The Architects' JOURNAL for April 17, 1958

THE ARCHITECTS' JOURNAL

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THE ARCHITECTURAL PRESS

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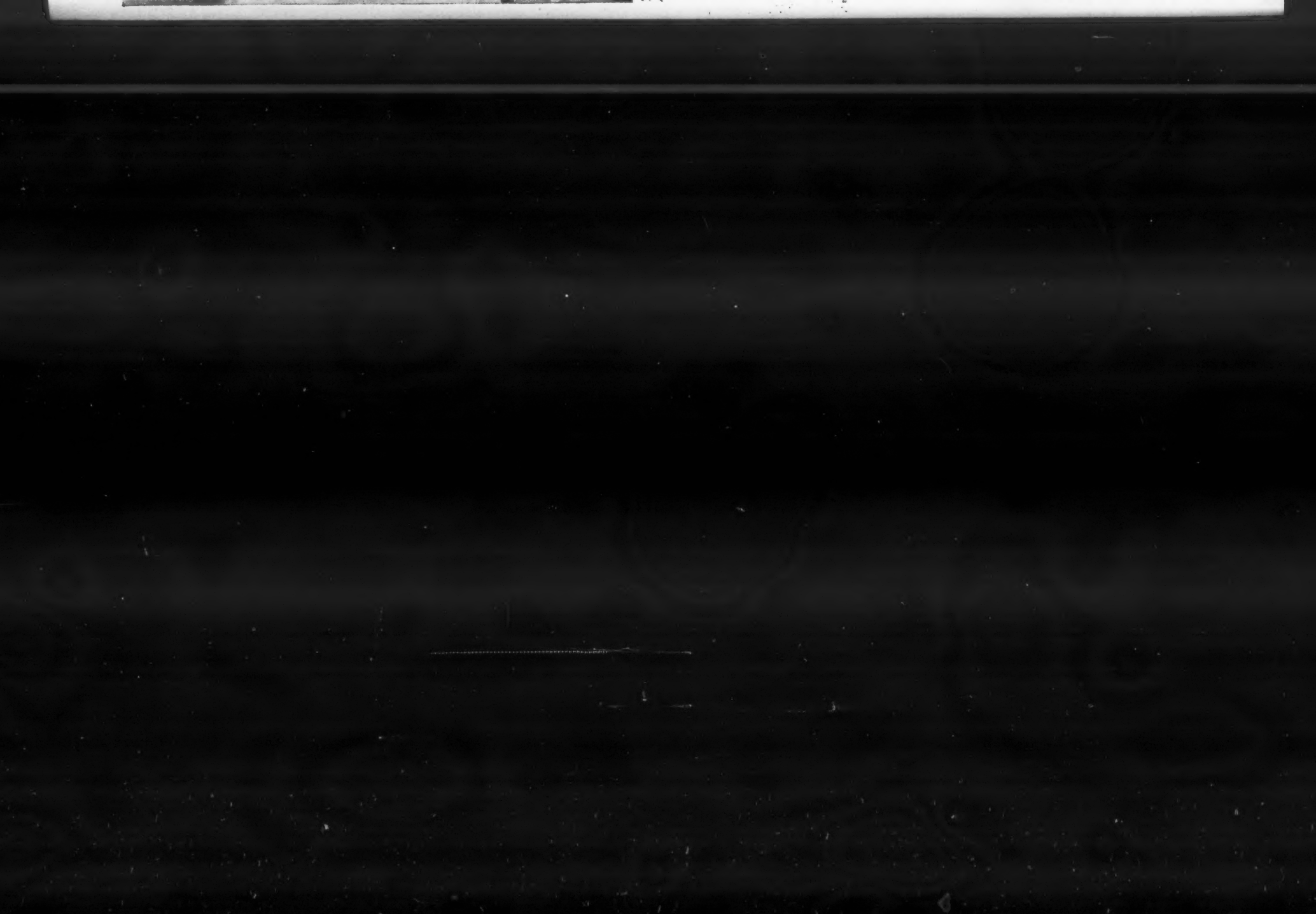
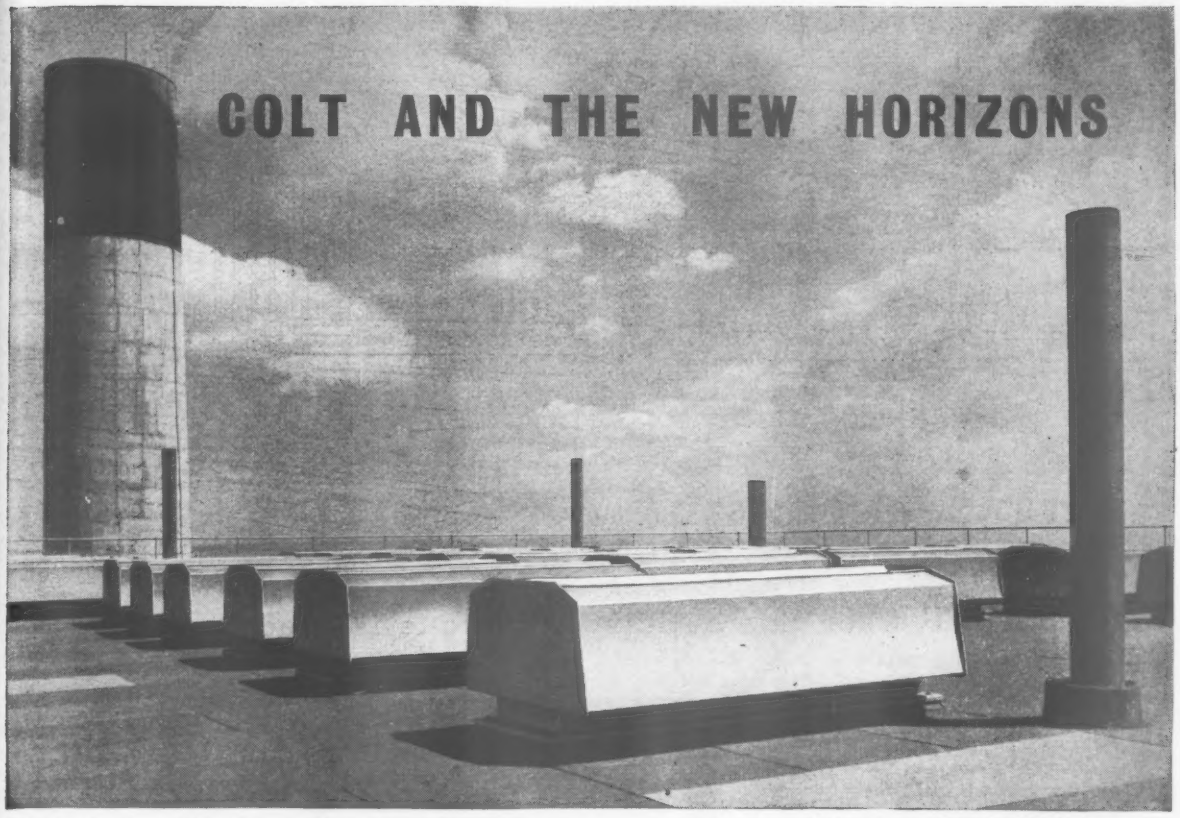
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square.	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1.	Mayfair 7086
ILA	Institute of Landscape Architects, 2, Guilford Place, W.C.1.	Holborn 0281
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7179
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1.	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
LDA	Lead Development Association. 18, Adam Street, W.C.2.	Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1.	Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service. 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record, 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers, 10, Storey's Gate, S.W.1	Abbey5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2.	Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1.	Whitehall 1693
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1.	Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1.	Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSH	Royal Society for the Promotion of Health. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, London, W.C.1.	Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1.	Grosvenor 6636





The Kemsley Power Plant, Bowater Paper Corporation. *Colt Equipment:* 32 *S.R.C.*3080 *Ventilators.*
Architects: Farmer & Dark. *Consulting Engineers: Ewbank & Partners Limited.*

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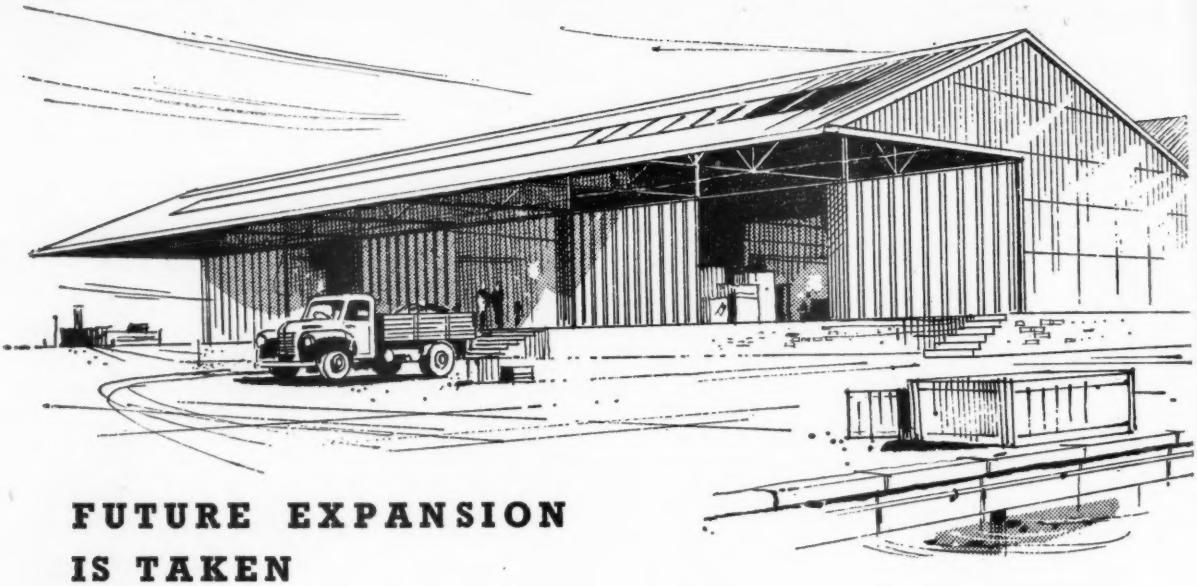

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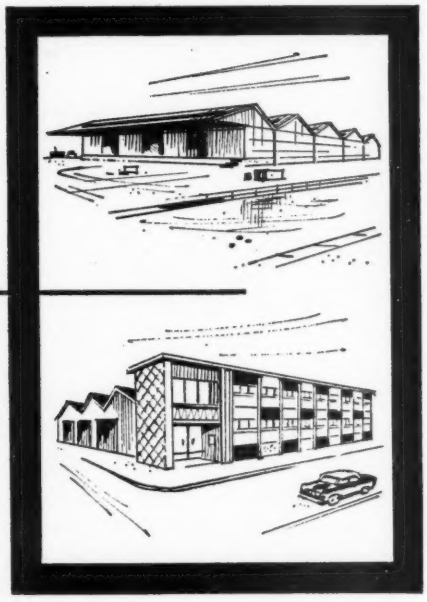

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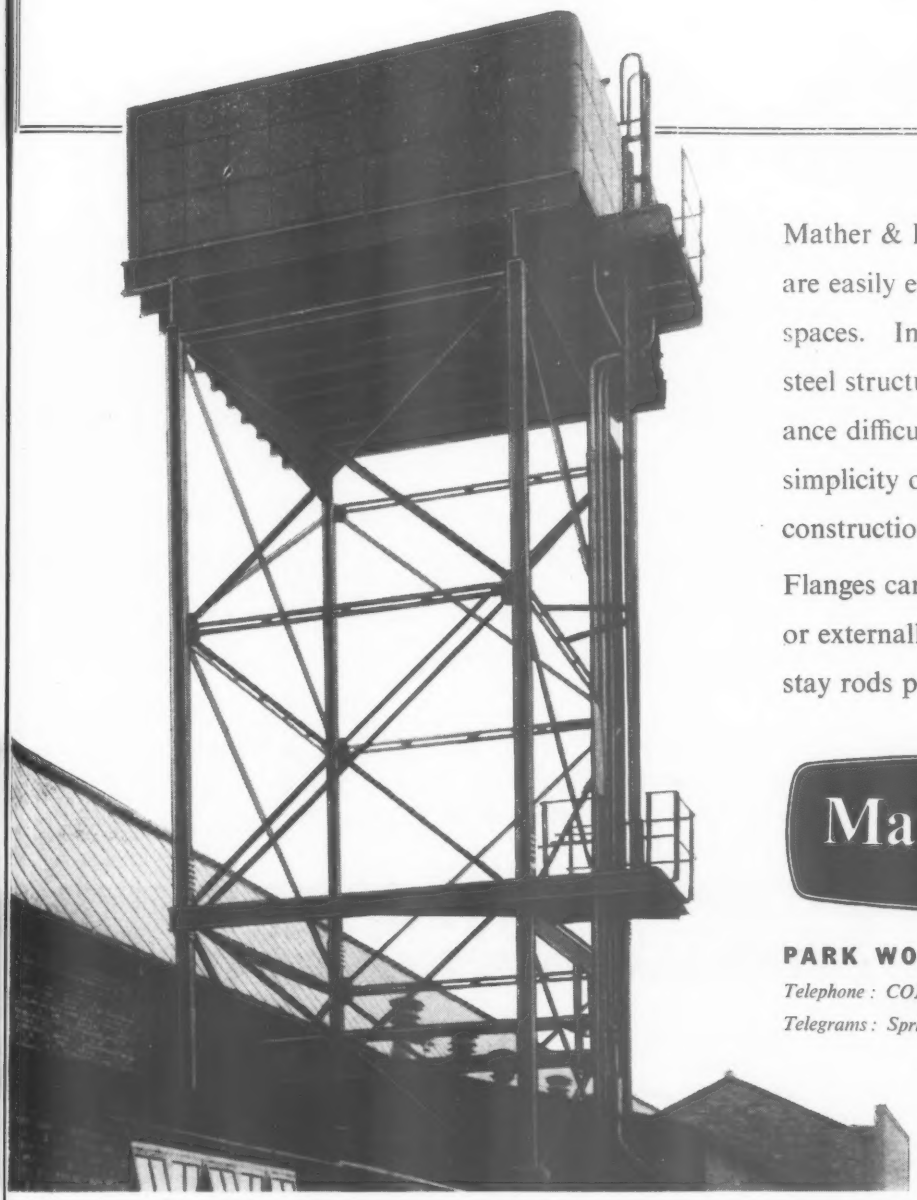

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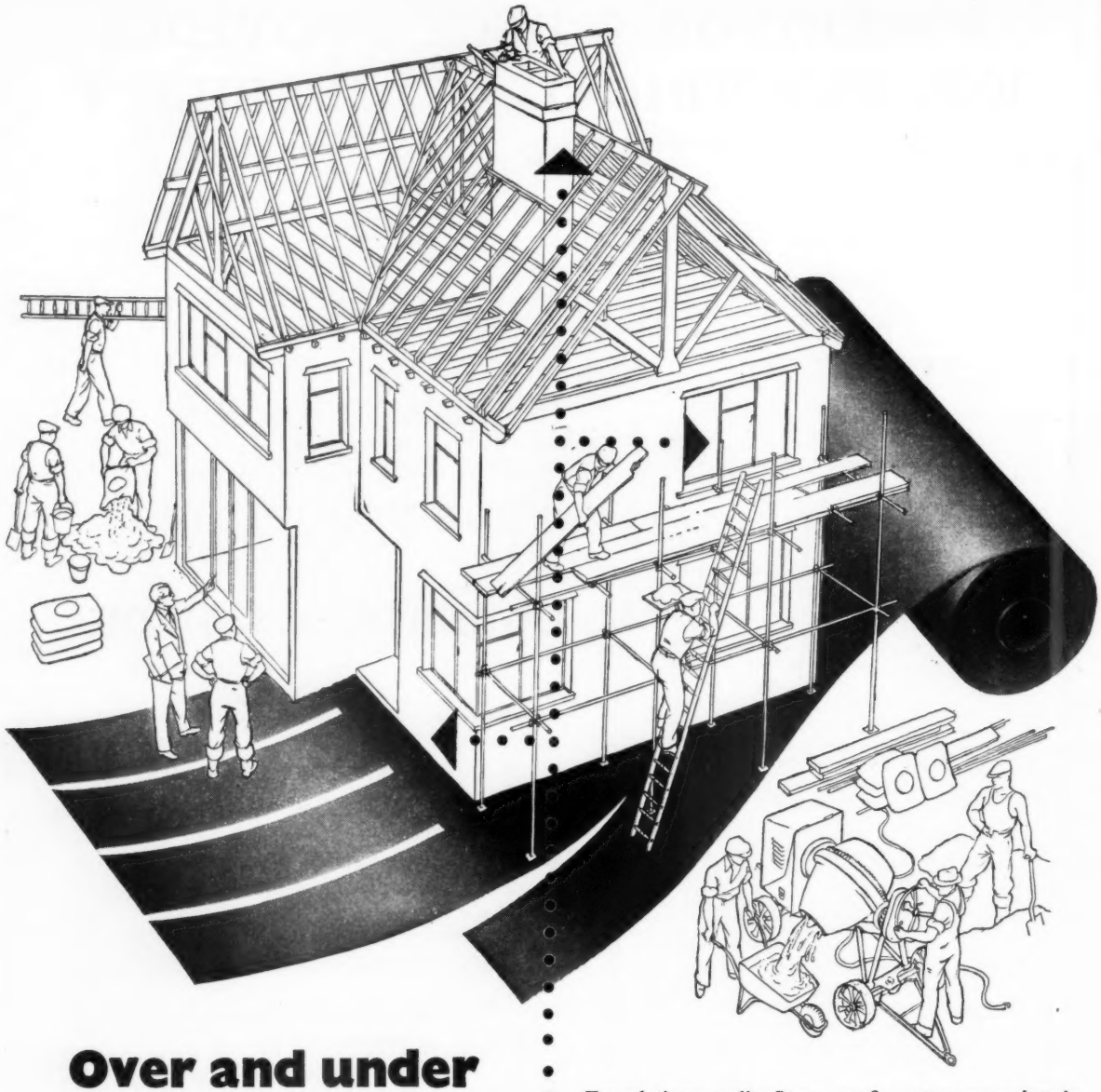

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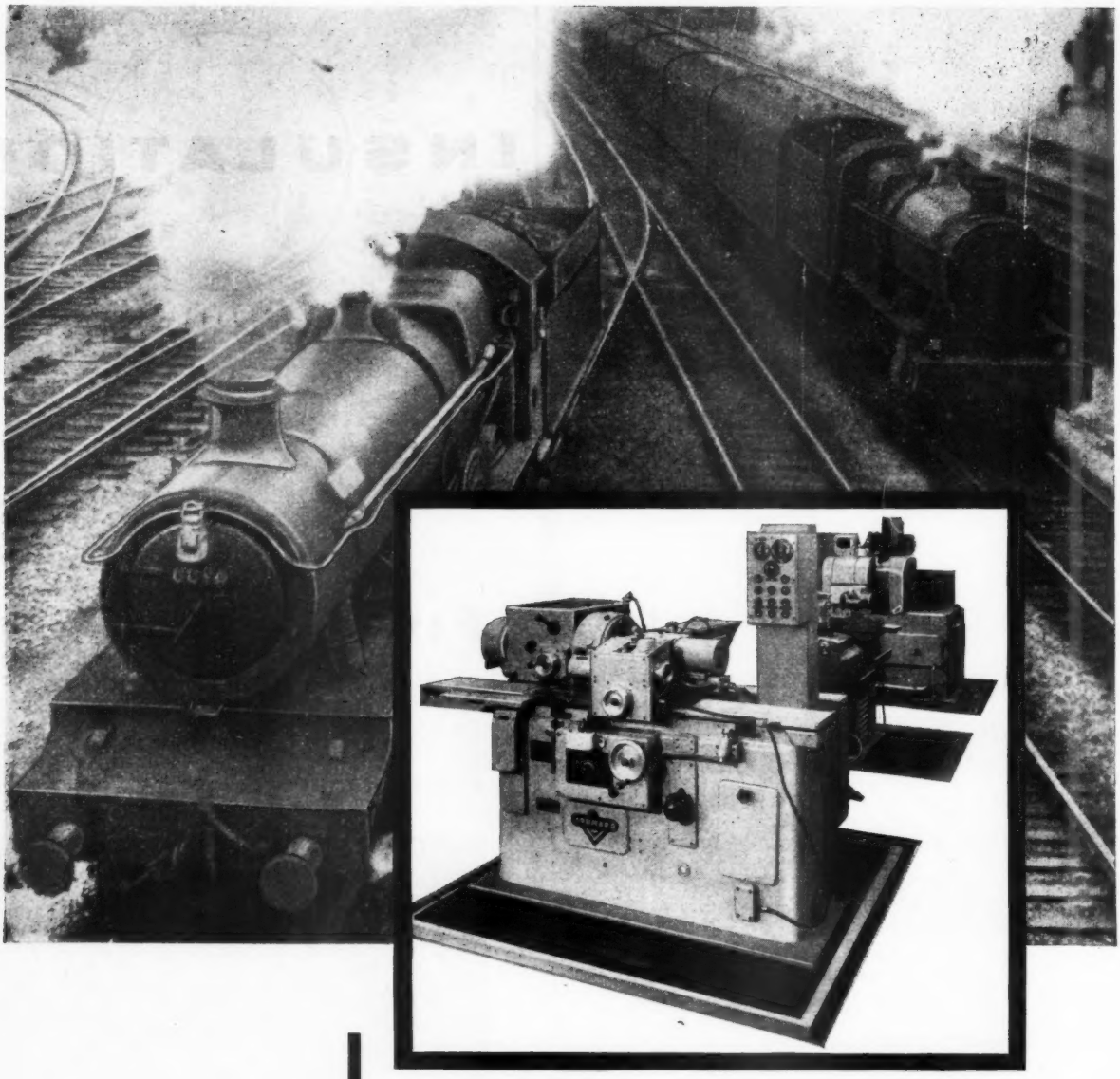

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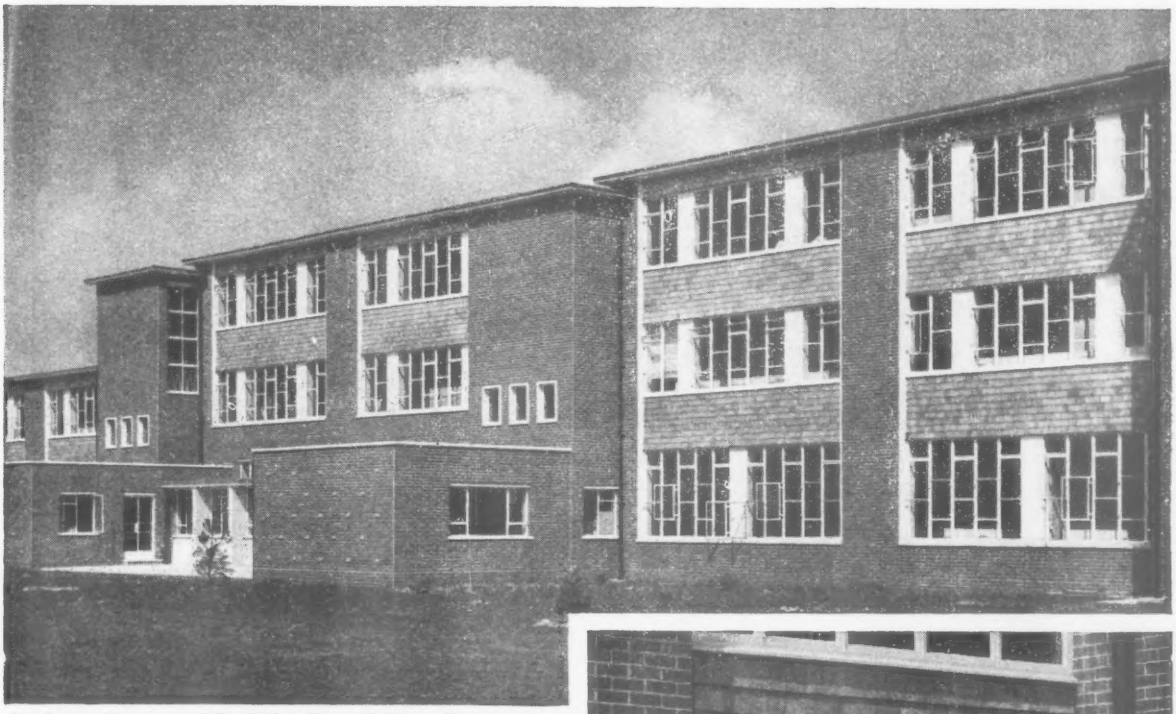

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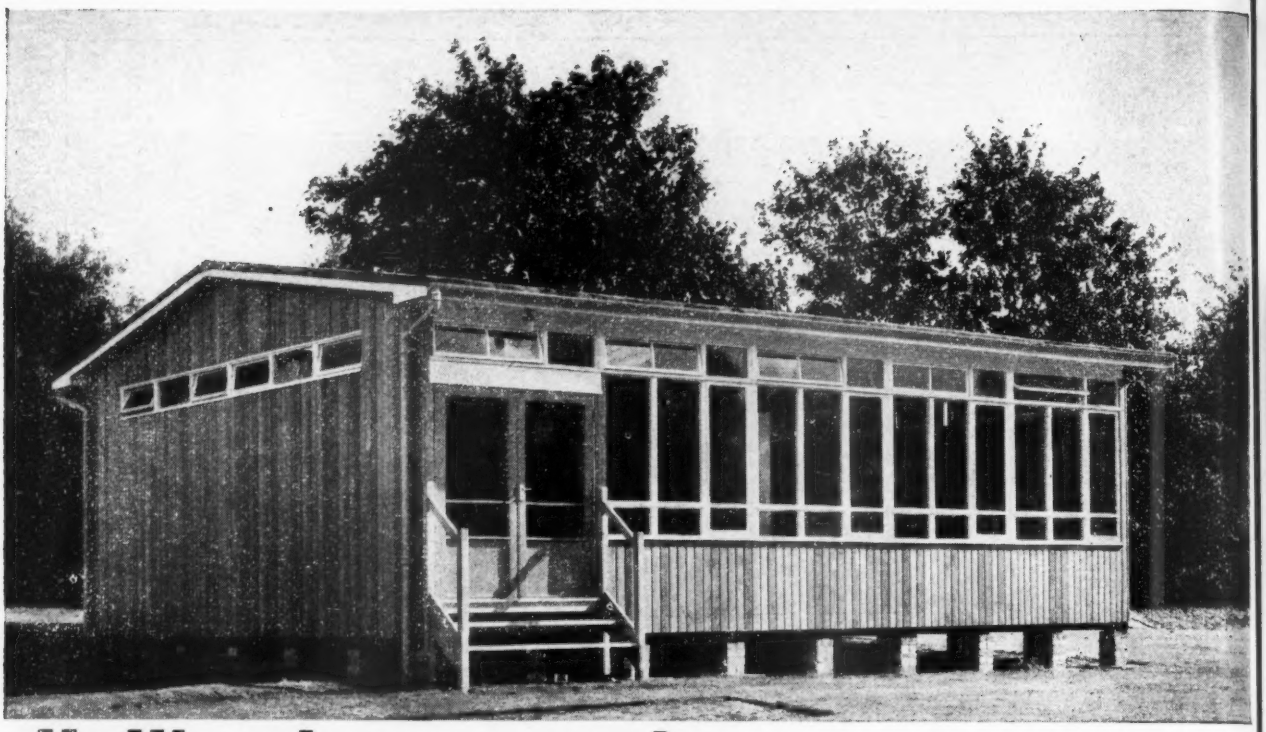

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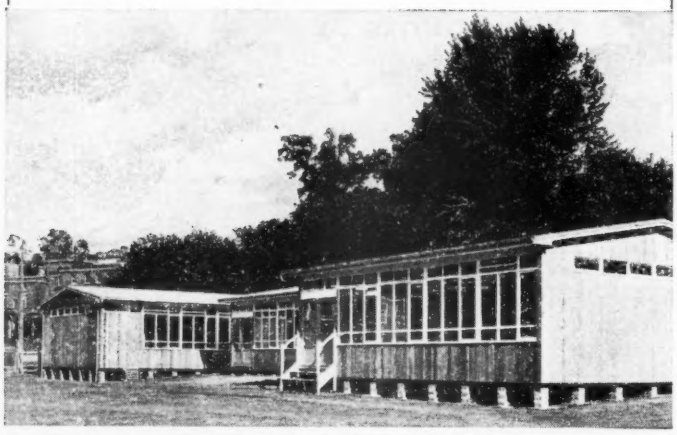

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The Assessors will be D. L. Medd, Esq., A.R.I.B.A., R. V. Cooper, Esq., C.G.I.A., F.I.O.P., M.R.S.H., and the President of the National Federation of Clay Industries. After the results have been announced, arrangements will be made to produce prototypes of at least the winning design (for which the collaboration of the successful competitor(s) will be invited). The Competition has been planned to appeal especially to architects, students, designers, sanitary engineers and others with a serious interest in sanitation and design.

It is already regarded as yet another progressive move by a flourishing British Industry. Considerable interest is being shown. The Competition is indeed a challenge, and the winning designs should command widespread notice. A first Prize of £100, two Prizes of £50, and five runner-up Prizes of £10 each await those who submit the best ideas. Closing date 31st May, 1958. Entry Forms are available on application to:—

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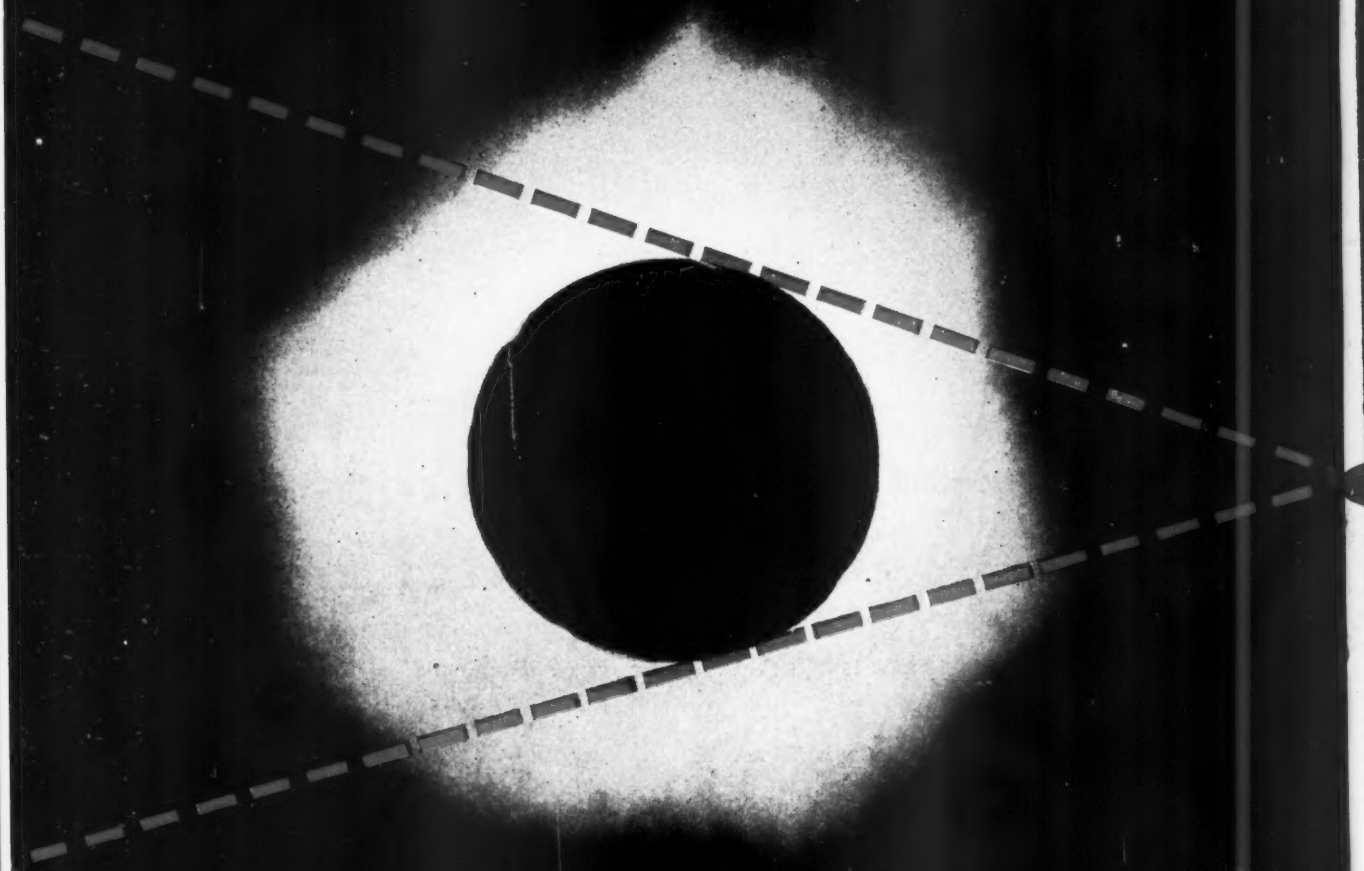

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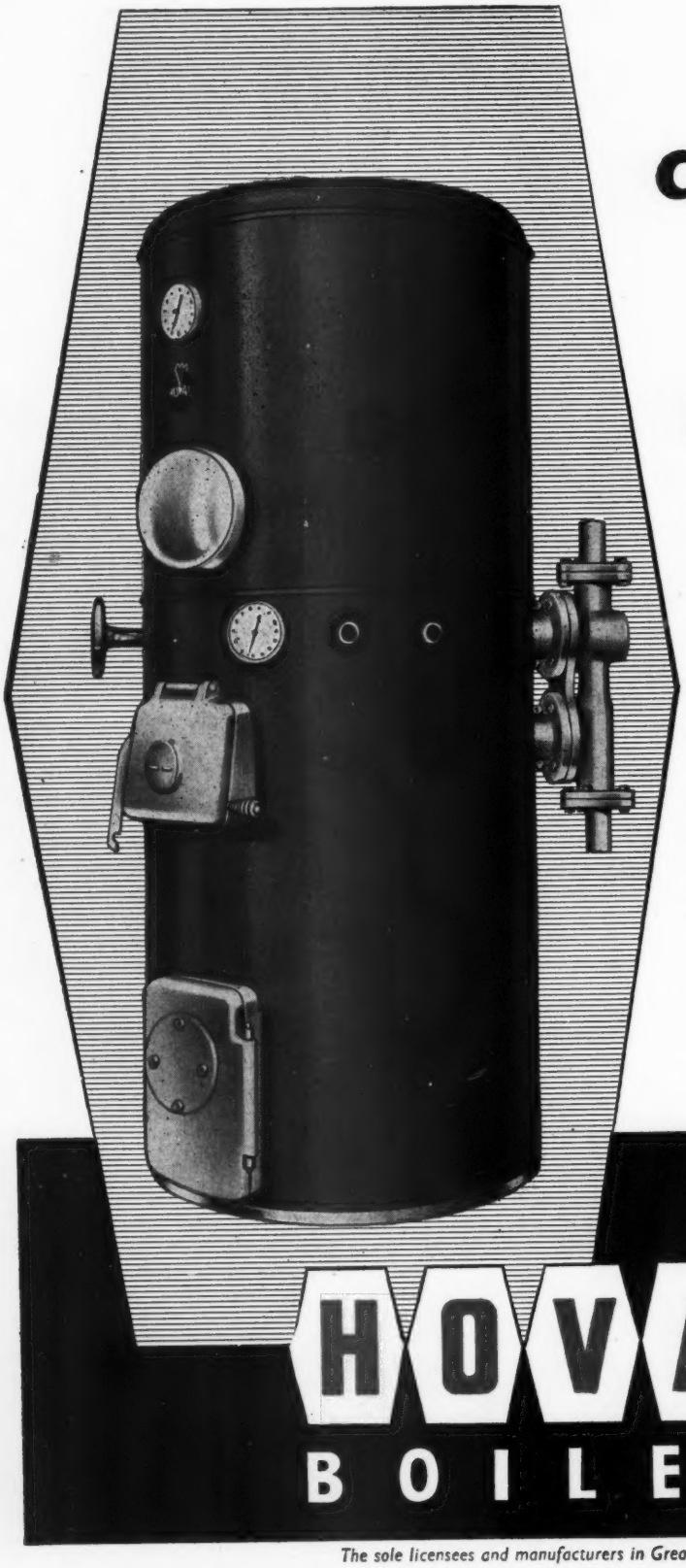
SOLAR CORONA
Solar observations come within the scope of the work of scientists of more than 50 nations throughout the International Geophysical Year. Photograph by courtesy of the Hamburg Observatory



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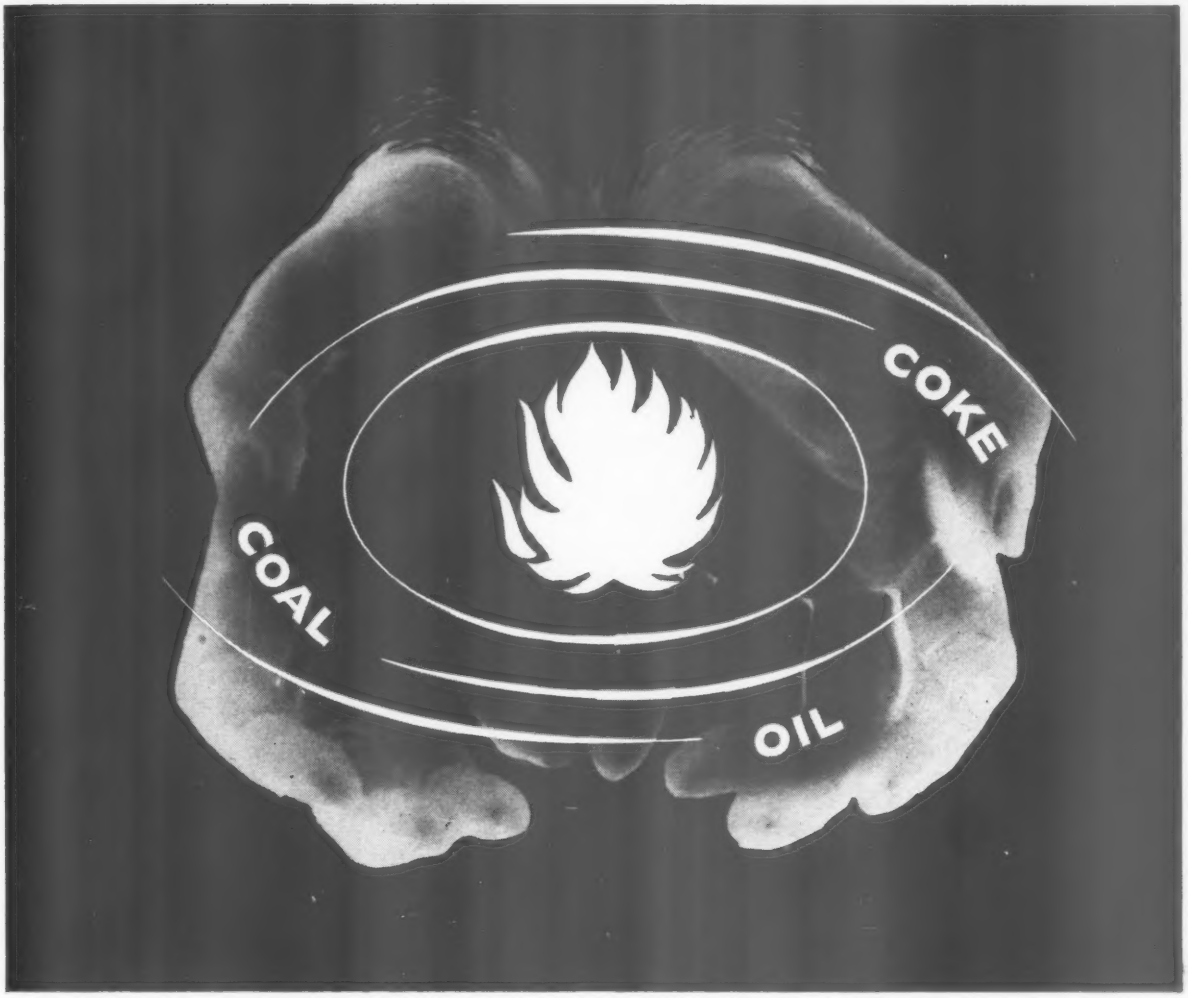

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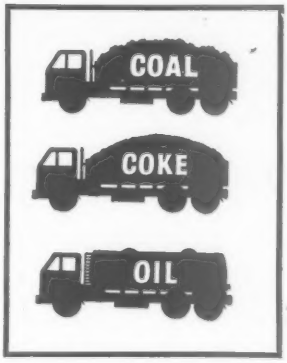

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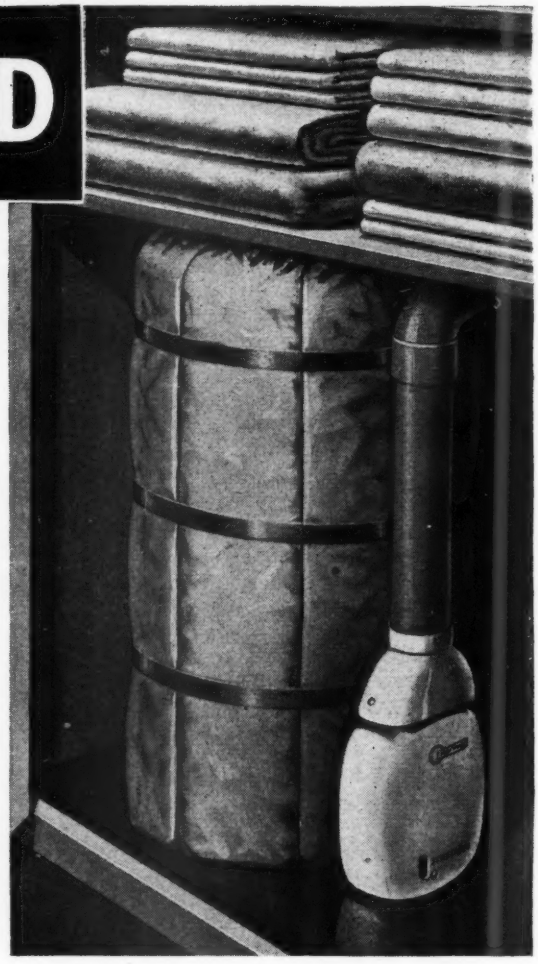

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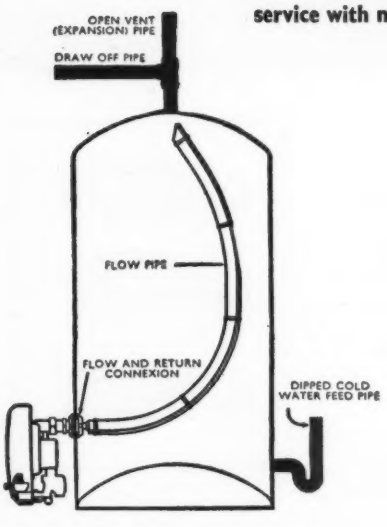

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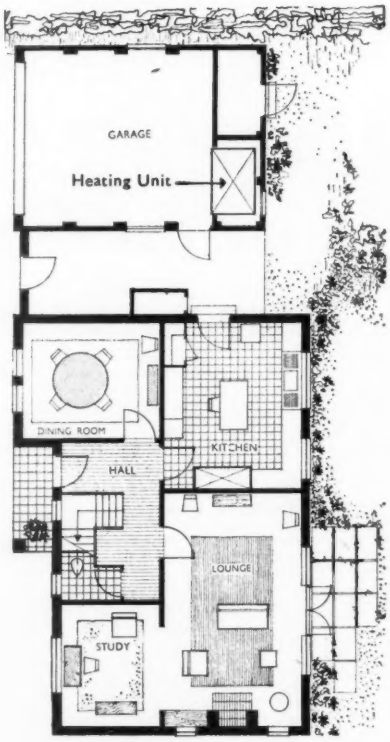

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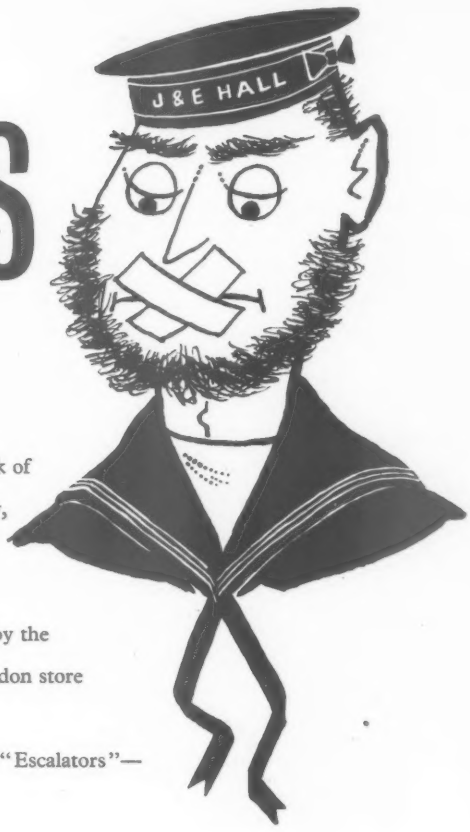

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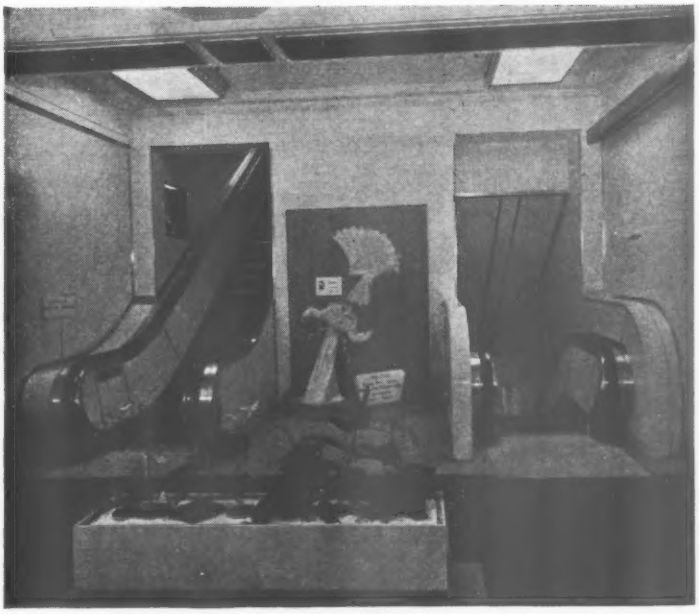

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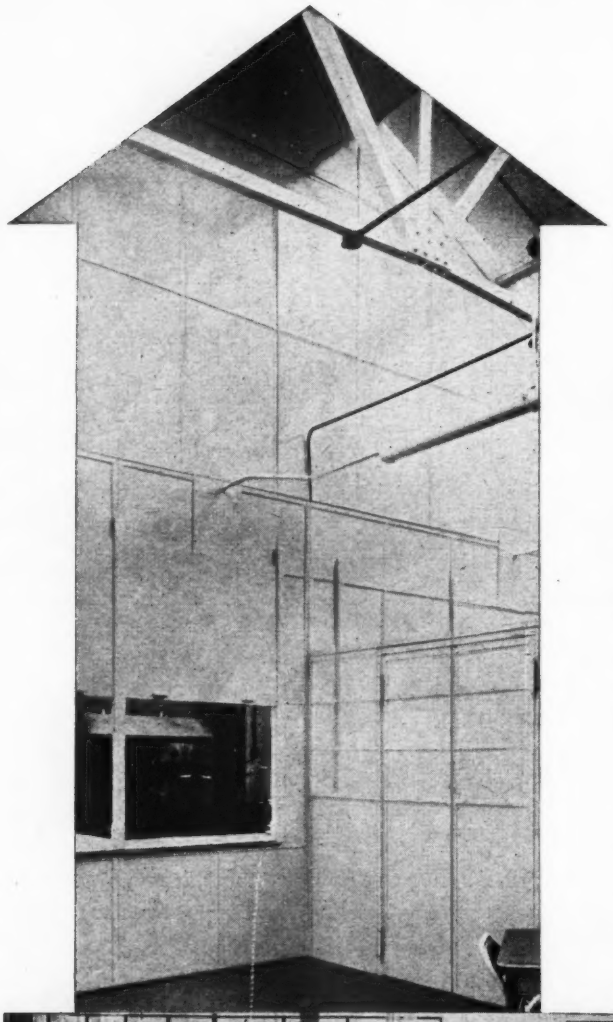

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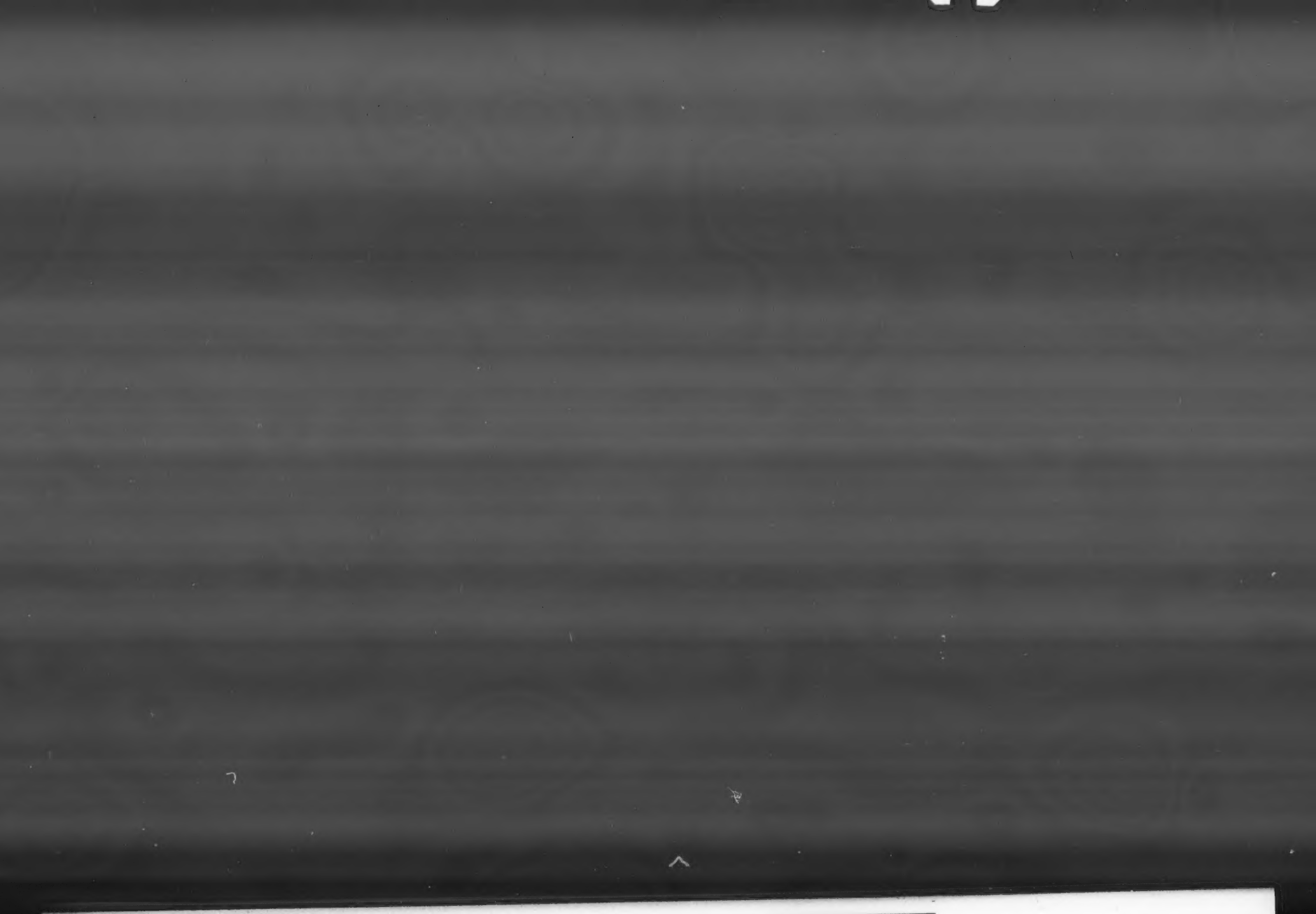

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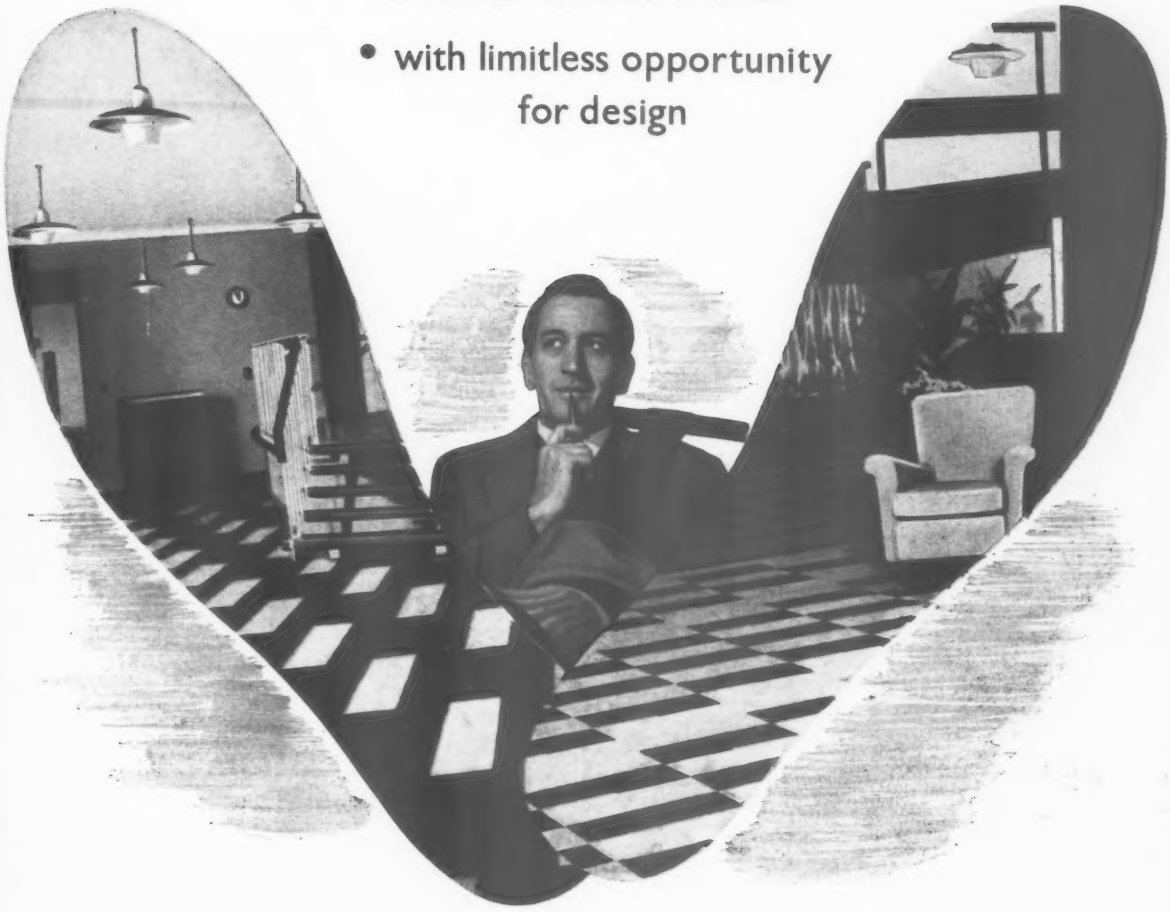

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Architect: Frank Scarlett, B.A.

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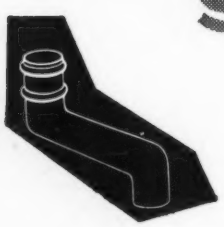

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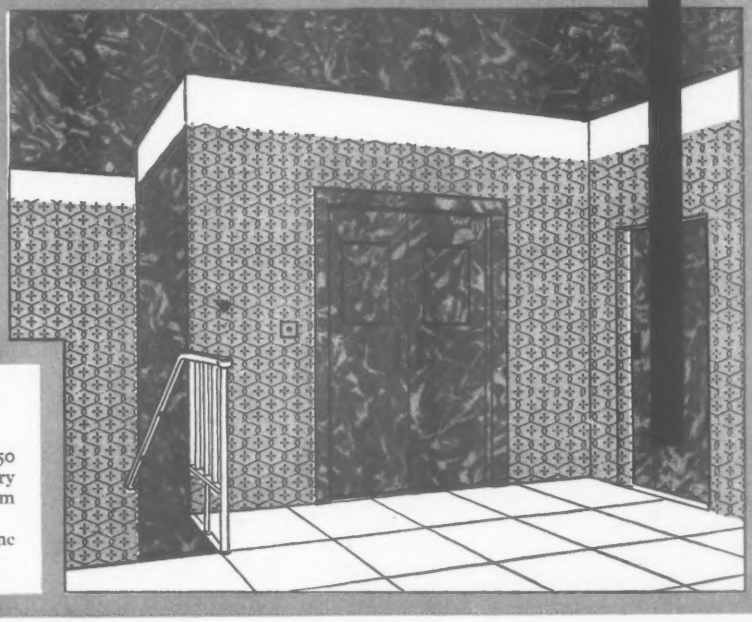

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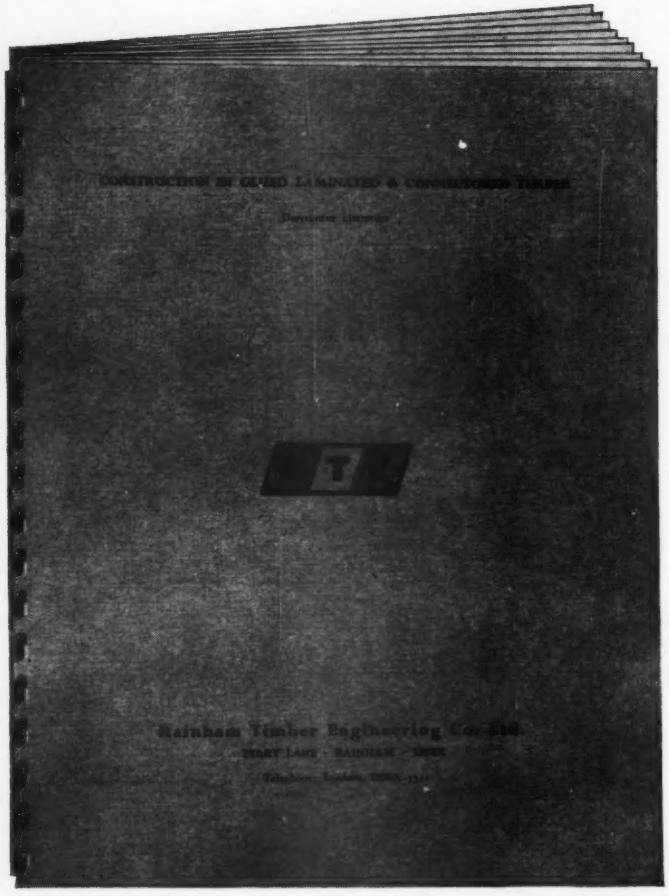

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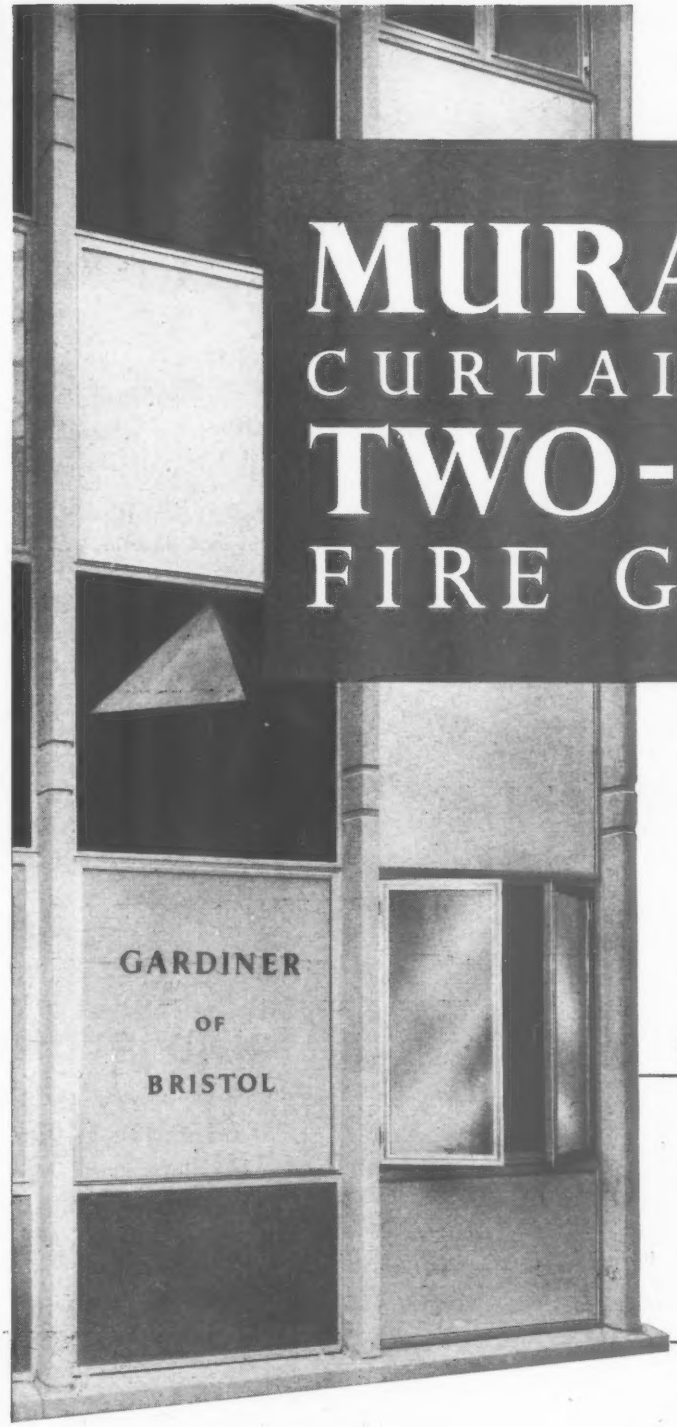

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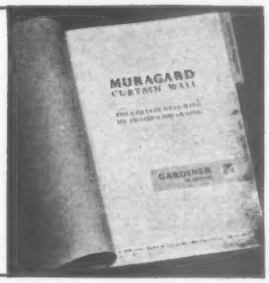

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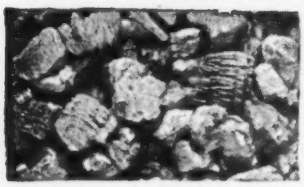

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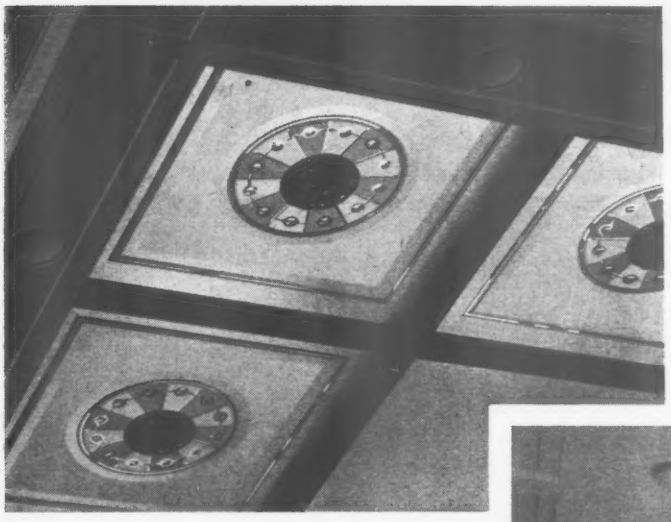

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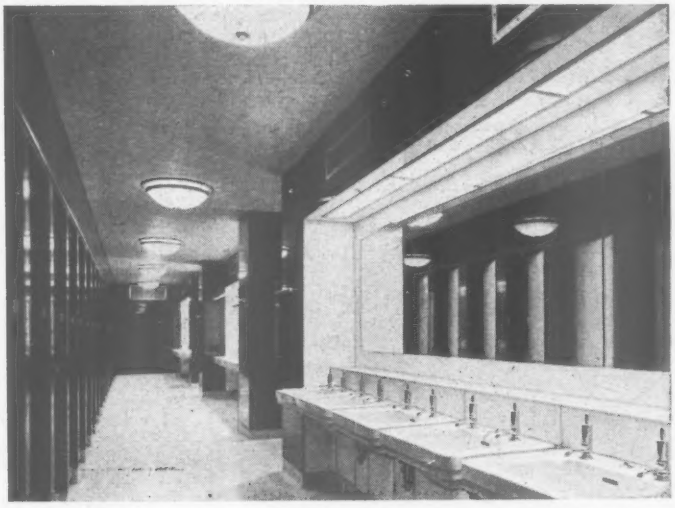

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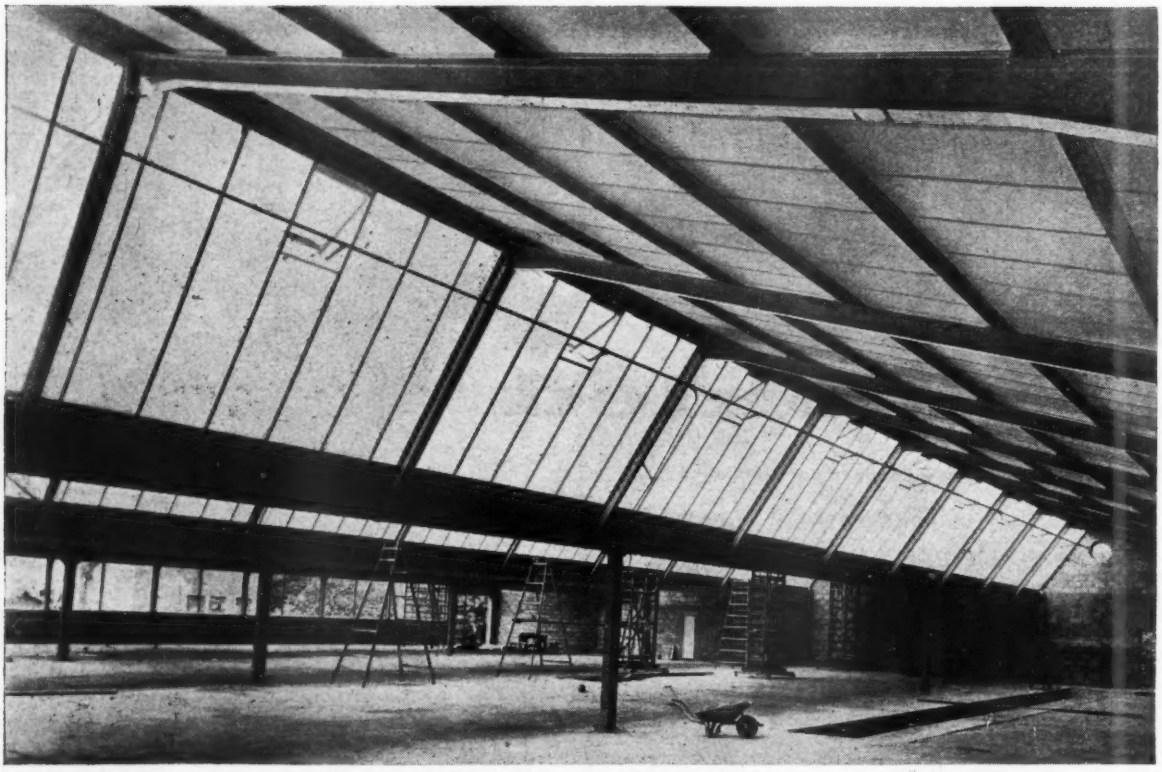

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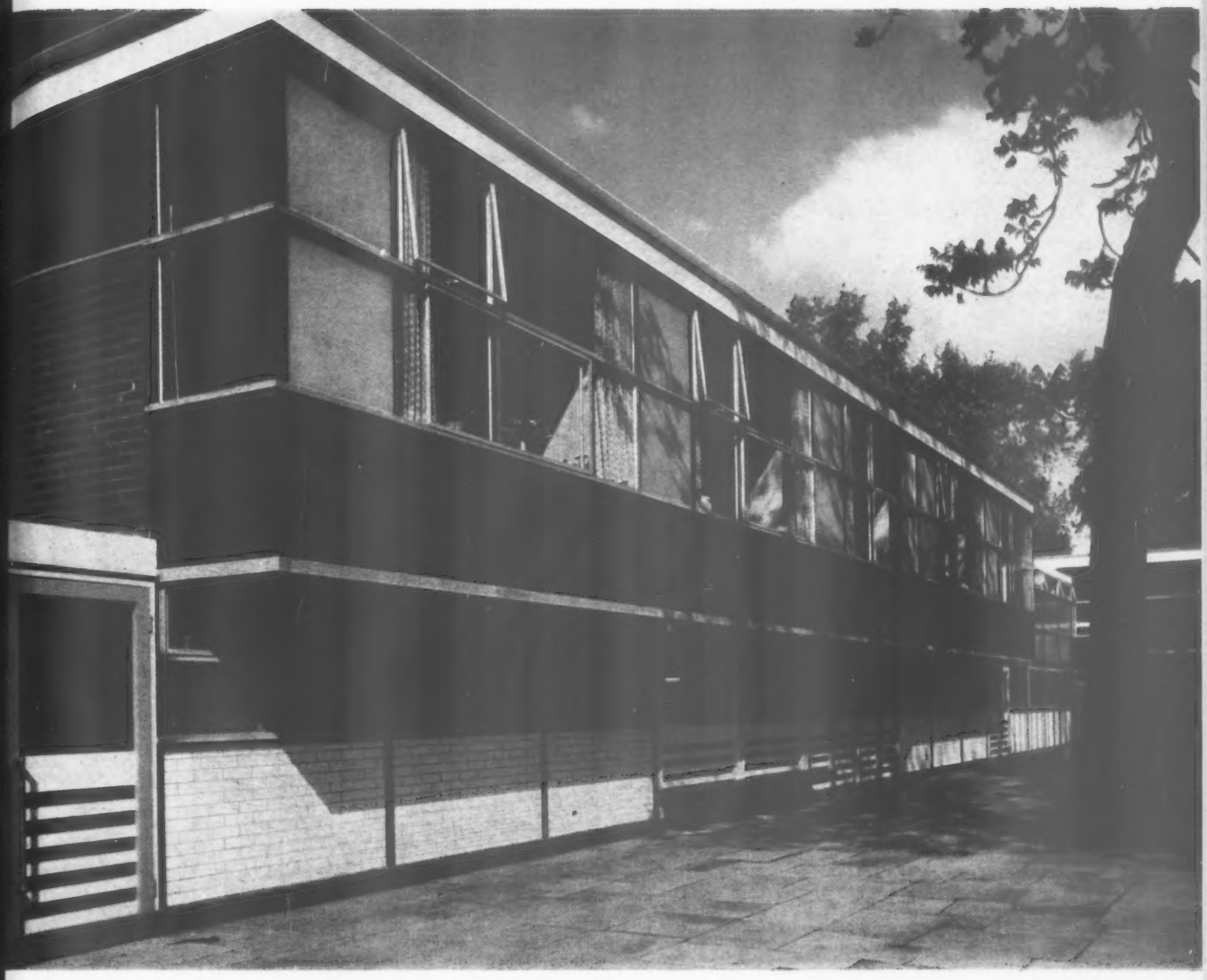

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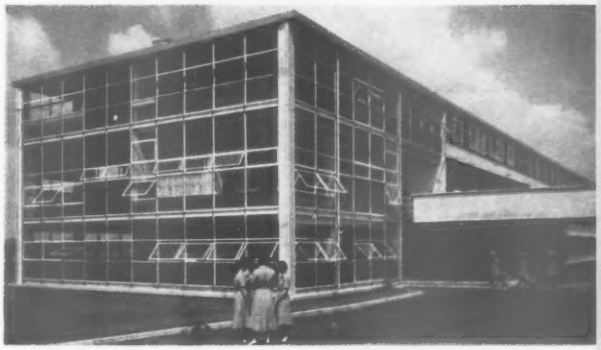

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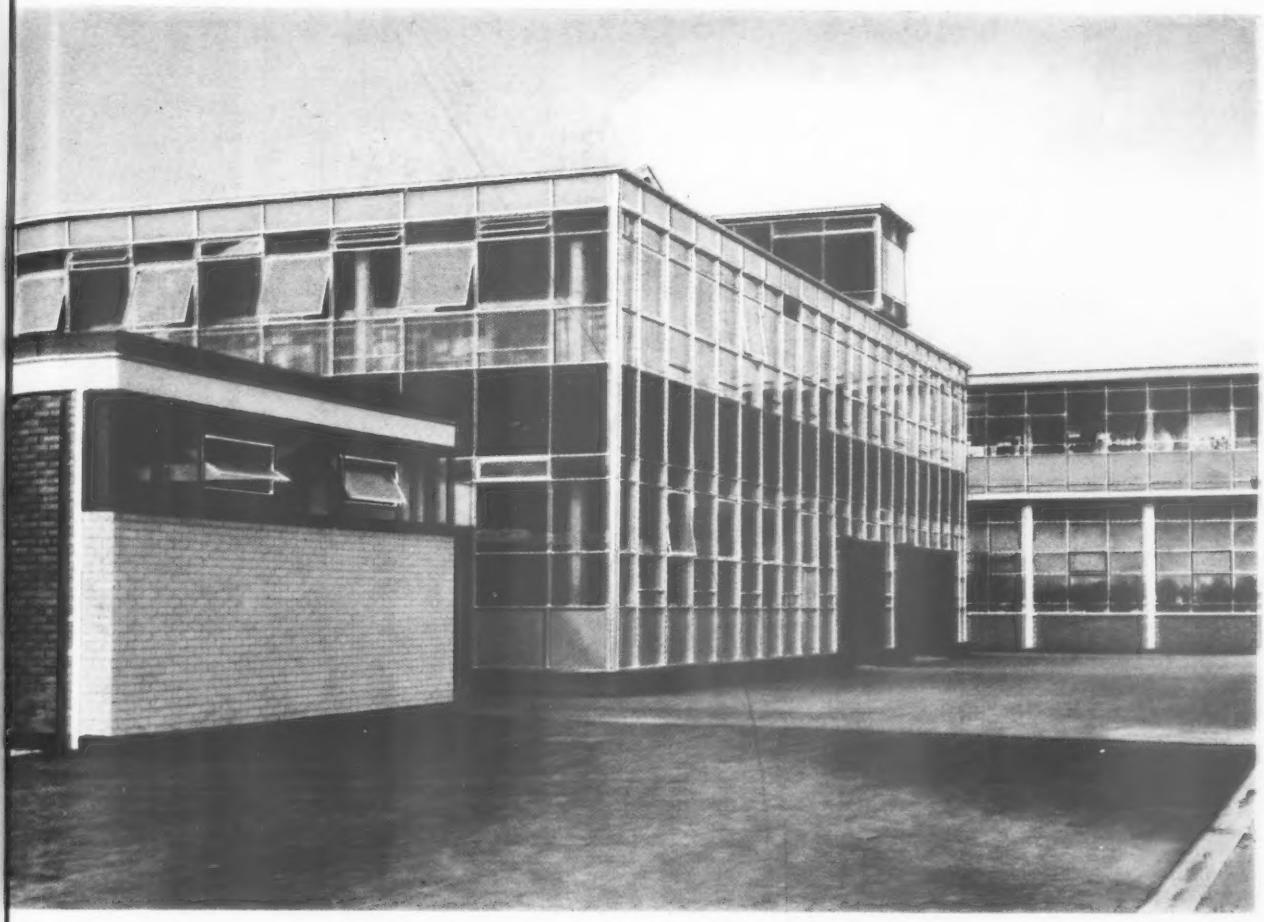

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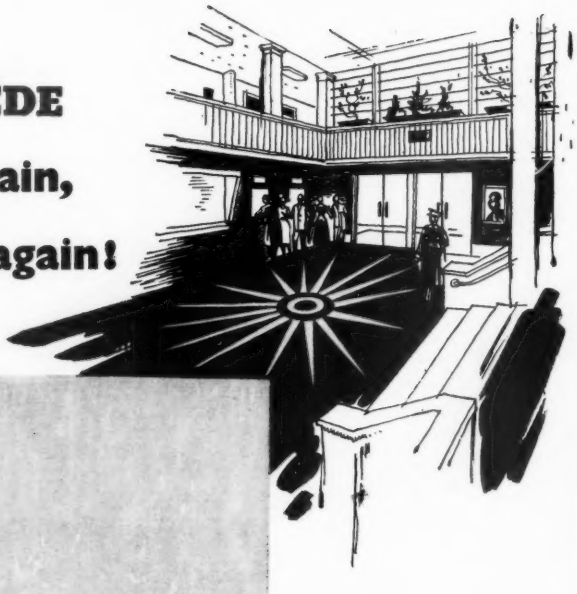

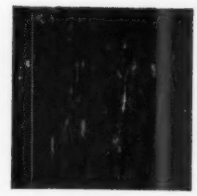

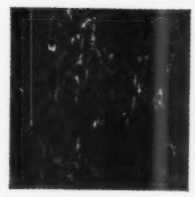

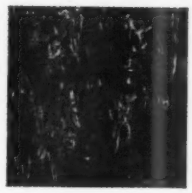

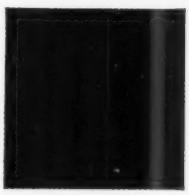

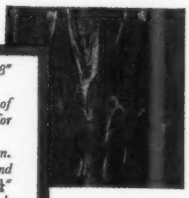

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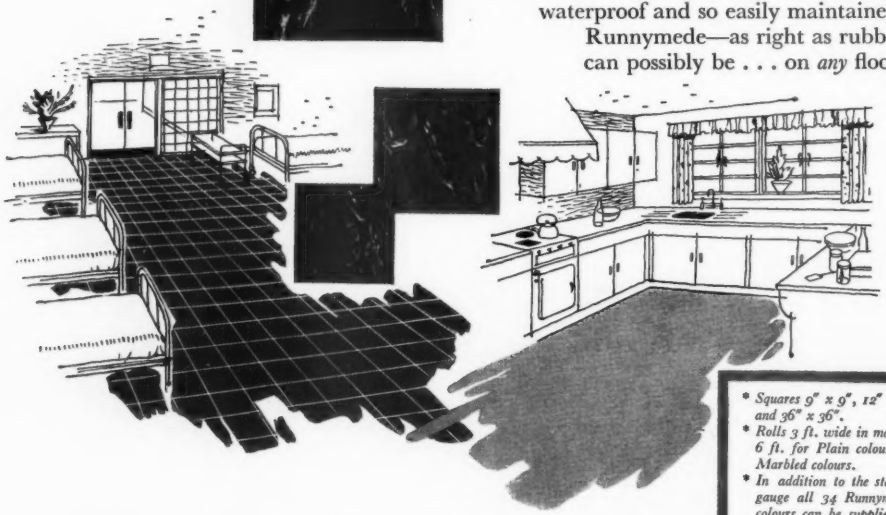

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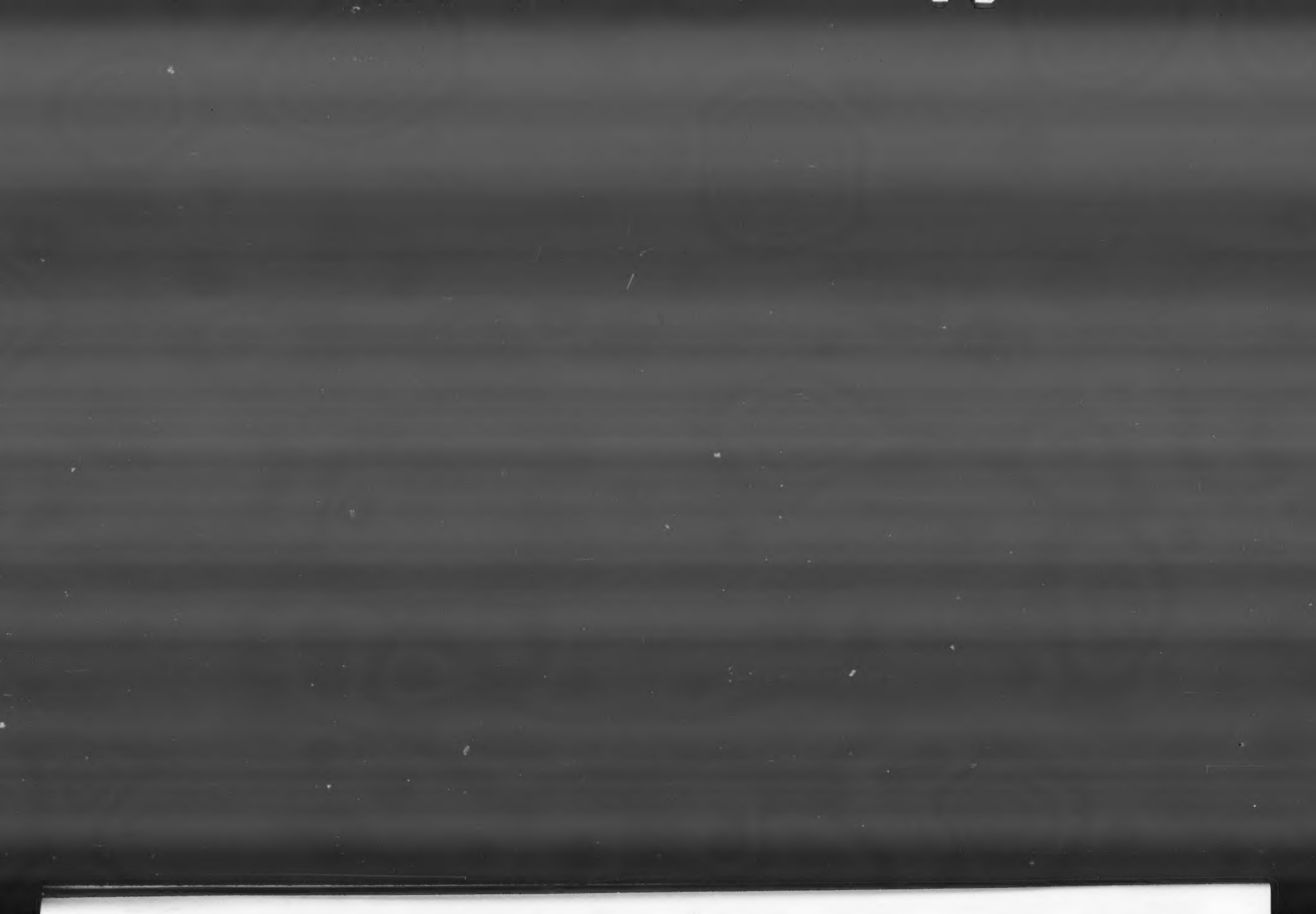

AJ

THE ARCHITECTS' JOURNAL

No. 3294 Vol. 127 April 17, 1958

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NOT QUITE ARCHITECTURE

SPACE, FICTION AND ARCHITECTURE

While we are still nursing our sundry grievances at not being invited to the Oxford Conference, here is a thought on architectural education to be going on with. My text is:

> The commander eyed him. "Is she a native?"
>
> "No—*a human being*, and she needs therapy quickly!"

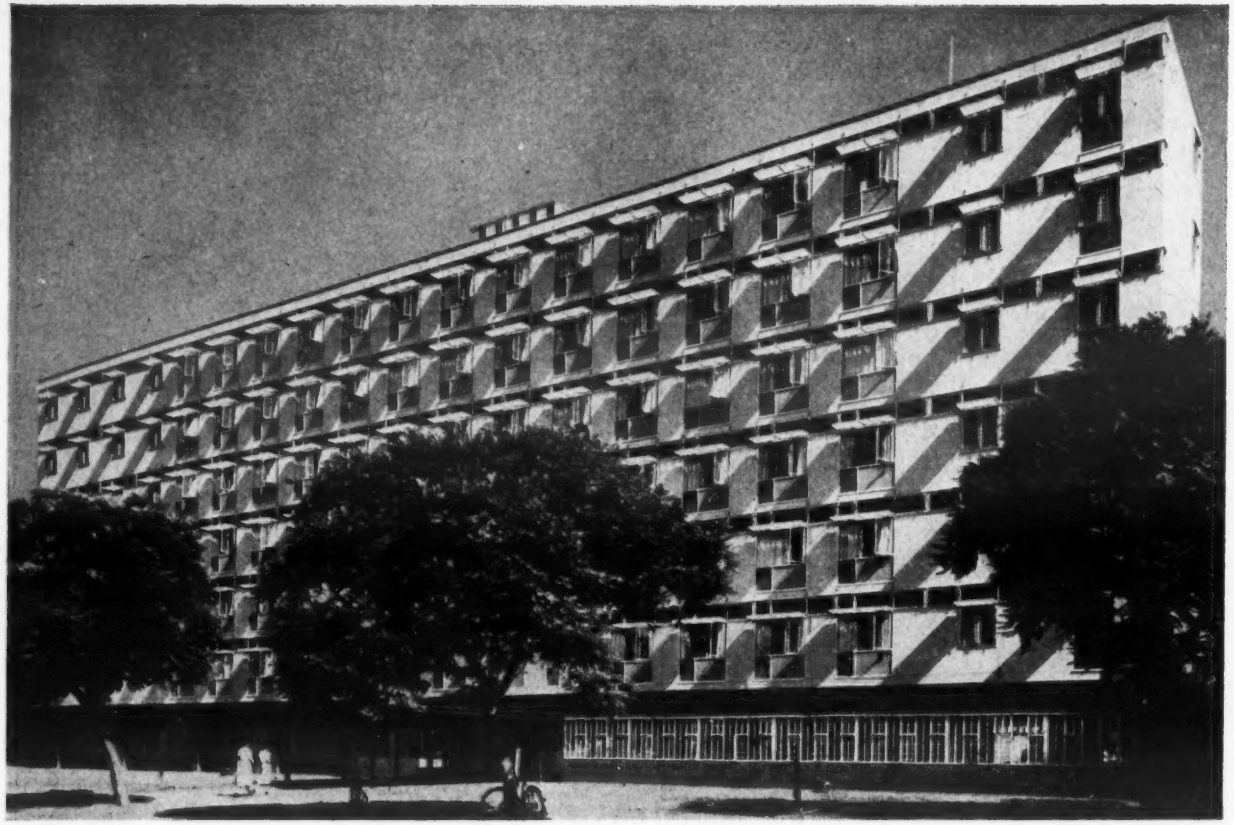
*

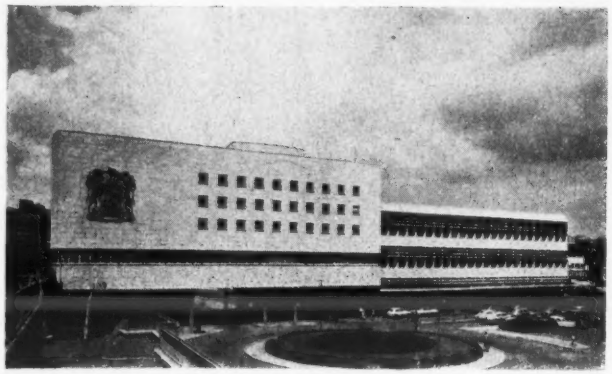
Adepts will immediately realize that this is a capsule version of the whole condition of science fiction today; an expedition from earth is hard up against an alien culture, and worried minds are beginning to buckle under the load. That this is SF will probably come as news to those who have been prophesying the collapse of western civilization on the basis that SF is all about muscle-bound crypto-fascists armed with ray-guns, bulging popsies armed with slipping shoulder straps, and Things, armed with. . . er. . . well, not *arms*, anyway.

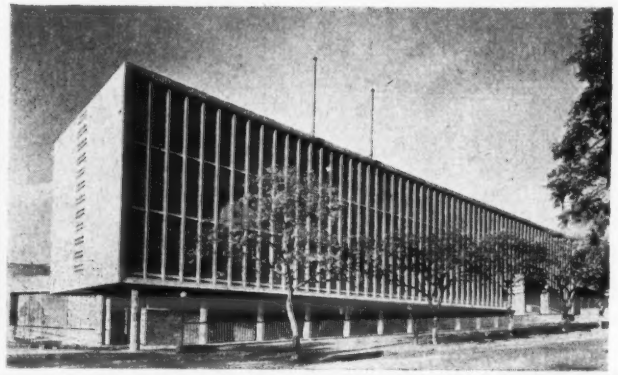
*

Those days of space-opera innocence are long gone, at least in the *Galaxy Astounding* belt, where readers and authors have learned to take the technical equipment as read—time-jump ships, force-fields, blasters and so forth—and concentrate on sociological and anthropological encounters so fraught with bizarre possibilities that the better class of expedition tends to retain a reliably accident-prone goon to go ahead of them and commit all the social gaffes and ethical *faux-pas* in the book, so that they know what to avoid. The presence of anthropologists on the expedition staff can be taken as much for granted as that of rocket crews, but so unimportant have the electronic and nuclear gimmicks become that a carefully contrived cultural crisis in

South African Architecture







Nikolaus Pevsner, after seeing the architecture of the Transvaal, expressed the doubt as to whether there was any other part of the Commonwealth " which can offer the eye so consistent and convincing a vision of the style of today." Some examples of this style are shown above, from the exhibition of South African Architecture which opens at 66, Portland Place on April 19. But, as W. D. Howie, senior lecturer in architecture at the Witwatersrand University, writes in an exhibition leaflet, a number of South African architects, although aware of the nature and significance of the work of the leaders of architectural thought in Europe and America are " neither willing slavishly to follow them, nor prepared to translate such philosophies into the different and difficult environment which is South Africa without a searching examination of appropriateness and performance." South African architects, like British architects, have discovered that blind imitation of superficial aspects of the so-called " modern style " often results in significant failures in performance. The first trends can be observed in the buildings shown here of the evolution of a South African architecture more appropriate to the resources available and the South Africa environment. Above, Dutch Reformed Chuch by Johan de Ridder at Parys, Orange Free State. Above left, a women's hostel, Pretoria University, by Strauss-Brink. Left, Meat Board Building, Pretoria, by H. W. E. Stauch and Partners. Extreme left, the Johannesburg Railway Station, by Kennedy, Furner, Irvine-Smith and Joubert.

a recent story in *Astounding* was settled with guess what—fists!

*

Every second story you turn up nowadays projects some future or alien society, many of them highly possible, like the two cultures in Isaac Asimov's *Daneel Olivaw* stories: on Earth an overcrowded, artificially lit, plastic subtopia, saved from deadbeat automation only by the sheer pressure of humanity crammed into its windowless skyscrapers, the other—on a planet of another star—an underpopulated, aseptic, Usonian subtopia that could not be saved from *rigor mortis* by a populace so egghead that they had only abstract art and not the other sort. Both societies are clearly possible because they are only extrapolations of the schizophrenia of our own, but it is worth noting that Asimov, unlike an Orwell, passes judgment on neither—probably because he knows that good men have been happy in worse. It is a tech-man's view (Asimov is a biologist of distinction), not a moralist's, though certain clear ethical principles emerge from it.

*

But what, you ask, has this to do with architectural education? A very good question, and here is a very good answer in the form of another quotation:

> We need Utopians of genius, a new Jules Verne, not to sketch in broad perspectives an easily-grasped technological Utopia, but the very condition of future men whose basic laws of being respond to instinctive simplicity as well as the complicated relationships of life.

Those are the words of one of the greatest architectural educators our technological century has produced, Moholy-Nagy, and I don't think I need labour my point any further.

*

I suppose I'd better though. This is not a plea for pun-struck thesis projects for "satellite towns," nor to have next year's Tite Prize subject a "Baroque space-port on the shores of Lake Nemi." SF, so intellectually omnivorous that it has even heard of an ARIBA—the late Michael Ventris, cited with bated breath in a high-minded story about Martian Archaeology—is one of the great mind-stretchers, specialization-smashers of our day. Only the MIT "Arcturus IV" programme (Architectural Review, *Machine Made America* issue) has tried to put it to work, and it would be difficult to build it into any conceivable RIBA finals syllabus. But every student ought to get with it, as the saying goes. It is part of the essential education of the imagination of every technologist—and can you think of any better minimum definition of the architectural frame of mind than "imaginative technologist?"*

REYNER BANHAM

* Who knows, you might even *enjoy* SF.

The Editors

NO FEE SHARING

THE RICS has just re-affirmed an eleven year old statement that architects and quantity surveyors should not merge their fees (see page 563). This is said to be both illegal and contrary to the Code of Conduct. The statement says that the work of quantity surveyors and of architects is quite separate and distinct and that if the quantity surveyor's duty is properly fulfilled there is nothing to justify fee sharing—which would be bad for professional morale. This is the classic method of solving problems by pretending they are not there.

Why is fee sharing becoming more popular? It is partly because an increasing number of clients, when asked to pay, separately, several fees which add to a sizeable proportion of the building costs, are frightened into the arms of other organizations whose fees are either a single amount or are merged into the building cost. How much more satisfactory it is for the client to be told "your building will cost £x thousand—*complete*."

If the client's experience of professional men is that their final account for fees exceeds the percentage quoted at the beginning, because of expenses, reduction bills and variations, he may become convinced that the whole thing is a racket.

How much more satisfactory it is for the organizations like the all-in service to be able to apportion their total bill to design, quantity surveying, programming and construction costs as they wish. It is now a truism that more money spent on preparing to build could save money (and time) in the actual building. We know of one or two architects who favour the idea of group working—separate architects, surveyors, structural and services consultants who work as one practice for particular jobs—merging their fees. This is not necessarily an attempt to meet the competition of the all-in service; it could bring other advantages—to the client.

It is a pity the RICS refuses to face the problem. Does the RIBA agree with them?

THE PROFESSIONS IN NALGO

In his Presidential address to the ABT on March 22, E. E. Hollamby devoted much time and argument, as was to be expected, opposing the probable formation of a Local Government Architects' Society, recently proposed by the RIBA's Ad Hoc Committee. Reviving a familiar bogey, he feared that this would " still further fragment the profession, dividing its loyalties." Yet an essential ingredient of any split is that one section of the profession should be set in opposition to another. The Local Government Architects' Society would be " opposed " to no one except, when necessary, the employers. It is essentially a local authority expedient to deal with a local authority situation. No one denies that if all architects' interests everywhere could be united under a single protective society commanding universal respect, that might be even better, but the immediate obstacles are well known. While that can remain the ultimate aim, it would be foolish to allow the best to be the enemy of the good; that is, to reject this partial answer simply because the ultimate one must wait.

Then Mr. Hollamby was distressed because " the proposed organization could exist only by grace of NALGO." It is no more than realistic to acknowledge, as the Ad Hoc Committee have done, that *any* such protective association is in part dependent on the goodwill of NALGO and must work through it; but this is not at all the same thing as " simply falling back on NALGO," as he maintains. To think of the new Society as just one more to be added to NALGO's Consultative Committee is in fact to miss the point. The proposal is that the Society should join with lawyers, accountants, engineers and education officers to form a Professional Panel which, within the existing framework, will promote the interests of professional officers as distinct from the general run of local government employees who are necessarily NALGO's chief concern. Such a consortium of leading professions can wield an influence beyond anything a single society could hope to command. The Panel and NALGO may therefore work amicably together simply because it will be seen to be in the best interests of both parties to do so. Like any innovation, this will take resolution and hard bargaining to get established, but it represents much the best chance that has yet occurred to make the voice of the professions properly heard in local government.

Obviously the ABT sees the formation of a Local Government Architects' Society as a rival. But in opposing it, the ABT will join forces with some very reactionary elements of the Old Guard of the RIBA. It is distressing to see a body such as the ABT, which has done such progressive work in the past, now adopting a dog-in-the-manger attitude and opposing progress. The time has come for the ABT to undertake some soul-searching on its own account, and to evolve a new policy which would make the position of its representative on the RIBA Council less of an anomally.

A WELL-CHOSEN EXHIBITION

Pausing only to brush the April snow from his boots, ASTRAGAL rushes hot-foot into print with the news that Britain has prepared a good architectural exhibition to show in Russia. For once we are sending abroad a well-chosen and elegantly-presented exhibition of our post-war achievements. Largely owing to the initiative of the Building Centre (where the exhibition can be seen until April 18), we shall be represented at the IUA congress in Moscow in July by a really professional job.

*

The theme of the congress (" Construction and Reconstruction of Towns, 1945-57 ") is illustrated by drawings and photographs of London (mostly the LCC comprehensive development areas and housing), Coventry and Harlow new town. The strict conditions laid down by the congress about size and arrangement of panels did not leave much scope for detailed technical or statistical information, but presumably this will be added in the form of congress papers and discussions.

*

Visually the exhibition does us great credit. The quality of the architecture, with very few exceptions, is surprisingly good. It should impress those gathering in Moscow.

NOTTING HILL RUN DOWN

If you read Geoffrey Gorer's *Sunday Times* statistical article on "Television in Our Lives" (one out of every two people in my house started to read it, which was one more than those who managed to finish it), you will be delighted to know that 700 people turned out on a recent cold night to talk about the townshaping of their district. At a time when six houses out of every ten have television (according to Mr. Gorer), it is nice to know that people still care about other things.

*

The 700 I am talking about went to Kensington Town Hall to discuss the Notting Hill Gate scheme. Was this because of bad television, the good publicity by Mrs. Christiansen, of the Kensington Society, or that dear old-fashioned thing, a community spirit? Whatever got these people away from the electronic theatre, they certainly had a rewarding time. Sir Hugh Casson took the chair, an LCC spokesman explained the proposals, Ian Nairn criticized them, R. E. Enthoven described the character of the district he had known for so long, and Kenneth Browne gave an eye-level townscape investigation. (Remember his sketches in the AJ for December 26?)

*

Although several top planners from the LCC were present—including the chairman of the Town Planning Committee—the meeting kept its doubts. Critics of the scheme objected to the absence of a shopping *precinct*, the encouragement of big store development instead of a cheap *local* shopping area, the vagueness about elevational appearance, and the failure to deal with the absurd dog-leg traffic junction. It was also said that an architectural competition should have been held for the development, and that the public should have been given a chance to say what it thought about the proposals.

*

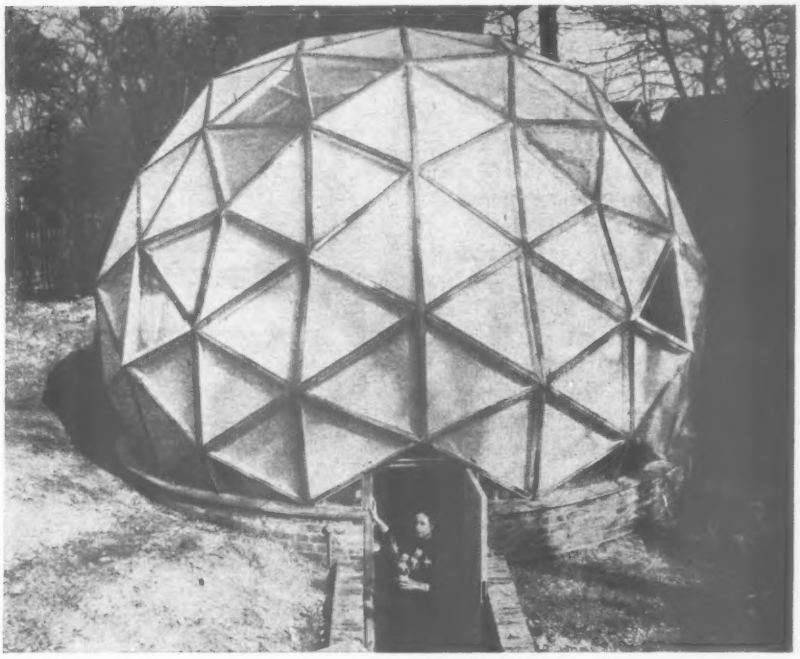
It was clear from this meeting that if public opinion *had* been consulted it would have been worth having.

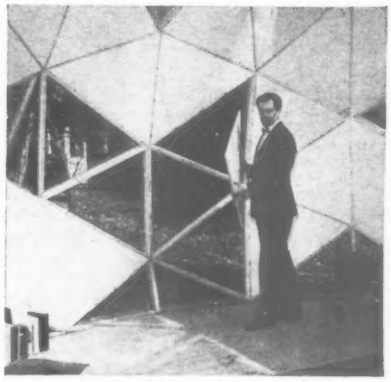
NOT USUAL OFFICES

If you want to enter for the TDA's office furniture competition (details in AJ on February 27) you must hurry. The last entry day is April 30. And don't be put off if you have seen Conran Furniture's new range of office designs. These are as smart as paint in the usual stick and slab Conran manner, and after seeing them ASTRAGAL wondered if there was any need for a competition. Wasn't this, he wondered, the modular, interchangeable range of office furniture which everyone had been waiting for?

*

In fact, excellent though this range is, there still remains plenty of work for intelligent designers and manufacturers to do. The problems of storage (particularly for paper sizes) and adjustable working-top heights still need study. Incidentally, the Anthropometry Committee of BSI have just issued an interim report price 2s. post free) on the dimensions of office furniture which all competitors should look at. What with this and the TDA competition (planned, as you may know, with the JOURNAL, the COID and others) there is hope of better comfort conditions for pen pushers. Let's hope the sink competition, assessed by David Medd (the architect who, with Brian Adams, revolutionized the wash basin) will help the pen pushers when they get home to their less white-collared activities.





Hugh Pope, one of the assistant architects working on the new Coventry Cathedral, has built himself an experimental studio in the grounds of his house on Kingston Hill (Surrey) made entirely of glass on a light timber frame. The interior is lined with panels which can be taken out or put in to suit the weather and lighting wanted. The actual frame of 150 separate triangles was put up by Mr. Pope, his wife Jennie, and a friend, artist Peter Kermode, over a week-end, "Though I confess," he adds, "that the foundations and glazing were done by a building firm to my design. I believe that there will be many houses and religious buildings constructed in this way in the future."

HOW TO LEAD A FULLER LIFE

While most of you have been looking in your back gardens for the grounded sputnik, Mr. Pope, of Kingston, has been proudly fighting his way in and out of a geodesic dome which sits space - shipwise behind his house. Naturally enough a photographic agency, which was longing to catch a space missile on somebody's grass, nipped along and took pictures. It issued the two published here, accompanied by the stern warning that "This caption must not be altered." In fear and trembling ASTRAGAL reproduces the caption unaltered, for the profes-

sion to peruse and to marvel at the simple faith and application of the designer.

*

These Fuller-type domes are wonderful "first thoughts," but that is about all. They lightly imprison space, and do not do much else. They are hard to get into (Mr. Pope burrows under, like a rabbit, to come up inside); they are hard to furnish (Mr. Pope keeps his books on the floor), and they have a built-in, condensation problem (the photographs are too small to show the sinister staining on Mr. Pope's inner lining to the triangular panels). Nevertheless, congratulations to Mr. Pope on his initiative. If he manages to solve the problems inherent in this type of structure we shall all be delighted.

*

Incidentally, the above comments are my own and must not be altered, even in fun.

SOMETHING NEW UNDER THE STARS

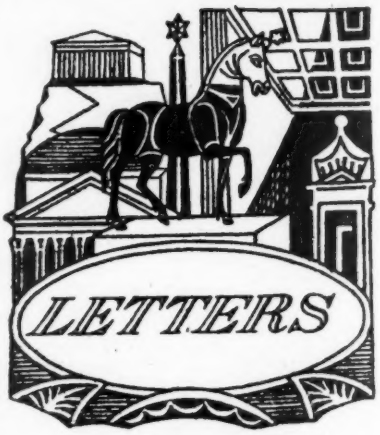
Congratulations to the AA on their new *Guide to Modern Architecture in London*.* It consists of an Index (gazetteer would have been a better word) listing 127-odd buildings, an *Esso* map with the index references of the buildings overprinted thereon, and a tall pocket-format folder to stuff them both into.

*

Nothing implicit seems to have been left out, misprints are conspicuously absent and the guide is up to date to the end of 1957. No doubt there will be criticism of the star system. Thirty-five starred buildings are said to be "musts" even for visitors with little time to spare, and everybody will be up in the air about something or other that has not been starred. ASTRAGAL treading the narrow path of fairness (*i.e.*, neither partial nor impartial) can only wonder on what basis the awards were made. Since every comprehensive development scheme included has been starred, you might think that choices leaned to the sociological rather than the purely visual. Yet Wells Coates's *Isokon* flats in Lawn Road, whose virtues are notably sociological, as well as visual and historical, get no star. Very odd.

ASTRAGAL

* 3s. 6d.



J. W. Stevenson, A.R.I.B.A.

Charles Michael Pearson, B.A.

R. Furneaux Jordan, F.R.I.B.A.

K. R. Herbert, A.R.I.B.A.

Charles G. Tickle

John Nelson and J. Roy Parker, A/A.R.I.B.A.

RIBA Subscriptions

SIR,—Those readers of the ARCHITECTS' JOURNAL who have written to you expressing their dissatisfaction with the financial affairs of the Royal Institute of British Architects may care to know that a letter, signed by 100 Members and Students of the Institute in public and private offices on Merseyside and in north Lancashire, was sent to the Secretary of the RIBA on March 31 protesting in the strongest possible terms at the recent increase in the annual subscriptions.

J. W. STEVENSON.

West Kirby.

Superficial Architects

SIR,—The architect has for so long been completely out of communication with the society in which he lives and works, and recent signs that this gap is tending to close are a great encouragement. The lead, to better communications, has been given by designers of cars, spin-driers, cookers and so on, and one hopes that the architect will, in the future, readily adjust himself to a new attitude. If he doesn't, who knows, the profession may cease to exist and intending architects may be slowly but surely absorbed into big manufacturing and official organizations.

For the young architect it was truly depressing to see this gap tending to widen at the public meeting held in Kensington Town Hall on Tuesday, April 1, to discuss the Notting Hill Gate Scheme.

The panel of architects, planners and Do-gooders, under the chairmanship of Sir Hugh Casson had been invited by the Kensington Society to explain and criticize the proposals before a gathering of local residents and shopkeepers.

Firstly, the architects for the rebuilding (Cotton, Ballard and Blow) did not turn up. Then the LCC officials explained the general layout and circulation in the most apologetic terms, saying they were sorry but this scheme had been originally proposed for 1937. One can only conclude that when the money was eventually sanctioned, the LCC were unprepared except with their modified pre-war scheme. Kenneth Brown and Ian Nairn discussed the superficial details of the scheme but somehow failed to make any impression on an audience which was much more concerned with the basic concept of the proposals.

It was the audience which collectively realized the fundamental fault in the scheme, namely the circulation of traffic and pedestrians. Little helpful guidance or criticism on this was forthcoming from the panel and it was pathetic to hear the LCC's road engineer suggest that people in London do not really like fly-overs near their homes and offices. He did not even sound convinced himself that the fly-over was a beneficial part of a road system, and yet another roundabout was his only answer and this only if traffic demanded it. The final blow was struck in the midst of the public's concern about the traffic system when Sir Hugh Casson, trying to change the trend of the argument, asked the audience what they thought about the architecture and said he really did not care what happened to the traffic. From then on the mention of the words architecture or architect brought forth a pitiful snigger from the audience and any respect they had held for them at the beginning of the meeting was completely lost.

CHARLES MICHAEL PEARSON.

London.

Now I Understand

SIR,—Mrs. Booth (AJ, April 10) supports a town planning officer's refusal to accept Messrs. Emmerson and Sherlock's elevation. She has a right to her preference, whether she has a right to be legally supported in what can never be more than a preference, is far more fundamental. The whole issue is more important than that of mere architecture, more important even than the fact that no planning officer *can* have any qualifications other than those of a fully qualified architect to justify him in vetoing the work of a fully qualified architect. The matter is really Voltairean; I disapprove of State control of elevations of which I disapprove.

R. FURNEAUX JORDAN.

London.

Architect-Builder At Director Level

SIR,—From time to time there appear in the technical press various statistics concerning the amount of building work untouched by an architect's hand. It is difficult to ascertain on a national scale, the exact proportion, but the disconcerting fact remains that an awful lot of building is planned, or cribbed, submitted and built without qualified help. It is high time that we as a professional body not only recognized this unpalatable fact but took some positive step towards rectifying it.

Legislation demanding that submission of drawings should be by qualified architects only is unrealistic and unworkable, but there does exist a very simple alternative. Let there be a lawful amalgamation of architect and builder at director level! Instead of allowing the insidious spread of the "all-in service" now offered by the larger contracting organizations, complete with qualified design staff (and yes, their designs are just as good as yours—and cheaper!), let the architect participate officially at director level and with a director's status, not as a hired hack! The precedent of the 18th century architect-builder is behind us and current American practice before us.

The whole structure of our profession and its relationship with the building industry

and the public has been changing over the years, and yet still we strive to administer the rules and regulations which were evolved to meet a completely different set of circumstances.

Let us have a little realistic spring-cleaning at Portland Place and a particularly vigorous dusting of the commandment which says—"Thou shalt not become a director of a building firm."

The moral is, I suppose, let us "Span" our bridges before we come to them!

K. R. HERBERT.

Notts.

Timber Housing

SIR,—In an otherwise well-informed and objective appraisal of the timber house designs resulting from the recent competition run by the British Columbia Lumber Manufacturers' Association (AJ, March 27), the suggestion is made that the larger houses included in the "off the peg" series are not timber houses in the true sense because brickwork is employed as external wall cladding. The author of your review makes the guess that, since the by-law restrictions are unlikely to apply to timber houses on larger sites, brick facing has been retained for its "traditional appeal" to clients.

In fairness to the architects concerned and to the BCLMA it should be mentioned that, by-law requirements apart, the designers were given a free hand to choose whatever cladding media they deemed appropriate.

It should be emphasized perhaps that the BCLMA has no purist bias in favour of all-timber housing but is seeking to popularize the basic principles of timber frame construction in this country. In Canada and the United States, timber frame houses, more numerous than other kinds, are as often as not clad partially or completely with brick, stone or stucco. Timber external walls have undoubted aesthetic appeal and there must be many people now contemplating frame construction who will want to see timber used throughout. There are as many, however, who find charm in the use of contrasting materials. The choice surely lies with the client and his architect? One obvious advantage of platform frame construction is that it makes possible a wide choice of cladding materials.

CHARLES G. TICKLE.

Hertford.

SIR,—We would like to make the following comments on your article on the BCLMA timber frame houses (AJ March 27).

Whilst it may be unusual for reach-me-down house schemes to include designs in the £4-£5,000 price range we feel that there is good reason for so doing.

It is true that most people wanting to spend such a sum on a house will want to have an individual design. It is also true that by far the greater proportion of these people, even today, do not employ an architect but go straight to a builder for a "design," and we hope that this large market may be made more aware of our profession as a result of the BCLMA scheme.

The final paragraph of the article is concerned largely with our own particular design, and especially with the problem of the brick facing. At heart we must confess that we are with the purists—and presumably your writer—in this respect, but would plead the following in amelioration:

The perspective as shown is extremely misleading by itself and we can only assume that your correspondent has seen neither the model nor other drawings. Only the small studio or study is brick faced—and how small in relation to the house may be seen from the plan. The whole of the rest of the house is, where not glazed, *clad completely in timber.*

It is important to remember—and a part of our brief—that in a scheme such as this it is essential that prospective buyers should obtain building society approval for mortgages with relatively little trouble. As we all know, and as Eric Lyons restated so well, the building societies are the real monsters behind the housing horrors of this country, and it is frankly as a sop to them that the small amount of brick cladding was introduced into our design.

We feel that we should make it clear that there has been no "hesitancy on the part of the BCLMA" in this matter. They have been ideal clients throughout the scheme.

JOHN NELSON.
J. ROY PARKER.

Liverpool.

RIBA

Architectural Education Conference

First reports on the RIBA's Education Conference at Oxford suggest that it was a great success with no effective opposition by reactionary architects to extending and developing the school training system. Everard Haynes, the secretary of the Board of Architectural Education, has issued the following interim statement:

The Conference on Architectural Education was held at Magdalen College, Oxford, on April 11-13. A list of those attending and the programme of the discussions have already been published (see AJ of March 27.—Eds.).

The discussions, in which all members took an active part, considerably widened the framework outlined in the Conference programme. The record of the discussions will form a valuable statement on the present position and problems of architectural education.

The Conference members included those of widely differing points of view, both within and outside the profession. Nevertheless, as the discussions proceeded a substantial degree of unanimity was reached on several fundamental issues.

A full report embodying recommendations will be made to the Council of the Royal Institute for publication, discussion and action.

RICS

No Fee Sharing

The RICS republished in their March *Journal* a statement first issued in 1947—prohibiting any merging of the architect's and quantity surveyor's fees. This is objected to on the grounds that it is "thoroughly bad for the professional morale of both architect and surveyor and is calculated to discourage care in their work." The statement goes on to suggest that any participation of the architect in the quantity surveyor's fees might "render the parties to be liable under the Prevention of Corruption Acts, 1906 and 1916." For an architect it might "constitute an infringement of the Code of Professional Conduct."

The 11-year-old statement is republished with the "warm approval" of the Quantity Surveyors' Committee of the RICS. The JOURNAL'S warm comments appear on page 559.

TPI (SCOTTISH)

Successful Study Group

The present ferment of ideas on housing layout were well reflected at the highly successful study group that was arranged by F. P. Tindall for the Scottish Branch of the Town Planning Institute at St. Andrews, from March 25-27 (writes a correspondent).

It was attended by architects, engineers and surveyors as well as planners from local and central government. A large collection of layouts, contributed by progressive housing authorities in Britain and Scandinavia were examined, and over 1,600 coloured slides shown. The proceedings were run on seminal lines by Tom Lyon, Head of the Department of Town and Country Planning, Royal Technical College, Glasgow.

Dissatisfaction was unanimous with the lack of order and human dignity in the sprawling corridor street layouts which are all that remain of the garden city tradition; with the flat and flimsy elevations of the prefabricated, but not machine made, buildings, and the failure to civilize the ground about them.

The road layout, although very expensive, had far too high an accident rate. The houses themselves in no way fitted the present household sizes, let alone the smaller and ageing structure of the future, and were technologically backward. Will it be possible to let houses without central heating, without privacy or without a garage in 20 years' time?

Many hours were spent examining the Radburn idea. The Willenhall Wood schemes were illustrated by Mr. Lyddon, of Coventry's Architectural and Planning Department, together with others based on the separation of pedestrian from vehicular traffic; of kiddie cars from motor cars.

Single aspect and L-shaped blocks of houses round common greens such as that at Frankendael, Amsterdam; Milestedet, Copenhagen, appeared most suitable to the Scottish climate.

Hugh Wilson, outlining the plan of the new hill-top town of Cumbernauld, described the integrated footpath system which had a distinct urban character and all the community buildings placed along it. The roads' widths were being calculated and members of the group undertook to make surveys so that roads could be designed for traffic and parking needs rather than by rule of the surveyor's thumb. The use of tar-sprayed gravel on parking areas was advocated by Mr. Meldrum, Burgh Engineer of Kirkcaldy, to save cost, and there was much support for "slowing-down surfaces" to control speeds in housing areas. The design and siting of children's playgrounds and the space about buildings were also discussed.

The group is to be followed up by exhibitions of the layouts and meetings in Glasgow and Edinburgh and should prove a valuable stimulus to improved housing practise throughout Scotland.

IN BRIEF

The AA Council announce that, following a reorganization of staff duties, three new appointments of Year Masters will be made, to start in September, 1958. The salary will be £1,100 per annum. Private practice is encouraged and office facilities in the school

Continued on page 564

BRUSSELS PREVIEW: PAVILIONS NEARING COMPLETION

Above: the Swiss pavilion, composed of a series of hexagonal units (steel columns, timber trusses, aluminium curtain walling and cladding). Architect, Werner Gantenbein. Below: the Japanese pavilion, architect Kunio Mayekawa. On the left is part of a traditional Japanese house and on the right is the main pavilion, a steel and glass structure sheltered by a

vast butterfly roof. Note the imported Japanese rocks and the traditional white gravel. Below: general view of the Spanish pavilion, architects Ramon Vasquez-Molezun and J. A. Corrales Gutierrez. Like the Swiss, this is a " unit " type pavilion.

News—continued from page 563

buildings are available. Applications must be submitted by May 31 to the Secretary, AA, 36, Bedford Square, London, W.C.1, from whom full particulars of the appointment may be obtained.

The School of Architecture, Edinburgh College of Art, announces the introduction of the Andrew Grant scholarships, which carry no means test, and are designed to attract students who are not able to obtain a local authority grant because of their parents' income group or any other reason. The scholarships are each £200 a year: one for four years from the first year of entry, and two for two years with post-intermediate entry.

S. L. G. Beaufoy has been appointed Chief Housing and Planning Inspector, Ministry of Housing and Local Government, in succession to F. Collin Brown, who is retiring on May 5. E. G. S. Elliot, M.A., M.T.P.I., will succeed Mr. Beaufoy as Chief Technical Planner, and J. R. James, B.A., F.R.G.S., becomes a Deputy Chief Technical Planner.

The Council of Industrial Design announces a change of name for *Design Review*, its photographic and sample catalogue of well designed consumer goods. From April 1, *Design Review* will be known as *Design Index*. *Design Index*, it is felt, conveys more clearly the nature of the service offered—a permanent reference which manufacturers, trade buyers, retailers and the general public can use as a source of information and ideas on new and well designed household goods on the market. It should, too, remove the idea that the index is a publication.

The Faculty of Architects and Surveyors will be holding professional examinations from May 19 to 23, 1958 (inclusive), in the Building and Quantity Surveying sections. Applications from candidates for permission to sit must be received by the Secretary not later than Monday, April 21, 1958.

The Plymouth, Devon and Exeter Planning Officers are to co-operate with the Town and Country Planning Association in a proposed weekend Study Tour in June which would include Plymouth Town Centre and other City developments, a conducted coach trip across Dartmoor National Park and a study of development in the centre of Exeter.

The cost will be not more than £7. Those interested are asked to get in touch with the TCPA 28, King Street, Covent Garden, W.C.2.

The TCPA has also arranged for a holiday-study tour of Yugoslavia led by Sir Frederic Osborn from September 9 to 28, at a cost of £85.

DIARY

Library Group Meeting. Talk by Walter Don on Christchurch, Spitalfields. At the RIBA, 66, Portland Place, W.1. 6 p.m.
APRIL 21

The Organization of Joint Maintenance Schemes in Conjunction with Modern Development. Talk by G. P. Townsend, Director, Span Developments Ltd. Chairman: Ambrose Appelbe. At the HC, 13, Suffolk Street, S.W.1. 6 p.m. APRIL 22

Brick Sizes, the 4-in. Module and Modular Brickwork. Talk by Bruce Martin, Head of Modular Co-ordination Studies, BSI. At the RSA, John Adam Street, W.C.2. 7.30 p.m.
APRIL 24

Ten Years of Planning: Where Has It Got Us? Talk by L. W. Lane, Senior Planning Officer, LCC. At the RICS, 12, Great George Street, S.W.1. 5.45 p.m.
MAY 5

CRITICISM

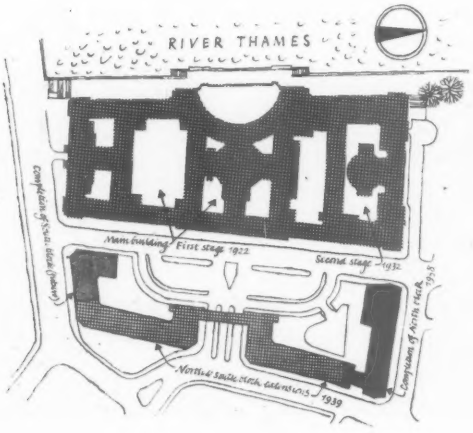
by J. M. Richards

EXTENSION OF COUNTY HALL, LONDON, designed in the office of the architect to the LCC

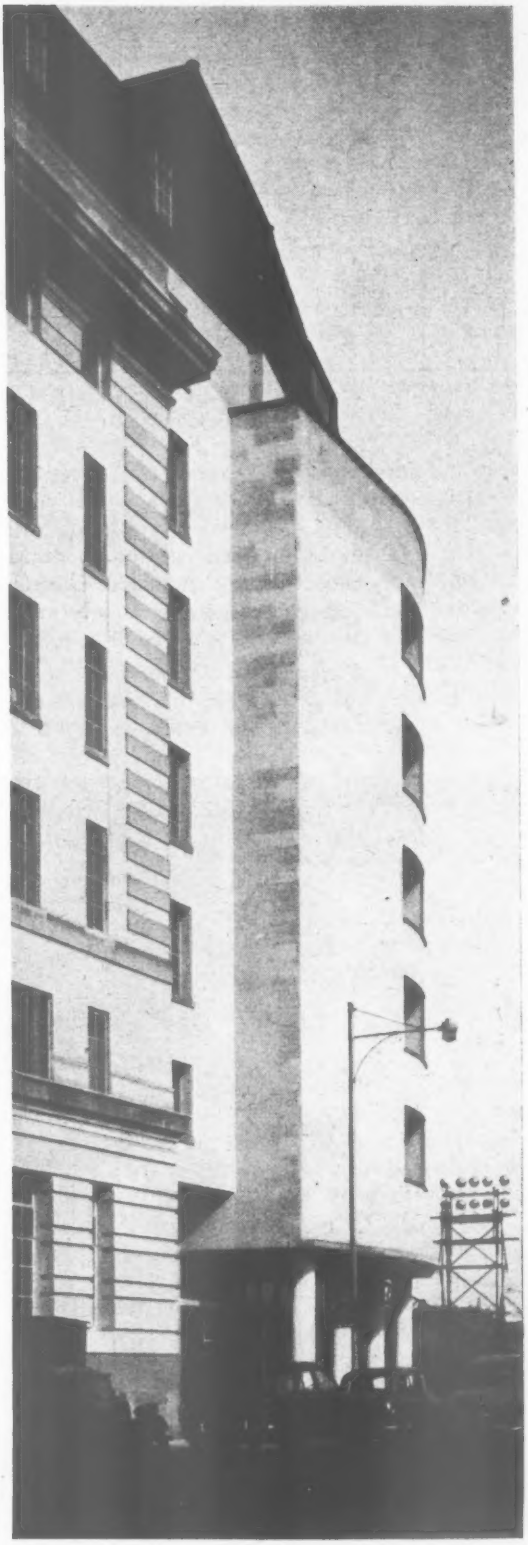
It used to be believed by some people that a period-style building could be made into a modern building by shaving off the period ornament. I thought that fallacy had been exposed a long time ago, but the newly completed extension of County Hall indicates otherwise. It is a compromise that falls between all possible stools. Normally I don't discuss such unsatisfactory buildings in these articles, thinking the space better used to make comments on the buildings that are most worth commenting on. But it may be useful to say something about this one because of a number of important principles it raises.

Before doing so I must refer to the question many people must have been asking after seeing this building: How does it come about that an office with the distinguished record of the LCC Architect's Department, can produce a building which is not only contrary to all the forward-looking principles that have given the department such a high reputation, but puts into reverse the policy of enlightened development the LCC has been pursuing on this very site: its own South Bank? Having permitted—indeed perpetrated—this senseless cliff of solid-looking stonework along one boundary of the new South Bank area, the LCC can no longer assume the rôle of the injured party when the ponderousness of the new Shell building is complained of.

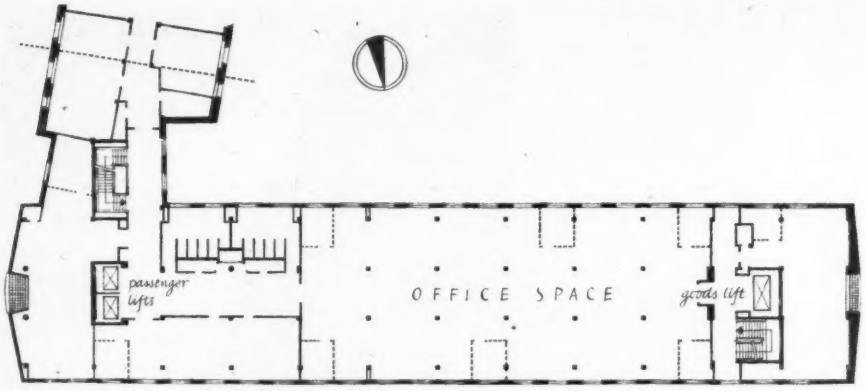
A partial answer to the puzzle is that this extension



Block plan: the extension discussed in this article is shown in solid black.



From along York Road; showing the glazed ground floor at the end of the building which reveals the structural columns, elsewhere concealed.



Typical floor plan [Scale: 1/32" = 1'0"]

to County Hall is not, in the normal sense, the creation only of the LCC Architect's Department. The original plans produced by Mr. Hiorns (working with Sir Giles Scott) in the 1930s showed the extension as a return of the rear blocks. When Robert Matthew was instructed to proceed with it the work was given to a group of

The main front of the new extension facing the South Bank site. On the right of the picture can be seen a corner of the original Ralph Knott building; on the left the Giles Scott addition to which the extension is attached. Note the higher roof of the extension and the recessed balcony, both discussed in the article.

The new LCC building from the direction of the river, showing the solitary central window in the end elevation, which the article claims leaves dark corners inside, and the high flat-topped roof.

architects some of whom had worked on the original building. The plan for the South Bank which was being developed by Leslie Martin, who was just taking over from Robert Matthew, showed the extension as a taller, partially isolated, block which was clearly modern in character. This was quite unacceptable to officials of the Council, who insisted on an extension with the stone face and tiled roof of the existing building. At the same time the urgent need to increase accommodation made a simple replica impossible. It would be reasonable to interrupt here and ask whether Dr. Martin decided rightly in the first instance when he showed a modern building in his South Bank layout. The argument against his policy would be that the extension had no right to a separate identity, being simply the completion of a missing corner of an established design. His arguments, I imagine, were that some adaptation to meet modern requirements were necessary, that to make the minimum adaptations to the original Ralph Knott conception would have been one thing, but to have adapted the Giles Scott design, which was itself an adaptation of Knott's (and stylistically a watering down of Knott's vigorous if, to our eyes somewhat elaborate, Edwardian baroque) was quite another thing and would produce only a characterless compromise; also that the new project was more than an extension to County Hall, because it had the additional rôle of providing the background to the new South Bank development and should conform to it in style, which there was then every reason to hope would be a frame-and-cladding rather than a masonry style. Although the end elevation of the Ralph Knott wing also faced the new site, this was due later to be partly blanketed by the National Theatre.

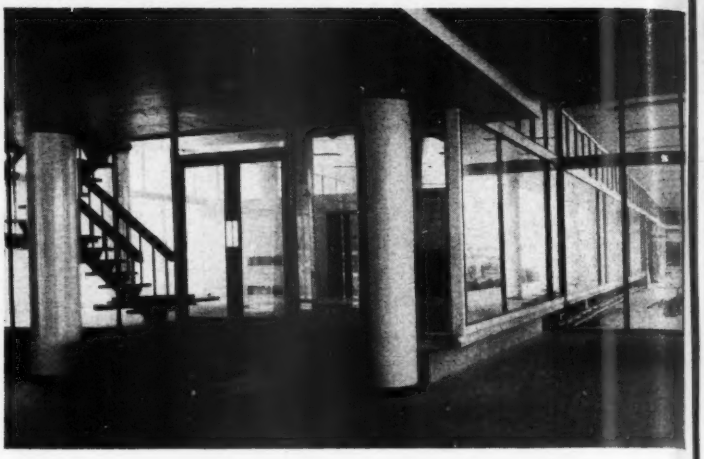
The question of principle I have referred to is this: either it was worth sacrificing convenience and paying the cost of completing the Scott design unchanged (and a strong case, I feel personally, could be made out for doing this) or it was not; in which case a new design, conceived in modern terms, was required. The resulting building illustrates the defects of simply compromising.

In deploring this compromise I am not thinking only of what is proper stylistically and satisfactory æsthetically, though judged on these grounds it is, in my view, a most unfortunate design. You only have to look along York Road (as in my first illustration) and see the towering stone-faced end of the building, crowned with its steep tiled roof, perched over the columns on which it is really carried, to see the artistic calamities that architecture which follows the rules of neither traditional nor modern construction is apt to lead to. But my criticisms go much deeper than this. The new extension is in several practical ways less satisfactory even than the Scott building which was its starting-point.

Structurally the Scott building is what you would expect. It has a steel frame, embedded in the stone walls. In the new extension the frame (of reinforced concrete) does not directly support the apparently massive stonework, which consists of thin panels resting on the floor-slabs, with the columns standing free inside them. This is, of course, a reasonable method provided it is reasonably done. But here the columns are too near the outer walls for the space between to be usable. They simply get in the way. Moreover the point of this kind of wall detached from the structure is to let all the light it requires into the building. Here the walls are pierced with square windows almost as widely spaced as though they had to leave enough solid masonry to support the roof, and the interior is badly underlit. The occupants, except those working immediately beneath a window, have to use artificial light all day—itself a devastating criticism of a newly constructed office building.

This under-lighting is only partly due to the refusal, presumably for stylistic reasons, to provide larger windows. It is chiefly due to the width of the building being far too great. This, I suppose, the present architects can blame on the original layout of the rear portion of County Hall, but does not the fact that this was obviously an inefficient width provide an additional argument against following the previous pattern? In this respect, likewise, compromise has produced the worst of both worlds.

The total width of the wing is 51 ft., giving an office depth of at least 20 ft. when a reasonable corridor is subtracted—far too much for good daylighting. The



The glass-walled entrance vestibule: left, from outside; right, from inside. The windows are to be used for displays illustrating LCC activities, which have not yet been installed. The left-hand picture also shows the curved outline given to the end wall, criticized in the article.

columns are spaced at 14 ft. 4 in. And as the columns have equal spacing, corridor partitions cannot be made to coincide with the internal rows of columns. In spite of unnecessarily wide corridors everywhere, free-standing columns clutter up the office floor-space. There are no fixed internal partitions (the one improvement on the design of the earlier portion) and parts of nearly every floor are left open from outside wall to outside wall, to provide drawing-office space. These spaces have large and wastefully under-lit areas in the middle. They also have almost unlighted areas at either end because of the way the windows stop short of the corner (again presumably for stylistic reasons), and this is aggravated by the fact that the ends of the building are lit by only a single window in the centre of each elevation.

These end elevations, though generally designed to follow the Scott elevation are, for some unaccountable reason, given a slight curve in plan, which looks very odd indeed when seen obliquely along York Road and from the main entrance of the original building. It would be interesting to know how the architects justify this curve. On the main elevation facing the empty South Bank site (but later to face the side of the Shell building) there is also a fanciful addition to the Scott repertoire of architectural features in the shape of long recessed balconies at first-floor level. These again need explaining. They can hardly be of much practical use. They cannot have been put there to give emphasis to certain principal rooms, since the easternmost balcony, for example, spans successively across the front of part of a drawing office, a secretary's office, two principal offices and another drawing office, and all it does to these rooms is to make them narrower than the rest, so that if they are of a length appropriate to important rooms they have uncomfortably cramped proportions. The principal's office, moreover, contains a single oddly placed free-standing column, depriving it of any of the dignity the provision of this imposing balcony was presumably meant to give it.

The elevations are crowned by a steep French château-style roof covered in Roman tiles, echoing the style of the earlier parts of the building. But on the extension this roof rises higher than it does on the rest of the Scott building, two extra storeys being concealed in the roof. The top storey is lit from above, through glazing set in the flat central strip. The lower storey is wholly artificially lit and is used for storage.

Such vast storage space is of course very useful in any building, and the top-lit upper area admirably serves, as it happens, the needs of the photographic and photo-printing sections of the LCC Architect's Department which occupies the whole of the new extension. I say " as it happens " because the building was not designed for the architects but simply to provide badly needed extra space for LCC purposes. It was allocated to the

Part of the main staircase. This photograph does not fully bring out the coarse detailing and colouring, but does show (top left) the strangely casual juxtaposition of planes and angles.

Architect's Department only when it was on the point of completion.

This is not of great significance (unless architects can be said to suffer more than other office-workers when the standard of lighting is poor) because well laid-out office space should be adaptable to whatever type of office work it is required for, and the chief defects that show themselves at the moment, lack of privacy for senior staff requiring private offices and insufficient lavatory accommodation for the men (who have exactly the same as the women, though they outnumber them ten to one) can presumably soon be remedied by the erection or adjustment of partitions.

Yet it is sadly ironical that it should be this particular department which has to suffer daily contact with the most prominently sited of the very few examples of backward-looking architecture that the LCC has been responsible for in the last ten years. The members of the department must feel they have been made to look fools in, as it were, their own home territory. They must feel particularly unhappy when they enter the building, passing through the glass-screened vestibule which does give some hint of the airy interior a well-designed office building can have, and does suggest the architectural opportunities an openly planned frame structure offers, and are then confronted by the main staircase. This is intolerably vulgar, both in its general design, in its detailing and in the way the materials are used. Its showiness and insensitiveness are the very qualities that were too much associated with the word modern until the good buildings that the LCC architects have put up in London showed the public otherwise.

A main corridor. The glazed screen on the left has been curtained to give privacy.

This staircase and other inept examples of design are the architects' responsibility alone. But as to the general conception of the building, it may be that I am being unjust in putting the whole of the blame on the group of architects who worked on it. They had an extraordinarily difficult brief, and some of the blame must go to the Council which wished such a task on them. The Council should have had more faith in the architectural policy which in the last ten years has brought so much credit to them, and has been admired all over the world.

New Requirements for the RIBA's External Examination

Although the very fundamentals of architectural education were being discussed at the RIBA's recent Oxford conference, at the same time constant work is being carried out to improve the present standards of education and examination. In the article below, A. Douglas Jones, principal of the Birmingham School of Architecture, describes and comments on the new requirements for exams taken externally.

The modifications which the RIBA are going to make to the Intermediate examination are expected to come into force in November, 1960, and to the final examination in November, 1962. The changes in the testimonies of study will, of course, be effective sooner (Intermediate, January, 1959; Final, January, 1961). The Special Final will follow the pattern of the Final Examination. In very broad terms the changes amount to this:

The four sheets of composition that form part of the present intermediate testimonies of study will be dropped.

In the Intermediate Examination the Special History paper will give way to another sort of History Paper in which one or two questions will be asked on the related arts; and two additional three-hour papers will be added to the examination making a total of seven examinations instead of five. One of the new papers is on simple heating and drainage and the other is an examination in the properties and uses of building materials. A testimony (which is really a drawn thesis incorporating a report) replaces the written thesis and one of the design testimonies. One design testimony is dropped altogether.

In the Final Examinations the two-hour professional practice paper will be replaced by two 1½-hour papers covering " Building Law Regulations and Bylaws " and " Contracts, Scale of Charges and Code of Conduct." The changes seem to be an improvement.

The candidate for the intermediate examination will be let off the four dreary sheets of composition, but he will have to face the two new examination papers in heating and drainage, and on materials. Although this is a step forward it is a pity that the RIBA did not have the courage to balance the addition of the two new papers by dropping the three-hour paper on " Special History," instead of replacing it by a similar paper called the " History and Appreciation of Architecture." Had this been done there would only have been an overall increase of one examination paper

instead of two, and the intermediate examination is already fairly tough. There is, in any case, an examination in General History and there will be agreement that this paper should remain; but why persist in having *two* similar history papers?

From the specimen papers that the RIBA have published the "History and Appreciation of Architecture" appears to be no more than a further test in the General History of Architecture with a question added on the related arts. But then, what else could it be?

There is also an improvement in the conditions for the Final candidate who will be able to prepare a drawn thesis with a report instead of a written thesis. This will bring him nearer to his cousins in the Recognized Schools. The thesis will be assessed in conjunction with the Design Examination and candidates will be able to gain a Distinction in Design. Why it should be a Distinction in design instead of an all-round "Distinction" is difficult to understand. The thesis will supersede an equivalent amount of work; in fact there will be an overall gain for candidates of one design testimony.

Another improvement is that the technical examinations will have to be passed before the Design Examination is taken. There are some other modest changes which are enumerated further on. It would be both unproductive and ungallant to complain about matters of detail. So long as the RIBA intend to maintain the *status quo* in architectural education the new examination arrangements appear to be a step forward, but it would be encouraging if the RIBA Council now decided that it is time to study the whole system of architectural education instead of tinkering with it.

While the examination itself is improved the drafting of the new regulations is quite dreadful. To my knowledge the RIBA issue eight booklets on the subject (not to mention the specimen examination papers). The information given in these booklets should be systematized and the booklets rewritten.

SUMMARY OF THE CHANGES IN THE INTERMEDIATE EXAMINATION PAPERS

Testimonies

The four sheets of composition are dropped.

Examinations

1. *The Special History Paper* is superseded by a history paper of similar length that deals with history in a more general way and includes a question on the related arts.

2. *The new Design Paper*

Twelve hours instead of nine will be allowed to work on the paper.

3. A new three-hour paper called the *"Special Requirements of Buildings"* will deal with simple drainage, heating, thermal and sound insulation, electricity, fire precautions.

4. A new three-hour paper called the *"Properties and Uses of Building Materials"* will deal with materials such as concrete mixes, timber, roofing materials, bricks, etc.

SUMMARY OF THE CHANGES IN THE FINAL EXAMINATION PAPERS

Testimonies

Apart from the regulations governing the submission of the testimonies, two main design testimonies and the subsidiary working drawing testimony and the written thesis give place to a new testimony (called the "Examination Testimony" because it will be marked in conjunction with the design exam.). This new Testimony is the equivalent of a Recognized School thesis.

Examinations

With the exception of the paper in Professional Practice there appear to be no basic changes though there are slight variations. A little more time is given to candidates to work three of the new papers (Construction, Hygiene and special requirements of buildings, Specification) as can be seen from the analysis of the final examinations set out here.

Candidates will have to pass the technical subjects before sitting for the design examination.

The two-hour Professional Practice paper is to be superseded by two new 1½-hr. papers called "Building Law, Regulations and Bylaws" and "Professional Practice, Contracts, Scale of Charges, Code of Conduct."

THE CHANGES IN MORE DETAIL

Intermediate Testimonies of Study

1. Testimony 2.C which requires four sheets of annotated sketches of composition is replaced by a Design subject.

2. Testimony 2.D will be developed not only as a design programme, but as one for working drawings.

3. Testimony 3.A asks for a design and working drawings. This design will be dropped and working drawings of the previous design testimony will be carried out instead.

Intermediate Examinations

Obviously it would be unrewarding to compare the old and the new papers question by question, but from a study of the new specimen question papers a rough guide to the changes that are to take place is given below.

Present paper	New Paper
1. "*General History of Architecture*" (3-hour paper)	"*History and Appreciation of Architecture (General)*" (3-hour paper)
No change.	
2. "*Special History of Architecture*" (3-hour paper) Choice of a paper in: Classical Byzantine, Early Christian, Romanesque Medieval Renaissance 19th and 20th Century	"*History and Appreciation of Architecture—Appreciation*" (3-hour paper) This appears to be General History in the sense that the questions in the specimen paper deal with buildings in various parts of the Western world. A question in the specimen paper deals with hieroglyphics, sculpture and stained glass

3. " *Mechanics and Simple Structural Calculations* (3-hour paper)	" *Building Science Paper* 1—*Structure* " (3-hour paper)
No change	
4. " *Design and Construction, Stage* 1 " (9-hour paper)	" *Design and Construction* " (12-hour paper)
No change except in the time allowed to do the paper (i.e. three hours added for the new paper)	
5. " *Design and Construction, Stage* 2 " (3-hour paper)	" *General Applied Construction* " (3-hour paper)
No change	
6.	" *Building Science Paper* 2. *Special Requirements of Buildings* " (3-hour paper) This is a paper which does not have a parallel in the present examination. It is intended to cover in a reasonably simple way; drainage, heating, thermal and sound insulation, electricity, and fire precautions
7.	" *Building Science, Paper* 3. *The Properties and Uses of Building Materials* " (3-hour paper) This is another paper which has no parallel in the present examination. Candidates must have a working knowledge of concrete mixes, timber, roofing materials, bricks, etc.
8. *The Oral Examination*	*The Oral Examination*
No change	

FINAL TESTIMONIES OF STUDY

Present arrangements	**New arrangements**
Generally All testimonies to be approved before admittance to the examination	*Generally* All testimonies, *except the main testimony*, to be approved before admittance to Part I of the examination. (Part I consists of the technical group of subjects)
Note. Part 2 (technical exams.) may be taken with, before or after Part 1 (Design)	*Note*. Part 1 (technical exams.) must be passed before candidates may sit for Part 2 (Design) The main testimony to be completed before admittance to Part 1 (Design exam.)
The Testimonies	**The Testimonies**
Six testimonies required (four main and three subsidiary) and a written thesis	Four testimonies required (two main and two subsidiary) and an " Examination Testimony " which is the equivalent of a thesis. The candidate has to choose a subject and site and draw up a programme for approval. Design drawings and perspective, working drawings and a report are required The dropped subsidiary testimony (working drawings) is included in the " Examination Testimony " The dropped main testimonies are the housing layout design subject, and the design subject involving " one large mass and smaller masses "

FINAL EXAMINATIONS

At present the Design exam may be taken with, before, or after the other group of examinations, with the exception of Professional Practice which is something apart. In the group of technical subjects at least two subjects have to be passed before they can be added to one by one. In the new arrangements the group of technical examinations must all be passed before candidates may sit for the Design Examination. No statement appears to have been made about the minimum number of technical exams that must be passed at one time.

Present Paper	**New Paper**
1. " *Design* " (27-hour paper)	" *Design and Construction* " (27-hour paper)
No change	
2. " *General Construction* " (3½-hour paper)	"*Advanced Applied Construction* " (4-hour paper)
Judging from the new specimen questions the two papers are basically similar but with reasonable variations. An extra half hour is allowed for the new paper.	
3. " *Theory of Structures* " (3-hour paper)	" *Building Science, Paper I. Structure* " (3-hour paper)
No change	
4. " *Hygiene and Specialized Requirements of Buildings* " (2½-hour paper)	" *Building Science, Paper II. Special Requirements of Building* " (3½-hour paper)
The papers seem to be basically similar. Special heading for hot water and heating systems has been added to the new paper and an extra hour has been given to work the paper.	
5. " *The Specification and Properties and Uses of Building Materials* " (3-hour paper)	" *Building Science, Paper III. The Specification, Properties and Uses of Building Materials* " (3½-hour paper)
(*a*) The questions appear to group themselves a little differently, and in the new paper a question on approximate cost is introduced. People specially interested should get the booklet of specimen questions from the RIBA. (*b*) An extra half hour is given to work the new paper.	
6. " *Professional Practice* " (2-hour paper)	" *Paper* 1. *Building Law Regulations and Byelaws* " (1½-hour paper) Building Legislation, Town Planning Requirements, Rights of Owners, Easements, Dilapidations, Administration of the Law
7.	" *Professional Practice, Paper* 2. *Contracts, Scale of Charges, Code of Conduct, etc.*" (1½-hour paper) This paper also deals with the relationship of the Architect with others; Arbitration; Competitions
The two new papers take three hours to work instead of the two hours allowed for the present single paper. The Town Planning Acts will form a part of the new syllabus. The new paper seems much the same as the old one, but appears to expand it.	

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technical section

THE INDUSTRY

The annual Exhibition of the Associated Society of Electrical Engineers was held at Earls Court from March 25-29. We print below a report by our Specialist Editor for Electrics. After deploring the fact that the Exhibition has taken the broad way of all British Trade Exhibitions he records such dest improvements that he was able to find in switchgear and lighting and describes the present state of the developments of underfloor heating, and of the rationalization of fluorescent light fittings and fuseboards.

This year's ASEE Exhibition was Bigger and Better and Louder and Glossier than ever before. The organizers should examine the current trend very carefully and consider whether anything can be done about it. Three years ago this exhibition was one of the pleasantest of the year. There was time to meet people and exchange opinions on new products and problems, and the atmosphere was extremely friendly. Now things have changed. The exhibition is far too large and is coming to be regarded merely as an opportunity for wining and dining the more important customers. There is no time, and in some cases, not even the wish, to discuss common problems in an easy atmosphere. On some stands one feels that nobody who does not intend to place a large order then and there is really welcome.

There are notable exceptions, of course, and the courtesy shown by certain firms stands out in marked contrast to the rest. Nevertheless, those of us who used to look forward to this exhibition as the major event of the electrical year cannot but feel depressed.

The exhibitors are no more to be envied than the visitors. This is the salesman's marathon. For five days he must remain on his feet with a smile that by the third day has become fixed and staring, ready at any time to serve drinks, to take a customer to lunch—however many lunches he may already have eaten—and to discuss the hysteresis loop of silicon steel, or the pull-out torque of the latest motor.

I made a practice of saying, at every stand I visited—"How you must dread this week!" All thought carefully before replying. Those who eventually said Yes could be trusted. Those who said No were obviously tough, and experienced, and plausible, and would have great success selling floor heating in Central Africa.

An exhibition of this kind also serves to make one thing very clear. Only a few firms are innovators, most are imitators. It is obvious that there cannot be enough new ideas to go round, but what manufacturers lack in originality they make up in impudence, since they rarely steal an idea without claiming that it was their own to start with.

There was a special exhibition this year devoted to electro-medical equipment. This was not laid out as a series of trade stands, but was an unattended display on the first floor with one piece of equipment of each kind set out in a mock-up of the room in which it is used. It was certainly effective—a friend who was with me on the first day began to feel faint as we passed the operating theatre. I found it one of the most interesting parts of the exhibition, and the only one I looked forward to revisiting, perhaps because I was able to watch the iron lung without anyone trying to sell it to me.

And now for the new products:

Accessories

Switches: The most interesting new switch is by Britmac, and is shown in Fig. 1. This is an adaptation of their plaster depth switch in which the dolly has been replaced by a lever. The switch mechanism is, I understand, entirely unaltered, but this is the first British design which breaks away from the more conventional dolly, although on the Continent such designs are becoming quite common. The switch dolly is associated with the quick-make and break tumbler switch, and there is no especial reason to use the same action with an a.c. switch, although it has been retained hitherto, I presume, from force of habit.

A rocking lever can be a much neater arrangement, and Britmac are to be congratulated for having been the first to introduce it. Let us hope for more progress in this direction, and that Britmac will drop their present bulbous shape in favour of a more elegant one.

Falk Stadelmann, who last year produced their "Snapfast" switch for use in competitive housing have this year brought out the "Metalcast" range with die-cast plates and boxes. A typical surface-mounting unit

Fig. 1 (below left). The Britmac "Flip Flap" switch. Fig. 2 (below right), Falk's "Metalcast" grid switch unit.

technical section

is shown in Fig. 2. This is, in my opinion, the best looking protected dolly gridswitch on the market, largely because so much more can be done with a die-cast plate than with the metal pressings which most other firms use. The tooling costs must have been formidable.

The same firm also offer a number of ingenious devices for fixing accessories to prefabricated hollow tile partitions, and even to Stramit. I have no doubt that they would develop a method of fixing a switch to a cretonne curtain if the need arose.

Crabtree have brought out a range of gridswitches under the name of "Closegang." It is such a pity that this firm, which makes excellent switches, should have fallen so badly behind in the matter of styling. There are several better looking plaster-depth switches than the Crabtree "Lincoln" with its clumsy plate and square section dolly, while the new "Closegang" range is not nearly so well styled as the MK flush gridswitch, although in the protected dolly patterns both firms lag far behind Falks'. It is about time that manufacturers of accessories undertook a proper design policy, since even those firms which do make some neat units also make so many hideous ones that the whole thing appears haphazard and accidental. I was informed by a representative of one of the firms, whose 13 amp plug has recently been criticized, that retooling for this component alone would cost £20,000. It is therefore easy to understand why a design, however bad, is retained for so long, especially if it continues to sell. All the same, if it is so expensive to change a design once introduced, all the more care should be taken in drawing it up in the first place.

Nettle are now in production with a switch of which prototypes only were available last year. It has been given the unpleasant name "Findalite," and is fitted with a neon lamp which is alight when the switch is off. It is a good idea, but not half so good as to install a sufficient number of two-way switches so that one does not have to grope about in the dark at all.

F. C. Blackwell ("Blaco") have produced a box for plaster depth switches fitted with nylon pillars to accommodate the fixing screws, which are thus completely insulated for the whole of their length. "To earth or not to earth" plaster depth switch boxes in T.R.S. installations is a very tricky point. All makes of switch except one are fitted with metal fixing screws, which are accessible at the front of the plate, and might become live if anything goes wrong inside the box. It seems unnecessary to earth the box against this very slight risk, and nylon pillars, which eliminate the risk of the screw coming into contact with live metal are a very effective solution. Now that two firms have produced boxes of this kind (the other being Crabtree, who had prototypes available last year) it is to be hoped that the IEE will insist on the use of such boxes when the next edition of the wiring regulations is issued. Hitherto they have refused to commit themselves, even when a specific query was raised. Perhaps they have been waiting for a development of this kind.

Lampholders: Nettle have prepared prototypes of two new lampholders designed by John and Sylvia Reid, which they will put on the market if enough interest is shown in them.

I understand that they have gone down very well and will be in production soon. The prototypes are shown in Fig. 3. While I do not think that they are much, if any, improvement on more conventional designs, any attempt to find a fresh approach to components of this type is to be applauded. I hope that other manufacturers will attempt the same sort of thing, provided that they do genuinely try to improve the design, and not merely bring out some novel shape for the sake of being different.

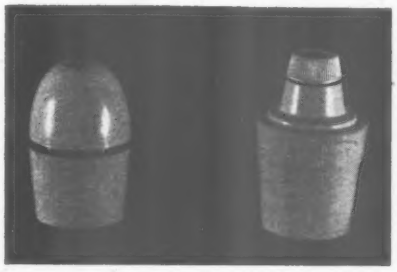


Fig. 3. Two new lampholders by Nettle.

Floor heating: Three firms have entered this field for the first time during the past 12 months, and all employ cables that are embedded in the screed and cannot be rewired in case of breakdown. The increasing popularity of these non-ducted systems testifies to the confidence with which floor heating is coming to be regarded. Only a short while ago nearly all writers and commentators were very suspicious of any system that did not permit rewiring; the common experience now is that architects and engineers will insist on a ducted system for their first scheme, but are likely to use a non-ducted system thereafter.

The first of the new cables is the "Florawarm" range, manufactured by the Wandleside Cable Works. This cable consists of a conductor covered by a nylon sleeve with an insulating sheath of p.v.c. The cable is not sold in set lengths of fixed loading, but each type covers a range of wattages depending on the length used. The ranges of the different types of cable overlap, so that any loading from 250 watts up to about 5·5 kilowatts can be obtained by a suitable selection of conductor and length. In this way it is possible to design to exact requirements, and, in my opinion, this is the best of the non-ducted systems available. I am glad to see that the new data sheets are much easier to read than those originally issued.

The next system is the "Ashatherm" cable made by Aerialite. It consists of a conductor insulated with a "heat resisting elastomer" (whatever that may mean—it would be much better to give the name of the material) and an outer sheath of p.v.c. This cable is sold in lengths of fixed rating, although the steps between successive sizes are quite small. An ingenious system of spacers has been developed for use with this system. Quadrant formers are clamped to conduit, and a portable frame is made up round which the cable can be stretched. Once the cable is laid out round the frame and fixed in position by fillets of cement, the frame can be removed complete and used elsewhere. Although more expensive in its first cost, this system seems to be preferable to the wooden or metal bobbins which are offered by other manufacturers. Simplex have also brought out a heating cable, insulated with p.v.c. The cable is available only in fixed loadings, and the range is at present rather restricted. An interesting feature of this system is a specially designed junction box to which the heating cables can be connected at one side and the mains cables at the other without risk of overheating. This avoids the rather clumsy devices of conduits filled with sand or factory-made sealed connectors on which other manufacturers rely.

Controls for floor heating: Both Mantel Metalworkers and Wylex have brought out Consumer's Supply Control Units for use in houses which have electric floor heating. These are cabinets with provision for separate fusing of the floor heating, and in the case of the Mantel units, space for a second meter and time switch. There is nothing startlingly original in the idea, but it is useful to have standard units available at a reasonable price.

Lighting fittings

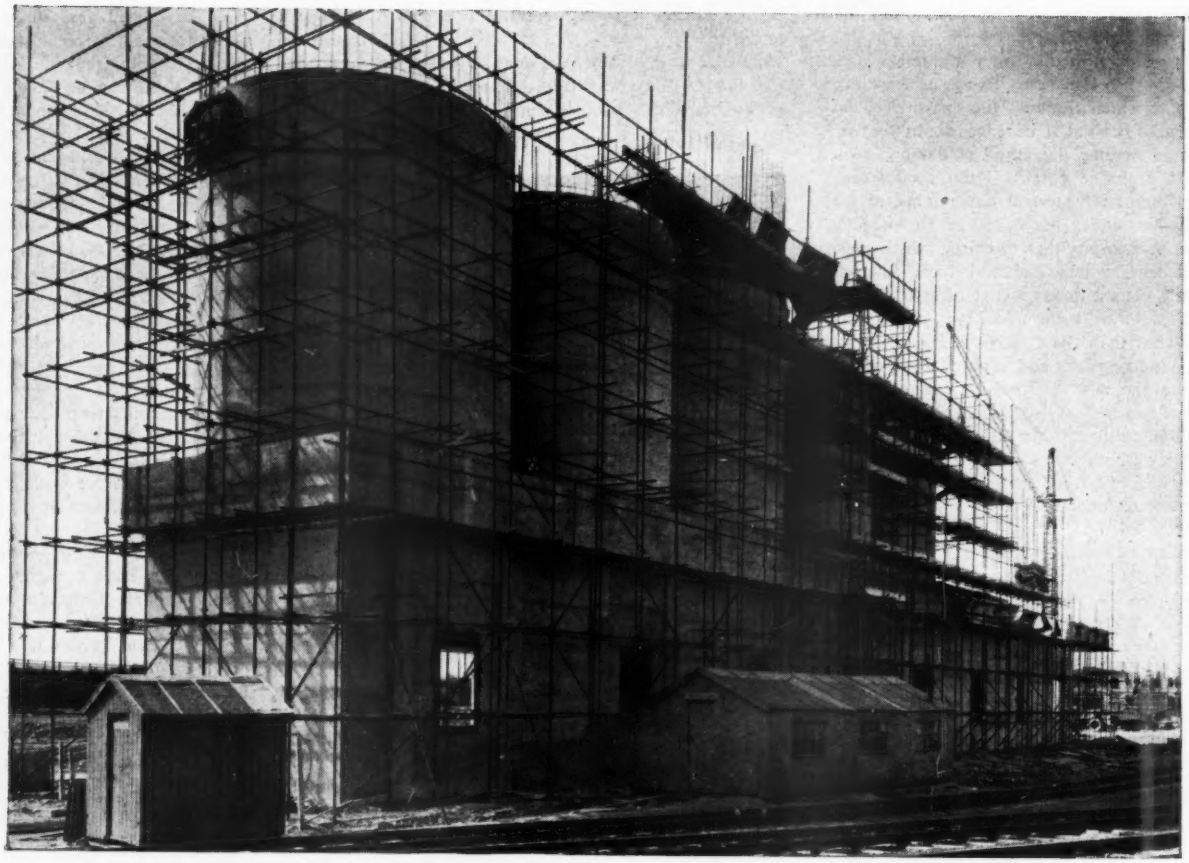
I did not notice any very exciting new products this year. Rowlands Electrical had on show a vapour proof fitting which has spent many months in a laboratory fume cupboard at the Northern Polytechnic without suffering any damage. The final answer to corrosion has been announced so often that I have become a little wary of each fresh one, but this does seem promising, and makes a useful companion to the Simplex "Endura" fluorescent fitting.

GEC had an imposing display of their "101" range of fluorescent fittings which came out with great *eclat* about two months ago. This range is based on a standard channel to which reflectors, louvres or Perspex panels may be added to form a complete series. These fittings invite comparison with the Crompton "New Range" which came on the market rather more than two years ago.

From the purely technical point of view, both ranges are hand sewn, rubber tyred and jewelled in every hole, and can be cleaned and relamped by the laziest and most incompetent maintenance man with a casual flick of the wrist, or so we are told. (I am inclined to favour Crompton against GEC in these respects.)

Although neither range was issued for the first time at this year's exhibition, I think

Construction in progress



Blending Bunkers at Murton Coking Plant o the National Coal Board, Durham Division.
(Photo reproduced by permission of the N.C.B.)
Main Contractors: Woodall-Duckham Construction Co. Ltd.

technical section

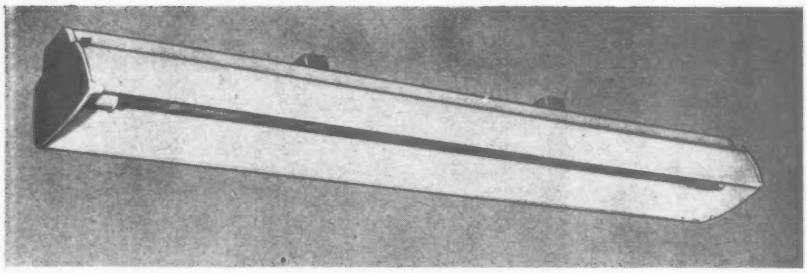
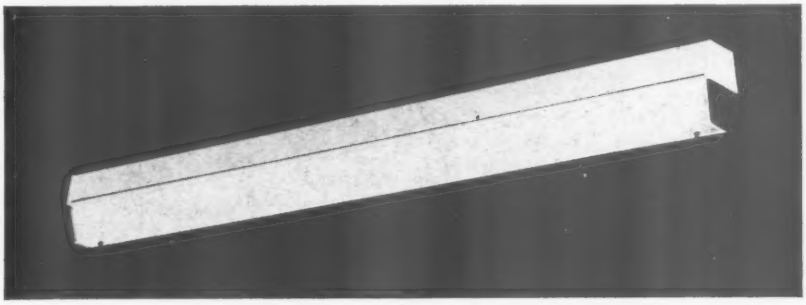


Fig. 4 (above). The Crompton "New Range" trough with perspex side panels. Fig. 5 (below). A commercial fitting from the new GEC "101" range.



that they are sufficiently interesting to merit a detailed discussion, since both are the result of something we hear a great deal about these days—rationalization.

Convertible fittings of this kind should have the following advantages:

1. They are easier to manufacture, since the number of different parts is reduced.

2. They are easier to stock. Instead of holding 200 fittings of each of five different kinds, a wholesaler need only keep 800 basic channels and 300 of each of the more important types of accessory, and still be able to fulfil a larger order for any one kind of fitting than before, without having increased his capital outlay or his storage space.

3. In factories, offices and department stores the use of different rooms and areas may be altered radically and at short notice. If convertible fittings have been used the basic channels may be left in position and the light output altered to suit the changed requirements solely by the addition or subtraction of reflectors, diffusers and louvres. This saves a great deal of money, and, what is often just as important, time.

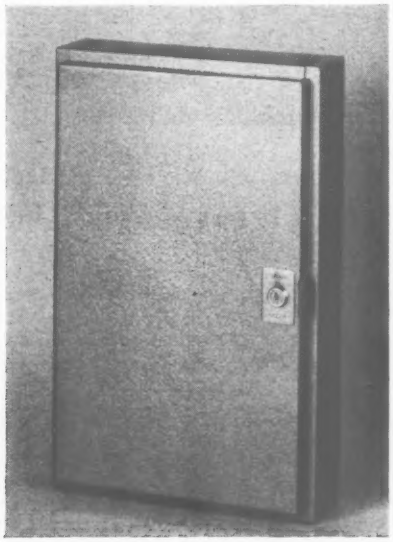
4. Such fittings make possible a step-by-step approach to lighting. When a building is first erected money is often limited, and only the basic channel need be installed. The other accessories can be added later as money becomes available.

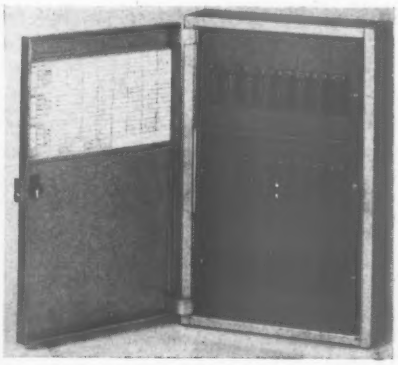
Crompton have concentrated their efforts on the plainer types of fitting (Fig. 4), and have achieved a design which does enable ready conversion from the basic channel, through various intermediate stages of screening, to a fitting with Perspex side panels and a louvred bottom. Beyond this point the Crompton range is less successful. To obtain a fitting more elaborate than the one described, many of the accessories already added have to be taken off, while additional, and rather expensive, reeded Perspex screens and cast endplates have to be added. If this is done it is possible to build up the sort of fitting one would expect to find in the entrance hall of a bank. However, this does not matter very much, since the trough with Perspex side panels and a louvred bottom is quite good enough for most purposes, and far too good for banks.

GEC have attempted far more, and have succeeded less well. They are much weaker than Crompton on the industrial side, and their metal and Perspex troughs besides not permitting easy interconvertibility from open end to closed end, and open top to closed top, look very clumsy. On the other hand, the fittings employing reeded Perspex, one of which is shown in Fig. 5, are much better looking than those which Crompton offer, and if the demand for fittings of this kind were comparable with that for industrial troughs, one would say that both were equally successful in their different ways. In fact, probably five industrial type fittings are required for every one of the "commercial" type, and it will be most interesting to see whether industrial users support the better fitting.

Atlas, who themselves made a half-hearted shot at rationalization with their "Atlantic" range of fluorescent fittings, which are based on a standard channel but are not easily convertible, are still gallantly trying to popularize fluorescent lighting in the home. In this they now have the support of Herman Smith Smithlite Limited, who had on show some fittings for the centre contact fluorescent tube. This tube might lead to some interesting designs in the future, but the fittings they have produced for it to date are not very impressive.

Fig. 6 (far left). Sanders' "Sandaline" fuseboard.



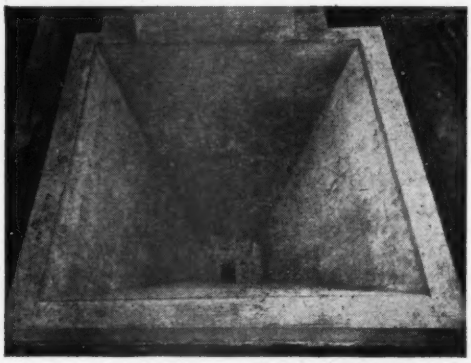


Figs. 7 and 8 (left and above). The "Slydlok" fuseboard.

Ingenuity

This large greenhouse was constructed by Messrs. C. Zwetsloot & Sons with their Nursery labour. The structural framework is iron tubing with welded joints and conveys hot water from a stand pipe with flexible coupling. When the plants have finished flowering, the whole of the greenhouse is moved forward to ground previously planted. It is transported over pulley wheels fixed in line on dwarf concrete piers, the heat being uncoupled and re-connected to a stand pipe in the new position.

When additional greenhouses called for a larger Boiler House with an elevator pit, this too was constructed with Nursery labour. The depth of the pit is 16' 6" from ground level and, upon excavating, subsoil water was found at a depth of 7 ft. and water bearing sand at 13' 6".



Completed pit surrounded by 9' 6" head of subsoil water.

Waterproofing was effected by the inclusion of 4 lbs of 'PUDLO' Brand Waterproofer to each 100 lbs of cement in a 3 : 2 : 1 mix. A copy of the specification and descriptive Booklet will be sent upon request.

WORK CARRIED OUT BY
C. Zwetsloot & Sons, Nurserymen & Farmers, Tempsford Road, Sandy, Beds.

ARCHITECT
Fred C. Levitt, L.R.I.B.A., Chartered Architect, Commerce House, Biggleswade, Beds.

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technical section

Fig. 9 (above). The Bill "Majestic" fuseboard.
Fig. 10 (below). The Dennis "Hi-Style" fuseboard.

Wanted, a design for a fluorescent fitting which will exploit the shape of the tube, as opposed to concealing it. The Atlas "Kitchenlight" is the nearest thing to a solution so far, but is restricted in application owing to its ballast lamp circuit.

For the rest, several new modular panels for suspended ceilings have appeared, but none that I would recommend, and the shape mongers have been searching diligently in the Swedish and Italian magazines for new designs for glassware. It would not matter so much if they merely copied what they found, but they always succeed in spoiling it.

Fuseboards

Until recently the "Superform" range by English Electric was the only type of fuseboard that one could consider placing on the surface in any building other than a factory.

This has led to the practice of using industrial fuseboards in all types of building, and erecting cupboards round them. This year, however, there are four makes of fuseboard on the market of which there is no need to be ashamed, and although all cost about 60 per cent more than competitive industrial boards, they are much less expensive than the "Superform" range, and it is probably cheaper to use them than to pay for an ugly board and a cupboard to go round it.

These boards are:

1. The "Sandaline," made by William Sanders & Co., Fig. 6.

The smaller sizes are entirely die-cast, while the larger are of sheet steel with die-cast corners. The fuses are fixed to the back of the board only, and for wiring the sides and front come away allowing complete access to the terminals.

2. The "Slydlok" Fusecab (!) made by Edward Wilcox & Co., Figs. 7 and 8.

This board can be obtained either with plain fuse carriers, or with a pattern incorporating a miniature neon lamp which glows when the fuse has blown.

3. The "Majestic" range, made by Bill Switchgear, Fig. 9.

Bill are one of the most popular manufacturers of switch and fusegear, and have hitherto been among the worst offenders in the matter of appearance. Let us hope this means that they intend to mend their ways, and will they please take their trademark off the front, or get a better one.

4. The "Hi-Style" fuseboard made by G. P. Dennis Ltd., Fig. 10.

The fact that there are as many as four boards in this category is encouraging. Can it be that manufacturers are becoming more interested in design?

Footnote. Having noticed a battery of Strand Electric Spotlights in the entrance foyer at Earl's Court, I was surprised to find that Atlas are given a credit in the catalogue for this lighting.

Strand Electric did not exhibit.

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.

19.213 construction: details
CUTTING A DPC

Damp-proof Course Insertion. BRS Digest 107 (HMSO 3d.).

The insertion of a d.p.c. into an old wall has always been thought of as prohibitively expensive as, until recently, it has involved the removal and rebedding of a course of bricks. This Digest describes a method which is "usually less than half as costly" as the traditional method, and which involves sawing a slot in a joint and inserting a membrane as you go along. This method has its limitations: you must have a through bed joint and the mortar itself must be sufficiently sound for the slot not to be filled by falling mortar before you can insert the d.p.c. In the development work which formed the background of this Digest a method was used employing an ⅛-in. saw and relatively modest equipment; and it is considered that this method is only suitable for brickwork built in lime mortar and (normally) for buildings not higher than two storeys. Mention is made of more elaborate equipment now on the market which gives this approach a wider application; and it is evident that we have here a very useful dodge for bettering our heritage of damp buildings.

23.228 heating and ventilation
ELECTRICAL STORAGE HEATING

Off-peak Electric Space Heating, by Leslie Shepherd, B.SC.(ENG.), M.I.E.E.

This booklet contains reprints of a series of articles published last year in *The Industrial Heating Engineer,* and deals fairly fully with the various means of off-peak electric heating available, of which the best known are block type thermal storage heaters and embedded floor elements.

The author is with the Eastern Electricity Board, and it is very useful to have an account of the various systems written by an independent authority, as so much of what has been published hitherto has been at the best a frank piece of propaganda for one system or another, and in many cases has been directly promoted by the manufacturers.

The articles were written for engineers, and contain a full account of each type of equipment and the best way of using it, but do not attempt a detailed comparison of the economics of this type of heating with oil and coke fired systems. This is a serious omission, but those who have already decided to use off-peak electric heating will find it a useful reference. Architects ought to be able to understand it quite easily, but, regrettably, many will find it heavy going.

CLASSIFICATION FOR TECHNICAL ARTICLES AND INFORMATION CENTRE

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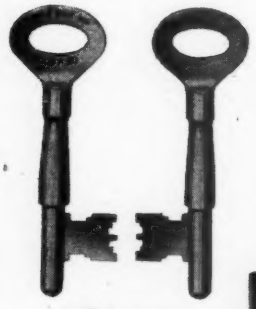
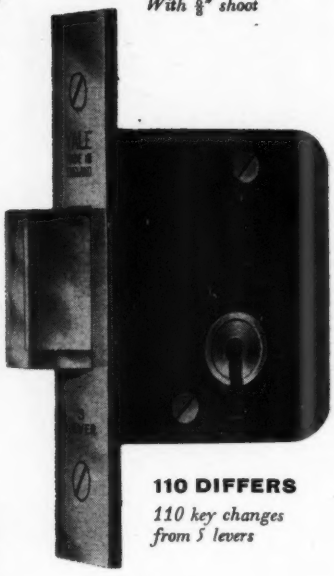
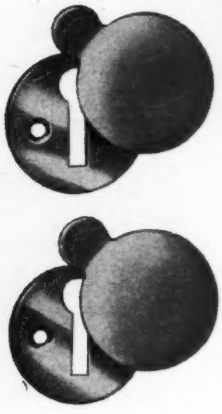
STRIKING PLATE
Steel 10" long with 6 staggered screwholes



DEADBOLT
Steel reinforced With ⅝" shoot





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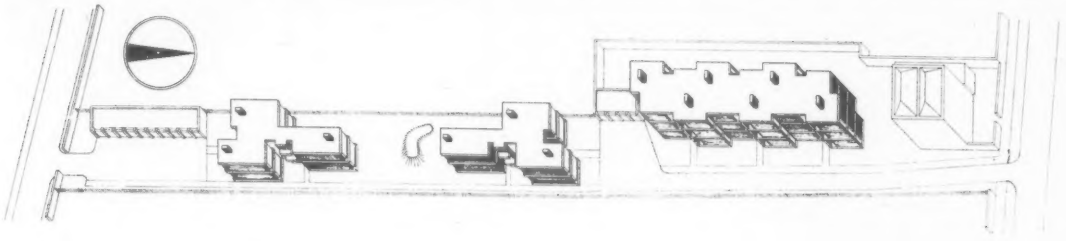
construction study

PRIVATELY-BUILT HOUSING AT HAM COMMON, SURREY



Site plan

This housing development, consisting of 30 flats and 12 garages, is speculatively built by the Manousso Group of Companies and the flats are to be leased individually for a period of 999 years. The architects are James Stirling and James Gowan.

The site is the garden of a large Georgian house which fronts onto Ham Common. It is a narrow strip of land, 678 ft. long with a width of 107 ft. at the north end and 57 ft. at the south. There is a heavy belt of trees along the entire length of the east boundary.

The unusual shape of the site largely predetermined the layout and the daylighting angles from the boundaries conditioned the number of floors in each block: three storeys in Block 1 which is situated in the wider section of the site, and two storeys in Blocks 2 and 3. There is a restricted road access from both ends of the site, but no through traffic, and the grounds are laid out as communal lawns.

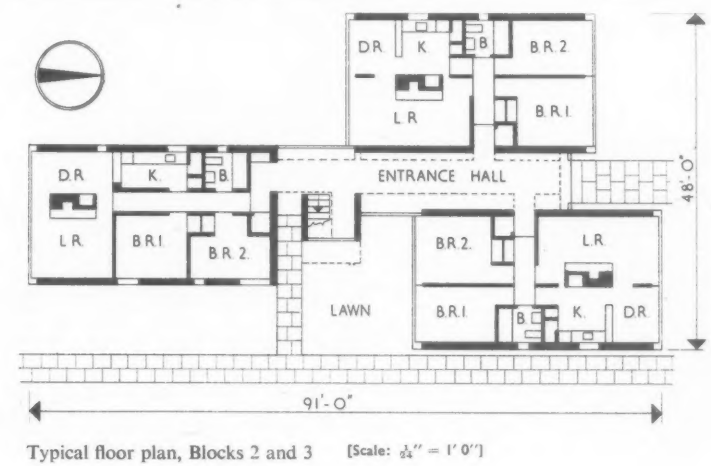
Block 1 contains 18 flats (3 one-bedroom, 9 two-bedroom and 6 three-bedroom) which are all based on the same interlocking and handing plan. The living room, kitchen, balcony and plumbing remain the same for either a 1, 2 or 3-bedroom combination. There are three separate entrance halls with staircases and each provides access to two flats at each floor level. Horizontally the alternating units are handed about a structural spine wall. This is reflected in the exterior where the living rooms project forward and the bedrooms of the adjoining flat are set back.

Blocks 2 and 3 contain six flats each (all two-bedroom) and, except for a handed rearrangement, both blocks are identical. In each the central space is a double height entrance hall with a suspended access " trough " at first floor level to provide entry to the upper flats.

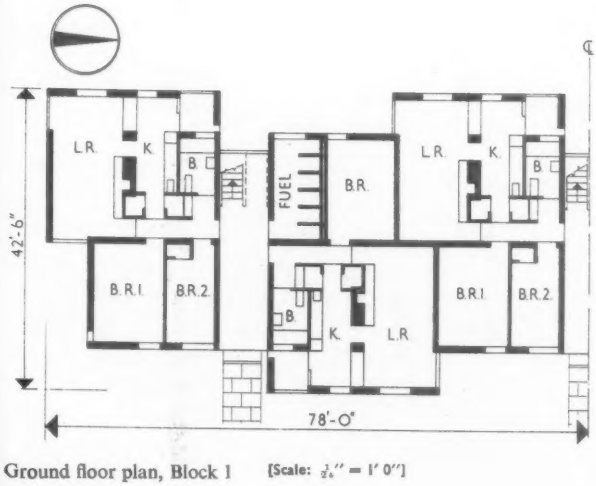
The living, dining and kitchen area of all flats is articulated around a structural brick chimney pier which contains the fireplace, back boiler, calorifier and linen cupboard. The mantelpiece and corbels in these units are all precast concrete elements.

The structural walls are load-bearing brickwork with floors, roofs and staircases of *in-situ* reinforced concrete. Externally and inside the entrance halls, these materials are left exposed: London stock brickwork and timber shuttered concrete. But inside the individual flats the walls and ceilings are plastered.

The foundations in all the blocks are discontinuous r.c. strips carrying a continuous r.c. ground beam. In Block 1 the walling is essentially continuous while in

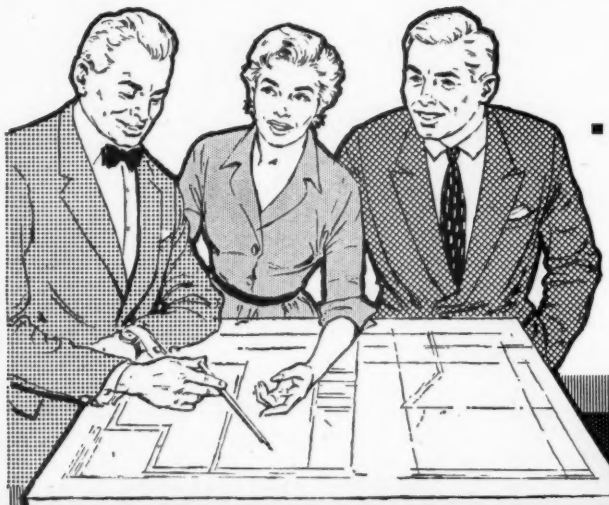


Typical floor plan, Blocks 2 and 3 [Scale: $\frac{1}{64}$" = 1' 0"]



Ground floor plan, Block 1 [Scale: $\frac{1}{64}$" = 1' 0"]

Upper floor plan, Block 1



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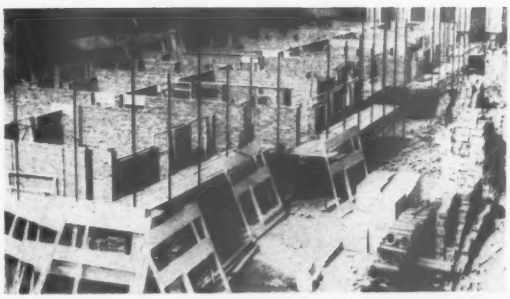
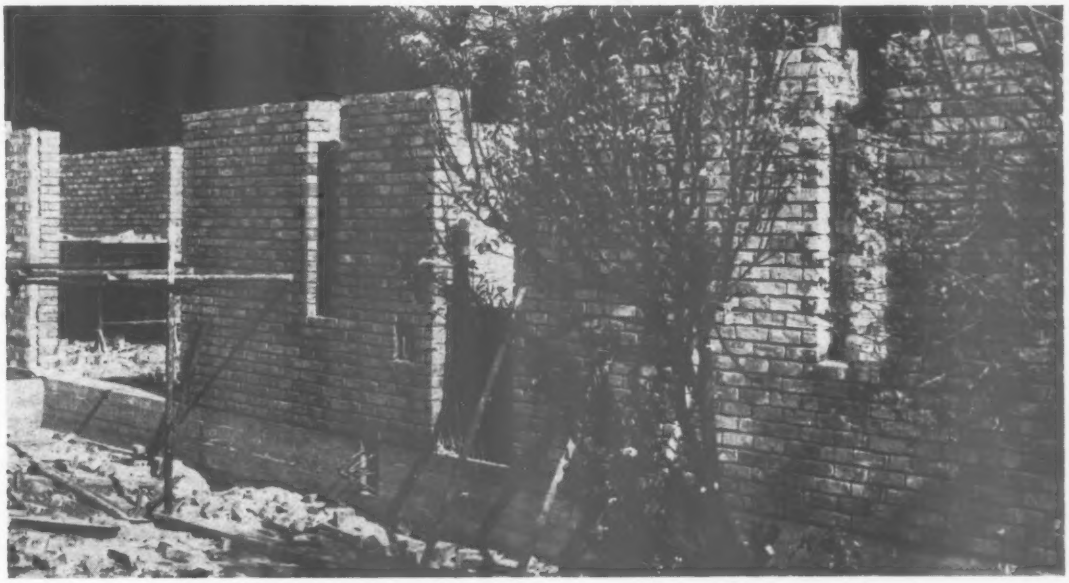
PRIVATELY-BUILT HOUSING AT HAM COMMON: continued

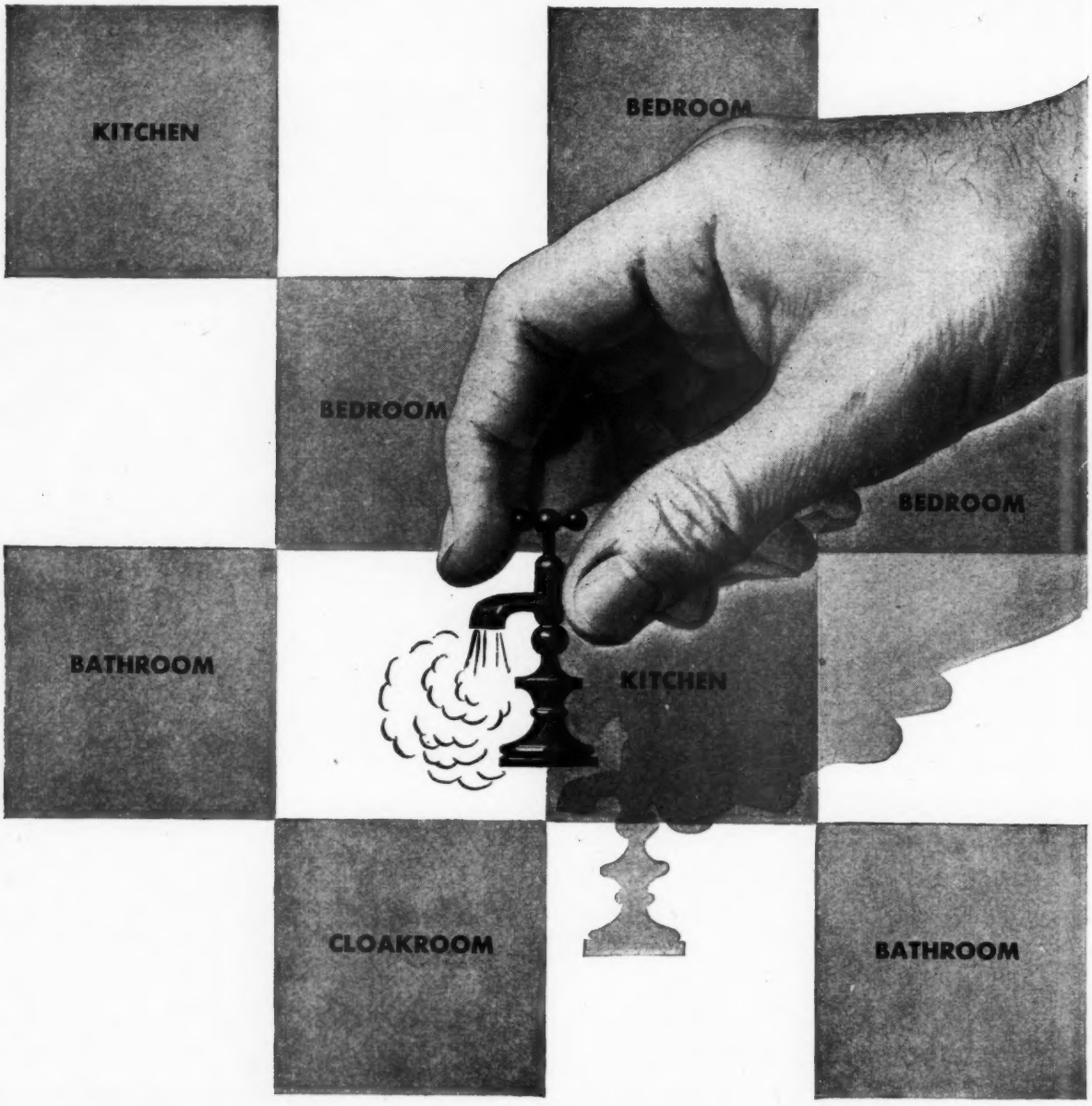


Blocks 2 and 3 flank wall construction is used. This distinction is shown above, with Block 1 in the foreground and 2 and 3 at the rear.

In the photograph, left, Block 1 walling is ready to receive the first floor shuttering. All the smaller windows are built in as the work proceeds.

Below: the main structural materials; 11-in. cavity walling faced externally with second hard London stocks and internally with flettons. The r.c. ground beam is finished fair-faced from unwrought softwood shuttering; the projecting reinforcement is to carry a gargoyle.





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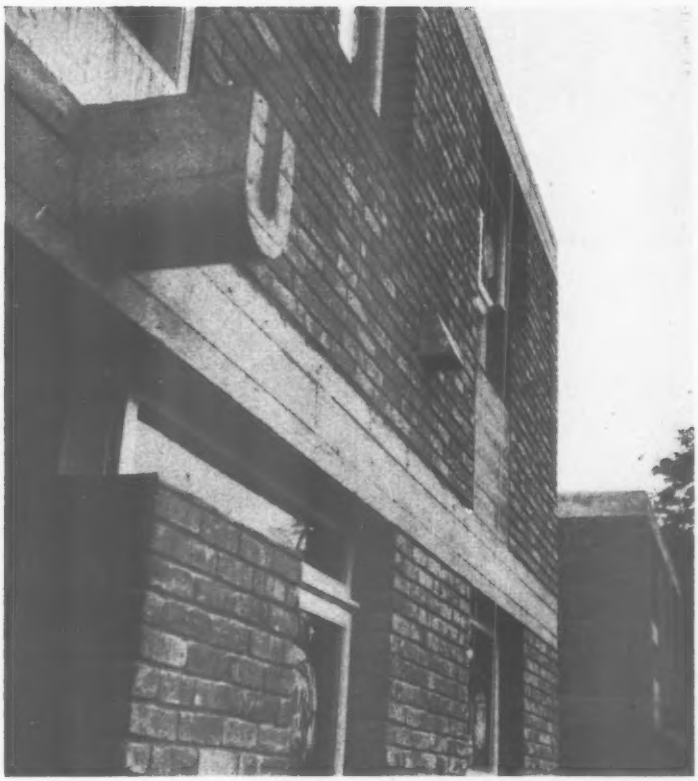
PRIVATELY-BUILT HOUSING AT HAM COMMON: continued

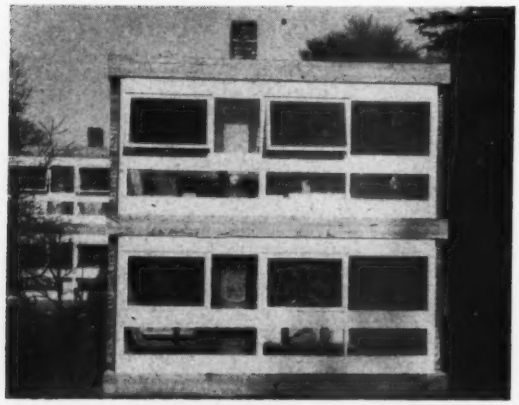
The four photographs on this page show general views of the exterior of Block 1. The exposed r.c. edge beams, 15 in. deep and 11 in. wide, carry 6-in. *in-situ* r.c. floor slabs and a 5-in. roof. The concrete apron under the windows is 6½ in. thick and has a vertical d.p.c. of 2 coats bitumen emulsion separating it from the inner brickwork. Much of the brickwork is very highly stressed and on the ground floor the piers between the windows are loaded to their maximum capacity. The windows are heavy EJMA softwood sections painted white

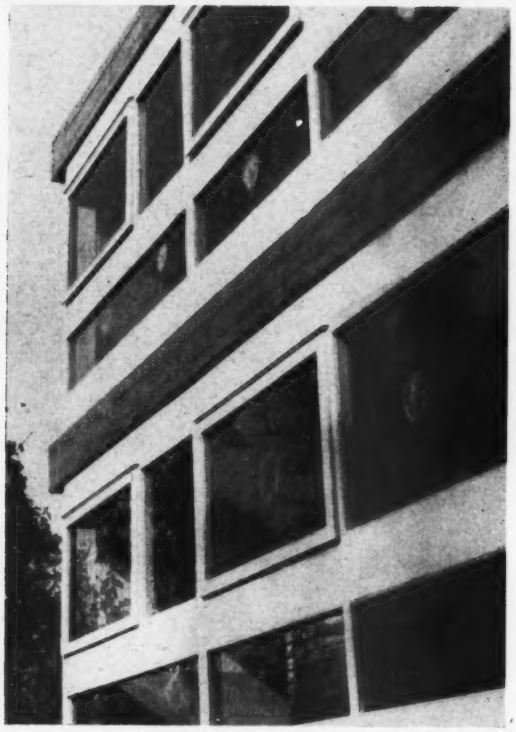


and the sills are blue quarry tiles, internally and externally. The balconies are drained by the U-shaped gargoyle and the triangular projecting concrete block is the larder ventilator. The flat roof over the staircase half-landing is also drained by a gargoyle of another type.

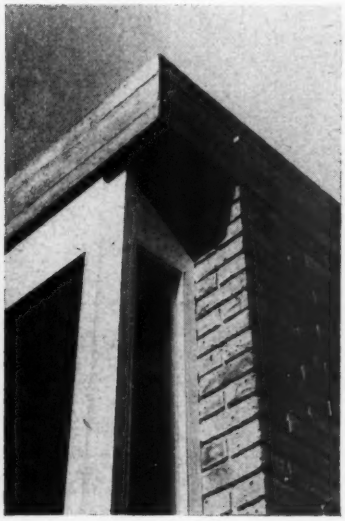
construction study

PRIVATELY-BUILT HOUSING AT HAM



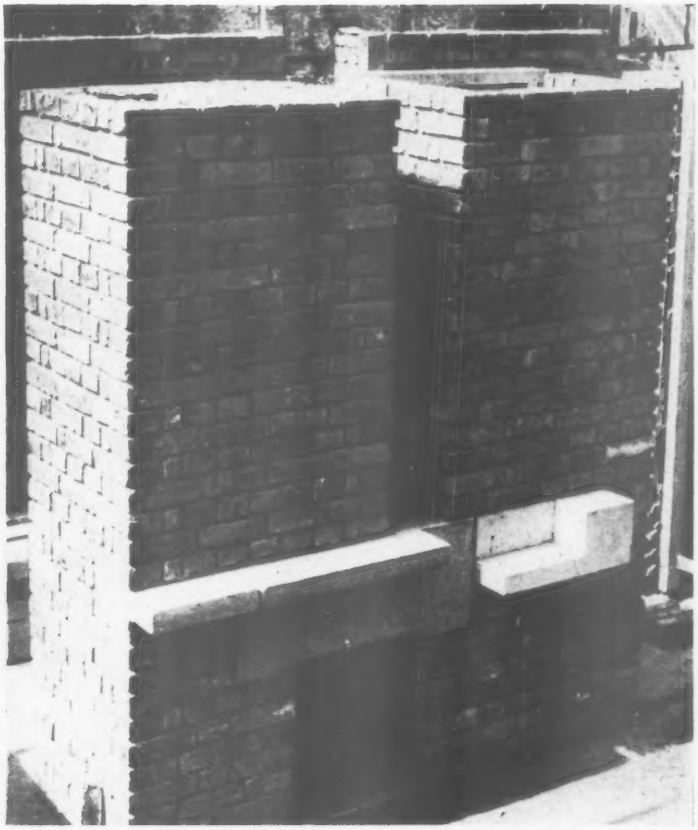


The six photographs on this page indicate various aspects of Blocks 2 and 3. The open ends of the spine walls are closed with large glazed panels. Heavy timber sections are used to give a feeling of security from within while retaining the characteristics of a glazed wall. The opening windows are top hung, opening outward. In the third photograph on the left, the gargoyle carries the overflow pipes from the c.w. storage tank and the w.c. cistern. The flank wall is set back 15 in. so that the main structural elements are clearly stated (shown below).

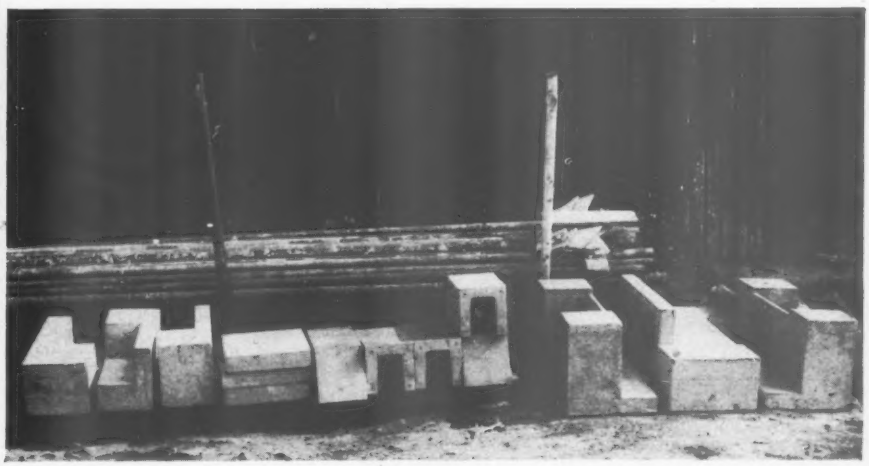


construction study

COMMON: continued

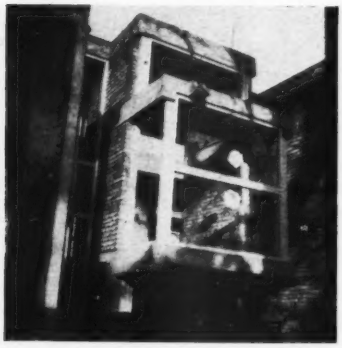


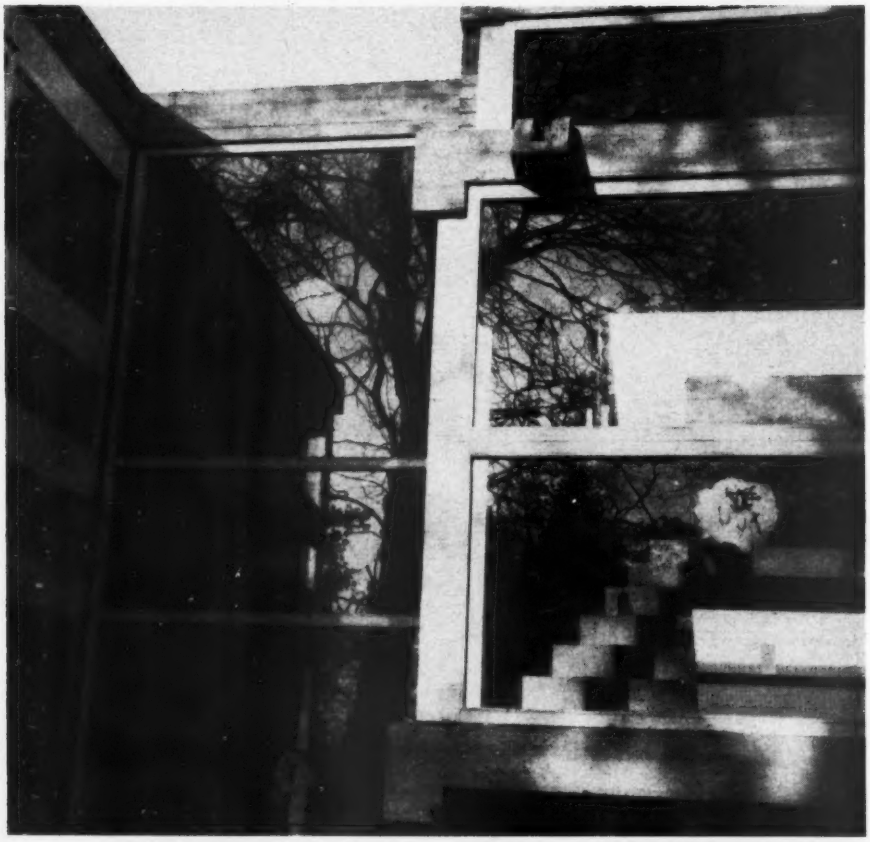
To achieve a degree of individuality within a repetitive system of flats a number of different fireplace designs are used but each contains the flues, back boiler, radiator, cylinder and linen cupboard. Above left and right are two types from Blocks 2 and 3. The brickwork is the same as on the exterior and the lintels, mantelpieces and shelves are of precast concrete. A number of these precast elements are shown in the photograph below left, and below right is a close-up of the over-flow gargoyle used in Blocks 2 and 3 with the larder ventilator above it.



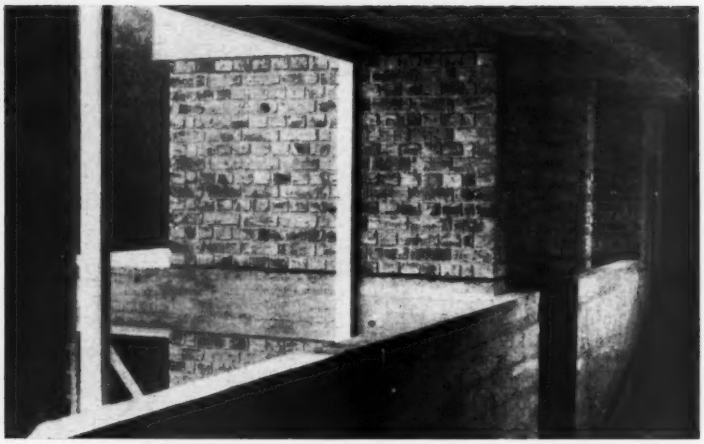
construction study

PRIVATELY-BUILT HOUSING AT HAM COMMON: continued





The three photographs on the left show the staircase of Block 2. The construction is of 9-in. load bearing flank walls and 15-in. deep × 9-in. wide r.c. cantilevered beams which carry a 5-in. r.c. landing slab. Each flight of the staircase spans from landing to landing and is kept 2 in. clear of the structure at the sides. The 9-in. flank walls are faced with stocks both sides and have an internal d.p.c. of bitumen poured in 12-in. lifts.



The last photograph is a view of the staircase from the first floor access trough. This is U-shaped in section with a slab and sides of 5-in. fair-faced r.c. spanning between a simple beam system.

The general contractors were Rice & Son Ltd.; for sub-contractors see page 592.

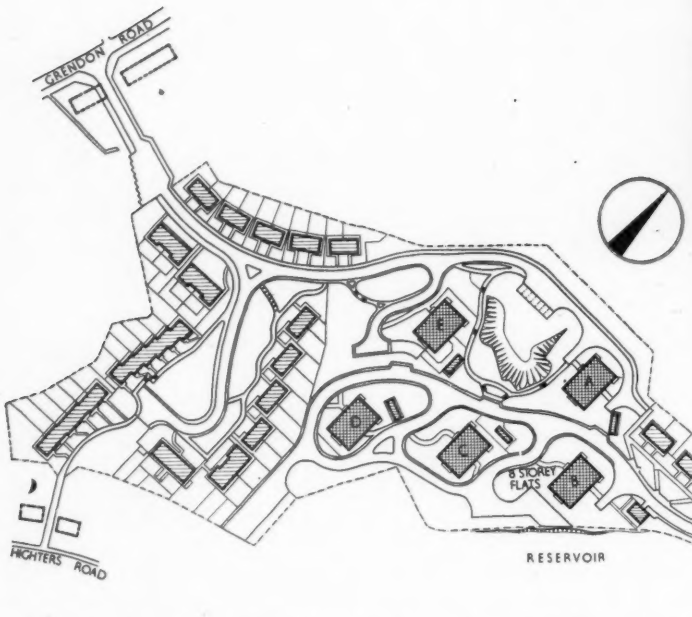
FLATS

at MILLPOOL HILL ESTATE, BIRMINGHAM; designed by A. G. SHEPPARD FIDLER, city architect J. R. SHERIDAN SHEDDEN, deputy city architect; J. W. BODDY, principal architect (housing) F. M. JONES, assistant principal architect; R. M. COPE, group architect (in succession to R. R. BURTON) quantity surveyors, City Architect's Dept.; consultants (structural) TRUSSED CONCRETE STEEL CO. LTD. (heating) City of Birmingham P.W.D. (Mechanical dept.)

The housing scheme at Millpool Hill is one of a series of high-density infill housing projects in outlying areas round the city. It is built at a density of 25.14 dwellings per acre, providing accommodation for approximately 810 people in 214 dwellings, of which 54 are in low, 2- and 3-storey blocks and 160 in five 8-storey point blocks, which are the subject of this analysis. These blocks make use of a new structural system specially developed for the purpose, and preplanned in collaboration with the structural engineers and contractors, the Trussed Concrete Steel Co. Ltd. Of the 32 flats in each block, 23 are 2-bedroom flats for four people and nine are 1-bedroom flats for two people. Technically, the interesting features of the design are the standardized structural grid of reinforced-concrete columns and plate floors, and the provision made by the structural engineers for using internal climbing cranes.

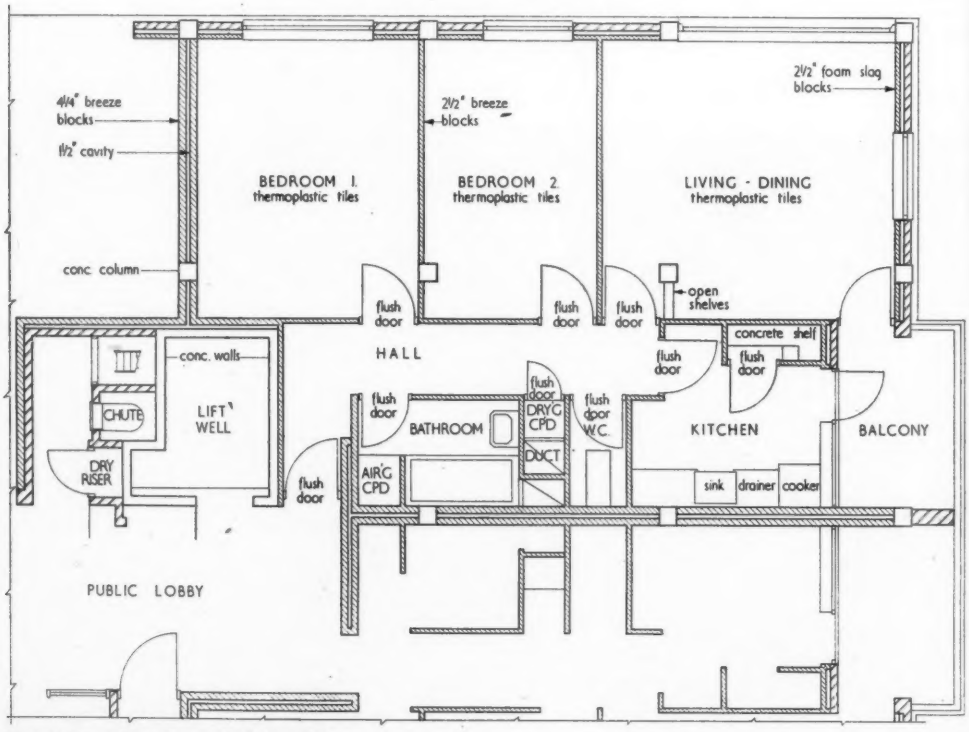
A general view of two of the blocks from the south-east looking across the covered reservoir which adjoins the site.

building illustrated



Site plan, showing the five point blocks and the lower blocks which form part of the same scheme.

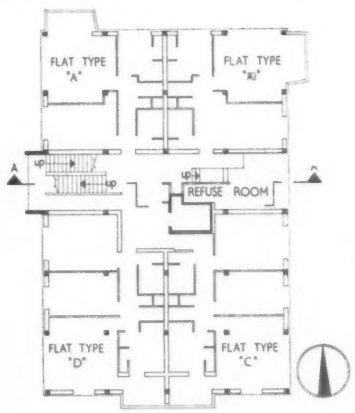
The flats in relation to the prewar housing estate which borders the site. Hitherto the site was considered too difficult for housing development and remained an isolated pocket of dead land.



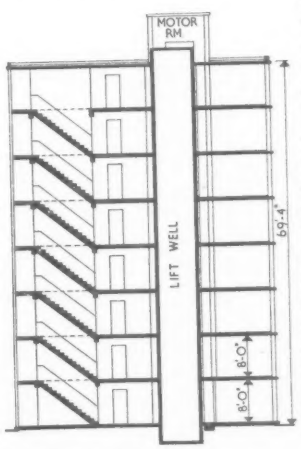
Detail floor plan of a south-facing flat [Scale: ¼" = 1' 0"]

analysis

The steep slopes of the site have been dealt with by arranging access roads on two levels and siting each block of flats on an island " plateau " surrounded by retaining walls, as shown in the photograph above of block C, seen from the south-west. The beamless plate floor system developed specially for the scheme has been used to determine the general character of the buildings by exposing the perimeter columns and floor slabs on the facade. Whether this rather obvious architectural concept is legitimate is perhaps a matter for debate: is the lightweight " skin " of a building best placed within the skeleton (with consequent multiplication of weathering details on the skeleton itself, and numerous straight butt joints between columns and panels) or should it preferably be a skin in the anatomical sense: a protective outer layer which covers the structure but expresses its membrane quality by other means? Accepting for the moment the concept used here—that of panel infill between structural members—it will be seen that the panels chosen are of two types: brick and foam slag cavity walls with pierced window openings, and framed-up units, partly glazed and partly filled in solid. The one uses the window as a hole in the solid, the other the solid as an opaque part of the window, two diametrically opposed ideas which produce a disquieting effect when used side by side.



Typical floor plan [Scale: $\frac{1}{32}$" = 1' 0"



Section A-A [Scale: $\frac{1}{32}$" = 1' 0"]

SITE

The area to be developed occupies a hillock with a steep north-south slope, 8.49 acres in area, with good views over a nearby golf course and open development beyond the southern city boundary. The part occupied by the flats is 4½ acres. When the surrounding area was built up with two-storey housing before World War II, this area was considered totally unsuitable for building because of excessive variations in level and many small pits which it contained. When it was reallocated for housing, four existing dwellings had to be demolished to provide satisfactory access.

The area is approached from two sides, with roads at different levels connected by footpaths. The upper road serving the flats is a looped cul-de-sac. The flats are built round it on five artificial plateaux, staggered up and down the slope to give maximum openness of effect, many of the lower blocks being approached by ramped paths.

Space has been provided in the layout for one or two shops later, if required.

CLIENT'S BRIEF

A fairly open layout of mixed development to be built at maximum speed to a density in the region of 100 persons per acre. This implied a greater use of tall blocks than had hitherto been attempted by the Corporation.

PLANNING AIMS

To keep down the rising labour cost involved in building tall flats, it was decided to use an economic structural grid as a planning module, to provide a perfectly flat structural floor, so that internal partitions could be freely arranged without beam projections. This structure would make for maximum simplification and speedy re-use of the shuttering throughout the programme, and permit the external exposure of perimeter columns and floor edges, between which external wall panels of standard size could be fitted. Appearance of the blocks could be varied by building in brickwork or in made-up panels faced with sheet cladding of different colours or textures.

Preplanning started early in 1954 for a hypothetical point block, to measure approximately 62 ft. × 54 ft. on plan. It was found that a column spacing in the region of 12 ft. centres was economic and a square grid of 11 ft. 6 in. was finally adopted. The r.c. column section on an 8-storey block could be standardized at 10 in. × 10 in. throughout, which satisfied fire requirements, while in-situ r.c. plate floors, derived from American industrial practice and only 5 in. thick, were chosen, after a mock-up had been designed and tested to destruction by the engineers. Lift shaft walls were reinforced to act as a structural element and enlarged slightly to take the mast of a climbing crane.

Five blocks represented the practical minimum for the site organisation required.

The blocks measure 69 ft. 6 in. × 46 ft. 10 in. overall and each contains 32 flats. Four dwellings per floor are grouped round a central core containing the vertical circulation: a single 8-person lift and a scissor staircase. Each upper floor contains three 2-bedroom 4-person and one 1-bedroom 2-person flats, while on the ground floor a second 1-bedroom flat is substituted for one of the 2-bedroom types, to leave space for the refuse chamber. Each flat has an internal bathroom, with airing cupboard and separate internal w.c., both with access from the hall and separated by a vertical service duct and a drying cupboard. Borrowed light to the bathroom is provided by fixed partition glazing above door-head level on either side of the hall. Kitchens have external lighting and ventilation.

The blocks are sited with the main axis running north and south, and staggered to provide maximum openness and

building illustrated

The living rooms of each of the four flats per floor are situated on the corners of the blocks. Those on the south corners each have a balcony facing south, and of those on the north corners, one has a balcony facing east (seen on the left-hand side of the photograph above) and one facing north (centre of photograph). In other respects the plans of these last two flats are "mirrored." The balconies are precast extensions of the floor slabs, tied in by continuity reinforcement. The "waffle" section of the balcony units can be seen below.

analysis

daylight. The separate boiler house which provides central heating from three oil-fired boilers is in a semi-basement recessed into the angle of one of the retaining walls which are an essential feature of the scheme.

MAIN CONSTRUCTION

The main shell of each block, consisting of 10-in. × 10-in. in-situ columns and 5-in. plate floors, with lift shaft walls and fire-break wing walls to the scissor staircase were designed by the engineers in in-situ reinforced concrete. To match the exposed perimeter columns in white cement concrete the external floor edges are faced with similar concrete strips precast in bay lengths and projecting 3 in. from the column faces, with end joggles and lateral reinforcement to bond them to the in-situ plate floors. Two private balconies on each floor project 4 ft. 3 in., and are precast in single waffle-section slabs to bring their weight within the lifting capacity of the climbing crane. Failure in the mock-up floor which was tested to destruction had occurred from shear well above the required loading when the head of a column punched through the plate floor, so steel meshes were graded to give extra reinforcement in these zones. This raised a problem with the ventilation ducts to the internal bathrooms, which come inconveniently near the column heads, which was solved by using precast concrete floor grilles of aerofoil section in the floor of each duct. Three double rows of projecting bars on all sides of the grille ensured continuity of reinforcement with the surrounding plate floor.

	s	d
cost per sq. ft.		
preliminaries and insurances	1	8¼
contingencies		1¾
Work below ground floor level	3	2¼
Reinforced concrete piers, beams, oversite concrete, plate floor slab with brick heating ducts beneath ground floor.		

STRUCTURAL ELEMENTS

Frame or load-bearing element	14	9½
R.c. piers, floors, main roof, staircase, balconies, lift-shaft walls and incidental beams.		
External walls	2	7¾
Hollow walls with facing-brick outer skin and foamed-slag inner skin. (Cost includes stallboards beneath windows.)		
Ratio: $\frac{\text{solid wall (including concrete frame)}}{\text{floor area}} = \frac{0{\cdot}401}{1}$		
(*Note:* total floor area, 24,960 sq. ft., is used for calculating this and the following ratios.)		
Windows	2	10¼
Metal windows in metal cavity sub-frame. Cost includes glazed balcony doors.		
Ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}322}{1}$		
External doors	1	
2-in. panelled half-glazed front entrance door. 2-in. framed ledged and braced door to lift motor room.		

analysis

s d

1⅝-in. glazed flush door to rear entrance.
2-in. teak doors to refuse chamber.

Ratio: $\frac{\text{doors}}{\text{flcor area}} = \frac{0{\cdot}004}{1}$

Upper floors (cost included in frame)
Super load: 40 lb. per sq. ft., including finishes.

Staircases 1
Only handrails and cat ladder included here.
Main staircase included in frame.

Roof construction 1
Curved concrete roof to lift motor room and concrete slabs to vent ducts included here, but main roof included under frame.
Area: 33 sq. yd. per block.

Glazing 10¾
Generally 24-oz. ordinary quality sheet.
¼-in. Georgian wired polished plate in fire-resisting screens.
¼-in. Georgian coloured cast glass in balcony balustrading panels and lower panes of staircase window and living room window.

Total of structural elements 21 5¼

PARTITIONING

Internal partitions 3 4¾
Mostly breeze blocks, including party walls between flats.
Area of each type, per block: 2½-in. breeze, 2,123 sq. yd.
4½-in. breeze, 106 sq. yd.
Composite 4½-in. breezé and 4½-in. brick, 52 sq. yd.
10-in. wall of two 4½-in. breeze skins, 734 sq. yd.
4½-in. brick, 203 sq. yd.

Screens 1½
Fire-resisting between stairs and central hall.
Timber-framed with infill of g.w.p.p. glass and asbestos sheet.

Internal doors 1 11¾
Number of single, per block, 412. Number of double, per block, 1.

Ironmongery 7¾
Birmingham standard, generally anodized aluminium.

Fittings 9¾
Meter cupboards; kitchen cupboards; standard kitchen storage units; draining boards; linen and drying cupboard and wardrobe fittings.

Total of partitions and fittings 6 11½

FINISHINGS

Floor finishes (cost includes screeds and insulating quilt) 2 9¼

Type of finish	*Area in sq. ft.*	*Price per sq. yd.* s	d
2-in. concrete	108	11	9
⅝-in. quarry tile	324	31	6
⅛-in. thermoplastic tiles	20,709	10	0
2-in. granolithic	126	14	0
¾-in. asphalt (on balconies)	1,242	12	6

s d

Wall finishes 3 1
2 coat plaster generally. Cement dado to staircase.
Wall tiling behind sanitary fittings. 3-in. timber skirting.

Ceiling finishes 10½
Bonding plaster and finish ½ in. thick.

Roof finishes 6½
¾-in. asphalt (BS988) on sheathing felt. fibreglass insulation and screed.
Area: 3,213 sq. ft. per block.

Decorations
Internal 1 11½
External 4¾
Prime and 3 coats paint on woodwork and metal work generally, 2 coats distemper on walls and ceilings of flats, 2 coats of emulsion paint on walls and ceilings of staircases and halls. Externally, prime and 3 coats of paint generally.

Total of finishes 9 7

SERVICES

External plumbing 3
4-in. cast-iron r.w.p. and balcony drainage units.

Hot and cold water installation 7¾
Copper pipes and fittings. Cold water to fittings off rising main.
Hot water from calorifiers.

Dry riser installation 2½
4-in. galvanized steel pipes and standard fittings.

Sanitary fittings 1 4½
Type of fitting and number per block: 32 baths, 32 sinks, 32 lavatory basins, 32 w.c.s (Birmingham standard types).

Internal waste disposal 1 2¾
Galvanized all-purpose, and anti-syphonage, copper waste and overflow pipes.

Heating and ventilation (boiler house and external heating ducts excluded) 6 1
Internal temperatures: 35 deg. rise in living rooms, 30 deg. rise in kitchens.
Air change: 1½ per hour.

Boiler house chimney stack and external heating ducts 1 2¾

Gas installation 4½
96 points per block.

Electrical installation 3 0½

Type of point:	Lighting	Power	Aerial, earth, TV
No. of each:	307	153	32

Lifts 3 7½
One electric 8-person passenger lift per block.
100 ft. per minute.

Total of services 18 0½

Drainage excluded.

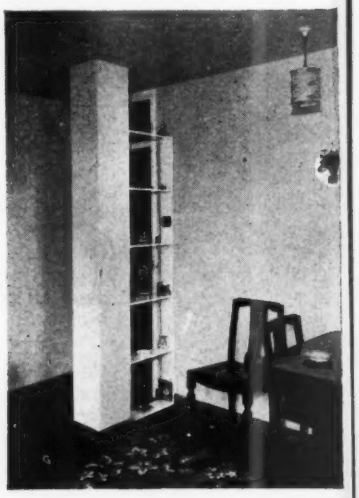
Refuse ducts 2¾
Glazed stoneware surrounded with concrete, with iron hoppers and standard refuse bins.

building illustrated

Block C, the most centrally placed of the five blocks, carries the flue from the adjacent boiler house which provides central heating for the whole scheme. These are shown above; the boiler house is situated in a semi-basement at the corner of the retained "plateau" of Block C. Although the general aesthetic derived from the detailing at this corner may not be inappropriate for the boiler house, it is unfortunate that the same rather crude effect should have been achieved in the plant rooms on the roofs of the flats, since these are seen from a considerable distance.

The staircase shafts, seen left, at night, are ingeniously planned on the "scissors" principle, giving alternative fire escape routes within the area normally required for a single stair. The stair flights were precast and dropped into place by the climbing tower crane which was one of the main features of the site organization.

Although the structural grid has a regular column spacing, the flats are planned in such a way that free-standing columns are avoided in all rooms except the living rooms of the south-facing flats. Here, below, there is one column a short distance from the wall, the space between being filled with open shelves. It is interesting to see such shelves, normally associated in modern interiors with trailing plants, expensive pottery and casually-placed books, coming into their own in the Birmingham-made environment.



analysis

	s	d
Balustrading		8
Wrought-iron balustrading to balconies and staircase window.		
Sundries		3½
Lightning conductors, stiffening bolts, larder slabs, etc.		

Total per sq. ft. of floor area:
£64,944 (net cost per block excluding external works) = 62 2
20,896 sq. ft. (net habitable area per block)

SUMMARY

Net habitable floor area: 20,896 sq. ft. per block.
Total floor area (including balconies): 24,960 sq. ft.
Type of contract: Negotiated.
Tender date: September 6, 1955.
Work began: April 2, 1956.
Work finished: April, 1958.
Tender price of foundations, superstructure, installations, finishes: £315,520.
Boiler house chimney stack and external heating ducts: £6,407.
Abnormal foundations: £2,794.
Tender price of external works and ancillary buildings: £31,283.
Total: £356,004.

COST COMMENTS

We suggest the following reasons for the low cost of the structure, which is the outstanding point of interest in this scheme:

1. Considerable forward planning and collaboration with the structural concrete specialist from the inception of the scheme, produced a smooth running contact from all aspects. This a negotiating contractor would consider carefully in his pricing, being able to eliminate extra costs sometimes included in tendering for unknown and unforeseen problems.
2. The large scope of the contract (five separate 8-storey blocks) would be a reasonable inducement to reduce costs by the use of special equipment and carefully planned site operations.
3. Simplicity in layout, modular planning and uniform size columns and floor slabs throughout produce economies in use of form work by constant repetition which reduces labour cost and setting-out problems on site.
4. The timing of operations on site to give follow-on trades continuity of work in all weathers would be an added advantage when negotiating prices for this section of the work.
5. The exact repetition of low cost brick infill panels and plastered internal partitions on every floor with few complications of cutting and with straight forward plastering assists in producing low costs.

It is perhaps interesting to compare the concrete frame elements in this scheme at 14s 9½d per sq. ft. with the flatted factory for the same authority (AJ, February 20) at 13s 9½d per sq. ft. The latter was also an 8-storey block, but with differing beam spans and without the concrete lift walls and balconies. The approach to these two schemes has been different, but the ultimate costs are similar overall.

SITE ORGANIZATION

Restricted access and storage facilities on a small and most abnormal site made pre-planning doubly necessary. Both in and outgoing traffic had to use the same access despite difficulties of passing. The five blocks were within an area of 4½ acres, and within a distance of 400 yards there was a rise of some 75 ft. to the average ground floor level of the flats.

This meant excavating and carting away some 25,000 cubic yards of soil which took from the beginning of April to May 7th, 1956. Working to a programme of one floor lift per six working days, the structural contractor was able to complete the frames of all five blocks in 10½ months. The original intention was for the frame to each block to be completed before the general contractors' men moved in, but it was found that bricklaying could start when frames were five storeys high without affecting the engineers' policy of working on three blocks simultaneously.

Scaffolding was in erection for 2½ blocks during the whole progress of construction and panels were left out at each floor level for the purpose of hoisting various trades' materials, all floors being loaded at various times, to the permitted weight, for various trades.

Plumbing and electrical work was prefabricated prior to installation and the plasterers had easy access to their materials.

Shuttering and materials were handled by the climbing cranes, operated by remote control, in the lift shaft of each block, while staircases were provided with temporary wooden treads to provide a gangway for workpeople.

During erection of the final block a five weeks' delay was caused by the discovery that a part of the building overlapped the site of the original mill pool, which necessitated piling to a depth of 17½ ft. over half the block in the worst possible weather conditions. In general, however, the progress of the contract went smoothly, the men working continuously under cover, on breeze filling, door frames, etc., whenever bad weather occurred.

The job involved a considerable amount of site works, especially to the boiler house, which has an excavation of 21 ft. below ground level, while retaining walls are higher and more extensive than on a normal site.

Average number of men engaged by the general contractor on the site has been 60, apart from sub-contractors.

Monthly site meetings with the architect in charge, together with the general foreman and staff of the various firms engaged have done much to ensure smooth and harmonious working throughout the contract.

CONTRACTORS

General contractor: Morris & Jacombs Ltd. *Sub-contractors: Concrete frame:* The Trussed Concrete Steel Co. Ltd. *Bricks:* Lunt Bros. *Precast concrete:* Tarmac Ltd. *Concrete blocks:* Wolverhampton Floor Co. Ltd. *Climbing tower cranes:* Pingon et Cie. *Doors:* F. Hills & Sons Ltd. *Dry riser and fire main fittings:* Charles Winn & Co. Ltd. *Asbestos ducting:* Nuralite Sales Ltd. *Fosalsil fire resistance blocks:* Moler Products Ltd. *Glass and coloured glass:* Pilkington Bros. Ltd. *Heating installation:* Norris Warming Co. Ltd. *Heating boilers:* Beeston Boiler Co. Ltd. *Heating oil burners:* Hopes Heating & Eng. Co. Ltd. *Heating pumps:* Rhodes Brydon & Youath Ltd. *Heating valves:* Hattersley (Ormskirk) Ltd. *Heating radiators:* Ideal Boilers & Radiators Ltd. *Heating combination tanks:* Whitehouse & Co. Ltd. *Heating towel rails:* H. Keeping Ltd. *Insulation:* Fibreglass Ltd. *Ironmongery:* Baldwins (Birmingham) Ltd. *Lift:* Express Lift Co. Ltd. *Lightning conductors:* W. J. Furse & Co. Ltd. *Paint:* Mander Bros. Ltd. *Plumbing:* A. E. Shaw Ltd. *Radio and TV aerials:* E.M. Sales & Service Ltd. *Scaffolding:* Scaffolding (Gt. Britain) Ltd. *Taps:* "Supataps" F. H. Bourner & Co. Ltd. *Steel windows:* Henry Hope & Sons Ltd.

FIRST-FLOOR BANK IN BIRMINGHAM

Comfort for customers and inconvenience for bank robbers are combined in the new branch Barclays Bank opened recently in Birmingham High Street, designed by their architect's department (staff architect, G. B. Drury; architect in charge, R. J. A. Gazzard; assistant, D. H. W. Griffith). The building is on the first floor, approached by moving stairs from the street (shown above, right). It is air conditioned and centrally heated by a radiant panel ceiling, with spacious waiting room (above, left). The whole area is visible to the chief clerk, and cashiers never need turn from the counter, because a conveyor belt behind them carries away payments-in, and money is paid out of mobile tills (shown below). General contractors: Sir Robert McAlpine & Sons Ltd.

·RONUK· APPLIED FLOOR TREATMENTS

Type of floor	Initial Treatment		Maintenance
	New floors	Old floors	
Hardwood block and strip	A clean smooth surface to be prepared by machine sanding where necessary or rubbing with coarse grade steel wool where footmarks, etc. only to be removed. Any nail-heads should be punched below the surface and filled with suitable stopping. Two coats of Ronseal to be applied. When seal is hard (48 hours) two coats of Ronuk Liquid Wax to be applied with Ronuk Applicator and buffed when dry with weighted or electric polisher	Dirt and any old wax finish to be removed by machine sanding. Two coats of Ronseal to be applied as for new floors	Daily sweeping, preferably with Ronuk sweeping mop (gritty sweeping compounds to be avoided). Ronuk Liquid Wax to be applied as necessary (particularly in entrance areas etc.). Regular buffing to be carried out with weighted or electric polisher. *Note.* Where traffic is heavy, re-sealing may be required every 4 to 6 months. The area to be prepared for retouching by removing all wax with Ronuk Floor Cleaner and Grade 3 steel wool, proceeding as for old floors
Softwood	The surface to be prepared as for hardwood floors. It may then be tinted to the desired shade with Colron Wood Dye and left overnight. Two coats of Ronseal should be applied. When the seal is hard (48 hours) two coats of Ronuk Liquid Wax should be applied and the surface buffed with weighted or electric polisher	Where floor is in good condition it should be scrubbed, ensuring complete removal of any old wax or previous treatment. Otherwise it should be resurfaced by machine sanding, proceeding as for new floors	As for hardwood floors
Concrete	To be washed with Ronuk Floor Cleaner and water, allowed to dry and two coats of Ronseal applied	Where surface is satisfactory, to be treated as for new floors	Daily sweeping with Ronuk Sweeping Mop or damp mop
Quarry tiles Concrete tiles Terrazzo	The surface to be washed with Ronuk Floor Cleaner and warm water, rinsed thoroughly and allowed to dry. One sparing coat of Ronseal to be applied by cloth pad and allowed to harden	As for new floors	As for new floors. Where the floor has been treated with Ronseal, very occasional re-touching is necessary
Non-magnesite composition (Granwood)	These floors are normally sealed by the floor-laying contractor. Two coats of Ronuk Liquid Wax should be applied and, when dry, surface buffed with weighted or electric polisher	To be stripped with strong soda solution and rinsed thoroughly. Two coats of Ronseal to be applied and allowed to harden (48 hours). Two coats of Ronuk Liquid Wax to be applied and the surface to be buffed with weighted or electric polisher	Daily sweeping with Ronuk Sweeping Mop and periodic application of Ronuk Liquid Wax. Buffing regularly with weighted or electric polisher. To be retouched with Ronseal every 3 to 4 months in areas of heavy wear, treating as for old floors
Thermoplastic tiles and jointless floorings (Semastic, Accotile, Semtex, Marley, Pitchmastic, Colourfelt, Leytone)	The floor to be washed with Ronuk Floor Cleaner and warm water, and when dry liberal dressing of Ronuk Emulsion to be applied*	As for new floors. Obstinate marks to be removed by rubbing with fine steel wool	Daily sweeping with Ronuk Sweeping Mop or damp mop. Ronuk Emulsion to be applied every two weeks, after washing and removing obstinate marks by light application of steel wool*
Rubber	As for thermoplastic tiles*	As for thermoplastic tiles*	Washing with warm water and Ronuk Floor Cleaner as required, avoiding an excess of water and drying carefully. Abrasives should not be used. Ronuk Emulsion should be applied as necessary in entrance areas etc. and every 3 to 4 months elsewhere*
Linoleum	A clean surface to be ensured by washing with warm soapy water and allowing to dry. One coat of Ronseal to be sparingly applied by cloth pad. When dry, two coats of Ronuk Liquid Wax to be applied and the surface buffed with weighted or electric polisher	Dirt and old wax to be removed by washing using Ronuk Floor Cleaner where necessary, proceeding as for new floors	As for hardwood strip and block floors

* Paraffin, spirits, seals, acid or any polish other than Ronuk Emulsion or similar water waxes must not be used on any surfaces in the thermoplastic group or on rubber or asphalt.

38.H2 ·RONUK· APPLIED FLOOR TREATMENTS

Type of floor	Initial Treatment		Maintenance
	New floors	Old floors	
Cork	A clean surface to be ensured by washing with warm soapy water, rinsing and allowing to dry. Ingrained dirt can be removed by machine sanding. One coat of Ronseal to be sparingly applied with a cloth. When dry a second coat to be applied by brush or Ronuk Applicator and similarly a third coat. After 48 hours, Ronuk Liquid Wax to be applied and the surface buffed with weighted polisher	Dirt and old wax to be removed by washing using Ronuk Floor Cleaner where necessary, rinsing thoroughly and allowing to dry, proceeding as for new floors	As for hardwood strip and block floors

This Sheet describes Ronuk floor treatments. The table on the faces gives recommendations for the initial treatment and maintenance of various types of floor surface whether or not they have been previously treated by these or other means. The notes below describe the products and give details of the advisory and contract services available to the architect.

Ronseal

Description: This is an oleo-resinous drying oil combined with other ingredients during manufacture. It penetrates porous surfaces and seals them completely against dirt and surface wear. It is transparent and can be applied to all types of timber, tiles, concrete, cork and porous linoleum. It is suitable for finishing timber that has been stained with Colron Wood Dye (described below) and is recommended by the manufacturers of chipboards and hardboards.

Coverage: The approximate coverage per gallon, allowing for two coats, is as follows:

On softwoods, 40 to 50 sq. yd.
On hardwoods, 50 to 60 sq. yd.
On linoleum, 80 to 100 sq. yd.
On concrete, chipboards, cork, 30 to 35 sq. yd.

Terrazzo, quarry tiles, etc., require one coat only, sparingly applied, and the coverage exceeds 120 sq. yd. per gallon.

Colron Wood Dye

Description: Colron is a penetrative and preservative wood colouring material which can be used on hardwood, softwood, hardboard and chipboard. It has a solvent base to give even penetration and rapid drying. Twelve colours are available: light oak, dark oak, black oak, fumed oak, mahogany, oak, brown oak, walnut, grey oak, weathered oak, medium brown, dark mahogany. A guide to the colours, and other information, is obtainable from the manufacturer and specimens of timber dyed to any standard shade are available on request.

Coverage: One coat only is required and the approximate coverage per gallon is as follows:

On softwoods, 60 to 70 sq. yd.
On hardwoods, 90 to 100 sq. yd.
On chipboards, 30 to 40 sq. yd.

Ronuk Waxes

Description: Ronuk Concentrated Wax is a specially-formulated treatment for initial finishing of all surfaces other than thermoplastic tiles, rubber in any form or asphalt. It will produce a good gloss on completely new flooring and is antiseptic and contains an anti-slip ingredient. Surfaces that have been initially treated with Ronuk Concentrated Wax can be maintained with Ronuk Liquid Wax or Ronuk Floor Dressing.

Coverage: The approximate coverage for Concentrated Wax is 15 to 20 sq. yd. per lb. and for Liquid, Wax and Floor Dressing, 500 to 550 sq. yd. per gallon.

Ronuk Emulsion

Description: This is a water-wax polish for the treatment of thermoplastic and p.v.c. tiles, all rubber surfaces and asphalt, which would be affected by the spirit solvents normally contained in polishes.

Coverage: Three coats are required and the approximate coverage per gallon (allowing for the three coats) is about 175 sq. yd.

Contract Services

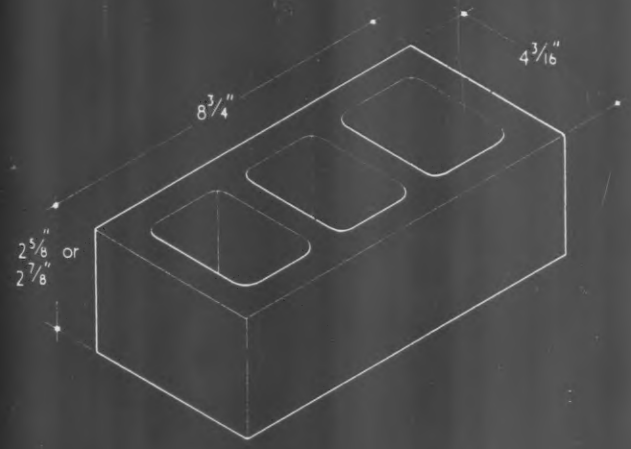
The manufacturer maintains a staff of experienced operators who will carry out the re-surfacing of old floors, and all preliminary work and initial finishing of floors and other woodwork.

Further Information

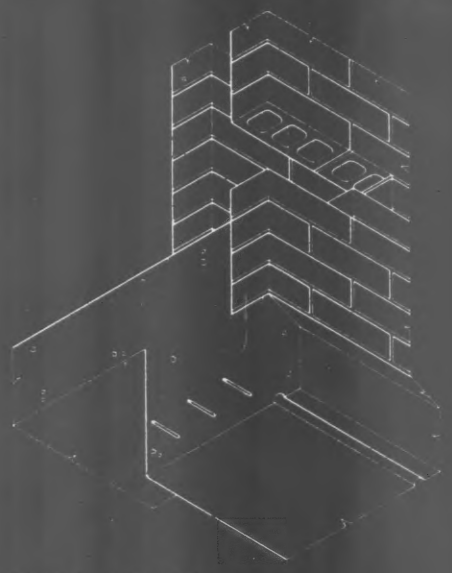
In addition to the contract services described above the manufacturer has an advisory department available to answer questions and advise on technical problems dealing with floors and woodwork.

Compiled from information supplied by:
Ronuk Limited
Address: Portslade, Sussex.
Telephone: Hove 48631 (6 lines).

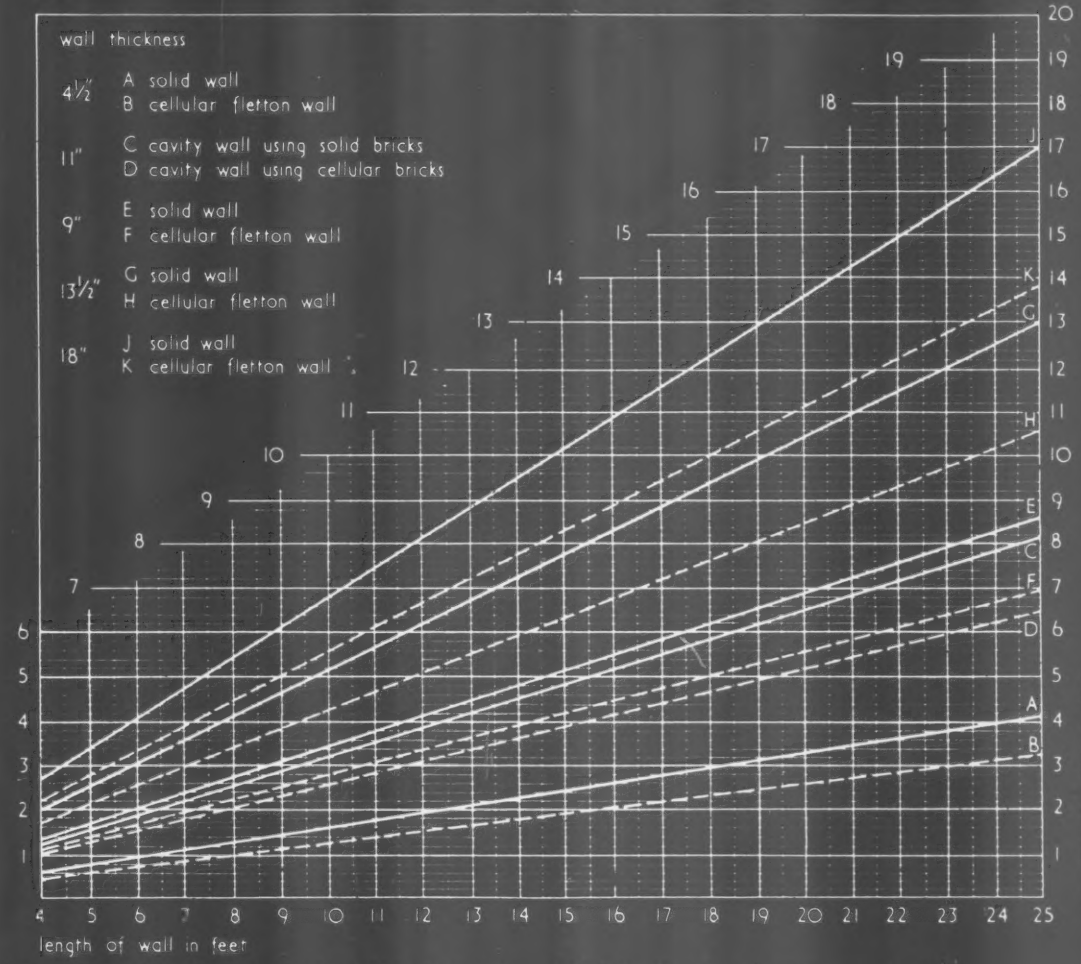
The Architects' Journal Library of Information Sheets 668. Editor: Cotterell Butler, A.R.I.B.A.



ISOMETRIC SKETCH SHOWING DIMENSIONS OF BRICK



TYPICAL APPLICATION



COMPARATIVE WEIGHTS OF SOLID AND CELLULAR FLETTON WALLS (wall height 10'-0")

PHORPRES CELLULAR BRICKS. Manufacturer: London Brick Company Ltd.

13.F1 ·PHORPRES· CELLULAR BRICKS

This Sheet describes Phorpres cellular bricks which provide a lightweight walling material for use in conjunction with steel or reinforced concrete. They are suitable for normal domestic two-storey construction. The drawings on the face of the Sheet show the design of the brick and a typical application. The graph shows the comparison between the weights of various thicknesses of walling in cellular bricks and in ordinary bricks, the former showing a considerable saving over the latter.

Types

Cellular bricks can be supplied in common bricks or keyed on one stretcher and one header for rendering, and in the full range of Phorpres facing bricks.

Sizes

Phorpres cellular bricks are manufactured to the sizes suggested in B.S.657, *Dimensions of Common Building Bricks*, namely:
8¾ in. by 4⅛ in. by 2⅝ in. (type 2).
8¾ in. by 4⅛ in. by 2⅞ in. (type 3).
Wall thicknesses comply with the requirements of the LCC Building Byelaws and with those of the MOHLG Model Byelaws, Series IV, Buildings.

Weights

The following table gives the average weights of dry brickwork built in 1 : 1 : 6 mortar as tested by the London Brick Company's Technical and Research Department.

Type of brick	Weight of brickwork in lb.					
	4½ in.		9 in.		13½ in.	
	Per cu. ft.	Per yd. super	Per cu. ft.	Per yd. super	Per cu. ft.	Per yd. super
2⅝-in. cellular	84	263	85	559	86	855
2⅝-in. common	99	311	100	655	100	999
2¾-in. cellular	83	262	85	558	85	853
2¾-in. common	99	311	100	655	100	1000

Crushing Strength

The average crushing strength of Phorpres cellular bricks from routine tests is 1500 lb./sq. in. determined on the gross area of the brick.

Strength of walls

The following is a summary of tests by the Building Research Station of the Department of Scientific and Industrial Research and the National Physical Laboratory.
Summary of strength tests on 4½-in. and 9-in. cellular and Phorpres fletton brick walls in 1 : 3 cement mortar.

	4½-in. wall, 9 ft. 0 in. high, 4 ft. 6 in. long		9-in. wall, 9 ft. 0 in. high, 4 ft. 6 in. long	
	Cellular F	Phorpres F	Cellular F	Phorpres F
	Tons	Tons	Tons	Tons
Crushing load, total	99·5	130	178	280
Crushing load, per ft. run	22·2	28·9	40	62
Load at first crack	75	62·5	110	192
Per ft. run	16·7	13·9	24·4	43
Modulus of elasticity	0·59 × 10⁶ lb./sq. in. to 40 tons	0·51 × 10⁶ lb./sq. in.	0·85 × 10⁶ lb./sq. in. to 50 tons	0·91 × 10⁶ lb./sq. in.

The strength of the half-brick cellular fletton wall is considered ample for all purposes where a half-brick wall is normally used in building construction. Tests carried out at the London Brick Company's laboratories on 9-in. by 9-in. by 3-ft. brick piers built with Phorpres cellular bricks in various mortars show that they can support a uniformly-distributed compressive stress of over 1000 lb./sq. in. or ten times the permissible stress suggested in B.S. C.P.111, *Structural Recommendations for Load-bearing Walls*, for bricks of a crushing strength of 1500 lb./sq. in. A high proportion of bricks is used for housing, etc., where thickness is determined by factors other than strength. The requirements for the strength of lightweight blocks used as an alternative to bricks in housing is for a minimum of 400 lb./sq. in. (Model Byelaws) and the loading in domestic construction seldom exceeds ½ ton/sq. ft., so the safety factor is apparent.

Thermal Insulation

The thermal-insulating properties of cellular bricks are similar to those of normal brickwork. Recent tests at the London Brick Company's laboratories have shown the importance of exposure conditions on thermal transmittance and that it is not safe to base calculations of heat loss on artificial conditions or calculated heat value. For walls with north exposure the U value of 11-in. cavity walls built with two skins of cellular bricks is 0·30 B.t.u./ft.² hr. for one degree F difference of air temperature.

Sound Transmission

For homogeneous wall construction, it is accepted that resistance to airborne sound is proportional to the mass per unit area of the wall, that is, the heavier the wall the greater its sound resistance. The relation between weight and insulation is such that each time the weight per unit area is doubled, the insulation increases by approximately 5 decibels (the minimum change significant in practice).
A 9-in. wall built in cellular bricks plastered on both faces and weighing approximately 72 lb./sq. ft. has a sound reduction value of about 48 decibels (against sound from a source whose frequency is between 200 and 2000 cycles/second). A 9-in. wall built with normal flettons has a sound reduction value of 45 decibels (against sound from a similar source). The minimum difference that can be noted in practice is about 5 decibels, hence the loss in sound insulation compared with solid brick is negligible.

Moisture Penetration

Moisture penetrates any wall via the mortar joints, and therefore the degree of penetration is the same for cellular as for ordinary brick construction. 9-in. walls in either type are unacceptable for domestic applications, but an 11-in. cavity wall correctly built in Phorpres cellular bricks is completely impervious.

Durability

With regard to weathering, Building Research Station Digest No. 53 (April 1953), *Perforated Clay Bricks*, states:
limited laboratory evidence and practical experience suggest that there is little difference between the behaviour of a perforated brick and a solid brick of the same material made by the same process.

As with other forms of brickwork, constructional detailing particularly at the tops of free-standing walls, must conform to good building practice.

This Series of Sheets on bricks and blocks covers general data on, and applications of, common, facing, cellular and keyed bricks, hollow walling, partition and floor blocks.

Compiled from information supplied by:
London Brick Company Limited.
Head Office: Africa House, Kingsway, London, W.C.2.
Telephone: Holborn 8282.
Telegrams: Phorpres, Westcent, London.
Midland
District Office: Prudential Buildings, St. Philip's Place, Birmingham 3.
Telephone: Central 4141.
South Western
District Office: 11 Orchard Street, Bristol 1.
Telephone: Bristol 23004/5.
Northern
District Office: St. Paul's House, St. Paul's Street, Leeds 1.
Telephone: Leeds 20771.

working detail

HEATING: 17

FIREPLACE: HOUSE AT DROTTNINGHOLM, SWEDEN

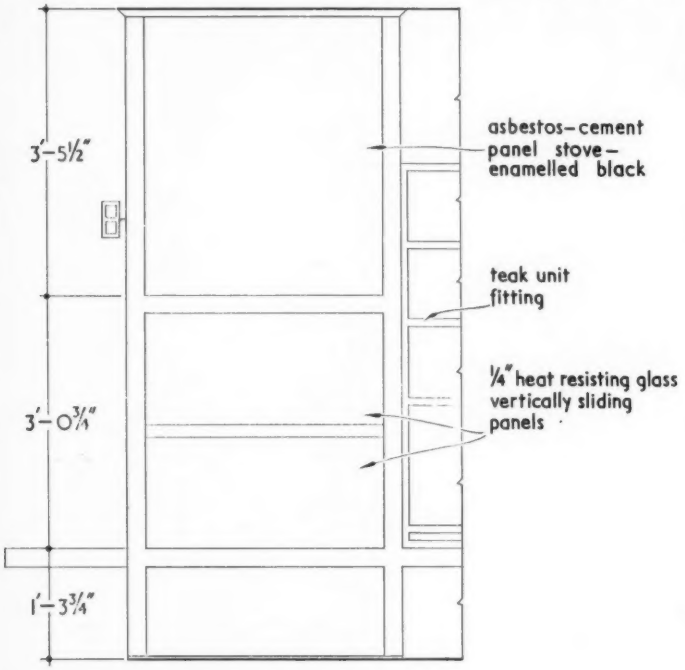
Hans Borgstrom and Bengt Lindroos, architects (material supplied by John Whalley)

Too many freestanding fireplaces smoke and some will not allow a fire to be lit in them at all. Points to notice about this one are the use of a welded steel frame to accommodate the natural stone lining below and the asbestos-sheet panels above, the neat steel hearth, the damper and the use of a toughened sheet glass vertical sash to control the draught.

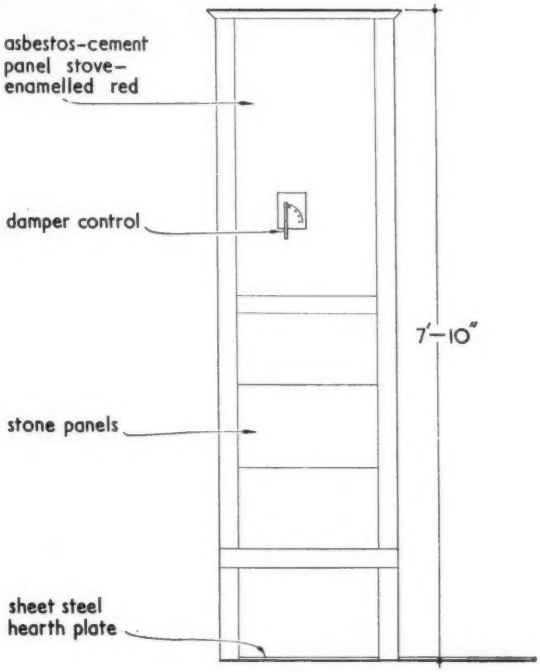
working detail

FIREPLACE: HOUSE AT DROTTNINGHOLM, SWEDEN

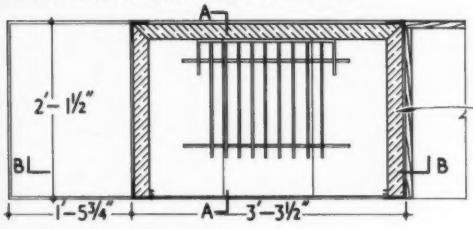
Hans Borgstrom and Bengt Lindroos, architects (material supplied by John Whalley)



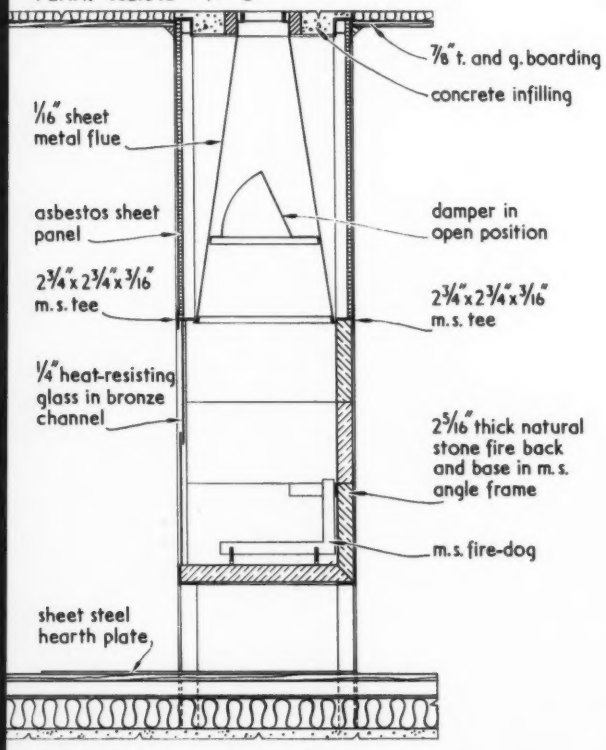
FRONT ELEVATION. scale ½" = 1'–0"



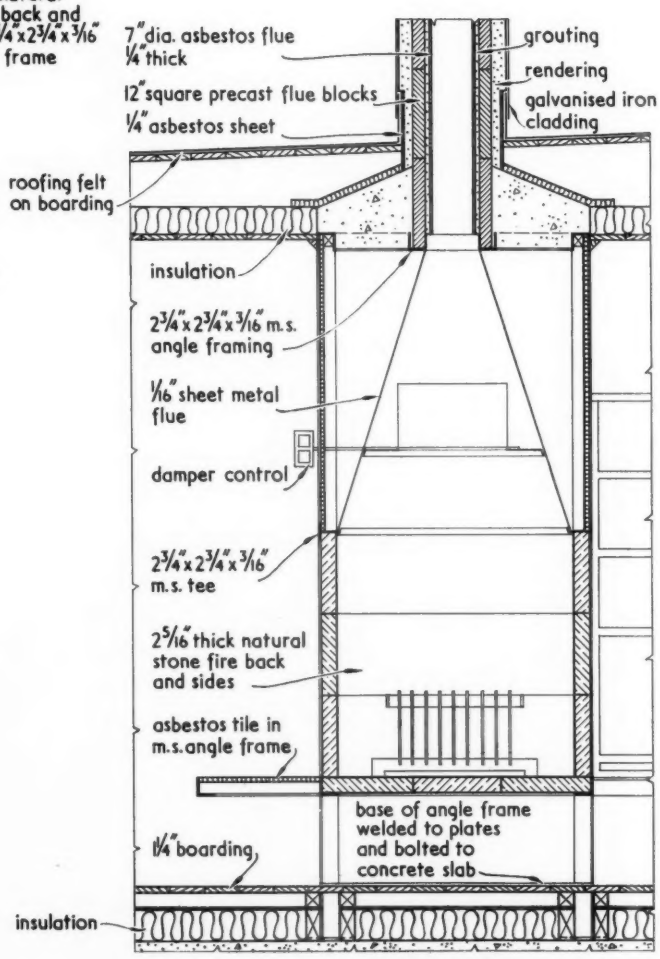
END ELEVATION.



PLAN. scale ½" = 1'–0"



SECTION A–A scale ½ = 1–0



SECTION B–B.

note: figured dimensions in feet and inches are approximate

taking the long view of 'U'

NSULATION IN FACTORIES

G VERNMENT TAK OVER BILL

M POLITICAL CORRESPOND T

T mal Insulation (In rial Buil s) a private mber's meas introd servati M.P., erald Nabarro, is now sponsor the Governm s likely to be The Bill will provi industrial buildings equipped for space heating must be insulated against loss of heat if they are erected after 1958.

moved a new cla empowering the Minister regu ons to restrict the use of teria

t th ew clause arose from fu r co rat and consultation on th ntent nd i lications of the Bill. T had en ong representations fr the Str ral ulation Association, a ccordin the clause empowered inister ake ulations excluding se of m ls hey did not con- to the sta rds esistance to the ad of flame hose ations would cify the part mat rticular standard

Plans deposited w local authority which showed that restr being used in a building by that authority unless they also that the materials were to be used in such a fashion that would not increase the risk of fire breaking out or spreading. The standard of resistance could be that in the British Standards Specification 476 of 1953 which were well known to architects and

Extract from The Times

Thermalite-Ytong building blocks provide exceptional thermal insulation and are at the same time load bearing. They achieve a "U" value as low as that obtained by using specialised insulation lining materials but produce it *as an integral part of the construction method.*

There are numerous other advantages. They are light weight yet fully loadbearing, they are incombustible and provide exceptional fire resistance, are easily handled and quickly erected.

Competitive in cost to brick and concrete construction, use of Thermalite-Ytong provides a rapid and entirely efficient method of integral insulation with which no other construction method can compare.

Thermalite Ltd. is in building, too. An additional factory for the manufacture of Thermalite-Ytong is nearing completion. Sited near Birmingham it will provide a strategically placed production unit and speed delivery to your site.

All the facts and figures for Thermalite-Ytong are to be found in an illustrated brochure which also shows construction methods and other details of interest. We shall be pleased to send you a copy.

THERMALITE-YTONG

Load bearing insulating building blocks

Thermal insulation
Load bearing
High speed of laying
Light weight
Workability
Direct fixing
Fire resistance
Reduces the risk of condensation

For further details and technical data apply to

THERMALITE LIMITED
Shepherds House Lane, Earley, Reading, Berkshire. Telephone: Reading 62694.

FLATS AND MAISONETTES IN LAMBETH, LONDON, S.E.1

A new landmark in Royal Street, Lambeth, London, S.E.1, is this new block of nine-storey flats and maisonettes, recently completed by Wates Ltd., who built them for St. Thomas's Hospital. Four months were knocked off the allotted building time as a result of collaboration at the pre-planning stage between builder, architect and consulting engineer. The architect is Leslie Creed; the engineer, Felix S. Samuely. Several new ideas for cutting building time were introduced by the site agent, Norman Wakefield, who introduced them after working for Wates' American organization. These flats are part of a rehousing scheme undertaken by St. Thomas's Hospital which will house 70 families, and will be the subject of a full-length feature in the AJ shortly.

Announcements

PROFESSIONAL

J. Arthur Miller, M.C.D., A.R.I.B.A., B.Arch., has transferred his office to Burneside, Burghfield Hatch, Reading (telephone Burghfield Common 272). He will continue to be available for interview by appointment at 21a, Kings Road, Reading.

As from March 25, the practices of William H. Laithwaite and Joseph Bak, consulting engineers, formerly of 24, Baker Street, W.1, will be merged in partnership and continue at the above address.

J. W. Stockings, F.R.I.C.S., Chartered Quantity Surveyor, of London House, London Street, Norwich and Bridge Street, Thetford, has taken into partnership P. P. Clarke, A.R.I.C.S. The style of the firm has been changed to Messrs. Jack W. Stockings & Clarke, Chartered Quantity Surveyors.

TRADE

On March 31, Cecil Martin resigned his appointment as Managing Director of Tarmac Limited, and his Directorships of Tarmac (South Wales) Limited, Tarmac (Scunthorpe) Limited, Plascom (1909) Limited, Sheepbridge Macadams Limited, Shotton Slag Limited, and the Five Towns Macadam Co. Ltd. He will continue to act as a director of Tarmac Limited. Tarmac also announce the resignation of R. G. Corbett as Secretary of the Company on March 31; he will be succeeded by J. M. Beckett, M.A.

British Insulated Callender's Cables Ltd. announce that from April 7 the address of their Dundee branch office will be 2, South Ward Road, Dundee (telephone: 5926/7).

The Simplex Electric Co. Ltd., manufacturers of the Creda range of heavy duty cooking equipment, have fitted out a mobile demonstration coach which will be taken to the caterer's door, where he can not only see the equipment, but see it demonstrated or try it out for himself. The range of equipment covers all the main items of cooking apparatus, Chef's range, heavy duty ranges, light duty ranges, hotcupboards, Salamander-grillers, rotary toasters, bulk water-boilers, etc.

The new telephone number of Sissons Brothers & Co. Ltd. is Hull 41431.

F. Hills & Sons Ltd., Norton Road, Stockton-on-Tees, have appointed a further distributor of Duramel in the London and Home Counties area who will be maintaining ample stocks of Duramel to meet the continued demand for this product. The new distributor is the Southall Timber Co. Ltd., Norwood Wharf, Southall, Middlesex.

The Parks Department of the LCC has now moved to Room 493, The County Hall, Westminster Bridge, S.E.1.

Correction

In our issue of March 6, on page 374, Messrs. Bair & Tatlock (London) Ltd. should have read Messrs. Baird & Tatlock (London) Ltd.

Contractors

Flats at Ham Common, Richmond, Surrey (pages 577-582) for the Manousso Group of Companies. *Architects:* James Stirling, A.R.I.B.A., B.ARCH. (L'POOL) and James Gowan, A.R.I.B.A. *Quantity surveyors:* Davies, Belfield and Everest. *General contractor:* Rice & Son Ltd. *Sub-contractors: Manhole covers and soil stack units:* Broads Manufacturing Co. Ltd. *Ideal Neofire Radiators:* Ideal Boilers. *Expansion joint:* Expandite Ltd. *Copper fittings:* Yorkshire Imperial Metals Ltd. *Doors:* Magnet Timber Ltd. *Plaster:* British Plasterboard Ltd. *Concrete tests:* R. H. Harry Stanger. *Cast iron r.w. and soil goods:* General Ironfoundry Co. Ltd. *Wall and floor tiling:* F. & E. Eastman (England) Ltd. *Plumbing:* J. C. Spooner & Son Ltd. *Glazing:* J. Pearson & Sons (London) Ltd. *Asbestos roofing:* Roberts Adlard & Co. Ltd. *Kimola Board:* Callactite & British Uralite Ltd. *Damp proof courses:* Ruberoid Co. Ltd. *Wood seal:* Floor Treatments Ltd. *Steel Reinforcement and structural design:* Expanded Metal. *London stock bricks:* Eastwood (Richard Parton Ltd). *Quarry Tiles:* Wheatley & Co. Ltd. *Phorpes fletton bricks:* London Brick Co. *Plastering:* T. Rooney & Sons Ltd. *Painting:* Perrot Grenville Ltd. *Paint:* ICI. *Distemper:* Walpamur. *Electrical installation:* Foote, Milne & Co. Ltd. *TV aerial installation:* Antiference Installation Ltd. *Ironmongery:* A. G. Roberts. *Curtain track:* Silent Gliss. *Reflective roofing:* F. J. Prater Asphalte Co. Ltd. *Sanitary fittings:* John Bolding Ltd. *Metal balustrading:* Haskins. *Accotile:* Armstrong Cork Co. Ltd. *Insulating screed:* Cheecol Processes Ltd.

Architects: David du R. Aberdeen & Partners

T.U.C. Council Chamber

These photographs of the recently completed council chamber of the T.U.C. Memorial Building in Great Russell Street, London, W.C.1, show the table with its beech legs, mahogany top and individual dark green leather pads. The chairs are of mahogany with dark green leather backs and seats. All were designed by the architects in consultation with Heal's, who built the furniture and also supplied the light-diffusing nylon ninon curtaining.

HEAL'S

CONTRACTS LTD.

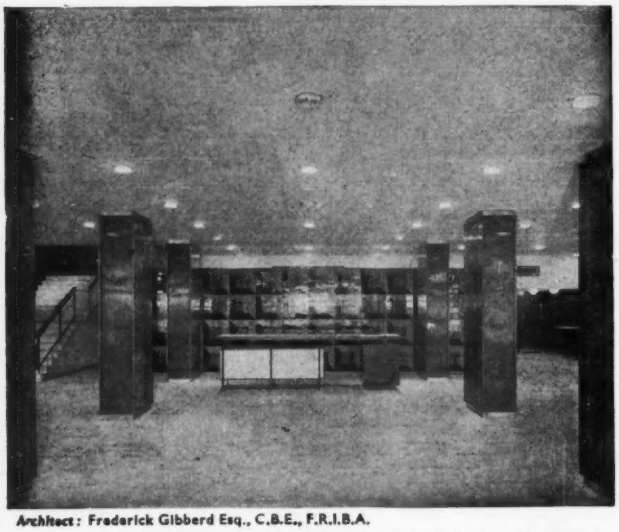
196 TOTTENHAM COURT ROAD, LONDON, W.1. TELEPHONE: MUSEUM 1666

Heal's Contracts Ltd. have carried out work for many well-known organizations including:

THE BOWATER PAPER CORPORATION LTD · IMPERIAL CHEMICAL INDUSTRIES LTD · TRADES UNION CONGRESS · JOHN LAING AND SON LTD · BARCLAYS BANK LTD · IND COOPE AND ALLSOPP LTD · WIGGINS TEAPE GROUP BRITISH TRANSPORT COMMISSION · KRAFT FOODS LTD · TATE & LYLE LTD U.S.A.F. · JACQMAR LTD · LONDON AIRPORT · PYE RADIO LTD.

LONDON AIRPORT

Entrance Hall to the Queen's Building



Architect: Frederick Gibberd Esq., C.B.E., F.R.I.B.A.
Acoustical Engineers: John Dale Ltd., London, N.11. *(Acoustics Division)*

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

30s. per inch; each additional line, 2s. 6d.

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for (1) **ARCHITECTS, Grade III**, starting salary up to £1,090 a year. (2) **ARCHITECTURAL ASSISTANTS**, starting salary up to £860.

Full and interesting programme of houses, flats, schools and general buildings.

Application form and full particulars from the Architect (AR/EK/5/58), The County Hall, S.E.1. (203) 8741

WARWICKSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

Applications are invited for the following appointments :—

(1) PLANNING ASSISTANT—Special Grade (£750—£1,030 per annum).

(2) PLANNING ASSISTANT—Grade A.P.T. I/II (£575—£845 per annum)

The posts are in the Development Plan Section and are subject to the provisions of the Local Government Superannuation Act. The successful applicants will be required to pass a medical examination. Consideration will be given to the granting of financial assistance towards removal expenses.

For Post (1) the applicants must be professionally qualified and must be prepared to provide and maintain a motor car for which travelling allowances will be paid in accordance with the National Scale.

For Post (2) the applicants must have passed the Intermediate examination of a professional Institution.

The commencing salary in each case will be according to experience and qualifications.

Applications, together with the names and addresses of two referees, should be sent to J. J. Brooks, County Planning Officer, Northgate, Warwick, not later than Monday, 5th May, 1958.

Canvassing directly or indirectly will be a disqualification.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick. 9215

BRACKNELL DEVELOPMENT CORPORATION

Applications are invited from Corporate Members of the R.I.B.A. for the following vacancies in the Chief Architect's department :

(1) ASSISTANT ARCHITECT : Salary range £934—£1,146.

(2) ASSISTANT ARCHITECT : Salary range £844—£1,029.

Superannuation schemes; medical examination. Housing available in due course. Apply by 30th April, 1958, stating which post is applied for and giving age, education and qualifications, experience and appointments held (with dates and salaries), with names of two referees, to General Manager (A.A.), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 9214

BOROUGH OF TOTTENHAM

Applications are invited for the following posts :—

ASSISTANT ARCHITECT (Unestablished), A.P.T. Special Grade—£750 to £1,030 p.a. Applicants must hold a Final professional qualification.

ARCHITECTURAL ASSISTANTS (Established), A.P.T. II—£725 to £845 p.a. Applicants must have at least passed R.I.B.A. Intermediate examination or equivalent.

ARCHITECTURAL ASSISTANTS (Established), A.P.T. I—£575 to £725 p.a. Applicants must have at least passed R.I.B.A. Intermediate examination or equivalent.

London weighting allowance of £20 or £30 p.a. according to age.

Commencing salaries within grades according to ability and experience.

Application form and Conditions of Appointment from Borough Engineer, Town Hall, Tottenham, N.15. Applications to be delivered by Monday, 28th April, 1958. 9205

BUCKINGHAMSHIRE EDUCATION COMMITTEE
HIGH WYCOMBE COLLEGE OF FURTHER EDUCATION

(*Principal*: W. J. DAVIES, J.P., B.Sc.)

Required for 1st September, 1958, **LECTURER** to teach Interior Design. It is hoped that by arrangement with the County Architect the College will have opportunities of undertaking live interior decoration projects on County Buildings.

Salary will be paid in accordance with the appropriate Burnham Report, *i.e.* £1,200 × £30 rising to a maximum of £1,350.

Further details and forms of application may be obtained from the Principal at Queen Alexandra Road, High Wycombe, to whom completed application forms should be returned within ten days of the date of the appearance of this advertisement. 9203

CITY OF CARDIFF
APPOINTMENT OF ASSISTANT ARCHITECTS

Applications are invited for the following appointments in the City Architect's Department.

Assistant Architects—Special Grade.
£750 × £40—£1,030 per annum.

Candidates should possess the minimum qualifications and experience prescribed by the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical services for posts in the above-mentioned Grade.

General Conditions of appointment may be obtained from the undersigned.

Applications, accompanied by the names and addresses of three referees and endorsed "Assistant Architect—Special Grade," must be delivered to me not later than the 24th April, 1958.

S. TAPPER-JONES,
Town Clerk.

City Hall,
Cardiff.
April, 1958. 9201

BOROUGH OF REDCAR
APPOINTMENT OF SENIOR
ARCHITECTURAL ASSISTANT
A.P.T. Special Grade

Applications are invited from qualified Architects for the appointment of Senior Architectural Assistant in the Department of the Borough Engineer. Preference will be given to applicants holding a planning qualification.

The duties of the post will primarily be those in connection with the development of a Neighbourhood Unit for a population of approximately 15,000 and experience in large scale estate development is essential.

Housing accommodation will be available, if required, and consideration will be given to assistance with removal expenses.

Conditions of Service and forms on which applications must be made, may be obtained from the undersigned.

The closing date for the receipt of applications is noon on the 6th May, 1958.

HUGH CALDWELL,
Town Clerk.

Municipal Buildings,
Redcar. 9204

LIVERPOOL REGIONAL HOSPITAL BOARD

Applications invited for established and temporary posts on the staff of the Regional Architect.

The work is primarily concerned with the capital building programme of new works and alterations at existing hospitals in South West Lancashire and West Cheshire. The Board is at present engaged on the construction of a new mental deficiency hospital (1,000 beds) and other new, large scale hospital building is contemplated.

The work offers experience in the varied and interesting aspects of hospital building. The vacancies and the minimum qualifications and/or experience required are as follows :—

ESTABLISHED POSTS

SENIOR ASSISTANT QUANTITY SURVEYOR—Salary £1,010 to £1,195 p.a. Applicants must hold Corporate Membership of the R.I.C.S. and have had considerable experience in all duties of a Quantity Surveyor.

QUANTITY SURVEYING ASSISTANT—Salary £525 (at age 21 and over) to £730 p.a.
Applicants must hold Intermediate R.I.C.S.

ARCHITECTURAL ASSISTANT—Salary £525 (at age 21 and over) to £730 p.a.
Applicants must hold Intermediate R.I.B.A.

TEMPORARY POSTS
(on new hospital projects)

ASSISTANT ARCHITECT—Salary £700 to £1,015 p.a.
Applicants must be qualified architects.

ASSISTANT BUILDING SURVEYOR—Salary £700 to £1,015 p.a.
Applicants must hold Corporate Membership of the Royal Institution of Chartered Surveyors (Sub-Div. III (b)) and have had experience in detailing and setting out of buildings, roads and services, and in land surveying, levelling and contouring.

Starting Salaries dependent on age and/or experience.

All posts are subject to the N.H.S. (Superannuation) Regulations.

Further details from the Regional Architect, T. Noel Mitchell, B.Arch., F.R.I.B.A., Pearl Assurance House, 55, Castle Street, Liverpool, 2 (Tel. No. Central 8464). Applications stating age, experience, qualifications, present and previous appointments and salary and names and addresses of three referees (two technical) to reach me by 28th April, 1958.

VINCENT COLLINGE,
Secretary to the Board.

19, James Street, Liverpool, 2. 9202

HEMEL HEMPSTEAD DEVELOPMENT CORPORATION

Applications invited for SENIOR ARCHITECTS. Salary scale £843—£1,028 p.a.

Applicants should have passed Final R.I.B.A. examination. Experience in design and execution of housing, neighbourhood centres or town centre development works desirable.

Starting salary according to qualifications and experience.

Conditions of service similar to those in Local Government. Housing accommodation available.

Applications, endorsed, Vacancy No. 106, giving age, education, qualifications and experience and names of two referees, should reach General Manager, Westbrook Hay, Hemel Hempstead, by 25th April. 9191

HER MAJESTY'S OVERSEAS CIVIL SERVICE
TOWN PLANNING OFFICER,
SURVEY DEPARTMENT,
GOVERNMENT OF NORTHERN NIGERIA

To produce development plans for Government Stations, African towns and villages.

Appointment is either on contract in the range £1,290—£1,962 p.a. or permanent and pensionable in the salary range £1,086 to £1,680 p.a. Officers on contract receive a gratuity of £37 10s. in respect of each completed period of three months resident service on satisfactory completion of contract.

Free passages for officer and wife and up to cost of one adult passage for children. Children's allowances from £120—£288 p.a. also payable. Quarters, if available, at moderate rent. Generous home leave on full salary.

Candidates must be A.M.T.P.I. or. have passed the Intermediate examination of the T.P.I. and in addition have regular engineering, architectural or surveying qualification.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD 103/408/04. 9190

BUCKS COUNTY COUNCIL

Applications are invited for the following permanent appointments :—

(*a*) ASSISTANT QUANTITY SURVEYOR. A.P.T. V, £1,175—£1,325 p.a.

(*b*) ASSISTANT QUANTITY SURVEYOR. A.P.T. IV, £1,025—£1,175 p.a.

Applicants must be Associates of the Royal Institution of Chartered Surveyors with considerable experience in the preparation of Bills of Quantities and settlement of final accounts.

The appointments are superannuable and subject to medical examination.

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

Applications, on forms provided, must be returned by 12th May, 1958.

F. B. POOLEY,
County Architect.

County Offices,
Aylesbury, Bucks. 9164

QUANTITY SURVEYING ASSISTANTS required by Air Ministry Works Directorate in London and Provinces. Grade and commencing salary based on not less than three or five years' previous experience under Quantity Surveyor or Building Contractor. Approved full-time study will count towards five years period. Qualifications required O.N.C. (Building) or (Builders Quantities) or equivalent. Duties include abstracting and billing, site measurement and preparation of estimates. Commencing salary and grading according to age, qualifications and experience on salary ranges (*a*) £545 (age 25) rising to £745 or (*b*) £695 (age 26) rising to £870 in London. Salaries somewhat lower in Provinces. Promotion and pensionable prospects. Five-day week, three weeks' leave a year. Appointments carry liability for service anywhere U.K. or overseas. Applicants normally should be natural born British subjects. Write stating age, qualifications and previous appointments including type of work done, to Manager, Professional and Executive Register, Ministry of Labour and National Service, Atlantic House, Farringdon Street, E.C.4, quoting reference PE.105/745. No original testimonials should be sent. Only applicants selected for interview will be advised. 9192

PEMBROKESHIRE COUNTY COUNCIL

Applications are invited for the following appointments on the permanent staff of the County Planning Department. Duties will be mainly in connection with large scale industrial development proposals in the Milford Haven area.

(*a*) SENIOR PLANNING ASSISTANT (ARCHITECTURAL), A.P.T. III
Qualifications, A.R.I.B.A., A.R.I.C.S., or A.M.T.P.I., with experience in preparation of Development Plans and architectural control of development. A knowledge of landscape architecture and model-making would be advantageous.

(*b*) TECHNICAL ASSISTANT (DRAUGHTSMAN), A.P.T. I
Applicants should have completed a period of training in a Planning, Surveyor's or Architect's Office, or passed Intermediate A.R.I.C.S., or T.P.I., and have some experience of Planning Survey and Research.

Commencing salary in both appointments will have regard to qualifications and experience.

Appointments are subject to the provision of the Local Government Superannuation Acts, the N.J.C. Scheme of Conditions of Service and satisfactory medical examination, and are terminable by one month's notice on either side.

Applications, giving particulars of qualifications and experience and the names and addresses of two referees must be addressed to the Clerk of the County Council, County Offices, Haverfordwest, to arrive not later than 19th May, 1958. 9194

PERTH AND KINROSS JOINT COUNTY COUNCIL require ARCHITECTURAL ASSISTANTS for work on New Schools (2) and on School Improvements and Additions (1). The appointments will be within Scale £765—£935. Applicants should hold the A.R.I.B.A. qualification or have had at least five years' experience after obtaining R.I.B.A. Intermediate. Consideration will be given to housing requirements. Particulars of appointment and forms of application from the County Clerk, P.O. Box 15, County Offices, York Place, Perth. Applications to be lodged by 28th April. 9188

COUNTY BOROUGH OF SOUTHAMPTON
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent positions:

SENIOR ASSISTANT ARCHITECT, GRADE IV (£1,025—£1,175). Experience in the design and administration of major local authority contracts desirable.

ASSISTANT ARCHITECT, SPECIAL GRADE (£750—£1,030).

Applicants must be members of the R.I.B.A. and should state their housing needs.

Application forms from the Borough Architect, Civic Centre, Southampton. Closing date 3rd May, 1958. 9218

COUNTY BOROUGH OF BLACKBURN

Applications invited for the established post of ARCHITECTURAL ASSISTANT Special Grade (£750 to £1,030). Candidates must have the necessary qualifications and experience for this Grade. Applications, stating age, qualifications, experience and with not less than two testimonials to the Borough Engineer, Town Hall, Blackburn, by Friday, May 2nd.

FRANK SQUIRES,
Town Clerk.
9213

HOLLAND COUNTY COUNCIL
LINCOLNSHIRE
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of Architectural Assistant Grade A.P.T. II, *i.e.* £725 to £845 per annum.

The appointment is superannuable and subject to a medical examination.

The Council are prepared to contribute to the cost of removal.

Applications, on forms provided by the undersigned, should be returned by 25th April, 1958.

H. A. H. WALTER,
Clerk of the County Council.

County Hall,
Boston, Lincs 9165

BRACKNELL DEVELOPMENT CORPORATION

Applications are invited for the post of ARCHITECT, salary range £1,100—£1,320. Applicants must be Corporate Members of the R.I.B.A. Superannuation Schemes, medical examination. Housing available in due course.

Apply by 23rd April, 1958, giving age, education and qualifications, experience and appointments held (with dates and salaries), and names of two referees to: General Manager (A), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 9163

HARLOW DEVELOPMENT CORPORATION

Applications invited for post of JUNIOR ASSISTANT ARCHITECT (PLANNING). Candidates should hold the minimum qualification of the Intermediate standard of the appropriate institutions and should have had planning experience in a Planning Department. Salary within range £656—£784 per annum. Applications giving full details and names of two referees to General Manager, "Terlings," Harlow, Essex, within ten days. 9160

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

SURVEYING ASSISTANT required in ARCHITECT'S DEPARTMENT. Salary within scale £525 to £730 plus £20—£30 London Weighting. Candidates should have passed the Intermediate examination of the R.I.C.S. (III B).

Duties include management of contracts and specification writing for specialist and sub-contract work. The Board operate a scheme of financial assistance to students studying for professional examinations. Office at present near Kingsway, but moving to new offices near Paddington Station later in year.

Apply, stating age, qualifications and experience, and giving names of two referees to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 26th April, quoting ref. 628. 9162

MANCHESTER CORPORATION TRANSPORT DEPARTMENT

Qualified ENGINEERING ASSISTANT, required for Building and Civil Engineering Construction and Maintenance. Salary in range £750 by £40 to £1,030 per annum, the point of entry on grade being according to qualifications and experience. Forms and details from General Manager, 55, Piccadilly, Manchester, 1, returnable by 7th May, 1958. 9189

SURREY COUNTY COUNCIL

Applications invited for appointment of ASSISTANT ARCHITECT Special Grade, £750—£1,030 p.a. plus £30 p.a. London Allowance. Must be A.R.I.B.A.

Full details, present salary and 3 copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 9219

STAFFORDSHIRE COUNTY COUNCIL
APPOINTMENT OF AREA PLANNING OFFICER

Applications are invited for the appointment of Area Planning Officer in the Southern Area Office of the County Planning Department at Sedgley on J.N.C. Scale "D" (£1,405 to £1,625 per annum).

Applicants must be corporate members of the Town Planning Institute and should hold in addition a recognised qualification in architecture, engineering or surveying.

The person appointed will be required to assist in work on the Development Plan and Town Maps and will be responsible for the control of development in the Southern Area.

Applications, giving details of age, qualifications, experience, together with the names of two persons to whom reference can be made, should be sent to D. W. Riley, County Planning and Development Officer, 41a, Eastgate Street, Stafford, not later than 9th May, 1958.

Relationship to any member or senior officer of the County Council must be disclosed. Canvassing will disqualify.

T. H. EVANS,
Clerk of the County Council.
9221

Tenders Invited

6 lines or under, 15s.; each additional line, 2s. 6d.

BOROUGH OF EALING
CONSTRUCTION OF DRESSING ROOMS—HORSENDEN HILL

Tender forms, specification and drawings, obtainable from Borough Surveyor, Town Hall, Ealing, W.5, upon payment of £2, returnable on receipt of a bona fide Tender.

Tenders to be delivered to the Town Clerk, Town Hall, Ealing, W.5, not later than noon on 30th April, 1958. 9187

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

NORMAN JONES, SONS & RIGBY require an ARCHITECTURAL ASSISTANT of Intermediate standard, good draughtsman, sound knowledge building construction, able to produce working drawings, surveys. Salary range £550—£650. Please write stating experience to 271, Lord Street, Southport, Lancashire. 9147

ARCHITECT'S Department in City requires two ASSISTANTS of about Intermediate R.I.B.A. standard with some office experience. Salary range £600—£800 and work of an interesting and varied nature. Secure future for suitable applicants. Write giving particulars of age, experience and salary required. Box 9061.

RONALD WARD & PARTNERS require ARCHITECTURAL ASSISTANTS with contemporary outlook, and willing to use own initiative. Salary range £600 to £900. Congenial working conditions. 5-day week.—Apply: 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 9112

RCHITECTURAL DRAUGHTSMAN urgently required. Applications to Alfred H. Howard, L.R.I.B.A., West Way House, St. Thomas Street, Winchester. 9154

ARCHITECTURAL DRAUGHTSMAN required by large Building Company in Cornwall. Applicants should have at least 2 years' experience as a senior.—Apply, stating experience, age, and salary required, to Box 9150.

ASSISTANTS wanted. Write brief details to Eric Lyons, Mill House, Bridge Road, Hampton Court, Surrey. 9156

LANCHESTER & LODGE urgently require ASSISTANT, around Intermediate standard. Write full particulars, 10, Woburn Square, London, W.C.1. 9151

YOUNG qualified ARCHITECT required whose main interest is design, preferably with office experience of practical design work. A high standard of draughtsmanship is essential. Write stating particulars to Box 9155.

ARCHITECTURAL ASSISTANT required by Groves and Whitnall, Limited, Brewers. Interesting work in progressive office. Contributory pension scheme, canteen. Applications stating age, experience and salary required to Company Architect, Regent Road Brewery, Salford, 5, Lancs. 9157

LEADING ASSISTANT ARCHITECT required in the office of the Architect, LONDON MIDLAND REGION, BRITISH RAILWAYS, EUSTON STATION.

The appointment is for work in connection with British Railways Modernisation Plan and also work of a general character.

The applicant must be qualified with well developed abilities in contemporary design, structural techniques and administration. It is preferable that the applicant should have at least 5 years' experience since qualifying.

Salary range £1,065—£1,170 per annum. 5-day week. Residential travel and other favourable travelling concessions available. Superannuation scheme.

Applications should be addressed to the Chief Civil Engineer (Reference 61), London Midland Region, Euston Grove, London, N.W.1. 9193

ASSISTANT of about Intermediate standard required in small office.—Apply in writing, stating age, experience, and salary required, to Nichol & Edwards, A./A.R.I.B.A., A.M.T.P.I., 3, Ashley Close, Welwyn Garden City, Herts. 9198

MORRISON, ROSE & PARTNERS require Final and Inter. standard ASSISTANTS. Practical experience essential and knowledge of multi-storey development advantageous. Salary by arrangement.—Telephone Langham 8061 for appointment. 9197

TREHEARNE & NORMAN, PRESTON & PARTNERS have vacancies for ASSISTANTS. Salary according to experience and qualifications.—Apply 83, Kingsway, W.C.2 (HOL. 4071). 9196

BIRMINGHAM Architects, Clifford Tee & Gale, F./F.R.I.B.A., have vacancies for ARCHITECTURAL ASSISTANTS of varying experience to take active part in large programme of industrial and commercial work. 5-day week.—Apply to Mr. R. G. Cox, F.R.I.B.A., 43, Frederick Road; telephone Edgbaston 3676. 9195

ARCHITECTS, interested in writing on Architectural, Building and General Technical Subjects, are invited to give details, in confidence, of experience, interests, etc.—Write Box 9185.

YOUNG A.R.I.B.A., showing possibility of becoming an Architect and who would be treated accordingly. Apply in writing to Handisyde and Taylor, 68, Great Russell St., W.C.2. 9217

ASSISTANT with 2 or 3 years' experience required in office with varied practice. Telephone: WELbeck 6543. 9209

OPPORTUNITY for advancement occurs for single young man of Intermediate or better standard as SECOND ASSISTANT in Country Practice. Reply to Box 9207.

YOUNG SINGLE ASSISTANT of about Intermediate Standard required for Housing Act Improvement Grant Schemes in Country Architect's Office. Car Driver. Reply to Box 9208.

ASSISTANT JUNIOR required any age up to and including Intermediate standard for South-West London office. Reply with full particulars and salary required to Box 9210.

PROGRESSIVE and established young firm (all 10 members under 30, just!) with offices in Cardiff and Pontypridd require ARCHITECTURAL ASSISTANT of Intermediate standard. Near genius preferred but good keen bloke will do. Excellent and varied experience guaranteed. Salary £550/£650 per annum plus small bonus. Apply H. M. R. Burgess and Partners, 51, The Parade, Cardiff. 9211

ARCHITECT'S ASSISTANT required by a small office in London. Ability to take responsibility. Salary commensurate with capabilities. Write stating experience and salary required to Box 9212.

LIONEL BRETT, KENNETH BOYD & PETER BOSANQUET have a vacancy at their London Office for an ASSISTANT. Previous office experience is essential. Please write stating age, qualification and salary required to Box 9220.

EXPERIENCED ARCHITECT'S ASSISTANT required urgently. Capable of precise, neat and quick draughtsmanship. Working details essential. City office. 5-day week. Luncheon vouchers. Holidays this year. Salary £850—£950 p.a.—Box 9169.

ASSISTANT, Intermediate to Final standard, required immediately in small Westminster office engaged chiefly on Schools.—Reply to Box 9168.

ARCHITECTURAL ASSISTANTS, all Grades, required by expanding firm in Manchester.—Box 9167.

SOUTHEND-ON-SEA. — ARCHITECTURAL ASSISTANTS required for work on Churches, Schools, Housing, etc. Final standard and some experience desirable. Salary according to qualifications and experience.—Write with details to Burles & Newton, 36/7, County Chambers, Weston Road, Southend-on-Sea. 9166

ASSISTANT required for small and varied practice. Intermediate-Final standard. Opportunity to handle all stages of contracts.—Alexander Flinder, 30b, Wimpole Street, W.1. HUN. 0841. 9186

TWO ARCHITECTURAL ASSISTANTS required, one Intermediate and one Final standard. Salaries £500 to £800, according to qualifications. London office experience desirable.—Searle & Searle, Chartered Architects, 2, South Square, Gray's Inn, W.C.1. 9184

DEVELOPMENT Company, West London, requires ARCHITECTURAL ASSISTANTS. —Particulars and salary required to Box 9224.

BRITISH RAILWAYS—EASTERN REGION APPLICATIONS are invited for the post of TECHNICAL ASSISTANT in the office of the Architect, Eastern Region, King's Cross Station. Salary range £916—£966 per annum. The successful applicant will be mainly engaged in the collation and organisation of technical information, including new materials and methods of construction, and for making such information readily available to the Architects in the office. Applicants should have a thorough knowledge of architectural procedure and an aptitude for the selection and classification of technical data. 5-day week, and concessionary rail travel.—Apply in writing to Chief Civil Engineer, British Railways, Eastern Region, King's Cross Station, London, N.1, quoting Post 1617. 9161

ASSISTANT ARCHITECT, of Intermediate standard, with office experience, required by Huntingdon Architect. Facilities for further study.—Apply Parkinson & Mull, F./A.R.I.B.A., A.M.T.P.I., Whitwell Chambers, Ferrars Road, Huntingdon. 9183

ARCHITECTURAL ASSISTANT, Intermediate to Final standard, required in Eastbourne office. 5-day week. Good salary and prospects.—Apply, stating salary required, to H. Hubbard Ford, F.R.I.B.A., 24, Cornfield Road, Eastbourne. 9226

GRENFELL BAINES & HARGREAVES, Architects and Planning Consultants, invite applications from enthusiastic chaps to work on big job in their new Derby office. Salary plus share of income after basic expenses have been met, all according to age, experience and ability. Superannuation scheme optional.—Apply, giving full particulars, to Martins Bank Chambers, Market Place, Derby. 9225

ASSISTANT, either sex, Intermediate or Final, required for small progressive expanding practice. £550—£700, according to experience.—Full particulars to Dore & Wurr, Buttsmead, Eastcote High Road, Pinner, Middx. 9223

E. JOHN EVANS, Chartered Architect, 66, High Street, Walton-on-Thames, requires an ARCHITECTURAL ASSISTANT, above Intermediate standard and with practical experience in small office of General Works but mostly housing. Own car desirable. 9222

Architectural Appointments Wanted

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ARCHITECTURAL ASSISTANT (34), Inter. R.I.C.S., requires position of responsibility. Varied experience, including stone districts.—Box 9200.

ASSOCIATE (39), 15 years' wide experience in private practice, seeks responsible post, with prospects, in S.E. England.—Box 9176.

ASSISTANT, 26 years old, 5 years' varied experience, R.I.B.A. Finals passed, seeks Senior Assistant's post in any of the southern counties for the next 5 years. Comprehensive resumé of training, experience, and salary required by return post to all enquiries.—Box 9175.

Other Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

EXPERIENCED ARCHITECTURAL MODELMAKER urgently required in rapidly expanding firm with excellent prospects.—Please write, giving age, experience, and salary required, to The Architectural and Industrial Model Co., Ltd., 33, North Audley Street, W.1. 9199

SECRETARY/PERSONAL ASSISTANT (male or female) required to Contractors' Architect. Previous experience in Architect's office essential. Scope for self-reliance and initiative. Age 30 upwards.—Submit full details of age, experience, and present salary to Personnel Manager, Wates, Ltd., 1258/60, London Road, Norbury, S.W.16. 9172

QUALIFIED and experienced QUANTITY SURVEYOR required urgently by old-established and progressive firm of Architects in Midlands. Must be capable of taking full responsibility for Quantity Surveying department—including preparing Bills of Quantities, Estimating, Interim and Final Accounts, etc. Good salary and prospects for suitable applicant.—Box 9174.

A BUILDING and Development Company have a vacancy for a qualified ARCHITECT. For further particulars apply Box 9216.

Other Appointments Wanted

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INTERESTING and/or remunerative occupation required for about six months. Associate of R.I.B.A., with 8 years' experience of varied and sometimes unusual work and situations.—Box 9173.

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TO LET.—Remaining first floor wing of modern central parade in West Wickham, Kent. Approximately 1,000 sq. ft. of clear space—could divide. Ideally suitable for Drawing Offices, etc. Adjoining tenants' Estate Agents and Solicitors.—Full details from Messrs. Harvey, Struth & Co., 77, George Street, Portman Square, London, W.1. Telephone: Hunter 1313-4-5. 9170

Educational Announcements

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

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17.4.58

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