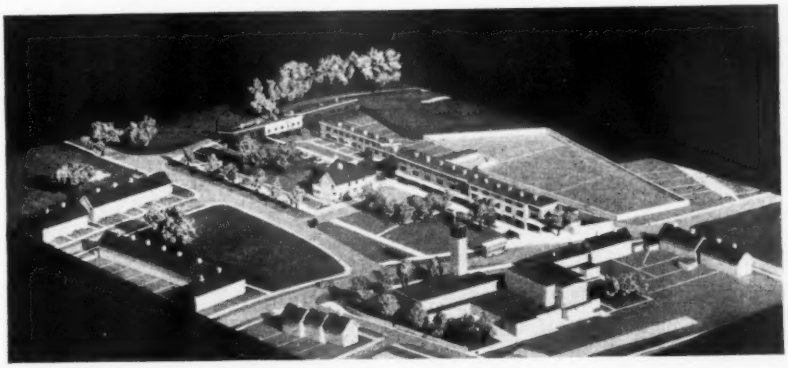
Speaking about the general problems of a

DEVELOPMENT AT CRAWLEY NEW TOWN





The chairman of the Crawley Development Corporation, Sir Thomas Bennett, in his annual report, reviewed progress and referred to future work, which is partly illustrated on this page. The top photographs show a sketch and view of the model of the proposed pedestrian shopping street, which will link the existing High Street with the larger shops of the new town centre. The sketch is by Anthony Petty. Below is a view of the model of the Northgate Neighbourhood Centre, which will include shops, a public house and Methodist church (designed by C. A. Farey, Son & Adams). The Design Team at Crawley includes A. G. Sheppard Fidler (Chief Architect), H. S. Howgrave Graham, N. Foley, Frank Senior, Anthony Petty, and H. G. Hossack. Extracts from Sir Thomas Bennett's report appear on the left.



new town development corporation Sir Thomas Bennett said:

"No work as comprehensive as that of the construction of new towns has ever before been undertaken in England, and possibly not in any other country. This operation, therefore, has necessarily involved the corporation in a study of the whole structure of development as it exists in England today.

"It may be valuable to draw attention to a few of the points which have emerged as a result of our operations. The first point which has become evident is the extreme complexity of our local government. It is common knowledge that this has been studied for a good many years with a view to some simplification. In Crawley it is further complicated by the fact that part of the area is in each of three administrative counties. The operations of Crawley have also indicated the urgent necessity for local authorities to carry out their respective services to the community at the right time and in the right order. The need is very evident for developing police, the fire service, the educational system, street lighting, scavenging, arrangements for water supply and sewage disposal, so that they precisely fit in with the growth of population.

"It further becomes obvious that the local authorities themselves must secure approval for national expenditure at the right moment if the population is not to suffer. Another matter which is rapidly becoming of the greatest importance is the urgent necessity for the provision of playing fields and recreation grounds, and provision of community buildings.

"We feel at times that the local authorities operating in this area are not sufficiently alive to the urgent need for taking immediate action with the rapid growth of population in front of them which is represented by the survey I have made today.

"The provision and management of allotments, the land for which the Corporation is willing to set aside, needs to be organized in every district.

"We would like to make a request, therefore, to allow those who are representative of any section of activity in Crawley to assist us by making energetic and immediate decisions upon the points with which they are concerned. We would like to ask for similar intensive activities from the secretaries and committees of all clubs and societies in the area to weld together the members of this community, which is rapidly becoming one of very considerable substance."

DIARY

The Conservation of Natural Resources. Lantern lecture by S. W. Wooldridge. At Caxton Hall, Caxton Street, Westminster, London, S.W.1. (Sponsor: TPI.) 6 p.m. APRIL 3

Exhibition of Italian Contemporary Architecture. At 66, Portland Place, W.1. (Sponsor RIBA.) Closed from April 11 to 15 inclusive. Mondays to Fridays: 10 a.m. to 7 p.m. Saturdays: 10 a.m. to 5 p.m. UNTIL APRIL 30

Building Trades Exhibition. At City Hall, Manchester. (Sponsor: Provincial Exhibitions Ltd.) 11 a.m. to 9 p.m. UNTIL APRIL 5

Building and Civil Engineering Exhibition. At Kelvin Hall, Glasgow. (Sponsor: Glasgow Corporation.) UNTIL APRIL 12

The Mono Tower Crane: The Ominous Arms Case. Two films to be shown at LMBA General Meeting. At Derry & Toms restaurant, Kensington High Street. 2 p.m. APRIL 9

Can the Standard Method of Measurement be Improved? Discussion to be opened by P. T. Walters, A. Prichard and E. S. Chalkley. At 12, Great George Street, S.W.1. (Sponsor, RICS.) 6 p.m. APRIL 16

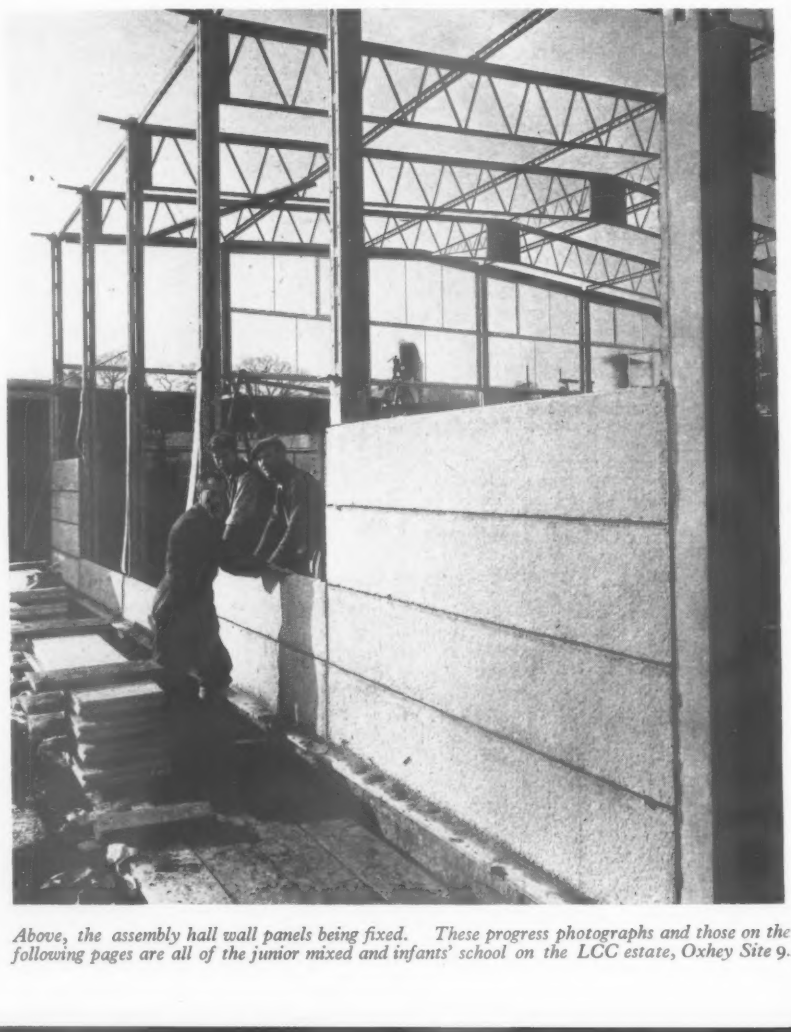
PRIMARY SCHOOLS IN HERTFORDSHIRE

On this and the following six pages we publish a review of the progress made in primary school design in Hertfordshire since 1949. (A typical example of 1949 work—the Templewood Junior Mixed and Infants' School, Pentley Park, Welwyn Garden City—was illustrated in the JOURNAL *last week). This review was written by W. D. Lacey and Henry T. Swain, of the County Architects Department, Hertford (County architect: C. H. Aslin) after twelve new schools, all of which had been in operation for at least a year, had been visited by an education officer and an architect to obtain information from head teachers and staff.*

PROGRESS SINCE 1949

A Report by W. D. Lacey and Henry T. Swain

SINCE the last report, in October, 1949, development on the Hertfordshire Primary School Programme has been directed towards the improvement of planning and architectural expression, whilst achieving the reductions in cost and area per place required by the MOE. In the autumn of 1950 fifteen of the post-war schools, which had been in operation for a year or more, were surveyed in order to examine the success of the planning standards which had been evolved in 1947 and developed during the course of succeeding programmes. From the results collected the planning requirements for the 1951 programme were determined. In the



Above, the assembly hall wall panels being fixed. These progress photographs and those on the following pages are all of the junior mixed and infants' school on the LCC estate, Oxhey Site 9.

light of this factual evidence the education officers and architects were able to achieve the required reductions in floor area without restricting the teachers' freedom; in the absence of this evidence they would have had to guess at them.

At the same time, in order to reduce the cost of building, it was decided to investigate the simplification of methods —based on previous experience of the use of light steel frames and factory components—rather than to cut the standard of finishes.

The programme dealt with in this report consists of eight schools. All of these have now been designed and two are under construction.

BUILDING COSTS

The existing system of prefabricated construction has been retained since fundamentally the conditions remain the same as when it was adopted. It was estimated that an overall reduction in cost of 15 per cent. had to be made, to meet the anticipated rise in costs during 1951, if finishes or planning were not to be impaired. A cut in finishes was resisted because it was felt that the educational and architectural success of the post-war schools has been largely determined by the standard of finishes adopted. The major simplifications which have been made are as follow:—

(1) *Cladding.* Horizontal precast concrete wall blocks have been reverted to in order to eliminate steel cladding units. The horizontal blocks are fixed direct to the stanchions.

(2) *Roof.* The building processes have been reduced by the adoption of a structural wood wool deck which serves also as the ceiling finish. A simple pre-cast concrete gutter, fixed to allow both vertical and horizontal tolerances, forms the overhanging eaves.

(3) *Steel Frame.* The 8 ft. 3 in. structural module has been maintained, since for single-storey building it appeared to be more economical in steel and the components were more easily available than for the 3 ft. 4 in. system. For this programme the system has been rationalized by the omission of bracing, cladding rails, and all pressed steel eaves members, with the exception of a small drip.

(4) *Windows.* These are fixed direct to the stanchion, thereby allowing the omission of window angle or pressed steel surrounds. Concrete cover blocks are used to cover the front of the stanchions. Reductions in the cost of the windows themselves have been achieved by cutting the opening lights to a maximum of 50 per cent. of the area of the window.

(5) *Services.* The biggest saving in the cost of the services has been made by reducing the number of heating boilers from two to one. It was considered that, with proper maintenance, the possibility of a serious breakdown is unlikely, but as a precaution reserve pumps and a stock of mechanical parts, which are most likely to fail, are kept at a central store in the county.

PLANNING SURVEY

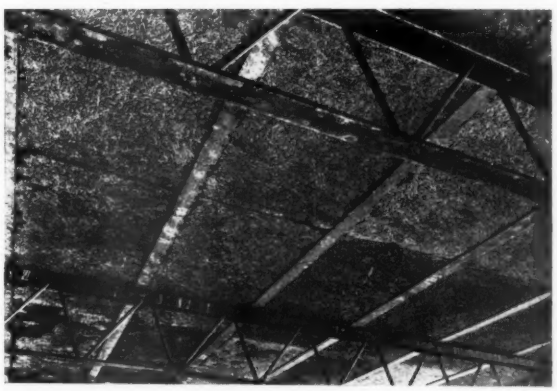
The second aspect of the preliminary approach to the programme was the Planning Survey. It was decided that a minimum of twelve new schools had to be visited in order to obtain a representative result. It was also felt that all schools surveyed should have been in operation a year to give them time to settle down. In each case an education officer and architect visited the school with a previously prepared questionnaire designed to obtain from the head teacher and staff factual information rather than personal impressions. It is important to point out that the results were not only valuable because they suggested reasonable economies, but because they showed the further planning developments necessary to satisfy the requirements of contemporary teaching methods.

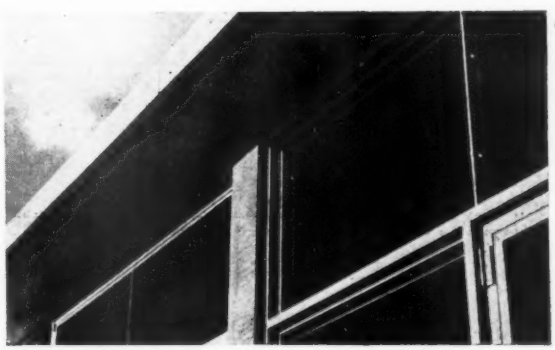
After a review of the evidence the following are the principal recommendations adopted. The areas are given in terms of the 8 ft. 3 in. grid and a bay should be taken as 66 sq. ft. of usable floor area.

ADMINISTRATION

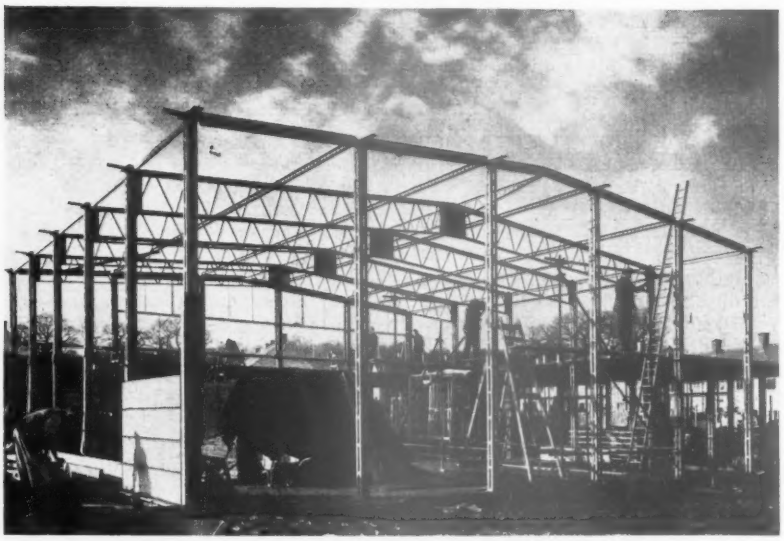
Head Teacher's room. Desirable area —two bays. *Secretary's room.* This should be omitted. The secretary attends, on an average, five to ten hours per week and can be accommodated in either the stock, head teacher's or doctor's room, as convenient. *Staff room.* Area—six bays. This is used very little by the staff in a primary school, since it is seldom that they have a free period and most of the break time is spent in supervision. This room is a very useful multi-purpose area, *e.g.*, for special classes. *Medical inspection room.* Area—two bays. A separate room is required for the use of the doctor and nurse, but it will also be a general purpose room when not required for medical work. *Waiting room.* This should be omitted. Medical examinations are to be timed so that only three or four parents are waiting at one time; this number can be accommodated in the adjacent circulation space. The staff or medical room will have to be used as the general purpose room.

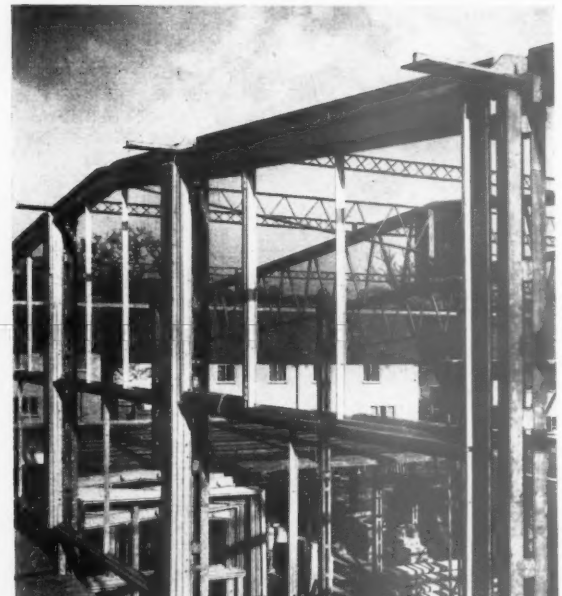
Library. Due to the elimination of the waiting rooms, provision will have to be made for a movable library. A good solution is suggested by the practice adopted in two schools. The books here are kept in locked-up boxes and displayed at lunch-time in a quiet corner of the hall, dining room or cir-





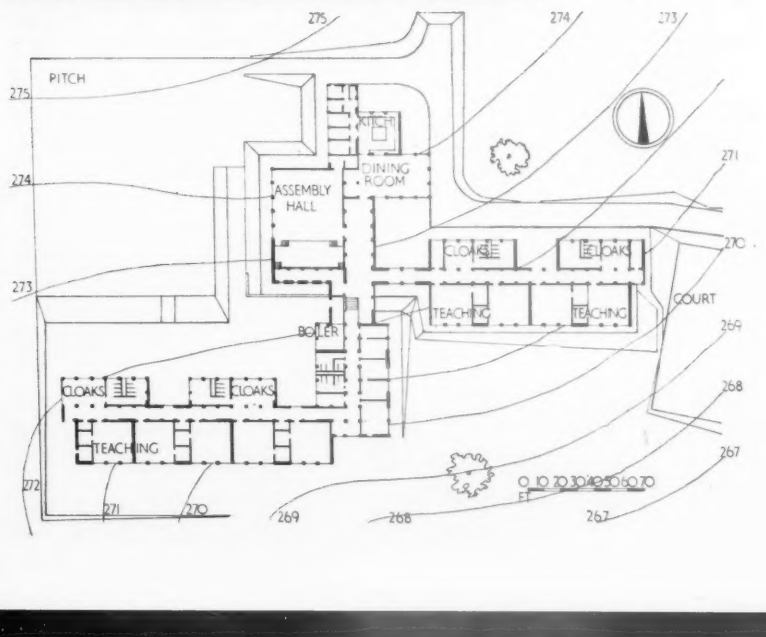
Right, a part of the self-finish wood wool ceiling in a classroom, showing the steel secondary beams on which the panels are supported. Bottom right, a pre-cast concrete gutter supported on steel cantilevers bracketed off the stanchions.





Above, the assembly hall showing the unclad steel framing. Left, a detail of the gable end windows in the assembly hall.

Below, plan of the junior school in Little Green Lanes, Croxley Green, occupied in September, 1949, which is a typical example of the accommodation provided in the 12 schools visited in carrying out the plan survey.



culation space. *Cleaners' stores.* Two bays, preferably in different parts of the school. *Stock room.* One to one-and-a-half bays—to be situated near the headmaster's room.

CIRCULATION

Entrance hall. Two to four bays. Its uses are infrequent and it is suggested that it be combined with the dining room in order to preserve the spacial quality. *Corridors.* These are a complete loss of valuable space for teaching purposes and should be further considered as practical space extensions to the teaching spaces. *Dining room.* Fifteen bays—average area. This should be planned as an extension of Assembly Hall but should be capable of use as a separate area, to serve as an additional classroom or practical room.

TEACHING

Infants' teaching spaces. Further facilities for practical work are required. In some cases the adjacent corridor is used for this purpose, but supervision of two areas by one teacher is difficult. The formal teaching spaces and the hexagonal table arrangements are satisfactory, but free-standing columns are a restriction and should be avoided. The storage facilities are regulated by the amount of shelving provided rather than by the floor area of the store room. It is proposed that the store room be thrown into the teaching space and that cupboard space, equivalent to the area of the shelving, be provided. Outside teaching areas are successfully used by the infants in all schools. These areas are particularly useful as fine-weather practical spaces, benches being carried out from the teaching space by the children.

Junior teaching space. Again the problem of more room for practical work in the teaching space arises. A sink in each classroom is required for practical work. The majority of work is done with the class facing the main chalkboards. Separate store rooms do not appear to be necessary if an equivalent area of shelving is provided in cupboards in the teaching space.

ASSEMBLY HALL AND STAGE

During most of the day the hall is being used by one class at a time, for music or physical exercises. For these purposes an area five bays square is effective. The fixed stage, with or without proscenium, is too formal for primary schools, and it would be preferable to provide a movable stage which can be handled by the children. A large prop. store, for storing the stage and physical exercise equipment, should be provided, and facilities for more ambitious physical equipment work, such as the provision of climb-

ing ropes and horizontal bars, are required. Nevertheless, no attempt should be made to change the character of the present hall and turn it into a drill hall or gym. The finishes should be toughened but not the atmosphere.

The next section of the report deals with the application of these recommendations on the plans for the schools in the 1951 programme.

SCHOOL PLANS

(1) *Teaching Unit.* The 1951 teaching unit is based on the conceptions of, firstly, providing each classroom with an adjacent space for practical craft work, and, secondly, of making each unit virtually self-contained. The survey showed the necessity for providing facilities for practical work as part of the normal education of every class, but it also showed that previous attempts to utilize the adjacent corridor space as an extension of the teaching space had not been successful. In some cases sliding folding screens between the spaces have been used, but the mobility of those screens has not, in fact, been exploited by the teachers.

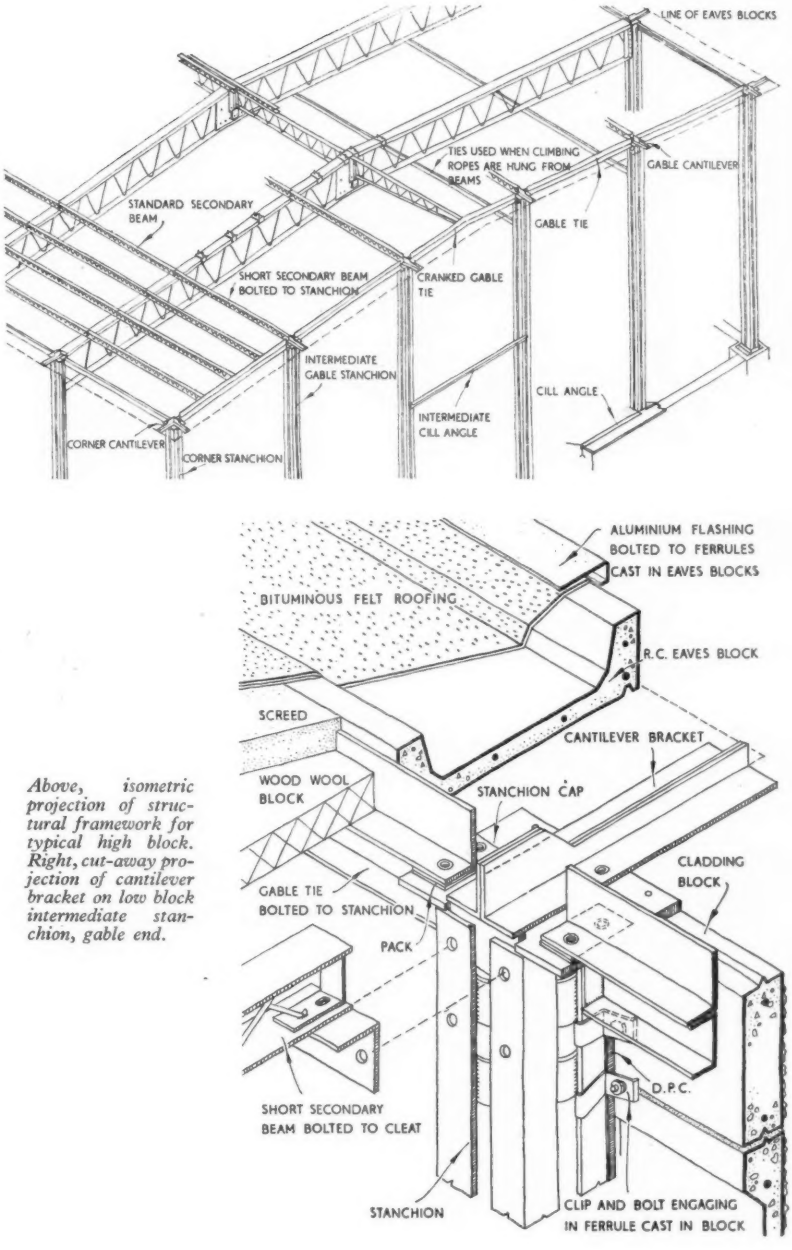
The decision to make each teaching unit self-contained is a further realization in plan form of the need to increase the domestic character of the school and reduce still further its institutional feeling. This idea has influenced the planning of all post-war schools and it has been expressed by dividing the school into small units not greatly different in scale from the child's home. However, it is only in the 1951 teaching unit that the idea is carried to its logical conclusion of the virtually self-contained unit—a small school for forty children with all the facilities except those which are obviously concerned with the rest of the school, such as assembly and dining. The teaching unit now consists of the normal 480 sq. ft. classroom, the practical annexe, its own individual lavatory unit, separate cloakroom space, and its external door to the play pitches at which the children arrive in the morning.

The new teaching unit (due to the omission of corridors) has meant a revision of the overall plan pattern of the school.

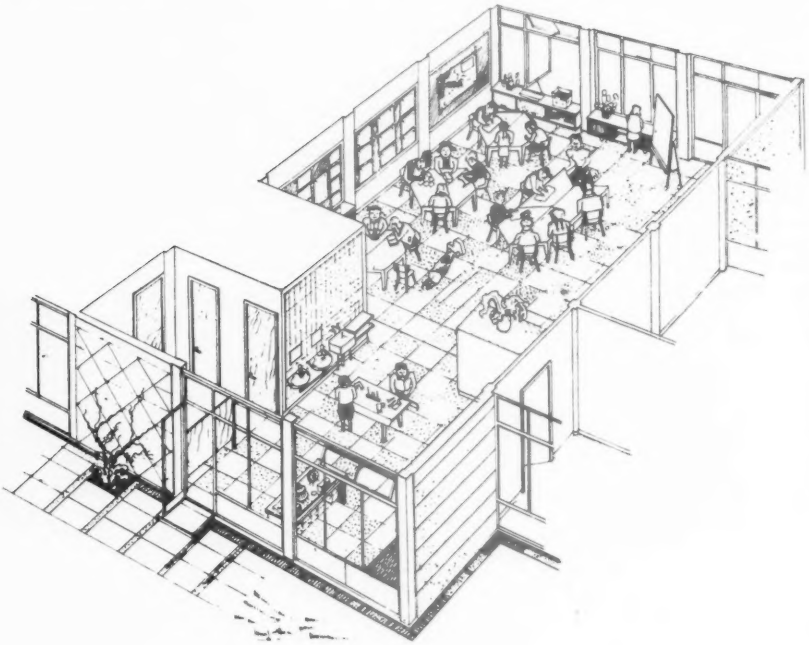
From the evidence of the planning survey the main circulations in the school are as follows:—(1) Teaching space to hard play area; (2) teaching space to dining room; (3) teaching space to assembly hall. The provision of an external door to each activity space allows independent access to the play pitches. Circulation to the dining room and morning assembly involves all classes at the same time. This leaves, as a planning problem, only the teaching space to assembly hall movement, when one class circulates independently.

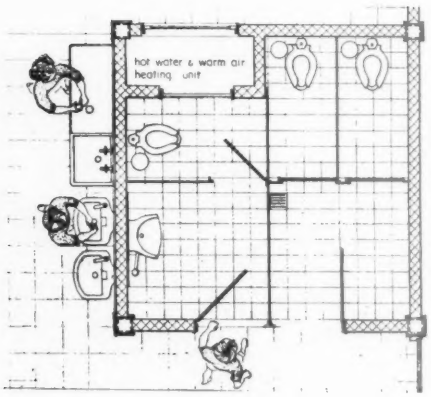
A study of the use of the practical corridors in the 1949 programme indicated that so long as no class of children had to pass through more than one practical space to reach its own room, the use of the practical space of the inside teaching unit would not be invalidated by its very limited use as a corridor. This plan has been criticized at first glance as implying circulation through the teaching space, but the criticism overlooks the fact that circulation is through the practical space extension only, which is usually screened visually from the teaching space by the storage unit. The entrance door to each activity space may further reduce internal circulation by providing a convenient fine-weather route through courtyards or along paths to the assembly hall and dining room.

If each teaching unit was to have its own lavatory it was important to give detailed consideration to the design of an economical unit using not more than one 8-ft. 3-in. bay. The minimum accommodation required in each teaching unit was one boys' W.C. and one urinal, and two girls' W.C.s, plus the necessary lobbies. By building a full-size "mock-up," minimum dimensions for cubicles and door widths were arrived at. The lavatory unit is now standard, though in a variety of marks, for the 1951 Programme. The warm air heater for the teaching unit is housed within the carcase of the lavatory, and above it is slung the calorifier



Above, isometric projection of structural framework for typical high block. Right, cut-away projection of cantilever bracket on low block intermediate stanchion, gable end.





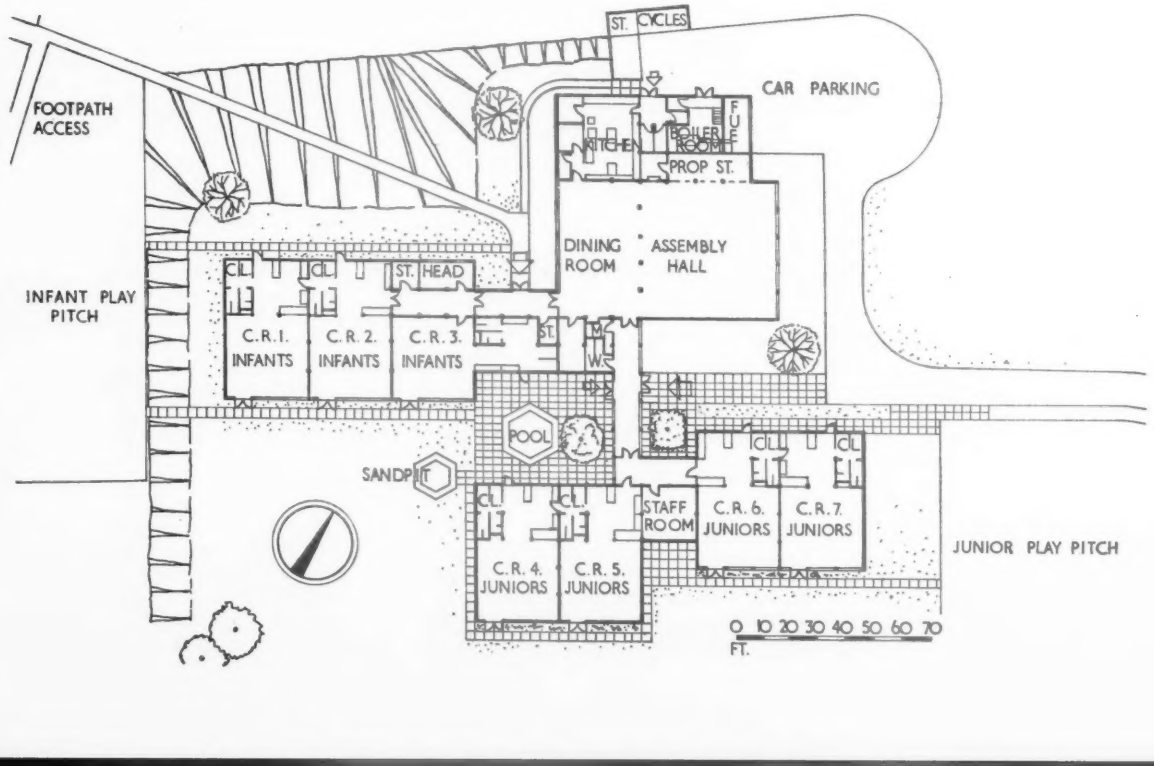
Above, perspective sketch of a typical teaching unit in the 1951 programme, showing the relationship between the teaching space, practical space, cloakroom and lavatory. Left, a plan sketch of typical teaching space lavatory unit. Below, plan of the junior mixed and infants' school, Oxhey Site 9.

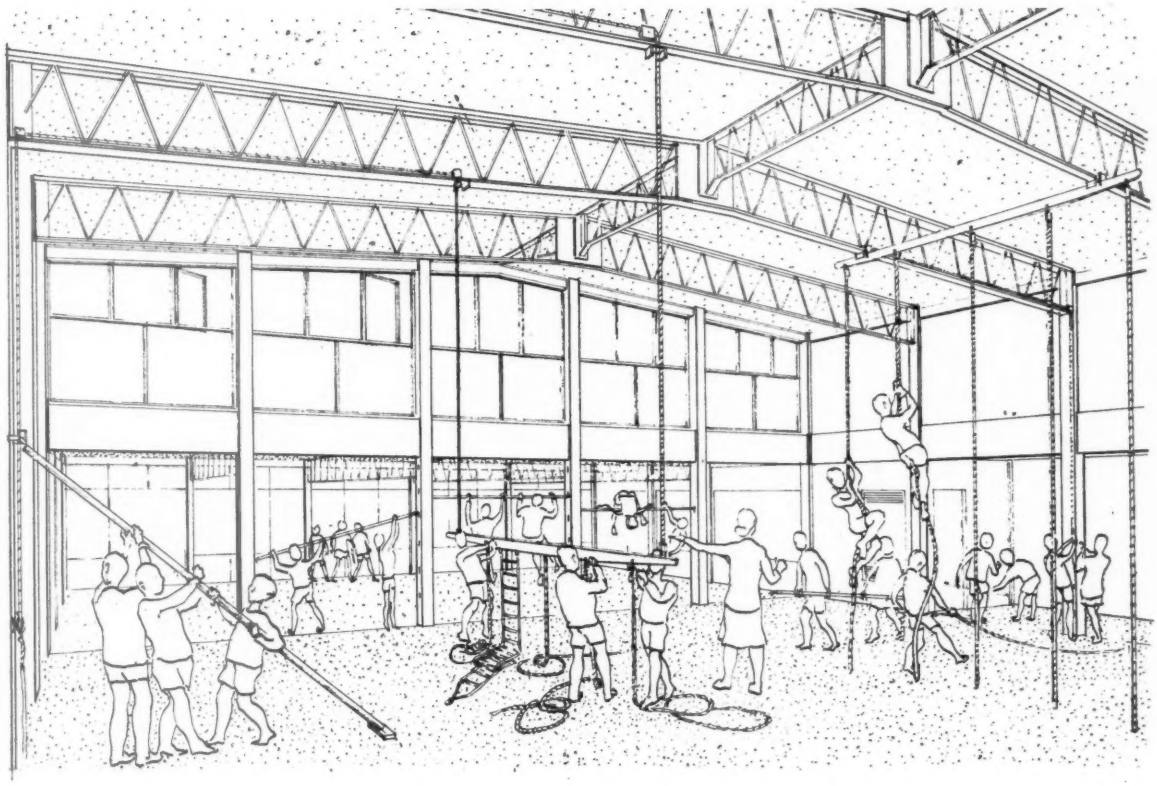
for warm water for the lavatory basins. The lavatory is lighted and ventilated by means of a large opening roof light which tests have shown to be more than satisfactory. The lavatory basins and the practical-work sink are fixed on the partition between the lavatory unit and the practical space to make control by the teacher easier.

The lavatory unit is small but its provision within the perimeter of the teaching area suggests that it will be well supervised, and will encourage a sense of responsibility in the children who alone use it.

Hanging facilities for forty coats are provided in a recess in the practical area of each teaching unit, and shoe lockers are stacked back to back under a work top. The separation of shoe lockers from coat hooks has enabled a reduction of 50 per cent. to be made in the floor area occupied by the cloaks.

The area previously taken by the classroom store has been thrown into the practical space area. The equivalent area of shelves, lockers, etc., is provided in a double-sided storage unit. A new addition to the range of school furniture is the bin unit which is a combination of a chest-of-drawers and a trolley. The wheeled storage boxes fit under a work top and may be pushed by the children to different places. A large area of work top is provided and space beneath it is utilized in various ways for storing items such as timber for wood-working, clay and bricks. The layout of the practical space can, of course, be varied. General purpose cupboards can be built in under the windows in





the teaching area and their tops brought into service as wide window cills.

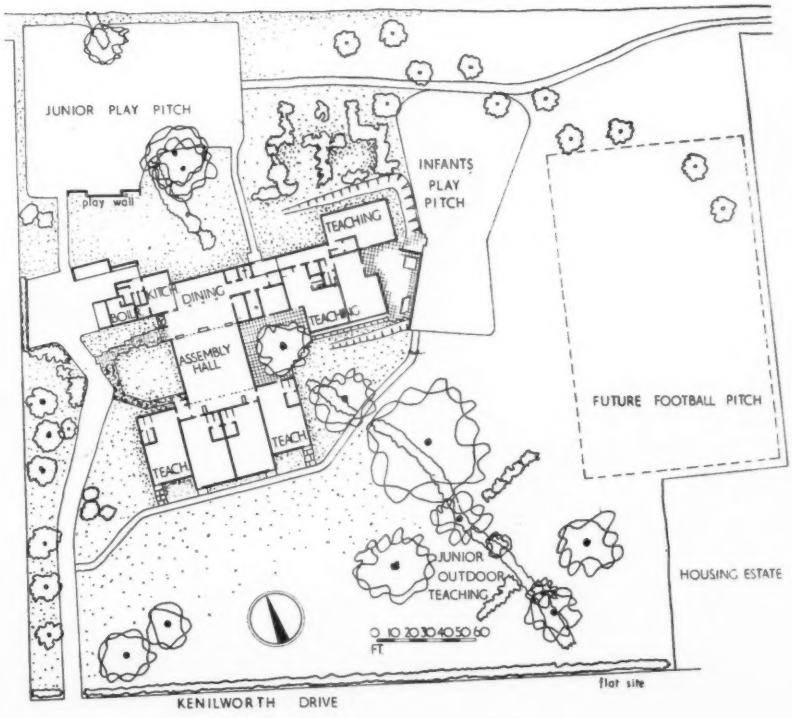
The majority of teaching units are only 8 ft. 9 in. high. It was generally felt that the 12 ft. high class rooms with clerestory lighting provided in the earlier programmes were not really domestic in character, and at the same time increased the cube of the building. Lighting of the classrooms is now augmented at the back by roof lights, and in some of the schools there is complete through-lighting and ventilation from north to south, now possible with the disintegration of the back wall of the teaching area.

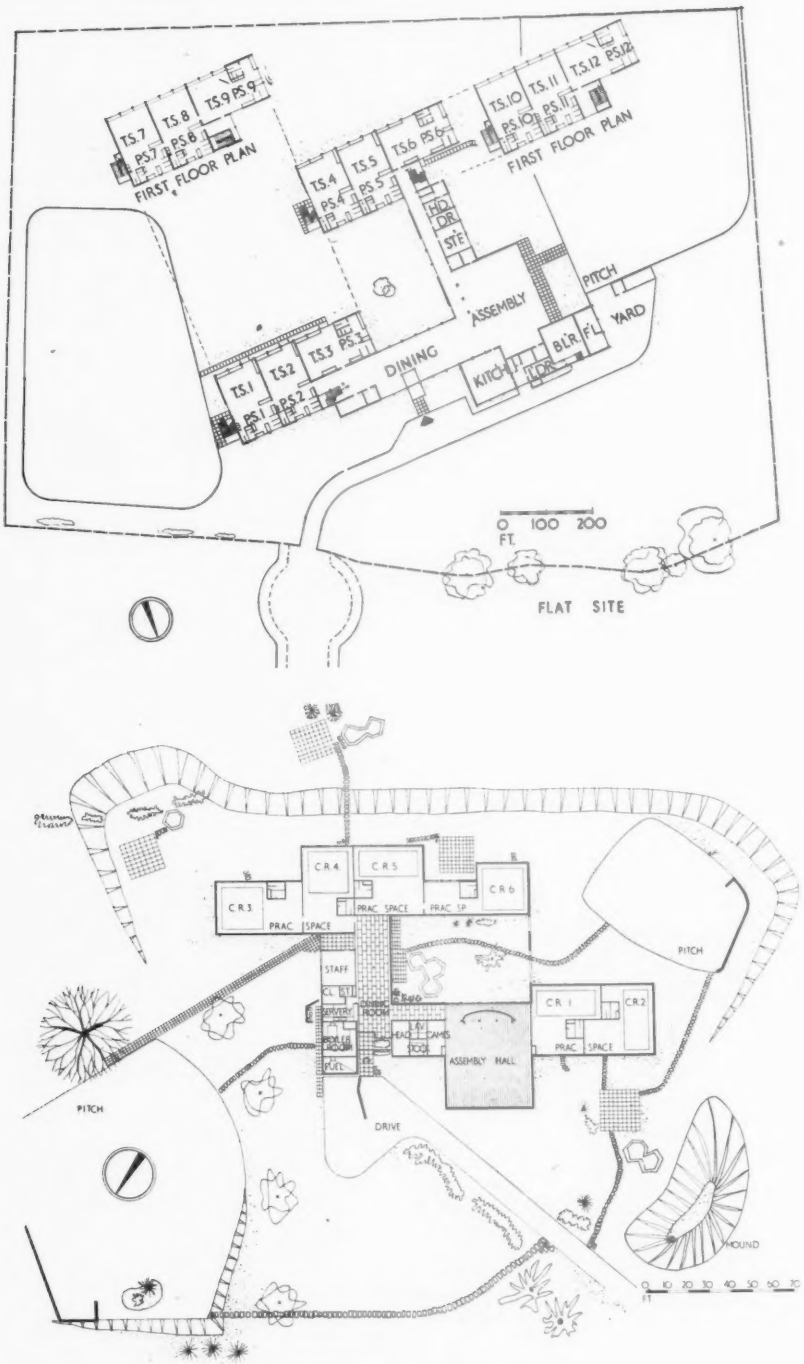
(2) *Assembly and dining.* In the light of the Survey the stage has been omitted, but the useful floor area in the hall remains approximately the same as in previous programmes. In most of the new schools the hall is combined with the dining-room space in an unbroken floor area. This large central space is useful for all kinds of activities, which are easily supervised and at the same time it gives a focal point to the whole school. This is expressed on the outside by the comparatively high assembly hall with its pitched roof and large windows.

The movable stage is intended to be used anywhere, but can be used in conjunction with the curtains to the prop. store in a slightly more formal way. The movable stage is still only a "mock-up," but it is based on the principle of combining perforated boxes with dining room tables—the former locking the tables together in a variety of shapes.

The gymnasium equipment required has been arrived at by experimental prototypes in an existing old school and consists of inclined bars and

Above, perspective sketch of the assembly hall at Oxhey, showing climbing ropes, parallel rails, etc., being erected by the children. Below, plan of the JMI school in Kenilworth Drive, Boreham Wood, which, although of similar size to Oxhey, shows a different grouping of teaching spaces around the assembly hall and is now under construction.





Top, the junior mixed school in Cow Lane, Garston, showing application of the planning thesis discussed in this review to the problem of a two-storey primary school. Above, plan of infants' school, Birchwood Avenue, Hatfield, showing the informal layout considered desirable for this type of school.

ladders, parallel bars and climbing ropes, in addition to the normal free-standing horses, mats, etc. This equipment presented a considerable problem in the design of the assembly hall because so much permanent equipment would have altered its character to that of a gymnasium. Also, the floor area is the absolute minimum, and it was felt that ropes and rope ladders, even if slid along on an overhead track to the side, would have prejudiced the use of the hall for other purposes. The policy has therefore been to reconsider the whole problem of gym. equipment in order to make it entirely demountable, and to provide storage space for it in the prop. store annexe. All steps taken so far are experimental—the structural ring battens at 1 ft. 4 in. centres in the free standing stanchions are utilized; holes in the stanchion cases enable horizontal bars to be fitted by the children at any required height up to 8 ft. 8 in. and in any number. For the ropes two or more yards are lowered by halyards from the overhead beams. The ropes, rope ladders or climbing nets are taken from the store and hooked on to the yards. The yards are then hauled up to guideways on the lower flange of the main beams and the halyards made fast to cleats. The process is reversed after the gym. class and the yards hauled up out of the way. It is hoped that this system will be a better looking substitute for the conventional sliding track system.

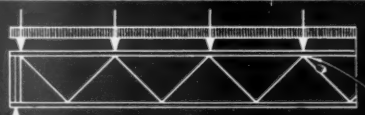
(3) *Administration rooms.* The policy laid down as a result of the Survey has been carried out. In some of the schools the staff rooms are dispersed about the building. It was felt that with the more compact buildings it was less necessary to place them centrally and therefore they have been used as the only fairly flexible planning element in the school to help the overall plan form.

(4) *Kitchen and boiler house.* As a result of a study of the rather large kitchens provided in previous schools considerable cuts in the superficial area have been made, although the amount of equipment provided remains the same. The omission of one boiler has permitted a 25 per cent. cut in the area of the boiler-house.

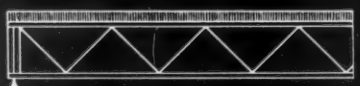
Conclusions. The results of the economies made in the design of the schools are, so far, reasonably encouraging. The tenders for the first five schools in the programme have all come within the £140 per place ceiling figure. Also, architecturally the smaller buildings with their greater integration of low teaching blocks and high assembly hall promise to mass much better than the earlier more straggling plans. This improvement in form is reinforced by greater experience in detailing and the decorative use of materials as applied to the comparatively new technique of building being used. At the moment it is not easy to be confident about the future. It is felt that it will be difficult to achieve further reductions in cost without sacrificing the present character of the school, and it will be regretted if rising building costs together with Ministry ceiling figures force us to do this.

"The following are members of the present Primary School Group at Hertford. D. Lacey, C. M. Cuthill, R. L. Brewerton, A. H. Donnan, R. I. E. Haynes, V. H. Lee, Margaret Mason, H. T. Swain, A. P. Tait and M. Wolicki."

conditions of loading



LOAD GIVING NO LOCAL BENDING.
(load applied at node points)



LOAD GIVING LOCAL BENDING.
(load spread evenly along beam)

span (ft.)	safe distributed loads in tons for 8" deep beams							
	8A	8B	8C	8D	8A	8B	8C	8D
5								5·21
7·5		5·25		4·37		4·70		3·87
10		3·94 (½)	5·06 (½)	3·28 (½)	5·65 (7/16)	3·77 (7/16)	4·66 (7/16)	3·08 (7/16)
15	4·03 (11/16)	2·63 (1 1/16)	3·36 (1 1/16)	2·19 (1 1/16)	3·91 (1)	2·57 (1)	3·18 (1)	2·13 (1)
20	3·01 (1 7/8)	1·96 (1 7/8)	2·53 (1 7/8)	1·65 (1 7/8)	2·95 (1 13/16)	1·95 (1 13/16)	2·47 (1 13/16)	1·62 (1 13/16)
25	2·41 (2 15/16)	1·58 (2 15/16)	2·02 (2 15/16)	1·31 (2 15/16)	2·38 (2 7/8)	1·57 (2 7/8)	2·00 (7/8)	1·31 (2 7/8)

span (ft.)	safe distributed loads in tons for 1'-2" deep beams							
	14A	14B	14C	14D	14A	14B	14C	14D
10						5·08	5·46	3·92
15				3·80		3·98	4·58	3·16
20	5·32 (1 3/16)	3·47 (1 3/16)	4·38 (1 3/16)	2·84 (1 3/16)	4·75	3·18	3·80	2·57
25	4·26 (1 3/16)	2·78 (1 3/16)	3·50 (1 3/16)	2·27 (1 3/16)	3·95 (1 3/16)	2·62 (1 3/16)	3·20 (1 3/16)	2·13 (1 3/16)
30	3·55 (1 7/8)	2·31 (1 7/8)	2·91 (1 7/8)	1·91 (1 7/8)	3·43 (1 13/16)	2·23 (1 13/16)	2·73 (1 13/16)	1·81 (1 13/16)

span (ft.)	safe distributed loads in tons for 1'-8" deep beams							
	20A	20B	20C	20D	20A	20B	20C	20D
10					3·60	2·84	2·48	2·00
15				4·81	4·08	3·07	2·91	2·23
20		4·55	5·55	3·61	4·04	2·94	2·98	2·19
25	5·56	3·64	4·44	2·89	3·80	2·69	2·85	2·04
30	4·63	3·03	3·71	2·40	3·50	2·44	2·67	1·86

span (ft.)	safe distributed loads in tons for 2'-2" deep beams							
	26A	26B	26C	26D	26A	26B	26C	26D
10					4·06	3·35	2·77	2·30
15				5·33	4·62	3·69	3·23	2·50
20				4·00	4·60	3·58	3·28	2·44
25		4·64	4·82	3·19	4·33	3·33	3·14	2·27
30	5·28	3·97	4·01	2·67	4·00	2·95	2·93	2·04
35	4·52	3·32	3·44	2·29	3·65	2·69	2·71	1·89

span (ft.)	safe distributed loads in tons for 2'-8" deep beams							
	32A	32B	32C	32D	32A	32B	32C	32D
10					4·28	3·54	2·90	2·38
15					5·08	4·07	3·52	2·75
20				4·93	5·18	4·07	3·67	2·78
25		5·17	6·04	3·95	5·00	3·87	3·60	2·65
30		4·30	5·04	3·30	4·70	3·60	3·44	2·40
35	5·63	3·69	4·32	2·80	4·35	3·30	3·21	2·27
40	4·93	3·22	3·78	2·47	4·03	3·05	3·00	2·08

span (ft.)	safe distributed loads in tons for 3'-2" deep beams							
	38A	38B	38C	38D	38A	38B	38C	38D
20				5·80	5·68	4·23	4·01	3·04
25		6·18		4·74	5·58	4·05	4·01	2·93
30		5·15	6·08	3·93	5·32	3·77	3·87	2·71
35		4·41	5·20	3·38	5·00	3·47	3·68	2·57
40	5·91	3·86	4·55	2·96	4·65	3·22	3·47	2·39
45	5·25	3·43	4·05	2·61	4·33	2·95	3·24	2·21

note: dimensions in brackets give deflections of beams in inches
where no dimension is given deflection is less than 1/325 span

·SOMMERFELDS· HIGH-TENSILE STEEL BEAMS: SAFE DISTRIBUTED LOADS.
Compiled by R. A. Sefton Jenkins, B.Sc., A.C.G.I., A.M.I.C.E., for Sommerfelds Ltd.

20.C10 'SOMMERFELDS' HIGH-TENSILE STEEL BEAMS

This Sheet is the first of two dealing with structural components fabricated from light high-tensile steel sections. It describes a range of beams ; the tables on the face of the Sheet give the safe distributed loads for each size of beam.
Columns, trusses and purlins in high-tensile steel are dealt with on Sheet 20.C11.

Design and Construction

The beams are of riveted construction and the sections used are made from re-rolled railsteel. The material has greater strength than steel to B.S.548 : 1934 *High-tensile structural steel for bridges, etc., and general building construction.* In calculating the design loads, however, the stresses (for steel complying with B.S.548) given in B.S.449 : 1948 *The use of structural steel in building* have been used, there being, at the moment, no B.S. covering the structural use of re-rolled high-tensile steel. The design of the beams is, where applicable, in accordance with B.S.449.

Sizes and Types

Beams are available in depths of 8 in., 1 ft. 2 in., 1 ft. 8 in., 2 ft. 2 in., 2 ft. 8 in. and 3 ft. 2 in.
Each size of beam is made in four types designated by the letters A, B, C and D ; these letters indicate the sizes of the boom angles thus :

A = 2/1¾ in. by 1¾ in. by $\frac{3}{16}$ in. angles
B = 2/1¾ in. by 1¾ in. by ⅛ in. angles
C = 2/1½ in. by 1½ in. by $\frac{3}{16}$ in. angles
D = 2/1½ in. by 1½ in. by ⅛ in. angles

These letters preceded by a number indicate the depth (in inches) and type of beam, e.g., 26B = beam 2 ft. 2 in. deep with top and bottom booms each consisting of 2/1¾ in. by 1¾ in. by ⅛ in. angles.

Use of Tables

The loads given are in tons and are the safe distributed loads. The term " giving no local bending " means that the load is applied to the beam at the node points only (e.g., through purlins). The term " giving local bending " means that the load is applied evenly along the whole length of the beam (e.g., by metal decking). It should be noted that the load is normally limited by the maximum shears as follows:

Beams up to and including	2 ft. 2 in. deep	5.50 tons
beams	2 ft. 8 in. deep	6.04 tons
,,	3 ft. 2 in. deep	6.42 tons

Applications

The beams are suitable for all types of floor and flat roof construction.

Note.—With maximum loads provision should be made to support the beams laterally at approximately 4 ft. centres. This can often be done by ensuring that the decking or purlins are adequately fixed to the beams.

Finish

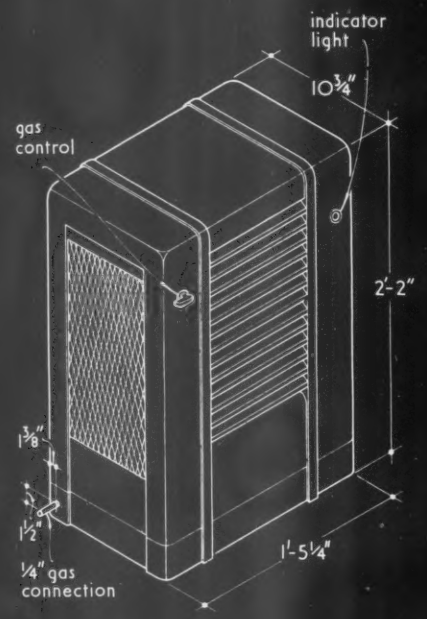
In addition to the normal steelwork finishes, e.g., red oxide on wire-brushed steel, a special finish is available. This consists in principle of the chemical and mechanical removal of all rust and scale, followed by one or two coats of primer and/or synthetic enamel. The use of this finish considerably reduces maintenance.

Further Information

The manufacturer maintains a technical department which is prepared to advise on technical problems dealing with this subject.

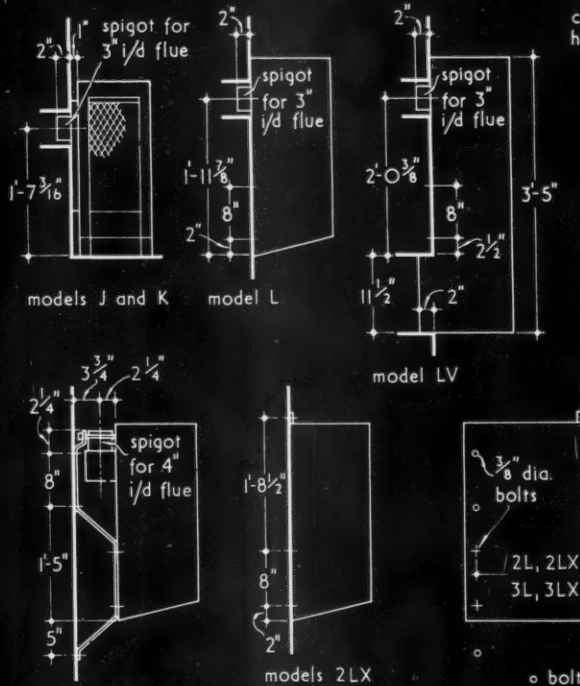
Compiled from information supplied by :

Sommerfelds Ltd.
Address : Wellington, Shropshire.
Telephone : Wellington 1000 (5 lines).
London Office : 167, Victoria Street, S.W.1.
Telephone : Victoria 1000.



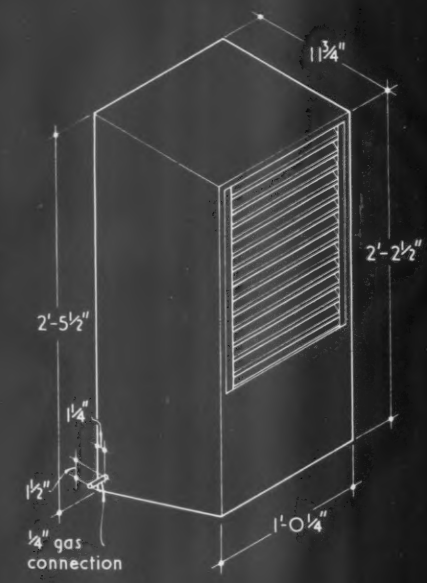
models J and JX
models K and KX (modified design 2'-0¼" high: see notes on reverse)

• FLOOR MOUNTED HEATERS (DOMESTIC).

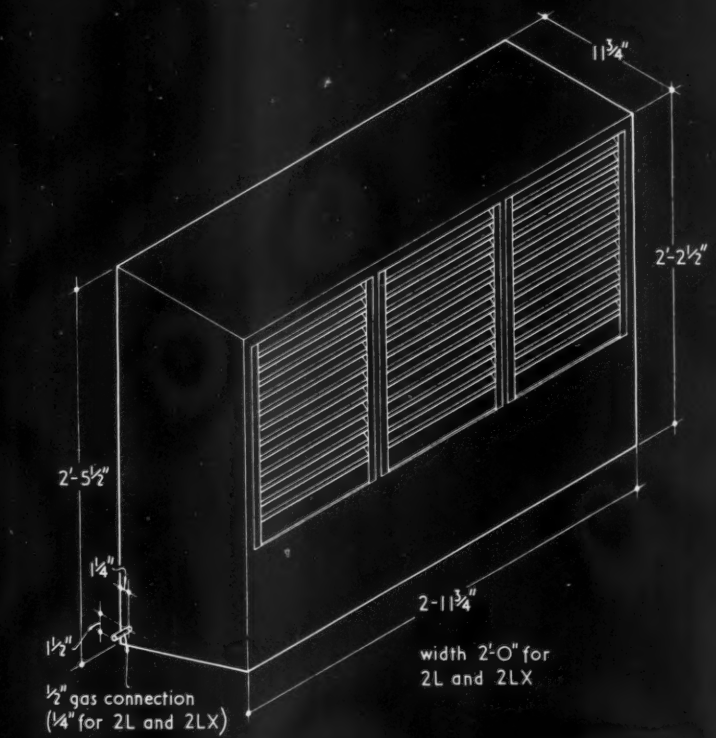


FLUE CONNECTIONS AND POSITIONS OF FIXING BOLTS.

o bolts for 2L and 3L
+ bolts for 2LX and 3LX



models L and LX
models LV and LVX (modified design 3'-5" high: see notes on reverse)



models 3L and 3LX

X indicates that model is flueless

WALL MOUNTED HEATERS (INDUSTRIAL). note: heaters fitted with automatic fan control are 2" wider.

·HALCYON· ASSISTED-CONVECTION GAS SPACE HEATERS. Manufacturer: William Sugg and Co Ltd.

29.C20 'HALCYON' ASSISTED-CONVECTION GAS SPACE HEATERS

This Sheet describes a range of gas space heaters of the convector type, embodying in their design an electric fan to assist convection and provide a forced circulation of warm air.

Even temperatures are obtained throughout the space heated largely independent of the location of the heaters : warm air will also circulate through open doors into adjoining rooms.

Description

The heater consists of a heat exchanger through which air is circulated by the small silent-running fan. There are two basic types, floor mounted for domestic and similar purposes and wall mounted for industrial purposes, both being available for flued or flueless operation. The flueless heaters have been designed, for use where circumstances permit, to take advantage of the full nett calorific value of the gas. Normal methods of thermostatic control apply.

Floor Mounted Heater (Domestic)

This model is particularly suitable for shop, office or school heating. For domestic purposes the heater is usually installed in the hall. The form of warm air distribution is such that no discoloration of decorations has been experienced in three years.

When the heater is first switched on the rise in room temperature is very rapid. Under test, in freezing weather, comfort conditions were reached in one hour in a 5,000 cu. ft. room, full heating being established in two hours.

The temperature of the casing does not exceed 110 deg. F. when the heater is in operation. The louvres are naturally hotter than this but they do not exceed 280 deg. F.

Flued models : There are two models available, J, as illustrated, and K. Model K has a simpler outer casing of square-cornered design with the gas control cock fitted in the supply pipe close to the side of the heater. Both models incorporate a draught diverter within the casing.

Flueless models : Models JX and KX are available and are similar to models J and K respectively, except that they are not fitted with spigots for flue connection. With these heaters the products of combustion mingle with the main air-stream and become diluted so that their presence is not normally detectable.

Inset and semi-inset models : These are available, with or without flue connection, for fitting into existing fireplaces or special recesses. The inset models require a depth of 11¾ in. and the semi-inset a depth of 6¾ in. In both cases, the recess should be 1 ft. 3 in. wide and 2 ft. 3 in. high. The heater front is 2 ft. 4 in. high by 1 ft. 5¼ in. wide and in the semi-inset model projects 5 in. Where a flued model is fitted into a fireplace the existing flue should be fitted with a register plate.

Wall Mounted Heater (Industrial)

This heater, with more powerful fan than the domestic type, is designed to be fixed to the wall, or suspended from the roof, so that the bottom of the heater is 6 ft. from the ground.

Flued models : There are two models available, L, as illustrated, and LV. Model LV is an adaptation of model L with an extended lower casing and has two air inlets, one through the wall and one from the room. Inlets are provided with damper control and the maximum ventilation rate is 13,000 cu. ft. per hour. Both models incorporate a draught diverter within the casing. Model LV is particularly suitable in badly ventilated premises. The fan may be used by itself in summer for ventilation without heating.

Flueless models : Models LX and LVX are available and are in size similar to models L and LV respectively, except that they are fixed tight to the wall face.

Multiple Unit Heaters

With the industrial types two or three heaters can be arranged as a single model to effect a reduction in cost where large heat outputs are required. In the case of flued heaters only one flue is required for the complete model. Multiple unit heaters are designated by the same letters as single unit models, preceded by the number of units in the model.

Characteristics

Model	Gas consumption (cu. ft./hr.) 500 C.V.	Electric consumption (watts)	Output, B.Th.U./hr.	Weight (lb.)
J	30	25	12,000	50
JX	30	25	13,500	50
K	30	25	12,000	50
KX	30	25	13,500	50
L	32	60	12,800	50
LX	36	60	16,200	50
LV	32	60	12,800	60
LVX	36	60	16,200	60
2L	64	120	25,600	90
2LX	72	120	32,400	90
3L	96	180	38,400	135
3LX	108	180	48,600	135
Inset (flued) ..	30	25	12,000	45
Inset (flueless)	30	25	13,500	45

Fixing

Floor-mounted heaters : These are free-standing, have holes at the base for fixing and require a minimum clearance of 6 in. on each side.

Industrial heaters : These may be screwed to the wall face, clamped to stanchions or suspended from the roof, except for models LV and LVX which must be fixed to the wall. A minimum clearance of 1 ft. should be allowed at the bottom for air entry.

Safety Devices

Safety devices are incorporated to prevent the appliance filling with unburnt gas and also to protect the heater against the failure of electricity supply.

Flues

Details are given on the face of this Sheet. On multiple unit models a collecting box 4½ in. deep extends across the back of the units and this is fitted with a central spigot (normally vertical) for 4-in. diameter flue pipe. In this case a minimum of 2 ft. of primary flue, a draught diverter and a secondary flue are required.

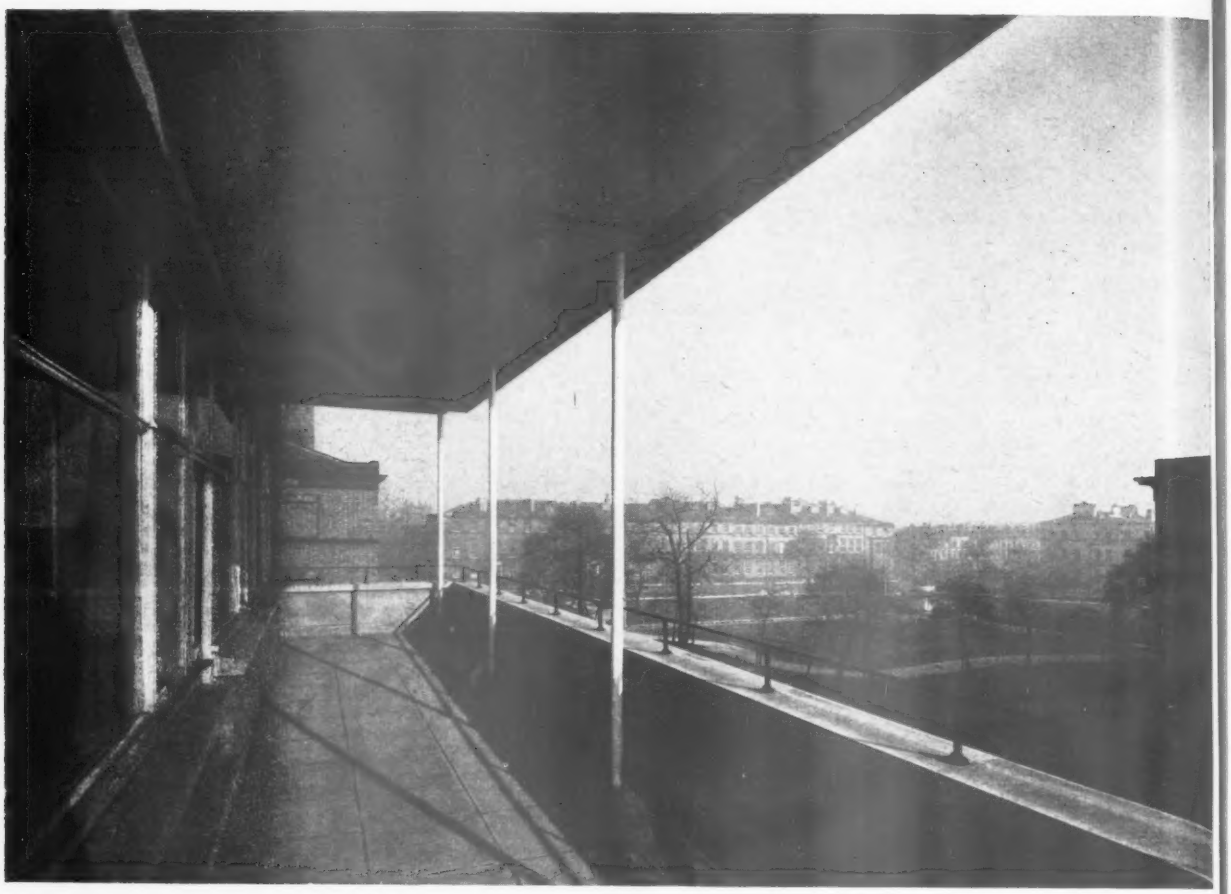
Compiled from information supplied by :
William Sugg & Co., Ltd.
Address : Chapter Street, Westminster, S.W.1.
Telephone : Victoria 3211 (4 lines).
Telegrams : Sugg, Sowest, London.

CIVIC DESIGN SCHOOL

for the SCHOOL OF ARCHITECTURE, LIVERPOOL UNIVERSITY
at 76, BEDFORD STREET, LIVERPOOL 7
designed by PROFESSOR GORDON STEPHENSON
assistant architect, NORMAN KINGHAM

The Department of Civic Design of the Liverpool School of Architecture is now accommodated in a new building in Abercromby Square. The Department was founded in 1909 and the new building will house a maximum of 40 graduates and undergraduates. As the site has been allocated to the Institute of Mathematics at the University, the building will eventually form part of a larger block to be built for the Institute. Nevertheless, it is expected that the Department of Civic Design will use it for at least 20 years.

View from the garden in Abercromby Square.



Abercromby Square seen from the roof terrace at second floor level.

CIVIC DESIGN SCHOOL

at 76, BEDFORD STREET, LIVERPOOL 7

designed by PROFESSOR GORDON STEPHENSON

GENERAL. — Abercromby Square has austere Georgian houses on three sides and a columned church, of which the facade remains after war damage, in the centre of the other side. The University, as the owner of the Square, wished that the new building should be in harmony with the existing three-storey houses. The attempt has been made to achieve this harmony by relating mass, scale, texture, and colour. The terrace canopy on the side of the building facing the Square continues the cornice line of the Georgian houses. The railings to the areas, though of wrought and not cast iron, resemble those in the Square and stand on similar kerbs. The brickwork of the Square and the immediate neighbourhood is in Flemish bond, which is also used in the new building. The sill and head heights of the main windows are similar to those of the main first-floor windows of adjacent houses.

SITE.—The building site is rectangular and flat, with a main axis running north to south. After the bombing of the houses, the site had been levelled by the simple process of filling the cellars with rubble. This entailed excavation, and the building of a new basement was suggested by the fact that foundations had to be below the level of the old cellars. There were no severe building restrictions as the building was to be modest in dimensions and domestic in scale. The Liverpool Corporation agreed that the building line on the main street should be advanced to allow the new facade to line through with the houses in the Square, which made possible a direct relation with the two sides of the Square and gave a reasonable depth to the site. The site plan shows three main elements. The main block, of three floors and a basement, is parallel to Bedford Street and faces east and west. A single-storey exhibition hall with a north light roof forms, with the gable end of the main block, the facade to the minor street. The southern elevation of the exhibition hall faces a small garden courtyard which is seen through the large windows of the hall.

PLAN.—The plan of the building is arranged so that there are four use zones. The basement is primarily for storage and the heating plant, but also contains a workshop. The ground floor contains

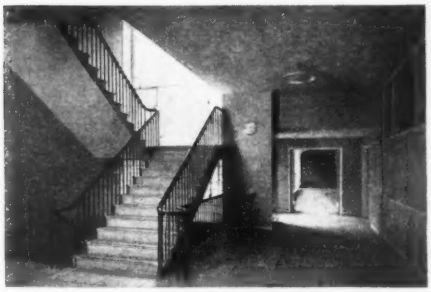
an entrance hall, general-purpose rooms for visitors, and other departments in the University, a criticism room, lecture room with 100 seats, and the exhibition hall. On the first floor are three rooms for students, a studio to accommodate 40 persons, a library together with a seminar room. The second floor contains staff rooms. In the main block there are only two bays on each floor which cannot be quickly changed structurally. The one contains the staircase, the other the lavatories, which are adjacent to the plumbing and main services duct.

CONSTRUCTION.—The building is entirely steel framed, and, except where it carries the external walls, the steelwork is not covered by concrete. The east and west walls of the building, containing the main windows, are supported on cantilevers at floor levels. The columns are clear of the windows. All the external walls are of 9-in. brickwork in Flemish bond. Internal partitions are, in general, of stud construction covered in medium hardboard. The roof and floors of the main block are in precast reinforced concrete units resting on the steel beams. The " shed " roof of the exhibition hall is of channel reinforced wood wool slabs.

EXTERNAL FINISHES.—At the rear of the building is a welded steel spiral fire escape leading into the courtyard. The heads and sills of all windows are in cast stone. The window frames and bars are in hardwood with the exception of the patent aluminium glazing bars in the north light. At ground floor and basement level armour-plate glass is used. The studio window is double glazed. Reeded glass is used in lavatory windows and on parts of the stair windows. There are no external down-spouts or pipes of any kind. All external woodwork, with the exception of doors, is painted white. The doors are in the very dark green traditionally used in Amsterdam. The ironwork is painted black.

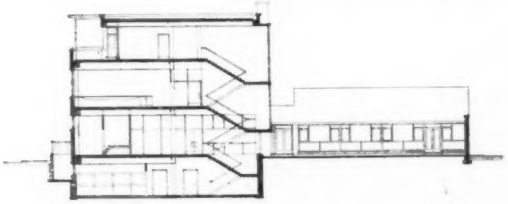
INTERNAL FINISH.—The walls are lined internally with flame-proof medium hardboard on battens. The entrance hall, corridor and stair walls are painted in two shades of grey. Exposed steel columns are in grey. The walls in nearly all the rooms, large and small, are covered by wallpapers. This, it was decided, was the best economical finish for the medium hardboard to which drawings may from time to time be pinned. In the criticism room, where drawings will frequently be pinned up, the medium hardboard is covered with hessian and painted. The wallpapers have simple overall

Right, entrance hall looking towards exhibition hall.

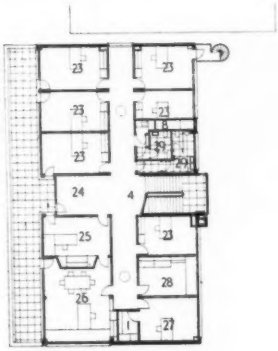


KEY

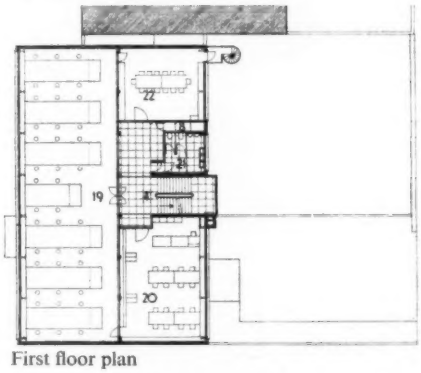
1. Store.
2. Oil Fuel Tank.
3. Heating Chamber.
4. Landing.
5. Electric Equipment and Store.
6. Cleaners' Room.
7. Workshop.
8. Duct.
9. Lecture Theatre.
10. Projection Room.
11. Porter.
12. Vestibule.
13. Entrance Hall.
14. Criticism Room.
15. Women's Lavatory.
16. Public Telephone.
17. Modelling Shop.
18. Exhibition Hall.
19. Studio.
20. Library.
21. Men's Lavatory.
22. Seminar Room.
23. Staff Room.
24. Waiting Space.
25. Secretary's Office.
26. Professor's Room.
27. Senior Lecturer's Room.
28. Editorial Room for the "Town Planning Review."
29. Staff Lavatory.



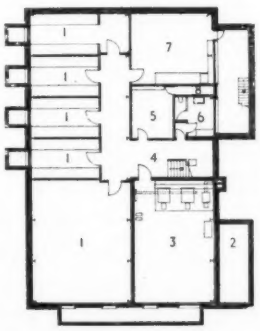
Section A-A



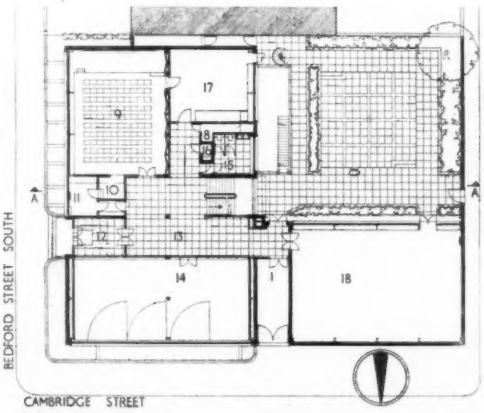
Second floor plan



First floor plan



Basement plan



Ground floor plan [Scale : $\frac{1}{48}$" = 1'0"]

View from the main entrance doorway, with staircase on left and exhibition hall beyond.

CIVIC DESIGN SCHOOL

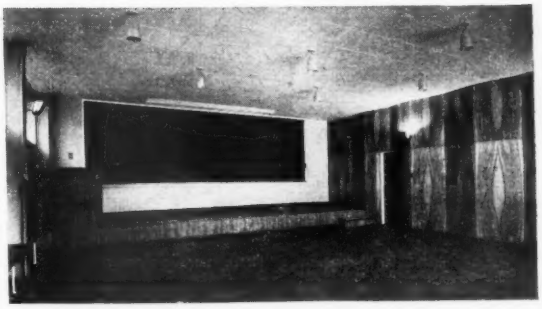
at 76, BEDFORD STREET, LIVERPOOL 7
designed by PROFESSOR GORDON STEPHENSON

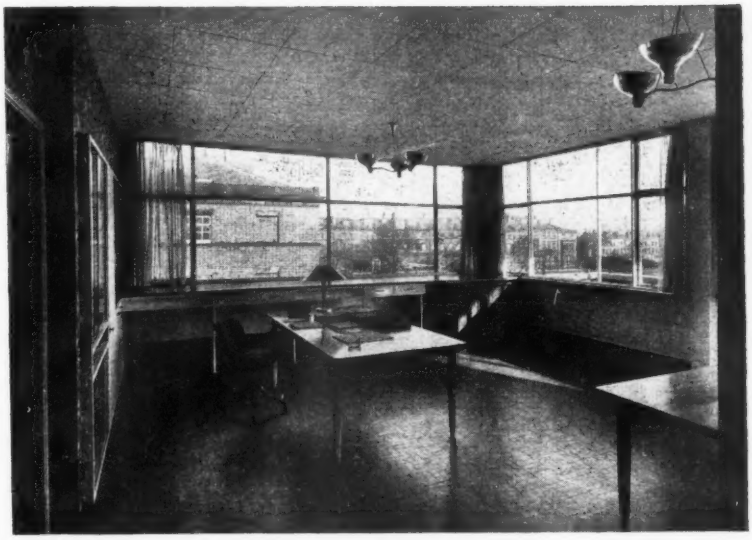
patterns and the scale of these and of the colours are varied according to room and location. The ceilings in the building are formed by panels 2 ft. sq. of insulating board with secret slots in which are aluminium T-rails suspended from the precast floors. All the ceilings are painted white, and the light fittings, varying according to the purpose of the rooms, are related to the pattern formed by the 2-ft. grid. In the rooms separated by partitions with clerestory lights, the ceiling and light fitting pattern continues through the partitions. In the studio appropriate fittings are used over the desks, but those at the back of the studio are of the same type as the fittings in the library and seminar room. The floor finish of the entrance hall and the staircase is in a light pink terrazzo which is divided into 2-ft. reinforced slabs where the surface is continuous. This pattern reflects that of the ceiling. The

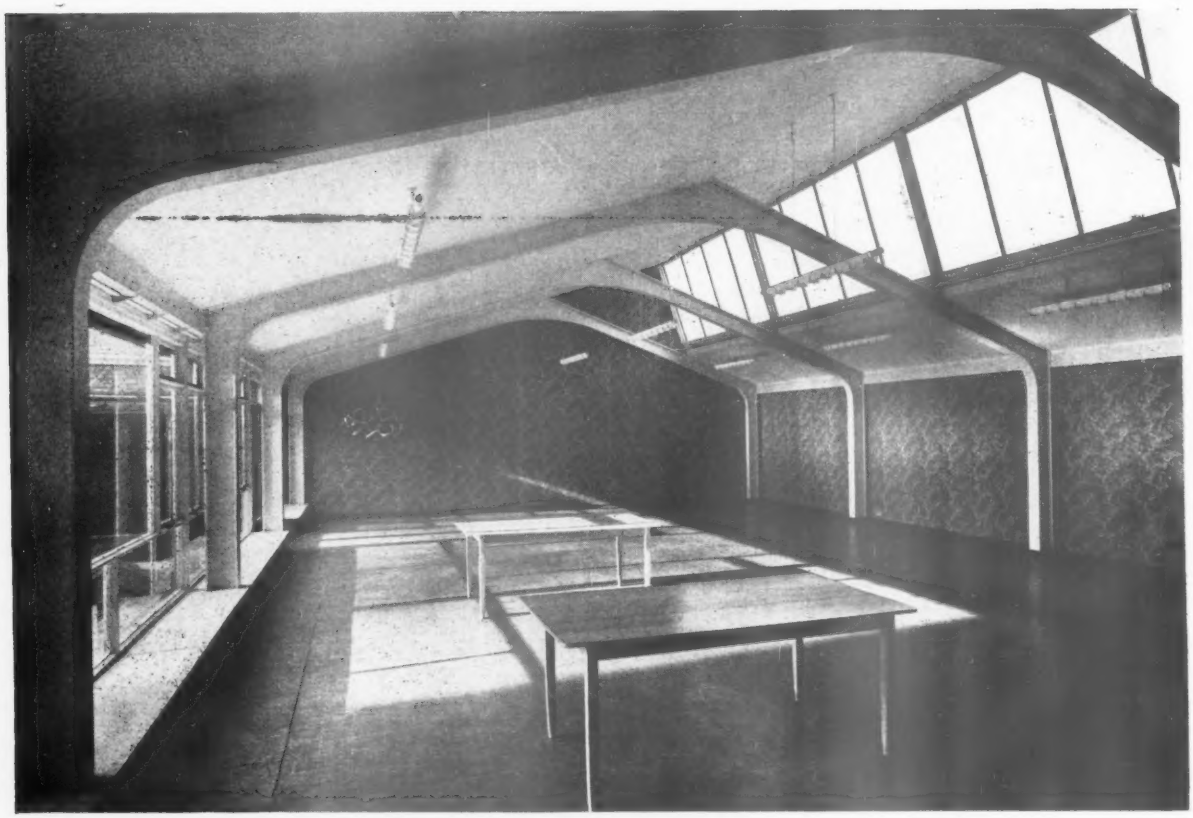
spandril of the reinforced concrete stair is painted in terra cotta colour. The balusters are bronze and the handrail is mahogany, with the same section as that of the handrails in the best houses in the Square. All the other floors in the building, with the exception of the lavatories, are in polished wood composition blocks laid in basket pattern. The lavatories have terrazzo floors and precast terrazzo W.C. partitions. The walls are tiled. All the plumbing, including the W.C. cisterns and tanks, is concealed in the duct which is continuous from basement to roof level. The W.C. pans are of hospital type cantilevered from the walls. Working surfaces of built-in furniture, with the exception of the studio furniture, are in African hardwood.

SERVICES.—The heating system has been patented in this country and is used here for the first time with a normal precast floor construction. The system is fed by two oil-fired boilers, automatically controlled and operated by electricity. There is also a small boiler for use in the summer to heat the domestic hot water, but when the main boilers are in use this water is heated in a calorifier. As already mentioned, it is based on the Roman principle of forming a hot oven below the floors. Long, small section radiators are suspended at intervals

Right, ground floor lecture room. The staggered wall on the right is veneered in French walnut. Below, office for the Head of the Department on second floor. Bottom, the main entrance doorway facing Bedford Street. The wall sculpture of the University crest is by Herbert Tyson Smith.







Above, the exhibition hall, spanned by welded steel trusses. Below, the garden court with exhibition hall on left. Sculpture by Mitzi Cunliffe.

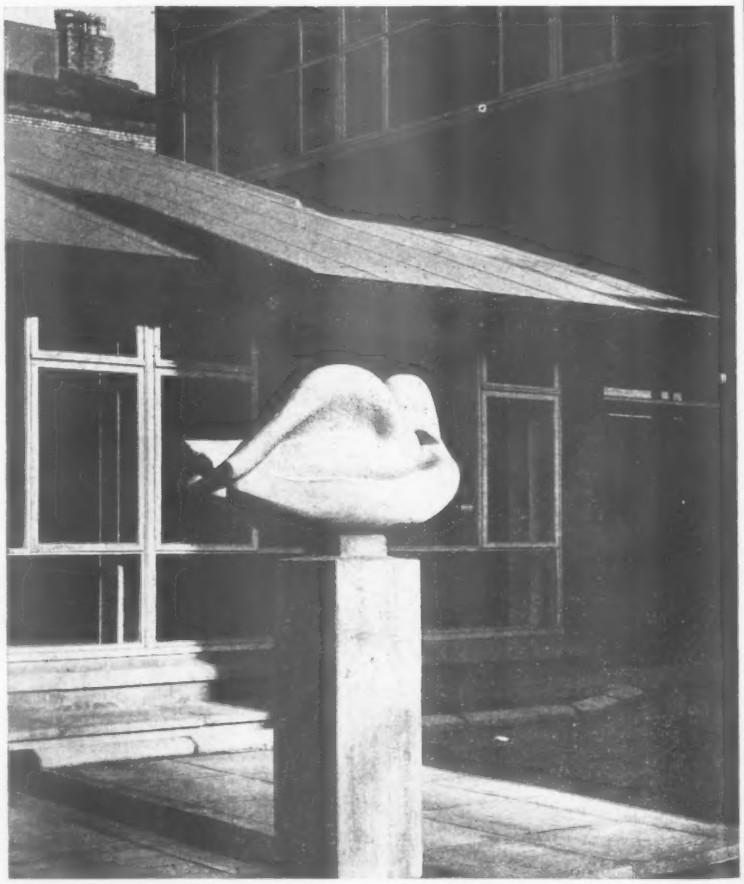
CIVIC DESIGN SCHOOL

at 76, BEDFORD STREET, LIVERPOOL

designed by PROFESSOR GORDON STEPHENSON

from each precast floor. These heat the space between the floor and the ceiling so that the fabric of floor and ceiling in turn radiates heat: 4 deg. above room temperature. The vertical flow and return pipes are fixed to the webs of the internal columns and lagged. The columns are boxed on the web sides with synthetic resin bonded plywood. The permanent ventilation of the building is carried out in two ways. In the normal rooms small section copper pipes pierce into the external walls at an angle and where necessary cross ventilation is aided by inch gaps which are left above some clerestory lights in the internal partitions. The loss of heat from the top floor ceiling is compensated by the addition of heated skirtings around the periphery of the building. These skirtings are, in fact, 9 in. by 1½ in. pipes through which water flows at a relatively higher temperature than in the ceiling ducts.

A maximum price of 4s. 6d. per cub. ft. was set by the University at design stage, and, despite increases the cost was only a fraction above the original estimate. The contract price was £57,000, including built-in fittings and garden layout. The general contractor was Wm. Tomkinson & Sons, Ltd. For sub-contractors, see page 440.



TECHNICAL SECTION

On pages 435 and 436 is described and illustrated a small footbridge recently erected across a backwater of the Thames. Small as it is, the bridge has served to show that, with careful prefabrication, the erection of a suspended span is extraordinarily simple, cheap and speedy. The steel used in this case was only 6¼ lb. per sq. ft. of footway carried. With a greater width in the suspended element, this could be reduced to approximately 4 lb. per sq. ft., without any difficulty.

If a moderately flexible roof covering could be devised (and this should not be impossible), the suspended span would be a very economical and fast method of covering factory buildings where large clear spans are necessary.

R. FITZMAURICE

This week's special feature

19 CONSTRUCTION : DETAILS
Floors : cost comparisons

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.

The rise in the cost of timber has far exceeded that anticipated by the Technical Editor when he wrote his article "Floors for Houses" in April, 1951. As a result, timber floors now compare less favourably with those of concrete than they did a year ago.

When the article "Floors for Houses"* was published in the spring of 1951, the control of timber prices had just been removed and the price of building timber was rising sharply. An attempt was made to predict the price at which it would stabilize itself and, after inquiry, this was fixed at £110 per standard. Unfortunately, this guess proved to be a bad one, and prices have risen to the neighbourhood of £130 per standard. This invalidates several of the comparisons made in the original article and it is desirable to examine them in the light of the costs ruling today. There have been increases in wages and in the prices asked for concrete aggregates, as well as a rise of 4s. 6d. per ton for cement. Taking all these increases into account, the tables on p. 434 show the estimated costs, without profits or overheads, in the middle of the cost range, for ground floors and suspended floors of houses, at prices ruling in February, 1952. Readers who compare these figures with those in the previous article will notice an anomaly. The concrete ground floor on hardcore fill is apparently cheaper in 1952 than it was in 1951. The reason is that the cost given

* Floors for Houses, Parts I and II by R. Fitzmaurice and Part III by D. N. Chester, was published in the JOURNAL on April 26, 1951, and continued on May 31, 1951.

in 1951 was over-estimated. We have checked the figure now quoted and are satisfied that it is reasonable.

The cost of a concrete floor may, in fact, be lower than the figure shown, since it is possible, for about 6d. per yd. for labour, to finish the site concrete in such a way that the use of a cement screed is not necessary. Site concrete so finished may need local patching and making good where it has been damaged during building operations. Such local treatment has been found to cost on the average 1s. per sq. yd. It seems that as more experience is gained in the finishing of site concrete (it is already being done by some builders), there may be a saving of 2s. 6d. per yd., which would bring the cost of the covered solid floor down to 27s. 6d. per yd.

The timber floor used for purposes of comparison is a good average floor. By rigid economy in timber it would be possible to save 2s. per yd. and the comparative figure would then be 42s. for the timber floor covered with a linoleum substitute, or 36s. uncovered.

If we compare the covered solid ground floor with the uncovered timber floor, the saving in cost by using the former is 23 per cent. This is not really fair, but it reflects the present custom, with the tenant providing the linoleum to cover his ground floor. The timber floor is colder, noisier, and costs 30 per cent. more than the solid floor with a hardwearing and attractive covering. If we compare covered floor with covered floor, the advantage in cost in favour of the solid floor is 50 per cent. So we can now say that the covered floor is a better job and, on any reasonable site, always cheaper.

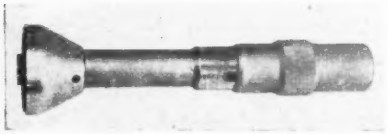
The uncovered timber floor is 16 per cent. cheaper than the covered concrete floor. This is a small difference in favour of a form of construction which is infinitely noisier and less fire resistant. If, as would be fairer, we compare covered wooden floor with covered concrete floor, the advantage in favour of the former is only about 2 per cent.

COSTS OF ALTERNATIVE TYPES OF GROUND FLOOR AT PRICES RULING IN FEBRUARY, 1952

Construction	Cost	
	Per house (50 yd. super)	Per yd. super
1-in. concrete screed on 6-in. concrete slab on 20-in. hardcore fill ..	£51 0 0	20s. 6d.
Acceptable covering applied over above at 9s. 6d. per yd. super ..	£24 0 0	9s. 6d.
Total	£75 0 0	30s.
1-in. nominal timber boarding on 4-in. × 2-in. joists.	£97 0 0	38s.
Acceptable covering over above at 6s. per yd. super	£15 0 0	6s.
Total	£112 0 0	44s.

COSTS OF ALTERNATIVE TYPES OF SUSPENDED FLOOR AT PRICES RULING IN FEBRUARY, 1952

Construction	Cost	
	Per house (50 yd. super)	Per yd. super
1-in. nominal timber boarding on 7-in. × 2-in. joists with 7-in. × 3-in. trimmers and 1-in. × 1½-in. bridging with plasterboard soffit ..	£96 0 0	38s.
Acceptable covering laid over above at 6s. per yd. super	£15 0 0	6s.
Total	£111 0 0	44s.
1-in. concrete screed on 5-in. reinforced concrete slab. Render and set soffit including use and waste of shuttering..	£90 0 0	36s.
Acceptable covering applied over above at 9s. 6d. per yd. super ..	£24 0 0	9s. 6d.
Total	£114 0 0	45s. 6d.



PLUG-DRIVING GUNS AND THE ARCHITECT

Two plug-driving guns were exhibited at the Building Exhibition last November. (They were described in the JOURNAL for November 29, 1951.) These guns are widely used in the United States and are now becoming increasingly popular in Europe too. There are a number of points the architect should bear in mind when he knows these guns will be used on his building.

Experience with the size of the bolt, the strength of the cartridge and the quality of the material in which the fixing is to be made is essential. Concrete is the one material which can cause failure even when the correct bolt and charge is being used. Failures are likely to occur only once in ten shots, and are, presumably, caused by the bolt hitting a large piece of aggregate. The smaller the aggregate the more efficient the gun. As a rough guide, it would be wrong to detail a fixing to be closer than 1½ in. to the edge of the concrete—particularly if the architect values a straight edge.

As far as brickwork is concerned, 3 in. from a vertical edge is as near as one can go with safety (to the brick finish). The operative should be careful not to use too strong a cartridge, which might crack the bricks—a point to be watched when fixing windows.

The bolts fired are of three types—with male and female screw heads and with plain heads. To ensure that the heads remain proud of the surface, it is usual to shoot them through a washer which is pressed lightly, before firing, into a recess on the muzzle. When firing into timber, the bolt head can be allowed to disappear below the surface of the wood.

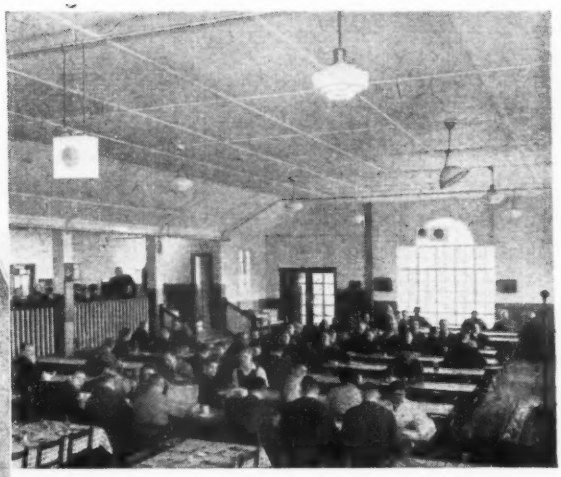
Used with steel, the gun is at its best. Bolts can, of course, be driven very close to the edge. It is, perhaps, preferable not to detail a fixing down the line of the web of an RSJ, but to keep it to one flange. This is only common sense—why put the bolts into the toughest part of the joist?

There are two obvious possible failures. First, a bolt which does not penetrate. This, almost inevitably, is due to lack of experience with the three variables—size of charge, size of bolt, and type of material. Secondly, a bolt might be driven in crookedly. This may be due to careless holding of the gun or to the bolt being turned by hard aggregate in the concrete. The answer to this is to remove the bolt by screwing on a nut and turning it out of the concrete with a wrench.

These guns will fix all types of plumbing and electric conduiting, sheet materials, window and door frames, false ceilings, all forms of battening, and guttering. The full possibilities have yet to be worked out.

The plug-driving gun illustrated is the "Supa Dynamic" self-ejecting gun, manufactured by F. H. Bourner & Co. (Engrs.) Ltd., of Autodromes, Carlton Road, South Croydon.

Here...



there...

Above right: Canteen, Chrysler Motors Ltd., and Dodge Brothers (Britain) Ltd., Kew, Surrey.
Centre: Inver Court, Bishops Bridge Rd., W.2.
Below right: Nurses' Rest Room, Edgware General Hospital.

Decoration for all three carried out with D.E.C.

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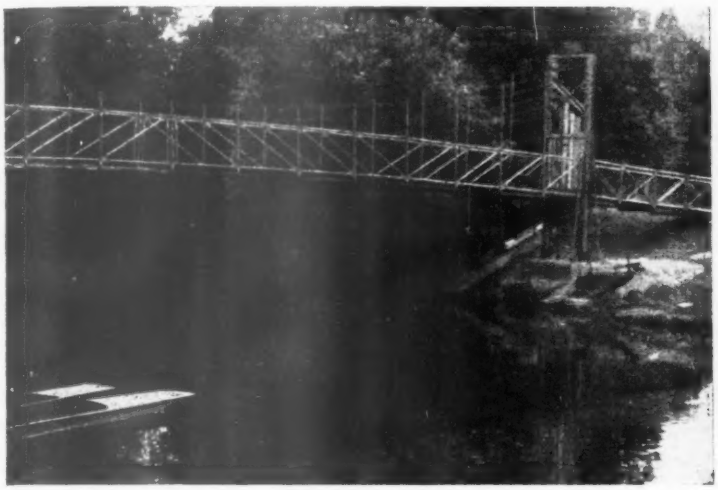
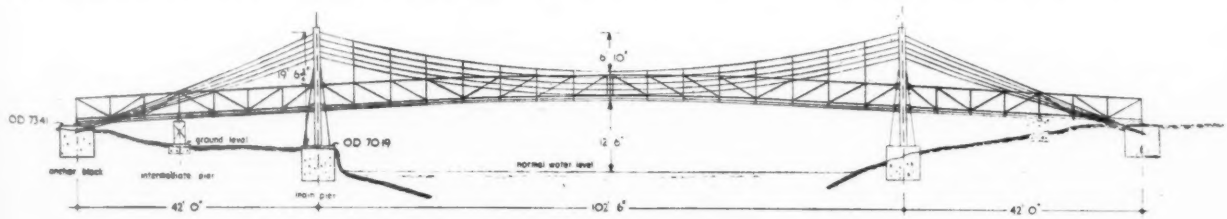
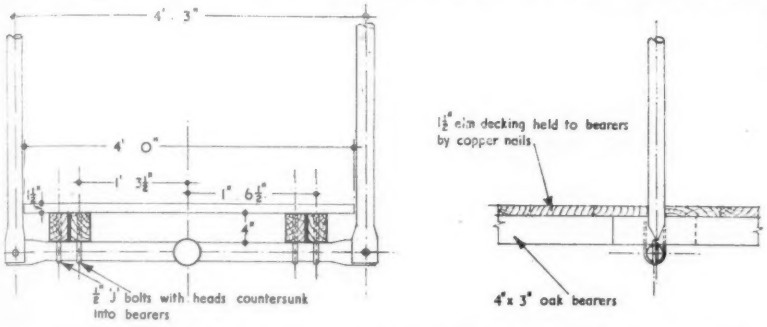
100-FT. SUSPENSION FOOTBRIDGE AT MONKEY ISLAND, BERKSHIRE



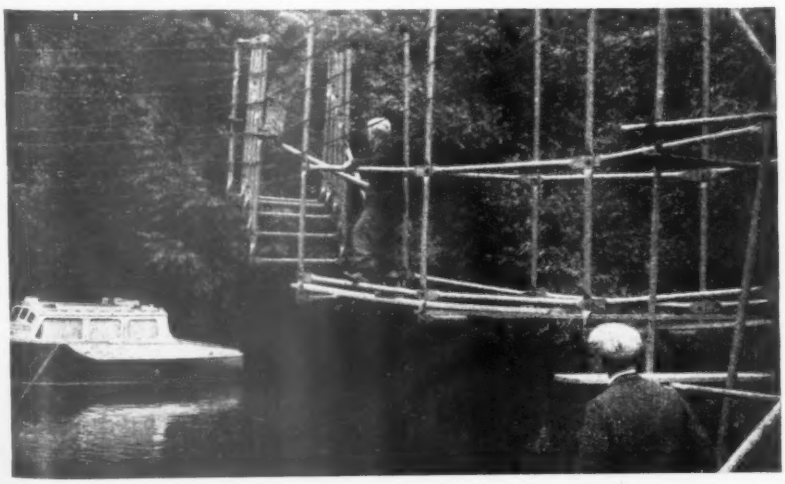
Monkey Island is an island in the Thames about a mile below Bray. It is separated from the Berkshire mainland by a backwater 100 ft. wide at the point from which access to the island is required. The only access hitherto has been by ferry punt, and when the river is high the fall in the bed of the river at the point where the crossing is made causes a very fast current. During the winter of 1950/51 the river was running just below flood level for about five months and the passage by ferry to the island became very dangerous. The problem which the engineer, R. Fitzmaurice, had to solve was to design a footbridge which would span the 100 ft. of backwater at the absolute minimum of expense, owing to the difficulty of obtaining licences for anything but essential works. Several types of bridge were contemplated. Timber, which might well have been practicable, was ruled out on account of cost and scarcity, and it would, moreover, have been necessary to provide a centre pier at a point where the depth of water in summer is 9 or 10 ft. Steel bridges of various kinds were considered but, without resorting to river piers, they would have been very heavy and costly over so long a span. The possibility of using a pre-stressed concrete bridge, with a flat arch, was investigated but, although this would have given a very elegant structure, the cost would have been prohibitive. The final choice was a light suspension bridge. The suspension bridge is almost unique in that the forces in the cables depend on their sag and the total load carried. Since the total load is directly proportional to the span, the forces to be sustained in the structure are only of the first power. In any bridge in the form of a beam, girder or flat arch the forces to be sustained increase as the square of the span and are, therefore, of the second power. Since 100 ft. is a considerable clear span the advantages of the suspension bridge are self-evident. The supporting cables are in five separate strands so that it will be possible to remove cables for replacement whenever it becomes necessary. The problem with any suspension bridge is to provide just sufficient stiffness in the vertical plane to prevent deflection causing alarm to people crossing the bridge. Hence, it was decided to confine the deflection to about 1 in. at the centre under the weight of a party of three or four people crossing at one time. This was an approximation, but, in practice, it has proved satisfactory. The stiffness in the vertical plane is provided by a braced handrail girder consisting of 2-in. standard tubing, flattened and drilled at the various intersections. An elevation of the bridge is shown below and the simplicity of the construction can be seen in the photographs above. The curve of the footway depends on the location of the slips by which the hangers are attached to the suspending cables, and the exact position for all the fixing holes was worked out by co-ordinate geometry. The bridge was fabricated in the contractor's



MONKEY ISLAND FOOTBRIDGE (continued)



workshops and erection was extremely simple. Firstly, the pylons were fixed on concrete bases on each side of the water. Then the cables, which had been made accurately to length, were stretched across and fixed to concrete anchorages at the ends. The shore approaches, which were simple lattice spans using the same handrail girder construction, were then erected. The method of erecting the remainder of the bridge can be seen in the photograph below. The transverse frames for each half span were assembled and clipped to the supporting cables at the shore end, alongside the pylons. All the frames were then pushed out along the cables and the first lengths of the horizontal handrail and footrail were bolted into position. A plank was then extended across the bay just completed. The remaining transverse frames were then pushed out until the next bay could be coupled up. The photograph was taken after several bays had been pushed out in this way; it is interesting to note that this stage was reached only about 1½ hours after the "launching" of the frames. Work took place from both banks, but the two half spans met well within the ⅜-in. tolerance which had been provided for in the connecting link. The bridge took up its predetermined curvature and the diagonal members in the handrail girder were easily slipped into position. The horizontal stiffness of the bridge is provided by the floor system, which consists of 1½-in. elm planks nailed to oak longitudinals (see detail above). The tubes have been hermetically sealed and given a coat of corrosion-inhibiting paint. Galvanized cable was unobtainable and it has been decided to maintain the cables by the periodic use of recently developed corrosion-protecting oils. From the time when the foundations and anchorages were cast, it took four men eight days to erect the whole bridge and there is about 1 ton of steel tube in the suspended span and the approaches. The bridge was fabricated and erected by Willment Bros., Ltd.



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. Headings below.

6.37 planning: social and recreational
SOCIOLOGY

Low Cost Housing in South and South-east Asia. Report of Mission of Experts. Nov. 22, 1950-Jan. 23, 1951. (Department of Social Affairs, United Nations, New York.)

A rapid survey made in India, Indonesia, Pakistan, Thailand, the Federation of Malaya and Singapore by a small mission of experts which included Jacob L. Crane from USA and Robert Gardner-Medwin, from the Department of Health, Scotland. Professor Kayanan, from the Philippines, secretary to the mission, added a chapter on his own country. 211 pages of typescript, including appendices.

In each country visited the urban problems appeared as urgent as the rural. The mission found it necessary to ask for more attention to be paid to the villages. The magnitude of the problem is immense. The mission was informed that more than 100,000,000 Asian families (perhaps as many as 150,000,000) at present live in crowded, insanitary, sub-standard quarters (urban or rural). In many areas humans and animals are housed together within the same walls. In India, Pakistan, Malaya and elsewhere in Asia, millions of refugee families are living in makeshift shacks at a sub-human level.

The mission frequently encountered the belief that there exists somewhere a single method of building houses which would once and for all solve the housing problem. Needless to say, they point out that no such magic formula exists.

About 85 per cent. of the population of the countries and territories visited live in little villages and rural districts.

In general, it appears that a great many of the villages are slums. But it was the dilemma of the big cities that was discussed more often than any other major topic. The mission believes that a planned policy of decentralization (in the form of detached suburban communities or new townships), based on new urban land policies, is the only solution to this problem.

The most important fault in the approach

to the problem in these countries is the fact that nowhere has the problem been viewed as a whole. The mission urges that a consistent policy and programme be drawn up, before houses or communities are designed and constructed on a large scale. In the report is discussed the need for research and training and methods of implementing its recommendations on the basis of "self-aid." The great need these countries have for qualified men is borne out by the statement that there are only 250 architects in India, of whom 150 are in Bombay; as for qualified planners, there are only about 25.

10.93 design: building types
SECONDARY SCHOOLS

Building Bulletin 2A. New Secondary Schools: Supplement. Ministry of Education. (HMSO. 1951. 2s. 6d.)

Supplementary to earlier Bulletin on secondary schools this contains revisions on accommodation and method of determining permitted cost per place. Also contains new ideas on planning and schedules of accommodation, including grammar, technical and comprehensive schools. Essential to all planning secondary schools.

The series of Bulletins previously prepared by the Ministry of Education have been remarkable for their freshness of outlook, clarity and helpfulness, even if all the ideas they contain are not universally accepted.

The great merit of all the previous bulletins was that they gave *in one place* most of the essential planning data required. Presumably, as new ideas develop, it is inevitable that new Bulletins appear, but it makes reference more difficult if one has to look up both the new *and* the original bulletin to get the full information. Bulletin 2A does not make easy reading. It is crammed with facts and figures which must be understood, but it will be difficult to become sufficiently familiar with them to be able to work without constantly referring back to them. This makes the need for back reference to the original Bulletin an added burden. Moreover, one misses in this publication the relief provided by the gay and useful sketches which so enlivened its forerunners.

It is not suggested that the new Bulletin is not useful, or even that it *could* have been made simpler. It is a very good document and shows that the Ministry is continuing its good work of analysing basic problems and passing on its results mainly in the form of general recommendations. This leaves education authorities and their architects wide scope for working out their individual schools to suit their own ideas.

Some of the suggestions made in Bulletin No. 2 for the provision of dining space were not well received. Without actually admitting a change of view the authors of the Supplement do make a number of alternative suggestions and they have made changes in areas to allow for this. The problem of arranging dining facilities is complicated by the fact that it is difficult to estimate how many pupils will be taking dinner at school. The Bulletin does not provide any solution to this problem. The amount of storage accommodation laid down earlier for Modern Schools has been drastically revised, but some sensible suggestions are made which should lead to space economy. Incidentally, the Ministry is now apparently aware of the fact that in order to get *building contract* prices down it is easy to dispense with built-in storage and to leave it to be supplied as "furniture" and, therefore, not included in the cost per place. Clearly this is not really an economy. "Ways of removing this anomaly . . . are being studied." Unfortunately, pending the results of this study, the temptation to cheat remains.

The bulk of the 80-page Bulletin is given over to examples, with much tabulated data, of the ways in which the various sizes of each type of school might be arranged. This will be useful to architects, though it is really of even more value to education authorities who should be able to use these schedules as a means of preparing a proper brief for their architects—incidentally, a thing which some authorities do not do nearly as well as they should.

17.88 construction: general
ECONOMICAL DESIGN

Designing a Structural Frame for Economy. E. L. Gardner (Engineering News Record [USA], Sept. 6, 1951, pp. 34-36.)

Thorough cost analysis of 11-storey, steel-framed hospital building in Rochester, Minnesota, showed how large economies could be made.

While it is difficult to compare American costs with our own, savings in volumes of materials can be compared directly. Certain requirements for the hospital were first established: a structural steel frame which could not be riveted on account of noise nuisance; concrete floors, for fire resistance; a false ceiling space, for trunking. A steel frame was necessary as it is intended to extend the building later. The columns go down to basement slab level and it was found that a considerable saving in steel for the base plates could be effected by using a 4,000 lb./sq. in. plain concrete pad, giving a high bearing stress. The lower columns were mainly of high strength steel.

Concrete floors of T-beam section spanning on to the steel beams proved to be the best solution to the flooring problem. Lightweight concrete was considered but the high density required to obtain the necessary strength largely offset the saving in the weight of the steel frame. More cement per cu. yd. of mixed concrete would have been required and the transport costs to bring the lightweight aggregate to the site compared unfavourably with the cost of transporting local aggregate.

It proved economical to support the floor slab on a shelf angle riveted to the girders, rather than to introduce carpenters to case the beam soffites. The fireproofing consists of rendering on steel mesh wrapped round the lower part of the beam. Much use was made of aluminium for framing and for the linings to windows, and lightweight blocks, 8 in. thick, were used for insulation behind the stone facing.

Comparisons were made of the cost of welded and riveted construction for a typical floor and, despite considerations of rigidity, the weight of steel which would have been saved by using a welded frame was not sufficient to merit its use. Rivets, turned bolts, welding and high-tensile bolts were all considered. High-tensile bolts were used because of the high frictional resistance between the faces of a joint made by using these bolts. They were made of steel with a yield point of 90.000 lb./sq. in. and were tightened to a torque determined by calibrated hand wrenches.

18.97 construction: theory
RIGID FRAME STRUCTURES

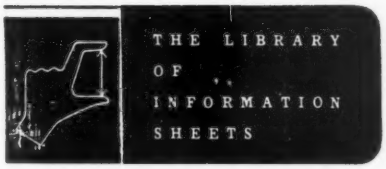
Rigid Frame Structures. A. Kleinlogel (Frederick Ungar Publishing Co., New York. 1952. 10S.)

Translation from the 11th Edition of "Rahmenformeln." Gives ready-to-use formulæ for reactions, shears and moments for 114 single-span, rigid-frame shapes, subjected to 19 different loadings. The rigid frames can be used as units in dealing with cases of more highly-indeterminate structures. Valuable addition to office library of architect and engineer.

19.147 construction: details
TIMBER FLOORS

Timber Suspended Ground Floors. J. R. M. Poole. (Wood. Feb. 1952.)

Suggested new construction for suspended ground floors. Claims to be slightly cheaper than solid floor construction though does not say what floor finish this comparison includes. Very simple construction. Illustrated by diagrams.



19.Z10 *REFERENCE BACK*

Readers are asked to note the following revision and to amend their copy of the Information Sheet in question: The backing strips shown may now be obtained in plastic in the same sizes and having the same properties and colours as the tread inserts. Larger-sized strip up to a maximum of 5 in. by ¼ in. can be supplied.

SUB-CONTRACTORS' DISCOUNTS

The managing director of a firm of specialist sub-contractors has responded to our request for comments on the article by J. E. Cooke (JOURNAL *for March 13, 1952*). *He agrees wholeheartedly with Mr. Cooke, mentions further disadvantages of the present relationship between sub-contractors and general contractors, and puts forward three suggestions for improving the situation.*

As a specialist sub-contractor, I agree with the contention, put forward in J. E. Cooke's article, that the inclusion of a discount for the general contractor in the sub-contractor's price means a higher contract price without benefit to the client or to the sub-contractor. But my experience is that even when a general contractor is so dilatory with his payments that we are left in little doubt that he is using the money he should have passed on to us as part of his own working capital, he will still, when he finally does pay us, deduct the 2½ per cent. discount.

PAYMENT BY THE GENERAL CONTRACTOR

But there are other factors in this contractual relationship between the general contractor and nominated sub-contractor which increase the cost to the employer of the specialist's work. One is the requirement that the sub-contractor must look to the general contractor for payment. This involves us in a credit risk which is quite unnecessary and must be reflected in our price.

It is true that the RIBA form of contract, in clause 21(c), gives the architect the power to protect the sub-contractor, to some extent, from a defaulting general contractor, by requiring the general contractor to produce, "*if requested by the architect,*" reasonable proof that all nominated sub-contractors' accounts included in previous certificates have been duly discharged, in default whereof the employer *may* pay the sub-contractor direct and "deduct the amount so paid from any sums otherwise payable to the contractor." But even this "protection" cannot be relied on in practice by the sub-contractor because clause 21(e) says that the employer is not to be rendered "in any way liable to any nominated sub-contractor." So the apparent protection of the sub-contractor is valueless.

I speak with experience. Last year we wrote off over £900 as bad debts incurred on two contracts for local authority housing on which we were nominated sub-contractors. Of course, we had no word in the selection of the general contractors, but we relied on the protection the architect could, and we believed would, give us under clause 21(c). When the general contractors became in arrears with their payments to us we applied to the architects for direct payment to us by the employers as provided for in the RIBA contract. This was refused.

In both cases, when the general contractors finally went into liquidation, we applied again for payment direct and were again refused because, to quote one of the borough architects in question, "the Town Clerk reports that in certain circumstances the Borough Council might be involved in a loss."

GUARANTEED PAYMENTS OR DIRECT PAYMENT

However, not all local authorities are so inconsiderate. One county authority for whom we have done a considerable amount of work makes it a condition that the contractor must satisfy the architect that he has paid all sums to nominated sub-contractors covered by one certificate before he is entitled to claim another. And a county architect for whom we have worked, whilst placing us under the authority of the general contractor in respect of our work, always pays us direct. This scheme works perfectly well. We work to the general contractor's programme just as we would if he paid us himself, and there is no risk of our relations with him being spoilt by our having to threaten (as we have on some jobs) that we will not deliver any more materials until we have been paid what is due to us under certificates issued by the architect to cover work already done.

Architects who offer us direct and prompt payment by the employer, thereby protecting us against the risk of financial loss or indefinite delay in the payment of our accounts, are entitled to be quoted a lower price than those who will not or cannot give us any assistance if the contractor of their choice neglects to pay under the terms of the contract.

THE RETENTION PERIOD

Another factor which helps to keep prices for sub-contract work higher than they need be is the way the "six months" retention period operates. We do not mind a six months' retention period on our work as a guarantee of quality because this is a custom of the building trade, although surely a letter from a reputable firm undertaking to correct any defects appearing within six months is a far less cumbersome way of protecting the client than retaining a portion of the contract sum which represents any profit the sub-contractor may make. But, in practice, we often wait as long as eighteen months or two years for our final payment because our six months starts, not from the time we finish our work, but from the time the general contractor (or perhaps some other nominated sub-contractor) finishes the last coat of polish on some final article of equipment not remotely connected with us. In one case, the retention period did not even commence until the landscaping, which was part of the general contract, was finished.

Our account may be held up still longer because the quantity surveyor cannot reach final settlement with the contractor on something else which is no concern of ours or, as in one case we have on hand at the moment, because the general contractor has got his accounts into a muddle and cannot decide what his final claim ought to be.

So we have to incur quite unnecessary bank charges which must be reflected in our prices, and the tying up of our working capital hinders our plans for expansion and better service.

I make, therefore, the following suggestions to architects who are working for clients of impeccable financial standing, such as local authorities:

i. Relieve your nominated sub-contractor of unnecessary credit risks by arranging for him to be paid direct on your certificate.

ii. Relieve him of the liability of having to wait from eighteen months to two years for his profit, by arranging that his liability to retention money shall cease six months after his work is finished to your satisfaction and not six months after the general contractor has handed over the key.

iii. Tell your proposed sub-contractor that these conditions will apply to any order placed with him as a result of his tender and then ask him for his best net price.

It is my view that you will get quotations at least 5 per cent. lower than you get under the present system. Your client, it is true, will have to write a few smaller cheques for each of your monthly certificates instead of only one large one and file several receipts instead of one, but that will not cost him 5 per cent. Your general contractor will be relieved of a lot of irksome book-keeping and have more time to concentrate on efficient building.

If your sub-contractor is dealing with scarce materials and is faced with the problem of either promoting work on a site where he knows he will be paid promptly and in full or on a site where his payments are already in arrears and his hopes of final settlement are measured in years and not in months, is there any doubt, human nature being what it is, which site will get the best service?

Buildings Illustrated

Department of Civic Design, Liverpool School of Architecture, at 76, *Bedford Street, Liverpool.* Architect: Professor Gordon Stephenson, F.R.I.B.A., M.T.P.I. Assistant architect: Norman Kingham, A.R.I.B.A. Quantity surveyors: Eric Thornely & Partners. Clerk of works: Russell Folk. General Foreman: Robert Jones. General Contractor: Wm. Tomkinson & Sons Ltd. Sub-contractors: dampcourse, William Briggs & Sons Ltd.; reinforced concrete (pre-cast floors), Trucson Ltd.; artificial stone, Pearson Bros. & Campbell Ltd.; structural steel, Redpath Brown & Co. Ltd.; hardwood windows, William Thornton & Sons Ltd.; glass, Hill Lambert & Co.; patent glazing, Williams & Williams Ltd.; tiles and terrazzo, Conways Ltd.; patent flooring, Granwood Flooring Co. Ltd.; central heating, Granwood Flooring Co. Ltd. (heating department); electrical wiring, Merseyside & North Wales Electricity Board; electric light fixtures, Merchant Adventurers Ltd.; plumbing, Merseyside Plumbing Co. Ltd.; sanitary fittings, Musgraves (Liverpool) Ltd.; stair-treads, tiling, Conways (Tiles & Terrazzo) Ltd.; door furniture, Chubb & Sons Lock & Safe Co. Ltd.; casements, Wm. Thornton & Sons Ltd.; window furniture, Chubb & Sons Lock & Safe Co. Ltd.; bells, The Merseyside & North Wales Electricity Board; iron staircase, Quiggin Bros. Ltd.; sunblinds, J. Avery & Co. Ltd.; decorative plaster, Decorators Ltd.; metalwork, J. R. Pearson (Birmingham) Ltd.; joinery, Wm. Tomkinson & Sons Ltd.; wallpapers, Cole & Sons (Wallpapers) Ltd., Arthur Sanderson & Sons Ltd.; furniture, Scottish Furniture Manufacturers Ltd., Gordon Russell Ltd., Ernest Race Ltd.; garden furniture, Race Furniture Ltd.; shrubs and trees, Bees Ltd.; clocks, Merseyside & North Wales Electricity Board.

Announcements

Messrs. D. M. Doig, Crone & Smith, F./F./A.R.I.C.S., chartered surveyors, have moved to new premises at 144, Wellington Street, Glasgow, C.2. (Tel.: Douglas 8907-8-9.)

Messrs. James & Bywaters (Mr. C. H. James, F.R.I.B.A., and Mr. S. F. Bywaters, F.R.I.C.S.) have taken into partnership two of their assistants, Mr. B. J. Saunders, A.R.I.B.A., and Mr. D. Le M. Brock, B.ARCH., A.R.I.B.A., DIP.C.D. (L'POOL). The name of the firm, at 5, Bloomsbury Street, W.C.1, is unchanged.

The MOW has removed price-control from plasterboard, gypsum rock, building plasters, sanitary fireclay, asbestos cement, lead sheet and pipe, sanitary earthenware, cement (ordinary Portland and rapid hardening), and certain types of flat glass.

William Mallinson & Sons, Ltd., the timber and veneer merchants and plywood manufacturers, of 130-150 Hackney Road, London, E.2, announce that their telephone number has been changed to Shoreditch 7654 (10 lines).

Mr. F. C. Lynam, F.R.Ae.S., Technical Director of The Airscrew Company and Jicwood Limited of Weybridge, Surrey, has been appointed General Manager of the company. Mr. Lynam, who joined the board in 1946, was apprenticed as a naval architect, joined Metal Propellers Ltd. in 1928, and was appointed Technical Assistant to The Airscrew Co. Ltd. in 1934.

Mr. Arnold P. Holdsworth, F.R.I.C.S., chartered quantity surveyor, has changed his Sheffield office address from 281, Glossop Road, to 73, Bower Road, Sheffield, 10.

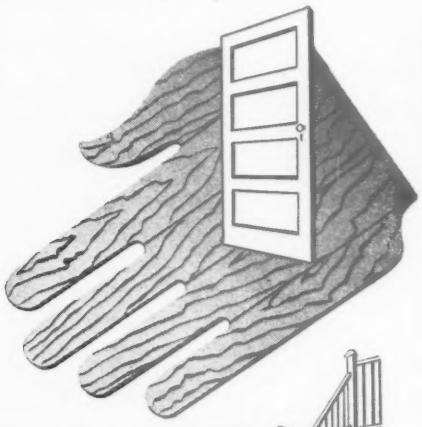
In response to a heavy demand from overseas buying houses and exporters in Britain for this year's advance editions of the British Industries Fair catalogue, the Fair organizers have printed an extra 5,000 copies for sale at 3s. 6d. each post free. It has been arranged, for the first time, that final editions of the catalogue will be available in advance of the official opening of the BIF on May 5. They may be obtained from the BIF Press Office, Board of Trade, Lacon House, Theobalds Road, W.C.1.

The Department of Health (P.O. Box 5013, Wellington, New Zealand), is engaged on a large programme of hospital building work, due to the steadily increasing population and consequent demand on medical services. This requires a great deal of research and collection of information on all aspects of hospital design, materials, equipment and engineering and building services. (Plastics are receiving close attention at present.) The Department would be pleased to receive any literature from the building industry, merchants and manufacturers in Britain concerned with these matters.

The Annual Report, 1951, of the Architects' Registration Council of the United Kingdom has now been published, and can be obtained from the Council at 66, Portland Place, London, W.1.

Correction

In the report of the ICE discussion on prestressed concrete (JOURNAL for March 20, p. 377) it was stated that " for normal spans, prestressed composite floors are as cheap as those of reinforced concrete and require only two-thirds as much steel." The last part of this sentence should have read " . . . and require only *one-third* as much steel."



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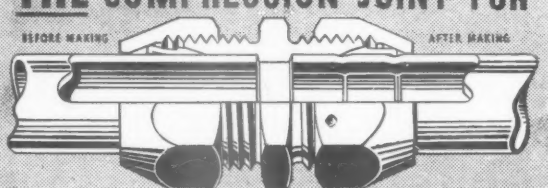

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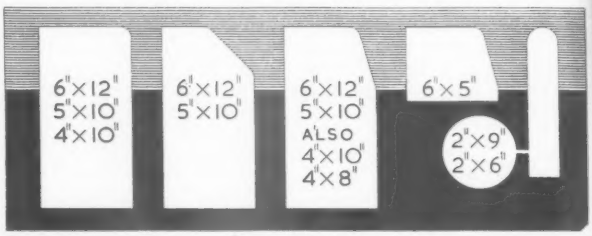

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Mr Ernest Marples, M.P., Parliamentary Secretary to the Ministry of Housing, went to Olympia yesterday to see how the new People's Houses are being built there—as part of the model village at the *Daily Mail* Ideal Home Exhibition. He particularly liked the apparent luxury of flush doors, which will, in fact, be mass-produced cheaply—standard comparatively low (6in.), the absence of awkward angles throughout the house, the large living-room.

21 February 1952

Daily Mail

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Heating and Air Conditioning of Buildings, by Oscar Faber and J. R. Kell (45s.)	35s. 0d.
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The Countryman at Work, by Thomas Hennell (12s. 6d.)	9s. 0d.
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The Modern Flat, by F. R. S. Yorke and Frederick Gibberd (35s.)	26s. 6d.
The Modern House in England, by F. R. S. Yorke (21s.)	15s. 0d.
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A Miniature History of the English House, by J. M. Richards (4s. 6d.)	3s. 6d.
The Architecture of England, by Frederick Gibberd (7s. 6d.)	5s. 6d.
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The Home of Man, by Le Corbusier and Francois de Pierrefeu (10s. 6d.)	7s. 6d.
Towards a New Architecture, by Le Corbusier (15s.)	11s. 6d.
The Architecture of Denmark, by seven contributors (12s. 6d.)	9s. 0d.
The Adventure of Building, by Clough Williams-Ellis (10s. 6d.)	7s. 6d.

An illustrated catalogue giving full descriptions of these books will be sent post free. It should, however, be borne in mind that only a few soiled copies of each title are available and that orders will be dealt with in strict rotation. Readers are therefore urged to send their orders at once

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CLASSIFIED ADVERTISEMENTS

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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.

BOROUGH OF STRATFORD-UPON-AVON.
APPOINTMENT OF ASSISTANT ARCHITECT.

Applications are invited for the above appointment at a salary in accordance with A.P.T., Grade Va (£600-£660 per annum) of the National Scale of Salaries.

Applicants should be Registered Architects or hold equivalent qualifications and preference will be given to those experienced in the design of housing schemes and in the maintenance and adaptation of Local Authority buildings.

The Council will be prepared to provide housing accommodation for the successful applicant, if married.

Conditions of the appointment and forms of application may be obtained from the undersigned to whom completed forms should be returned not later than Thursday, 10th April, 1952.

P. C. SMART, A.M.I.C.E.,
Borough Engineer.

Municipal Offices,
Stratford-upon-Avon. 6568

LONDON COUNTY COUNCIL.

Vacancies for ASSISTANTS (salaries up to £696) for preparation of specifications and estimates for painting and repairs to Voluntary Schools. A.R.I.C.S. essential. Application forms from Architect, County Hall, S.E.1, quoting AR/EK/VS/2. (305) 6606

BOROUGH OF WATFORD.
APPOINTMENT OF ASSISTANT ARCHITECT.

Applications are invited for the above appointment, at a salary within Grade A.P.T., VI, with commencing salary according to qualifications and experience.

Application forms may be obtained from the undersigned, to whom they must be returned by 15th April, 1952.

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

F. C. SAGE.
Borough Engineer, Surveyor and Architect.

Town Hall, Watford.
March, 1952. 6585

CITY AND COUNTY OF THE CITY OF LINCOLN.
CITY ARCHITECT'S DEPARTMENT—ARCHITECTURAL ASSISTANT.

Applications are invited for this appointment dealing with Housing, Schools and general architectural work. Salary: National Joint Council Scale, A.P.T., V (£570-£620). The appointment is superannuable.

Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made, should be delivered to R. R. Alexander, A.R.I.B.A., M.T.P.I., City Architect, Stamp End, Lincoln, not later than 14th April, 1952.

Canvassing, either directly or indirectly, will disqualify.

J. HARPER SMITH,
Town Clerk.

Town Clerk's Office, Lincoln.
25th March, 1952. 6614

COUNTY OF LINCOLN—PARTS OF KESTEVEN.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of HEATING AND ELECTRICAL ENGINEER, in the County Architect's Department, at a salary within A.P.T., Grade VI (£645×£20×£25—£710 per annum), according to qualifications and experience.

Applicants must be experienced in the design and installation of Heating and Electrical Schemes. Preference will be given to Corporate Members of the Institute of Heating and Ventilation Engineers.

Travelling allowance for an 8 h.p. car and subsistence allowances will be paid on the National scales. The Council cannot offer housing accommodation, but will consider a lodging allowance to a married man for a period up to six months whilst he is living away from his family.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, to a satisfactory medical certificate, and to one month's notice on either side.

Applications, stating age, qualifications, present appointment and previous experience, together with the names and addresses of two referees, should reach the undersigned not later than the 18th April, 1952.

J. E. BLOW.
Clerk of the County Council.

County Offices, Sleaford, Lincs.
24th March, 1952. 6615

BIRKENHEAD EDUCATION COMMITTEE.
BIRKENHEAD TECHNICAL COLLEGE.

Applications are invited for the post of HEAD OF DEPARTMENT OF BUILDING (GRADE I). Applicants should be members of a Senior professional Institution and have had teaching and industrial experience. The appointment dates from 1st September, 1952. Salary in accordance with Burnham Technical Scales. Application forms and further particulars may be obtained from the undersigned at 63, Hamilton Square, Birkenhead, to whom applications should be returned by 21st April.

H. GLYN WILKINSON,
Director of Education.
6616

CITY OF COVENTRY.
ARCHITECTURAL AND PLANNING DEPARTMENT.

Applications are invited for the following appointments in the Section of the Department primarily responsible for the Council's housing programme:—

(*a*) ONE ASSISTANT ARCHITECT, Grade A.P.T. VIII (£735×£25—£810). Applicants should have particular skill and interest in design; previous experience in housing will not be considered an essential but some evidence of capabilities in general design will be required.

(*b*) ONE ASSISTANT ARCHITECT, Grade A.P.T. VI (£645×£20/£25—£710).

Housing accommodation may be made available in certain circumstances.

All employees are expected to belong to an appropriate organisation as referred to in Paragraph 44 of the N.J.C. Conditions of Service.

Applications in writing, giving the names of two persons to whom reference may be made, should be received not later than Tuesday, 15th April, 1952.

D. E. E. GIBSON,
City Architect and Planning Officer.

Bull Yard, Off Warwick Row,
Coventry. 6617

BRITISH ELECTRICITY AUTHORITY.
MIDLANDS DIVISION.

GENERAL ASSISTANT ENGINEER required in the Chief Generation Engineer's (Construction) Department at Wolverhampton. National Joint Board service conditions, superannuable appointment, salary within Schedule C, Class AX/DX, Grade VIII (£481-£674 per annum).

Candidates should hold Higher National Certificate in Mechanical Engineering and have had experience in design and installation of mechanical equipment for power stations and industrial works and/or a knowledge of boiler and turbine design in the Contracts Department of a large engineering works.

Forms of application available from Establishments Officer, 53, Wake Green Road, Moseley, Birmingham, 13, to be returned by 19th April, 1952.

F. W. LAWTON.
6618

LIVERPOOL REGIONAL HOSPITAL BOARD.

Applications are invited from suitably qualified persons for appointment of ASSISTANT QUANTITY SURVEYOR in Regional Architect's Department, at 88, Church Street, Liverpool, 1.

Applicants should have passed the Intermediate examination of the Royal Institute of Chartered Surveyors (Quants. Sub-Division) and should have had considerable experience in a Quantity Surveyor's Office in working up, abstracting and billing, measuring and adjusting variations; settling contractors' final accounts and some experience in taking off is essential.

Salary £520×£15/£20—£570 per annum. The successful candidate may be required to pass a medical examination.

Applications stating age, education, qualifications, experience and present and previous appointments, with the names and addresses of three referees should reach the undersigned at 19, James Street, Liverpool, 2, by 17th April, 1952.

VINCENT COLLINGE,
Secretary to the Board.
6624

SOLIHULL URBAN DICTRICT COUNCIL.
APPOINTMENT OF ARCHITECTURAL ASSISTANTS, A.P.T. GRADES VII and Va.

Applications are invited from suitably qualified persons for the following appointments in the Architect's Section of the Engineer and Surveyor's Department:—

(*a*) Architectural Assistant. A.P.T., Grade VII (£685×£25—£760).

(*b*) Architectural Assistant. A.P.T., Grade Va (£600×£20—£660).

The appointments are superannuable and terminable by one month's notice on either side.

The successful candidates will be employed upon the education programme, which includes a new grammar school and two other schools to be commenced in 1952/53, and a large number of other new schools to be built in the immediate future.

The Council will endeavour to assist in the provision of housing accommodation if required.

Information regarding Solihull and the work of the Architect's Section of the Department may be had on application to the Engineer and Surveyor, 90, Station Road, Solihull, to whom applications stating age, qualifications and experience are to be submitted, together with the names of three persons to whom reference can be made, not later than Wednesday, 16th April, 1952.

W. MAURICE MELL,
Clerk of the Council.

Council House, Solihull,
Warwickshire.
27th March, 1952. 6630

AIR MINISTRY WORKS DEPT.
ARCHITECTURAL DESIGNER/DRAUGHTSMEN required in Designs Branch by Air Ministry Works Department. Applicants should have had several years' experience in the preparation of working drawings, details and layouts for permanent and semi-permanent buildings. Vacancies are mainly in London, but there are some in the provinces. Salaries are on ranges up to £675 per annum, with starting pay dependent upon age, qualifications and experience. Applications, stating age, qualifications, previous appointments (with dates), should be sent to the nearest local Employment Exchange. 5162

COUNTY BOROUGH OF BARROW-IN-FURNESS.
BOROUGH ENGINEER AND SURVEYOR'S DEPT.
APPOINTMENT OF CHIEF ARCHITECT.

Applications are invited from qualified Architects with wide Municipal experience for the post of Chief Architect, on Grade A.P.T., IX (£790-£910 per annum). The commencing salary will be fixed within the grade, and a suitable candidate may be appointed at the maximum.

A car allowance in accordance with the N.J.C. scales will be paid.

The Council has accepted the principle of providing housing accommodation.

Full details of the post, conditions of appointment, and application forms may be obtained from the Borough Engineer and Surveyor, to whom completed forms must be returned not later than Monday, 14th April, 1952.

LAWRENCE ALLEN,
Town Clerk.

Town Hall, Barrow-in-Furness.
19th March, 1952. 6607

NATIONAL COAL BOARD—SOUTH-WESTERN DIVISION.

Applications are invited for the following appointments in the Divisional Architect's Department, National Coal Board, South-Western Division, Cambrian Buildings, Mount Stuart Square, Cardiff.

(*a*) ARCHITECTURAL ASSISTANT, Grade II. Salary £400×£20—£500. Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects within the last three years, and have had experience in the preparation of sketch plans, detail drawings, etc.

(*b*) QUANTITY SURVEYORS, Grade I. Salary £855×£55—£1,100. Applicants should be Professional Associates of the Royal Institution of Chartered Surveyors (Quantities Section) with considerable experience in the preparation of estimates, specifications, bills of quantities, measuring up and adjustment of final accounts.

(*c*) QUANTITY SURVEYING ASSISTANTS, Grade I. Salary £475×£25—£650. Applicants should have passed the Intermediate Examination of the R.I.C.S. (Quantities Section) at least three years ago, and have experience in working up, measuring on site, and checking accounts.

(*d*) QUANTITY SURVEYING ASSISTANTS, Grade II. Salary £400×£20—£500. Applicants should have passed the Intermediate Examination of the R.I.C.S. (Quantities Section) within the last three years, and have experience in working up and checking accounts.

The appointments are subject to the provisions of the Board's Superannuation Scheme, and the point of entry into the relevant scale will depend upon qualifications and experience.

Applications, in writing, stating age, education, qualifications, experience, previous and present appointments and present salary, accompanied by copies of two recent testimonials and the names and addresses of two referees, should be delivered to the Divisional Establishment Officer, National Coal Board, South-Western Division, Cambrian Buildings, Mount Stuart Square, Cardiff, within 14 days of the publication of this advertisement.

Applicants should state clearly the appointment for which application is made. 6609

NATIONAL COAL BOARD.
SOUTH WESTERN DIVISION.

Applications are invited for posts as QUANTITY SURVEYORS, GRADE II, in the Divisional Architect's Department, National Coal Board, South Western Division, Cambrian Buildings, Mount Stuart Square, Cardiff.

Applicants should be Professional Associates of the R.I.C.S. (Quantities Section), with experience in the preparation of estimates, bills of quantities, measuring up, and adjustment of final accounts. Salary: £575×£25—£650×30—£900 per annum.

The appointments are subject to the provisions of the Board's Superannuation Scheme and the point of entry into the relevant scale will depend upon qualifications and experience.

Applications, in writing, stating age, education, qualifications, experience, previous and present appointments, and present salary, accompanied by copies of two recent testimonials and the names and addresses of two referees, should be sent to the Divisional Establishment Officer, National Coal Board, South Western Division, Cambrian Buildings, Mount Stuart Square, Cardiff, within 14 days of the publication of this advertisement. 6633

LONDON COUNTY COUNCIL.

Vacancy for temporary RESIDENT ENGINEER at Kidbrooke Comprehensive High School, Greenwich. Experience in modern reinforced concrete work and site experience essential. Consulting Engineers: Ove Arup & Partners. Duration approximately 12 months. Salary up to £837 10s. Application form from The Architect, County Hall, S.E.1, quoting AR/EK/KRE/2. (324) 6632

DERBYSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

QUANTITY SURVEYORS. A.P.T., Grade VII (£685×£25—£760 per annum).

Particulars to be obtained from F. H. Crossley, County Architect, St. Mary's Gate, Derby, not later than 8th April, 1952.

These posts are excepted from the Notification of Vacancies Order, 1952.

3rd April, 1952. 6626

COUNTY COUNCIL OF NORTHUMBERLAND.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for post of ASSISTANT ARCHITECT (A.P.T., Grade VIII) on the permanent staff of the Department.

The appointment will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Acts. The successful candidate will be required to pass a medical examination.

Application, stating age, qualifications and previous experience, accompanied by recent testimonials, should be forwarded to the County Architect, County Hall, Newcastle-upon-Tyne, within ten days of the date of this advertisement. 6634

FIFE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the post of ARCHITECTURAL DRAUGHTSMEN, at salary £375×£20—£455 or £405×£20—£505 per annum, according to experience. Candidates must have experience in an Architectural Drawing Office, and be quick and accurate Draughtsmen. Applications stating age and experience and enclosing copies of testimonials to be lodged with the Manager, Ministry of Labour and National Service, Preston Lodge, Cupar, not later than 11th April, 1952.

J. M. MITCHELL,
County Clerk.

County Buildings, Cupar, Fife.
26th March, 1952. 6631

BOROUGH OF OSSETT.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the above permanent appointment in the Borough Surveyor's Department at a salary in accordance with A.P.T., Grade VI (£645-£710 per annum).

Candidates should hold a recognised architectural qualification and should have had experience in housing work with a Local Authority.

The appointment will be subject to the National Conditions, the provisions of the Local Government Superannuation Act, 1937, one month's notice on either side and the passing of a medical examination. Housing accommodation will be made available to the successful candidate if required.

Applications in envelopes endorsed "Architectural Assistant," giving details of age, qualifications and experience, together with the names and addresses of three persons to whom reference may be made, are to be addressed and delivered to the undersigned not later than Monday, the 21st April, 1952.

Candidates must declare their relationship, if any, with any member or senior official of the Council.

Canvassing in any form will disqualify.

B. FREEMAN,
Town Clerk.

Town Hall, Ossett.
27th March, 1952. 6625

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.

ASSISTANT wanted for Architect's Branch Office at Andover, Hants. Must have had three or four years' training. Box 6556.

ARCHITECTURAL ASSISTANT (SENIOR) required for Plymouth office. General experience, including Shops, Domestic and Industrial. Reply, giving details of experience, age, salary, and when available. Box 6588.

PROMINENT London Contractors, designers of non-traditional house construction, have vacancy for SENIOR ASSISTANT ARCHITECT. A post for a young office trained A.R.I.B.A. interested in constructional problems. Salary £650 per annum, or according to ability. Write Box AC70894, Samson Clark, 57/61, Mortimer Street, W.1. 6587

EXPERIENCED SENIOR required in Architect's Department in City. Qualified office trained man of about 35/40 preferred. Must be used to good class work and taking charge from sketch plan to final account for both new and maintenance works. Secure future for suitable applicant. State complete details of past work also age and salary required. Box 6599.

SENIOR ARCHITECTURAL ASSISTANT required immediately. Good salary and prospects; 5-day week. Write to Messrs. J. M. Sheppard & Partners, 38, Bedford Place, W.C.1, giving particulars of age, qualifications, experience and salary required. 6597

EXPERIENCED ASSISTANT wanted. Please apply in writing to Raymond Erith, F.R.I.B.A., 5, Queen Street, Ipswich. 6629

ARCHITECTURAL ASSISTANT aged about 30 urgently required, experienced in reinforced concrete, multi-storey building design and detailing; 12 months contract Saudi Arabia. Good salary, free air-conditioned accommodation and messing. Write Box AJ 542, L.P.E., 110, St. Martin's Lane, W.C.2. 6628

ARCHITECT'S JUNIOR ASSISTANT required, up to Intermediate standard. Work consists of road passenger schemes of various descriptions. Apply in writing to: Alan A. Briggs, F.R.I.B.A. Chartered Architect, 10, Fleet Street, London, E.C.4. 6621

SENIOR ARCHITECTURAL ASSISTANT wanted for busy private practice. Large-scale high-class work. Administrative ability looked for. State age, training, experience, present salary. Herbert J. Rowse, F.R.I.B.A., Martins Bank Building, Liverpool, 2 6620

ARCHITECT'S ASSISTANT required immediately. Flat available if required. Gotch, Saunders & Surridge, Bank Chambers, Kettering. Telephone: Kettering 3165/6. 6612

Architectural Appointments Wanted

WOMAN ARCHITECT, A.R.I.B.A., A.A.Dipl., 18 months' office experience, ½ scale plans and working drawings, secretarial training, seeks work in London area or provinces. Box 415.

LADY ASSISTANT, A.R.I.B.A., 3 years' office experience, desires full- or part-time position in London area. Box 417.

ARCHITECT, A.R.I.B.A., seeks a permanent part-time situation. Box 6623.

A.R.I.B.A., 10 years' extensive experience in private practice, seeks Senior position with firm in Midlands. Box 422.

ASSISTANT (Inter. R.I.B.A., testimonies accepted for Final), 10 years' practical experience in all class of work. Neat and accurate draughting of working drawings, and details, original designing, surveying, supervision, etc. Salary required: A.P.T., IV, range. Box 423.

ARCHITECT (35 years old), office trained, with 19 years' varied experience, desires permanent progressive post in or near London. Box 421.

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.

JUNIOR DRAUGHTSMAN required in the Architect's Department of a large multiple firm, experience in surveys and shopfitting an advantage. 5-day week; staff canteen. Write stating age, experience and salary required to Box 6636.

Services Offered

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DRAWING OFFICE to let in S.W. London district, on main road, 10 mins. to Victoria. One small office for executive, fully furnished, and large drawing office for 4 assistants, complete with all modern equipment. Telephone. Rent £78 per annum. All furniture and fittings £350. Principals only. All enquiries to Box 6635.

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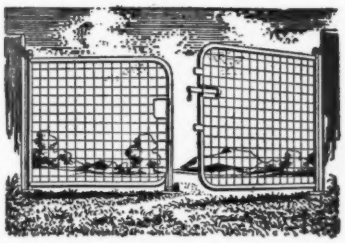

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