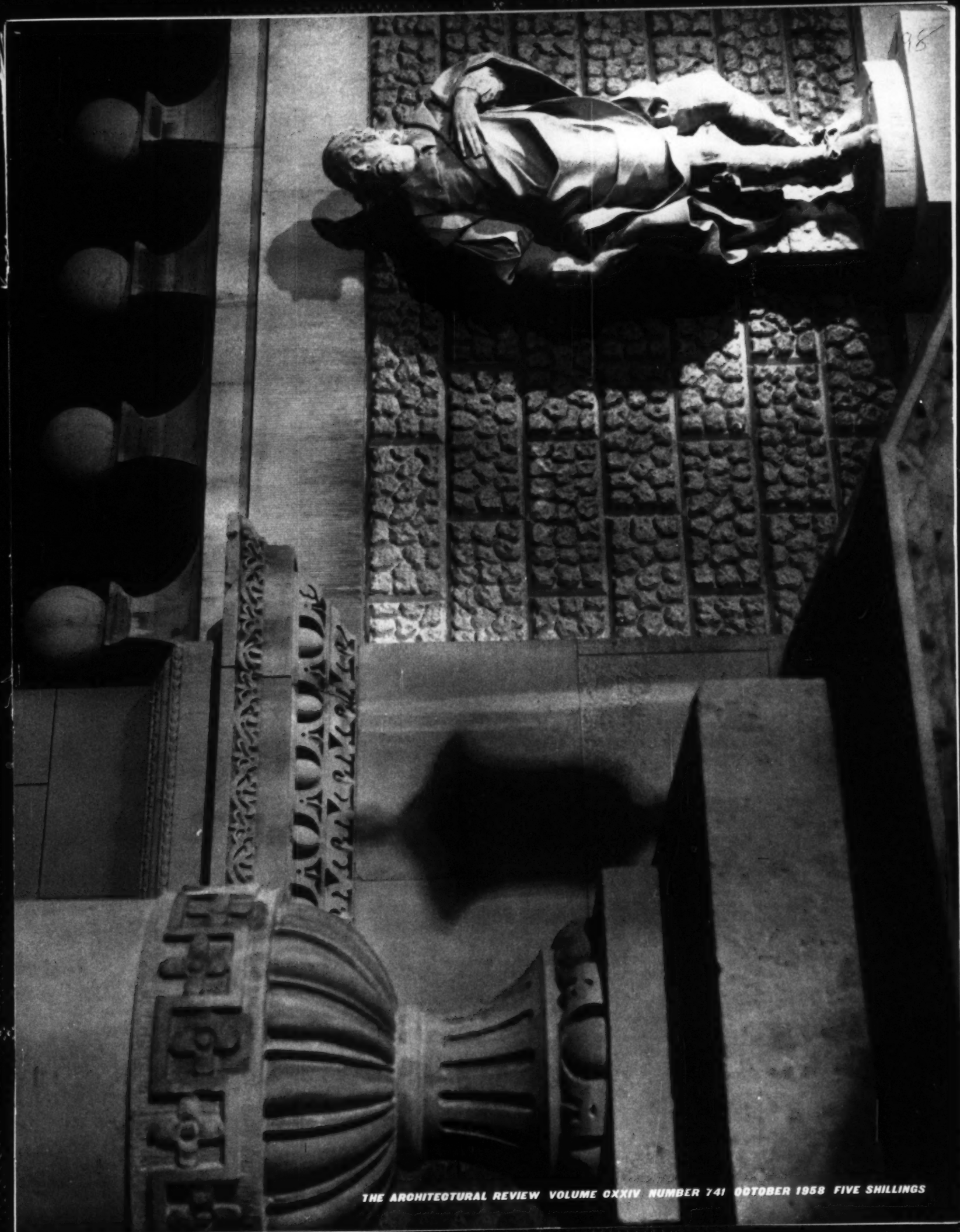




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Consulting Engineers: Oscar Faber & Partners
Contractors: George Wimpey & Co., Limited



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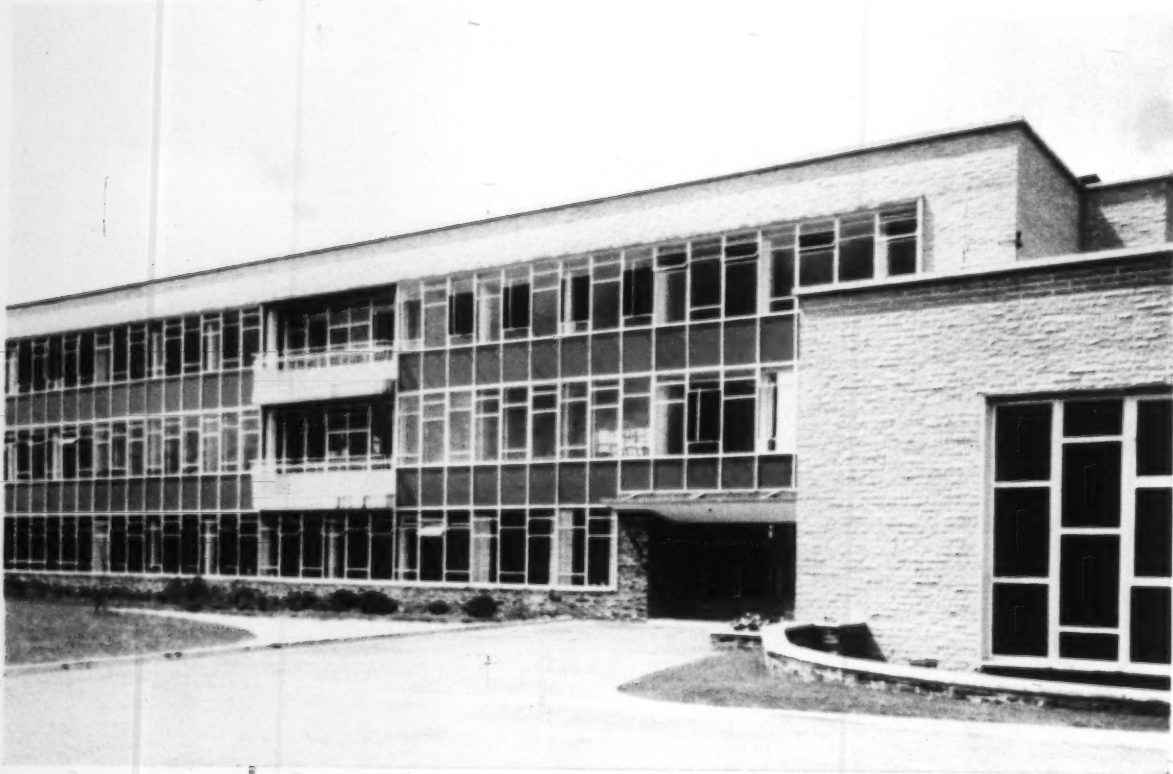
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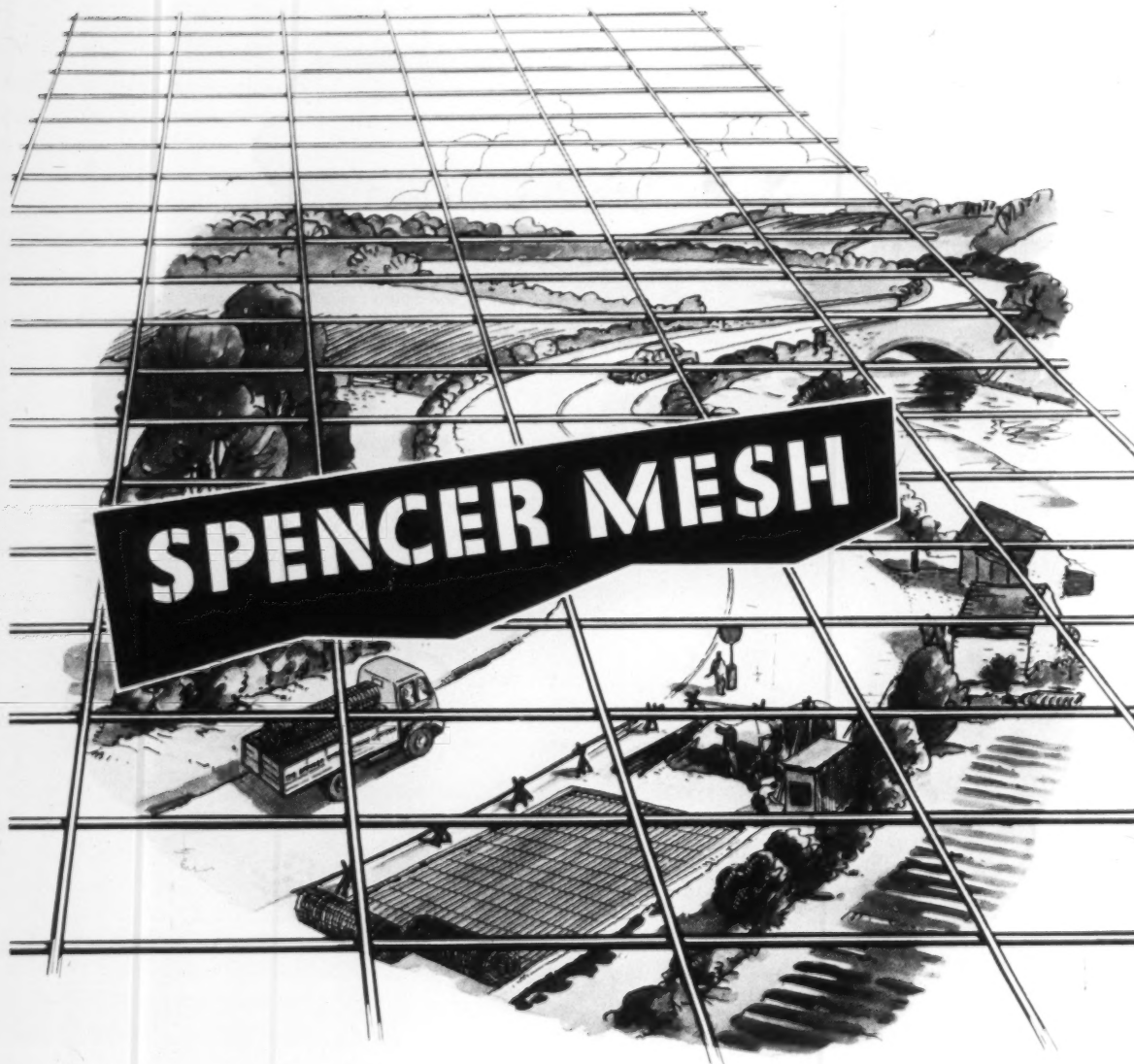
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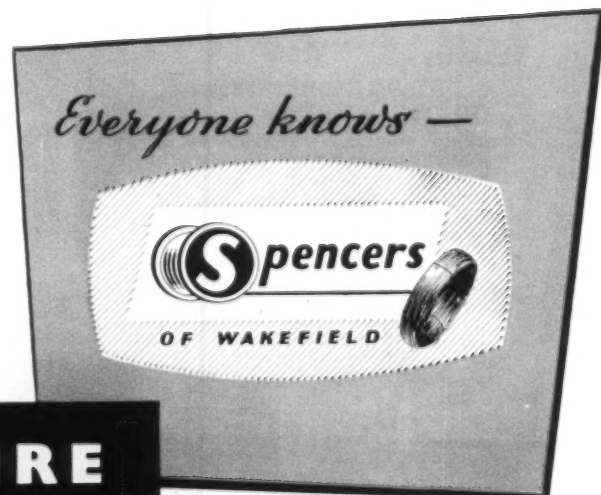
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monthly review by

WILLIAMS & WILLIAMS

SPEEDY DELIVERY, SPEEDY ERECTION WIN CONTRACT FOR 'ALUMINEX' PATENT GLAZING

I The big Pirelli factory at Burton-on-Trent required a massive new extension. The new building would house many new machines. But it was also intended to transfer the very heart of the factory to the new building. Heavy machinery, vital to the flow of production, was involved in the move. Speed was of the essence.

The speed and simplicity of erection of 'Aluminex' patent glazing commended itself to the Architects. And that was one of their reasons for selecting 'Aluminex' for the roof and sidewall glazing. Williams & Williams quoted only ten weeks delivery from approval of drawings. And this time was short enough to enable northlight slopes to be cladded as soon as the steelwork was sufficiently advanced.

The price was naturally an important factor further affecting the decision as to choice of materials. The extremely competitive prices quoted for 'Aluminex' clinched the matter.

Although mechanical roof extractors were provided for general ventilation, in certain areas in the factory, where excessive heat was to be generated, additional provision had to be made for rapid dissipation of this heat. This was accomplished by the introduction of large areas of opening northlight glazing operated by electrically controlled Teleflex gear. It was also felt by the clients that the ability to see a clear opening in the roof had a psychologically beneficial effect on the operatives' morale. The good natural lighting achieved throughout the new extension has been greatly welcomed by the staff.

LARGEST CURTAIN WALL INSTALLATION IN FAR EAST IS 'WALLSPAN'

2 The new American International Assurance building is the only structure of its kind in the Far East. Its unique architectural features coupled with local building ordinances and sub-soil conditions necessitated many innovations, especially in materials.

The building's reinforced concrete frame is supported on concrete piles which were driven deep into the muddy swamp that was once Singapore's sea frontage! Far beneath the building was unearthed the remains of the old seawall, built about 1843. The 2-story pediment is faced with sun-absorbing glass,

marble and granite in contrast to the 10-story tower block clad in dark-grey anodized aluminium 'egg-crate' curtain wall, using a high-silicon content aluminium alloy.

The ground floor, a full quarter acre, is occupied entirely by gardens—partly open, partly glass-enclosed; an entrance lobby with two walls of glass; and off-street parking concealed from the lobby by a marble wall. The second story not only covers the entire building site but projects over the pavement as well, providing shade and comfort for pedestrians and making the exotic garden a part of the street scene. Faced with granite, this story provides a broad terrace on three sides of the main tower and carries the landscaping to the third floor level by elaborate plantings along its outer edges.

The gleaming 10-story tower is clad from top to bottom by an unusual and original application of 'Wallspan'. It takes the form of decorative aluminium louvres which, fixed in place both vertically and horizontally, skilfully shield the interior from direct rays of the tropical sun but allow all floors an ample supply of natural daylight. No part of any tower floor is more than 24 feet from a window, and only two columns break into working floor space.

Topping the slender tower is a practically 'weightless' 7-room penthouse, complete with kitchen, baths and large terrace. Extremely light walls are obtained by the use of styrofoam—the white synthetic sponge used in floral decorations. The styrofoam sheets are held in place by 'Wallspan' members.

INTERIOR OF MODERN LABORATORY IS ROFTEN MODULAR PARTITIONING

3 The laboratory is one of many departments of this new Vickers-Armstrongs factory that is tastefully segmented by Roften Modular Partitioning. The colour scheme, selected from the Roften range of 13 standard colours, is black and cream. Black pilasters and skirting; cream infill panels.

Vickers were greatly impressed by the robust construction and superb finish. And they particularly liked Roften's easy interchangeability. All components are made to the finest tolerances, absolute precision of steel parts is ensured by cold-rolling method of manufacture. Complete demountability and interchangeability are very necessary in such a rapidly expanding factory. Indeed, change of office layout is always on the cards.

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'HEADLINE' HOUSE HAS STANDARD METAL WINDOWS BY WILLIAMS & WILLIAMS

4 The deeper than usual dormer window of this widely publicised Low Cost All Brick House allows the ceiling joists to be run through without a break.

The use of roof space as part of the habitable area has played a major part in keeping down costs. The actual window fitted in the dormer and the other windows in the house are standard metal windows from the Williams & Williams 'Z' range.

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I FACTORY EXTENSION, PIRELLI LTD., BURTON-ON-TRENT.

Architects: Douglas & J. D. Wood,
F.F.A.R.I.B.A.

A Good natural lighting achieved by 'Aluminex' northlight glazing.

B Continuous hinge for opening lights in 'Aluminex' glazing.

2 AMERICAN INTERNATIONAL ASSURANCE BUILDING, SINGAPORE.

Architects-Engineers: John Graham & Co.,
New York and Seattle.

Supervisory Architects: Swan Maclaren,
Singapore.

Contractors: Paul Y. Construction Co.,
Singapore.

A Twelve stories high, it makes an imposing addition to the skyline.

B The main entrance: aluminium doors by Williams & Williams.

C The first floor terrace.

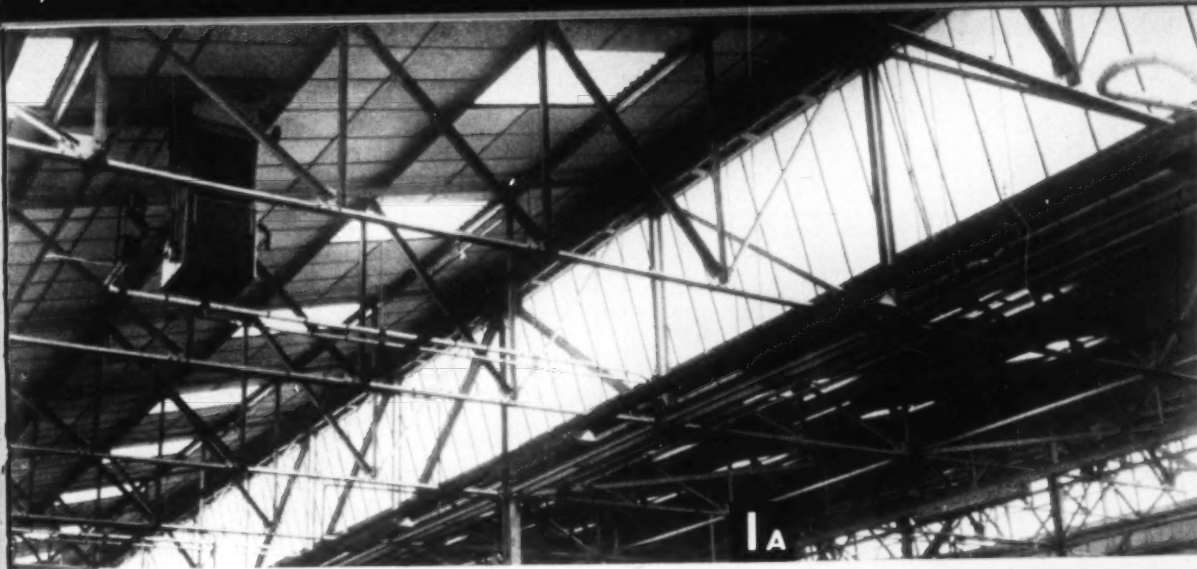
D A close-up view of the cladding.

3 VICKERS-ARMSTRONGS LTD., SOUTH MARSTON, SWINDON.

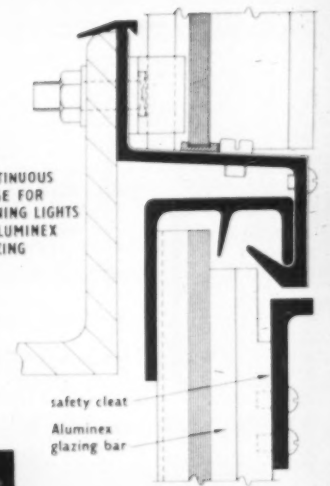
Laboratory: right hand wall has glass infill panels from cornice height to ceiling.

4 GREGORY LOW COST HOUSE.

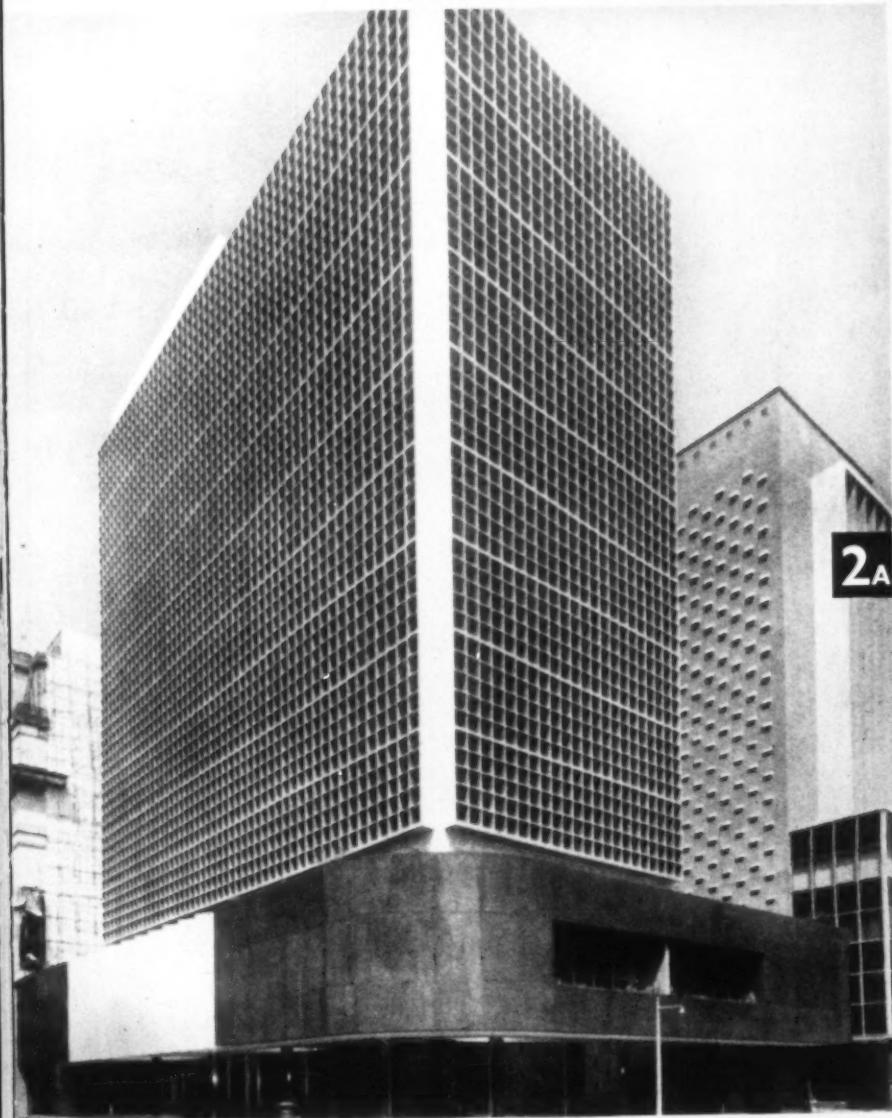
Architect: J. E. S. Glover, A.R.I.B.A.



1A



1B



2A



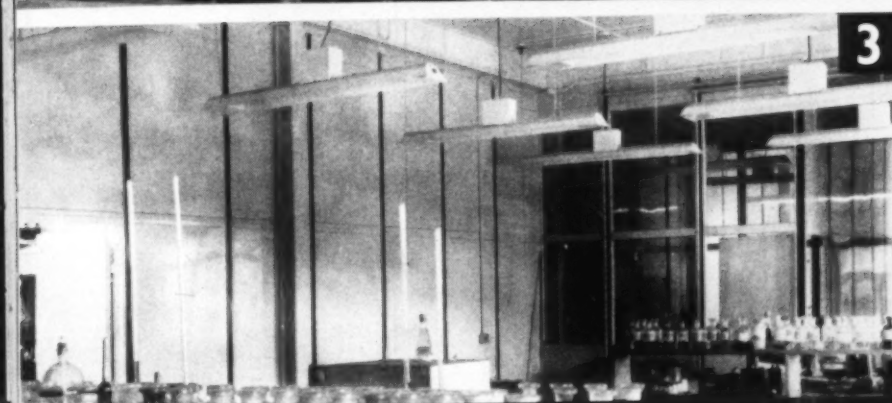
2B



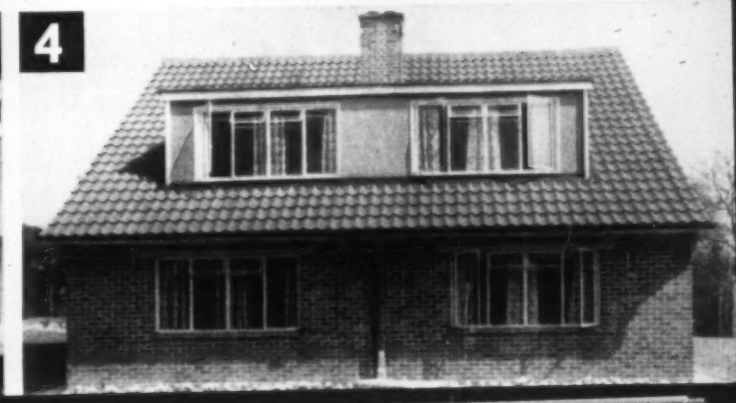
2C



2D



3

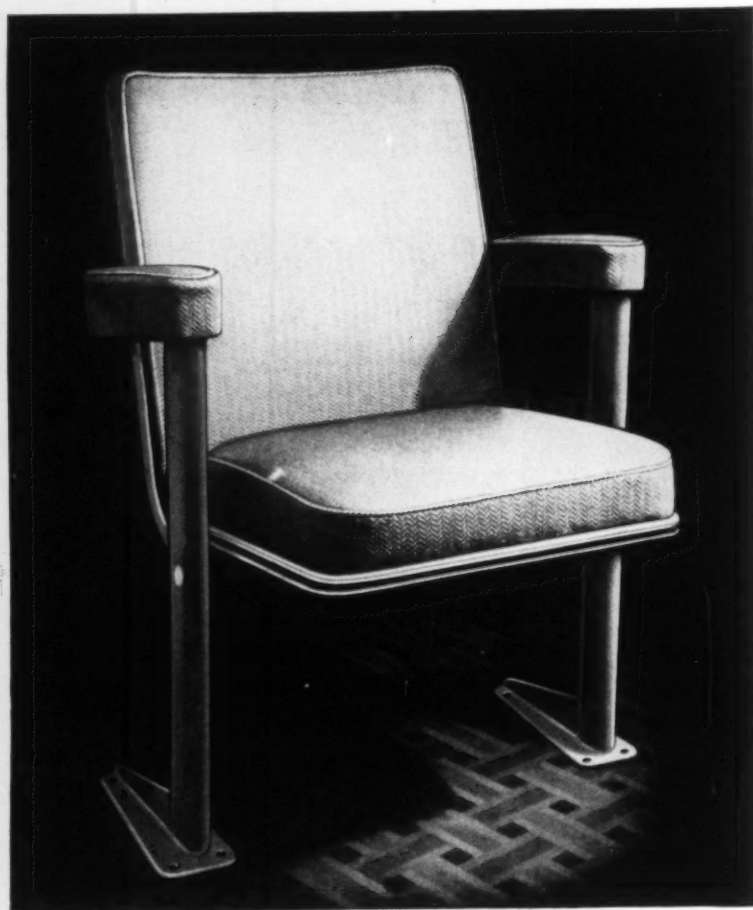


4

Auditorium seating

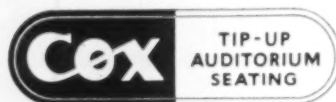
Both in this country and abroad, the reputation gained by Cox for tip-up seating is exceptionally high. For example, they were chosen for the installation of the Royal Festival Hall and of the Free Trade Hall, Manchester. In Venezuela they installed the seating for the great conference hall of the Instituto de la Ciudad Universitaria at Caracas.

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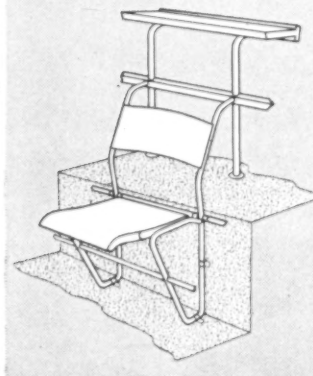
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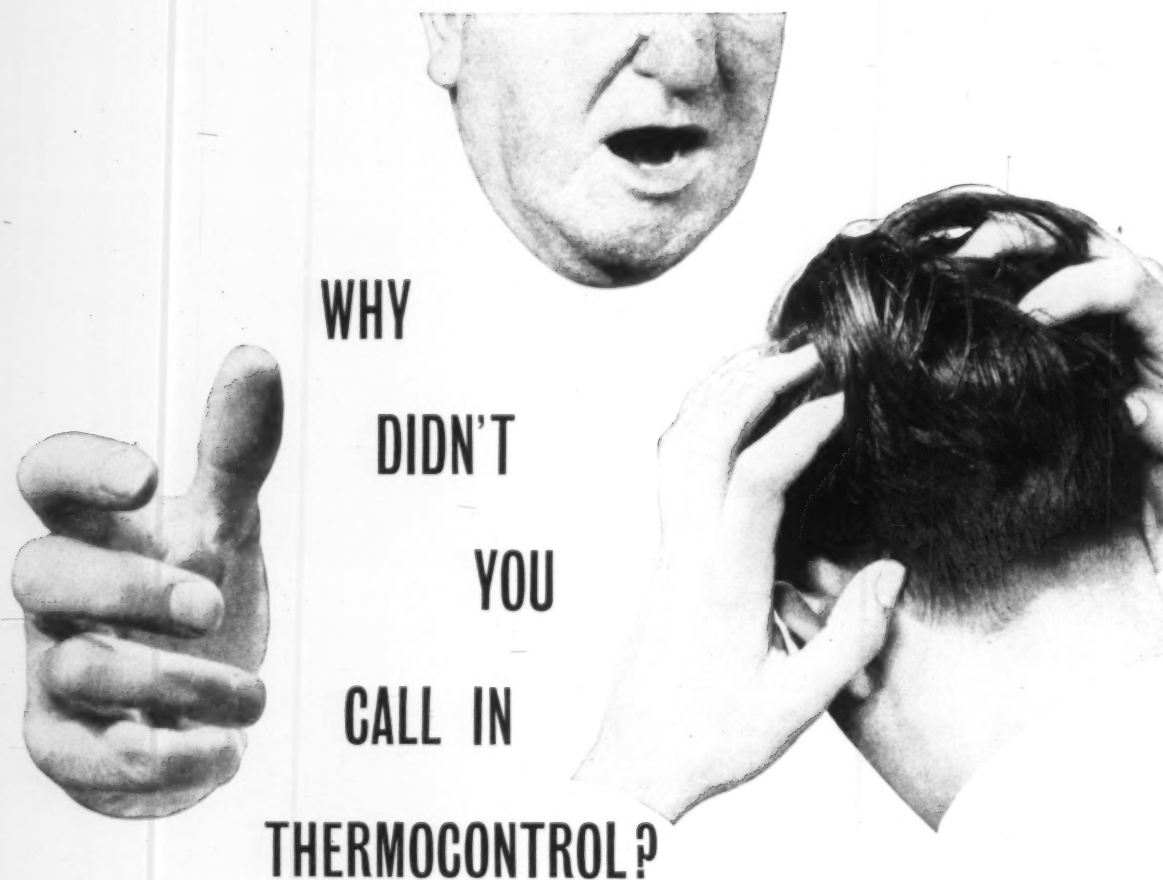
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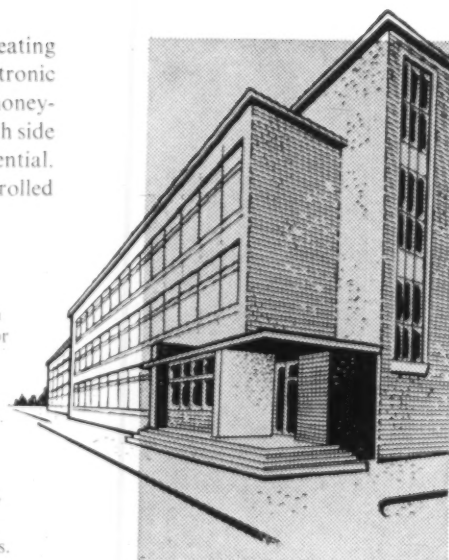
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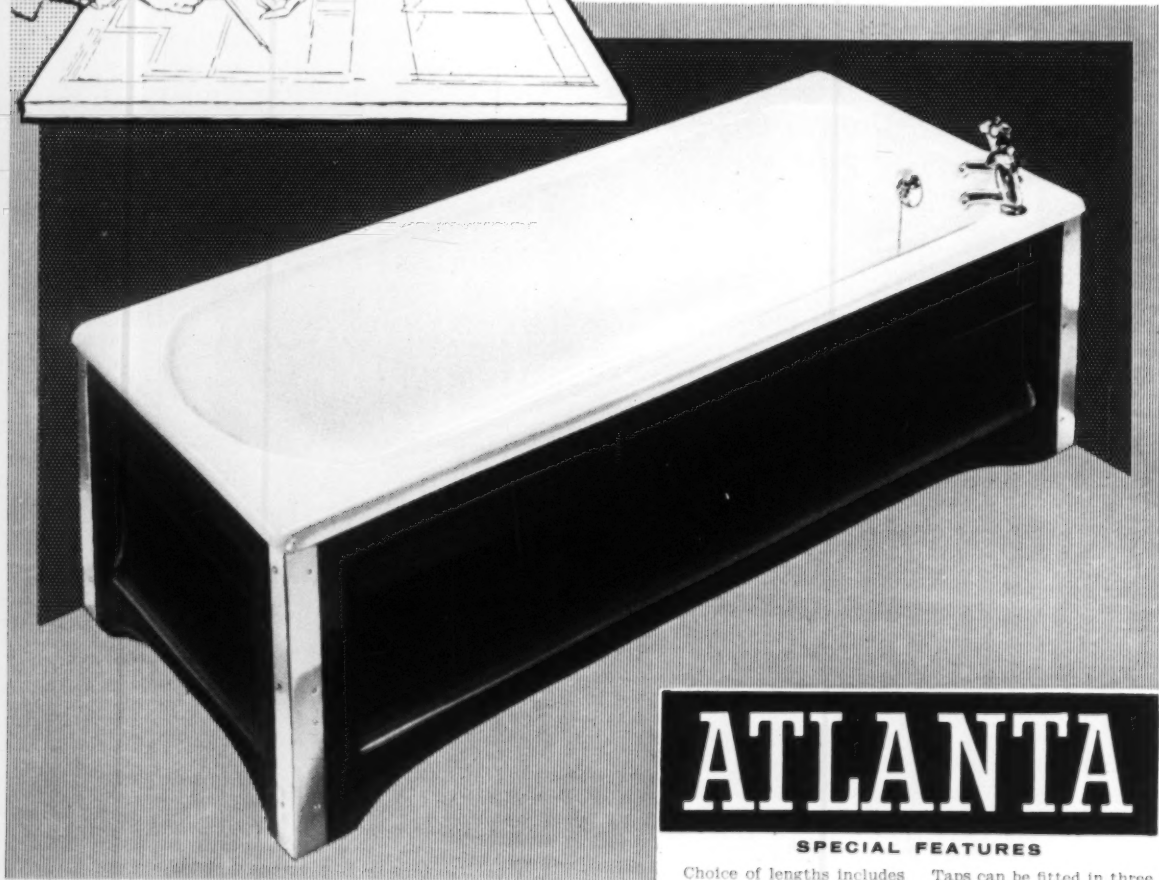


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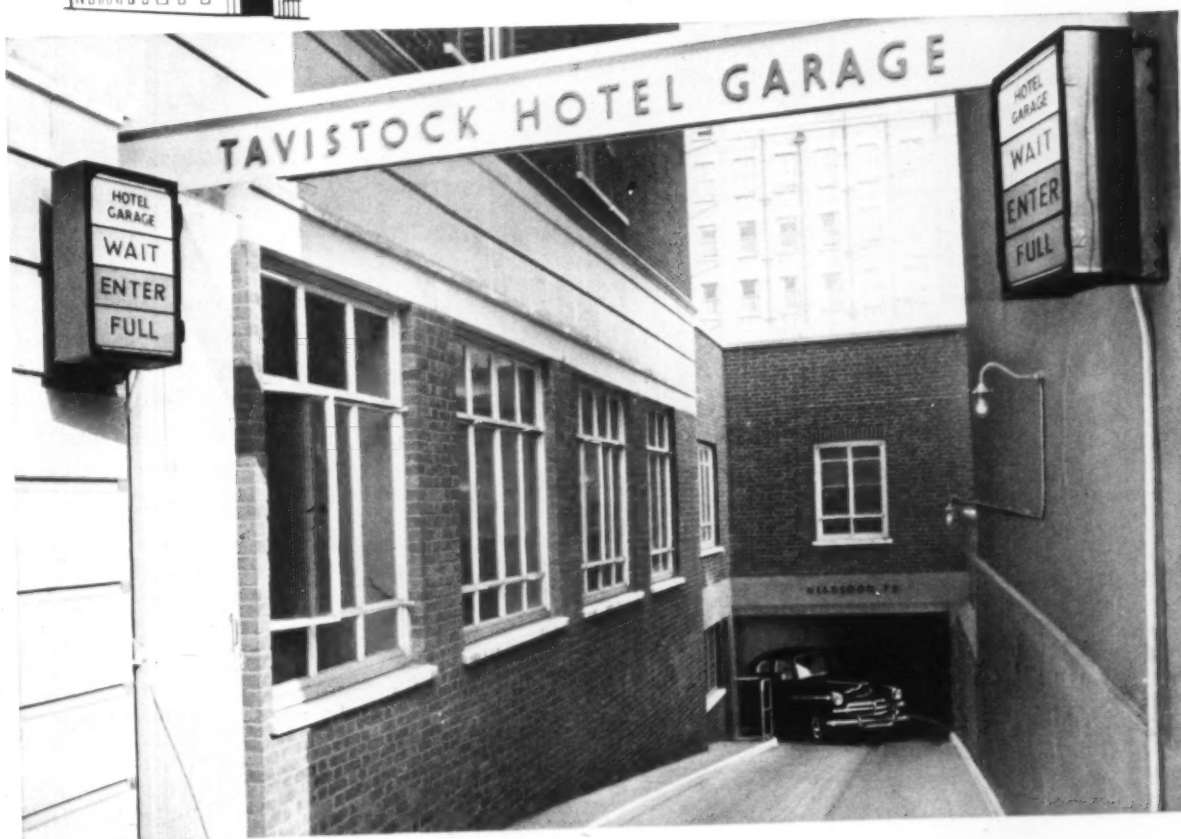
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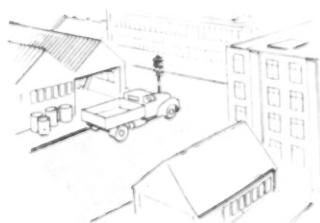


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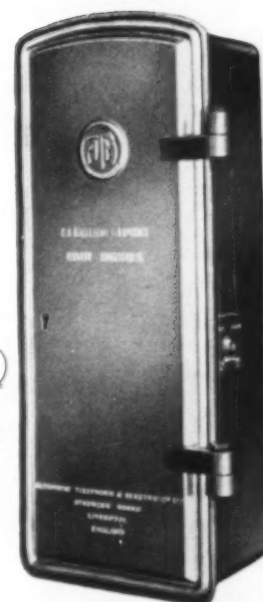


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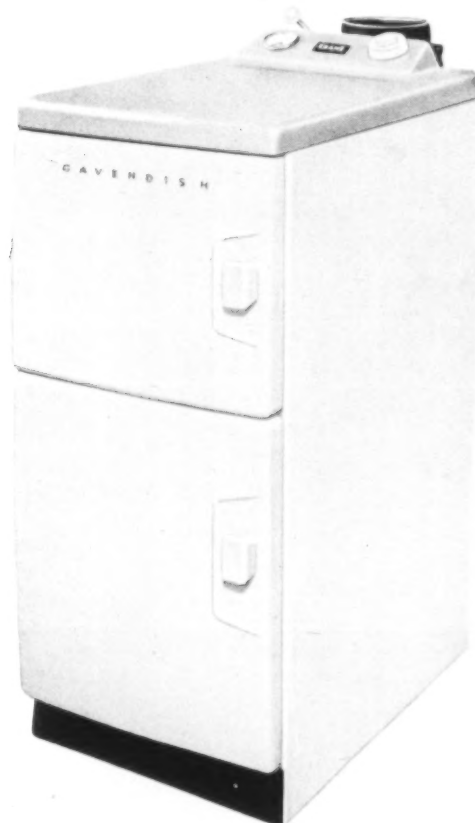


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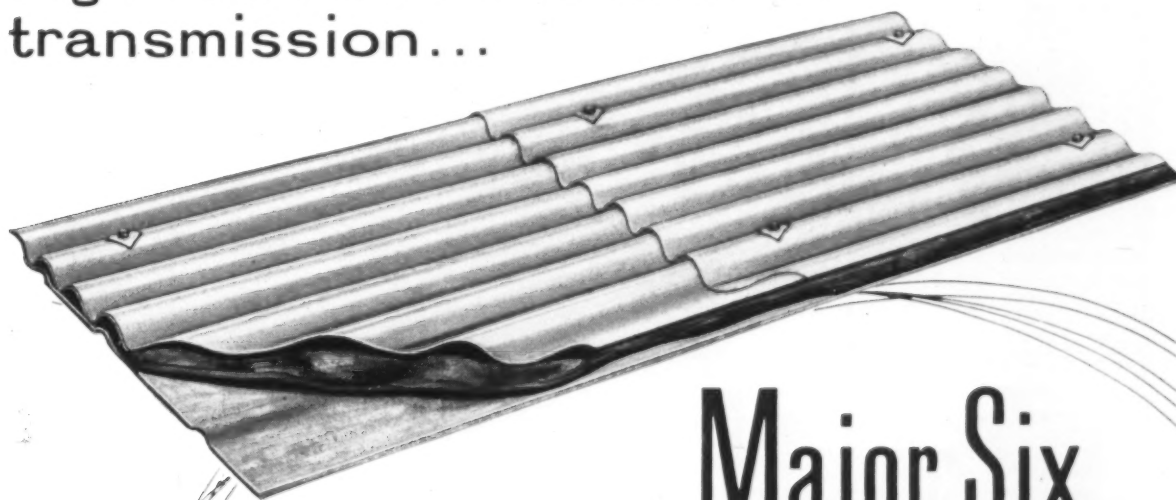
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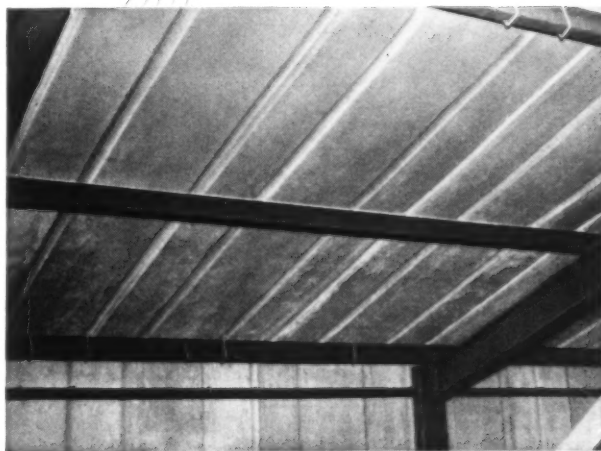


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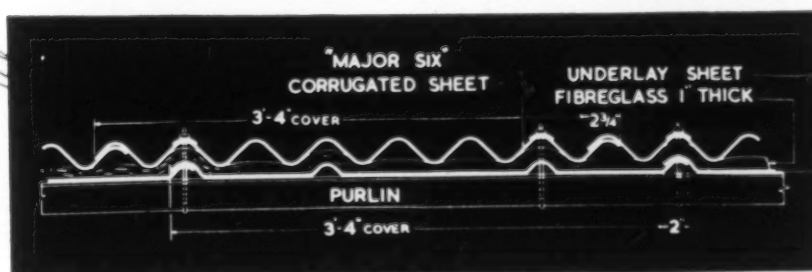
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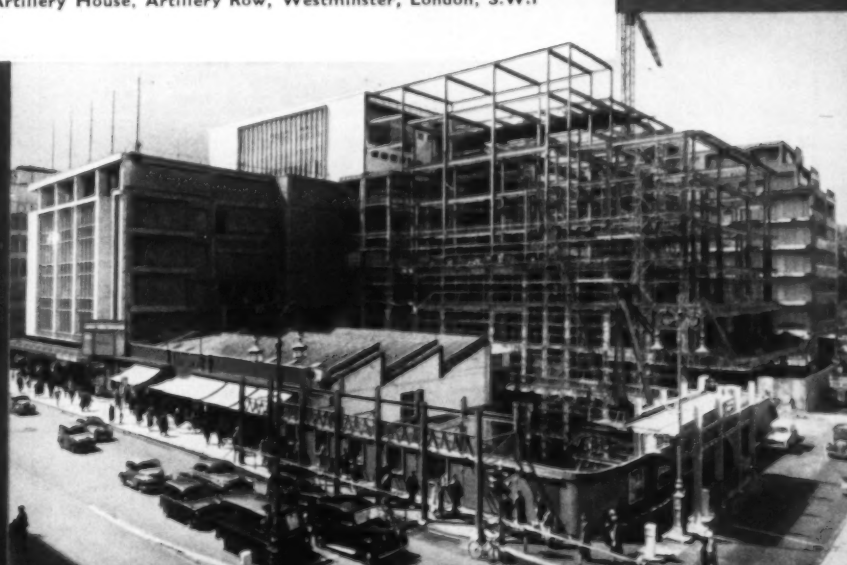
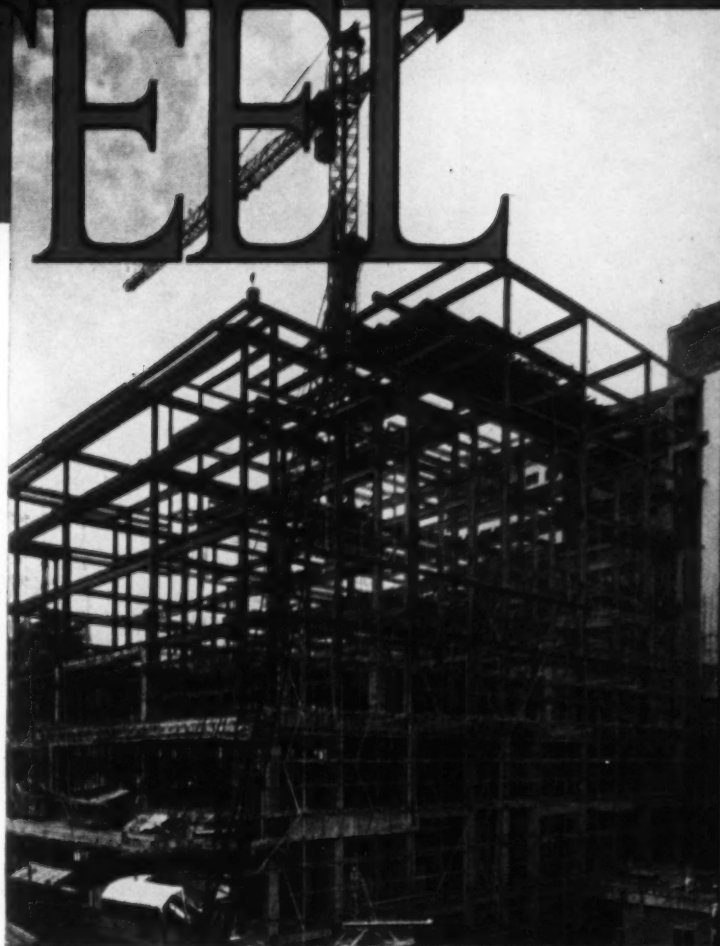
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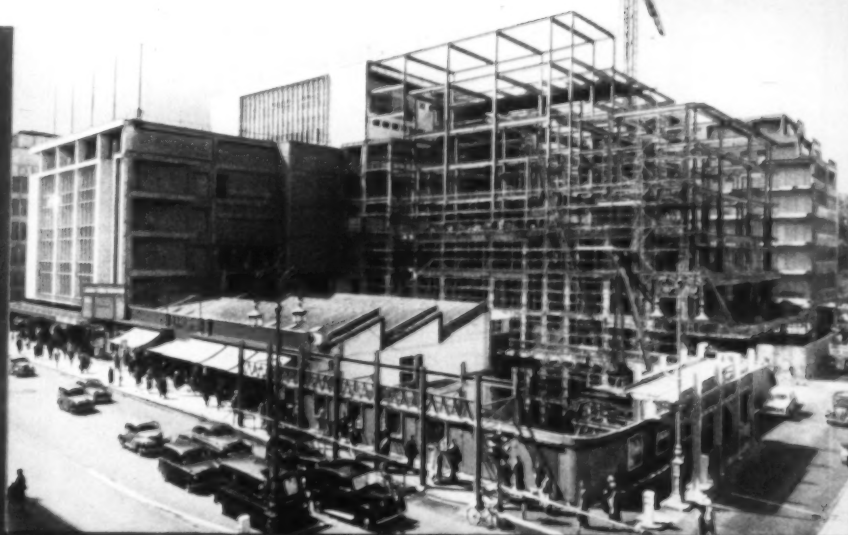
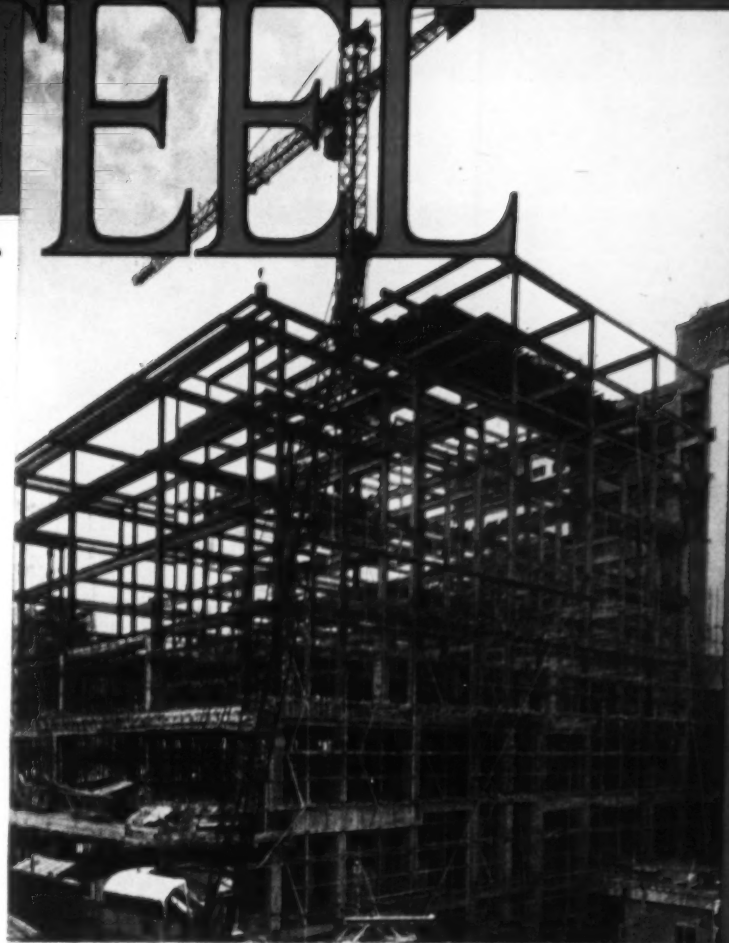
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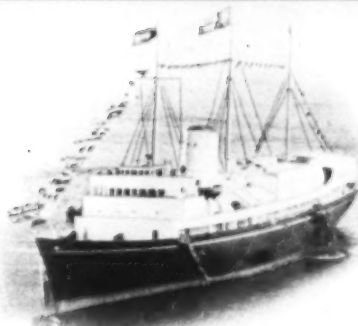
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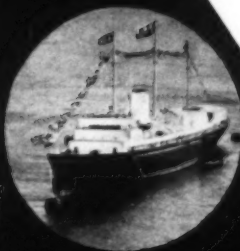


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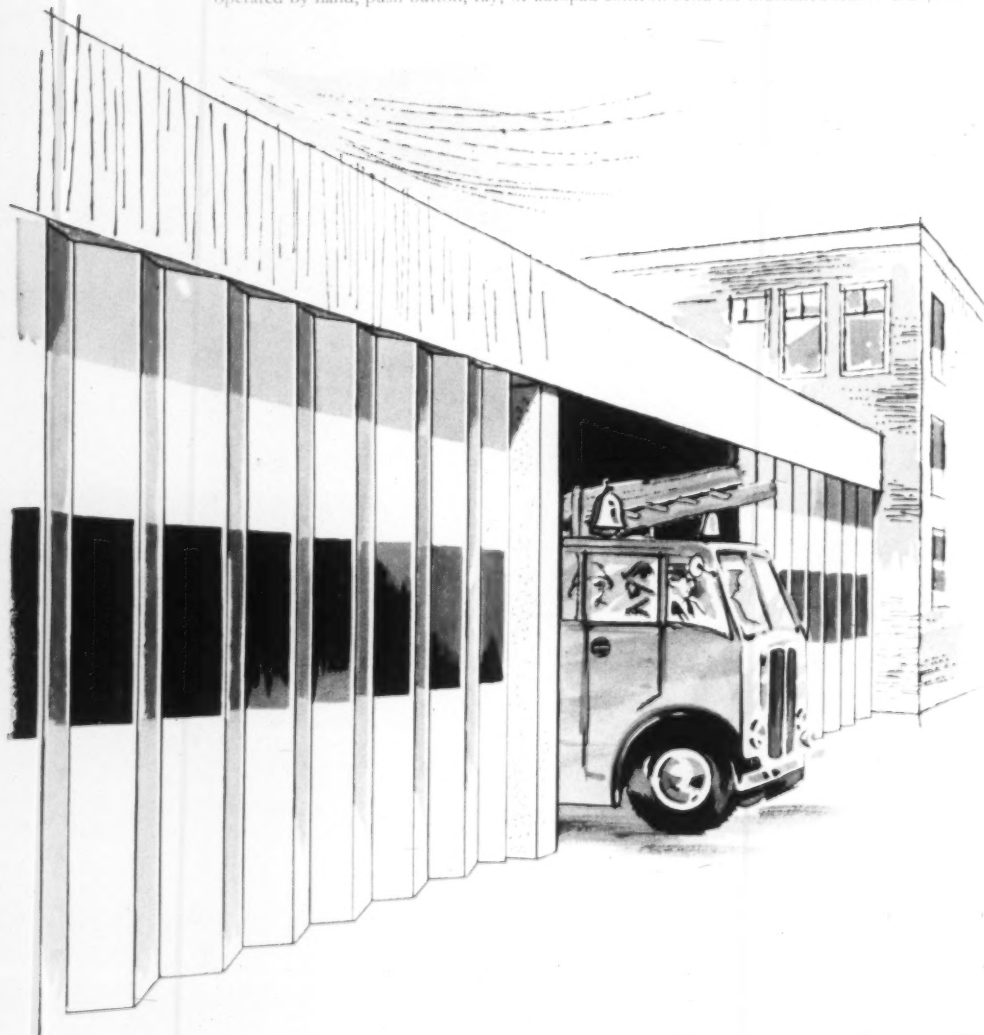
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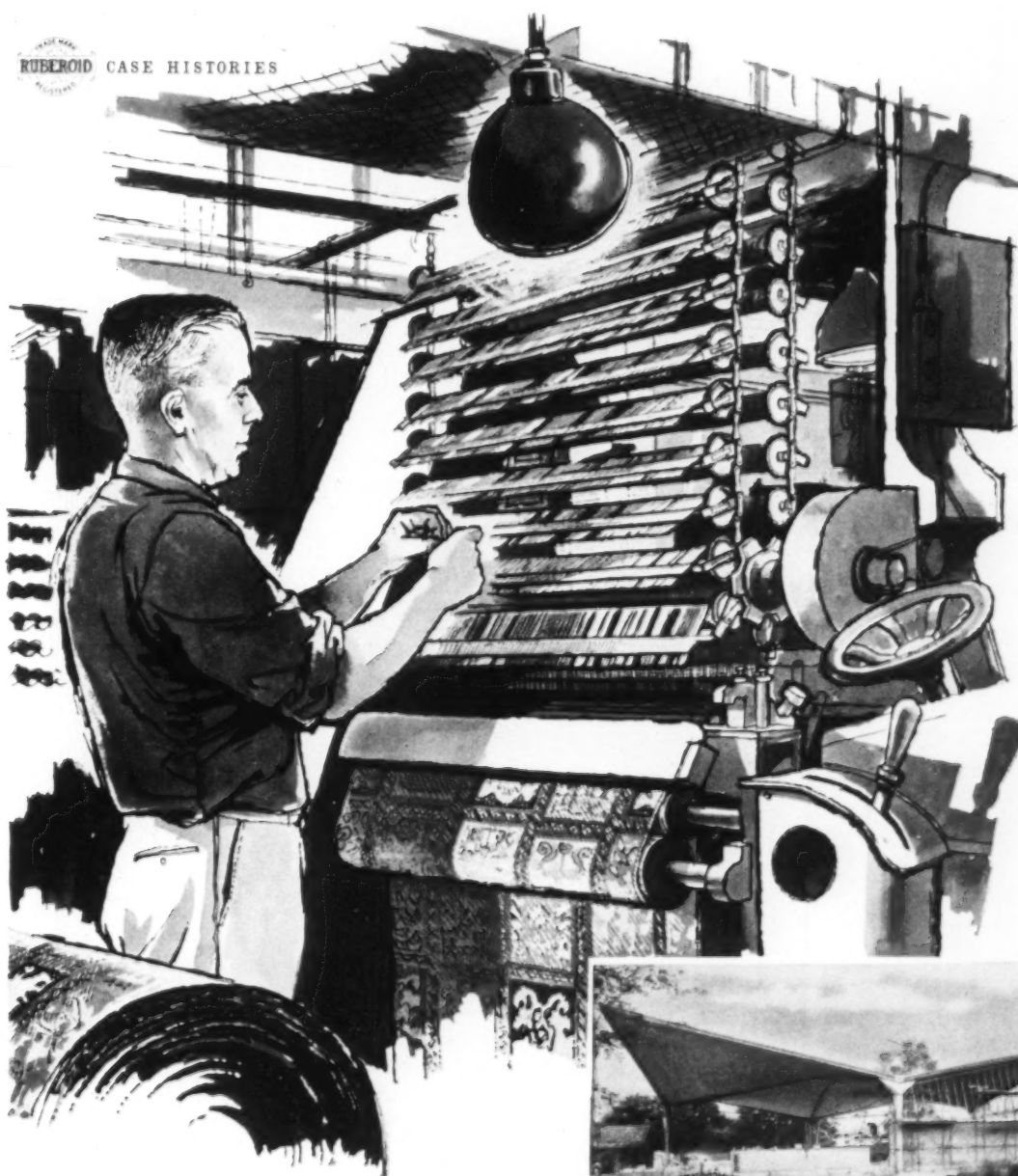


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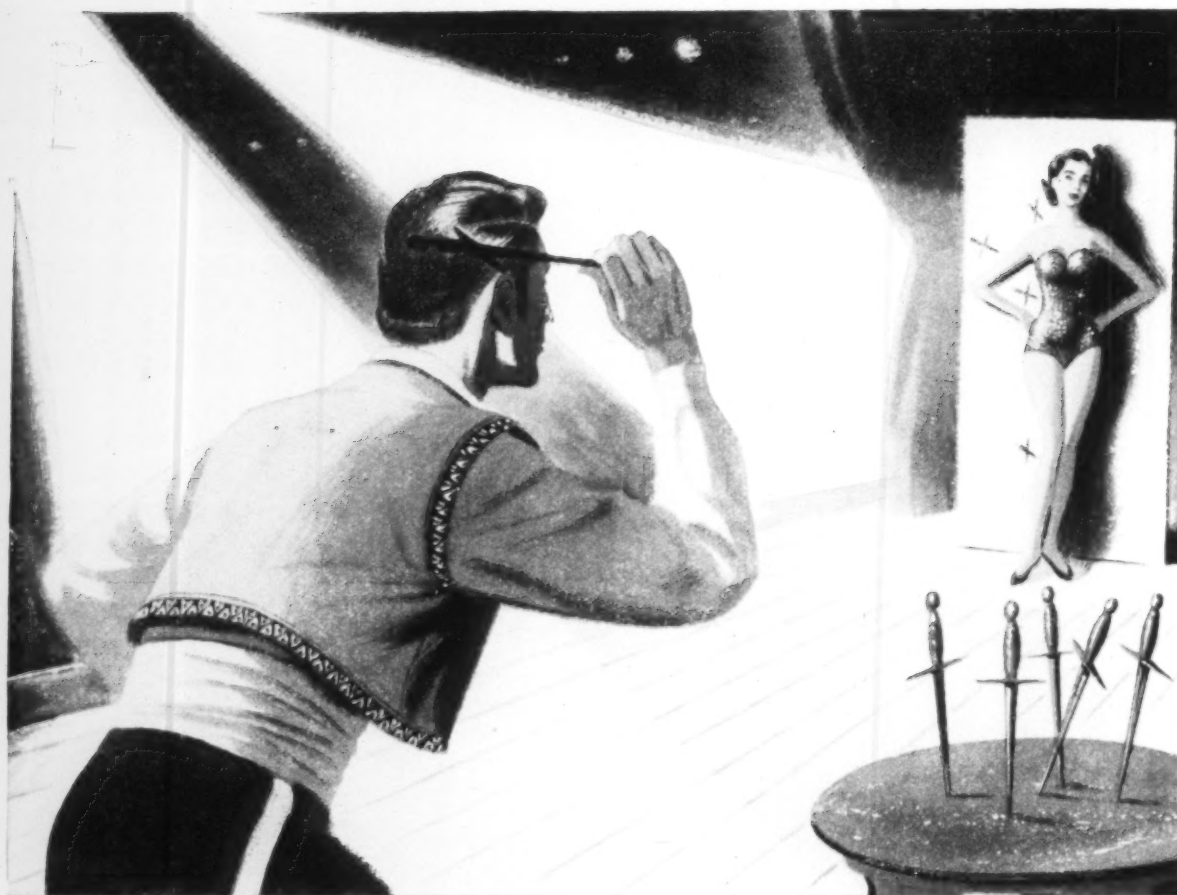


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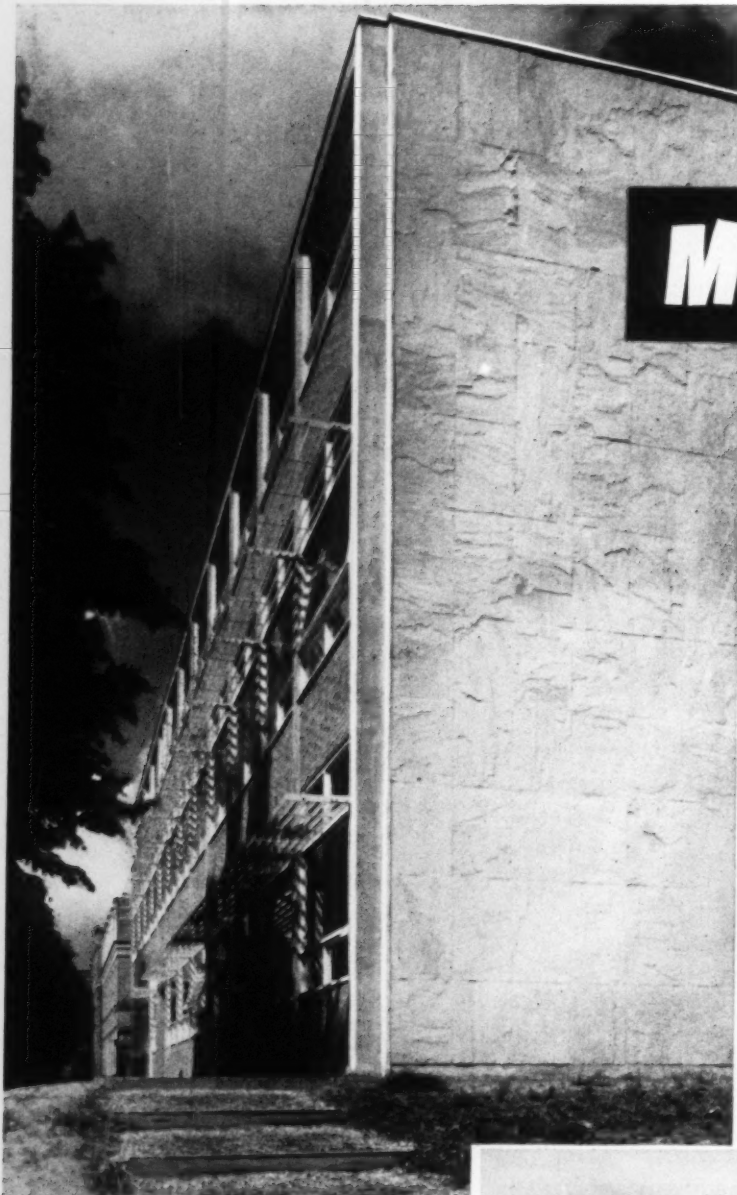
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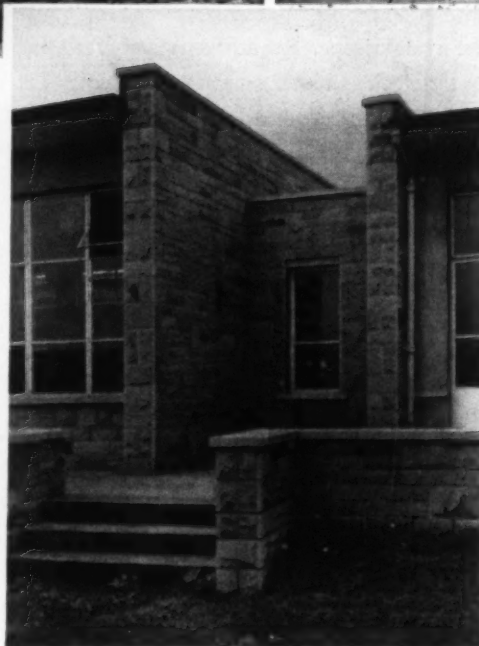


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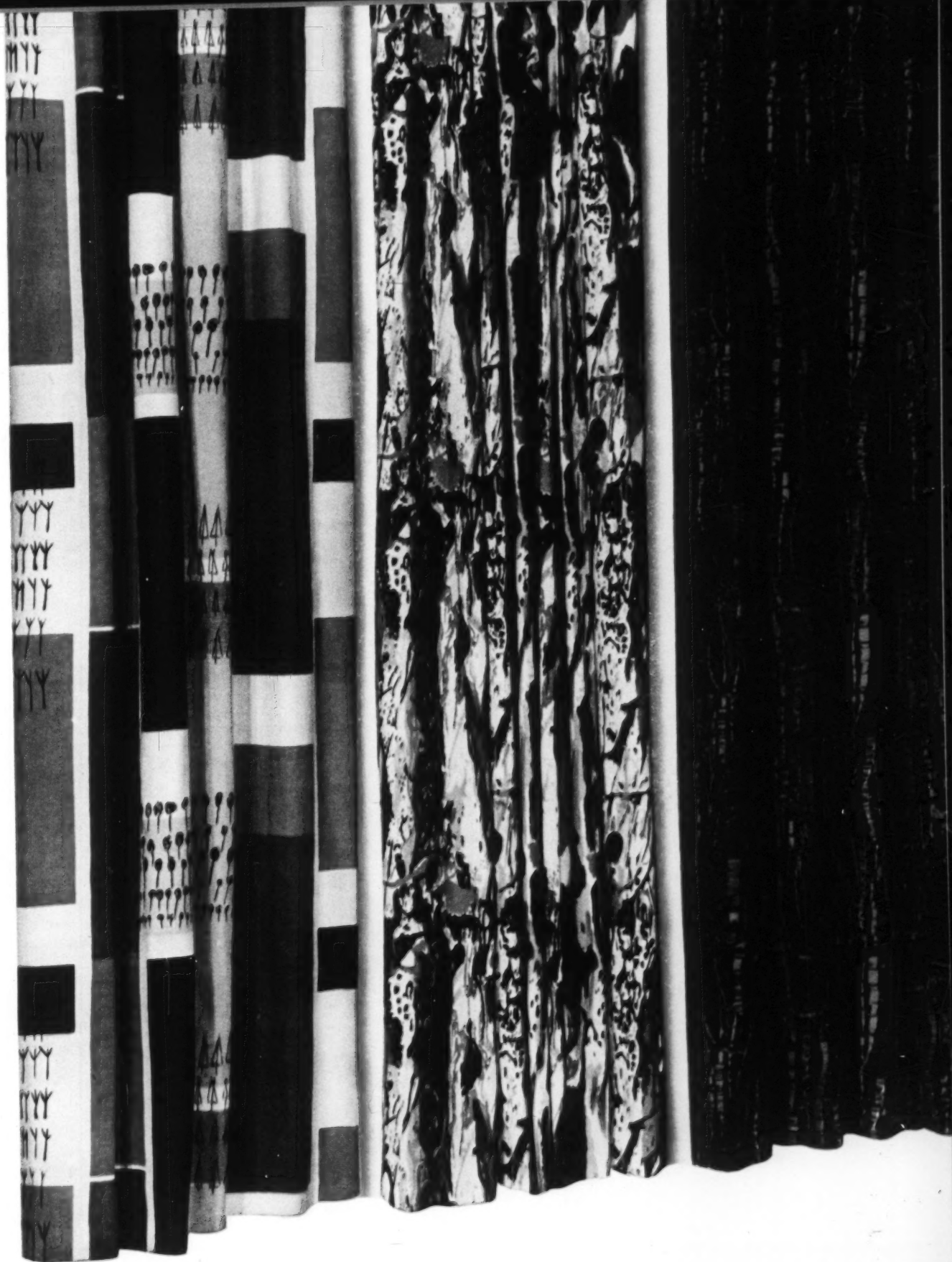


Above, Left: Riven Stone at Southlands College, Wimbledon. Architects: F. R. S. Yorke, E. Rosenberg, C. S. Mardall, FF/R.I.B.A. Assistant in charge, Lloyd A. Smith.

Above, Right: Rectangular Garden Paving. Garden Architect: Percy S. Cane, Esq., S.W.1.

Left: Stone Walling, Ling Bob Primary School, Halifax. Architect: K. W. Craven, A.R.I.B.A., Dip.T.P., A.M.T.P.I.

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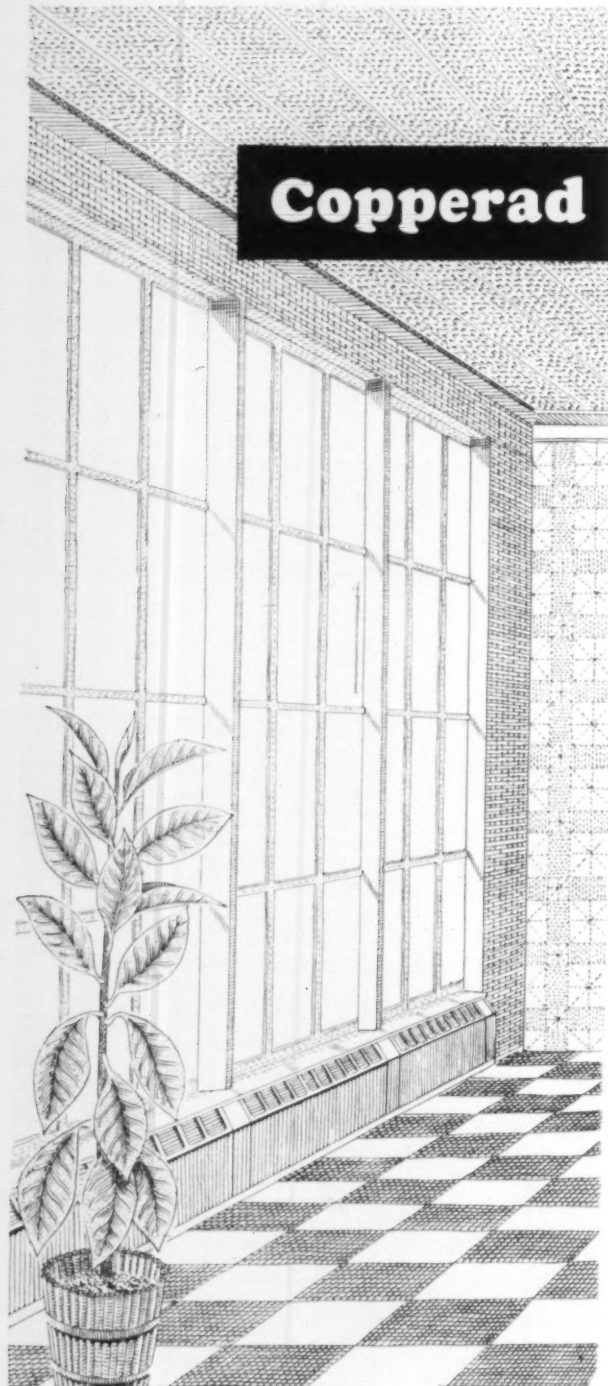


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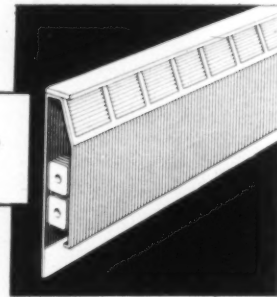
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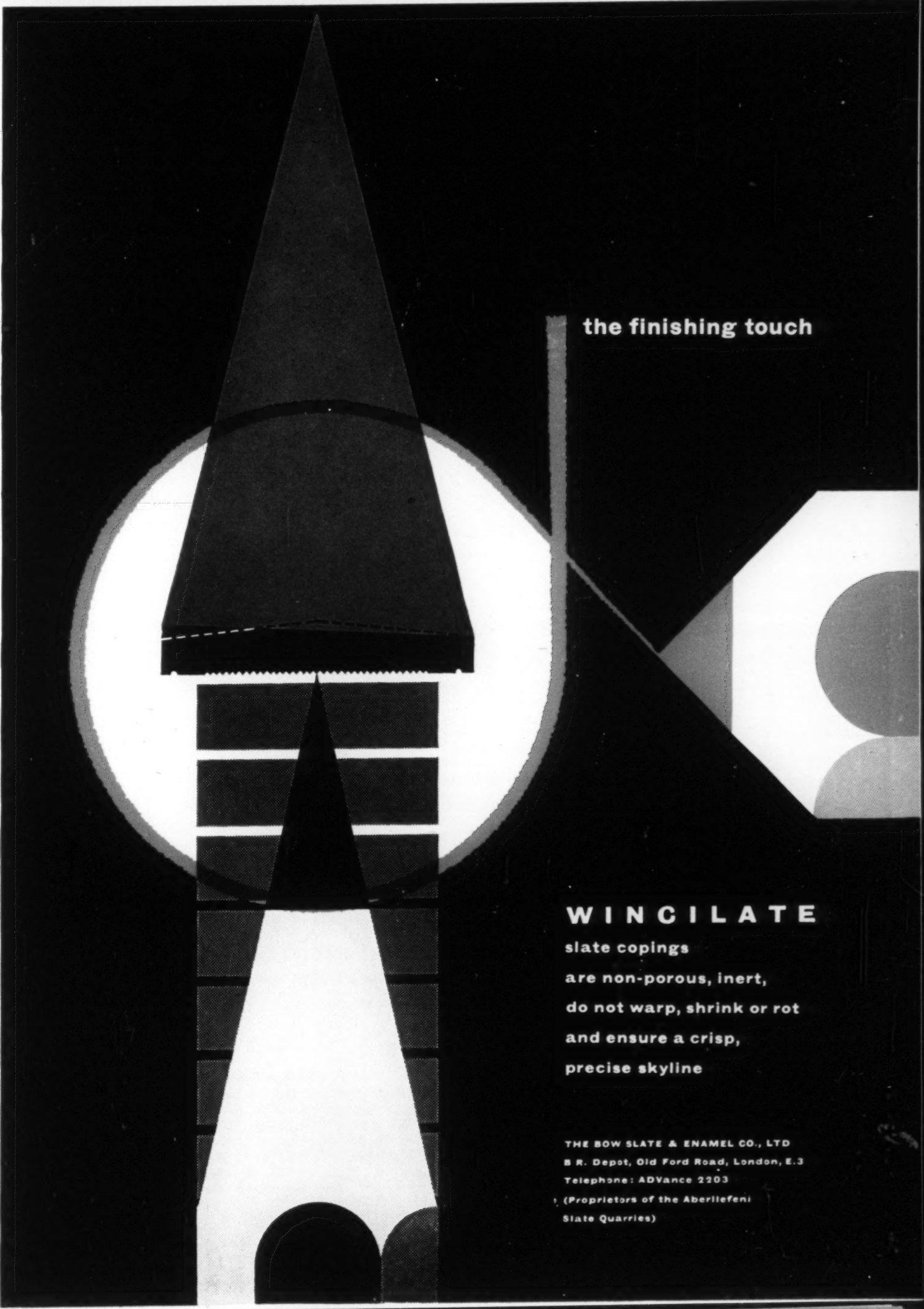
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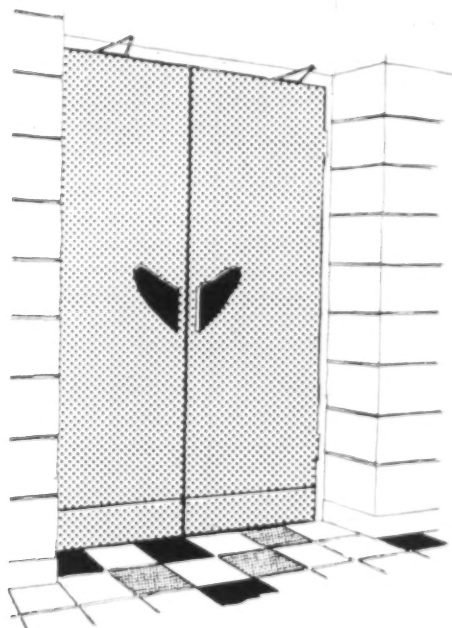
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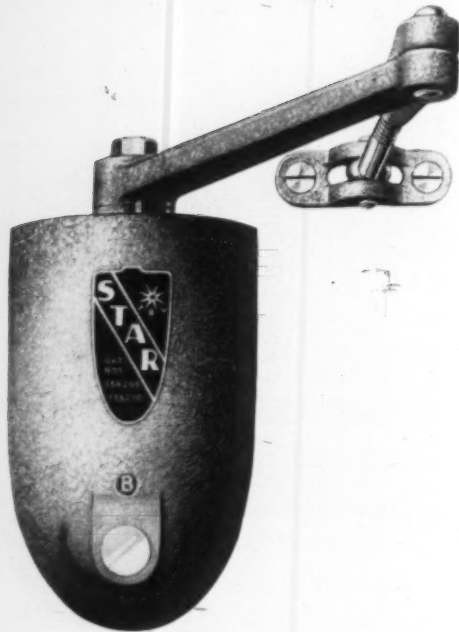
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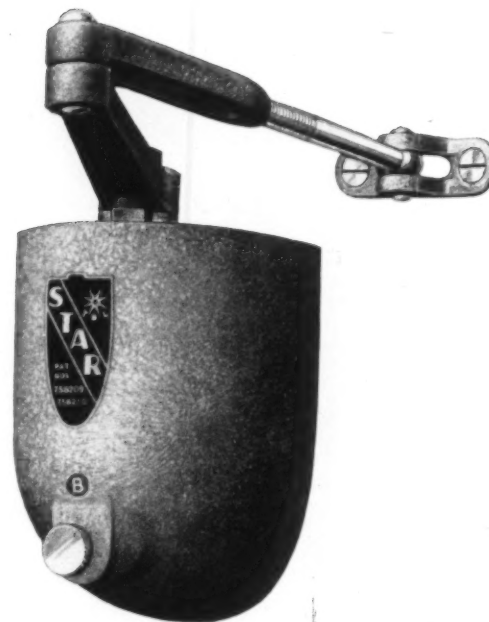


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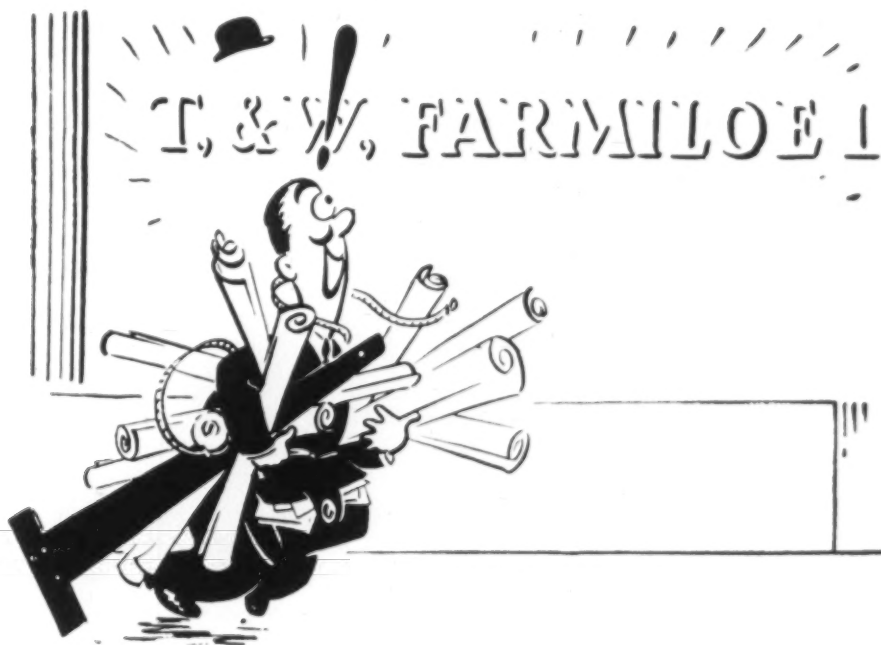


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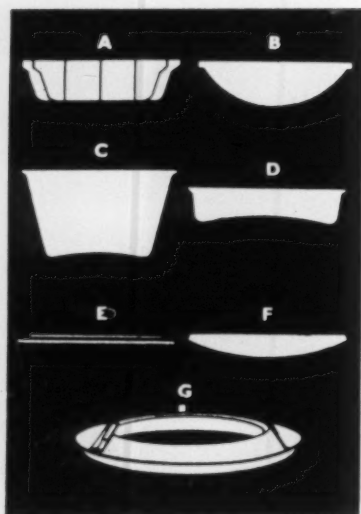
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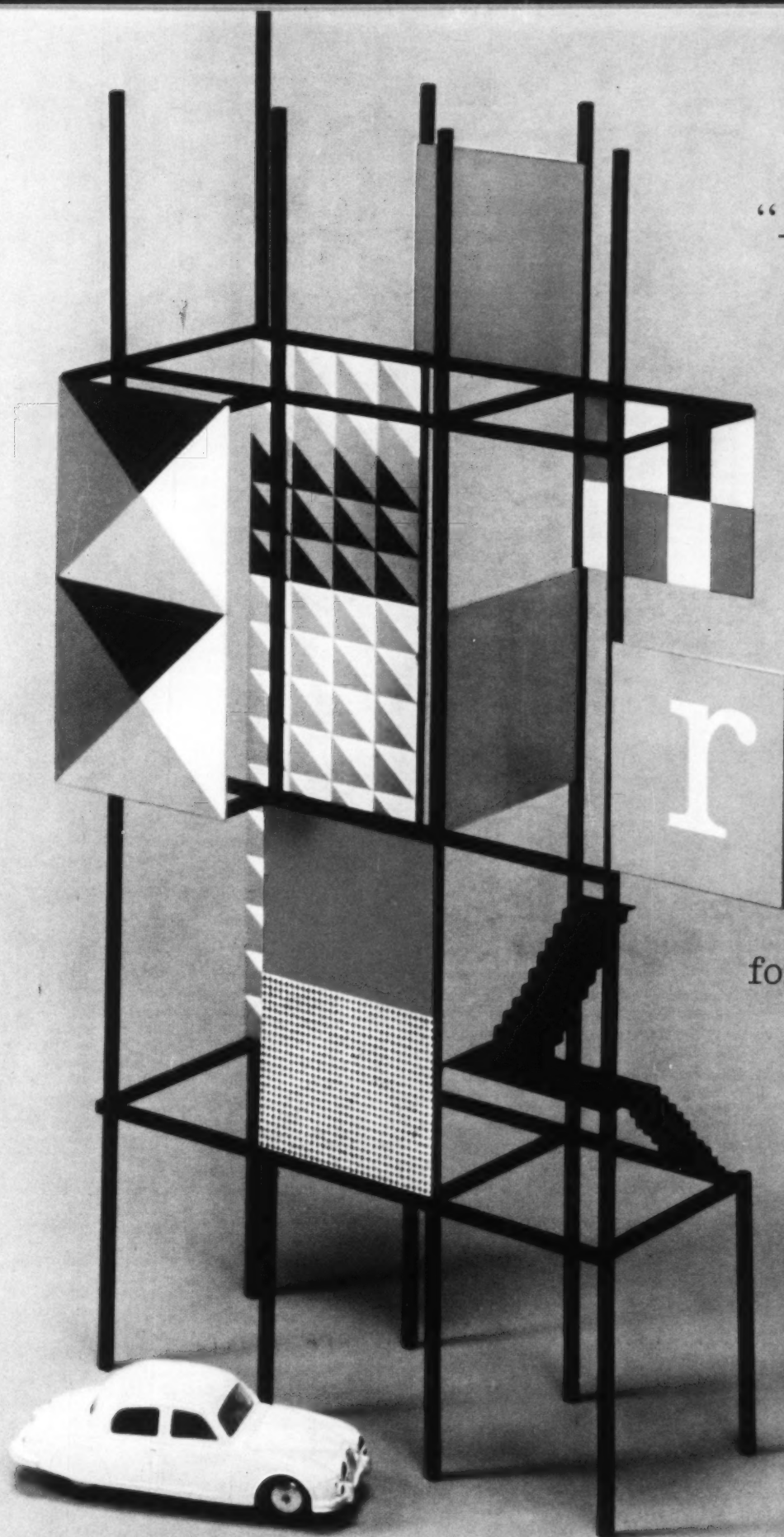
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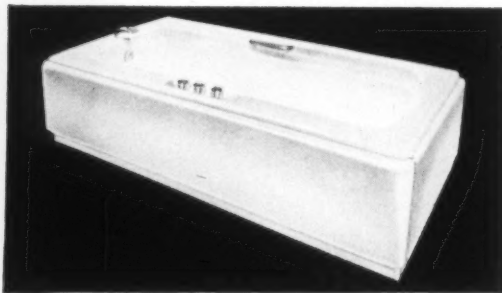
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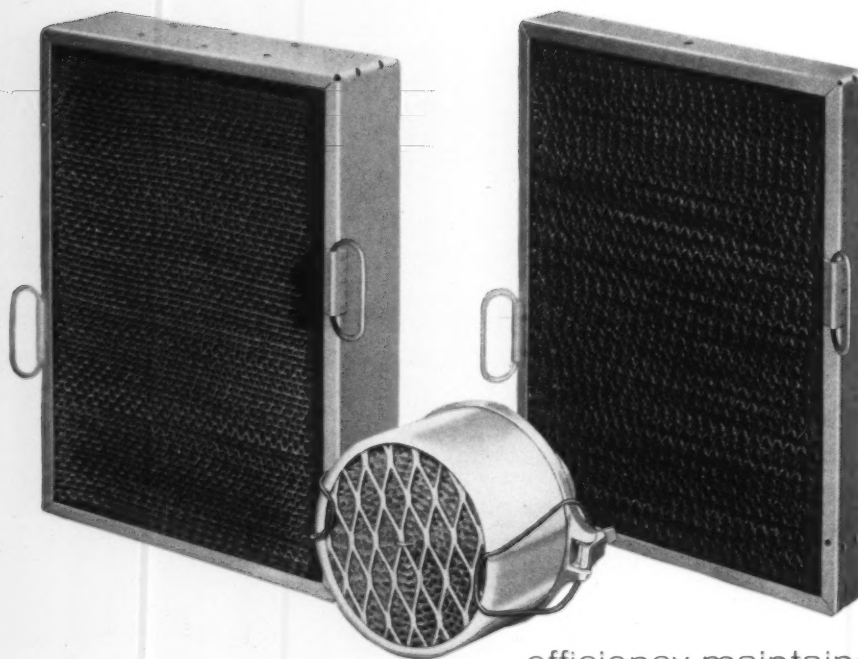
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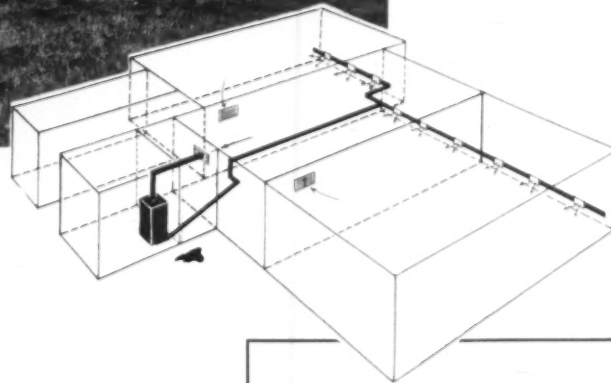
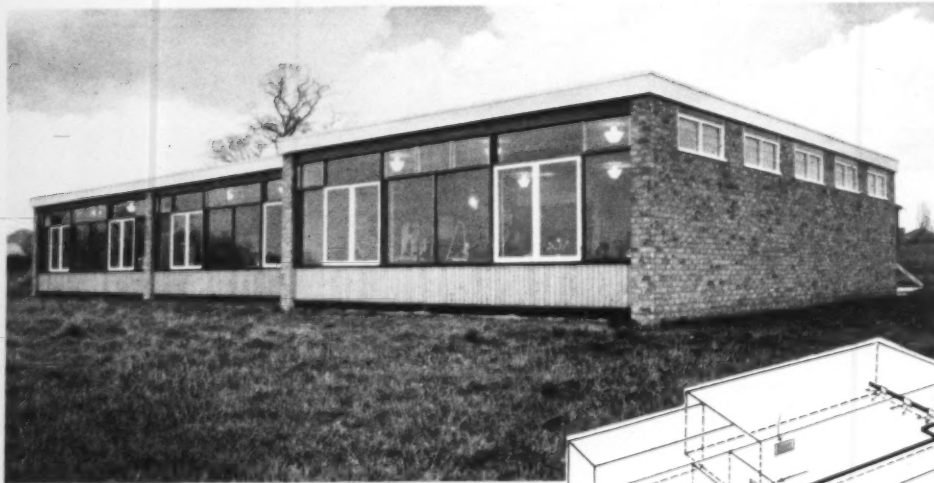
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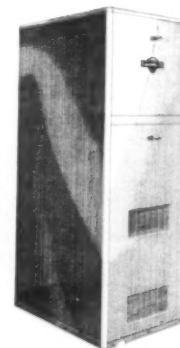
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Heating Engineers: Newman &
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The Waterbury "Downflo" oil-fired warm air furnace, utilised in conjunction with underfloor ducts, is smart, quiet and entirely automatic in operation.

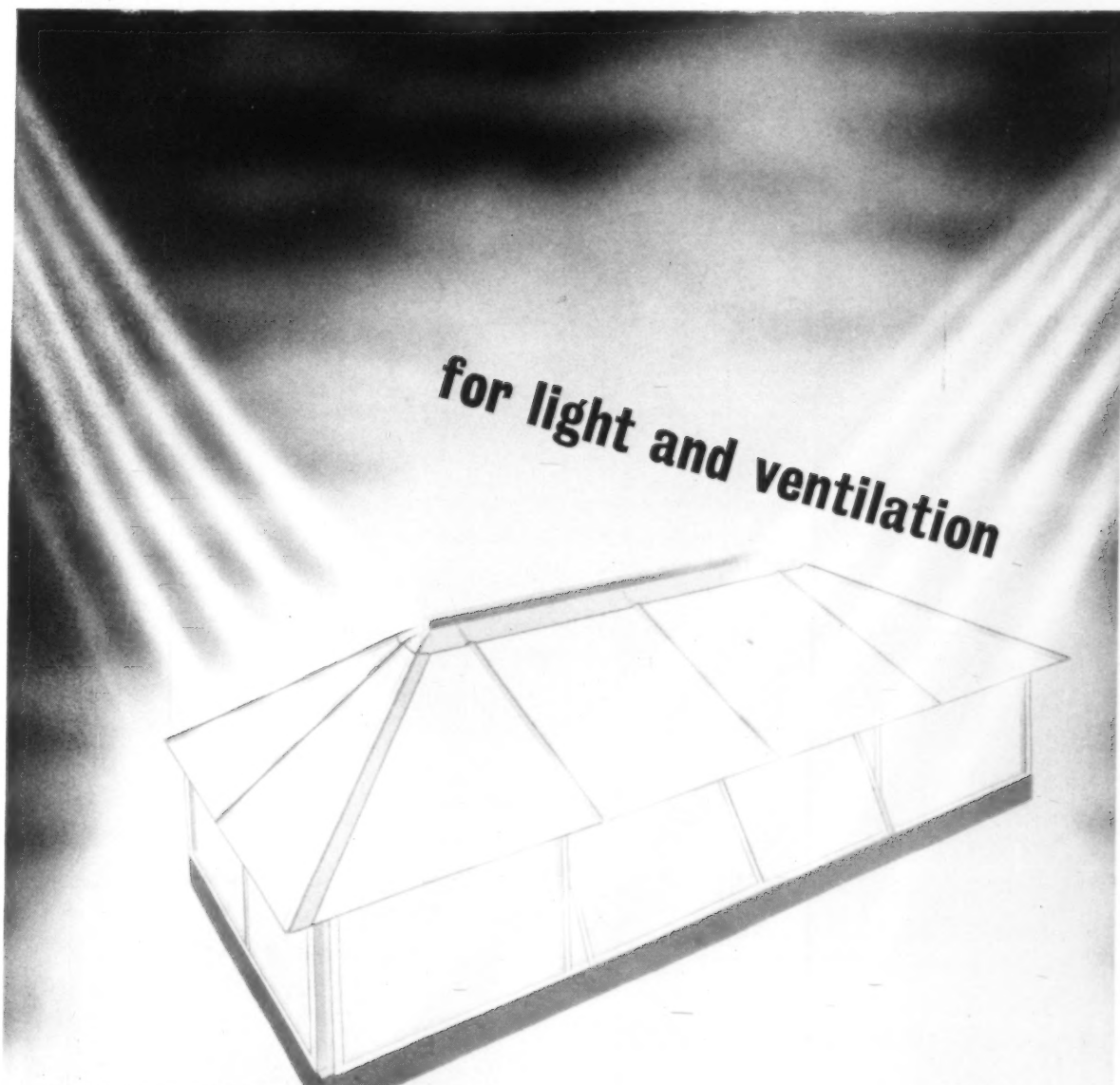
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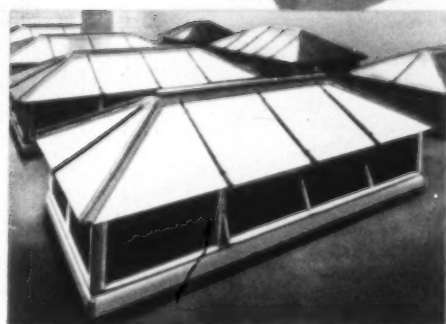
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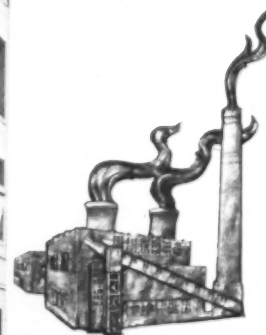
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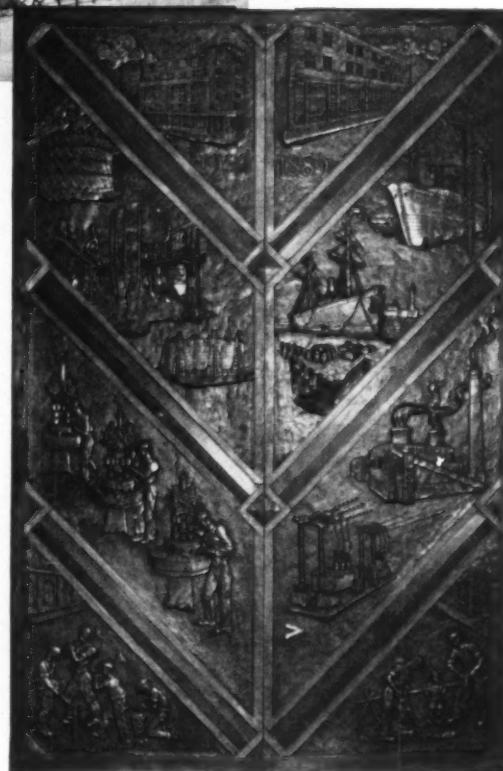


Balustrading to the ground floor area and first floor balconies, together with the gates to the goods entrance, are constructed from solid bronze sections in which the chevron pattern predominates. The main Cast Bronze Entrance Doors, designed by the Architect, have low relief panels modelled by C. Edmond Burton. These depict the original and new headquarters and the progress of the industries with which the Union is associated.

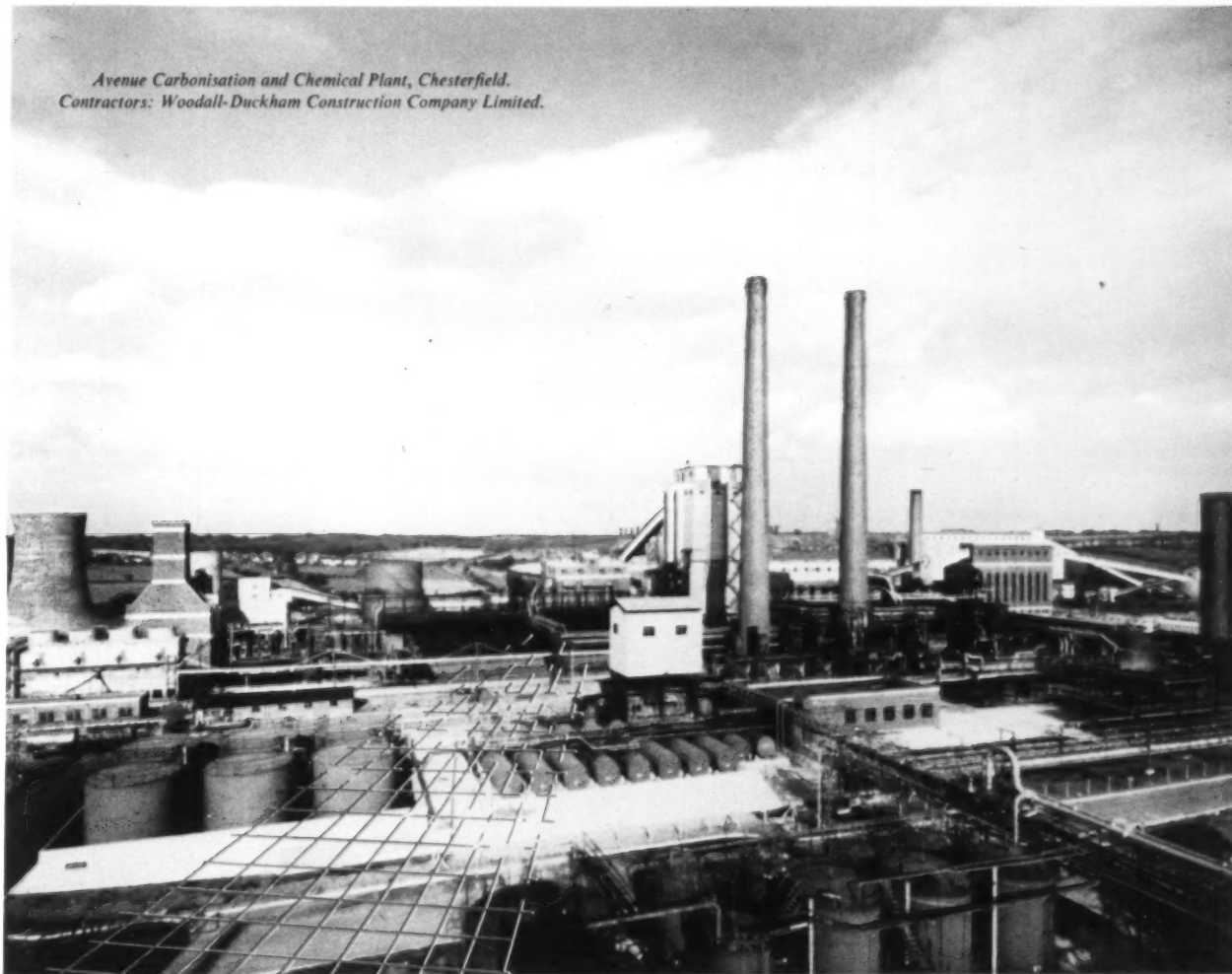
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Contractors: Woodall-Duckham Construction Company Limited.*



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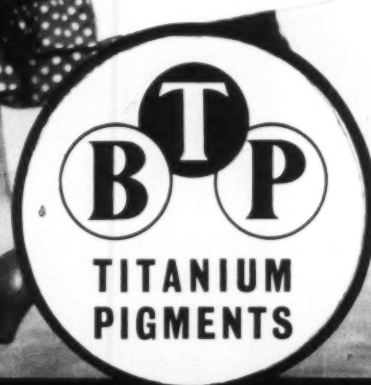
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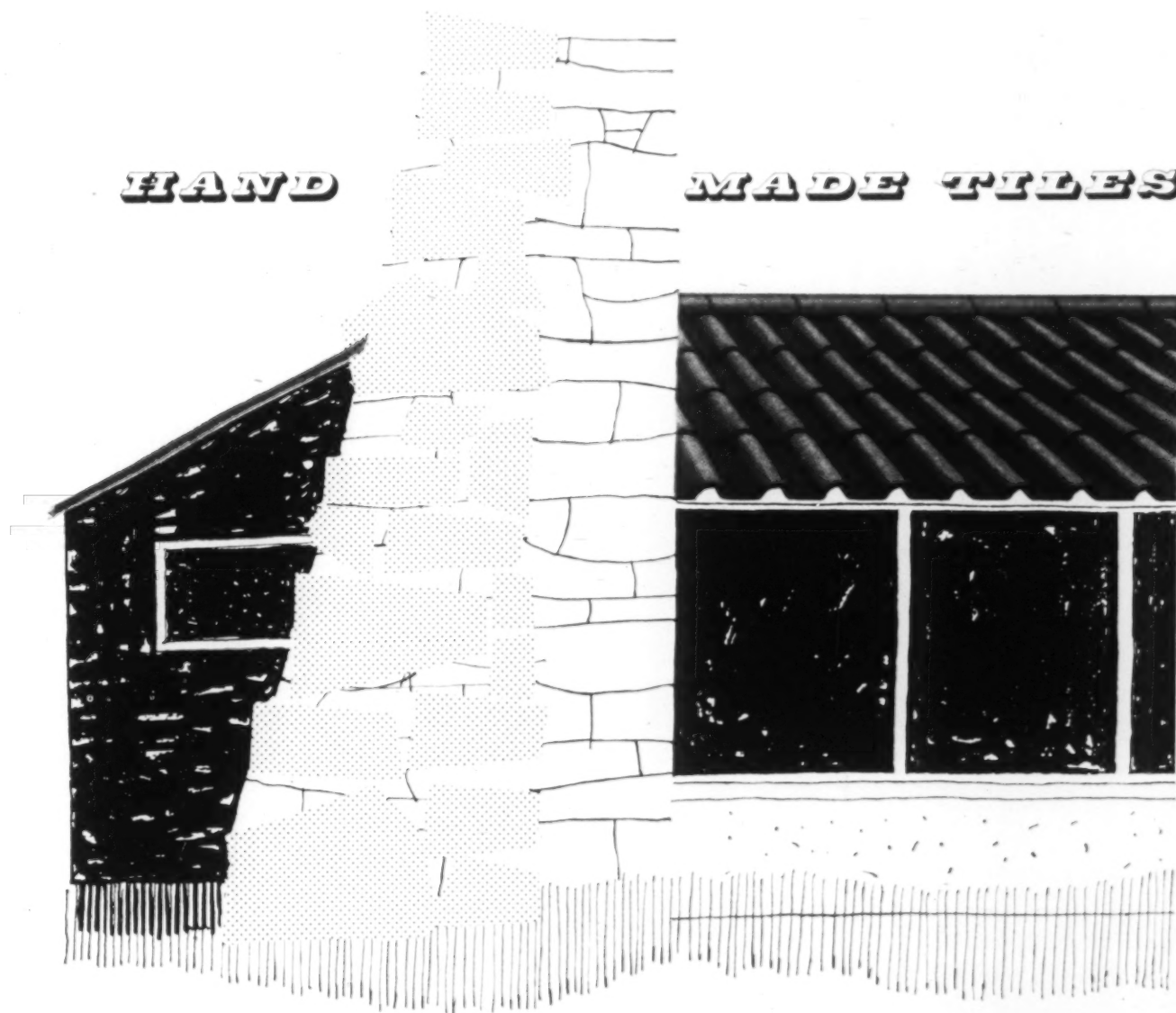
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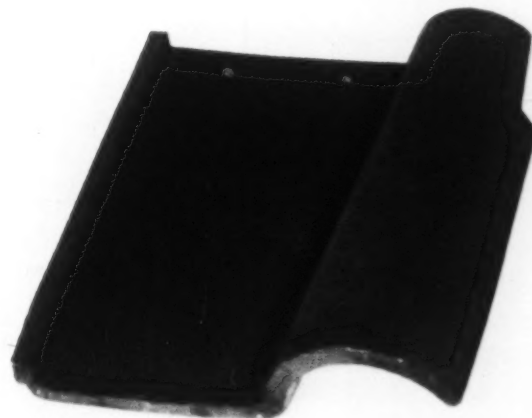
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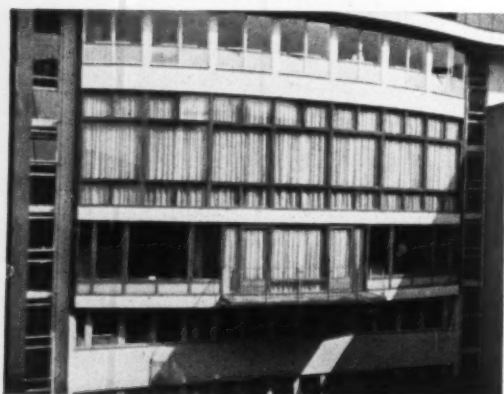
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Two illustrations of the Trades Union Congress Memorial Building.

Architects:
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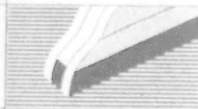


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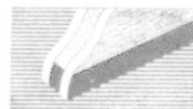
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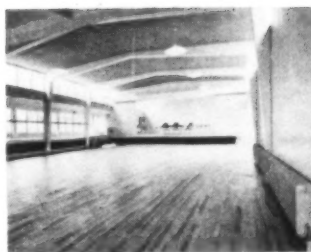
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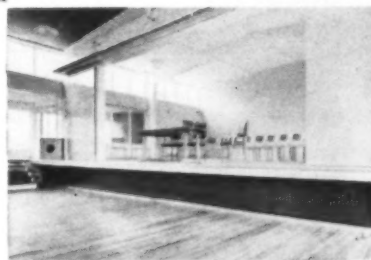
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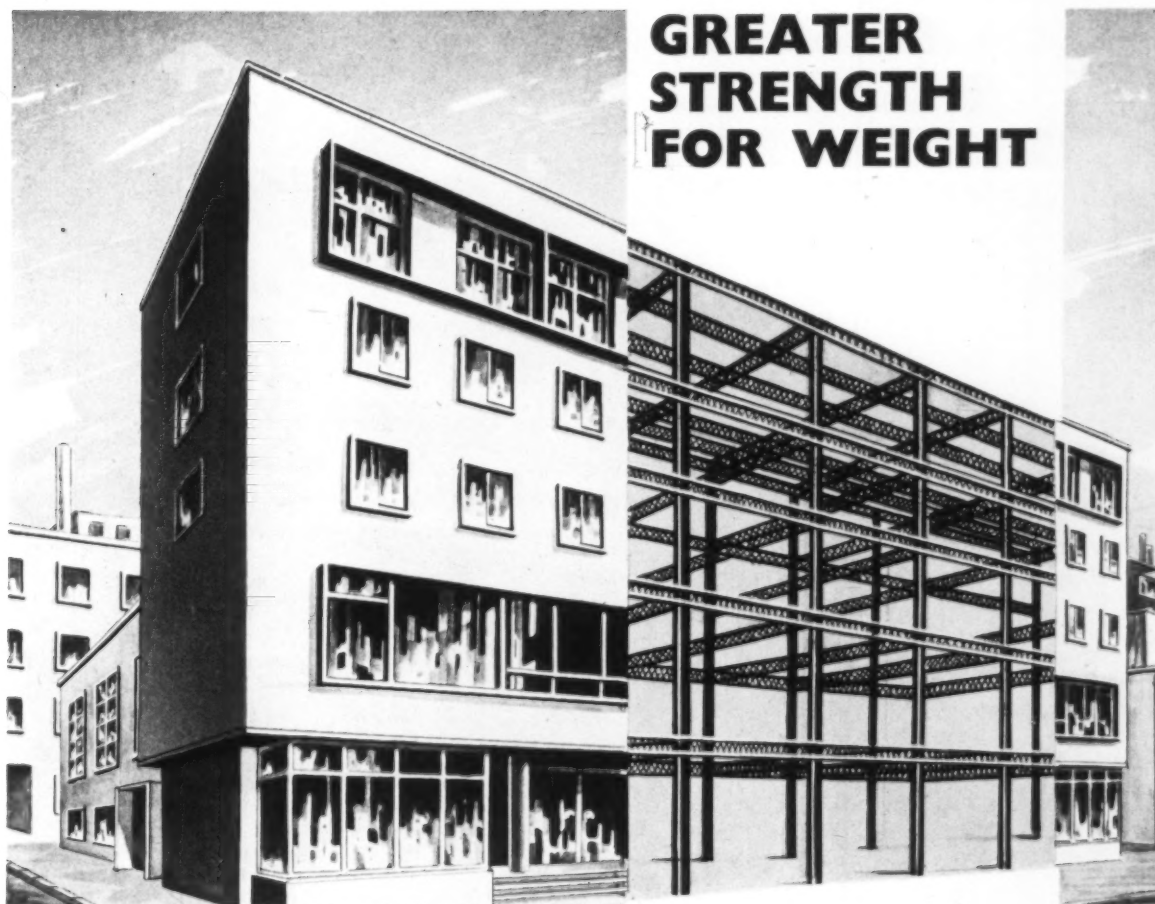
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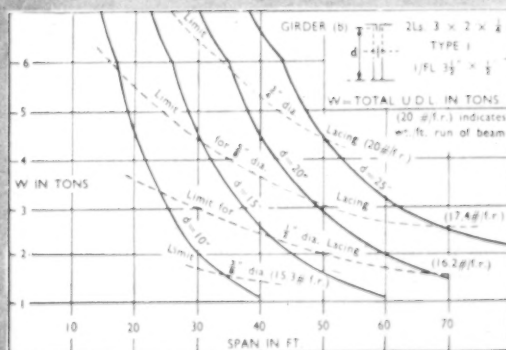
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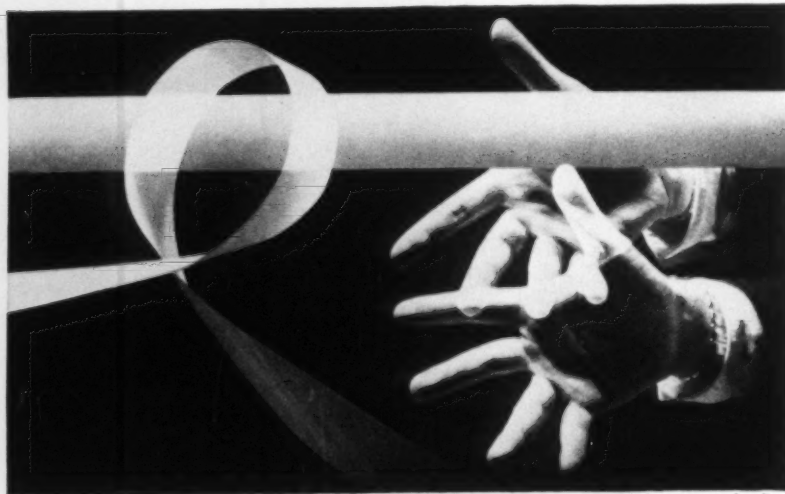
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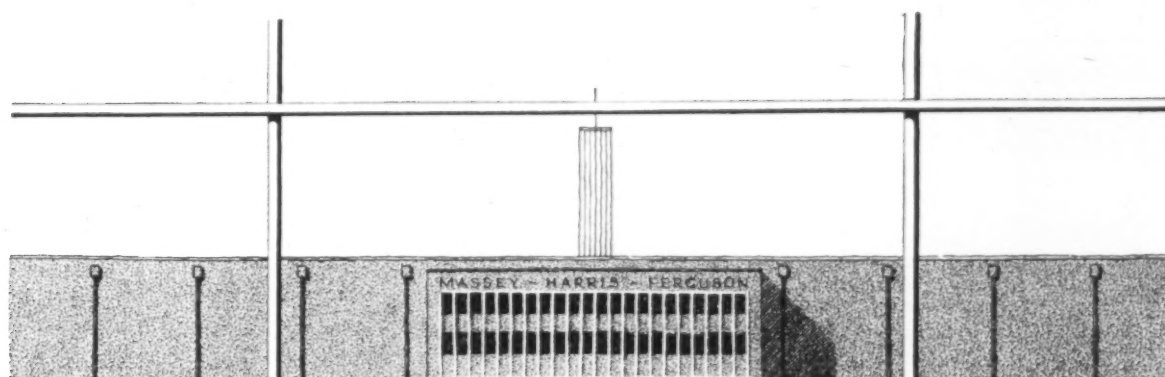
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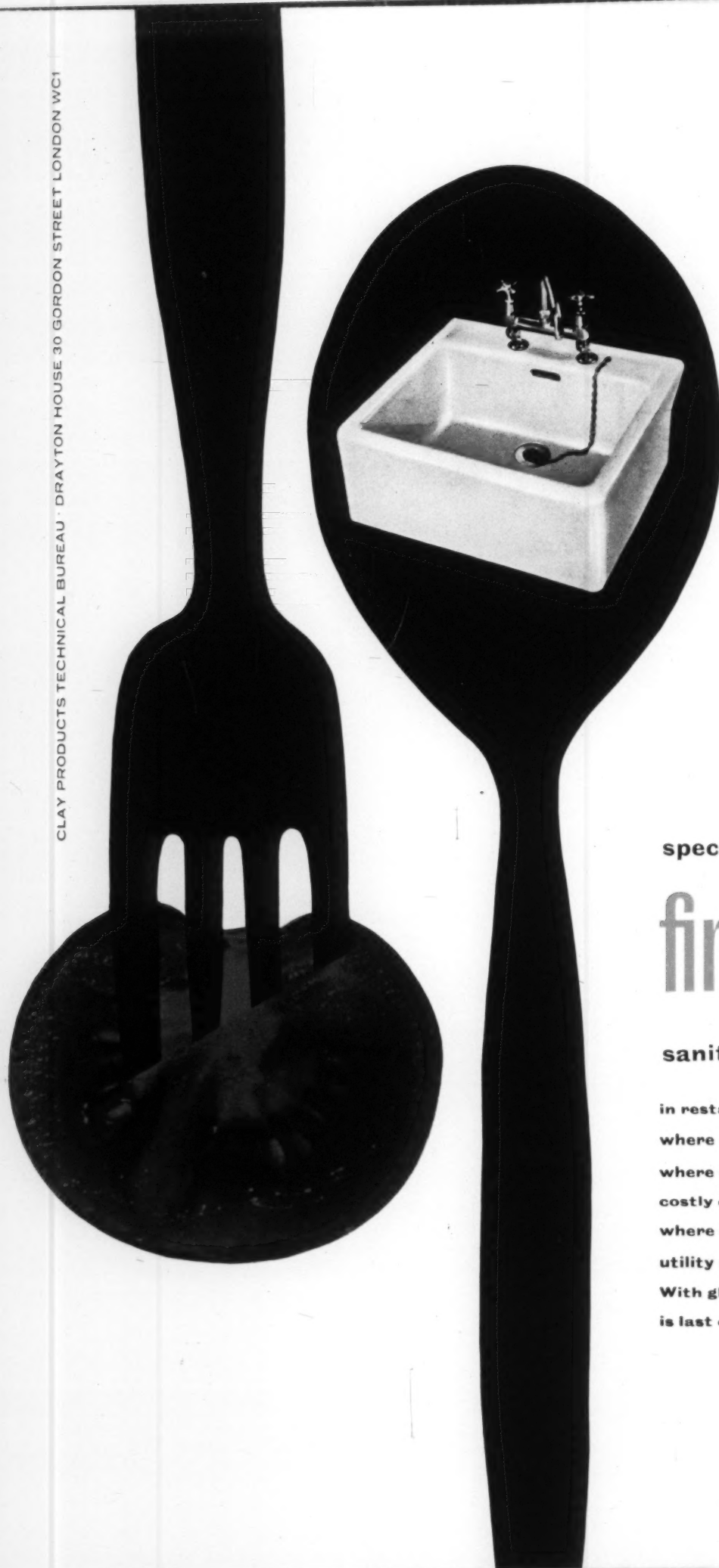


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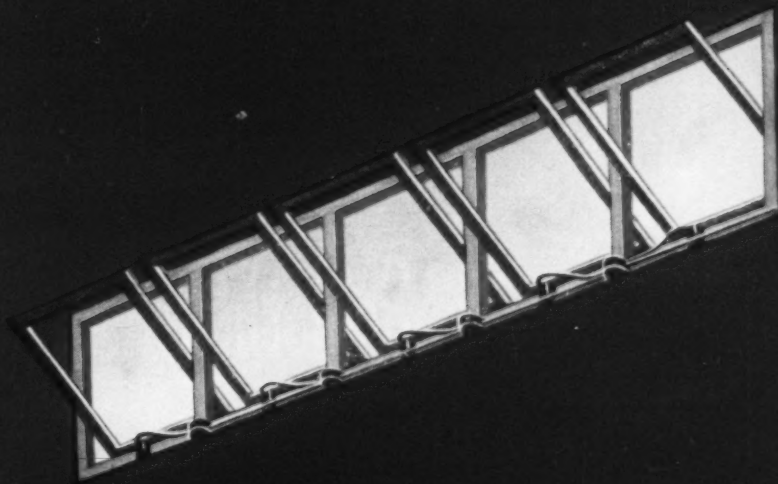


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MARGINALIA

New Look in Crucks

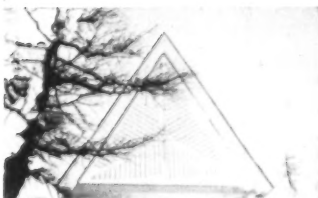
Now that architects have largely given up assuming—subconsciously, no doubt—that reasonable architecture must be rectangular, the way has been open for some time to a revival of that most reasonable of house-structures, the cruck, a pitched roof standing directly on the floor without intermediate walls. A neat realization of the possibilities of this house-form that probably

murdo. The Morris Collection now has nearly a thousand items, among them 43 cartoons for stained glass, five original designs for chintzes and three for wall-papers, large numbers of printed textiles, woven textiles, wallpapers and tiles, 11 original carpets, many pieces of embroidery, the Woodpecker Tapestry and much book work. Two pieces of furniture are specially interesting: a cabinet designed about 1865 by



1

Werk.



2

Werk.

goes back to the Germanic invasions of Europe, is provided by the *Trigon*, a mass-producible holiday cottage designed by the Swiss architects, Heidi and Peter Wenger, 1. The foldaway verandah, seen here in the process of being lowered, provides weather-proofing for the all-glass end wall when pulled up hard, 2, into the gable.

William Morris Gallery

The William Morris Gallery at Walthamstow is housed in the mansion, then in a country setting, into which the Morris family moved when young William was in his fifteenth year. The family moved away in 1856, when he had just come of age. The Gallery began with generous bequests from Frank Brangwyn and Arthur H. Mack-

1, holiday cottage with balcony half lowered.
2, the closed balcony protects the window-wall.

Philip Webb and provided with painted panels by de Morgan and a settle probably designed by Mackmurdo's Century Guild but sold in 1893 by Morris & Co. The collection of letters is impressive. They start in 1848 and include about 70 to Morris's mother, 60 to Bruce Glasier and 10 to Morris's early partner, Charles Faulkner. Visitors to the Gallery may also be interested in a helmet designed by Morris in 1857, one of the two candlesticks from Morris's desk and a cloak and gown designed by him for Jane Burden before she became his wife. The catalogue of the Morris Collection published a few months ago is admirably informative. It should be on the shelves of Morrisites regardless of past or future visits to Walthamstow.

The Art of Reissuing, VII

The last important work by the grand master of modern art-historical studies—Heinrich Wölfflin—published at an unpropitious time, 1931, has had to wait twenty-seven years for an English translation. It appears now under a title *The Sense of Form in Art* that is somewhat misleading,

though doubtless its new American publishers* feel that the original title *Italian und das Deutsche Formgefühl* is a little too provincial for an English-speaking public. The contents, however, remain the same—a study of German art in collision with the classical south, that may well be of interest to English architectural readers because of the oblique light it casts on what might be called the 'operational prejudice' that triggered and permeated Geoffrey Scott's *Architecture of Humanism*. It is eternally to be regretted that this book which is so pre-occupied with problems of formal clarity should, at its first English appearance, be illustrated by half-tones so double-screened that they look like appliqué pictures in tweed, but this was probably unavoidable on grounds of cost.

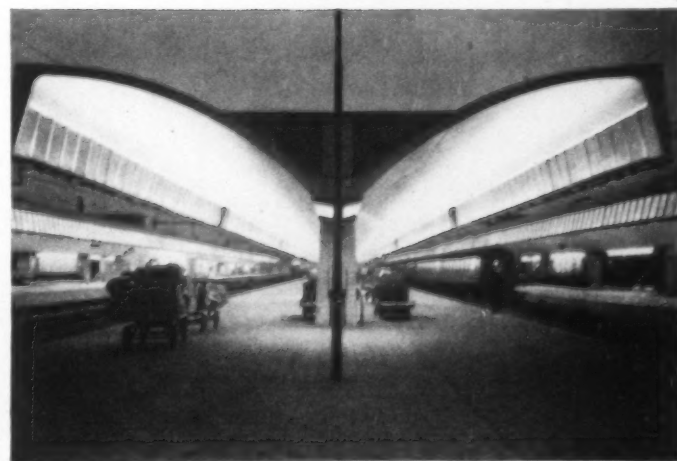
* Chelsea Press, New York; \$6.50.

Two Views of the Centraal

The new central station in Rotterdam has been much argued over: its timid façade seems to be generally disliked, but there is a fair body of opinion in favour of the platform canopies. These ingenious, bold, back-braced vaults, 4, though as much the work of the Dutch Railways architect van Ravesteyn as the front, create quite a different effect and, in particular, the glare-free lighting of the undersides at night is a remarkable achievement. If, however, the voyager goes a little further along the platform and looks back, he may feel inclined to change his mind, for the canopies are now seen, 3, in competition not only with the slightly eccentric style of van Ravesteyn's ancillary buildings, but also with the surprisingly rugged gantries that support the overhead wire-scapes inevitably associated with pantograph electrification.



3



3, Centraal Station, Rotterdam, from the end of the platform and, 4, from inside, showing the lighting of the underside of the canopy.

International Lighting Review.

Ancient and Industrial

The 1937 report of The Ancient Monuments Boards for England, Scotland and Wales* is the first to draw attention to the problem of what it calls Early Industrial Monuments. Its approach is cautious and apologetic, observing that 'it may seem strange to some that such things should be considered as historical monuments at all' and reprinting the relevant clauses of the Act of 1931 to show that they can be



5, remains of the original blast furnace near Sandviken.

stretched to cover early industrial buildings. Apart from these necessary psychological adjustments, however, there appear to be two real difficulties with the conservation of industrial monuments: firstly that money, as always, is short; secondly, the provisions of the Act cannot easily be stretched to cover 'movable chattels' which, in this case would include machinery, and—clearly—there would be little sense in many cases in scheduling or preserving the structure without the plant it was intended to house.

In spite of all this, it is still disappointing in the extreme to discover that 'no monument of this kind has been taken into guardianship' (an appalling state of affairs in a country that pioneered the Industrial Revolution), that only six have been scheduled at all, and that only another six are on the Science Museum's list as needing and meriting protection. In view of the rapid obsolescence of industrial plant, and the inevitable economic pressure for its replacement even in the earliest days of the Machine Age, the chances are that there are already fewer pioneer industrial buildings in need of protection than Norman Abbeys. The Ministry of Works would not, in all

* H.M.S.O., 1s.

4

probability, be assuming an unmanageable extra load if it brought at least some of the six monuments already scheduled into guardianship—in one case the need for a positive protection policy is urgent; the condition of the Ironbridge in Coalbrookdale has become very slummy and much of its smaller detailing is breaking off. A salutary contrast is provided by the Goransson blast-furnace, 5, near Sandviken in Sweden, site of the first successful use of the Bessemer process; though no longer in use, it appears, at its centenary, to be honoured with the kind of upkeep it deserves.

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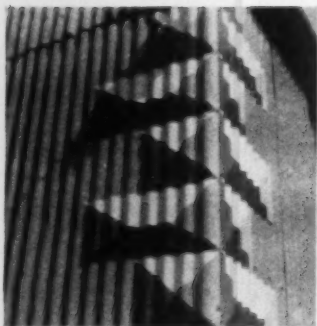
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6



7

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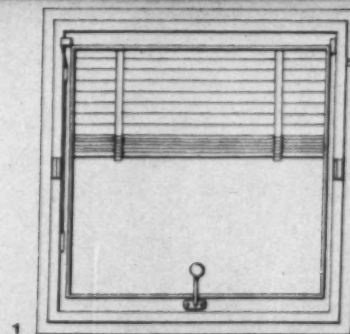
The Pope has designated Saint Benedict as the patron saint of Italian architects and engineers.

Mr. John Gloag has been awarded the Bicentenary Medal of the Royal Society of Arts for 1958.

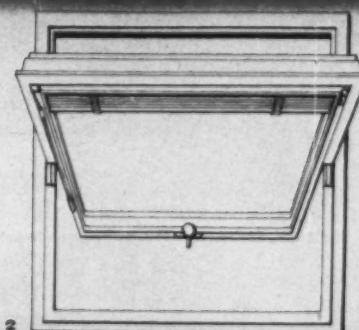
Paul Nelson, designer of the Hospital at St. Lo, France, has joined the NY firm of Ketchum and Sharp.

ACKNOWLEDGMENTS

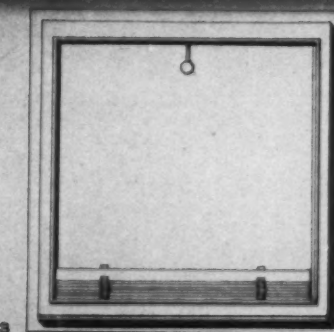
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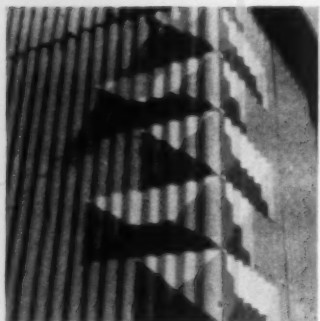
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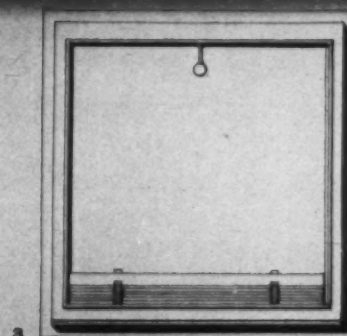
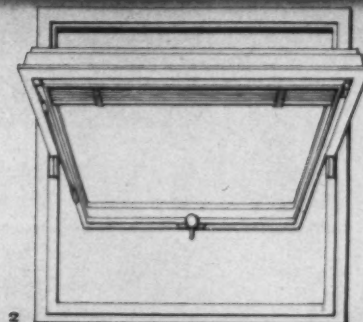
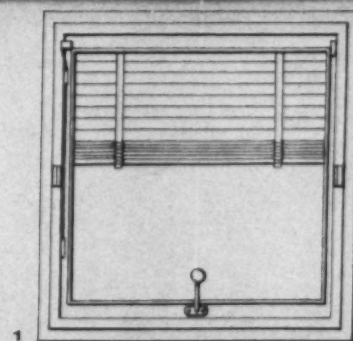
The Pope has designated Saint Benedict as the patron saint of Italian architects and engineers.

Mr. John Gloag has been awarded the Bicentenary Medal of the Royal Society of Arts for 1958.

Paul Nelson, designer of the Hospital at St. Lo, France, has joined the NY firm of Ketchum and Sharp.

ACKNOWLEDGMENTS

COVER: Eric de Marc. FLATS AT HAM, pages 218–225: Frontis, Brian Housden; 2–12, 14, James Stirling; 13, 15, Michael Wickham; 16, 17, Toomey Arphot. RURAL HOUSING, pages 226–236: 1, 4, 5, 12, 16, Taylor and Green; remainder, Nairn Arphot. CAPPADOCIA, pages 237–239: 1, 3, Donat; 7, Council of Industrial Design. STUDIO HOUSE AT SEATTLE, pages 240–242: Chas. R. Pearson. CINEMA NEAR ROME, pages 243–246: Foto A. Cartoni. KIRKLEATHAM, pages 247–250: Frontis, Herbert Felton; 1, Ashmolean Museum of Fine Art. INTERIOR DESIGN, pages 251–255: 1–4, Galwey Arphot; 5, 6, John Maltby; 7–9, Herbert Nolan Arphot. DESIGN REVIEW, pages 256–257: 1–4, J. Wuidart. MAUSOLEUM AT KARACHI, pages 258–260: Frontis top, Alfred Cracknell; Frontis centre and page 260, Michael Boys. CURRENT ARCHITECTURE, pages 261–264: 1, Stewart Bale Ltd.; 2, 3, Carbonora Ltd.; 5–7, Northern Aluminium Co. Ltd.; 8, 10, R. Geoffrey Cardew; 9, Douglas Whittaker; 11, Richard Einzig; 12, E. A. Meyer. MISCELLANY, pages 265–271: Exhibitions, 2, Gerald Howson; 3, Arts Council of Great Britain; 4, Gimpel Fils Gallery Ltd.; 5, Lidbrooke. Counter Attack, Nairn Arphot. The Industry, pages 274–278: 2, Scott-Turner and Associates Ltd.; 5, Deighton Wilkes and Co. Ltd.



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THE ARCHITECTURAL REVIEW

Volume 124 Number 741 October 1958



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214 Frontispiece

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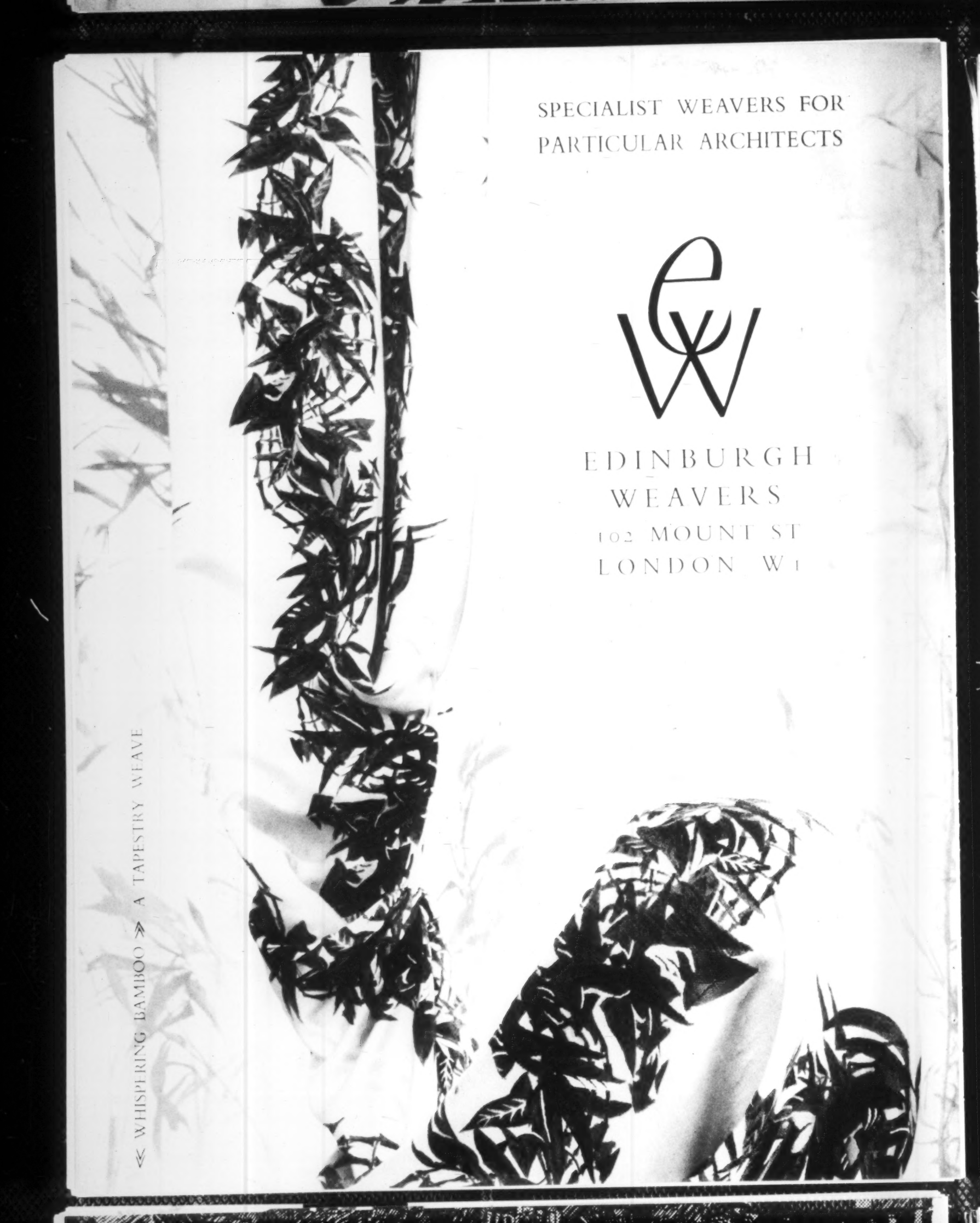
Author: Angus Taylor who is at present teaching art was educated at Sedburgh School and trained as a painter at Leeds College of Art. He divides his spare time between the seasonal occupations of architectural sketching, photography and birdwatching.

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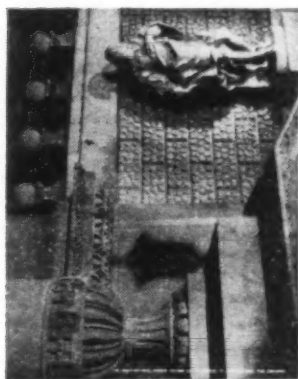


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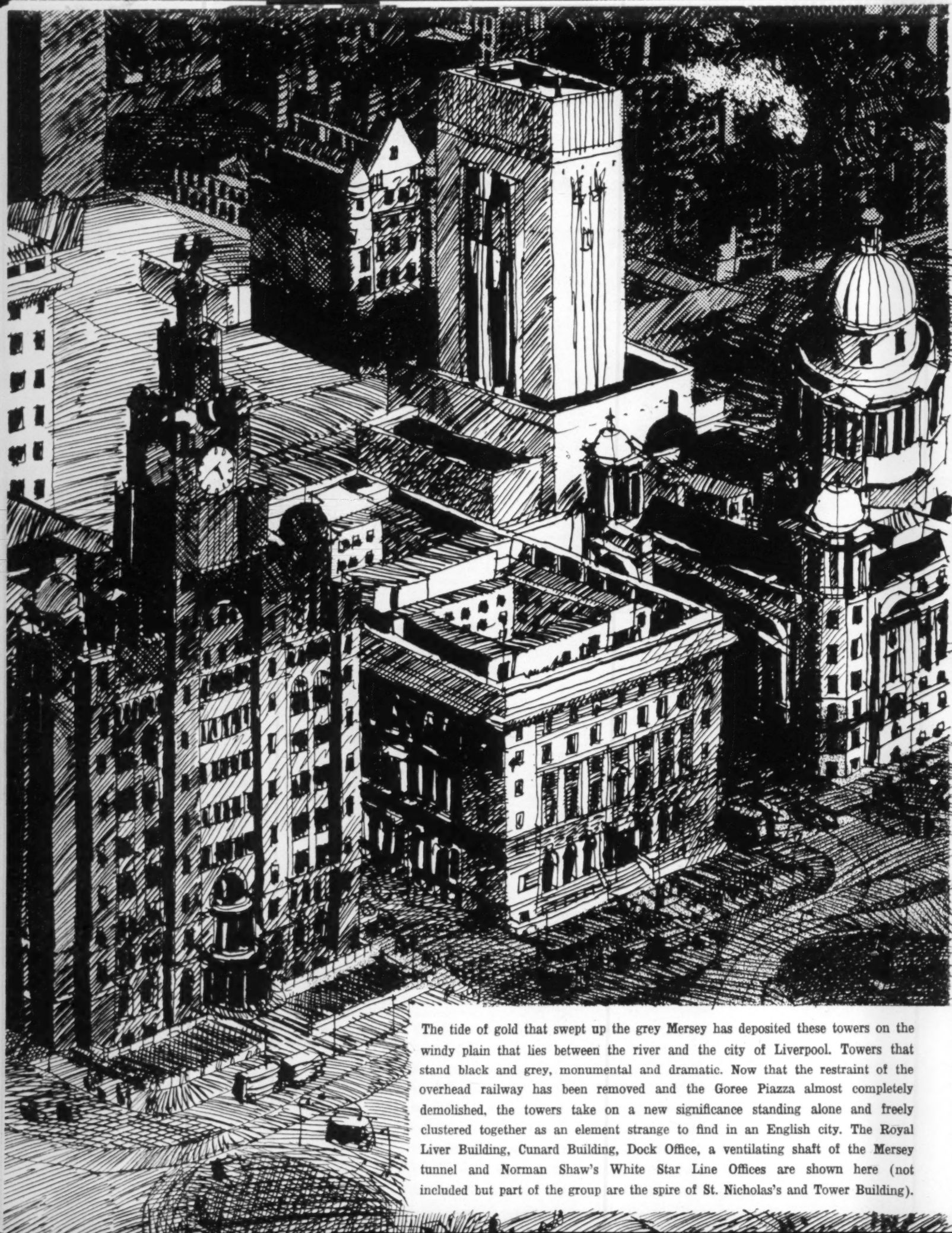
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The tide of gold that swept up the grey Mersey has deposited these towers on the windy plain that lies between the river and the city of Liverpool. Towers that stand black and grey, monumental and dramatic. Now that the restraint of the overhead railway has been removed and the Goree Piazza almost completely demolished, the towers take on a new significance standing alone and freely clustered together as an element strange to find in an English city. The Royal Liver Building, Cunard Building, Dock Office, a ventilating shaft of the Mersey tunnel and Norman Shaw's White Star Line Offices are shown here (not included but part of the group are the spire of St. Nicholas's and Tower Building).

The Editors

EXPLODING METROPOLIS

This article is not, oddly enough, about H-bombs—at least, not in any normal sense. But, assuming that we can postpone our exeunt for a few more years, we may face a purposeless fragmentation of human society over the whole land surface of the world that may have something of the same effect. America has begun the process already, and the ‘exploding metropolis’ was in fact the general name for the series of six articles which *Fortune* magazine has produced in the past year.¹ For the sixth they asked the Counter-Attack bureau to co-operate and the results were briefly illustrated in the April REVIEW. Making downtown an enjoyable place was only part of the scope of the series; four of the other five articles dealt with slums, the motor car, urban sprawl, and city administration, and the first article in the series had the self-explanatory title ‘Are Cities Un-American?’

The articles make up a frightening mosaic. Soberly and calmly, filled with the statistics which the readership of *Fortune* demands, they are like the first blink of the fire-warning light in the aircraft cockpit. They are saying, quietly and politely, that technology is getting out of control, that we have created superb mechanical equipment for spreading ourselves over the face of the earth without having the faintest idea what we are going to do with it or even why we are creating it at all. That this should have come out of America itself is tremendously hopeful, quite apart from the journalistic courage of a magazine suggesting that 99% of its readership was probably chasing a chimera. In fact, all we have done in Europe in the face of this situation is either to go slaverling after the visual consequences of the American way of life as though they were

¹ The series was published in book form in September in the USA by Doubleday and Co., and a paper-back edition will be published next month, price 95 cents.

man's substitute for Heaven, created by a race of supermen—the giant city-contrasts, the super highways, the cool hygienic mobility of supermarkets and drive-in cinemas—or else to condemn the whole thing out-of-hand with a superior Western-European flip of the fingers, and then to suggest the wholesale importation of Western-European solutions regardless of scale or temperament.

The exploding metropolis may well be a British invention, though we don't deserve much credit for it. The expansion of London in the late 1920's and early 1930's was perhaps the first case in the whole world of a city enlarging not functionally—building on the next bit of ground because people had to be housed there, the pattern of all our industrial cities—but as part of a pipe-dream promoted as a business gimmick by builders, estate agents and, to its permanent shame, by London Transport: a game of leap-frog to the green fields, made into a machine which, once started, was almost impossible to stop, because too many livelihoods were involved in keeping it going: a fearful kind of perpetual motion. We took fright and created a town planning organization which, through a mixture of bad luck and bad management, is creating a similar sort of thing in a more insidious way: the creeping mildew rather than the steam-roller, with both ending up at the same thing—subtopia, the annihilation of the sense of place.

America was apparently less affected by these things before the war; perhaps her depression was deeper. But since 1945 everything has combined to set up the biggest sprawl-machine the world has ever seen: the organization of home-builders and automobile-makers, the modern roads, the boom conditions, the population bulge, all spurred on by the latent frontier mentality—perpetuated even though there are no frontiers left and ten million people are coming the other way—and the absurd extension of 'throwaway' techniques to objects where they are meaningless, even though quite practicable, because they ignore the fundamental human need for permanence, a need which can only be driven underground, not suppressed.

The results in the last ten years have been fantastic. New York to Washington is already very nearly one city; medium-size towns such as Louisville, Kentucky, have a penumbra fifty or sixty miles across that is an endless Scotch mist of alternating housing subdivisions, scrubby fields, drive-in cinemas and sandwich bars.² You can never be quite out in the country; equally, you can often never be quite in the town because the centre is full of parking lots or may never have grown up at all, like Los Angeles. On the face of things it seems absurd that America, with only four times our population and thirty times our area, should be having this trouble: and in fact any air journey will show the enormous empty spaces in the US. Fly east out of San Francisco and the stop goes on for perhaps a hundred miles: then the hills begin and there are no houses at all for several hundred miles. One point about this open space is, as one of the *Fortune* articles puts it, that 'thousands of acres of empty land in Wyoming is not going to help the man living in Teaneck, New Jersey'. Another is that all the empty space in the world—quite literally—is not going to help if man insists on taking up ten or twenty times as much space as he need do in the course of a working day—space in the parking lot, space on the freeway, empty garage space, space for the drive-in and the supermarket and space around the shops for the delivery vans.

The solution? Well, yes: the remaining few hundred words would be just right for the trite phrases about community life and tight living. But in fact some of the ideas that

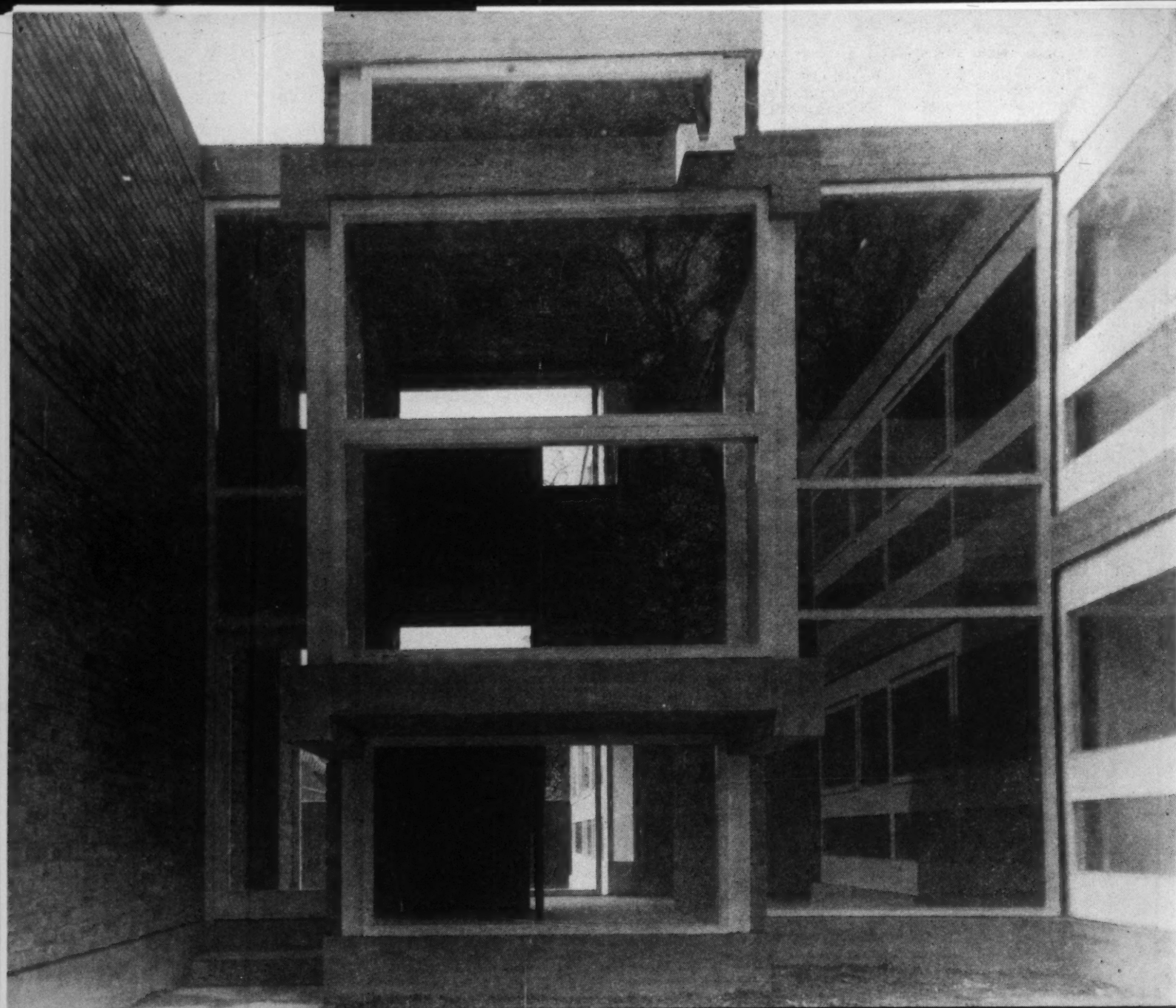
² Good design of course is not the point here; most subdivisions are much better than the British average, and the hot-dog stalls and filling stations have plenty of valid and virile character of their own. The trouble is that they are all being mixed up together.

we have been trying to preach in the last few years, notably in *Counter-Attack*, might be of service as long as they are interpreted entirely in American terms and to an American scale. The differences, clearly, are going to be very large, but they are not fundamental—if only because, to be naïve about it, both nations belong to the human race. The basic idea is to separate the parts of the environment back into town-suburb-country from an undifferentiated splurge. This could be done both in a linear way, like beads on a string, and in a radial way, using segments and linear-city ideas to provide opposites cheek by jowl—the country reaching right into the city, and so on.³ Together the mixture of these two ideas could be used in a country as big as America to canalize the sprawl-machine to give a pattern instead of chaos: a pattern of small self-contained communities at whatever density the inhabitants wanted, the determining factor being the greatest distance any person need walk to reach open country, and of cities two hundred miles long and two miles wide with all transportation arranged in depth along the centre line like some monster electric cable. Another thing that might be done is an analysis of the human and financial cost of sprawl—the difference in the way of life between ten thousand people commuting from the edge of New York or Los Angeles and ten thousand people in a self-contained small town. With the goodwill of corporations and foundations the two towns could actually be built and compared—the sort of social experiment which only America and the Americans have the means and the drive to do. And along with the electronic computers and bigger bombs the engineers and the scientists could be starting on a concerted programme to get means of transport neater and smaller⁴—the pocket helicopter, or the weatherproof shopping capsule which will do 30 m.p.h. and which you can hang up like a mac. At one extreme, if all personal motor transport was as thin as a human being (or, clipped together, four, eight, human beings) transportation problems would disappear.

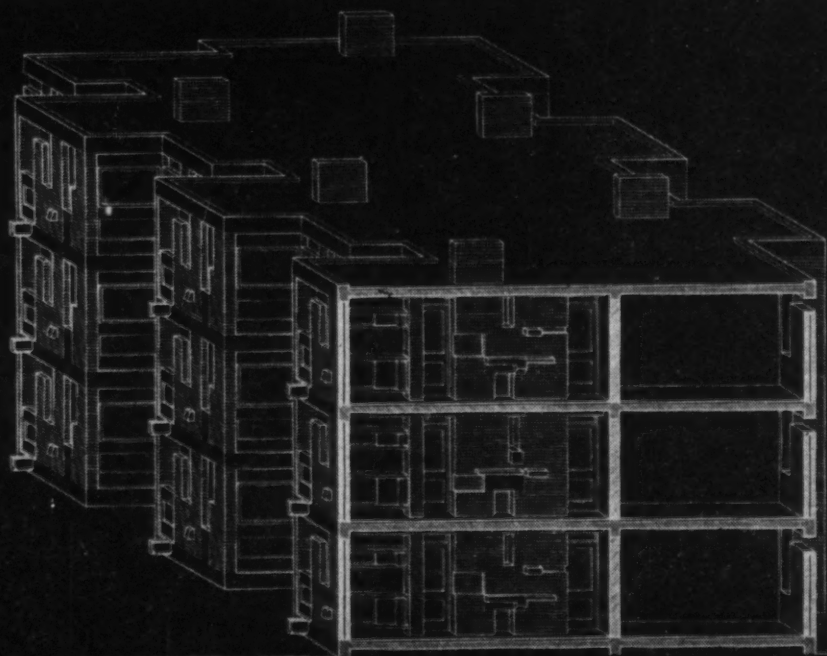
America now has the means to achieve all these things—that, in fact, is just the trouble: it has all the means and no ends. We must all, the whole world over, stop boasting about technology and mobility and try to use them to make life better and more exciting—instead of technology and mobility using *us* to make life monotonous and frustrating. And the vast new 41,000-mile programme of state highways, which was one of the things that touched off the *Fortune* series, could be the starting point for this. As things stand, the highways will just add to the sprawl near the centres of population in the east and west and run across open country—thousands of miles of it—in the Mid-West, South and South-West. Applying linear separation they could be the string for a chain of self-contained new towns carrying their own employment, with the home builders, the industrialists and the federal advocates of dispersal-for-defence's-sake all working together. Applying radial separation, they could be the backbone for linear cities, hundreds of miles long, in the empty parts of America. The planners of the federal highways have frankly said that their aim was to 'disperse our factories, our stores, our people; in short, to create a revolution in living habits'. That aim can produce a pattern America can be proud of, or it can produce, nation-wide, the same old goop that covers most of New Jersey and Long Island. The choice is still there—but only just.

³ There is obviously the merest draft of a sketch of a solution; the ideas themselves are not worked out yet. But they will be, in future issues of the REVIEW; for those who like shibboleths the linear way is called a continuum and was invented by Gordon Cullen two years ago; the radial way is called contraries and was invented by William Blake a hundred and fifty years ago.

⁴ And the automobile stylists too—not for any reason concerned with whether the cars look good or bad but simply because long cars are ceasing to be a practicable proposition in towns: some present thinking would seem to prefer scrapping towns to shortening cars, a splendid example of cutting off one's nose to spite one's face.

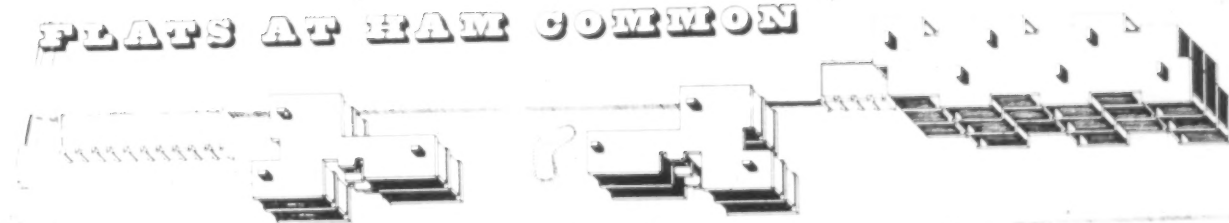


FLATS AT HAM COMMON



The architect's role is to create a building that is not only a functional dwelling but also a work of art. It is a role that requires a deep understanding of the human condition and a commitment to the highest standards of design. The architect must be able to translate abstract ideas into concrete forms that are both beautiful and practical. This is a challenging task, but one that is essential to the progress of our society.

FLATS AT HAM COMMON



ARCHITECTS JAMES STIRLING AND JAMES GOWAN

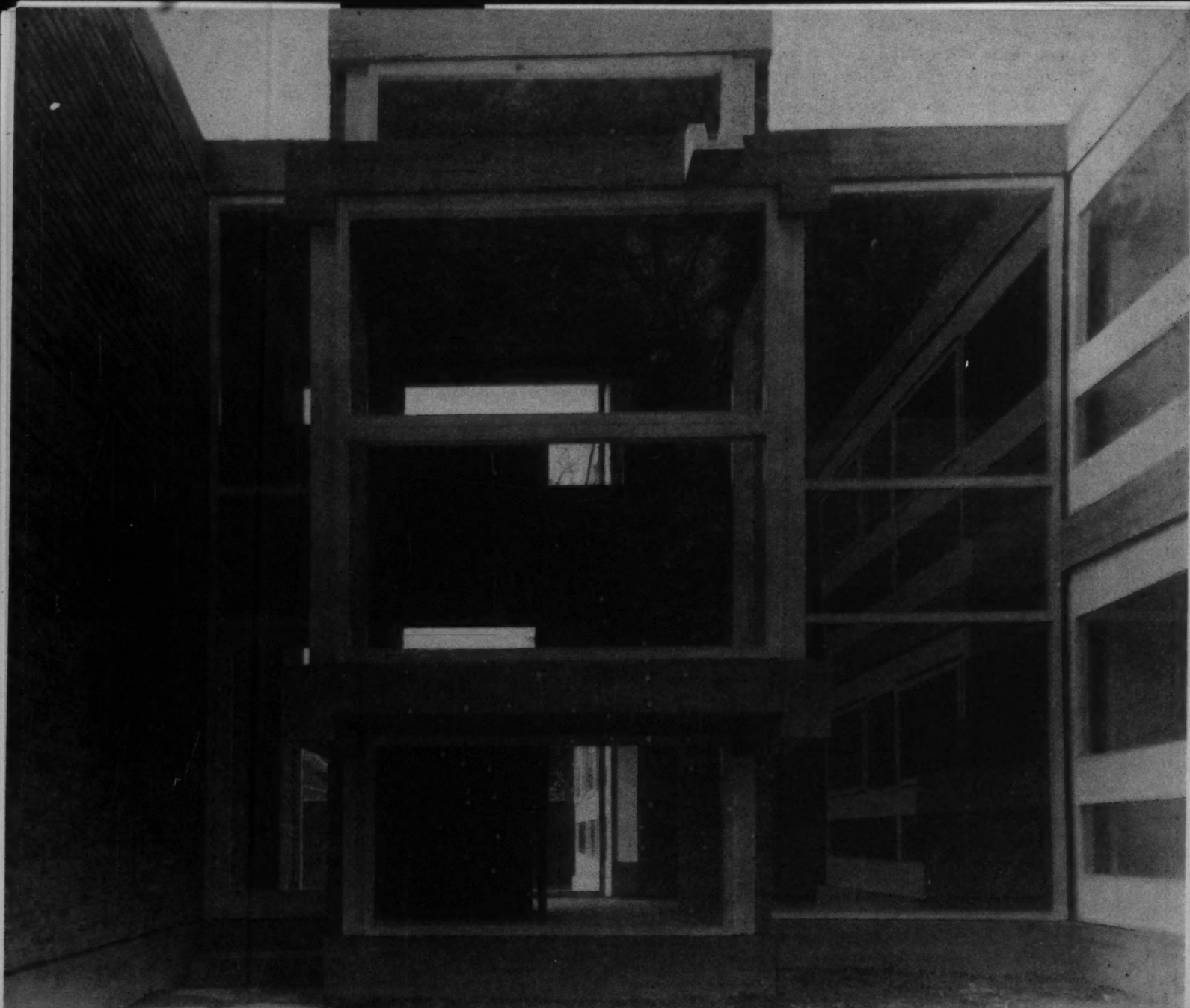


The building is a long, low, white structure with a flat roof. It is surrounded by trees and a lawn. The building is a long, low, white structure with a flat roof. It is surrounded by trees and a lawn. The building is a long, low, white structure with a flat roof. It is surrounded by trees and a lawn.

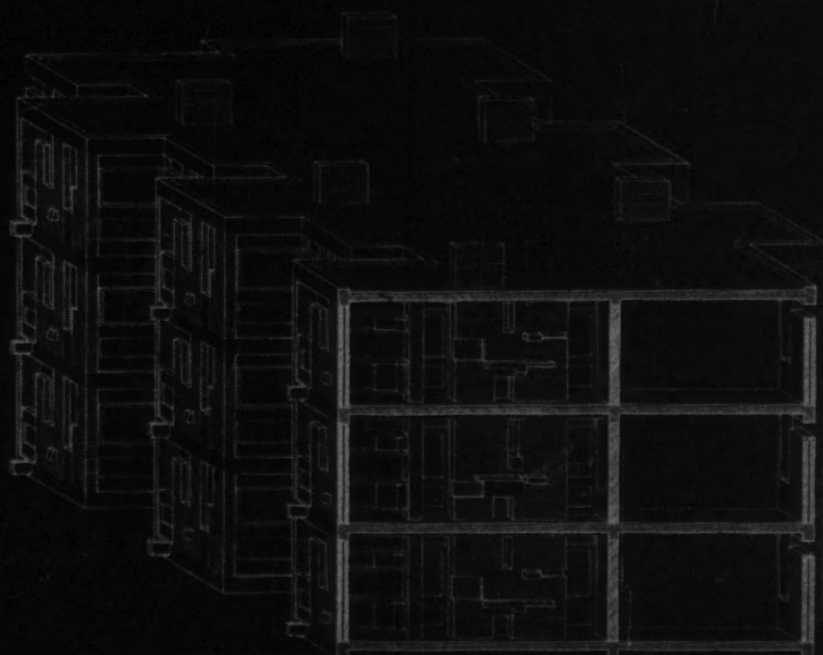
Younger English architects' attitudes to what they call 'the white architecture of the Thirties' are ambivalent: on the one hand they respect and even envy the significance as revolutionary gestures of such buildings as Wells Coates's Lawn Road Flats, but on the other hand they are suspicious of the 'naive conviction that all buildings could be designed in "international style".' Most of them now conceive of the possibility of 'multiple aesthetics', or 'the style for the job', rather than a single dominant style to be applied to all classes of buildings.

It is in housing that this changed mind appears most clearly, and the REVIEW has already published such buildings as the Smithsons' Sugden House at Watford (September, 1957), and the houses in Hampstead by Howell and Amis (Nov-

ember, 1956), as well as an earlier house by Stirling and Gowan (April, 1958) in all of which it can be seen, in spite of divergent tendencies of personal style and professional philosophy. What emerges from all these examples, and even more forcefully in the flats illustrated on the following pages, is an attempt to face the economic realities of dwelling construction in England today, and to extract from them an architecture that is workable in plan and grouping, and an aesthetic that is affective, rather than merely sufferable. The result seems to open the prospect of a sophisticated vernacular –and if that appears to be a contradiction in terms, then it may well be that our terms are in need of revision, for a vernacular without affectations of primitive innocence is one of the possible lines of delivery from the present depressed state of housing design in England.

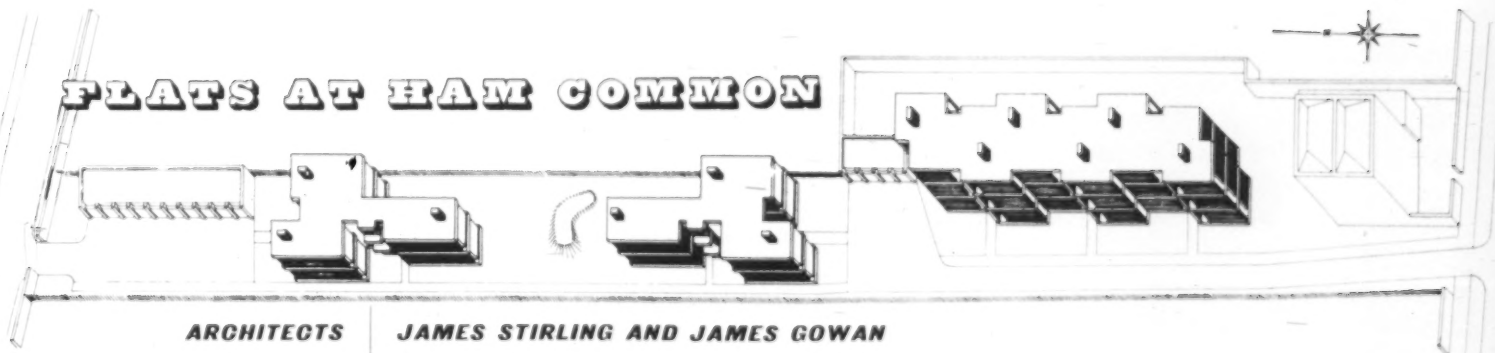


FLATS AT HAM COMMON



The structural and aesthetic elements of these flats, exemplified by the stair-well of one of the smaller blocks, opposite (above) , are brick walls carrying bare concrete slabs, and white-painted wooden frames carrying large panes of glass. The resulting rich complexities of rough and smooth, solid and transparent, are enhanced—on the larger block by a deeply indented façade (below) and—in both types of block—by fireplace units that bring exterior surfacing materials indoors.

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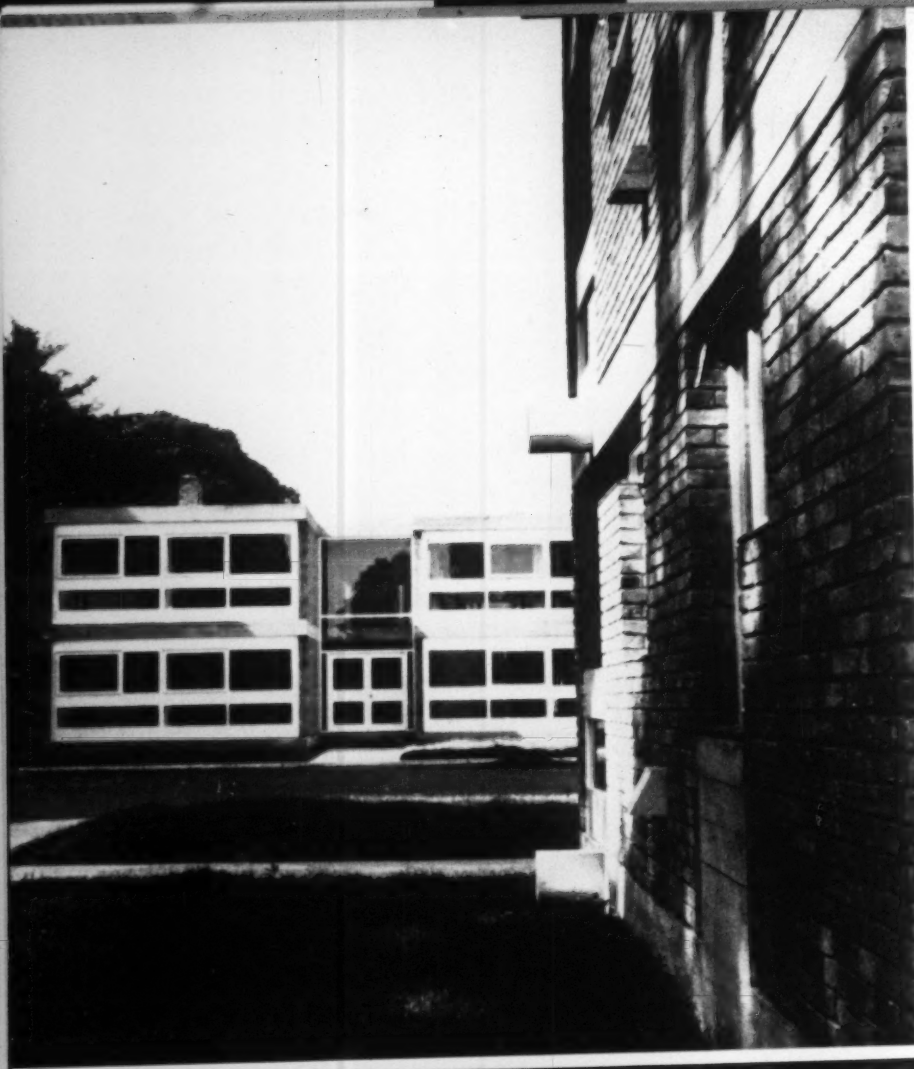


1. the three-storey block seen in its setting of established trees—as the site plan shows (above) the wall on the boundary of the site stands farther from the ground floor windows than might appear from this view.

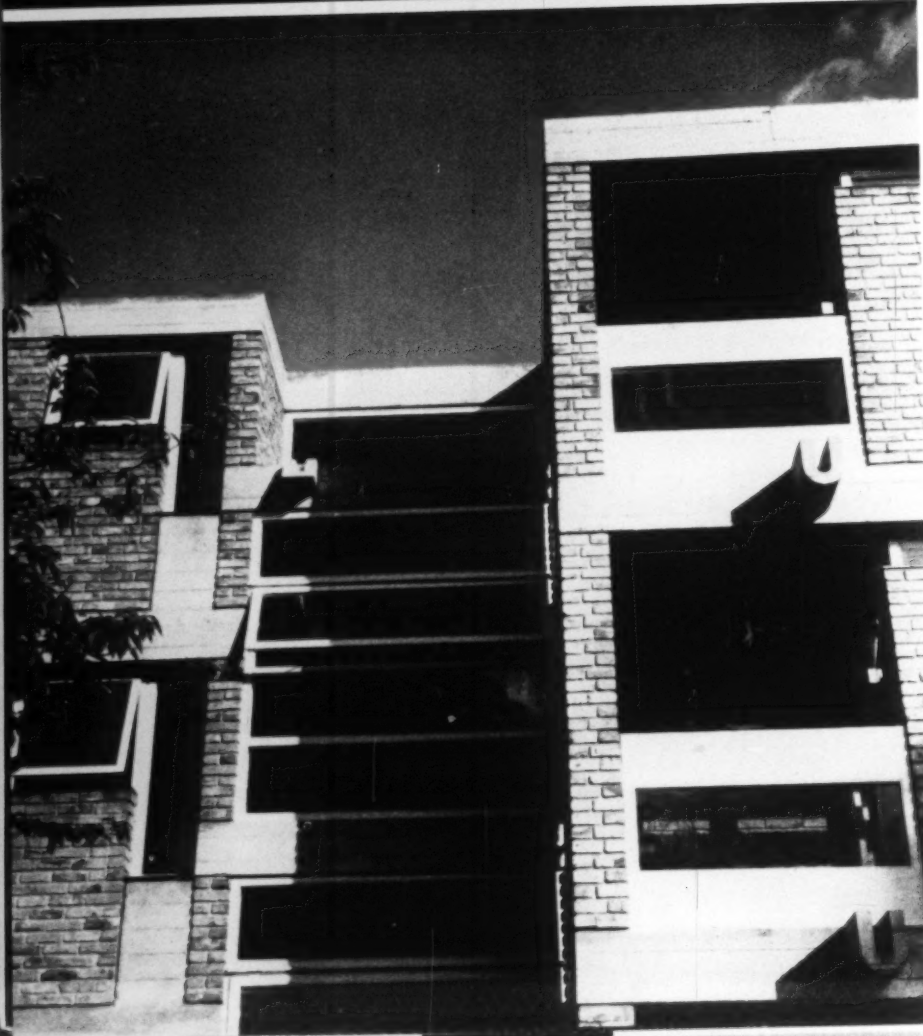
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It is in housing that this changed mind appears most clearly, and the REVIEW has already published such buildings as the Smithsons' Sugden House at Watford (September, 1957), and the houses in Hampstead by Howell and Amis (Nov-

ember, 1956), as well as an earlier house by Stirling and Gowan (April, 1958) in all of which it can be seen, in spite of divergent tendencies of personal style and professional philosophy. What emerges from all these examples, and even more forcefully in the flats illustrated on the following pages, is an attempt to face the economic realities of dwelling construction in England today, and to extract from them an architecture that is workable in plan and grouping, and an aesthetic that is affective, rather than merely sufferable. The result seems to open the prospect of a sophisticated vernacular—and if that appears to be a contradiction in terms, then it may well be that our terms are in need of revision, for a vernacular without affectations of primitive innocence is one of the possible lines of delivery from the present depressed state of housing design in England.

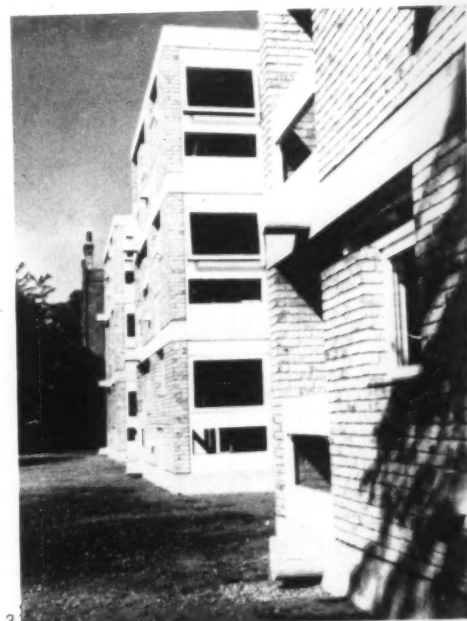


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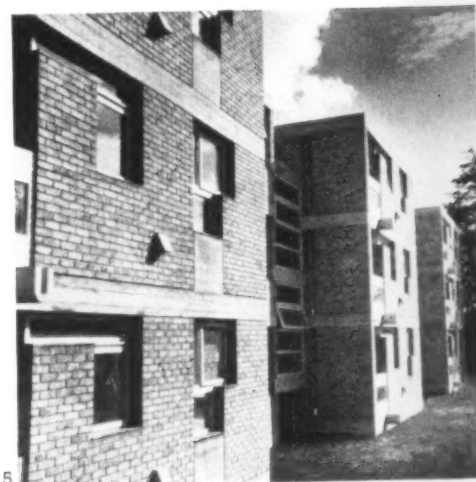
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FLATS AT HAM COMMON



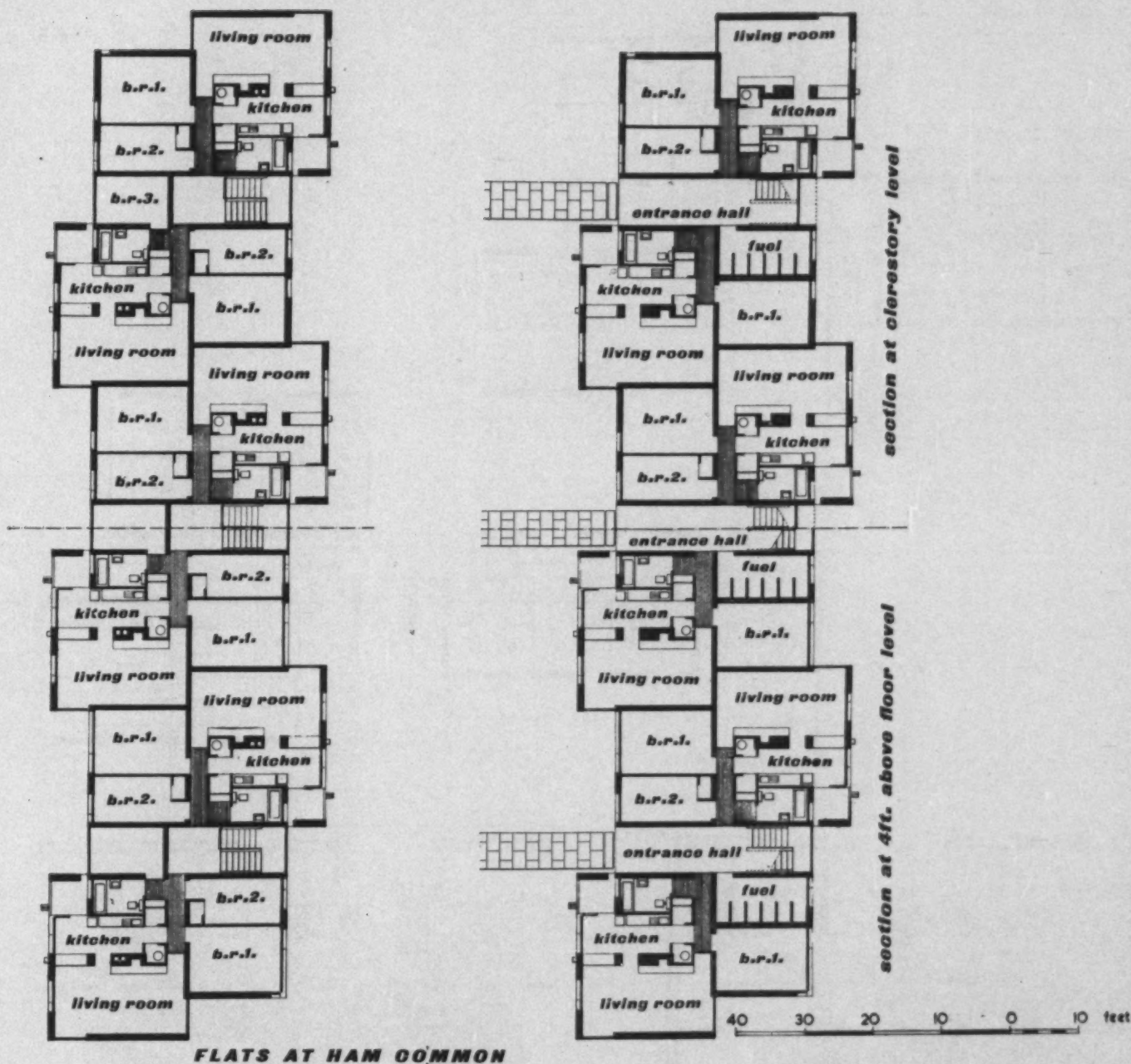
3

2, a view down the access side of the three-storey block towards the two-storey block: the main vertical mullion of these windows corresponds to an internal structural wall that does not, however, reach the plane of the window.
3, a part of the rear facade of the three-storey block, with staircase windows, centre, kitchen balconies, right, and bedroom windows, left.



5

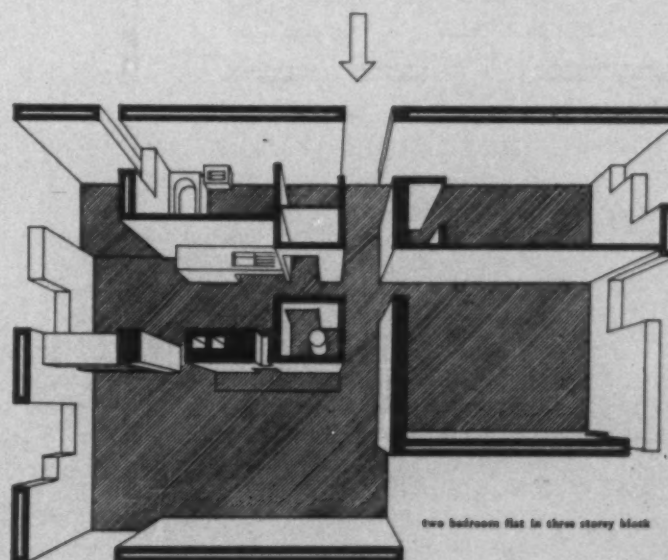
4 and 5, two further views of the rear facade of the same block, showing the depth of the recessing of the bedroom and staircase bays, and the relatively small amount of the calculated brick wall that actually supports one slab above another.

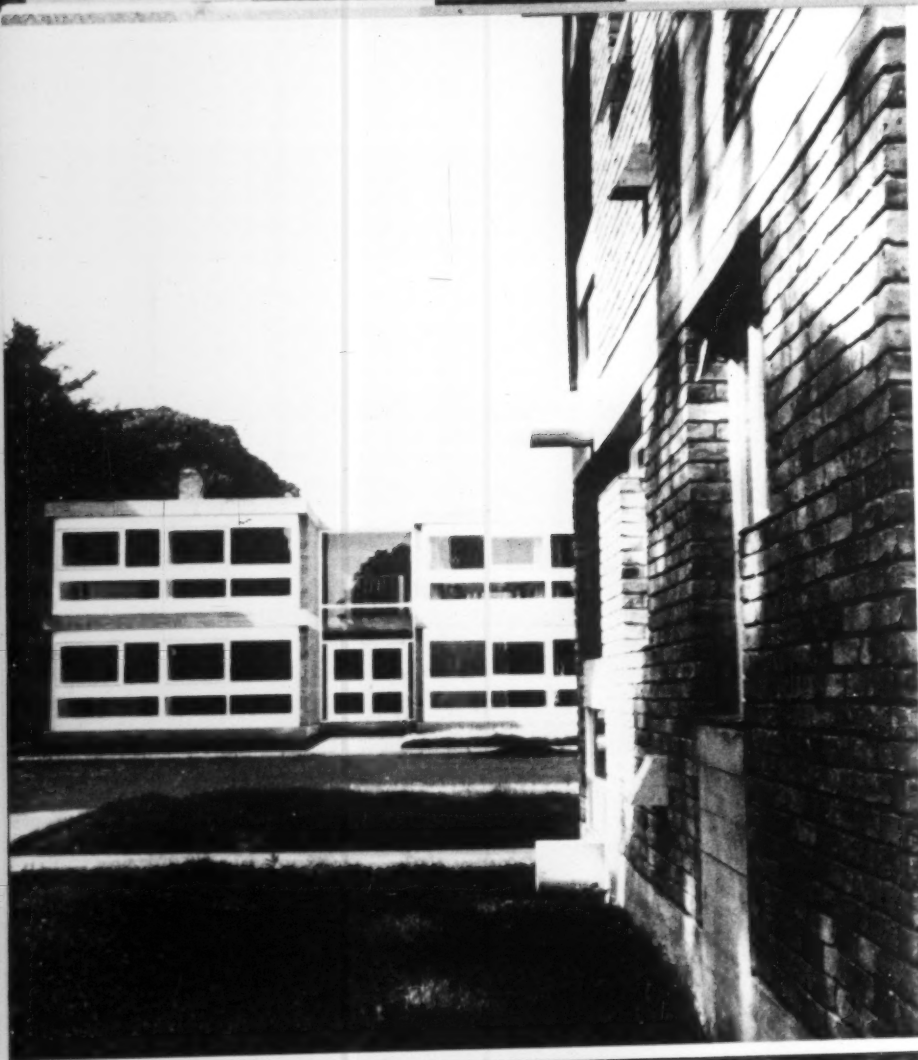


This site is the garden of a large Georgian house which fronts on to Ham Common forming a narrow strip with a belt of trees along its eastern boundary. There are three blocks, one is three storeys containing 18 flats and the other two are two storeys containing six flats each.

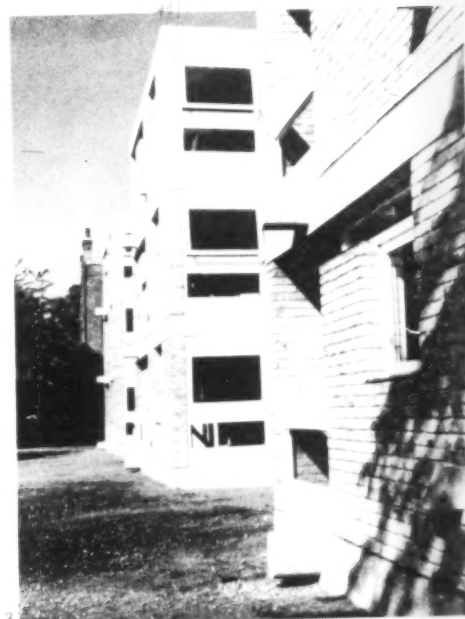
The structural walls are load-bearing bricks, with floors, roofs and staircases of in situ concrete. Externally and inside the entrance halls these materials are left exposed, but inside the individual flats, ceilings and walls are plastered. In construction the two smaller blocks differ from the three-storey block, as in the former it is only the cross walls which are load bearing, while in the latter all walls including the peripheral walls are structural.

The floor to ceiling windows of the living rooms have three 12 in. deep horizontal transoms with the middle horizontal occurring at hip level. These timber transoms are packed with insulating material to help reduce heat





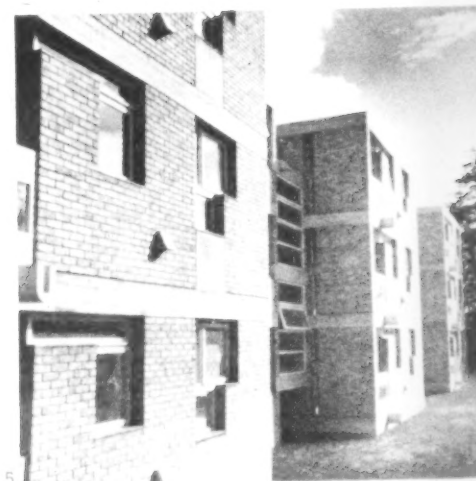
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3

2. A VIEW DOWN THE ACCESS SIDE OF THE THREE-STORY BRICK TOWARDS THE TWO-STORY BLOCK. THE MAIN VERTICAL MOTIF OF THESE WINDOWS CORRESPONDS TO AN INTERNAL STRUCTURAL WALL THAT DOES NOT INTERFERE WITH THE FRONTAL OF THE WINDOW.

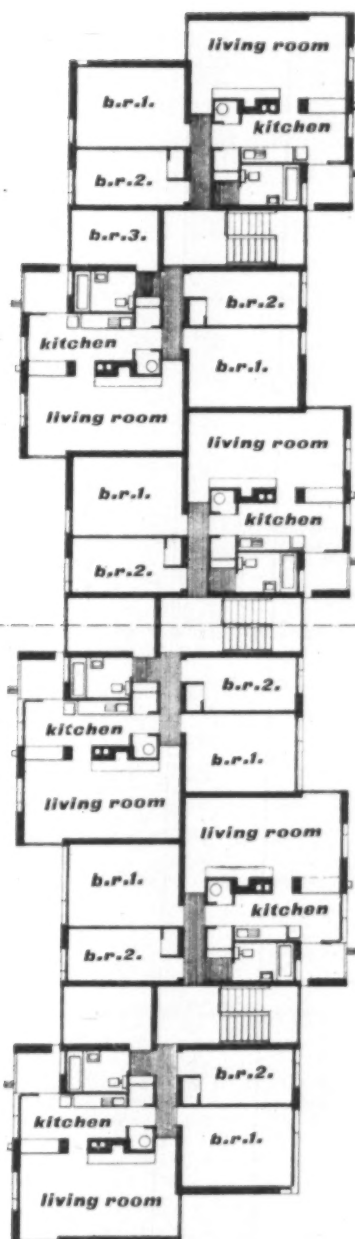
3. A PART OF THE FACADE OF THE THREE-STORY BLOCK WITH STAIRCASE WINDOWS, FRONT OF THE BLOCK, THE WINDOWS, FIGURE 4 AND FIGURE 5.



5

4 and 5. TWO FURTHER VIEWS OF THE FACADE OF THE SAME BLOCK, SHOWING THE DEPTH OF THE RECESS OF THE BEDROOM AND STAIRCASE BAYS, AND THE SMALL AMOUNT OF THE MAIN FLOOR WALL THAT ACTUALLY SUPPORTS THE WALL ABOVE IT.

4

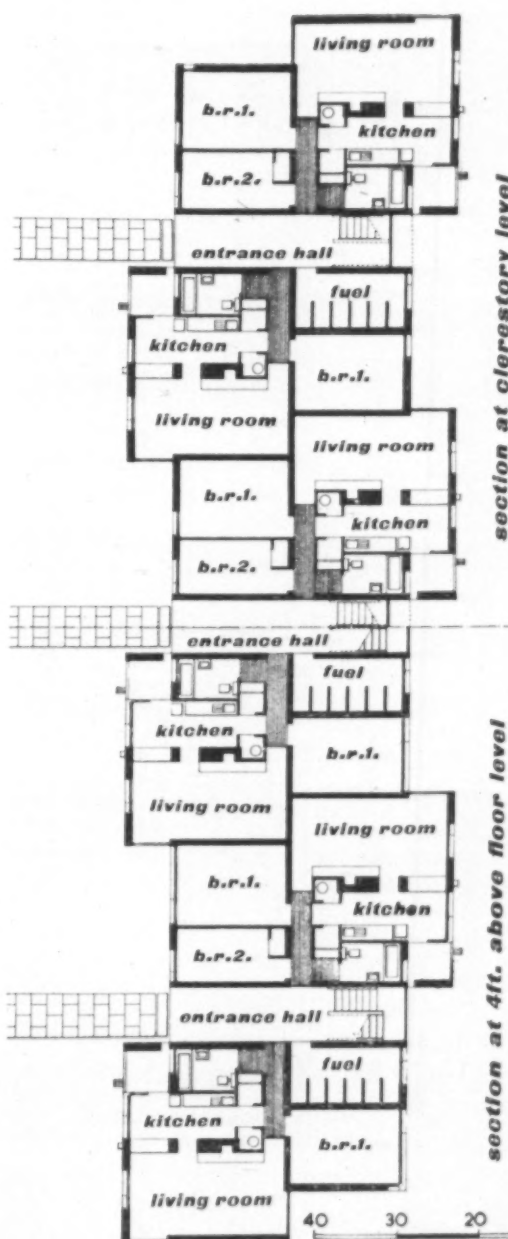


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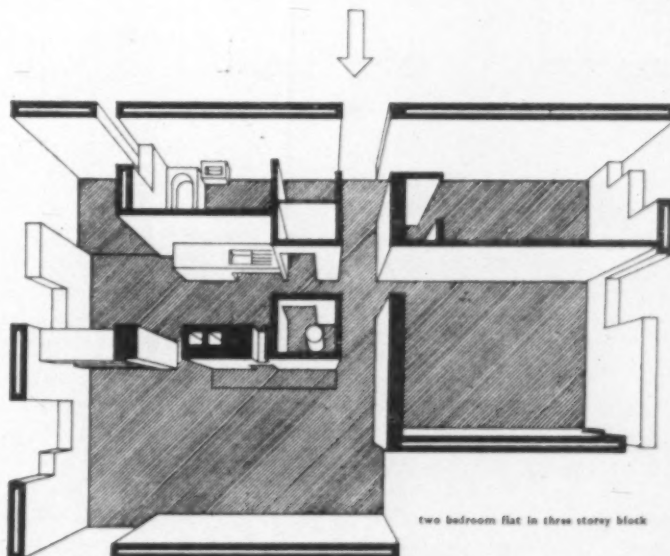
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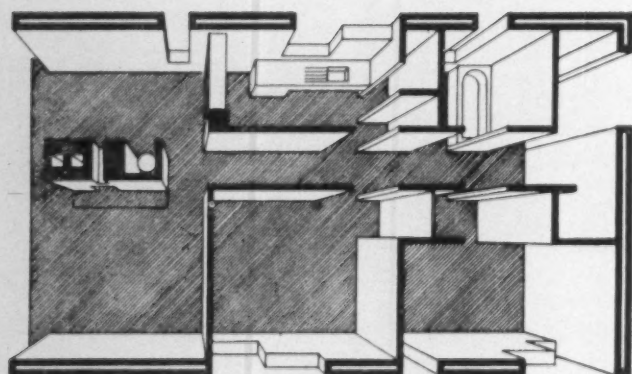
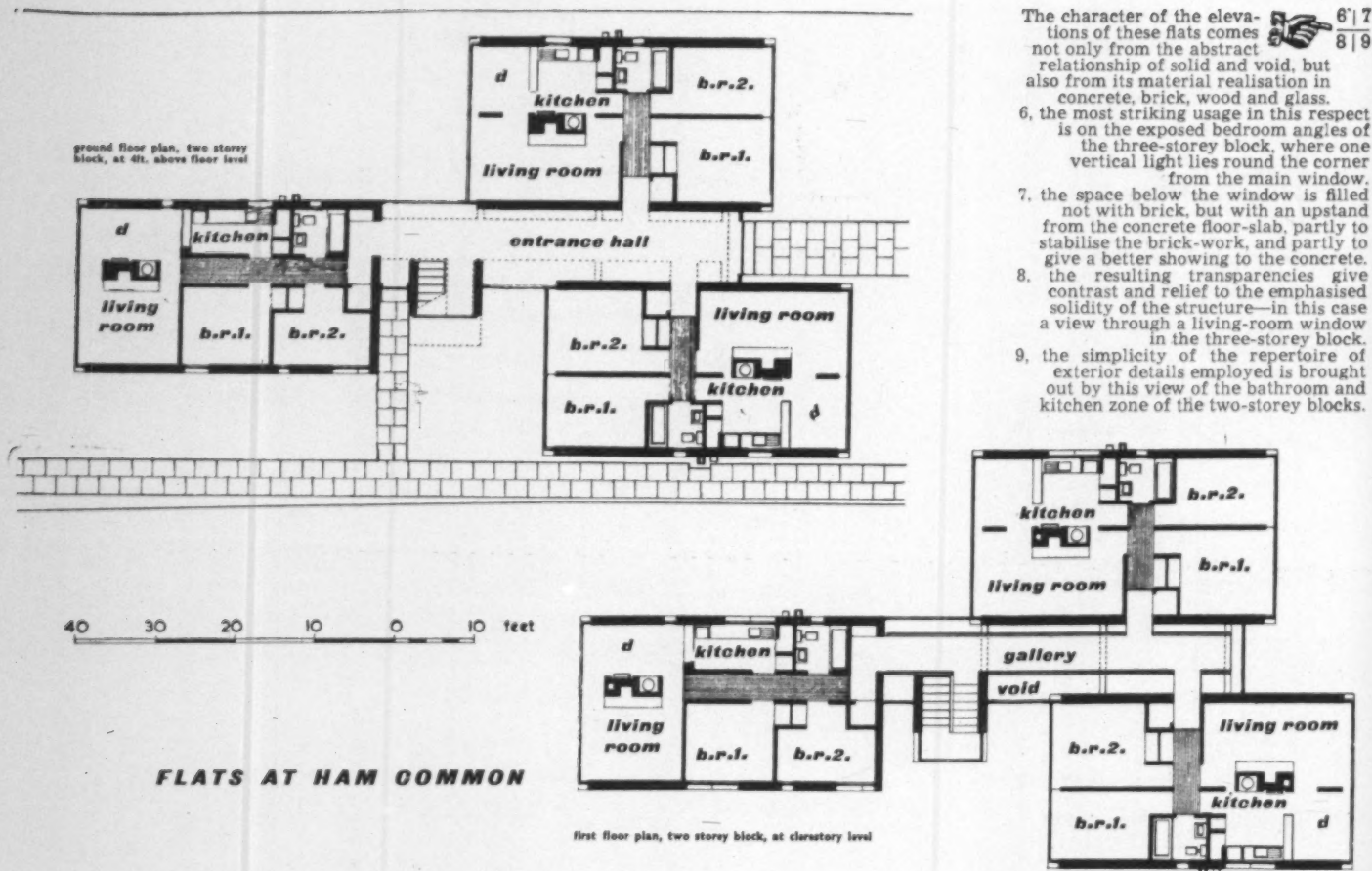


section at clerestory level

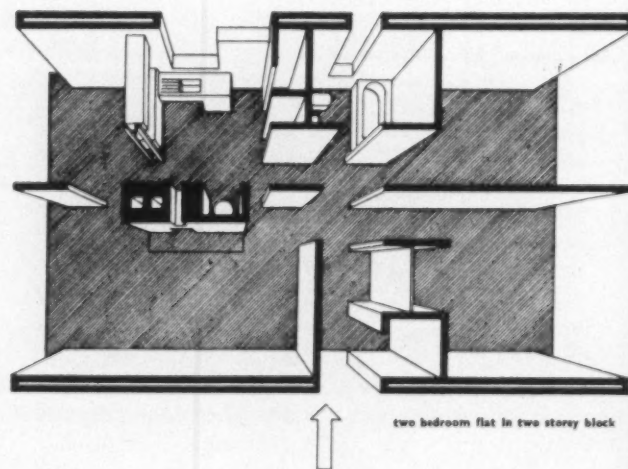
section at 4ft. above floor level



two bedroom flat in three storey block



two bedroom flat in two storey block



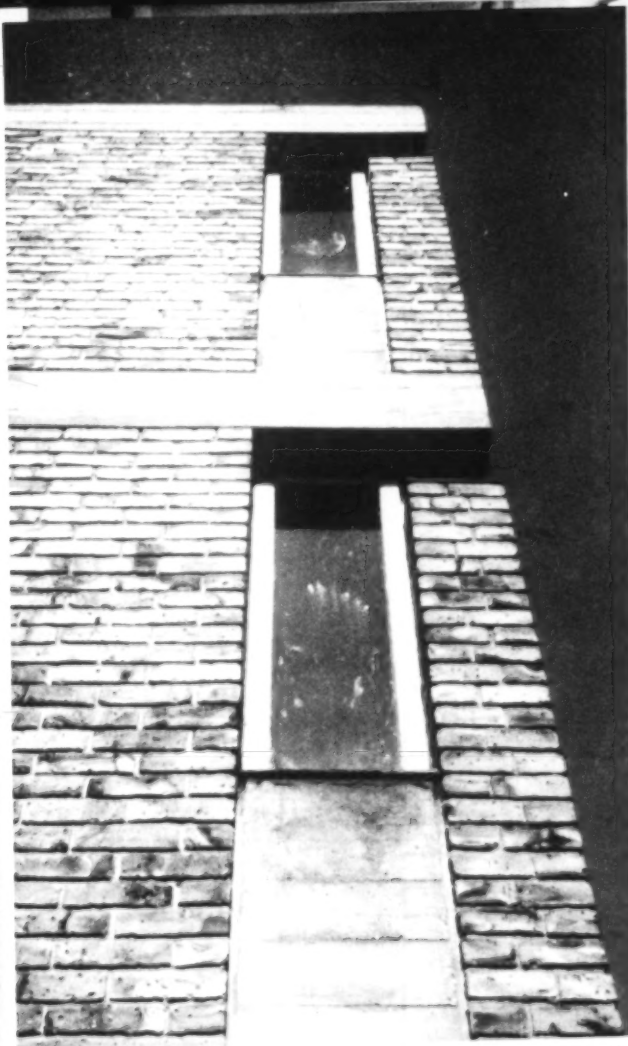
two bedroom flat in two storey block

loss. In the smaller blocks these window/walls pass in front of a $4\frac{1}{2}$ in. structural brick wall. In the three-storey block, calculated brickwork is exploited to its ultimate and many of the piers are stressed to their maximum. On the east and west sides the peripheral walls stop short of the concrete edge beams to provide clerestory windows in all rooms; the remaining portion of wall which carries up is the minimum required to support the superstructure. This use of clerestories, pierced, and floor to ceiling windows gives a variety of internal lighting effects.

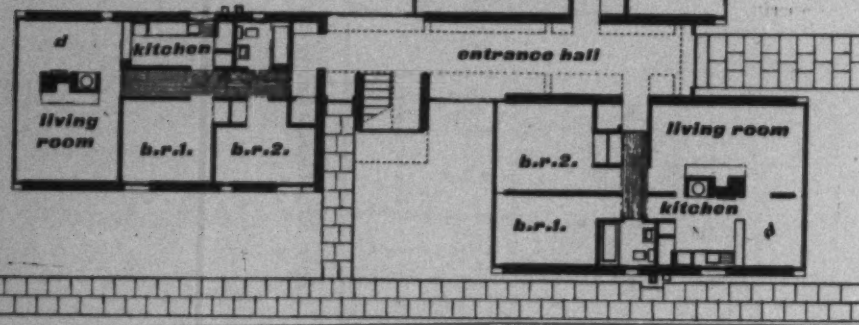
The living, dining and kitchen areas are planned

round a structural brick fireplace which contains the back boiler, cylinder and linen cupboard. This bulk is sufficient to establish a central element of the same scale and finish as the exterior. Wherever possible, such as in the entrance halls, staircases, etc., a direct reference is made to the exterior of the blocks. So also with the precast concrete mantelpiece and corbel shelves, which built into the fireplace in various assemblies (four in all) correspond to the concrete air bricks and overflow gargoyles on the outside walls.

The flats are for sale at prices varying from £2,925 to £3,700 inclusive.



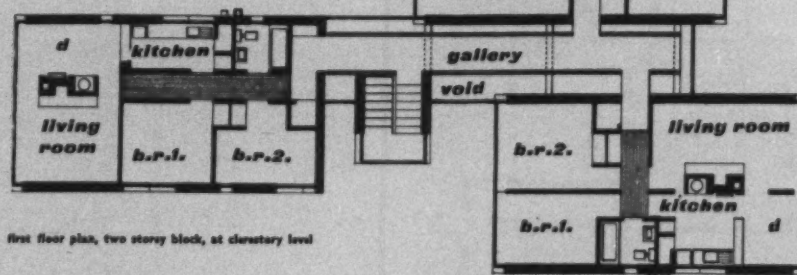
ground floor plan, two storey block, at 4ft. above floor level



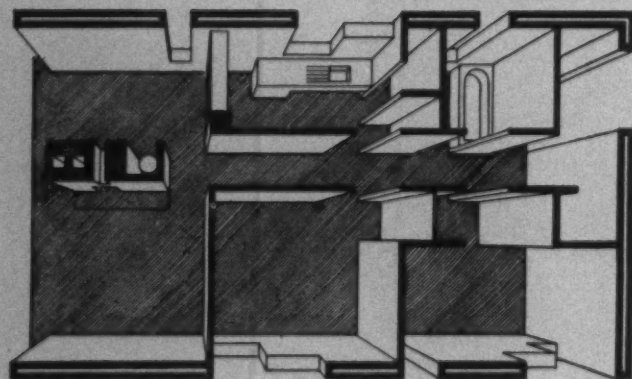
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FLATS AT HAM COMMON

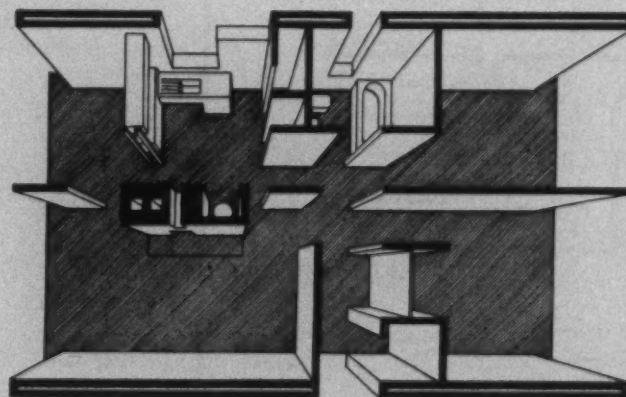
first floor plan, two storey block, at clerestory level



- The character of the elevations of these flats comes not only from the abstract relationship of solid and void, but also from its material realisation in concrete, brick, wood and glass.
- 6, the most striking usage in this respect is on the exposed bedroom angles of the three-storey block, where one vertical light lies round the corner from the main window.
 - 7, the space below the window is filled not with brick, but with an upstand from the concrete floor-slab, partly to stabilise the brick-work, and partly to give a better showing to the concrete.
 - 8, the resulting transparencies give contrast and relief to the emphasised solidity of the structure—in this case a view through a living-room window in the three-storey block.
 - 9, the simplicity of the repertoire of exterior details employed is brought out by this view of the bathroom and kitchen zone of the two-storey blocks.



two bedroom flat in two storey block



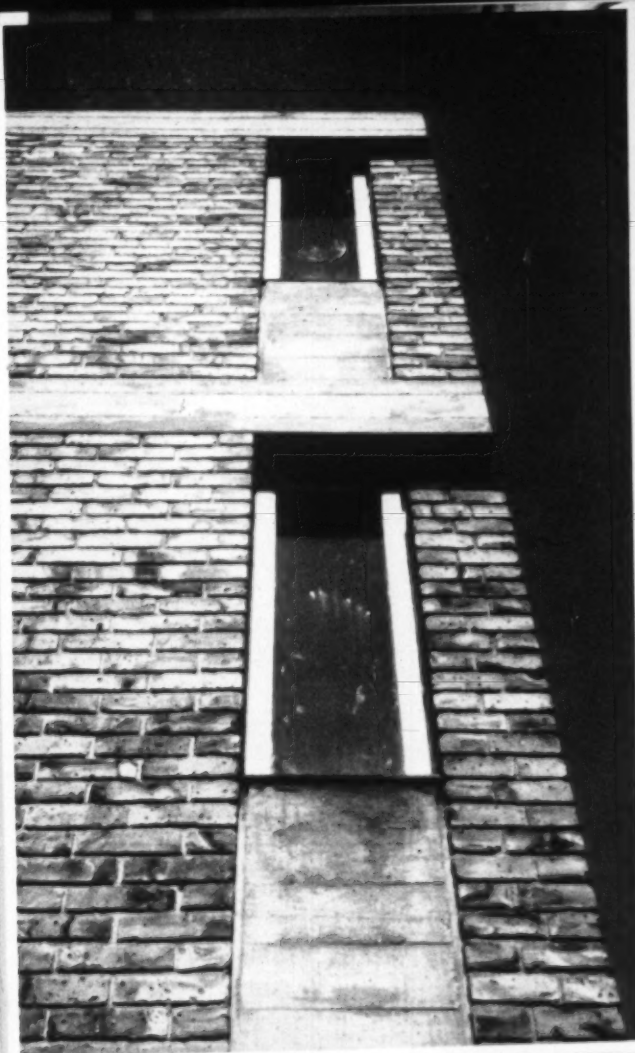
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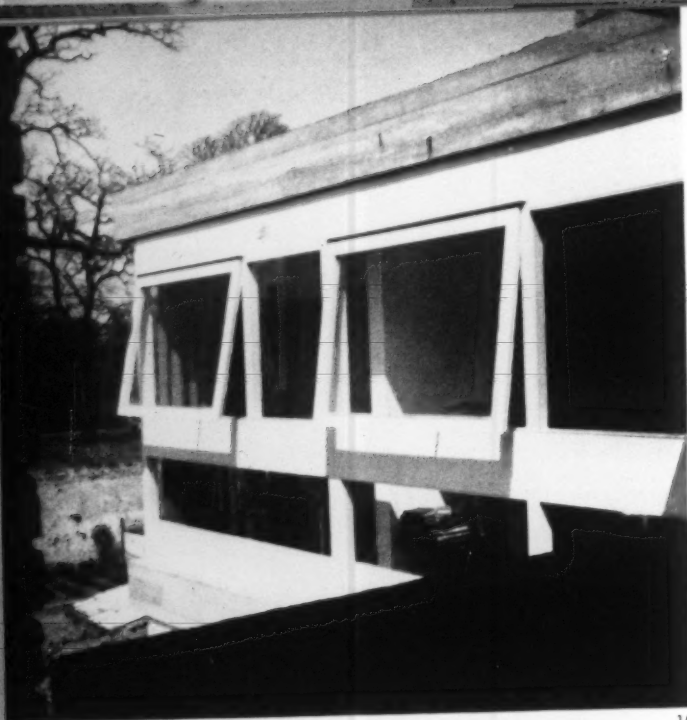
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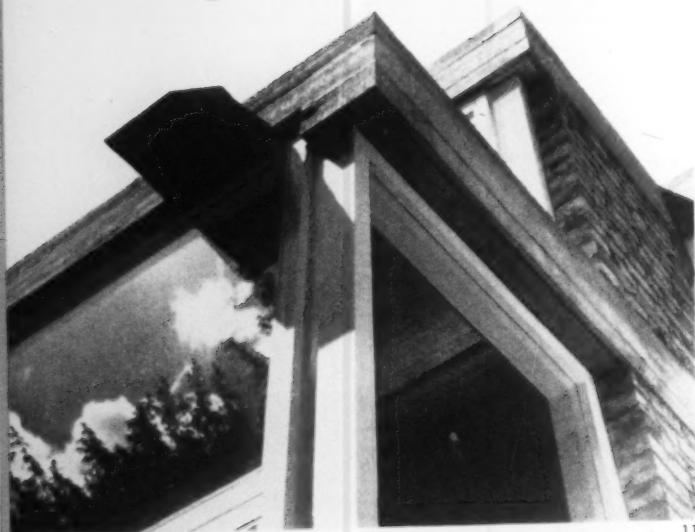
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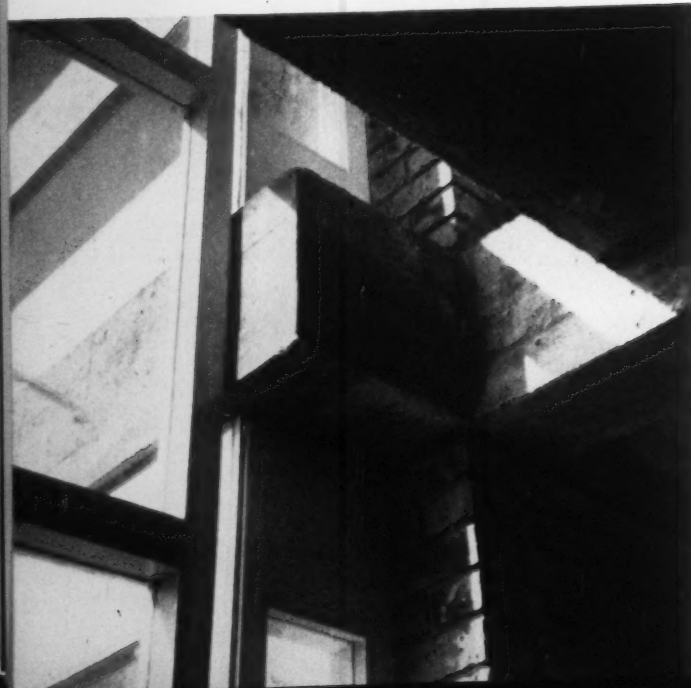
FLATS AT HAM COMMON



10



11



12

10. the living-dining room window of an upper flat in the north two-storey block, seen from the access gallery. The wooden transoms at top, bottom and hip level give a greater feeling of security than would total glazing, and create a deliberate wall/window ambiguity.

11. the detailing throughout emphasises the separate identity of parts, in this corner of the projecting stair-landing of a two-storey block, the side and front windows are distinguished by the extent to which they have, or have not, been taken up into the concrete above.

12. while in this detail the glazing of the main hall window, on the opposite side from the stairs, is isolated from



section through a living room in three storey block showing fireplace and serving unit with kitchen and balcony beyond

the return glazing of the windows of the flats by a vertical strip of glass an inch and a half wide.

13 and 14. the scale of the kitchen and serving details has been made to that of the exterior, using timber sections of a large size by fashionable standards, and massive teak draw-pulls.

15. the consonance of exterior and interior extends to materials as well—although most of the surfaces inside the rooms are plastered and painted white, the fire-place units are of the same brick as the main structure, and contain cast units, such as shelves, of precast concrete, similar to the ventilators and spouts on the outside.

16 and 17. in the entrance halls of the two-storey blocks, circulation at the upper level is by a concrete gallery carried clear of the brick-work on transverse beams, the landing slabs of the staircase are cantilevered from beams set in the length of the walls that flank the stairs, and the hand-rails and balustrades to the stairs are formed from overlapping triangular frames of steel tube.

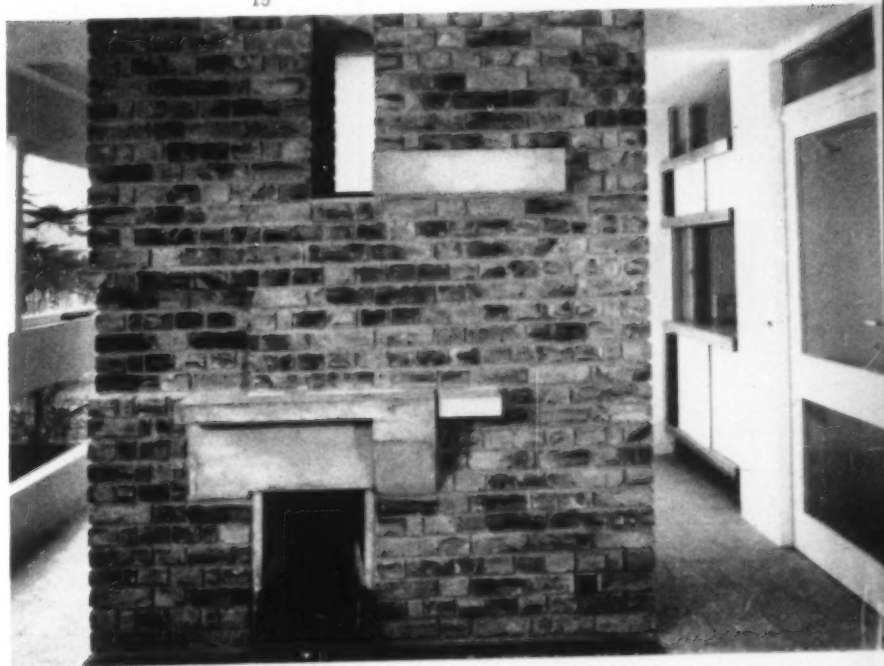
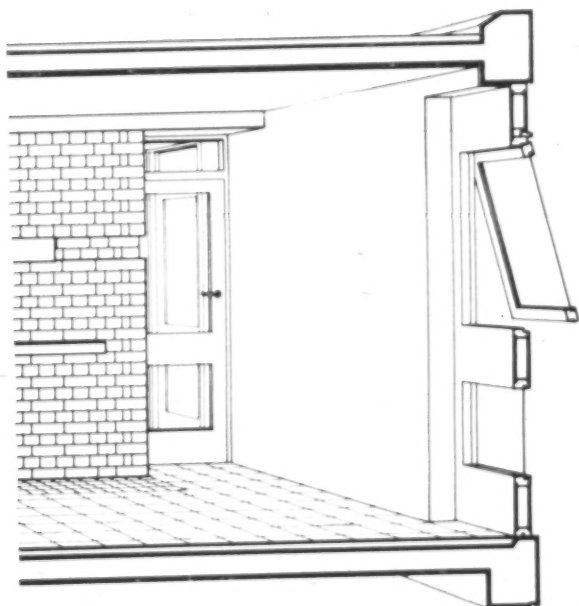


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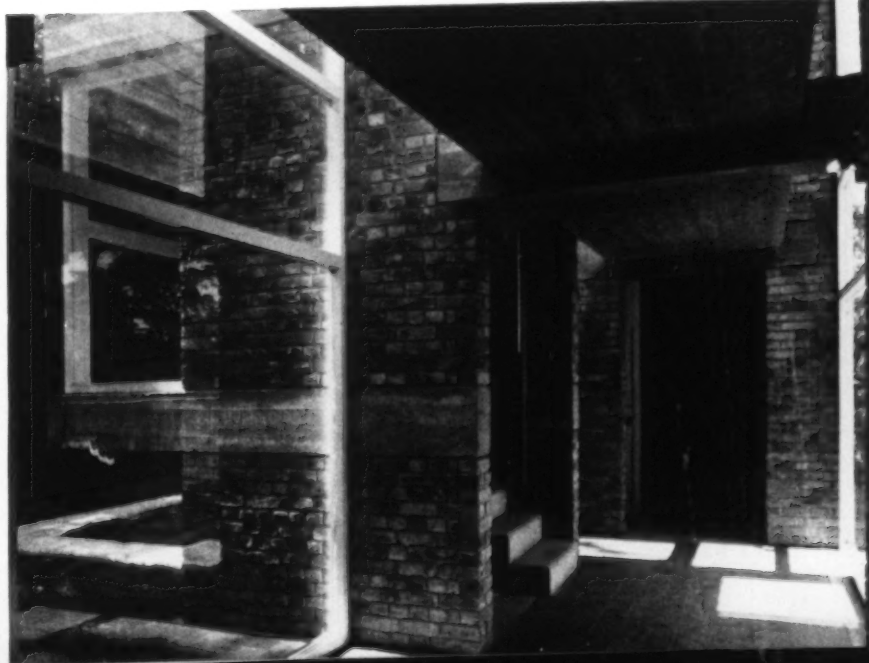
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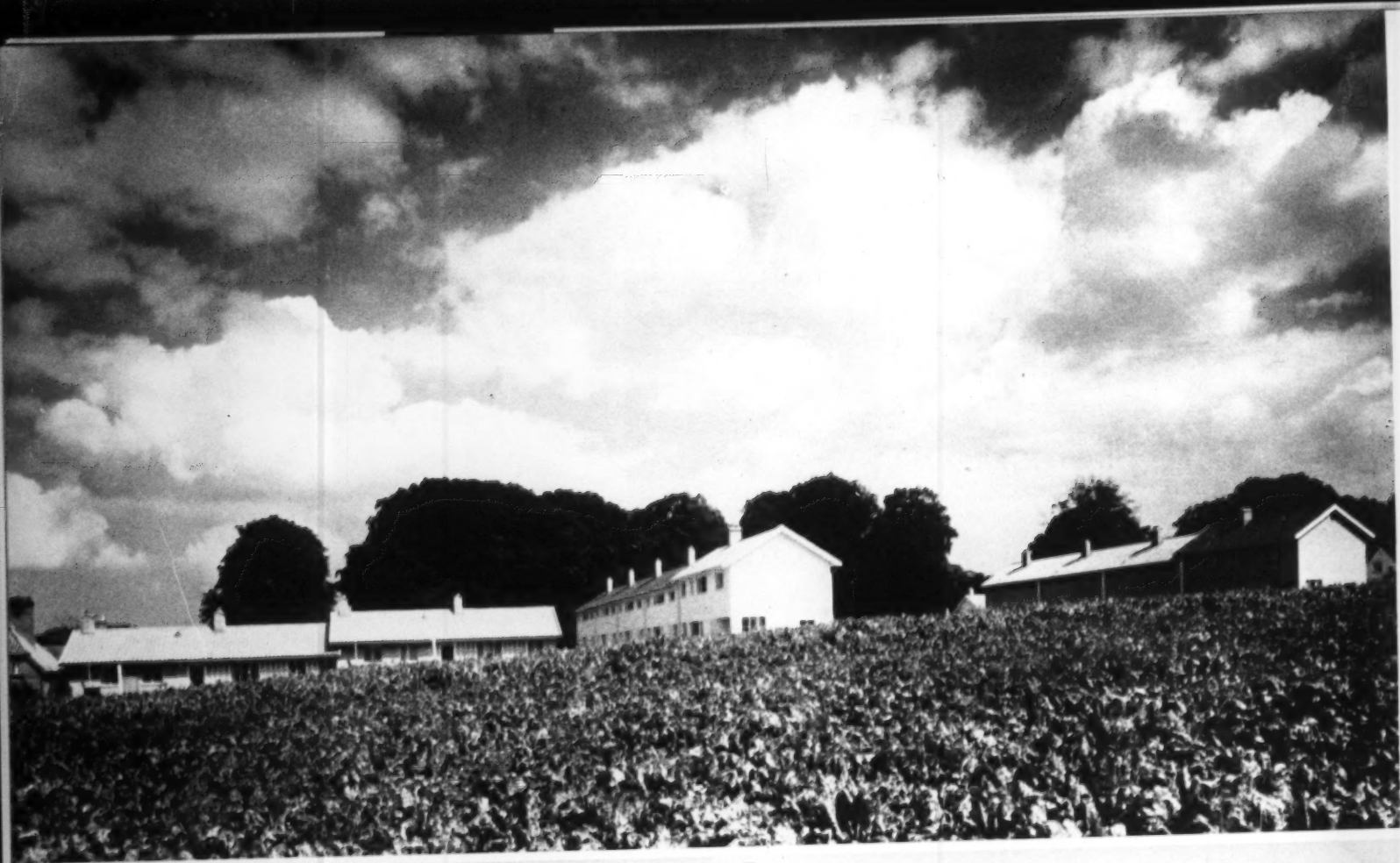
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16

17





Preserving the architectural unities is perhaps more important in rural housing than anything else; the buildings must be designed country-style. That this can be fully achieved within the limits of standard house types and mass-produced details is clearly shown in the following article on the work of Tayler and Green for one rural district in Norfolk. The photographs opposite  show the outside and inside of this achievement. 1, top, the village from outside seen across the fields, crisp, hard and agricultural (Hedenham). 2, bottom, the cosier and softer internal face of the housing, blending perfectly with the existing houses (Claxton).

Ian Nairn

RURAL HOUSING

POST-WAR WORK BY TAYLER AND GREEN

Cure the fearful state of rural housing in Britain today and you cure the whole of sub-topia in miniature. Everything that goes to make up the annihilation of place is normally combined in the squat forlorn boxes in a field outside the village which is the average council estate: the by-law mentality, the false use of local idioms (there are more false hood-molds than real ones in parts of the Cotswolds nowadays), the negation of any pattern or group possessed by the old village, the professional *laissez-faire* that starts with an indifferent design indifferently detailed and then repeats it.

What follows is simply the story of one firm of architects and one local council who in twelve years have overcome all these things: Tayler and Green and their clients, the Loddon Rural District Council. With a little luck and a lot of professional responsibility, something like this might have happened in every rural district in the country. We have built, since the war, enough houses to have made a complete new set of villages which could have been as famous as the German post-war churches or our own post-war schools. The ordinary traveller about England, as he sees village after village that is a little miracle of vernacular building encumbered by estate after estate that is a little miracle of bone-headed beastliness, has a right to ask why this didn't happen.

He may ask it of committees and of planning authorities, but eventually he must ask it of the chap who put up the nonsense: the architect, who only too often was an engineer or surveyor. Basically, to put it bluntly, this is a case of professional failure, and if the culprit now asks piously 'what else could I have done?' let him look here at the work of Tayler and Green. The members of the Loddon RDC were not a miraculous Norfolk race of Men of Taste left over from the eighteenth century; they were just ordinary councillors

who had to be argued with and convinced like any set of councillors anywhere. Every other rural district in Norfolk shows evidence of designers who didn't argue, who took the easy way out.

The crisis of rural housing is the crisis of regionalism itself. Local differences have already taken a battering from forty years of hack-work in council estates—estates which are now often larger than the original villages. Rural slum clearance may account for much of the remainder within the next ten years; the day may still be saved if it is replaced by infilling designs to fit each individual village and to interpret each local pattern—not by reproducing local details, but by understanding the *genius loci* and then expressing it in twentieth-century terms. The alternative is a dozen arty villages in each county preserved as folk museums or equivalent follies, and the rest quietly ground underfoot, as the Thames-side villages of Kent and most of the villages of Bedfordshire have already been ground underfoot.

The genesis of this housing is simple: Herbert Tayler and David Green met at the AA and set up in partnership in 1938, taking over Green's father's practice in Lowestoft. One of their wartime jobs was an estate of four houses at Blundeston and two at Wrentham for the Loddon RDC. These were seen and liked by the Loddon RDC who engaged the firm in 1945 to carry out their postwar housing programme. The firm has split up the work unequivocally so that Tayler designs and Green handles the site meetings and the organization; the office is small, employing unqualified assistants wherever possible, the opposite of the architectural factory or team and possibly the organization best suited to a small provincial practice.

The countryside thus given over to the architects to make or mar was something more subtle than the endless near-flatness of most of inland Norfolk. It is a triangle with twelve-mile sides between the Bure and the Waveney Rivers; without hills but with continuous undulating pasture-land spilling over into bigger views over the river valleys at the edges and over the fens to Yarmouth: the sort of landscape that

produces a continuous series of ready-made Constable compositions. The brick and pantile cottages are organized into villages but not into village groups, and Loddon itself, population 1,100, is the nearest thing to a town. The other places are queer loosely linked agglomerations of houses whose wayward charm is due more to the air and light than to the buildings themselves. The architectural problem was not to augment village centres but to create them, so that, for once, the estate-sized plots could be put to good use. There has in fact been no infilling of single houses; the smallest unit has been a terrace of four.

If the sites are visited in chronological order they become a fascinating sequence of creative development. And the onlooker can start with a premise that rarely applies—that the fundamentals of proportion and siting and colour-sense which are so often hit-and-miss in similar large programmes (they are hit-and-miss in the Hertfordshire schools, for example) can here be taken for granted. What is to be seen in the sites is a creative imagination operating with all

these natural gifts, not a creative imagination struggling desperately to find means of expression. Both types are always necessary, but Tayler and Green's type is much more necessary to-day, with so much half-baked talent being cast out among a bewildering choice of expressive languages.

The first two sites at Loddon and Thurlton, 1946-8, used the same type of linked pairs as the housing at Blundeston,* and

[continued on page 235]



3, the village street of Haddiscoe: the matrix, the haphazard atmospheric village centre which the architects had to augment and intensify. In many cases, there was not even a group as loose as this—at Bergh Apton, Woodton and Geldeston the new housing has itself become the village centre.

* Although this article only describes the housing in the landscape it ought to be mentioned that the house plans themselves made several big improvements which later found their way into the Housing Manual and thence into housing estates up and down the country. The care for detail and the imaginative grouping could not, alas, be similarly reproduced from a Manual. The houses were obviously prototypes for a great deal of work in the New Towns: in fact Tayler and Green have been continuously asked by New Town Development Corporations to design for them, and they are now going to build an area at Basildon.



WINDMILL GREEN, DITCHINGHAM 1947-9

4, the first terrace houses and the first big

site—an open-ended green of thirty houses; as it appeared in 1950 and 5, as it is today with the trees fully grown.



4 5



WOODYARD SQUARE, WOODTON 1950-1

6, a site of twelve houses using stepped terraces and a different shade of colour-cash

for each house, and creating a village centre where none existed before. It looks terribly easy—but how many times has it happened in Britain since the war? Plan, centre right.



BERGH APTON 1950 AND 1955-7

Three new terraces added to the earlier single storey cottages (on the left in 7) to make a tiny square. 8 shows the outside,



7

8

seen crisp and rural across a ploughed field with the colour effects coming entirely from polychrome brickwork. 7 is the intimate and carefully planted interior space. Plan, above right.



9



10



12



11

KELL'S ACRES, GELDESTON 1951-2

A complex L-shaped site on a gentle hillside above earlier Tayler and Green housing. 9, on entering, the eye goes to the end of the street, and 10 is led into the corner by the

stepped roof-line on both sides. 11, near the corner of the L the view suddenly opens out to reveal a little square of single storey houses, with an utterly unexpected view of the Waveney water meadows beyond and above them. 12, the earlier site (1949-50) with Kell's

Acres behind: visible proof that a vernacular can be created consciously as well as being made instinctively and spontaneously.



13

LODDON 1952-5

The biggest site in the programme: 76 houses. It was originally to have backed on to Loddon's main street instead of being cut off in the fields where the effect, though it is a textbook of picturesque design, looks a little contrived. 13 is a view of the whole site

from the west. 14 is looking east along the complex roof-line and street-line of Kittens Terrace and 15 shows the way in which a single service road runs into the centre of a triangle of houses and becomes an asset instead of a liability by the use of the stepped flanking walls curving away out of sight.



14



15



rurality

16, rural East Anglia is neither soft nor pretty; it is nearer in spirit to an industrial landscape than to the picturesque leafiness of the South-East or the West Country. Hence the simple commonsense elements used by Tayler and Green as the basis of their vernacular have been interpreted in a spare angular industrial way, nowhere better seen than in this terrace at Broome, built in 1956: the crisp unequal roof pitch, the rhythm of drainpipes, the post and rail fence. Nothing more complex is needed here, a complicated intellectual exercise would just look silly.



16

skyline



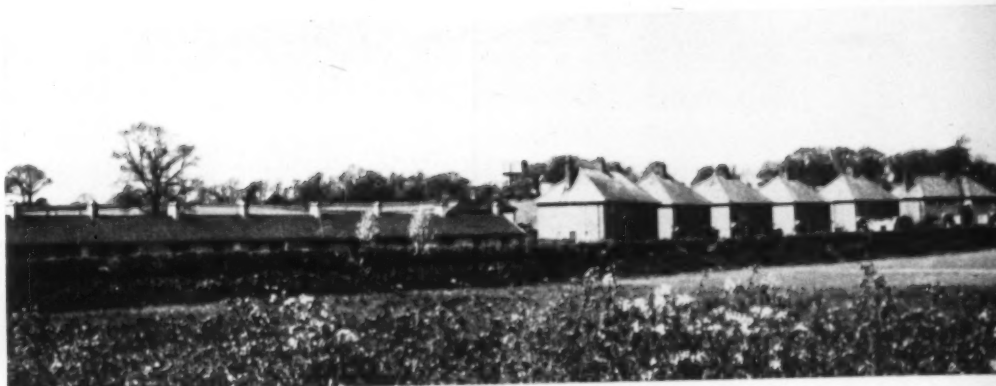
17

Three successful variations on the most difficult single problem of rural house design.

17, the simple stepped skyline of one of the early terraces, at Wheatacre.

18, the long horizontal skyline of Agnes Hood Terrace at Ditchingham, making a perfect landscape point by contrast with the galumphing rhythm of the pre-war semi-detacheds next to them.

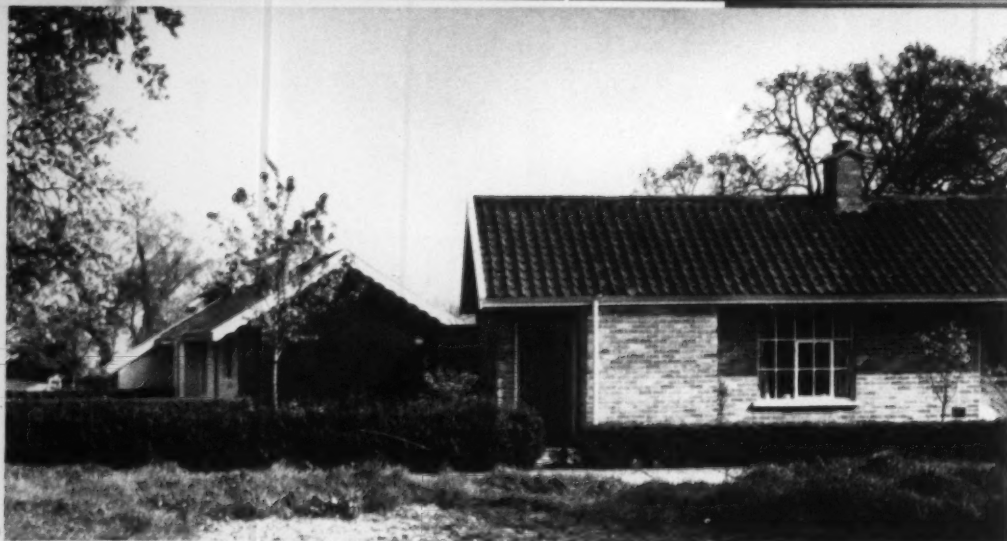
19, the truly East Anglian dissonance of St. Mary's Row at Aldeby where an earlier stepped terrace was extended in 1952-3. The calculated discord leaves the viewer gasping for breath; but like all the other effects it is used for the sake of the site, not imposed as a personal mannerism.



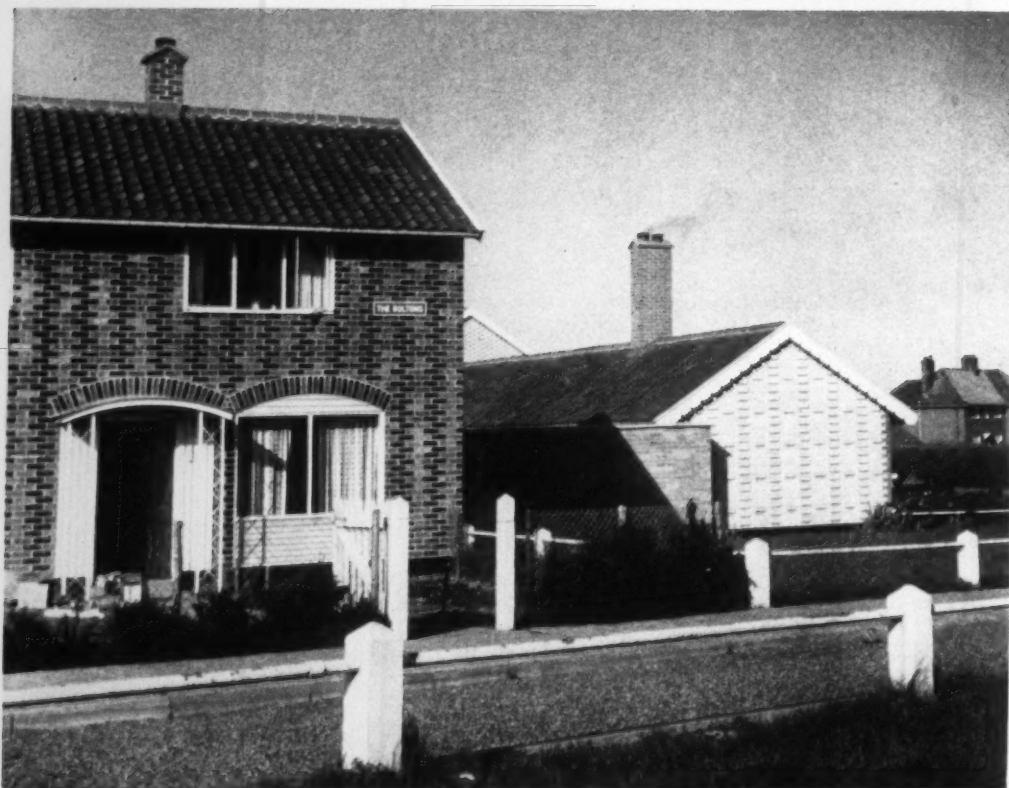
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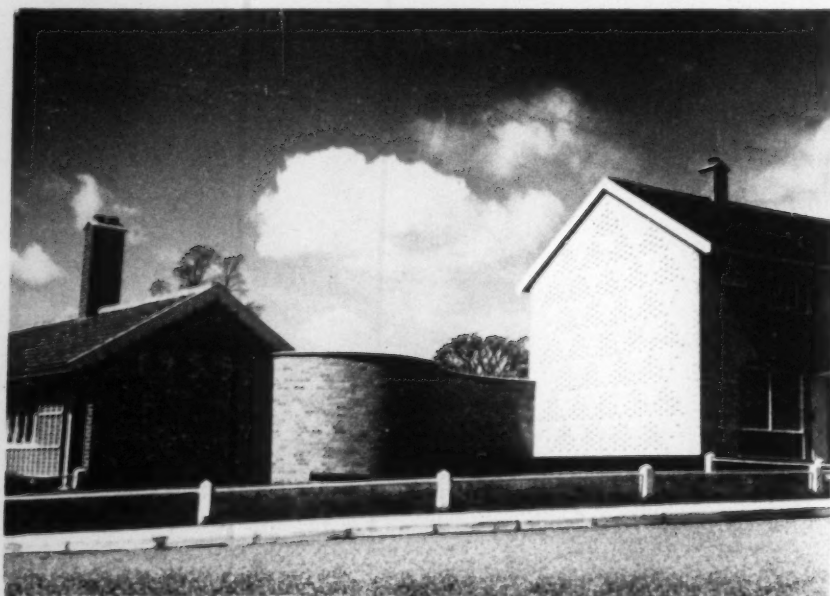
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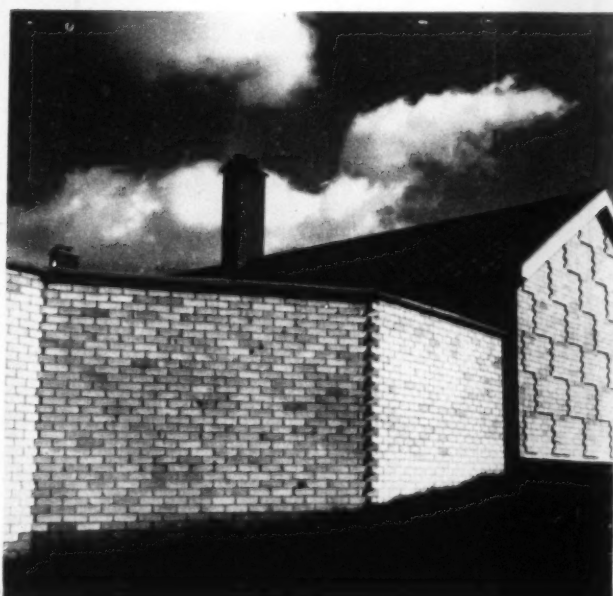
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21



22



23

corners

What in the average estate becomes a depressing gap in the plan to be filled with concrete posts and wire has been transformed by Tayler and Green in as many different ways as there are sites.

20 is a corner of the earlier part of Bergh Apton, using colour wash instead of brick patterns, but still in an East Anglian way—the gable end is painted black.

21, at Hales, of 1953-5, shows the later vocabulary in its full angular complexity—almost too complex for a village, as the architects themselves realized.

22, at Gillingham, is a subtler variation to suit a less remote site, using a curved screen wall.

23, the screen wall translated into the most angular and astringent form. The bricks are white stocks.

end walls and bargeboards

More simple and easily comprehended elements which will keep their meaning as long as human beings need to cover themselves with walls and a roof. The carved bargeboards and patterned gable-ends are a Victorian idea but their use here is not neo-Victorian: in its fitness for the type of job, its cheapness and its use of industrial conditions, it is more 'modern' than the most outré technique.

24 shows the planned-for effect of weathered colour washing on one of the earlier sites, with the original brick colour beginning to show through the paint.

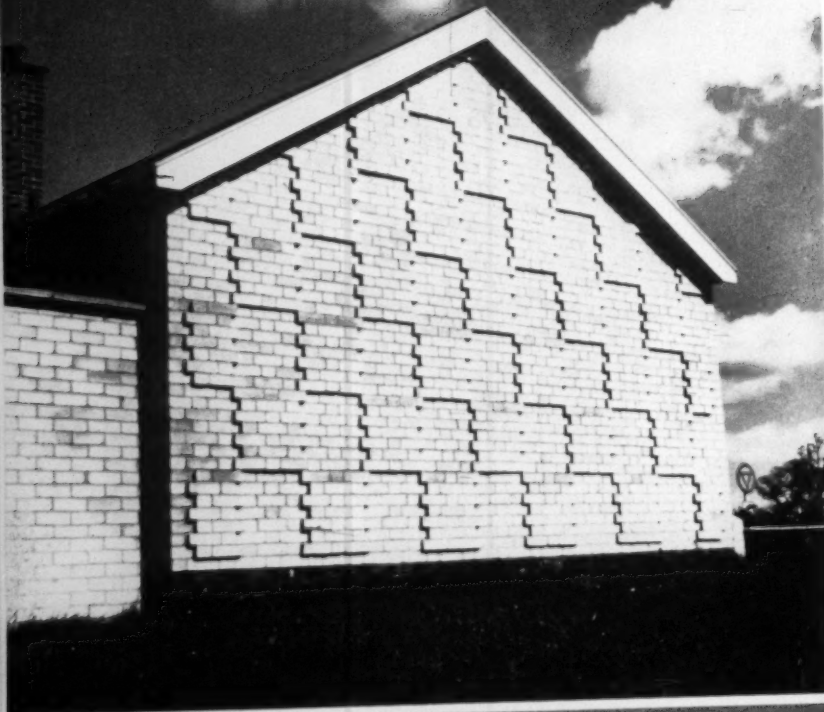
25 and 26 are copybook examples of what can be done by simple unaffected attention to detail.



details

27|29
28|30

27, patterned white stock brick (a close-up of 22), 28, plain yellow stocks and a pergola, 29 and 30, porch and window details, all from the later houses, the sites of 1952-7. All of these ornamental details are industrial, none of them is a bogus craft revival, and all have some chance of being enjoyed by their inhabitants, and being copied by the local builders, as is already happening. They all reflect the East Anglian spirit, just as Eric Lyons' speculative housing estates reflect the softer, lusier landscape of the Home Counties. The one basic quality needed to produce them is, to put it bluntly, professional self-respect; yet how many Council estates are there like this among the thousands built since the war, the hundreds still building.



continued from page 228]

some of the early sites also used Airey prefabricated houses, landscaped with the care and sensibility which the original designers may have hoped for but which so rarely happened. The effect of these is very pretty but not fundamentally removed from a high-class housing estate; they could have been part of a city suburb and they could have been built anywhere in the architecturally advanced countries of the 1940's; translated to the shores of the Zürichsee they would not look in the least out of place. Local feeling came later, and gradually, and it is an exciting thing to drive through the Loddon area and watch the later housing becoming more and more East Anglian, less and less International Good Taste. All the houses, incidentally, have front gardens, relying on the natural countryman's instinct for flower-growing, aided by some bigger planting done by the architects. The expectations have been magnificently fulfilled; the earlier estates now look like rural idylls. This is partly due to the trouble spent on everything inside the site—fences, gates, verges—and to thirteen years of struggle with the local purveyors of poles, wire and bus shelters.

The third site, at Ditchingham, 1947-9, introduced terrace houses which thereafter became standard practice. At the same time the elements of a vernacular vocabulary were being brought together: simple commonsense elements, because rural housing is a simple commonsense job, with no need for an elaborate and deeply intellectual design philosophy which remains quite incomprehensible to the inhabitants. Pantiles were used first in the standard local vermilion, and then in a range of related colours: brown, grey and glossy black. The glossy black tiles, which were a local habit in the c18, were originally obtained locally as something of a craft revival; Tayler and Green now find it easier to get them from Somerset. There has never been any reluctance to make the best use of existing technology, which is very refreshing, because such a deliberate attempt to create local feeling might so easily have turned Olde Worlde. Colour-washing, which was used because of the postwar lack of facing bricks, started in pastel greens and buffs spread over a whole terrace and finished with punchy hard reds and blacks used on one house at a time. The colours were deliberately designed to be seen after they had weathered—i.e. with the brick textures showing through—a nice piece of visual calculation which has proved after eight years to be exactly right and sound economic sense as well (alas for Tecton's washable but unwashed tiles). The other items were units such as bargeboards, pergolas and porches—all the human and early comprehended effects which will stay valid as long as human beings themselves.

The first of the terrace sites, Windmill Green at Ditchingham, was made into an enormous open-ended green of thirty units, an attempt to entrap the whole of East Anglian space in one great gesture. It is a kind of oath of allegiance to the landscape, and the firm never subsequently forced such statements on to sites which could not take them; Ditchingham was the only big flat site in the whole programme. On the next few sites terraces were put up in runs of four to twelve houses, each having a different effect

rural housing: reverse of the coin



a

And here is the other thing, the too-familiar thing, as a reminder of what in fact normally gets put up under the name of rural housing. These examples come from local authority work in the same



b



c

part of East Anglia as the Loddon RD; connoisseurs of the style will admire the careful differentiation of the units in a, the splendid axial vista in b, the elegant corner treatment in c, the unity with the surroundings in d and e and the



d



e

careful attention paid to detail in f.

Pathetic targets, not worthy of such ponderous irony? Maybe, but as long as work like this represents the average rural housing estate it is the English landscape and village centre which is the pathetic target also.



f

in the landscape: Wheatacre and Kirkstead quite alone in the fields, Hedenham in parallel terraces above a stream, knitting together scattered cottages, Thurton providing a cul-de-sac centre off the main road, Haddiscoe transverse to the village pattern at the top of a hill, Hales parallel with it at one end giving a focus because of its rich dark colours, Woodton, with only twelve houses, making a completely new centre round two sides of a hilly green.

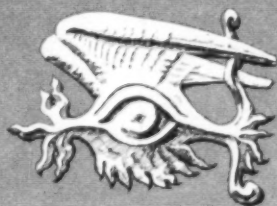
The first single-storey houses were used at Geldeston in 1949, and the first curved terrace of single-storey houses at Ditchingham in 1950, making a model landscape point about rooflines by comparison with the pre-war council homes next door; curved two-storey terraces appeared at Chedgrave in 1951. With the return of facing bricks in 1949-50 the number of possible variations were greatly increased and here Tayler augmented the East Anglian effect not by copying any local mannerisms but by producing from modern techniques a set of equivalents in present-day terms, keeping in the same colour range and emotional range without belonging to any date but the 1950's. This meant a related sequence of brick colours—astrigent vermilion-reds, yellows and straws, occasionally purple and black—combined with simple polychrome and raised and embossed brick patterns, techniques which the builders found as enjoyable to put up as to look at. At the same time the type elevations were altered to become crisper and harder, rooflines and grouping became more complex, with gables of different pitches used in one terrace, as at Aldeby, and the use of crinkle-crankle screen walls, i.e. zig-zag walls that are self-buttressing and hence need only be one brick thick.

All this could add up to complexity for its own sake, formal exercises instead of houses for people. This difficulty has made Chedgrave of 1951-4 into a complicated essay which would have been admirable had it been in a town but is rather puzzling in a village, and has spoilt the total effect of the biggest estate—of 76 houses—built at Loddon in 1952-5. Here something bigger was needed, beyond the complexity of

streetlines and corners and patterned gable ends; the patterns had begun to be ends in themselves. To be fair, the site was originally to back on to the existing main street, where the effect of the complex streetlines would have been quite different. It was pushed away from the town by the playing fields of an indifferent routine-modern school. Ironically the school has won an RIBA bronze medal; the housing remains (officially) unnoticed. The temptation was overcome and the best of the latest groups (Broome, Gillingham, and additions to Wheatacre and Bergh Apton) have all the simplicity of the early sites and all the local feeling and astringent punch of the later ones, as though, having laid out all the elements and recognized all the pitfalls, the architects could select the right combination unerringly.

Now the programme is almost finished; Loddon RDC have got, for their original adventurousness, a set of council houses unequalled in the whole country. The region is more rural, more Norfolk-like, than it was in 1945; no other RD that the writer has been in could say that of itself, and he has been in an awful lot. It is vital if this sort of achievement is to happen elsewhere to understand just how the architects interpreted the local spirit. They did so in purely twentieth-century terms, using twentieth-century industrial organization, creating five or six standard types of each detail and ringing the changes on them according to the needs of each site: exactly the same technique as that which ought to be used, but rarely is, in the development of curtain walls. In doing so they have been faithful to the *genius loci* in a deeper sense than that implied by a few design clichés; it would be quite possible, starting from these basic terrace units, to produce a mid-Devon solution, soft and shaggy, or a rough gritty West Riding solution or a large-scale easy-going East Sussex solution.

It is still possible for every rural district architect up and down the country and it would make one feel much happier about the artistic integrity of the profession as a whole if there were more than half a dozen council house designers who are trying to do this.



the exploring eye

1,3,4

The rock cut churches of the bishopric of Matiane, nowadays Matyan or Motchen, in Cappadocia, have attracted the attention of travellers in Asia Minor for many centuries, and THE ARCHITECTURAL REVIEW published a study of these minute religious interiors, pierced in tall cones of rock, in February 1947. But they are not the only excavated architecture in the region, and around Urgub there are numerous examples of artificial caves used as dwellings—even in towns,

where caves with fronts of constructed work were noticed in large numbers by Childs during his classic journey across Asia Minor on foot, before the First World War.

Many of these dwellings still survive, as they do in other parts of the Old World and the New, but away from the towns of Cappadocia, in the cliff faces of ravines that have been the site of troglodyte habitations since prehistoric times, there survive a more primitive type of cave-house, inhabited by a peasantry whose chief characteristics, as many travellers have noted, are their industry and neatness in agriculture, and their evasiveness as persons—both in the fields and on the cliff faces there are numerous signs of human diligence, but nothing is ever seen of the humans themselves.

5,6

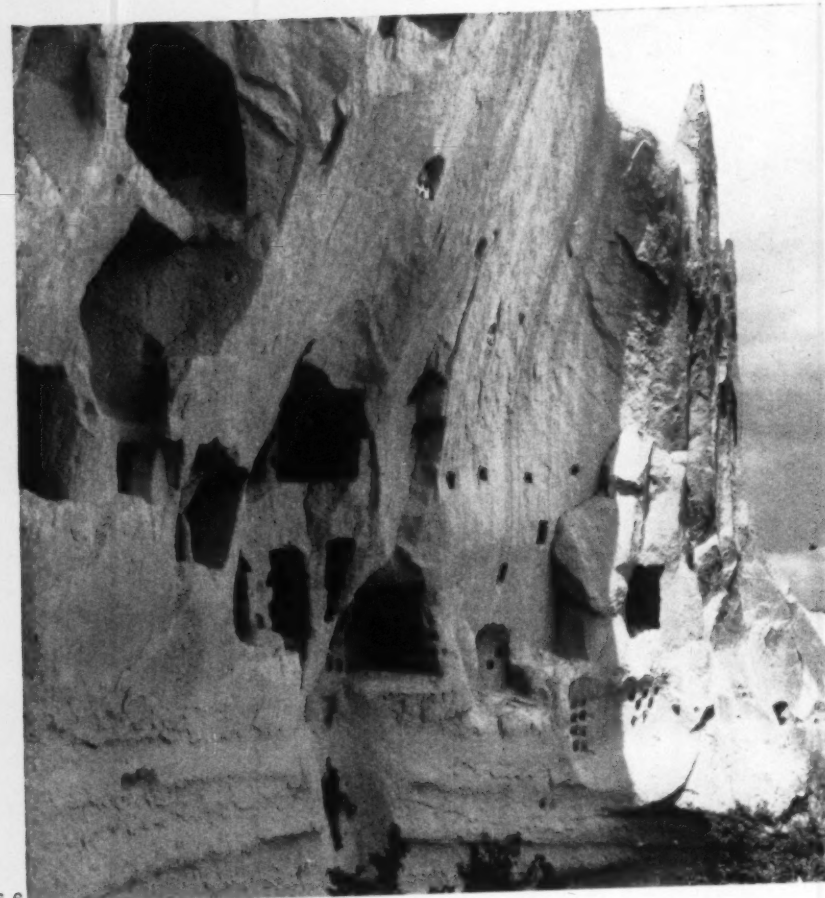
The dwellings of these invisible agriculturalists—who may well be the surviving aboriginals of this much-invaded area—form an ant-heap pattern of chambers, passages and steps, cut in the soft volcanic rock of the cliffs. Lying, in some cases, only a few inches behind the cliff face, they reveal their presence only by inaccessible entrances and neat rows of window openings, except where the rock-face has weathered away and suddenly fallen, revealing the square chambers behind. Authorities agree that it must have been the need for protection that drove the troglodytes into their cliff-dwellings but whether it was for protection against human violence or the climate is not clear.



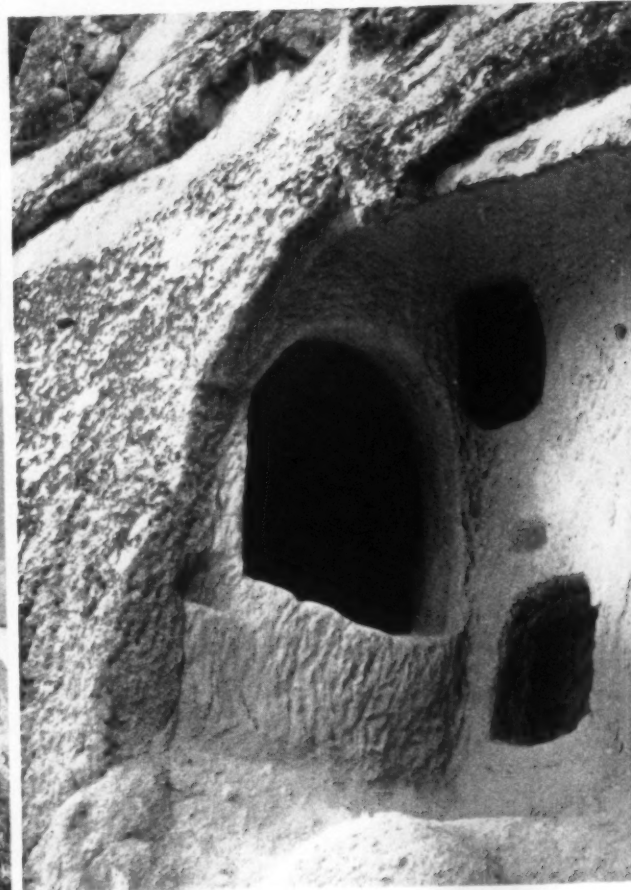
In the towns of the soft-rock area of Cappadocia, built architecture and excavated architecture are often inextricably mixed up in the same street, the same house. This view of a part of Keromeh, near Nevsehir, shows constructed fronts on houses whose back parts are caves, and arched undercrofts that seem to be constructed extensions of the caves behind.

cappadocia

1,3,4



5,6



Shading indicates area of caves.

1, the terrain in which the cliff-dwellings of Cappadocia are to be found is as wild and forbidding as any in the world, with the soft

rock of the mountainsides carved by wind and water into forms that look like renaissance studies of drapery or the ridged curves of paper sculpture.

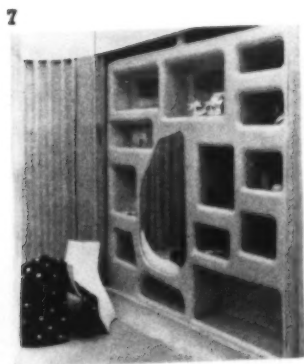
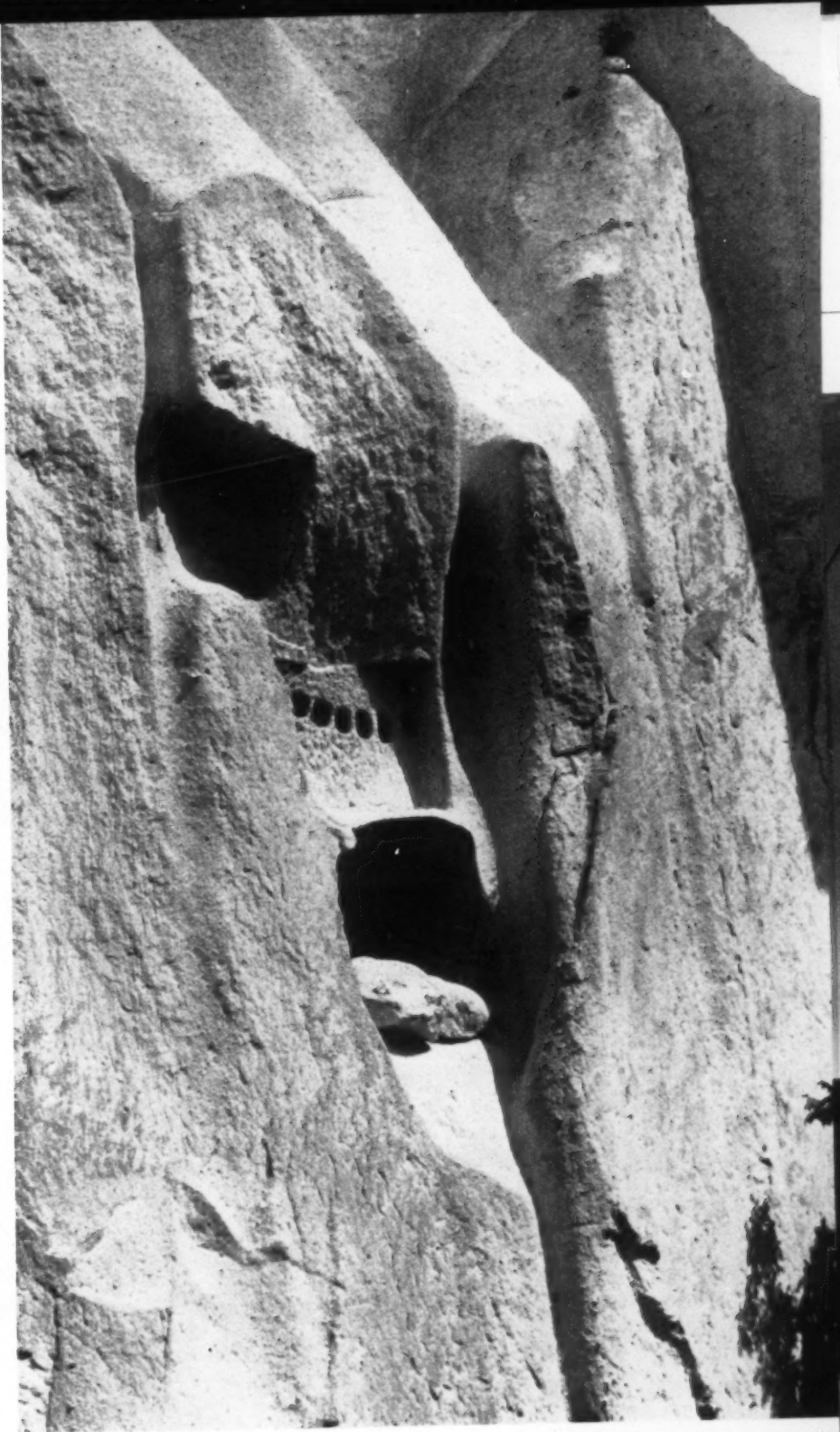
2, within the ravines are found pockets of cultivation, levelled, terraced, extended, laboriously by hand, with a neatness and ingenuity that bespeaks a tidy-minded and methodical culture, so that the regularity of form and clear sense of architectural order that appear in the openings of the artificial caves in the ravine walls

2



come as no surprise.

3 and **4**, under the shelter of the overhangs of the cliffs, however uncertain their stability, the openings of the caves take such advantage of the forms of the rock as ingenuity can devise. As often as not, however, it is clear that the terraces or areas of flat wall are the product of earlier landslips that have carried away all but the back wall of a chamber and forced the inhabitants to excavate fresh habitations farther back in the cliff, making an outer



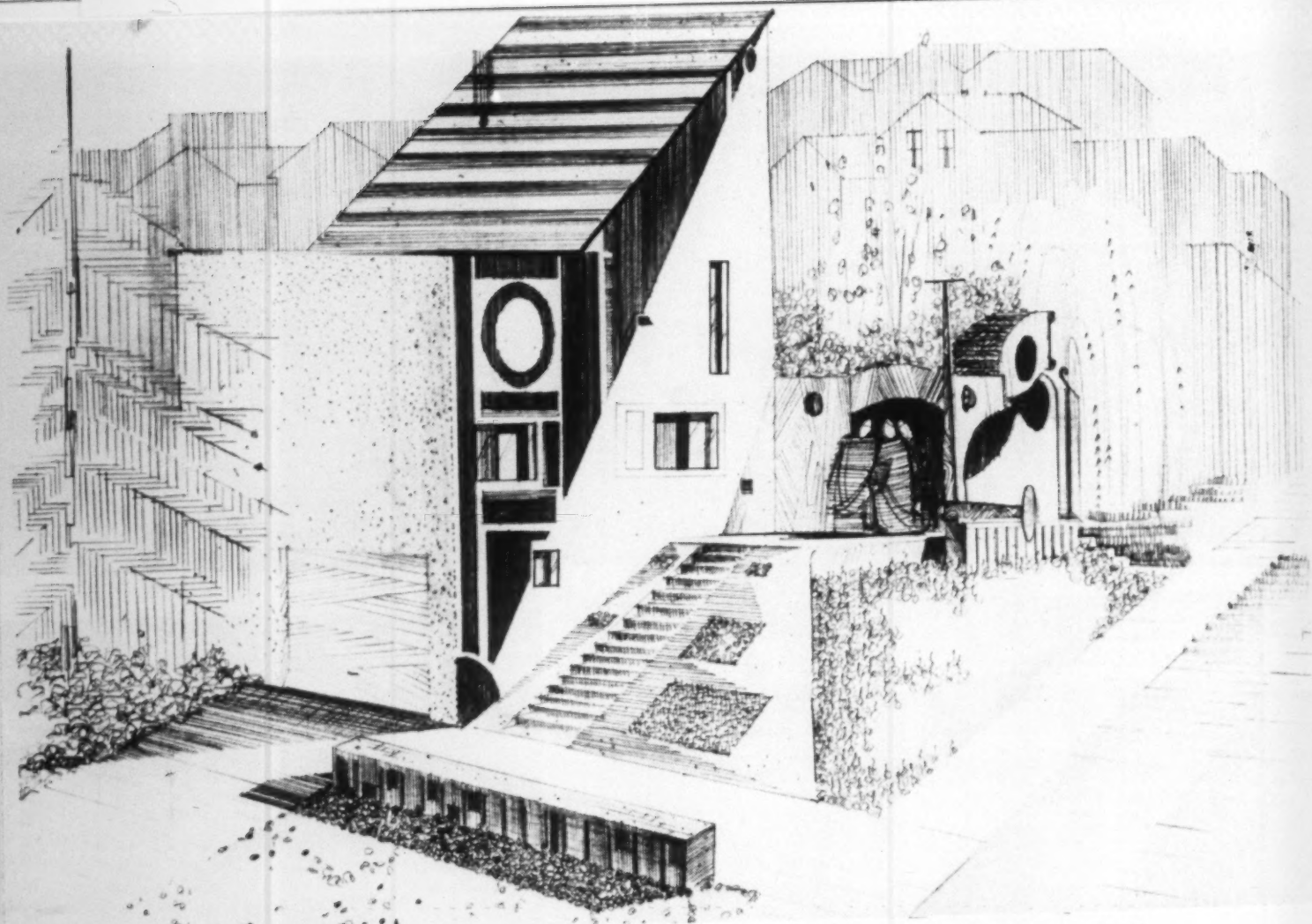
wall of an inside wall. Note where fallen boulders lie on terraces that were once the floors of hidden chambers.

5, the human figure at the bottom of this photograph gives a sense of the scale of this excavated architecture—the fallen cliff has uncovered chambers that are not mere bolt-holes, but high enough to accommodate a standing man, although their entrances are defensively small.

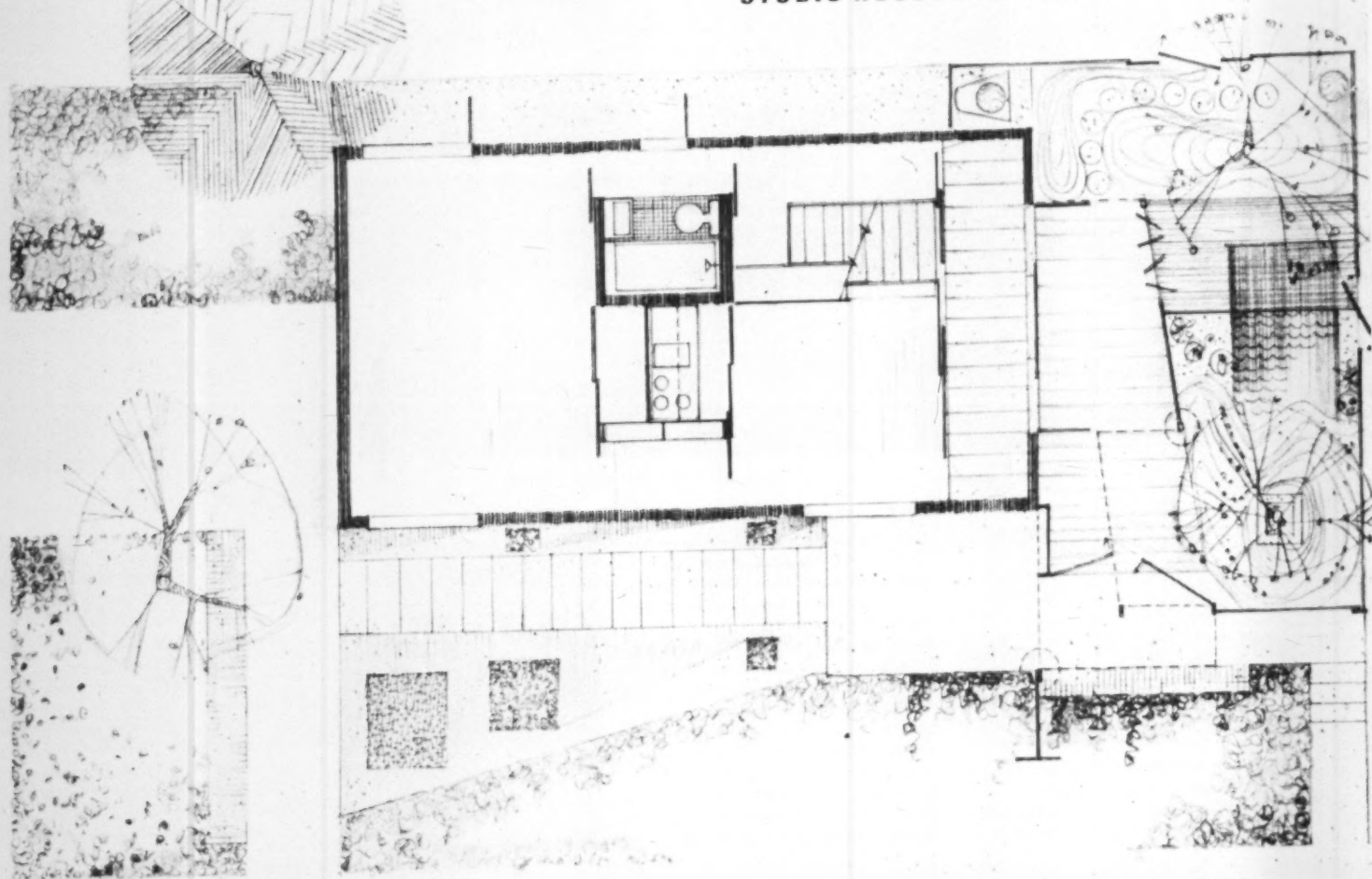
6 and **7**, the tufa in which these dwellings are cut is soft enough to

enable man to work his will on it, within the limits of stability. One must admire therefore the orderliness of minds that, armed with what are clearly only the roughest of implements (to judge from the tooling marks), persist in executing such regular forms. However, a tendency to radius the corners will be noted, a world-wide tendency when cutting or moulding in soft building materials, but a tendency that also appears with equal propriety in the most modern plastic architecture, **7**.

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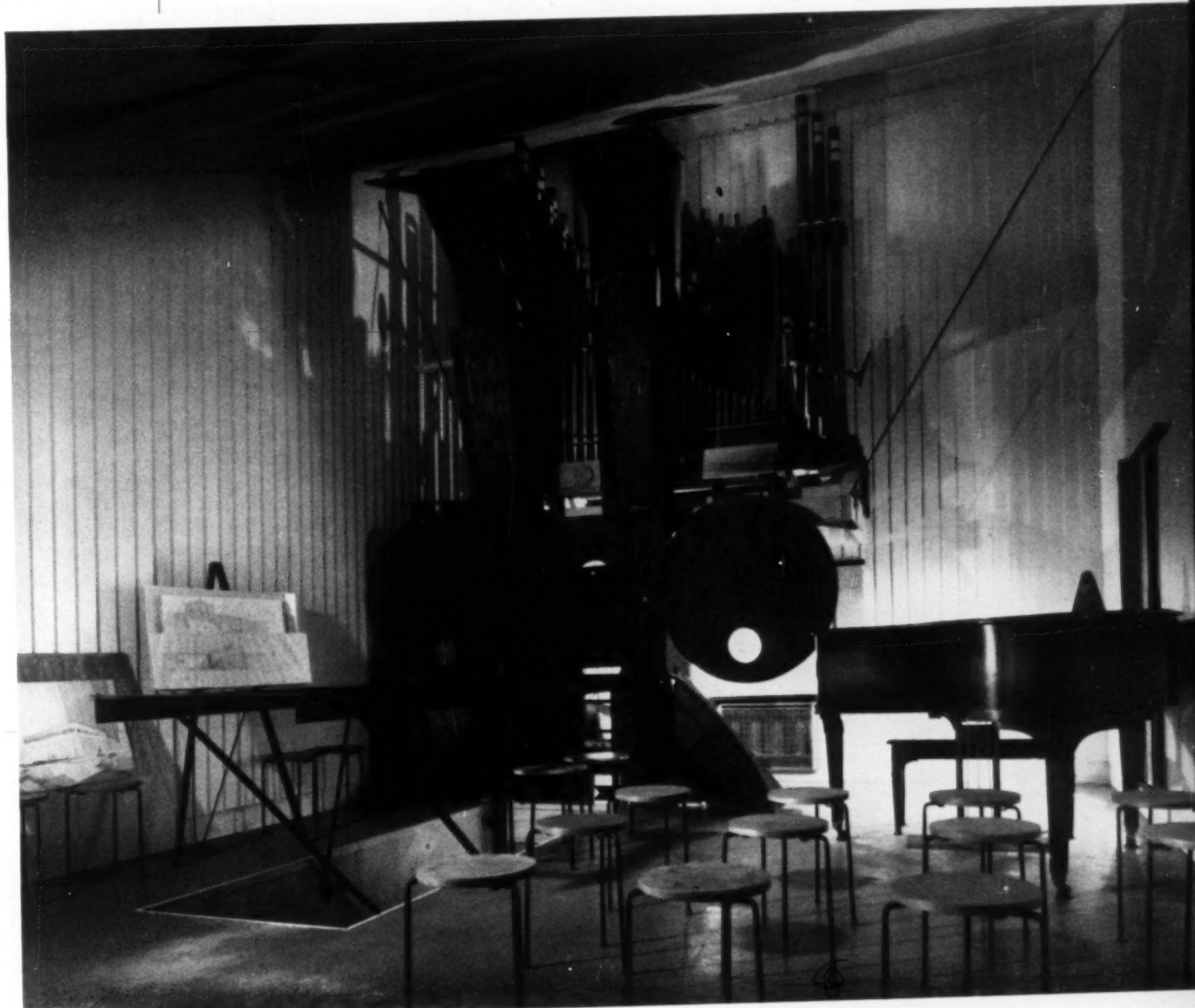


STUDIO HOUSE AT SEATTLE



STUDIO HOUSE AT SEATTLE

ARCHITECT ROBERT REICHERT



1 On the facing page, above, architect's drawing of the south front of the house; facing page, below, plan of the middle level of the house, containing conference and living rooms. 1, the studio on the top floor of the house at Seattle, with the organ which influenced the whole design. This room is used for drawing, for playing and listening to music, and as a meeting place for friends.

This house stands on a corner site in a residential district of Seattle. It is planned on three levels; the lower floor has a garage space and utility rooms, the centre level is reached by a flight of steps from the walled garden and contains a conference room and the bathroom and kitchen. The top floor is occupied by the studio, with a ceiling rising from 7 ft. to 19ft. at the east end, to accommodate the pipe organ which is the key to the whole design. Only the external walls are structural, and

2



STUDIO HOUSE AT SEATTLE

2, the house from the south west, with steps leading up to the main entrance and the shadow painting on the south wall, designed to give an effect of radiance even at night or on dull days. 3, the working area of the main studio, seen from the organ.



3

the rooms are divided by sliding wood panels. The internal walls are painted white, wood panelling is stained grey and the trim is black. The floors are of grey and black tiling, or grey-white Alaska marble, with black velvet carpeting. The studio is both workshop and music room; its walls are of vertical clapboard painted white, designed acoustically for reflection and reverberation. The structure is of wood and concrete, with exterior walls of concrete stucco and steel window and door frames. The shadow painting on the south wall was inspired by the Duomo at Florence and Santa Maria della Salute at Venice, and reflects the architect's attitude to the design and his wish that the house should symbolize his feelings for both music and religion.



5

4, the garden entrance at the south east corner of the house. 5, the small conference room on the lower floor.

4

CINEMA NEAR ROME

ARCHITECT | EUGENIO M. ROSSI



1 view of the facade.

This cinema is about 18 miles west of Rome, close to the sea and the Fregene pine grove, in an area which until ten years ago was swamp, grazed by herds of buffalo.

The cinema serves the people of the surrounding farmland as well as summer visitors. It has seating for 650, a small bar and a stage for theatrical performances. Both the structure and detailing are extremely simple,

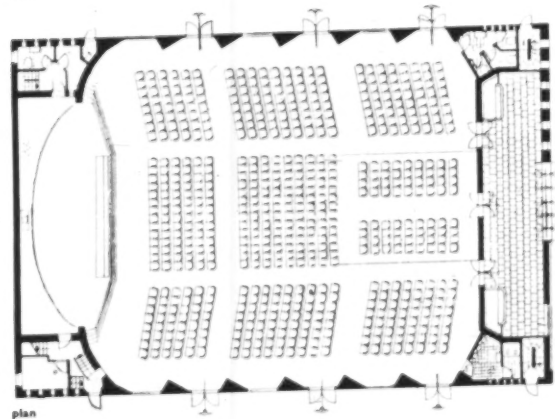
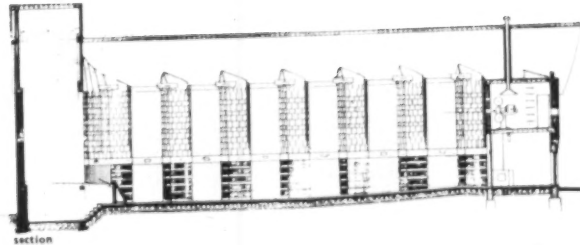
CINEMA NEAR ROME



2, the cinema from the north, surrounded by semi-tropical plants.

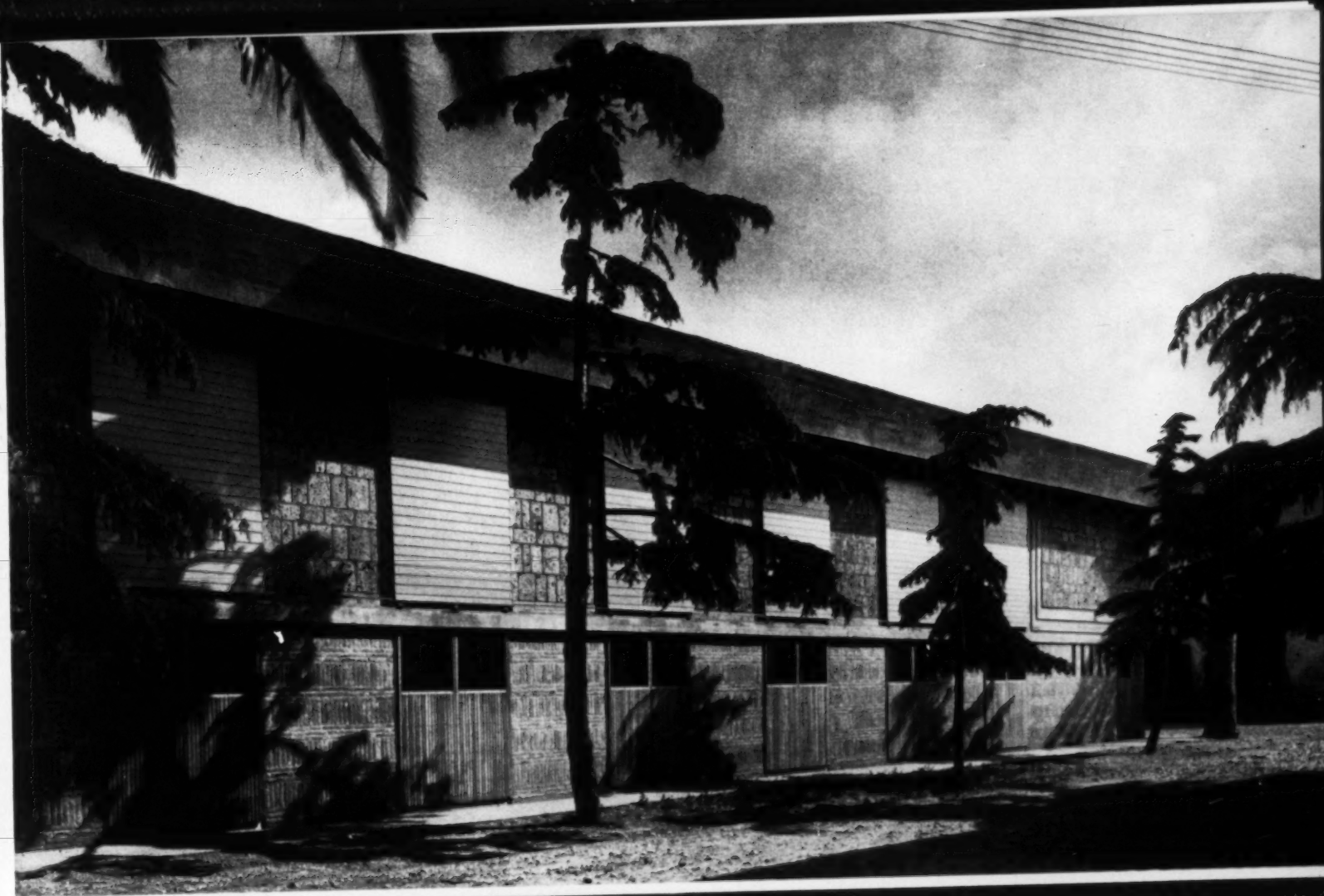
to keep the cost as low as possible. Ventilation is by means of electrically-operated windows in the side walls—ceiling openings have been avoided because of the heavy dew. The roof is constructed of brick vaults with tension cables across the springing, which are tensioned by a screwing device in the form of a turnbuckle in the centre. This device also houses the light fittings, which are of plastic and aluminium. The vault was constructed on movable timber formwork, allowing 13 ft. to be built at a time. At the springings of the vault are longitudinal beams which rest on the triangular piers of brick and local stone. The shape of the piers has been partly determined by acoustical considerations. No plaster is used because the atmosphere causes it to deteriorate rapidly. The asphalt roof is finished with white marble chips.

4, the wooden shutters are electrically operated and can be opened to provide extra ventilation. 5, detail of the north east corner of the building, showing the wooden doors and patterned brickwork.



3, the entrance foyer, showing the cash desk and a corner of the bar.







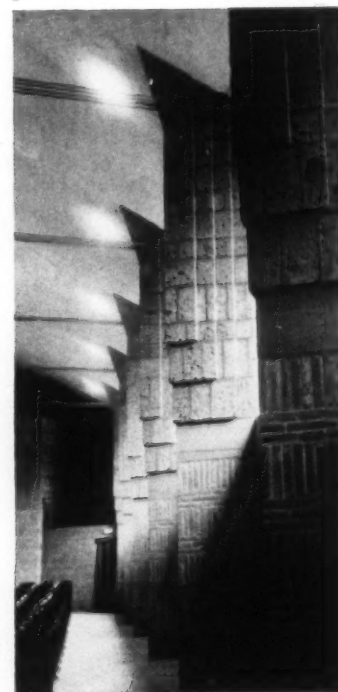
6

6. a corner of the building, with eaves detail and brick patterning on the end wall. 7. the auditorium, with the side shutters open. 8. triangular piers of brick and local stone carry the roof vault.



7

8



KIRKLEATHAM



Above, church and mausoleum at Kirkleatham in the North Riding of Yorkshire.

Among the drawings by James Gibbs in the Ashmolean Museum is a design for a mausoleum.¹ The publication of this drawing² suggested a connection with the mausoleum attached to the north chancel wall of the church of Kirkleatham in the North Riding of Yorkshire. Design and building clearly correspond very closely, and yet, so far as I know, Gibbs's name has never been connected with the Kirkleatham mausoleum.

The Gibbs's design, 1, shows an octagonal building in the Baroque manner of many of his smaller works. The first stage is rusticated, with deep buttresses at the angles, and, between them, in the centre of each face, alternate deep and shallow round-headed niches, each with a prominent keystone. The second stage is of ashlar, with circular windows above the niches, and thin pilasters continuing the buttresses which are crowned by deep-bellied volutes. Above the modillion cornice, which breaks forward over the pilasters, are three set-backs, and above them a concave curve, swelling out to the overhanging lip of the next stage. This is shown only in part, but an extension of the lines gives a convincing pyramidal finish, no doubt to be capped by an urn.

¹ Ashmolean, Gibbs Coll., 11.94, undated.

² Bryan Little, 'James Gibbs,' Batsford, 1955, Pl. 24.

The interior rises to a cornice level with that of the exterior, surmounted by a dome decorated with rococo plaster panels. Below it are the windows, each with its rococo plaster frame, and, underneath these, niches for monumental sculpture. These are round-headed, edged by a plain moulding, and alternately large, extending from the ground to just below the windows, and small, resting on the sill.

The building differs from the design in only one important detail externally. The design shows smooth rustication whereas the building has alternate bands of smooth and vermiculate, and on the last, projecting, course of the base is the inscription, 'THIS MAUSOLEUM WAS ERECTED 1740 TO THE MEMORY OF MARWOOD WILLIAM TURNER ESQUIRE, THE BEST OF SONS'. The roof is, in fact, an octagonal pyramid, capped by an urn, and with panelling resembling that on the spire of S. Biagio in Montepulciano, which has been indicated as a source of Gibbs's style.³

Internally there are more considerable differences, accounted for by the rebuilding in 1839⁴ when the same materials were used but delicate

plasterwork would be destroyed. The walls are now rendered in cement, scored to represent masonry, with a single rosette in the centre of an otherwise plain dome. Three large and two small niches are filled by monuments. The arch occupying the fourth large niche leads, by way of a short descending passage, to the church, and was almost certainly intended to be open. It is now closed by a crude door.

In addition to this striking similarity, other facts suggest Gibbs as the possible architect. The history of the family which built the mausoleum shows that it was one such as would employ an architect of note, and was so to employ Carr and Chambers in the rebuilding of the hall. As we shall see, circumstances favoured the choice of a metropolitan architect when Marwood Turner died.

The Turners of Kirkleatham were of more than local importance. They were intimately connected with London, and, therefore, the fashionable architecture, from the seventeenth century onwards. Sir William Turner, Kt., made a fortune as a wool-draper in St. Paul's Churchyard, and was Lord Mayor of London in 1664.⁵ He was a friend of Sir Christopher Wren, and his account book shows that he contributed to the rebuilding

of St. Paul's.⁶ His elder brother, John Turner (1613-88), was a Serjeant-at-Law, and, as his monument⁷ in the chancel says, '... very eminent in his profession ...'.⁸ He married Mary Pepys, cousin of the diarist, and Pepys, who was proud of his grand relations,⁹ was a frequent visitor at their house in Salisbury Court. He thought Serjeant Turner '... a worthy, sober, serious man ... I honour him mightily ...'¹⁰ applied to him for legal advice,¹¹ and worshipped in his pew in Temple Church.¹² Their second daughter married the son of Sir William Hooker, Kt., Lord Mayor of London.

John Turner's grandson, the builder of the mausoleum, Cholmley Turner (1685-1757), a near contemporary of Gibbs, was one of the two Members of Parliament for the County of York returned in the elections of 1727 (two), 1734 and 1741, during Sir Robert Walpole's long ministry, and was thus in London at the peak of Gibbs's career.

The fact that Gibbs was a High

⁵ W. Hebditch, 'A Short History of Kirkleatham,' privately printed, Redcar, 1930.

⁶ A life size figure in his robes of office, unsigned.

⁷ From his monumental inscription.

⁸ A. Bryant, 'The Man in the Making,' p. 58.

⁹ Pepys's 'Diary,' Jan. 27, 1669.

¹¹ Bryant, op. cit., p. 160.

¹² Pepys, 'Diary.'

³ S. Lang, 'James Gibbs,' ARCHITECTURAL REVIEW, Vol. CXVI, July, 1954.

⁴ Recorded on the west side above the cornice.

⁵ Burnett, 'Cleveland Worthies.' Two chairs in the Hospital are said to have been a gift from the King to Sir William.

Tory, and Cholmley Turner a fervent Whig who had '... so warm and passionate a veneration for the memory of King William that he never omitted the celebration of the Fourth of November with the greatest solemnity ...',¹³ in no way rules out Gibbs as a possible architect. Apart from his success in the 1720 St. Martin-in-the-Fields competition, Gibbs had many of the great Whigs as patrons. He built the Orleans octagon for James Johnson, Whig Secretary of State for Scotland under William III; he was at work at Sudbrooke Park for the 2nd Duke of Argyll in 1726-8, at Stowe for Lord Cobham from c. 1726 c. 1740, and he altered the design of the roofs of the pavilions at Houghton for Walpole himself between 1722 and 1730. In 1728 his 'Book of Architecture' was published with a dedication, not to Harley, as might have been expected, but to the Duke of Argyll. Both Cholmley Turner and James Gibbs had excellent precedents for co-operating with the other party.

At the time, then, when Cholmley Turner was in London for the Parliament of 1734, Gibbs had completed, or was engaged on, work for these powerful Whigs, not least the Prime Minister, and it is not unlikely that it was then that Gibbs was suggested to him as a suitable architect for the mausoleum. That Gibbs was known to Cholmley Turner as early as 1728 is proved by the appearance of the latter's name in the subscription list of the 'Book of Architecture,' and this would certainly influence his choice of an architect. Gibbs did in fact design a 'large house' for Cholmley Turner, presumably for Kirkleatham, and not built.¹⁴

Like so many of his century and position, Cholmley Turner spent much of his time and wealth on the improvement of his estates. From the land-owning Turners of the seventeenth century (with younger sons engaging in trade) were descended the humanitarian, cultured eighteenth century Turners, making the Grand Tour, indulging in philanthropy, employing Carr of York to rebuild their Jacobean house (as they later employed Sir William Chambers to alter Carr's house), improving their park with temples and follies, endowing a school and housing it in a great building in the manner of a provincial follower of Vanbrugh, enlarging the Hospital and adorning it with an exquisite chapel,¹⁵ and rebuilding the village and church. Finally a rash of toy forts and embattled gatehouses, including a 'fortified' outer court to the Hospital, dotted the village.

Such activities, together with Cholmley Turner's evident (allowing for the customary excesses of the eighteenth century epitaphs) deep grief at the death of his only son,¹⁶ prepare one for a progression from the wall monument, even if by a London sculptor¹⁷ which had satisfied his ancestors, to a more ambitious memorial in which he could honour not only his son, but his whole family.

Examination of the Kirkleatham parish records disclosed a bundle of

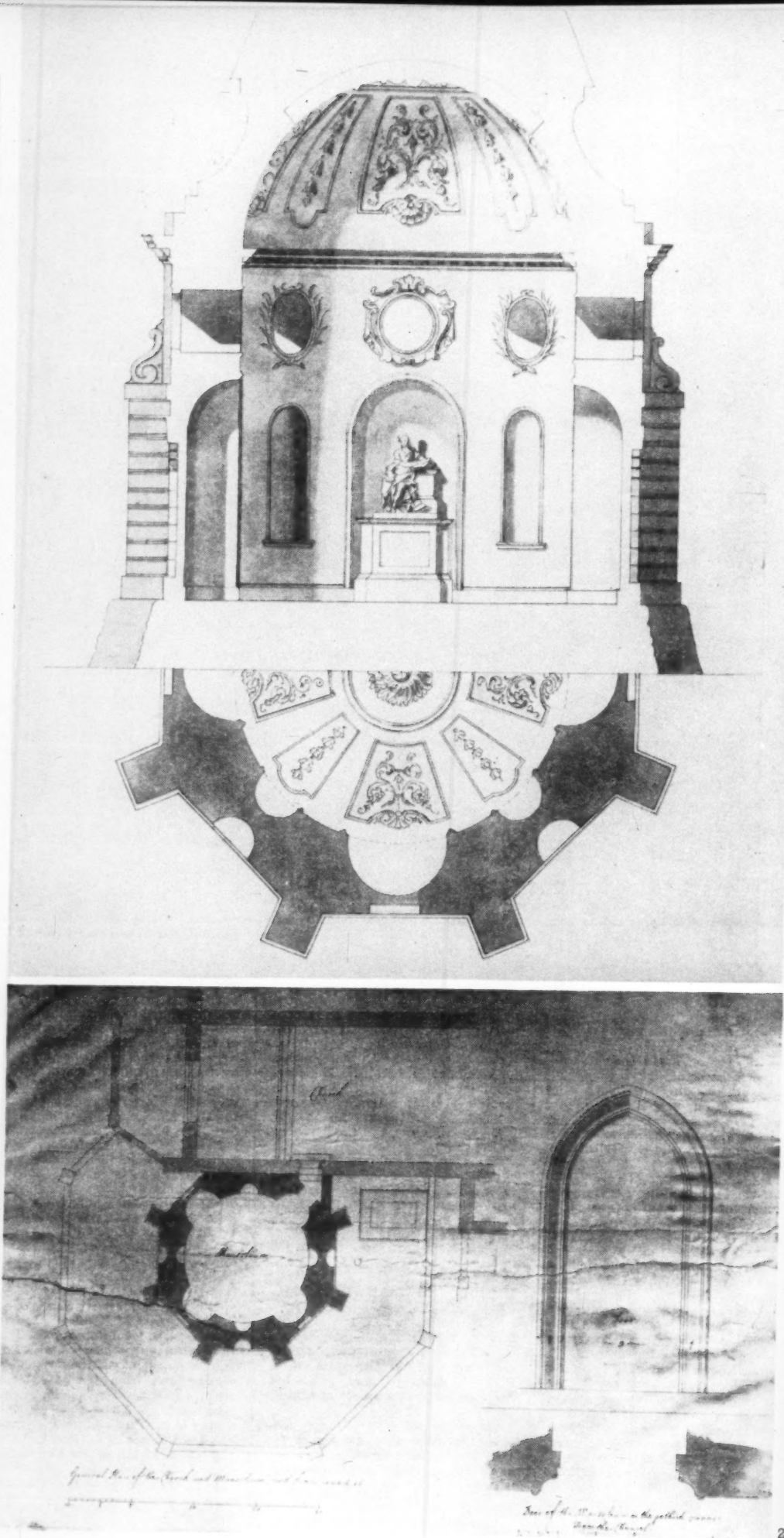
¹³ From his monumental inscription.

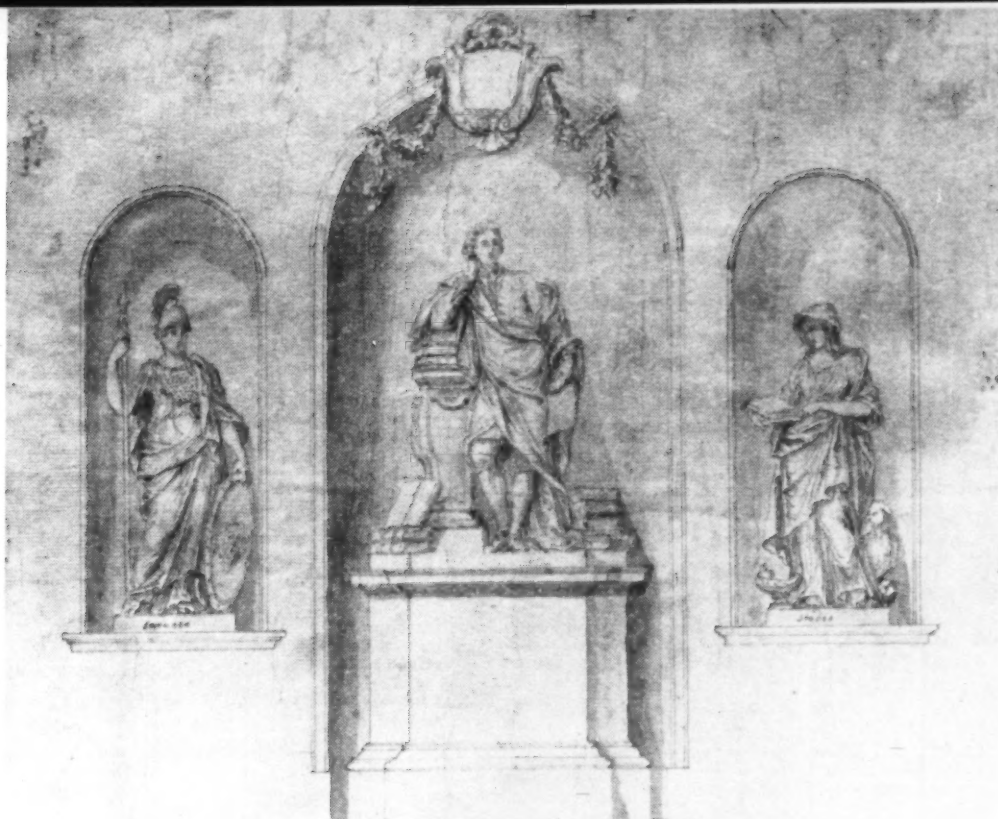
¹⁴ Ashmolean, Gibbs Coll., IV, 23.

¹⁵ Mr. Howard Colvin has suggested that Gibbs was also responsible for the design of this chapel.

¹⁶ One daughter alone survived him, one son and one daughter dying in infancy.

¹⁷ I.e., the monument on the north wall of the chapel erected by Sir William Turner to his mother, Elizabeth Coulthirst (157 c. 1653), undated, by Joshua Marshall of London. The monument to John Turner is of the finest quality, and is probably the work of a London carver.

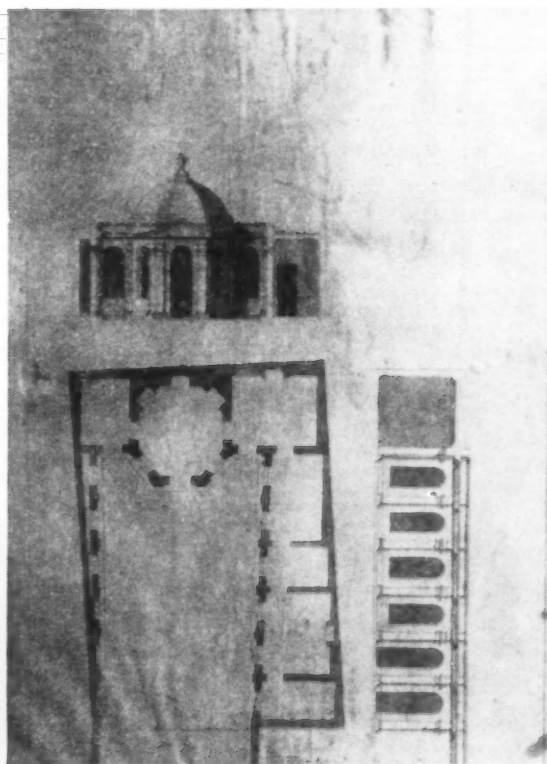




3



4,5



- 1, on the facing page, James Gibbs' design, now in the Ashmolean Museum, for a mausoleum; an exact copy of this drawing in the Kirkleatham parish records suggests that Gibbs was the architect of the Kirkleatham mausoleum.
- 2, on the facing page, another drawing from Kirkleatham, also probably by Gibbs, shows the plan of the mausoleum in relation to the earlier mediaeval church.
- 3, Scheemaker's drawing for the monument to Marwood William Turner, flanked by allegorical figures of wisdom and learning.
- 4, the gothic door, shown in plan and elevation in 2, seen from the rebuilt church. It has an open based pediment surmounted by an urn, which is not on the original drawing.
- 5, plan and elevations, also preserved in the Kirkleatham records, for a much more ambitious mausoleum with a forecourt and a series of small rooms as well as the octagonal, domed mausoleum. This design was rejected in favour of the present, smaller building.

five designs and one document, all of the eighteenth century, relating to the mausoleum. All the designs are highly accomplished drawings in ink and wash, and the most important of them, an exact copy of that in the Ashmolean, proves beyond reasonable doubt that the Kirkleatham mausoleum was designed by James Gibbs.

Gibbs was perhaps commissioned in 1735. This, or the years immediately after, are the most probable date for the design, for Gibbs was at this time occupied with buildings in which octagon and pyramid play an important part. The Boycott pavilions were built at Stowe c. 1730, and, before they were altered by Signor Borra, had pyramidal roofs crowned by urns,¹⁸ closely resembling that of the mausoleum. Another of the Stowe pavilions¹⁹ has angle buttresses surmounted by heavy volutes, and plates 77 to 81 of the 'Book of Architecture' give further examples of the use of the octagon. Had the Ashmolean drawing been of a date earlier than 1728 it would probably have been published in this collection.

Gibbs expected his books to be used as source books and claimed that the designs could '... be executed by any workman who understands lines ...'. He travelled little in later life and a copy of his design would be sent down and a local mason (the parish produced one competent to design the new church thirty years later,²⁰) entrusted with the building. The mason may in this case have been responsible for the addition of the vermiculated rustication.

Of the other designs two are connected with the mausoleum and appear to be by Gibbs. The first, 2, gives the plan of the mausoleum in relation to the medieval church and shows that the passage from the chancel has been altered, probably when either the church or the mausoleum was rebuilt. The doorway at the chancel end, a plan and elevation of which are inset in the design, is still however in position, 4. It is, as the inscription says, 'in the gothic manner,' and was no doubt intended to harmonize with the pre-1763 church, which, from the Knyff engraving of c. 1708, seems to have been of the fourteenth and fifteenth centuries. Above the door, but not included in the design, is an open based pediment supported on brackets, surmounted by an urn and with putti reclining on the sides. It is in the style of Gibbs rather than of the present church.²¹ The inscription on both this design and on that adopted have the letters formed in a similar way, which they both share with those on other Gibbs designs, notably that for Matthew Prior's house.²² The capital P's in all three are identical, while the capital D's are common to the last two and the capital M's to the first and last. Since the drawing technique is also similar this plan, too, may be ascribed to Gibbs.

The second design is a plan and two elevations for a mausoleum and forecourt, probably rejected in favour of the present building, 5. It is an ambitious design, the forecourt, a series of small rooms on one side,

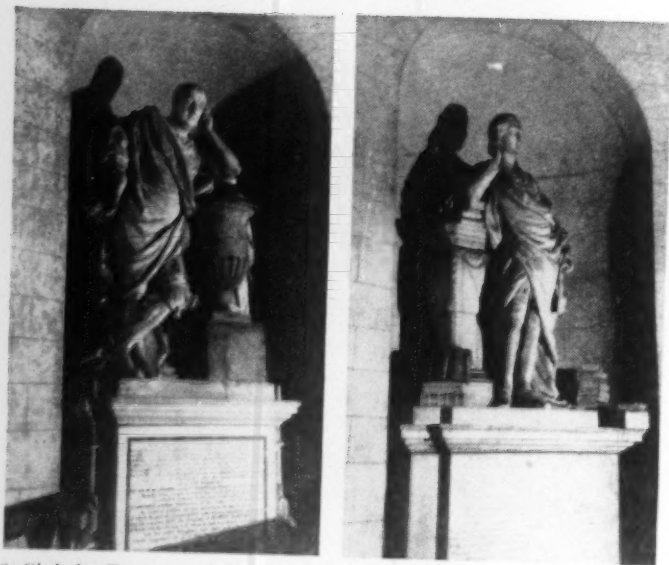
¹⁸ 'Book of Architecture,' pl. 76 and Laurence Whistler, 'The Authorship of the Stowe Temples,' *Country Life*, Sept. 29, 1950.

¹⁹ 'Book of Architecture,' pl. 75.

²⁰ Robert Corney of Coatham, c. 1704-71. Corney may have worked from designs of Carr who supplied a design in 1759 (see below).

²¹ c.f. the rejected design for the Colston monument, Ashmolean, Gibbs Coll. 11.52, and the chimney-piece in the Orleans octagon.

²² Bodleian, Gough Maps 46, No. 260.



6, Cholmley Turner's monument by Sir Henry Cheere.
7, the central figure from Marwood Turner's monument, shown in the drawing, 3.

leading to an octagonal, domed mausoleum. The bays are pilastered and the building is turned entirely inwards into the court, the outer walls being quite featureless. The design, meticulously drawn, is characteristic of Gibbs and details of it are comparable with plates in the 'Book of Architecture.' The fourth of these architectural drawings, the only one in which coloured washes are used, is a design for rebuilding the church which was never executed. It is of a later date than the mausoleum designs, for there is a note explaining the adaptation of the chancel roof to allow light to reach the windows of the 'vault' and may be the 'draft' for which John Carr was paid in March, 1759.²³ The general proportions are similar to those of the existing building and if it is Carr's design it is possible that some objection was found to it and Corney built the church while at the same time retaining Carr's arrangement. None of these designs is signed.

Similarly Cholmley Turner went to London for the sculptor of the monument which stands in the

²³ The amount, £24 3s. 6d. is recorded in William Turner's account book.

mausoleum, and Scheemakers, who, with his Westminster Abbey monument of 1740 to Shakespeare "... effectively established his credit and reputation and at the same time obliterated in some degree that of Rysbrack ..."²⁴ carved the life-size figure in the same year, 7. The long inscription records that "This monument was erected ... to the memory of Marwood William Turner whose remains lie here entombed conveyed to Kirkleatham from Lyons in France where he died on Oct. 10th 1734 in the 22nd year of his age on his travels towards Italy in pursuit of knowledge and improvement ...". The fifth design in the parish records is Scheemakers' drawing for this monument, 3. In addition to the surviving statue of Marwood Turner are drawings for two allegorical figures, Studio and Sapientia,²⁵ a coat of arms, 8, now over the entrance door and swags of foliage, the broken fragments of which are in the mausoleum. The design is signed, and with it is Scheemakers' agreement specifying the details of the monu-

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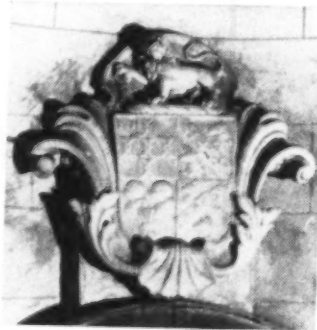
ment and including a receipt for the £72 'in my hand' and the £128 to be paid when the work is finished. He records that the monument will be sent by sea to Stockton and adds a further receipt for £13 7s. 6d. for horses for himself and his man to come to Kirkleatham to set up the statue. An addition of October, 1742, records the completion of the payment.

Cholmley Turner's own monument, a life-size figure in Roman dress, is by Sir Henry Cheere.²⁶ 7. Westmacott's monument of 1810 to Sir Charles Turner, which includes a life-size figure of a weeping woman, fills the third large niche. The other monuments, except for Sir William Turner's large armorial table tomb occupying the centre of the floor,²⁷ are less ambitious: a simple Greek sarcophagus and a draped urn of the early nineteenth century. The floor is paved in part with inscribed stones including those of Cholmley Turner's parents.

I am indebted to Mr. Howard Colvin for reading the draft of this article; for drawing my attention to Gibbs's design for a house for Cholmley Turner in the Ashmolean and for other advice; and to Mr. Rupert Gunnis and Mr. David Burder for supplying proof of Sir Henry Cheere's authorship of Cholmley Turner's monument and other information contained in William Turner's account book.

²⁶ The payment of £262 to Cheere is recorded in William Turner's account book on Dec. 28, 1761.

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8, the coat of arms from Marwood Turner's monument is now over the entrance door.

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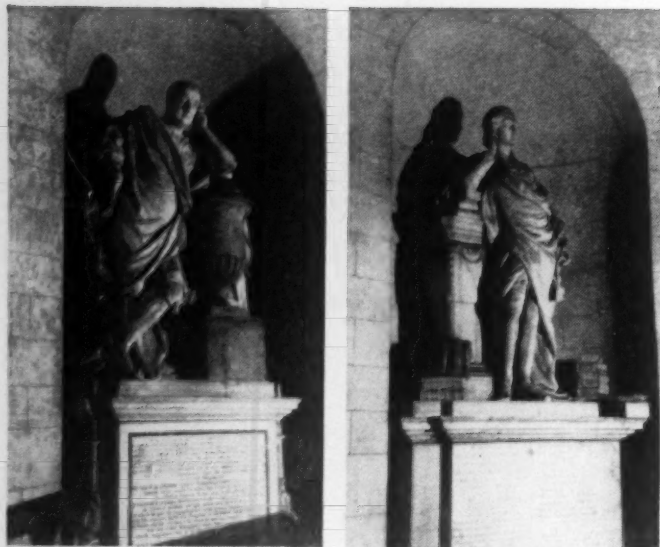
a monthly review of interior design



1. the mural on the wall at the end of the long distance counter.

Offices for Air France, London, W.1

designers: Charlotte Perriand, in association with Thomas and Peter H. Braddock



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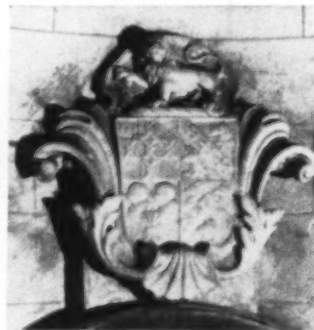
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ID

a monthly review of interior design



1, the mural on the wall at the end of the long distance counter.

Offices for Air France, London, W.1

designers: Charlotte Perriand, in association with Thomas and Peter H. Braddock



2

The conversion of these premises at 158 New Bond Street to a ticket agency involved the replacement of the original shop front, the construction of a suspended ceiling finished in acoustic plaster and the complete installation of new fittings, lighting equipment and finishes.

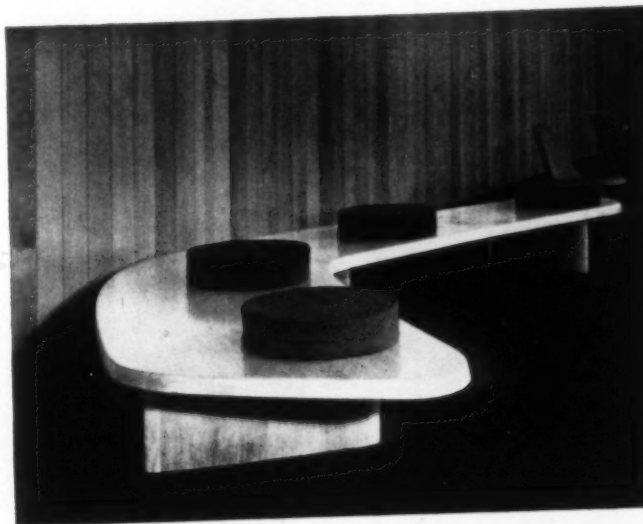
2, cellular partition dividing the long-distance counters section from the manager's and secretaries' offices. It is constructed of aluminium plates threaded on to vertical steel rods and has horizontal wood shelving placed at standard intervals. This is a patent type of construction developed by Mme. Perriand. Of the numbers of compartments thus formed some are open to the front, some to the rear and

some have openings on both sides. The interiors of those which are not completely open are sprayed with black flock and lit by concealed fluorescent lighting tubes on each side so that objects can be displayed brilliantly lit against the black background.

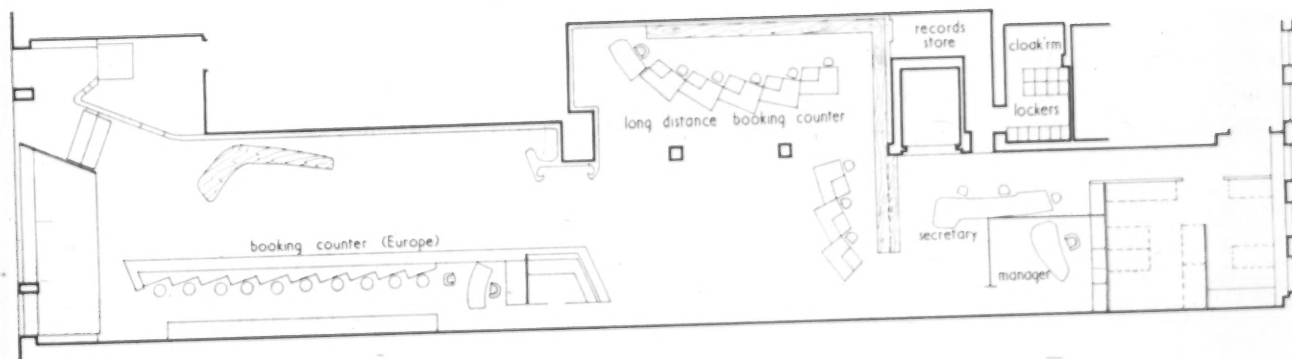
3, reception area with wall of vertical soft wood boarding. The carpet is dark charcoal grey, and the bench is French spruce with rubber foam cushions.

4, the counters for the sale of long distance tickets arranged in echelon formation. They comprise two table levels faced with black linoleum on top and white plastic on the lower, incorporating drawers, filing cabinets, and internal and external telephones.

offices for air france, london w1



3



4



Offices for Air India, London, W.1

architects : Alexander Gibson, Philip Lucey
(Design Research Unit)

These premises at 17/18 New Bond Street occupy the ground and sixth floors. The booking office on the ground floor has frontages to Bond Street and Clifford Street with a main corner entrance at the junction of these streets; the administrative staff are accommodated on the sixth floor.

5, large mural decoration on one wall of the showroom depicting an Indian village scene specially painted by Professor Bendre, professor of painting at Baroda University. In front of this is the waiting area with easy chairs and occasional tables enclosed by an open timber screen with glazed ceramic spacers.

6, the adjacent wall to 5, which has the booking counter served by four receptionists and a counter supervision position at the end. It is constructed of Indian silver greywood and has leather insets on the top and panels to the front. The counter is lit with four large polished copper reflectors and copper bracket light fittings are used on the columns and screen to light the ceiling. Behind the counter is a storage fitting faced in laminated plastic, containing a conveyor belt system which transfers booking cards between the counter and offices behind. The decorated plaques mounted on these panels represent Indian groups and were designed by M. F. Husain.

7, one of the four large polished copper reflectors used for lighting the counter.

8, the ceiling extending over the booking office and part of the senior staff offices behind, of handwoven Indian silks stretched on timber panels, which are hung clear of the existing structural ceiling and allow the passage of radiant heat from the ceiling panels above.

9, section of glass screen on cashier's desk.

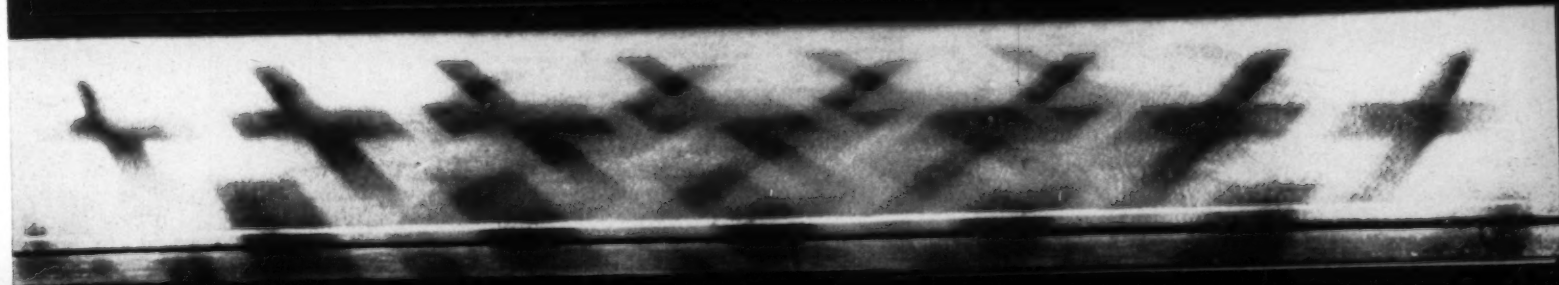
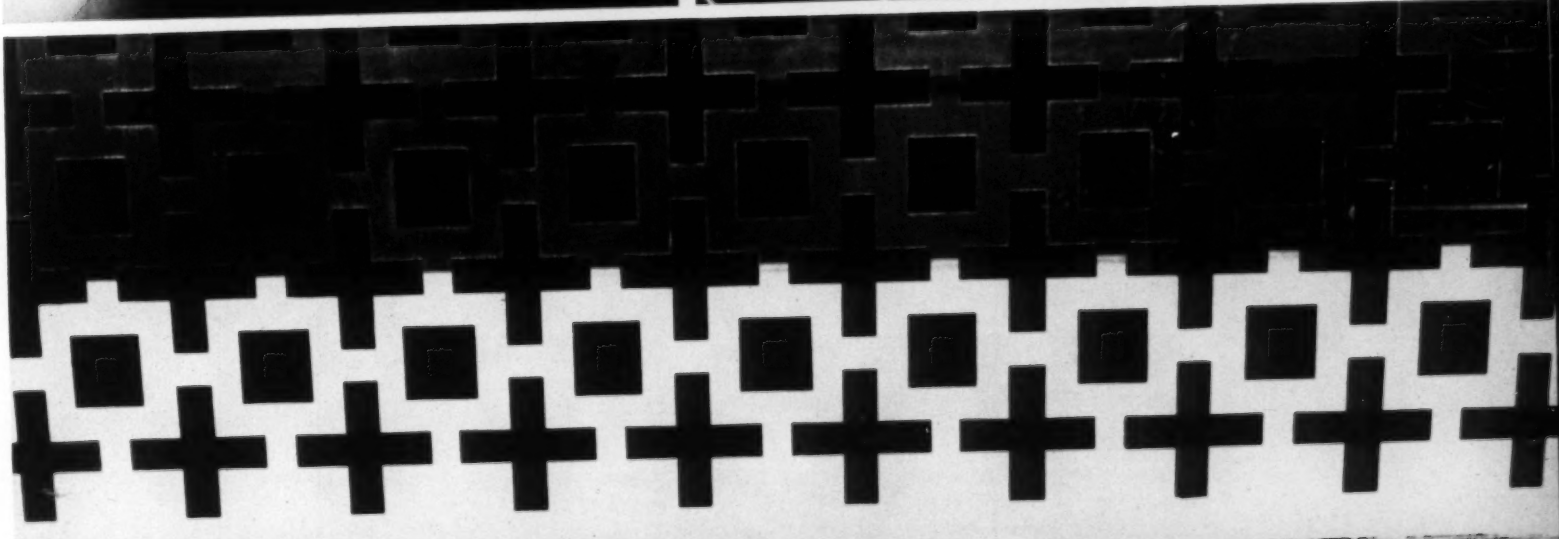
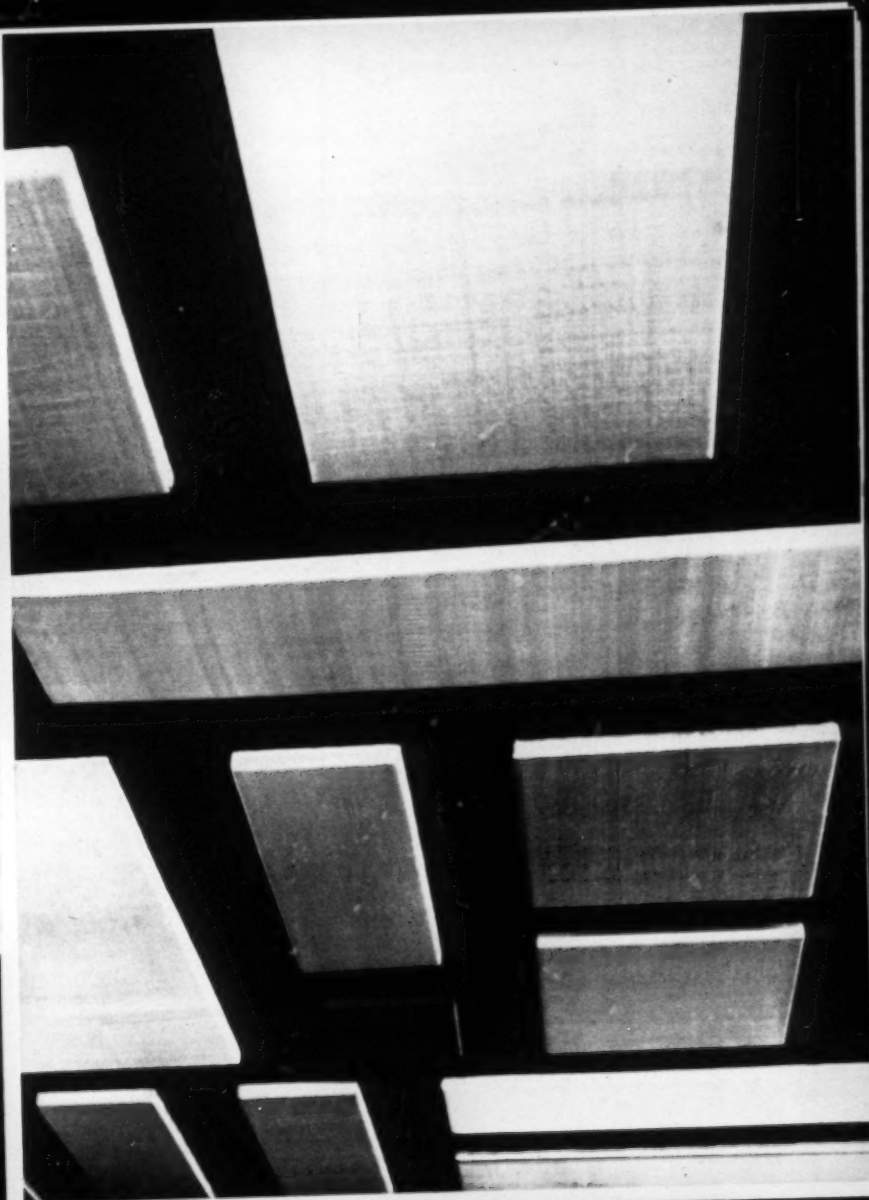
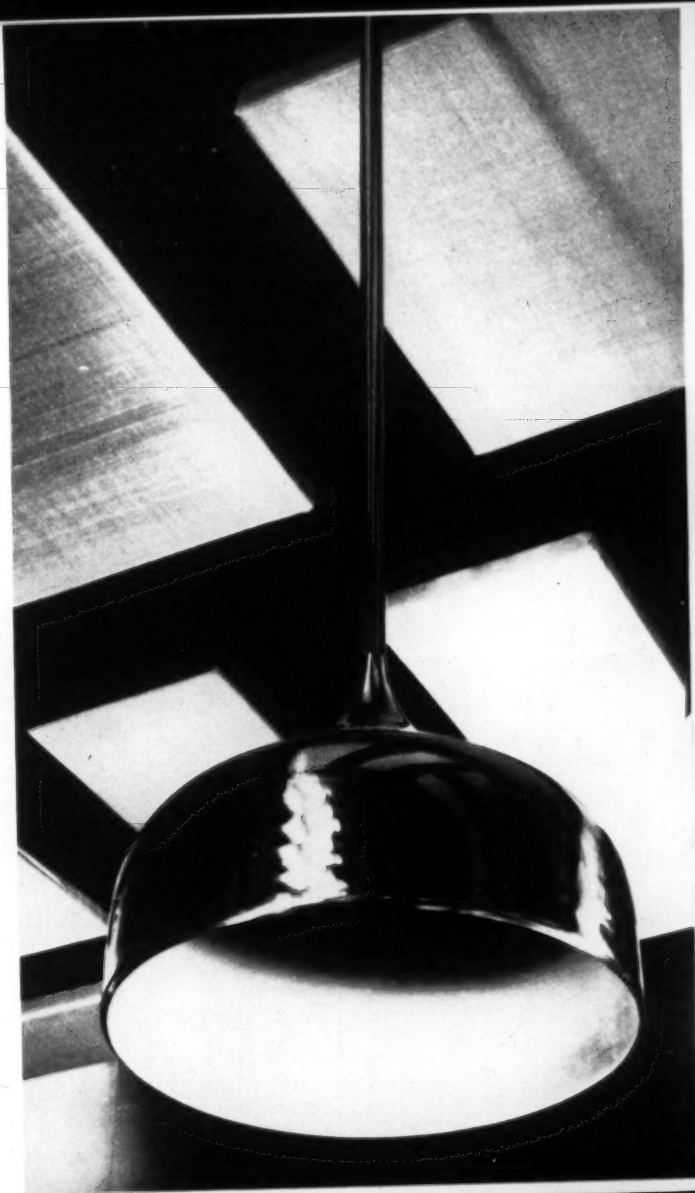


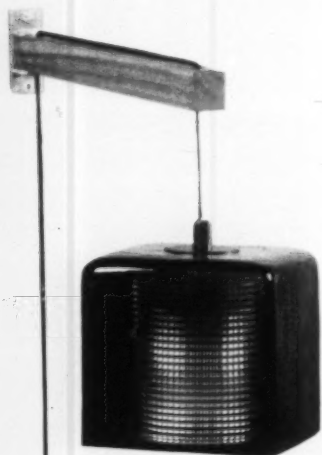
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6

7 8
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DR

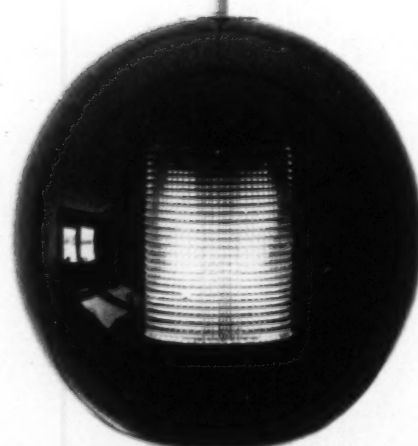
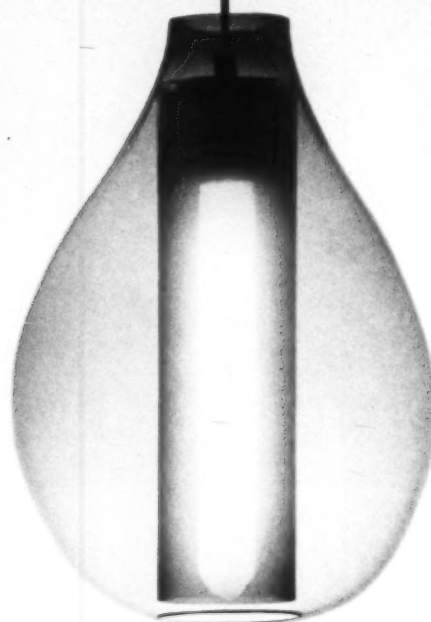
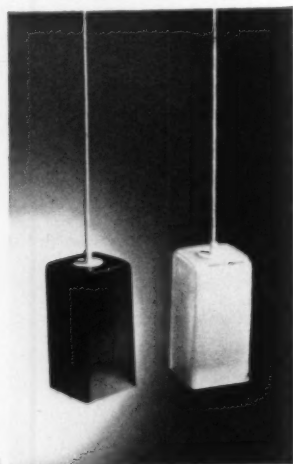
design review

light fittings: J. Wuidart and Co. Ltd., of Rathbone Place, are showing a new range of light fittings from the Orrefors Glass Factory, of Sweden. These are intended mainly to give a gentle light and hang low over furniture but they look equally well in groups or singly at ceiling height.

The high quality of Orrefors glass is well known. These fittings are made of thick handblown glass in white or dark grey-green with inner shades masking the bulbs. The range introduces a new development in the double corrugated crystal inner shades used as in 1 and 3. The inner skin is vertically corrugated and the outer horizontally, giving a rich contrast to the simplicity of the main bowl. Inner shades are also made of grey or white opal, as in 2. The shades illustrated in 4 are intended to be used in groups.

The heights of the fittings range from 6 in. to 16 in., and they take standard 40 watt or 60 watt bulbs, or candle lamps. Wholesale prices, without tax, are from 85s. 6d. to 162s.

The Orrefors factory will consider making architects' own shapes to special order for quantities.



stoneware pots: Stoneware pots by Hans Coper have been shown recently at Primavera and with other potters' work at Heals. A selection of his work, including some of the large bottles shown here, has also been sent by the British Council to the International Ceramics Exhibition at Syracuse, USA.

The most beautiful are the large sculptural pieces, 5, which, though not based on ancient art forms, have the timeless tranquillity of early Greek pottery.

They are thrown on a wheel and mostly are made from coarse white clay with surface treatment of layers of metal oxides and vitreous slip. The finishes range from smooth greyish white, as in 6, to greyish brown and black. In some, 7, black slip shows through the white to produce strong contrasting stripes. They are designed primarily to hold flowers for use in large halls, staircases and churches, but the aloof dignity and individuality of the shapes is strong enough to stand alone and unfilled in cloisters, patios or gardens.

The pots illustrated are from 12 in. to 19 in. high and prices range from about 14 to 35 gns.



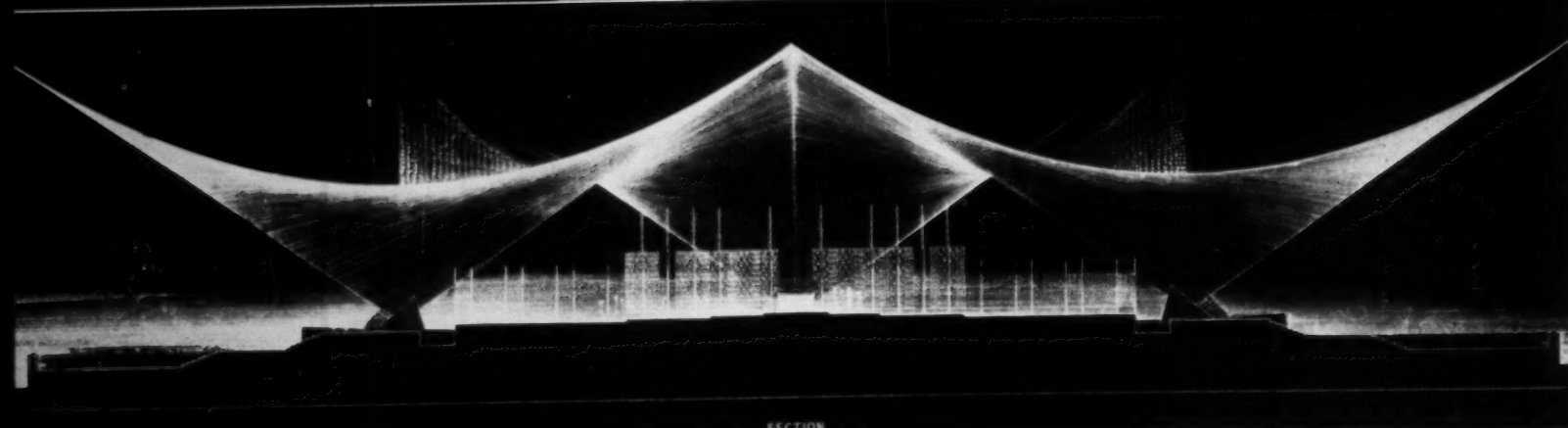
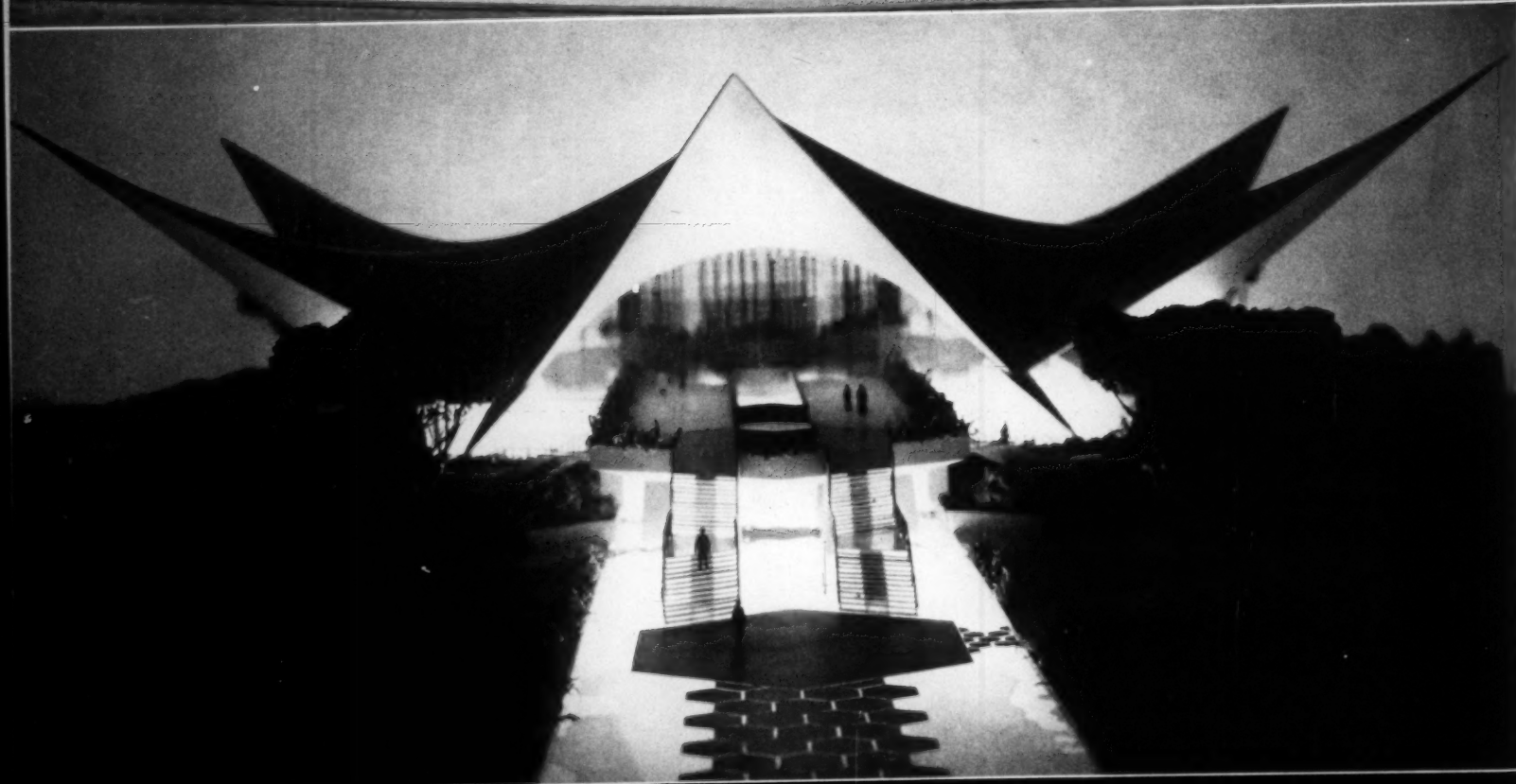
5

6



7

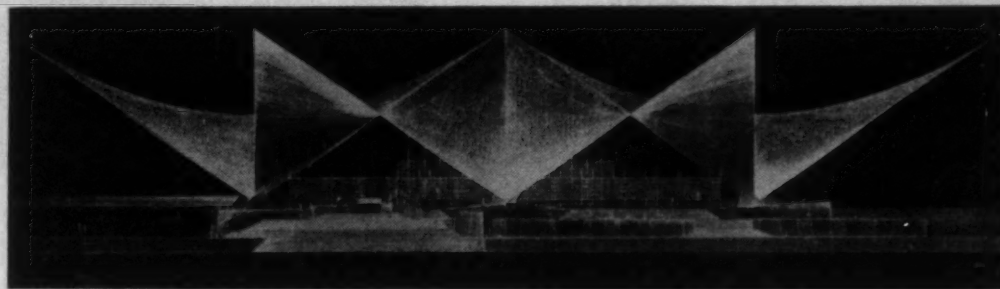




SECTION

From the north, the approach to the mausoleum is in terms of traditional monumentality, opposite, top with flights of steps ascending directly from terrace to terrace, but on the long approach from the south, an analogy is struck with traditions of Mogul monumental gardening, with a processional way passing between, and over, pools of water. Under the canopy of hyperbolic paraboloids, the processional ascent continues, as the section shows, up to the sarcophagus itself at the centre of the composition.

MAUSOLEUM AT KARACHI



ARCHITECTS
designer

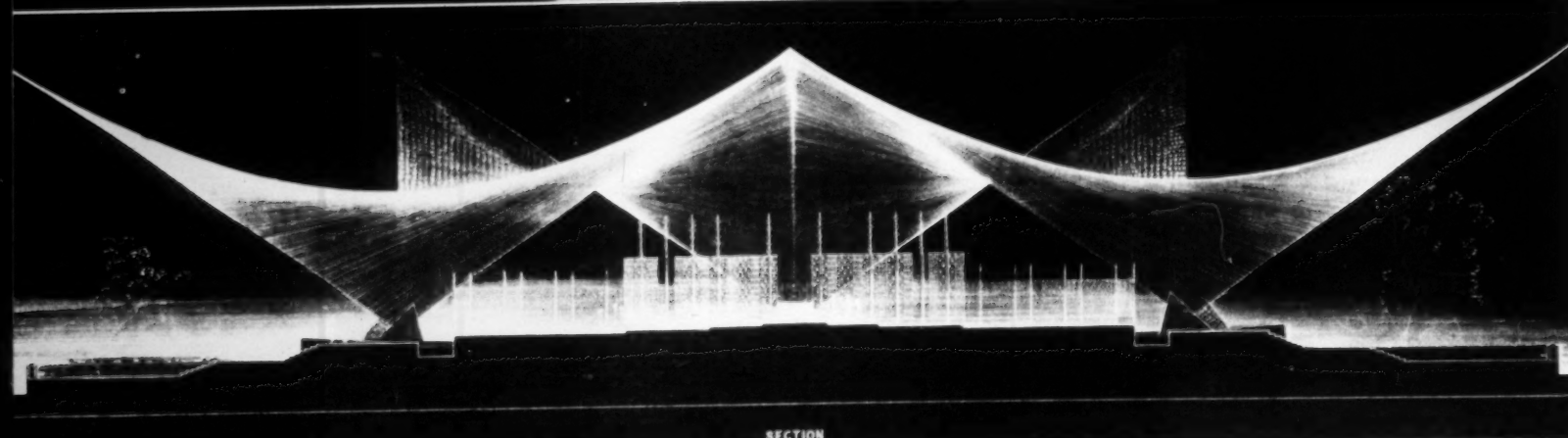
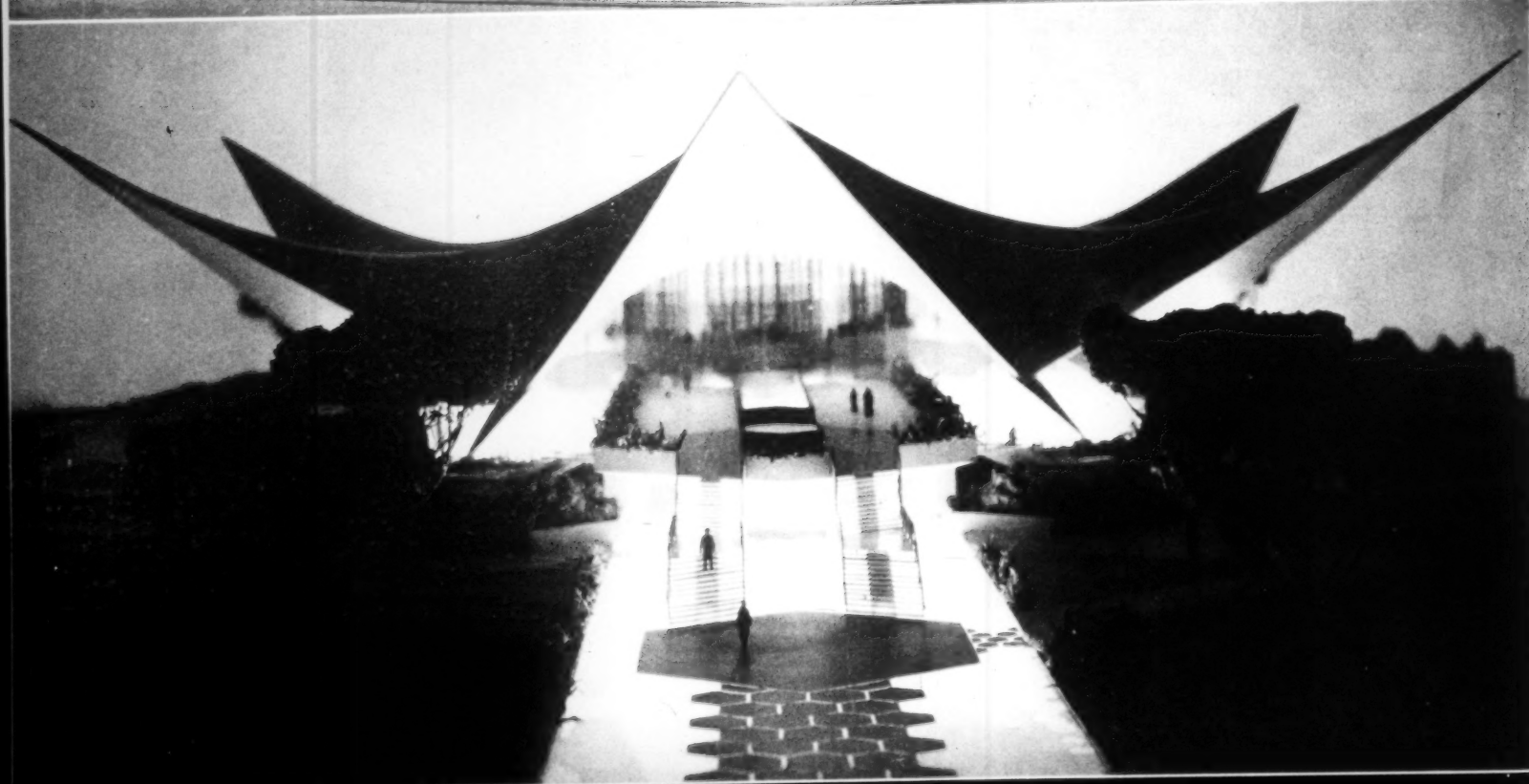
RAGLAN SQUIRE AND PARTNERS
Robert B. Roberts

In the summer of 1957 a competition was announced for the construction of a mausoleum for Qaide-Azam Mohammed Ali Jinnah. The conditions called for the design of a mausoleum over the present sarcophagus of the Qaide-Azam; the landscaping and planning of roads, parking areas, footpaths and gardens within the site; the siting of the following buildings which will be erected at a later date: mosque for 25,000 persons, restaurant, shops, police station, a small post-office, guard house and lavatory for men and women. The winning design, illustrated here, was submitted by Raglan Squire & Partners. Only the mausoleum and the gardens will be carried out at the present time.

The site platform contains a sarcophagus of Mohammed Ali Jinnah and the remains of Mr. Liaquat Ali Khan. The mausoleum consists of a canopy composed of six concrete hyperbolic paraboloid forms (or saddle shapes) laid out around a hexagonal plan; the core of the plan is the sarcophagus which has a series of concentric hexagonal rings radiating from it in a descending series of levels. Thus the platform is cut back from its lowest level to form terraces and pools leading up to the climax of the inner rings; these rings are bounded by coloured anodized aluminium grilles and have floor surfaces of hexagonal marble slabs, the whole being circumscribed by the topmost pool. Large triangular-shaped abutments support the six hyperbolic paraboloids, four of which are contained within high level pools and two within low level pools, the latter pools receiving the falling water from the circumscribing topmost pools. Water is arranged as an important element in the composition of levels,

and is carried out from the centre to the special entrance to the south, where it is envisaged as a low approach-trough from the new proposed road, and as a trough connecting the mausoleum to the new mosque, the western end of which contains the minaret. This special entrance is intended as a formal approach along stepping stones set in the ascending tanks of water, ultimately rising by way of steps to the hexagonal entrance platform, which gives on to a bridge carrying the visitor at high level into the screened core of the mausoleum.

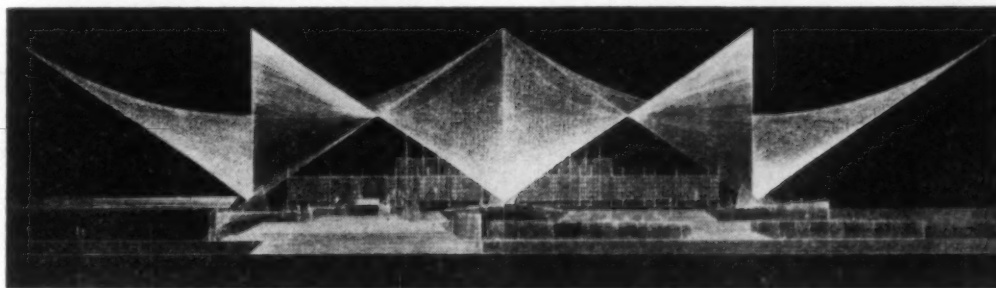
Construction of the hyperbolic paraboloid canopy is of 2½ in. concrete finish on the outside with gold mosaic tiles laid on a screed; inside, the concrete is left exposed with the marks of the shuttering providing pattern and texture. Marble is used as the floor finish within the top circumscribing pool; the rest of the pools are of stone. Night illumination has been designed to reflect the terraces and the canopy in the pools.



SECTION

From the north, the approach to the mausoleum is in terms of traditional monumentality, opposite, top with flights of steps ascending directly from terrace to terrace, but on the long approach from the south, an analogy is struck with traditions of Mogul monumental gardening, with a processional way passing between, and over, pools of water. Under the canopy of hyperbolic paraboloids, the processional ascent continues, as the section shows, up to the sarcophagus itself at the centre of the composition.

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MAUSOLEUM AT KARACHI

The inherent six-way symmetry of the plan is polarized by the emphasis on the north-south processional axis, and by the complex multi-level circulation on the south, on which side the pools surrounding the abutments of the vault also stand at a lower level than the other four, thus creating a greater sense of opening, a more dramatic entrance. A further dynamic departure from absolute regularity is provided by the location of the subsidiary tomb, and the independent approach path to it, coming from the south-west, and passing under the raised platform of the main approach.

key

- 1, sarcophagus.
- 2, pool.
- 3, tomb of Liaquat Ali Khan.
- 4, steps up from lower level.
- 5, women.
- 6, men.
- 7, bridge over pools and gardens.
- 8, platform.
- 9, garden.
- 10, path to Qaide Millat.



1. the main entrance; the panels below the windows are of red cedar, and the end wall is of rustic facing bricks. The two columns on the right are faced with narrow teak boarding.

SCHOOL AT WEST DERBY, LIVERPOOL

ARCHITECT: HAROLDE DAWIES AND SON, in collaboration with the City Architect Dr. Ronald Broadbury

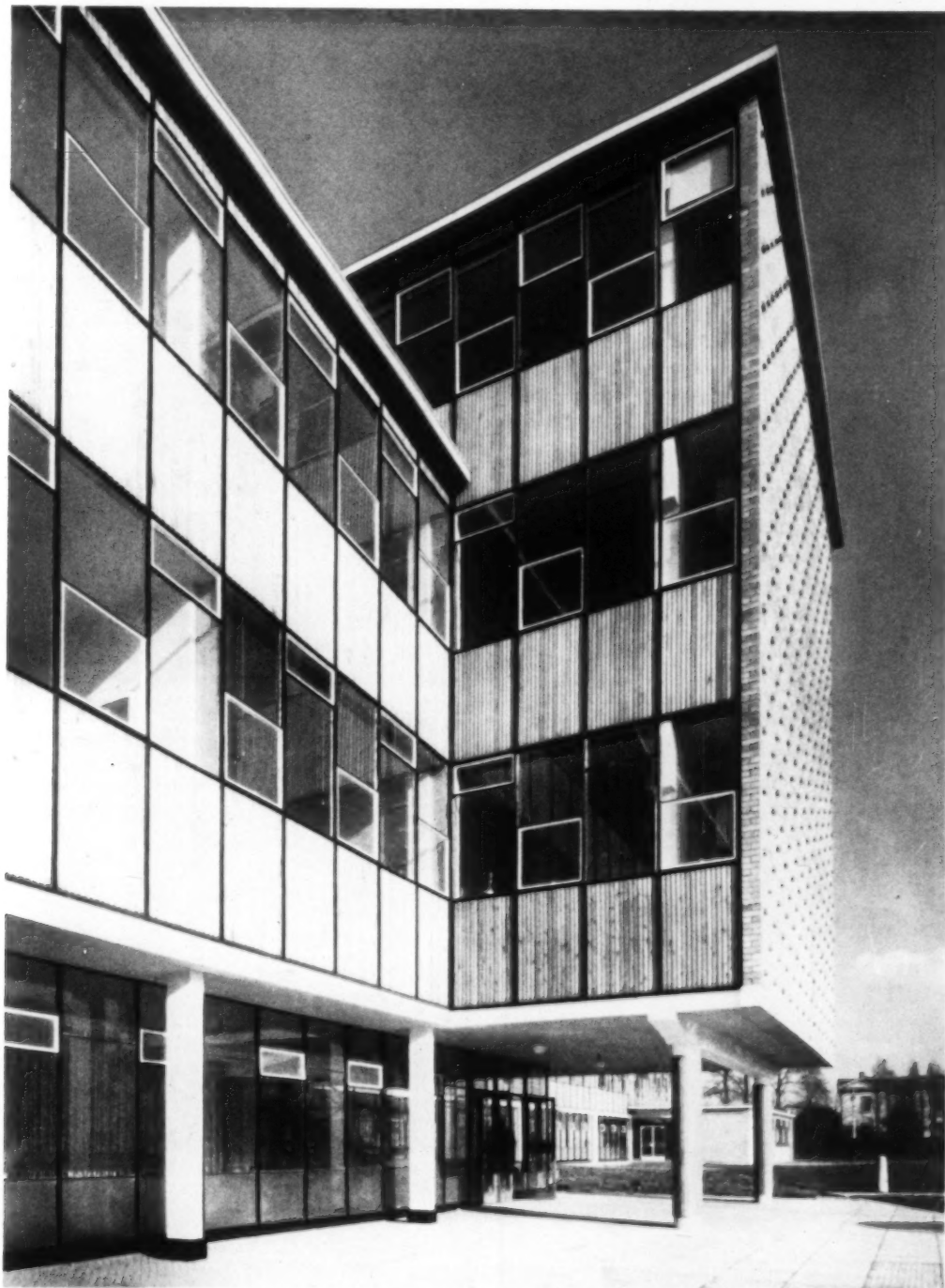
This school in a residential Liverpool suburb is on a south-sloping site fringed with mature trees. It is planned in four groups: a central four-storey block containing administration rooms, laboratories and library, three-storey classroom block, single-storey workshops and the assembly hall, kitchens and gymnasium. The main teaching rooms have access from two subsidiary staircases, to give windows on two sides of the rooms. The whole assembly

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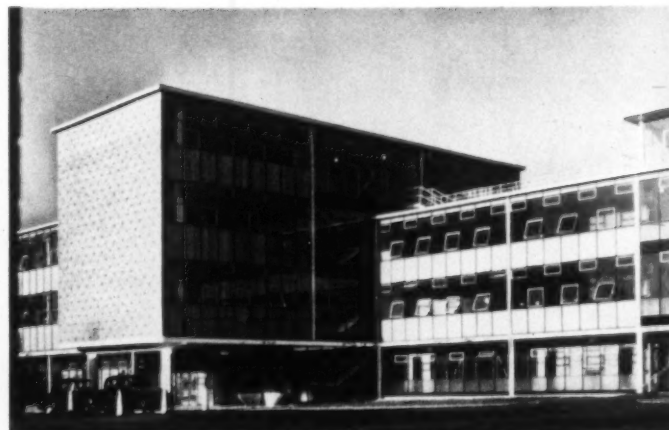
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School at West Derby, Liverpool

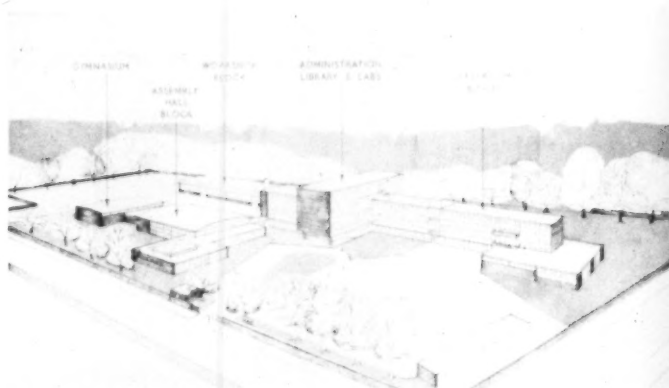


2, the assembly hall, from the main entrance.

hall group can be isolated from the rest of the school and used for public functions. The small hall can be used as a dining room, as two classrooms or as part of the main hall. The frame of the building is of reinforced concrete on a 40 in. module, with prestressed plank flooring. The main roofs are of 2 in. strawboard on concrete beams cast in situ, with a plasterboard ceiling below and finished on top with three layers of bituminous felt and limestone chippings. The assembly hall roof is carried on post-tensioned concrete bowstring trusses. The external wall-cladding is of standard metal sections with infilling of western red cedar boarding. The metal ribs of the cladding are painted black, with pivoted windows picked out in white.



3, the school from the east, showing the classroom block and the four-storey administration and library block.



4, air perspective of the school.

5, general view from the east.

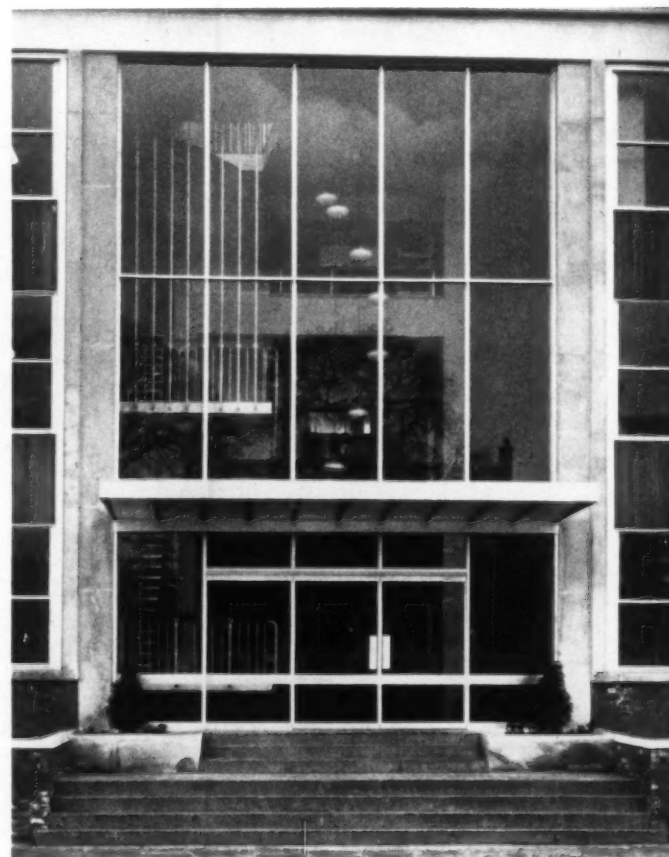


OFFICES IN MONMOUTHSHIRE

ARCHITECT: FRANK SCARLETT

This block at Rogerstone is sited at an angle to the road from Newport parallel to the main factory building. The accommodation is arranged on three main floors, plus the lower ground floor at the rear of the site, and a penthouse structure above the main floor level containing the managers' dining room, kitchen and services.

The building has been designed as a series of bays 25 ft. by 25 ft. subdivided to give a module of 4 ft. 2 in. and has a frame of precast reinforced concrete stanchions spaced at 8 ft. 4 in. connected by a perimeter beam at each floor level; the central line of stanchions is cast in situ and



6, main entrance doors and staircase.



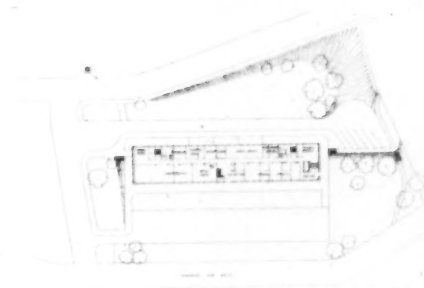
7, the main staircase, which forms the hub of the factory. The handrails are of aluminium, which is also used throughout the building for door furniture and partitions.

Offices in Monmouthshire

spaced at 16 ft. 8 in. centres. Precast, prestressed units giving an even under-surface are used for the structural floors; this allows for a free arrangement of internal partitions.

The principal facing material is aluminium glazing, consisting of continuous units 8 ft. 4 in. in width. Buff coloured brickwork is used on the ends of the front and rear elevations, while natural stone is used as a plinth to the building and to the main entrance surround.

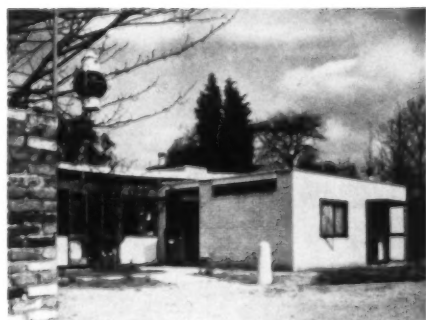
Inside, the offices have acoustic tile ceilings and plastered walls with floors mainly of cork tile. Low pressure hot water central heating is provided by a calorifier fed by steam from the works.



upper ground floor.

HOUSE AT STRAWBERRY HILL

ARCHITECT: KENNETH WOOD



8, view from entrance drive into the front court.

9, the studio, with storage racks and etching press behind the curtain and glass screen. The exposed beams are of Douglas fir.





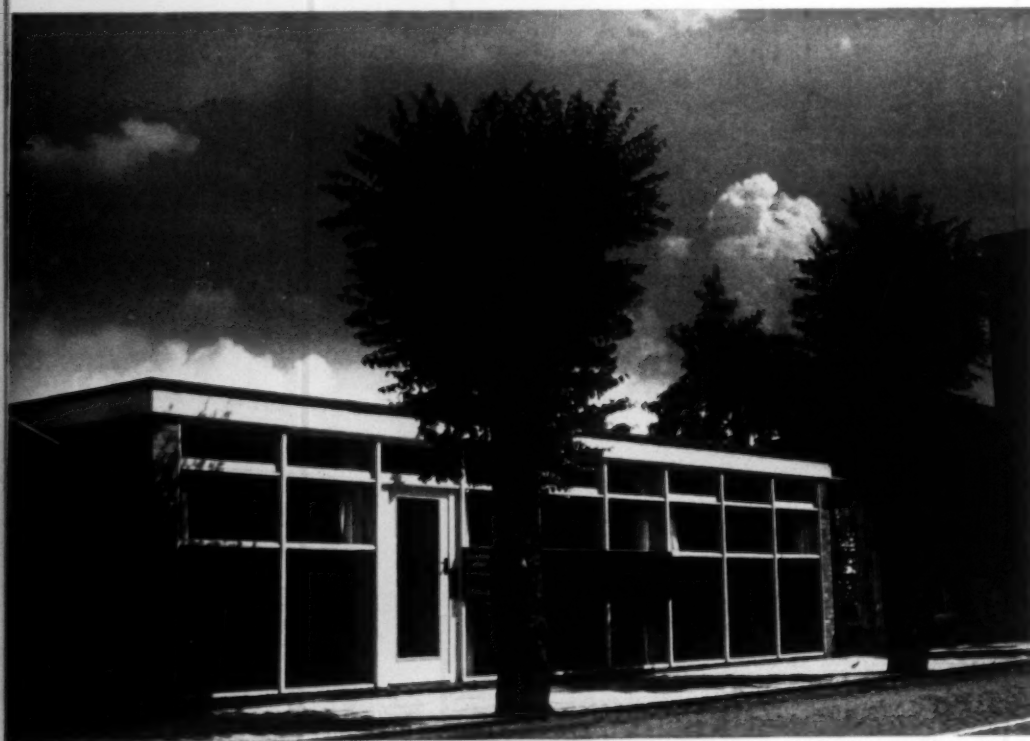
10, the entrance door with studio on the left.

House at Strawberry Hill



This single-storey house, built for an artist, is on an 80 ft. by 70 ft. plot in a large garden in Strawberry Hill. Two brick wings, one containing living quarters and the other garage and workshop, are linked by a timber framed studio with large windows facing south, north clerestory lighting and a transom height solid panel on the south side of the model couch. The two brick wings are of 11 in. cavity wall construction with an inner leaf of insulating

blocks used also for partitions. The studio is of Douglas Fir post and beam construction with infilling panels of glass or textured asbestos sheet on wood-wool slabbing. The main structural members are fully exposed throughout. Central heating is by a coke fired air system with grilles in all rooms. Running through the living quarters is a central core of cupboards and wardrobes containing a return warm air duct.



11, the office from the north west.

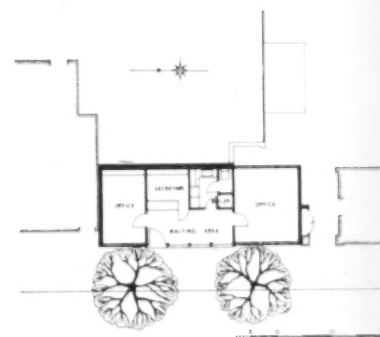
ARCHITECTS' OFFICE AT LEWES

ARCHITECTS: CHILTON WATERS AND STUTCHBURY

This office is situated in Friars' Walk, Lewes, and is planned to accommodate one partner with secretary and to have a drawing office for four with ample plan storage. It has a hall large enough to house a staircase should another floor be necessary.

In construction it has a solid concrete floor, $\frac{3}{4}$ in. screed and sprayed plastic jointless floor covering of white marble on a dark green background. The side and back

walls have 10½ in. cavity work, and the front wall has 6 in. by 3 in. deal posts at 4 ft. centres infilled with glass and aluminium faced panels painted externally and left unpainted internally. Ceilings are distempered arctic blue, grey emulsion is used for the walls and the flush doors have dark red gloss paint. Heating is provided by a small oil-fired boiler with a vaporizing unit running conventional radiators.



12, the principal's office.

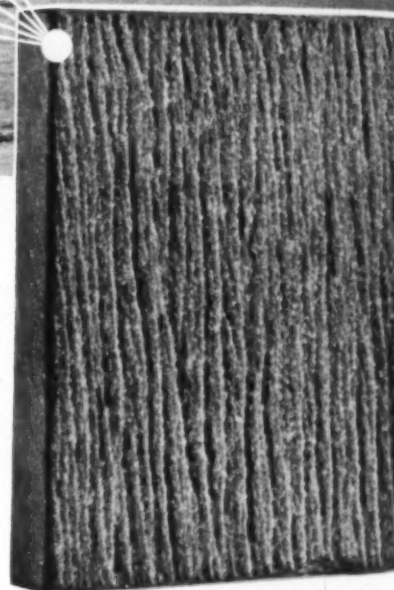


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A section of Broughton Moor Stone, showing the distinctive appearance and texture of the frame-sawn finish.

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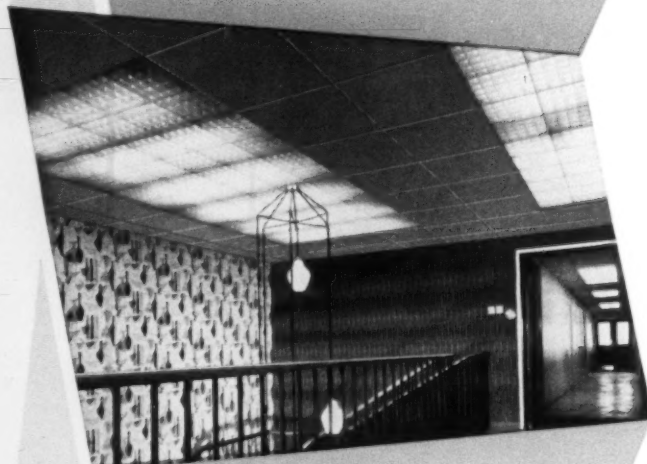
Telephone: Coniston 225

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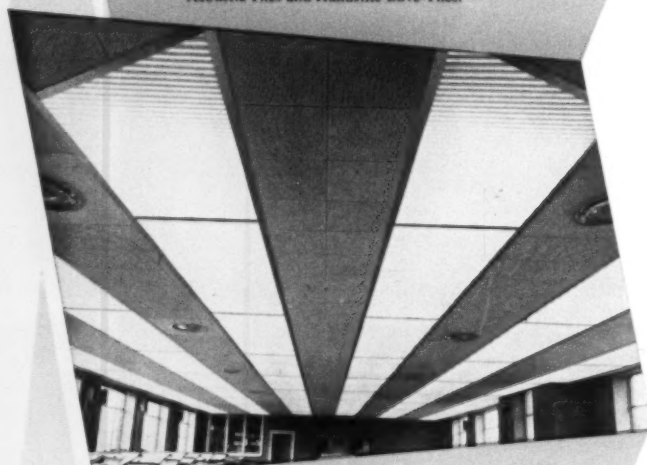
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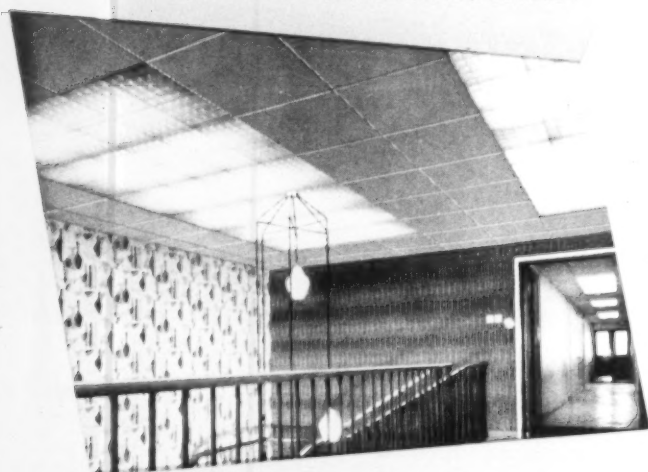
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round-arched Ruskinism is not noted in the text; nor are the very early arcaded fronts by Starkey & Cuffley in Market Street of 1851 mentioned at all. Despite the historical rather than intrinsic importance of Waterhouse's Assize Courts, the character of their Ruskinism is misinterpreted. Unlike Worthington's Memorial Hall of 1865, the Assize Courts include no features that are, properly speaking, Venetian; but the design does owe something to various things by Deane & Woodward that Ruskin sponsored and perhaps collaborated on—notably the University Museum at Oxford, just completed in 1859, and the project of 1857 for the Government Offices.

The priority of Worthington's Manchester Albert Memorial, the design for which was published early enough to provide a model for Scott's winning project for the national memorial in London, is properly stressed; and so is the special boldness of E. W. Pugin's St. Francis, Gorton, of 1863, with its Butterfieldian frontal buttresses, and of Joseph A. Hansom's Holy Name, Oxford Road, of 1869. But the lateness of Street's Manchester church, St. Peter's, Swinton, of 1868, and the general lack of advanced church work of the fifties leaves the story of the High Victorian period confused on the Gothic side.

The non-Gothic, generically Queen Anne, style of Bodley's parsonage in Pendlebury is noted; but the historical importance of this modest house, earlier in date than Eden Nesfield's Kimmel Park (1870-73), J. J. Stevenson's Red House (1871) and Shaw's New Zealand Chambers (1872-73), is not indicated. It is true enough, however, as Mr. Stewart emphasizes, that the quality and significance of Manchester architecture went down hill rapidly after that date. Bodley did no more building here, and there is nothing at all by Nesfield, by Shaw, or by Webb. E. R. Robson's Grange Street School in the Bradford district is relatively late (1878) and untypical; the work of his local imitators who built the local board schools is distinctly inferior to their London models.

Happily the story takes an upward turn at the end with the beginning of the career of Edgar Wood and his later partner J. H. Sellars. Yet it cannot be said that their work gives character to any considerable areas of the city in the way that of Walters and his contemporaries did to the principal business streets in the years between 1840 and 1870.

It is not surprising in so compendious a study that there should be a few errors and omissions; notably of certain dates in the text of the *Stones*—they are, however, usually supplied in the *Architecture*. Only a Mancunian could check the vast amount of detailed information given in the *Architecture*; but an outsider may note that the Olivo & Spartali Warehouse by Clegg & Knowles illustrated on page 103 is in Cross Street and not the one at the corner of Portland and Princess Streets.

It is the illustrations which are the real disappointment in the *Stones*. Not only are some of the finest things, such as Walters' Edmund Potter Warehouse at 10 Charlotte Street and the Exchange Station, omitted, but there is only one photograph—of a rather inconsequential detail of the 'seventies

—provided. Contemporary lithographs and wood engravings have their important place in illustrating nineteenth-century architecture—it is necessary to use them to show projects and they often reveal the architect's intentions better than photographs. But photographs are necessary also. Admittedly Manchester has long been one of the world's least photographable cities. The solid black buildings under what was, until the air was cleaned lately, usually a dark grey sky—the finest often facing north—seemed absolutely to defy the camera. But excellent photographs have been taken for the NBR—since this book appeared—of such an outlying monument as Bodley's St. Augustine's, Pendlebury; and even for buildings in the heart of the city some photographic details of stonework and brickwork would have revealed that extremely high level of Victorian workmanship in Manchester by which contemporaries were always struck in the 'forties and 'fifties.

Henry-Russell Hitchcock

MOTOPIA

MIXED BLESSING, *The Motor in Britain*. By C. D. Buchanan. Leonard Hill. 30s.

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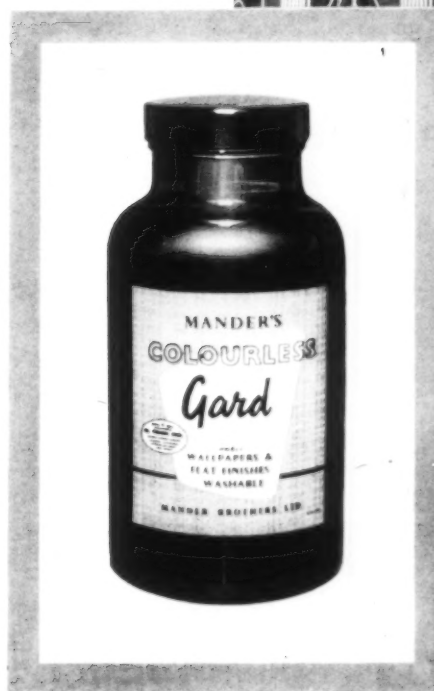
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round-arched Ruskinism is not noted in the text; nor are the very early arcaded fronts by Starkey & Cuffley in Market Street of 1851 mentioned at all. Despite the historical rather than intrinsic importance of Waterhouse's Assize Courts, the character of their Ruskinism is misinterpreted. Unlike Worthington's Memorial Hall of 1865, the Assize Courts include no features that are, properly speaking, Venetian; but the design does owe something to various things by Deane & Woodward that Ruskin sponsored and perhaps collaborated on—notably the University Museum at Oxford, just completed in 1859, and the project of 1857 for the Government Offices.

The priority of Worthington's Manchester Albert Memorial, the design for which was published early enough to provide a model for Scott's winning project for the national memorial in London, is properly stressed; and so is the special boldness of E. W. Pugin's St. Francis, Gorton, of 1863, with its Butterfieldian frontal buttresses, and of Joseph A. Hansom's Holy Name, Oxford Road, of 1869. But the lateness of Street's Manchester church, St. Peter's, Swinton, of 1868, and the general lack of advanced church work of the fifties leaves the story of the High Victorian period confused on the Gothic side.

The non-Gothic, generically Queen Anne, style of Bodley's parsonage in Pendlebury is noted; but the historical importance of this modest house, earlier in date than Eden Nesfield's Kimmel Park (1870-73), J. J. Stevenson's Red House (1871) and Shaw's New Zealand Chambers (1872-73), is not indicated. It is true enough, however, as Mr. Stewart emphasizes, that the quality and significance of Manchester architecture went down hill rapidly after that date. Bodley did no more building here, and there is nothing at all by Nesfield, by Shaw, or by Webb. E. R. Robson's Grange Street School in the Bradford district is relatively late (1878) and untypical; the work of his local imitators who built the local board schools is distinctly inferior to their London models.

Happily the story takes an upward turn at the end with the beginning of the career of Edgar Wood and his later partner J. H. Sellars. Yet it cannot be said that their work gives character to any considerable areas of the city in the way that of Walters and his contemporaries did to the principal business streets in the years between 1840 and 1870.

It is not surprising in so compendious a study that there should be a few errors and omissions; notably of certain dates in the text of the *Stones*—they are, however, usually supplied in the *Architecture*. Only a Mancunian could check the vast amount of detailed information given in the *Architecture*; but an outsider may note that the Olivo & Spitali Warehouse by Flegg & Knowles illustrated on page 103 is in Cross Street and not the one at the corner of Portland and Princess Streets.

It is the illustrations which are the real disappointment in the *Stones*. Not only are some of the finest things, such as Walters' Edmund Potter Warehouse at 10 Charlotte Street and the Exchange Station, omitted, but there is only one photograph—of a rather inconsequential detail of the 'seventies

—provided. Contemporary lithographs and wood engravings have their important place in illustrating nineteenth-century architecture—it is necessary to use them to show projects and they often reveal the architect's intentions better than photographs. But photographs are necessary also. Admittedly Manchester has long been one of the world's least photographable cities. The solid black buildings under what was, until the air was cleaned lately, usually a dark grey sky—the finest often facing north—seemed absolutely to defy the camera. But excellent photographs have been taken for the NBR—since this book appeared—of such an outlying monument as Bodley's St. Augustine's, Pendlebury; and even for buildings in the heart of the city some photographic details of stonework and brickwork would have revealed that extremely high level of Victorian workmanship in Manchester by which contemporaries were always struck in the 'forties and 'fifties.

Henry-Russell Hitchcock

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EXHIBITIONS

PAINTING AND SCULPTURE

A correspondent has been very sharp with me. A month or two ago, I said that 'the artist who has an itch to communicate is only a pseudo-artist,' and he, the correspondent, says that it's the most nonsensical statement he's come across for years. It looks a bit peculiar, even to me; in fact, it reminds me of one of those phrases that came into my head with great frequency when I was much younger and, to lift a phrase of another kind from Jack Kerouac, 'was all hung up on the wonderful possibilities of becoming a real intellectual.' This apologetic tone of voice doesn't mean that I'm taking back what I said. Artists put things down for reasons that are obscure even to themselves. Alan Davie says in the catalogue of his Whitechapel retrospective: 'When I am working I am aware of a striving, a yearning, the making of many impossible attempts at a kind of transmutation—a searching for a formula for the magical conjuring of the unknowable.' I quote him with deep respect, but his is admittedly an extreme case, and the point I still have to make is that even when a work looks as if it is being communicative it invariably turns out to be an enigma: so I shall have to make a guinea pig of something that looks straightforward, and try to show how it begins to twist and turn and contradict itself if it is stared at a little harder than usual.

I have been staring at some nudes by William Coldstream which David Sylvester included in the fourth of those annual exhibitions of contemporary British painting at Arthur Tooth & Sons that effectively caricature the ideas of the critic who chooses them. There were four paintings of the nude by Coldstream, but this is the only one that contains two figures, 1. They are refined and sensitive studies from the model, but the fact that they are well on the way to becoming realistic portraits of naked girls may have frightened the painter, for, apart from a small pre-war canvas painted in another manner, he has *unfinished* them in a very deliberate way. Clusters of short red lines have been painted across the navel, the nipples, between the breasts and at the base of the throat, and in the actual paintings they operate as small, brilliant accents of pure colour against the light tones of the flesh. We are, of course, intended to recognize the red lines as proportion marks and as signs of 'work in progress.' They belong in fact to a curious modern *genre* which can be

described as completed works in progress. Giacometti is better at it than anyone else, and it arises from the example of Cézanne who, in his late watercolours, stopped short of representing the object at the point where a purely visual knowledge of it yielded him his abstract pictorial values. But Coldstream has already gone beyond this point. He has created the illusion of flesh; his images have entered what Venturi calls 'the sphere of contingency.' We are as conscious of the



humanity of the models as we are of Coldstream's lines and colours. So the red lines are not only measurements, they are marks on flesh. Where am I supposed to go from here? Alan Davie says that 'the critic must concern himself with the image that envelops him, without mistaking the marks on the canvas for that image,' but quite apart from the fact that a great many images just haven't got the energy to get up off the canvas and envelop us, if I work myself into being enveloped by the Coldstream images I discover that the red lines become neat little cuts in the flesh made by a sharp instrument—a razor blade, I should think—and this brings to mind Grünewald, who pricked and scratched the body of his crucified Christ to suggest that he had been whipped with the thorns before they were turned into a crown; but art historians tend to think that this was only an alibi. This is as far as I can go; everything else is surmise and home-made psycho-analysis, so I am moving on to the exhibition called 'The Religious Theme,' organized by the Contemporary Art Society, probably to find out something about the spiritual condition of artists living in the Welfare State, and as you can imagine, it was a hot-bed of anomalies, ambiguities, naïvetés and pure get-outs.

But it included two very good paintings. A 'Deposition' by Ceri Richards, with the



broken, Guernic-esque body of Christ wrapped in exquisitely painted white cloths and Keith Vaughan's 'Martyrdom of St. Sebastian,' 2, which demonstrates once again this artist's gift for evoking space through the juxtaposition of areas of flat colour. The figures still look like plasticene, and give the impression that they would have to be pushed and pulled before they could adopt other positions, and I sometimes think that no female figures ever appear in his pictures because all the girls of the tribe are in Cézanne's bathing pictures.

Some works of art come to us already labelled as enigmas. One of them, a small prehistoric sculpture, 3, which looks like a career woman turning into a cat, was included in the exhibition of Art Treasures from Japan. It bears this inscription in the catalogue: 'The face is flat, the eyes slanting; the upper lip is split to the nose. The L-shaped incisions on the right cheek and the dislocation of the shoulders are deliberate and unexplained features.' Nevertheless, I found it more approach-



able than anything else in this remarkable and beautifully mounted exhibition; perhaps because the twentieth-century is more at ease with magic images than with religious ones. Certainly no one who has any feeling for the female object which

Picasso painted on May 13, 1929 (p. 160, 'Fifty Years of the Art of Picasso') or the rather more melodramatic 'Jewish Angel' by Chirico, composed of two openings of a colonnade at night turned into a metal helmet and surmounted by a wig, can have found anything alien about the pre-historic cat-woman.

The inventive little family group reproduced here, 4, was on view in the fascinating Pre-Columbian show at Gimpel Fils. It is from one of the West Coast cultures, in what is now Mexico, whose work in clay was, it seems, characterized by a persistently humorous approach to the human figure. I am not sure that a sense of the absurdity of the human figure necessarily implies a sense of humour, but there is something about the inventiveness of these figures that stops far short of the cult image and suggests that the magic of this people was pleasantly white.



Some handsome new pieces by Henry Moore have been on view in an elegant show at the Hanover Gallery which also included sculpture and drawings by Matisse, Giacometti and Marini. This 'Draped Seated Figure against a Wall,' 5, is related to the drawings of figures in prison-like settings with slotted walls which Moore made before the war. In another example called 'Girl Seated against Square Wall,' the slotted wall behind the figure comes straight out of the drawings, but in the one illustrated, the wall is more thoroughly sculptural, and the figure has, so to speak, come to this setting of her own accord. It creates a fine sense of spaciousness and freedom. Moore, like Picasso, is now able to move about in his past as if it were a world in itself with many regions still only partly explored.

I quoted Alan Davie at the beginning of this note because I expected to comment on his show. But I haven't yet found a presentable way of writing about this master of the enveloping image, and will make another attempt next month.

Robert Melville



TOWNSCAPE

RASHID STREET, BAGDAD

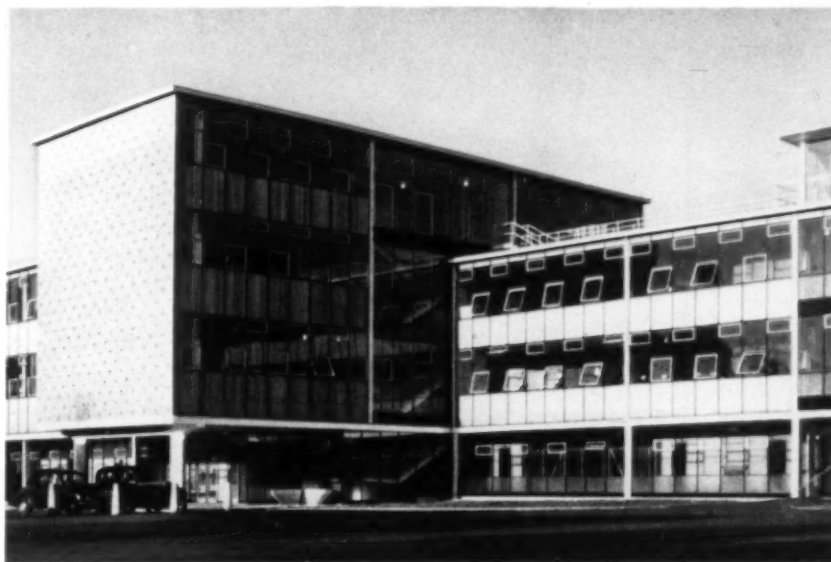
Although it has little beauty and its gradual transformation arouses few regrets, there is a certain nostalgia about the passing away of what was once the chief thoroughfare of Bagdad, east of and parallel with the river.

There were days, before ever I knew it, when the sewers were open and a steam roller was said once to have vanished suddenly from the sight of the passers-by into a hole. When I first saw Rashid Street in 1929, it was a long jostling stream of few cars and many carriages, donkeys and camels, with dust everywhere, and patches of asphalt melting in the sun. Then, in the middle of the war, Arshad al-Umari, the Mayor of Bagdad, opened a parallel artery; and a third is now being added, still farther inland from the Tigris bank: and the street itself, with new buildings soaring above it in the modern honeycomb patterns that do not mis-fit the East—uncompromising shadows and straight

lines—is being gradually eaten by modernity as bit after bit goes down for a rebuilding.

The Mosques remain: there is Haidar-Khaneh's blue-tiled dome with the turquoise niche of its gateway and the little shops that cluster like chicks round a hen; and the older and fine gate of the Mirjaniye, a distress to town-planners since it slants athwart the line of the street at an angle of its own and is far too precious to be moved. Apart from these, the street as it stands is doomed. Nor can one wish, in the wealthy modern revival of the Abbassid prosperity, to encourage the preservation of what is after all essentially mediocre.

And yet, shoddy as it is, I could not help feeling as I sauntered up and down it last summer, that some record should be kept. It is possible, and even likely, that the young Iraqi of tomorrow may look back on these first years of tentative western adaptation as one of the chief turning points in his long story. What would he not give now for a few records, on the other bank of Tigris, of the old round city of Mansur? Like M. Jourdain, who did not know he was talking prose, we are apt to forget that we are living history: and that the commonplace of



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today becomes rare through the mere passing of time.

There are better things in Bagdad than Rashid Street to preserve. There are the few old Turkish houses, for instance, on the west bank of Tigris, with wooden balconies and pillars and pleasant airy rooms and loggias all falling to decay; or the *suqs* which could be improved merely by paving, and by roofing everywhere with such brick domes and arches as still show here and there. They make the pleasantest of all walks for shoppers in a hot land and should be carefully kept and looked after wherever they exist.

Apart from the preservation of an historic



1, arcaded walks give essential shade.

record, there are, in every country, details which the life of the country itself has discovered and adapted to its own needs and conditions. They give a use and a cachet to its architecture and differentiate it from that of other lands. These details are valuable and should be carefully noted and adopted, however much the general styles may be imported from abroad.

Now even in Rashid Street, clumsily



3

conceived from Europe, such pure Babylonian touches can still be seen. They are more easily visible now than they used to be, since the good new asphalt has mitigated the ancient dominion of dust!

Across an almost unbroken procession of rich cars, or beyond the policeman in his smart new uniform, 1, solitary during the siesta hour, one can appreciate the narrowness and consequent cool shadow of sidestreets, so welcome in summer, 3. The porticoes are poor Mediterranean adaptations, for their shade here is quite insufficient, but the ironwork above them is good, adapted here and there to harim windows; and the underside of balconies with their rich detail, 4, gives a pleasant finish to these colonnades.

It is in looking at such detail that one remembers the peculiar distinction of Iraq architecture from its first beginning in the Sumerian South—the using of brick for ornament in a land deprived by nature of stone. The Mustansiriyah, which is now being restored and attended to, is a monument of this art, built on the Tigris bank by the Caliph Mustansir in A.D. 1233. The skill continues through the Ottoman rule to modern times; King Faisal I's mausoleum and other public buildings exhibit it; and in Rashid Street, built a few decades earlier, there are façades with panels of carving that go back to the ancient craft, 5.

All this will soon go. Already there are empty spaces where the rubble is heaped and the bull-dozers are at work, and iron



4



5

2, old Bagdad still survives on the river bank, but new buildings increasingly dominate the skyline.
3, narrow alleys and overhanging balconies give shelter from the sun.
4 and 5, elaborate detailing on balconies and carved panels of brickwork reflect the survival of ancient crafts.



2

girders, carried with an Assyrian look on the backs of Luristanis from the eastern mountains, are stacked ready to build the new tall sky-line of Bagdad. It expands, from the axis of Rashid Street towards the river, where the old houses with their balconies show the flood-line level. Each balcony is stretched on its own shadow, and hangs within slender wooden pillars over yellow brick walls built with the native dust. For many millennia this has been carved into dwellings, and the domes of mosques are scattered about it, more turquoise than the sky. The minarets of various ages stand like candlesticks here and there. The jade-green modern bridges cross the water, with fine and easy curves of great beauty; and the tawny flood itself waxes and wanes, according to the seasons, between dust-coloured bends.

The white cement background of our time lifts itself high, 2, behind this ancient picture. Every year it encroaches—nor can one feel more than a purely personal and sentimental regret for the dingy little by-ways as they disappear. To introduce the new with judgment, in Bagdad as elsewhere, is the architect's problem: to keep what the ages have tried and found relevant, and to discard the rest; and, by such judicious mixture, to mark his buildings with the peculiar stamp of his country and his age.

Freya Stark

COUNTER-ATTACK

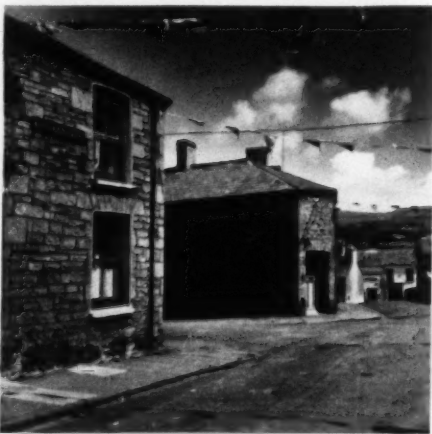
TROUBLE IN THE VALLEY

Planning is for the people. Perhaps this is a self-evident truism to most REVIEW readers; it does not seem to be so to the Glamorgan County Planning Office. Their proposals for the town of Aberdare as incorporated in the County Development Plan have earned them a petition of 17,000 unsolicited protests, nearly half of the total population of the urban district; this issue alone has replaced four local councillors by independents at the last election in a town which was and is Socialist almost to a man. Yet, having aroused this hornet's nest, the County Council will not give an inch: they have Made Their Plan, they have Taken Up A Position (and the Aberdare UDC, carried along rather unwillingly, have Taken It Up with them) and face has got to be maintained. Somewhere in this the electorate has become something to be fought, not served—it is a familiar, unhappy situation. Now the whole county plan has gone to public inquiry, which will be held this month; the part relating to Aberdare should provide some lively reading.

What has caused this spontaneous opposition is the designation of eight redevelopment areas which together affect directly about one-third of the people in the town (and being a close-knit place, almost everyone is affected indirectly; there is hardly a person without a friend or relative in the threatened areas). The houses involved are



1
2



3
4

1 and 3, the humane quietly elegant pattern of old Aberdare—part of one of the redevelopment areas; 2 and 4, the inhuman waste land created in the name of sound replanning and modern space standards. Two views of a new council estate south of the town.



nearly all comely hundred-year-old stone built terraces, 1 and 3, which are structurally sound, cheap to buy (about £600; shades of Chelsea) and easy to convert; one owner has taken out and rearranged all the internal walls and ceilings, another is growing grapes and begonias in an indoor-outdoor room that was the yard. Most of the houses are freehold—they are ideal for young couples and old people—and the planners seem quite prepared to give the owners half a lifetime of unhappiness and uncertainty whilst they phase their programme map. The Council say, as some sort of excuse, that most of the redevelopment will not happen until the 1970's. With the town already £2½ million in debt this is not surprising, but meanwhile the owners lose heart, are unsettled and unhappy for years and will let the whole place run down, whereas at the moment they enjoy living in their houses and are prepared to improve them. Development Plans should remove slums; this plan threatens to create them.

The only reason that can be found in the development plan for treating these happy enclaves as something equivalent to the worst parts of Salford or a badly bombed area of Bristol or Liverpool is that they are at too high a density. In fact the highest existing net residential density quoted is 72 p.p.a. and the average is around 60 p.p.a.—figures considerably less than those used in creating internationally admired terrace houses (not flats) in London; the psychological effect of the density is made much less because there is open country within half a mile of almost every house, and, in any case, the people themselves enjoy living close together.* So why on earth should a humane liveable pattern be

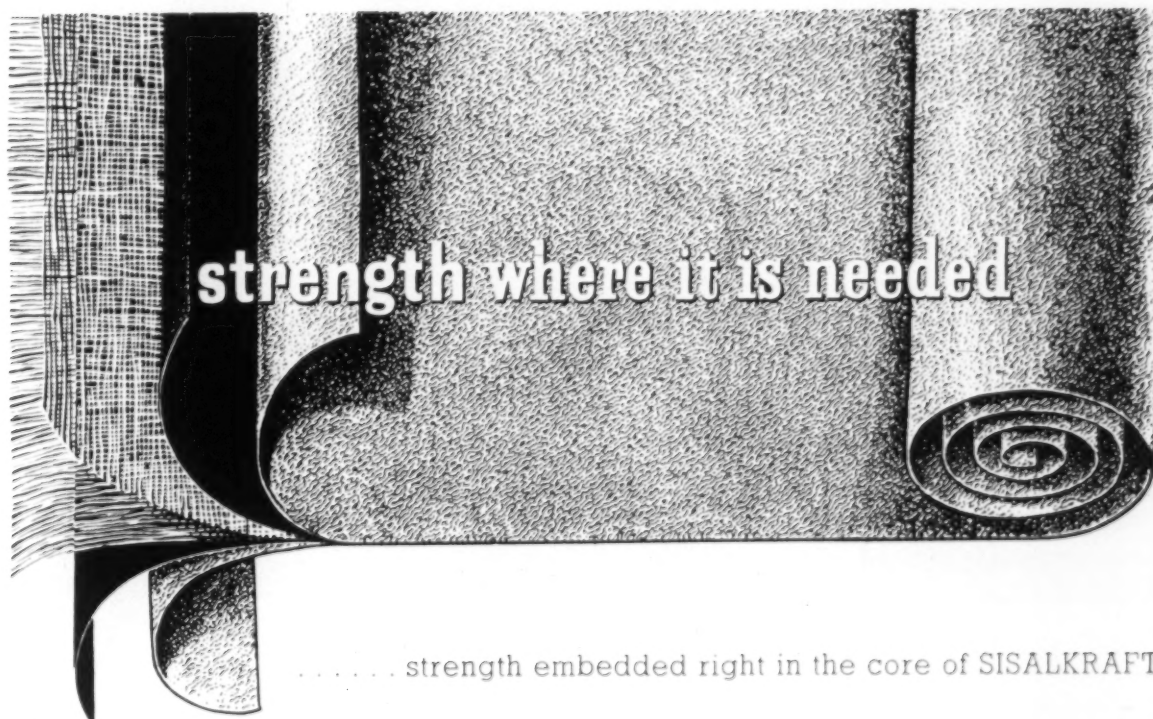
changed simply to conform to a statistic dreamed up without any relevance to Aberdare or the people who live there? This is simply planning megalomania.

What is likely to replace these houses can be guessed well enough from the latest council estates, 2 and 4 (and South Wales has some of the worst new council housing in the country). At the same time the corner shops, 5, which tie the old neighbourhoods together will be shunted off into inaccessible shopping arcades. Areas allocated for new housing (needed almost entirely as a result of this game of musical chairs) do not attempt to infill or re-use derelict land, of which there is a lot around Aberdare, but cut big slices out of the best remaining farmland in the valley, thereby taking away Aberdare's great natural advantage over the other valley towns—that it is in a spacious



5, the corner shop, handy, companionable and cheap—yet 'all new neighbourhood shops shall be located within the various secondary shopping centres.'

* Our attitude would be exactly the same if the council had wished to raise the density against the wishes of all the inhabitants—a situation which has in fact occurred in some of the Bureau's other cases.



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PD4



6

6, Aberdare from the Maerdy road. Open space and density figures ought to be given a new interpretation here when there is a whole mountain-side within walking distance—yet the standard figures have been blindly applied throughout.
7, the disused railway which forms a natural internal by-pass high above the town on the south side. In the Development Plan it stays a disused railway.
8, the Thare valley looking back at the town centre. All it now contains is disused colliery buildings and a moribund pit railway. It would become a linear park which could start in the middle of the town; the Development Plan does not mention it.
9, church spire, trees and pub; one of the many vignettes which make the centre of Aberdare a place, not an agglomeration of utilities. A true Development Plan would describe this character and show how it might be preserved and augmented.



7

agricultural valley, not simply a set of houses jammed between one mountain side and the other; the pattern is shown in the panoramic view from the mountain side to the west, 6.

With all these faults, good positive planning was hardly to be expected. Yet even to the eye of the short-term visitor (and this note does not pretend to be anything more) there are fine things in Aberdare, existing and potential. There is a derelict railway line high above the town to the west, 7, which could form a relief road giving splendid *corniche* views, and there is another derelict tramway on the east side. Instead of using them the main road-widening proposal slices through a lot of property in the centre of the town and finishes grandiloquently on the wrong side of a narrow hump-backed bridge at the meeting place of five roads. There is a steep picturesque valley,

8, containing another pit railway (soon to be closed), which runs right into the centre of the town and could form a linear park right from the Town Hall and the old churchyard to Aberdare Park, the creation of a more enlightened generation of planners. The town centre has a delightful townscape effect which could be accentuated in new building—the church is on a leafy knoll entirely surrounded by shops so that the tower and spire are always appearing behind a different combination of buildings, and foliage. 9.

All these things and many more like them could have been in the development plan; they could still be in it if the local bureaucracy would deign to listen to the wishes of the people whom it is supposed to serve. It will be a bad day for democracy as well as for town planning in Britain if it doesn't.

Ian Nairn



8



SKILL

SCANDINAVIAN STUDIES IN BUILDING CLIMATOLOGY

Building climatology is a name now being given to studies of building science embracing lighting, heating and ventilation— aspects of building science in which the natural elements must be blended with artificial aids to efficiency and comfort. When the lighting specialist has to determine the economic efficiency of a window system he finds himself often at cross purposes with the heating engineer, and realizes that what pleases him by letting in plenty of light annoys the heating man by letting out too much heat. The building climatologist, with equal interest in heat and light, can work out the best compromise without prejudice.

Specialization can be carried too far in a matter like the design of a building, and in Scandinavia as elsewhere efforts are being made to co-ordinate lighting, heating and ventilation studies. It is the lighting people like Dr. Gunnar Pleijel, of Stockholm, who are initiating this move, for it is recognized there, as it is here, that it is the natural lighting primarily which determines the basic design and structure of the building.

Building climatology, includes studies of natural radiation and climate (temperature, wind, rain, cloud, daylight illumination, etc.). There is consequently a close link between the work of the meteorologist and that of the building climatologist, as well as with the lighting and heating specialists. Some effort has been put into the measurement of the relation between total sky radiation and illumination. One of the practical uses to which such information can be put is the determination of daylight intensities from the wealth of total radiation data which is available from almost all meteorological stations throughout the world. Whereas very few stations measure daylight levels and variations, very few do not measure total radiation. If we have an acceptable figure for this 'luminous efficiency' of natural radiation, that is, the proportion of the total radiation which is received as visible light (i.e. not heat, or infra-red or ultra-violet radiation) we can draw up graphs or tables for the daylight variations as well. A figure which is meeting some acceptance as a useful average is 120 lumens per watt of received radiation. This will vary with the spectral quality of the radiation, which in turn depends on climatic conditions, but the value of 120 lumens per watt is a useful first approximation for the conversion factor.

During recent years the Faculties of Architecture in the Swedish Institutes of Technology have shown an increasing interest in Building Science. Strong departments of Building Science exist in their own right, but in addition the architectural faculties themselves have either sponsored or assisted groups of research workers. Professors Zindahl at Gothenburg and Åhrbom at Stockholm have been in the forefront of this movement. The work of Gunnar Pleijel in Stockholm on daylight has been known and respected for some long time in England, as has that of the late Harry Kreuger on building economics.

Professor Åhrbom's Department has recently moved into a new building in the Royal Institute of Technology in Stockholm, and this has given Dr. Pleijel the opportunity to expand the work of his group to include all aspects of natural radiation in relation to architecture and town planning. Natural lighting is still given prominence, but perhaps the most interesting recent develop-

ment is the work in window protection—protection, that is, from heat losses from inside the building, or from unwanted heat gain from outside.

A Study of Window Protection Devices

The background to this work is the careful fuel conservation policy of the Swedish Government. Sweden has very little natural fuel, apart from wood (which is wanted for other purposes), and so it is a matter of vital national policy to do everything possible to utilize only the most efficient means of generating heat and to prevent its wasteful dissipation. One measure of legislation is the offer of increased capital loans to developers who undertake to install triple-glazed windows in new buildings. This measure has had its effect. One result is that the manufacturers of other means of window insulation have sought to have their products included as subjects for the State's beneficence, by demonstrating with authoritative scientific data that the degree of insulation which they give is comparable with that of a third pane of glass.

The investigation at the Royal Institute of Technology was carried out in a series of nine identical insulated boxes, 1, set up on the roof of the building side by side, with a free horizon. The boxes, of about one metre cube interior, were constructed of wood with a thick layer of insulating material around all sides except the two sides intended to represent the windows. These two sides were orientated towards the north and south, and could be filled either with a window or with insulation similar to the other sides. An exterior roof of galvanized iron was laid over the whole row of nine boxes. The boxes could each be heated internally by carbon filament lamps, whose energy consumption could be measured, and continuous recordings of the temperature conditions in the boxes were made.

The effect of a protection device such as a venetian blind placed between the double panes of the windows in the boxes could be assessed by the difference between the temperature inside and that outside the box, as compared with the difference in a box without a device. The maximum value of this comparison figure was taken as a measure of the efficiency of the

protection device in keeping out natural radiation.

In a similar way the efficiency of the device as a protection against loss of internal heat could be assessed by the ratio of the temperature difference with and without the protection device, when each box was supplied with the same amount of heat from the carbon filament lamps.

Certain preliminary experiments were made to determine the heat constants of the boxes, before the experiments proper began.

For the studies of the effectiveness as protection against natural radiation, the windows were orientated towards the south. Various protection devices were installed in the windows. Of the nine boxes, the two end ones were dummies, the second from one end was without a protection device, and so acted as the monitor, leaving six for the tests. The materials tested were as follows:—

A. Pleated paper blind, white, between glass panes.

B. Pleated paper blind, dark blue, between panes.

C. Flat paper blind, with aluminium foil surface facing inwards, between panes.

D. Flat paper blind, with aluminium foil surface facing outwards, between panes.

E (i). Flat paper blind, with aluminium foil facing both ways, between panes.

E (ii). Ditto, with airtight joints.

F. Venetian blind with glossy aluminium slats set vertical between panes.

G. Venetian blind with lacquered slats set vertical between panes.

H. Isoflex (a material consisting of layers of cellulose acetate arranged honeycomb fashion, so creating pockets of air), three layers of clear foil, placed between panes.

I. Isoflex, two layers of clear foil, one layer of white diffusing foil, placed between panes.

J. Exterior white sun blind, set at 45° inclination from the upper edge of a closed double glazed window.

K. Exterior red sun blind, set at 45° inclination from the upper edge of a closed double glazed window.

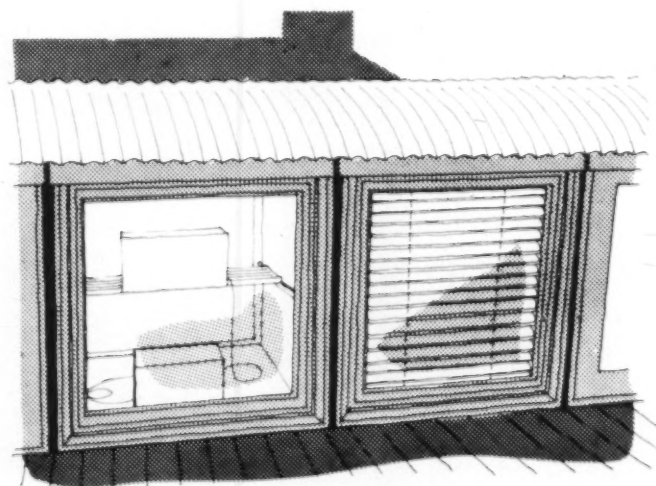
L. Exterior blue sun blind, set at 45° inclination from the upper edge of a closed double glazed window.

In addition, measurements were made of the heat losses through clear single, double, and triple glazing without any protection, and of a single pane of glass with a single white pleated paper blind behind.

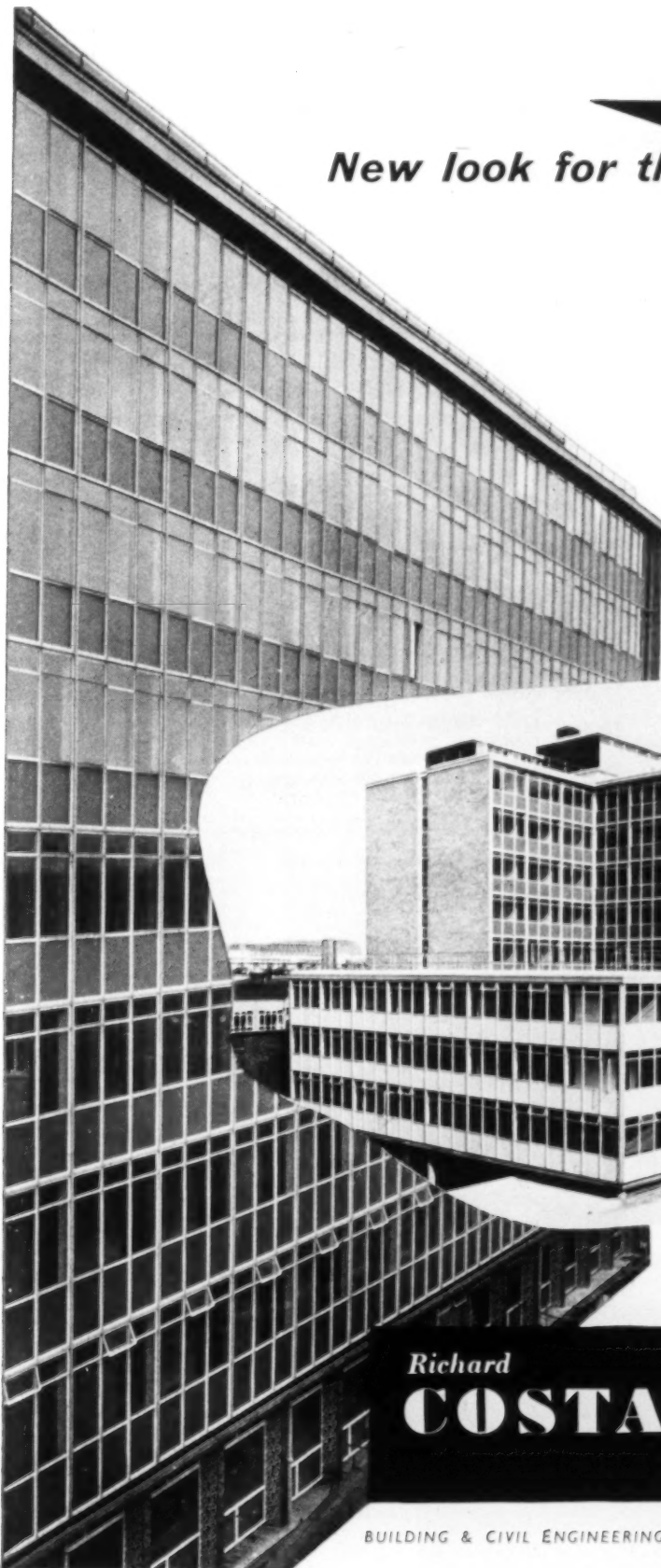
A summary of the results obtained by Pleijel is shown in the Table. The full report of the work is now available from the Swedish Committee for Building Research, or from the Royal Institute of Technology, Stockholm.

As protection against solar heat gain, the aluminium faced paper blind is very good, as are the venetian

[continued on page 273]



1, the boxes used at the Royal Institute of Technology, Stockholm to test window insulation devices.



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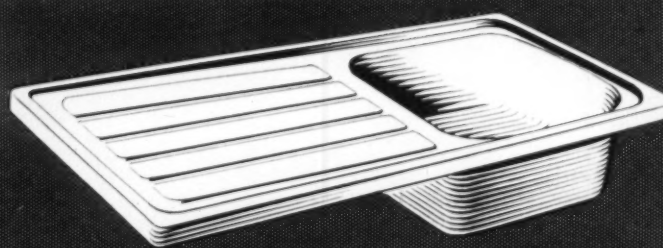
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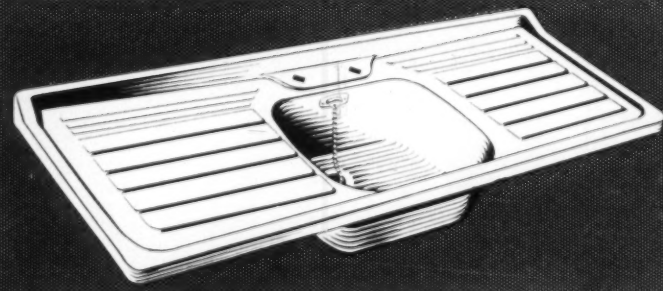


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blinds with vertically adjusted slats, and also the roller sun blinds which seem to be equally efficient whatever the colour. The white paper blinds transmit both light and heat but subjectively the effect is different. A reduction by a third accompanied by diffusion is a useful degree of protection from excessive solar heat, yet ample light is transmitted for efficient visual work on sunny days.

This is a great advantage on sunny days when protection is needed against excessive sunlight, yet there must be enough light to work comfortably. (The light transmission of the paper blinds is about 17-20 per cent.)

The aluminium faced paper blinds are of course opaque, and have their uses chiefly after dark to conserve internal heat. Isoflex transmits too much solar heat to offer any useful protection, but has the advantage of a high light transmission. Its main purpose is, however, to conserve internal heat.

Pleijel's studies (see table below), however, were conducted under conditions much more in accord with everyday practice than the previous laboratory studies. Here in England special note might be taken of the

effectiveness of aluminium foil layers and of the usefulness of a simple white paper blind hung behind an ordinary English single glazed window. (Or perhaps one should be cautious here—the standard of joinery attained by window manufacturers in Sweden appears by inspection to be higher than in England. A single glazed window loses heat only by transmission in Sweden, and not by draughts through multiple apertures left by the manufacturer or made by the builder and the weather as over here.) Samples of the aluminium foil blinds were obtained, but at the moment it is clear that many manufacturing problems will have to be solved before these blinds can be marketed cheaply.

Pleijel is extending his studies to include problems of ventilation. His unit when fully operative should cover much the same range of study as that of the group of investigators at the Texas A. & M. experimental research station under Caudill and Reed, who, it will be recalled, have published extensively in the field of lighting and ventilation applied to building design, and have put their findings into practice in many interesting school designs. A wind

tunnel is to be built in a long underground room very well suited for the purpose.

Lighting of Factories

Meanwhile the daylighting studies for which Pleijel is best known in this country have continued with some interesting results. Of perhaps special interest are the studies of the natural lighting of factory buildings. In England there was a great deal of activity in the field of factory lighting during and at the end of the war, but since then daylight research has been concentrated mostly on other types of building, especially schools, offices, laboratories and hospitals. This has probably been because the problems posed were the most rewarding from the point of view of co-operation between architect and scientist. The end point could be clearly defined in visual terms, and there was the attraction therefore of architect and scientist seeking together a solution satisfactory in both photometric, visual, and architectural terms. Factories, on the other hand, are so often required to be 'flexible' or 'all-purpose,' that the study of their lighting problems has interest only for those concerned with the purely computational side. All the factory designer asks of the lighting consultant is that a certain quantitative level of natural light should be achieved with the least cost in glazing, heat loss and maintenance.

To any one with this interest in the computational side there is certainly plenty to do. One study of special interest from both the daylighting and the architectural point of view is that undertaken in connexion with the design by Ove Bull of the new Sundbyberg cable factory for Max Sieverts Kabelverk (a subsidiary of the L. M. Ericsson group, for whom Herr Bull is the Building Supervisor). The fenestration of this factory is entirely by glass block, except for the view windows of the dining room on the top floor.

As Sweden does not manufacture glass block, it had all to be imported from the USA at high cost. In spite of this, the overall cost of the building was not high, as the glass block fenestration lent itself to the type of construction with lightweight concrete blocks (Siporex blocks with foamed plastic interleaving). The fenestration consists of long sections of glass block in both roof and side walls. The building is approximately 60 by 77 metres on plan and the long axis is orientated ESE-WNW. The daylight illumination is achieved by transverse rows of glass blocks in the plane of the roof supplemented

by lengthwise bands of glass blocks on the long facade. The glass blocks are all of the double-welded vacuum type. Side lighting is provided by a continuous run of block, 3 metres high from the sill, comprising fifteen blocks, of which the top eleven are diffusing and the lower four are clear to give some view outside. The roof lighting consists of a continuous run of diffusing glass block, 4 metres wide. Before the building went up, model studies were made to determine the distribution of light and the levels of daylight factor. An analysis of the lighting economy was made, paying regard to heat losses, cost of artificial light, and the maintenance costs. The optimum was found to be with 4-metre broad glass block strips. It was also established that the yearly cost per square metre of floor area would be about 3s. higher with a saw-tooth roof of 22 per cent window factor than with the 4-metre glass block system. Only running costs were considered in making this comparison. The designers believed that the overall costs of the glass block-cum-Siporex lightweight concrete system of construction were considerably lower. Costs, of course, are based on Swedish prices of materials and labour, and may not be relevant in England, but the building is undoubtedly a good one and deserves careful study over here.

The total daylight factor was determined by Pleijel to be 4 per cent, but is said to be somewhat higher. On a recent visit no measurements of daylight factor could be taken because the day was clear and sunny, but the level of indoor illumination, even with a considerable amount of snow on the roof, was 80 lumens per square foot. The well-known faults of glass block glazing, especially excessive glare from concentrated sunlight in the clear blocks, were, however, present. On dull days, however, the result would probably be reasonably comfortable and certainly adequate in level, except in winter, for the type of work going on in the building. An adequate artificial lighting installation is also provided, and is believed to be in use fairly continuously during the winter.

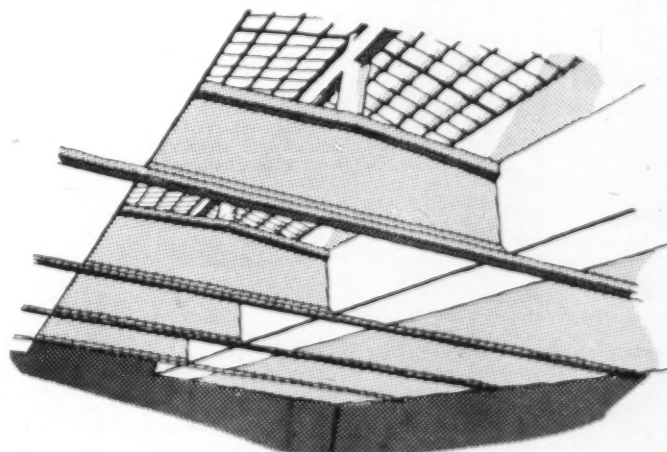
The canteen in this building is a most pleasant, airy and light place. A combination of side and top light ensures an adequate level of light, and a good view through the side windows which here alone in the building are of clear glass and not of glass block. The roof, 2, incorporates a built-in system of artificial lighting of considerable interest. 'Daylight' type fluorescent lamps behind fluted

table of results

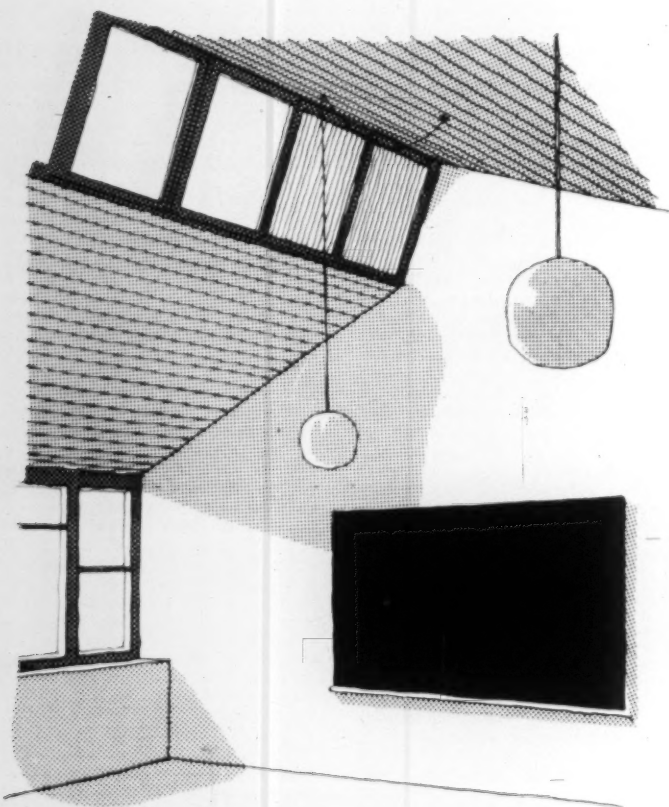
Measured on various window protection devices by Dr. G. Pleijel at the Royal Institute of Technology, Stockholm.

Protection Device (between panes of double glazing unless stated otherwise)	Solar heat transmission %	Heat loss of internal heating Kcal/m ² h°C
A White pleated paper blind between double glazing	35	1.68
B Dark blue paper blind	50	—
C Flat paper blind with aluminium foil facing inwards	28	1.34
D Ditto, facing outward	21	1.34
E (i) Ditto, facing both ways	14	1.16
E (ii) Ditto, with airtight joints	—	0.94
F Venetian blind with glossy aluminium slats set vertically	25	1.50
G Ditto, with lacquered slats set vertically	31	1.80
H Clear Isoflex	79	1.61
I Isoflex, two layers clear, one layer diffusing	68	1.61
J Exterior white roller sun blind set at 45°	26	—
K Ditto, red	24	—
L Ditto, blue	22	—
M Double window without protection device	—	2.22
N Triple window without protection device	—	1.61
O Single glazed window	—	3.63
P Single window plus white paper blind	—	2.19

The values given in the Table can only be taken as relative, and applying to the experimental conditions. It would be unwise to convert them into British working units and then attempt to compare them with published figures, unless the precise experimental conditions for both sets of figures are known and can be allowed for. For conversion, 1 Kcal/m²h°C = 0.205 B.T.U./ft.²h°F.



2, in the canteen of the Max Sievert cable factory at Sundbyberg, (near Stockholm), the roof lighting is supplemented by fluorescent lighting which blends well with the daylight.



3, top light in the Markhøj School, Tøfted, Denmark, designed to increase the uniformity of daylighting from one side only.



4, typical 'set-back' section used in Danish schools.

diffusing plastic sheet blend with the sky light from the roof, supplementing the daylight on dull days efficiently but imperceptibly. After dark the fluorescent lighting is supplemented by decorative lighting to enliven the character of the room. The levels of lighting are high by day or by night, but there is no excess of light, and one is not conscious of glare or overpowering brightness. Good acoustics and a high-fidelity system for music, announcements and works concerts add to the amenities of the place.

Lighting in Schools

Scandinavian schools differ in some respects from our own, not least in the systems of education which lie behind them. The ideas of free play and movement in the classrooms themselves which are a feature of English post-war education are as fully accepted in theory in Scandinavia but are not so much practised. This might be denied by some Scandinavian educationists, but personal experience, by visiting English people demonstrates that rarely, if ever, does one go unannounced into a Scandinavian classroom and find the children anywhere but at their desks arranged in formal rows.

The designs of classroom reflect this basic attitude to education. Great pains are taken to ensure that good light comes in plentifully from the left side only (all Scandinavian children must be right-handed); this demand does in fact determine the whole aspect of the school.

One of the main differences between English and Swedish practice appears to be in the attitude to ventilation. Scandinavians, especially Swedes, abhor all draughts. In Sweden and Denmark windows are only opened to give quick ventilation after one class has left the room, and are closed again when the next comes in. They are not often opened during the heating season, and not at all in the really cold weather.

The result in Denmark, 3 and 4, is a basic design of school section consisting of a large low window and a supplementary small high window set back towards the middle of the

room. In Sweden there is rather more variation, because more multi-storey schools are built, but the light is still planned to come from the left. One particularly interesting solution is that by Carl Nyren for the Morby Lärverk near Stockholm. There is a main low window on the left, and a novel form of lantern to the right, the ceiling sloping upwards to this lantern. The lantern window itself faces in the same direction as the main window (south), but the light is collected in a white enclosure above the ceiling, diffused and re-directed into the room off a white wall. Direct light is prevented by a set of louvres at ceiling height from reaching the rear wall. The back wall is consequently evenly lit, and the lighting in the whole of the back part of the room is supplemented by a gentle suffusion which does not destroy the directional character of the main lighting.

This solution is a particularly happy one in sunlight. The main window must, on occasions when the sun is low, be shielded by light curtains, and the warm diffused sunlight coming in through the lantern brightens up the whole room.

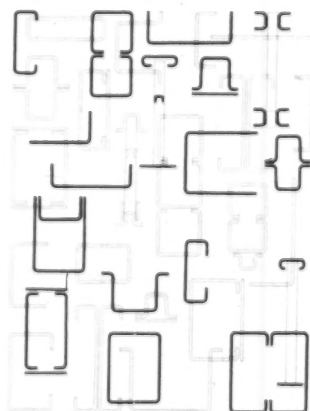
Perhaps some of the Scandinavian solutions to the school lighting problem may not please us here in England, but they have been very carefully worked out. Their solutions please the Scandinavians, and they believe that they are often better than ours. Lighting, in fact, figures very high on the list of those things which go to make a good school. Professor Steen Eiler Rasmussen summed up the Danish attitude—the most important effect of good lighting is not so much that it enables people to see better, although that is obviously important, but that it should have a stimulating and lasting effect on them, both teachers and children, which cannot be supplied by heating, or comfortable furniture, or books, or colourful accessories. In Sweden too it was stated that the main advantages of good lighting are that children and teachers alike are kept fresh and alert all day. Once the minimum level of light necessary for adequate seeing has been passed, the effect on vision is of secondary importance.

THE INDUSTRY

Cold Rolled

The advantages of cold over hot rolled steel sections are at least as much architectural as structural. For though their use does not always show a saving in weight of steel over the use of hot rolled sections, it will in almost every case show a saving in finishes and in fixing. For cold rolled sections are at once more acceptable to the eye (i.e. they do not have to be covered up) and as they follow a more straightforward rectangular profile (what a beast the traditional hot rolled r.s.j. is in this respect!) they are easier to fix to and to trim against. Indeed, when we look into the matter we see that the good American vernacular and the good English (schools) vernacular are both based on the visual and structural simplification which comes from their use. It is, after all, natural that this

should be so, for cold-rolled sections are inseparable from prefabrication. An interesting booklet on this subject, produced specially for architects, with the title *Cold Rolled Structural Steelwork*, has just been produced by James W. Ellis & Co. Ltd. It describes in turn the application to box stanchions and beams, to two-storey construction, to lattice girders and roof trusses, and to lattice beams; and concludes with two particularly interesting chapters on clerestory construction and curved trusses. The whole contains much useful information, though not quite as much as we could wish. How greatly the use of these sections would be encouraged if architects were provided with tabulated data similar to that available for hot rolled sections. Though it is comforting to know that the manufacturers have a design staff



1, selection of types of cold rolled steel sections.

willing and able to help, this is no substitute. James W. Ellis & Co. Ltd., 127 Victoria Street, London, S.W.1.

Steel Partitioning

Sankey Sheldon have recently installed some of their new Picture Window Partitioning in a bank shown in 2, overleaf. The partitioning can be demounted and re-erected without damage to the floor. This is achieved by fixings at approximately 4 ft. centres with a patent fixing screw about 1/2 in. in length which leaves a small hole of 1/4 in. diameter when the partitioning is removed. The screw is punched down and the hole filled. It is claimed that any form of glass may be used, including double glazing, and the partitioning itself is lined with Stillite packing, which has been subjected to fire tests and been approved by the LCC. Wiring channels are housed in either skirting or transome, two accessible ducts being provided, one for the GPO and the other for general internal use. The makers claim that two men can erect 100 ft. run of partition in four days complete with glazing. The approxi-

[continued on page 276]



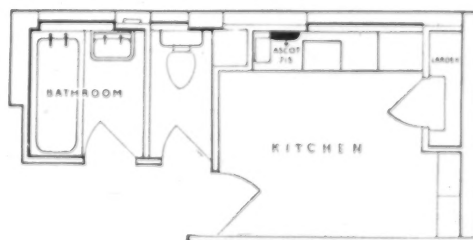
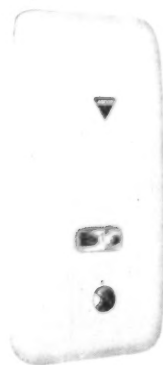
Tower Court Flats, Clapton Common

ASCOT IN NEW HOUSING (7)

Tower Court Flats, Hackney, is one of a number of schemes designed by different architects around the perimeter of Clapton Common for the Hackney Borough Council. Tower Court consists of 2 blocks of flats: a four-storey block containing 16 two and

three-bedroom maisonettes, and a nine-storey block containing 51 flats of bed-sitting room, one-bedroom and two-bedroom design.

To provide an instantaneous hot water service throughout all the flats at Tower Court, Ascot 'balanced flue' multipoints were installed in the kitchens.



PLAN OF KITCHEN AND BATHROOM IN A TYPICAL
TOWER COURT FLAT SHOWING POSITION OF ASCOT 715

RESPONSIBLE AUTHORITIES

Director of Housing Development: Geo. L. Downing,
O.B.E., M.I.C.E., M.I.Mun.E., A.M.I.Mech.E.

Architect: Harry Moncrieff,
F.R.I.B.A., A.M.T.P.I.
of Co-operative Planning Ltd.

Contractor: Direct Labour.



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2, 'picture window' steel partitioning.

mate cost including glass is quoted as 12s. to 17s. per sq. ft. installed depending on modules, etc. *Sankey Sheldon Ltd., 46 Cannon Street, E.C.4.*

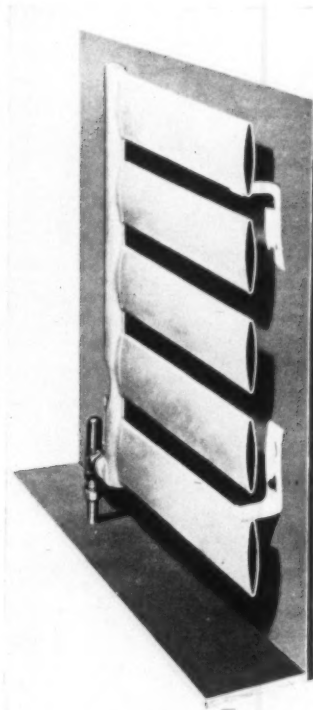
Wall Radiator

A new type of wall radiator for hot water central heating, manufactured by Washington Engineering Ltd., consists of a horizontal arrangement of narrow elliptical section tubes placed one above the

other, in four different overall heights, and may be obtained in lengths up to 20 ft.

Performance is claimed to be equivalent to the normal panel radiators of similar overall face dimensions, and superior to the sectional type of radiator in having a higher heat emission through radiation rather than convection. Wall mounting is advised, and with both single and double banks it is claimed that cleaning at the back is simple, since the space behind the radiator is

easy to get at. This is a virtue which does not always apply to the wall mounted type panel radiator. *Washington Engineering Ltd., Washington, Co. Durham.*

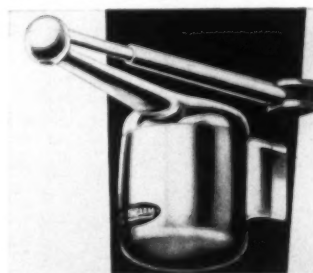


3, radiator with elliptical tubes.

Door Closer

Door closers by the nature of their function, are prominent objects. It is therefore encouraging to find consideration being given to their appearance by manufacturers. The illustration shows the 'Strongarm' door closer of welcome simplicity and with few dust traps. Finishes available are Chrome, Copper Bronze (B.M.A.), Contemporary Enamel, and Silver Mist (which the makers liken to stainless steel). The closer is designed to close at a constant rate over a wide and variable range, and is smooth and silent in operation. The hydraulic fluid used is not affected by climatic extremes. The fixing is concealed, thus rendering the closer thiefproof, and suitable for use on glass doors. It is also exceptionally easy to install, and this is further assisted by its being light in weight.

Armstrong Patents Co. Ltd., Beverley.



4, 'Strongarm' hydraulic door closer.

New Boiler Design

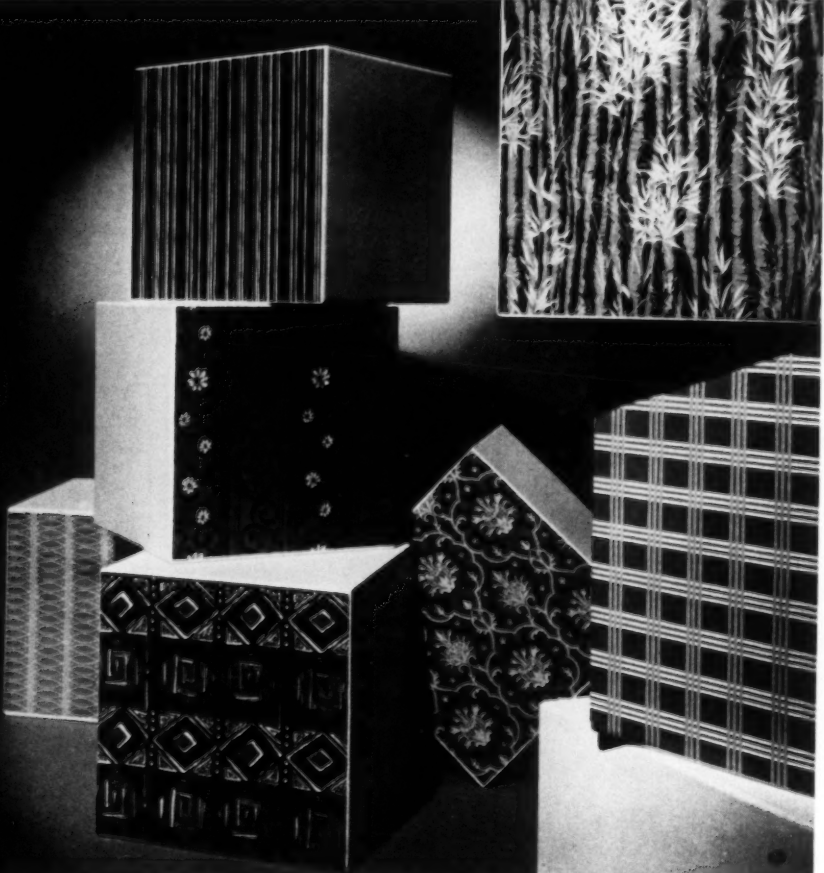
The manufacturers of Tayco boilers are well known both for the efficiency

[continued on page 278]



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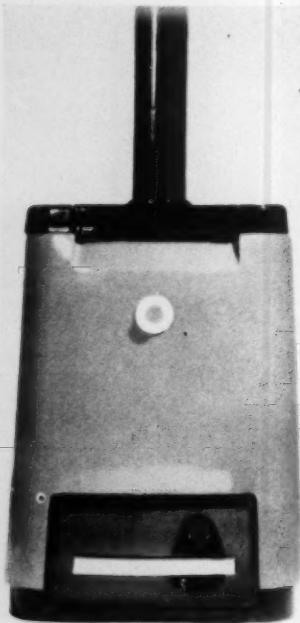
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continued from page 276]

of their boilers and the company's concern for good appearance. This new design is the happy result of a manufacturer engaging the skill of Neville Conder, who worked with the design and production staff at one of the foundries to produce the Tayco 'Thermatic.' The rated output is 23,000 BTUs per hour, the rate of burning is automatically controlled and the design incorporates an enclosed grate 'shaker' of a new



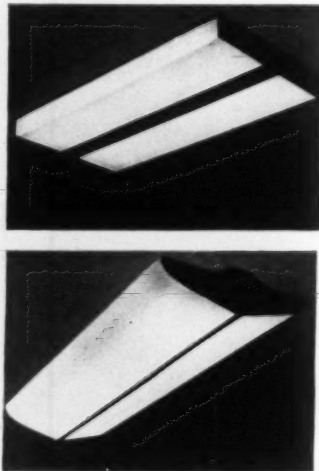
5, Tayco 'Thermatic' boiler.

type, and a deep ashpan. Dimensions are: height 27 in.; overall width at base 20 in.; overall depth at base 17 in. It is claimed that with a 30-gallon hot water cylinder, a towel rail, small radiator, and up to 12 sq. ft. of pipe surface may be heated additionally. The boiler is available in various coloured finishes, and the price is likely to be around £29.

Robert Taylor & Co. (Ironfounders) Ltd., 170 Victoria Street, London, S.W.1.

New Fluorescent Fittings

Two new fluorescent fittings have just been produced by Harris & Sheldon (Electrical) Ltd. The first is a severely rectangular fitting designed



6, semi-flush fluorescent fittings.

for semi-flush mounting on low ceilings. Projection from the ceiling is no more than 3 1/2 in. and is made possible by locating the control gear centrally between the tubes. The diffusers are of perspex, and each fitting takes four 5 ft. 80-watt tubes. The overall measurements are 61 in. by 25 in. by 3 1/2 in. Fixing centres are at 30 in. by 7 in. and the weight is 68 lb. The price is £41 5s. 0d. The second fitting is a pendant, again taking four 80-watt tubes. Both fittings are available in eighteen British Standard colours at no extra cost. The designer was Robert Tate.

Harris & Sheldon (Electrical) Ltd., 46 Great Marlborough Street, London, W.1.

No Back-Up Wall

One of the great inhibitors of curtain wall development in Britain is, of course, the public authorities' requirement of two hours' fire resistance; which has always meant, in practice, building a sill-height back-up wall behind the curtain. This is costly in itself, and it has the further disadvantage that, if you have a sheer wall, it must be erected from outside the building. Gardiner's 'Muragard' is the first curtain wall in this country to be given a two-hour fire rating. 'Muragard,' which first appeared at the last Building Exhibition (after the AR article 'Walls off the Peg') makes use of precast concrete mullions. The first application of this particular curtain was to an office building fronting Gardiner's own new offices at Broad Plain, Bristol, and was erected from inside the building, without scaffolding.

Gardiner Sons & Co. Ltd., Midland Works, Bristol, 2.

Advice on Colour

'Good Colour'—a bright yellow-covered 16-page brochure presents ICT's Colour Advisory Department. It begins with the confession that Dulux did not sell very well before the war and that to help matters, the firm set up this service. Its first big success came in 1944 at the Mill Lighting and Colour Exhibition in Manchester. The examples of its work, colour printed on following pages—rolling mills, schools, power station, swimming bath—bear out the proud assertion of the preamble that the personnel of the service are not 'highbrow scientists, long-haired artists or precious theorists' but 'ordinary people.' Hence, no doubt the predilection for green and off white.

For this and the Technical Advisory Service a new building has been put up at Slough—departmentalized and fully equipped to answer all manner of queries, give demonstrations and make tests.

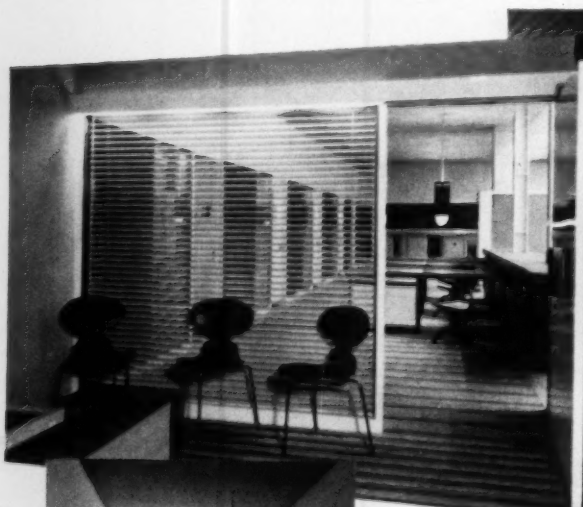
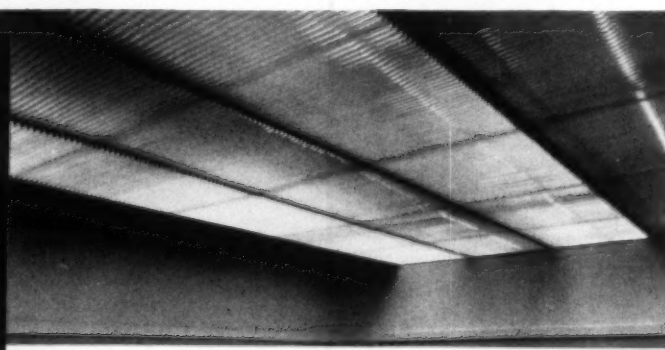
ICI, Millbank, S.W.1.

CONTRACTORS etc

Correction: The Belgrade Theatre, Coventry. The copper Coat of Arms at the Belgrade Theatre, Coventry, was made by George Lister & Sons, of Cambridge. The name was inadvertently omitted from the July issue.

Flats at Ham Common. Architects: James Stirling, James Gowan. General contractors: Rice & Son.

[continued on page 280]

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SUNWAY SKYLIGHT BLINDS

Vevo

SUNWAY SKYLIGHT BLINDS in this installation have been cleverly used by the Architects for dummy decorative units and floating ceilings. The special holding device fitted to all Sunway Skylight Blinds provides easy access to the reverse side, the slats simply unclip and spring back into place.

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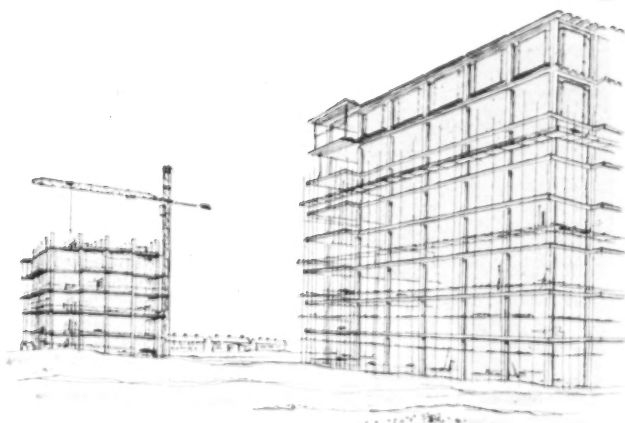
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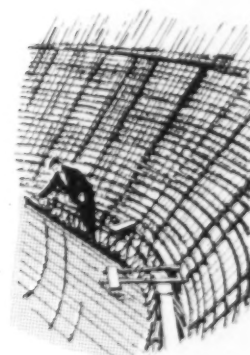
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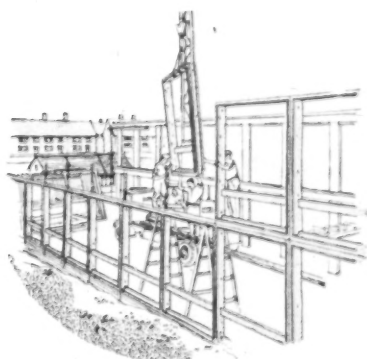
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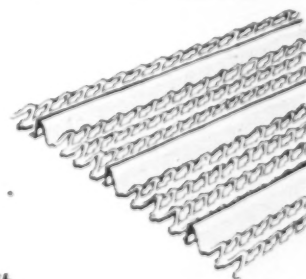
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continued from page 278]

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Interiors: Offices for Air France, Bond Street, W.I. Architect: Charlotte Perriand. **Consulting architect:** Peter Braddock. **General contractors:** Harris & Sheldon Ltd. **Sub-contractors:** Building work and plasterwork to North wall, reinforced construction of domes and brick and stone paving: H. Bartlett (Builder). **Acoustic plasterwork to suspended ceiling, fibrous plaster lighting cover and troughs:** H. & F. Badcock Ltd. **Metal furring to suspended ceiling:** Universal Metal Furring & Lathing Co. **Heating panels in ceiling, tubular heaters and ventilation fans:** Thames Bank Iron Co. **Electrical work:** Harris & Sheldon (Electrical) Ltd. **Glasswork (supplied from Paris):** Glaces de Boussois. **Metalwork to glazing and metal**

entrance door-frames: M. D. Guidotti. **Glazing work and plate glass windows:** James Clark & Eaton Ltd. **Plastic sliding doors to fittings and cellular partition:** M. Steph-Simon. **Moveable belts to European counter:** Lamson Engineering Co. **Photo murals:** Studio-Astron. **Autotype Ltd. Carpeting:** Hampton Contracts Ltd. **Filing cabinets and pedestals:** Roneo Ltd. **Lockers:** Sankey-Sheldon Ltd. **Lascia lettering:** Lundsigns Ltd. **Plastic coverings:** Formica Ltd. **Flag-poles and flags:** Piggot Bros. & Co. **Internal telephone system, external telephones:** Communication Systems Ltd.

Interiors: Offices for Air India, Bond Street, W.I. Architects: Alexander Gibson and Philip Lucey of Design Research Unit. **General contractors:** F. W. Clifford Ltd. **Sub-contractors:** Decorative glass: London Sand Blast Decorative Works Ltd. **Light fittings:** Oswald Hollman Ltd.; Merchant Adventurers Ltd.; Courtney Pope Ltd. **Conveyor belt:** Lamson Engineering Co. **Signs:** Pearce Signs Ltd. **Chairs and settee:** Hille of London Ltd. **Carpet:** The Carpet Manufacturing Co.

School at West Derby, Liverpool. Architects: Harold E. Davies & Son in collaboration with the Liverpool City Architect. **General contractors:** R. J. Barton & Sons. **Reinforced concrete and precast units:** Trussed Concrete Steel Co. **Metal windows, patent glazing, metal W.C. partitions:** Henry Hope & Sons Ltd. **Roof coverings:** William Briggs & Sons. **Glazing:** Williams & Watson. **Rustic facing bricks:** Ravenhead Brick Co. **Dinorwic grey concrete bricks:** James E. Beard & Co. **Concrete paving flags:** Liverpool Artificial Stone Co. **Roads and playgrounds:** George Wright Ltd.

Main entrance gates and railings: George Lowe & Sons. **Concrete bollards:** Masoncrete Ltd. **Heating installation:** Engineering Service Installation Ltd. **Electrical installation:** Winstanley & Barnett. **Thermoplastic and P.V.C. flooring:** Limmer & Trinidad Lake Asphalt Ltd. **Hardwood flooring:** Dixon Bros. Ltd. **Terrazzo flooring:** The Carrara Marble Co. **Sanitary fittings:** Perrin Hughes & Co. **Ironmongery:** Campbell & Mabbs. **Sliding partitions:** Esavian Ltd. **Roller shutters:** Thornborough & Son. **Perspex domelights:** William Freer Ltd. **Paints:** Keystone Ltd. **Wallpapers:** William Park. **Stage lighting equipment:** Strand Electric & Engineering Co. **Ventilating fans:** Brookes Ventilation Units Ltd. **Emergency lighting and fire alarm:** Pritchett & Gold & E.P.S. Co. **Lightning conductor:** Brunswick Restoration Co. **Laboratory fittings:** E. Taylor & Co. **Laboratory tables:** R. A. Stringer & Co. **Vulcanene wastes:** J. S. & F. Folkard Ltd. **Cloakroom equipment:** Peakes (1932) Ltd. **Wire mesh lockers:** Brookes & Co. (1925) Ltd. **Assembly hall curtains:** G.B.-Kalee Ltd. **Lettering:** Drakard & Humble Ltd. **Roller chalk-boards:** Wilson & Garden Ltd. **Blackout and sun blinds:** Hurst & Ward. **Electric light fittings:** Merchant Adventurers Ltd.; G.E.C. Ltd.; Falk Stadelmann & Co.

Offices in Monmouthshire. Architect: Frank Scarlett. **General contractors:** Hinkins & Frewin Ltd. **Solid floors:** Pierhead Ltd. **Metal windows:** Williams & Williams Ltd. **Canopy:** Wainwright & Waring Ltd. **Balustrade and railing:** Gardiner, Sons & Co. **Door furniture:** Walker & Wood Ltd. **Light:** Hammond & Champness Ltd. **Marble:** J. White-

head & Sons. Partitions: Compactom Ltd. **Sanitary fittings:** Adamsez Ltd.; W. H. Knowles. **Floor finishes:** Armstrong Cork Co. **Rendering:** Mineralite Ltd. **Special furnishing:** Ian Henderson Ltd. **Laboratory fittings:** North of England School Furnishing Co. **Kitchen equipment:** Benham & Son. **Heating, ventilating and electrical installation:** G. E. Taylor & Co. **Mosaic:** Zanelli Ltd.; Marriott & Price Ltd. **Foundation:** Le Grand, Sutcliffe & Gell Ltd.

House at Strawberry Hill. Architect: Kenneth Wood. **General contractor:** J. Clayton. **Warm-air heating:** Radiation Ltd. (Warm Air Division). **Roofing:** London Asphalte Co. **Joinery:** Humphreys Ltd. **Bricks:** Ryarsh Brick & Sand Co. **Paints:** Smith & Walton Ltd. **Timber sealers:** Floor Treatments Ltd. **Ironmongery:** Alfred G. Roberts Ltd. **Sanitary fittings:** Shanks & Co. **Bibs, etc.:** Barking Brassware Co.

Architects' Office at Lewes. Architects: Chilton, Waters & Stutchbury. **Trofdek roofing:** H. Newsum & Sons. **Roofing build-up:** James Chandler (Lewes) Ltd. **Electrical installation:** Guest Electrical Ltd. **Floor coverings:** Revertex Ltd.

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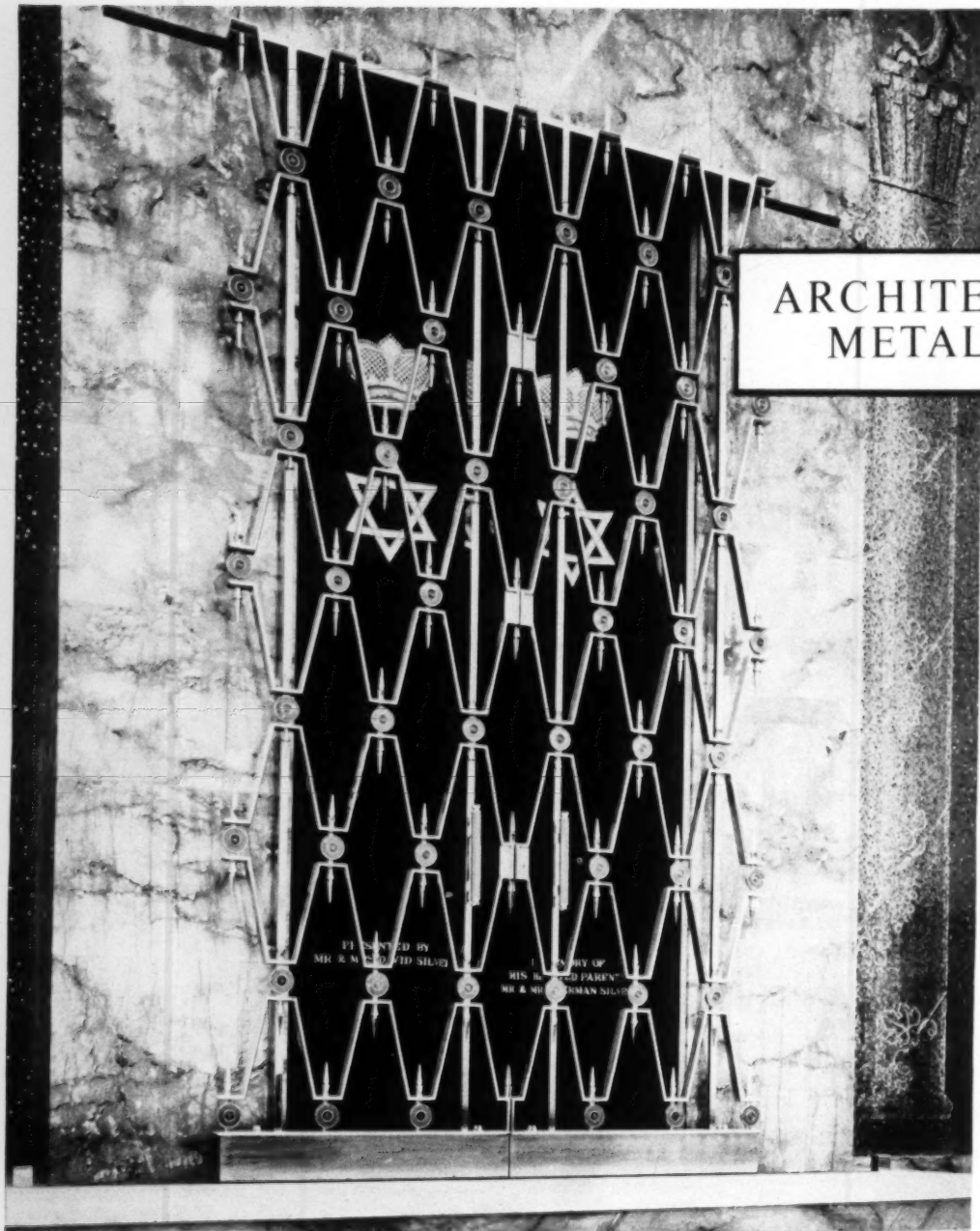
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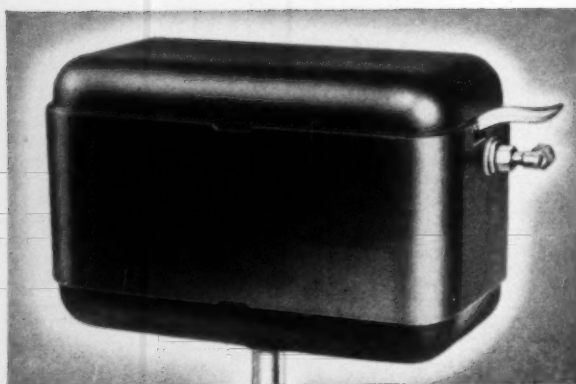
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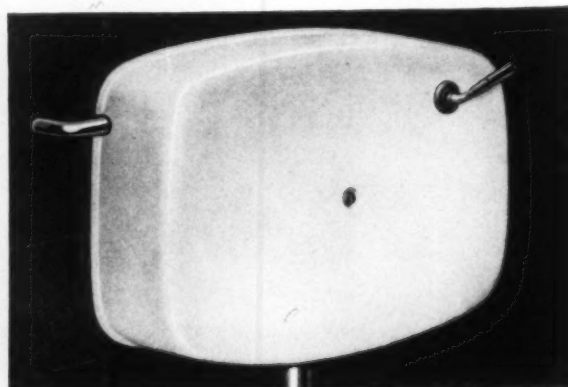
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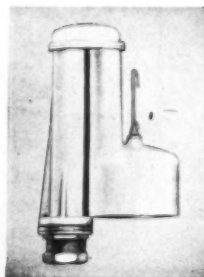
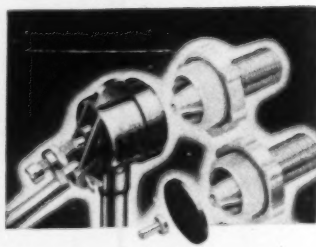


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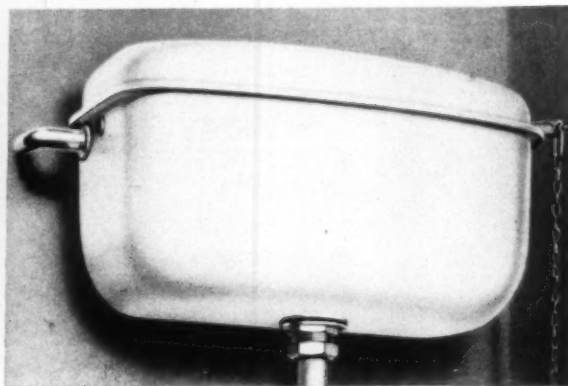


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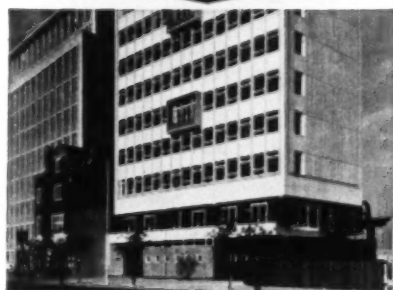
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DRI-SIL silicone masonry treatments

- * Keep buildings dry
- * Prevent damp and deterioration caused by weathering
- * Keep buildings clean
- * Prevent staining and streaking
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- * Maintain thermal insulation of buildings by preventing the absorption of moisture by the walls
- * Are effective for many years, thus reducing maintenance costs
- * Are easy to apply by brush or spray

For new buildings



OFFICES OF DOCK LABOUR BOARD
by courtesy of Frederick Gibberd

For old buildings



ALL SAINTS' CHURCH, HASTINGS
by courtesy of the Rector and consultant Architect

**Proof of the
effectiveness of
these treatments
is shown in
this table**

		% Water absorption after 24 hours immersion	
		Initial test	Retested after 3 years' natural weathering
Sandstone	untreated	7.0	6.2
	DRI-SIL treated	0.1	0.2
Cement Block	untreated	6.0	5.9
	DRI-SIL treated	0.4	0.7
Common Brick	untreated	20.0	20.1
	DRI-SIL treated	0.1	0.3

All over the country DRI-SIL treatments
have been used on many buildings, large and small, old and new.
Use a DRI-SIL silicone to guarantee the quality

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Bitulac Ltd, Newcastle-upon-Tyne
S. Bowley & Son Ltd, London, SW11
British Paints Ltd, Newcastle-upon-Tyne
Byrom Paint & Varnish Co Ltd, Stockport
Chemical Building Products Ltd (Dept DS1) Hemel Hempstead
Clutha Paint & Oil Co Ltd, Glasgow
Samuel Courtney Ltd, Belfast
John S. Craig & Co Ltd, Glasgow
W. David & Son Ltd, London, N1
Detel Products Ltd, South Ruislip
Stuart B. Dickens Ltd, London, SW1
Duresco Products Ltd, London, SE7
W. C. Evans & Co (Eccles) Ltd, Manchester
Evode Ltd, Stafford
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Farrow & Ball Ltd, Verwood, Dorset
Floorlife & Chemicals Ltd, Manchester
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John Hall & Sons (Bristol & London) Ltd, Bristol
Hangers Paints Ltd, Hull
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Harvey Langford Ltd, London, W1
W. W. Hill Son & Wallace Ltd, Salford
Hydrol Ltd, London, W3
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Leyland Paint & Varnish Co Ltd, Leyland
George Lillington & Co Ltd, Mitcham
John Line & Sons Ltd, London, W1
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Architects and Paint Manufacturers are invited to write for full information and details of extensive tests of DRI-SIL carried out in this country and in the USA. DRI-SIL is a registered trade mark of Midland Silicones Ltd.

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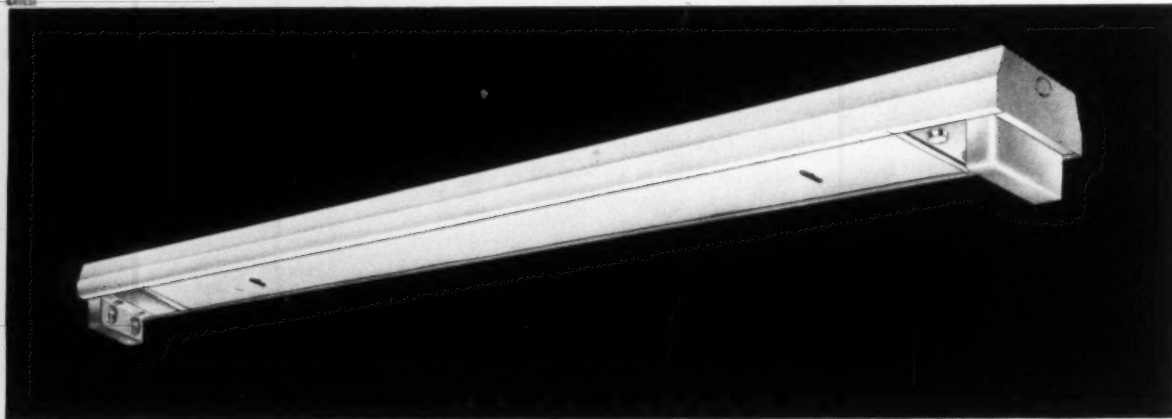
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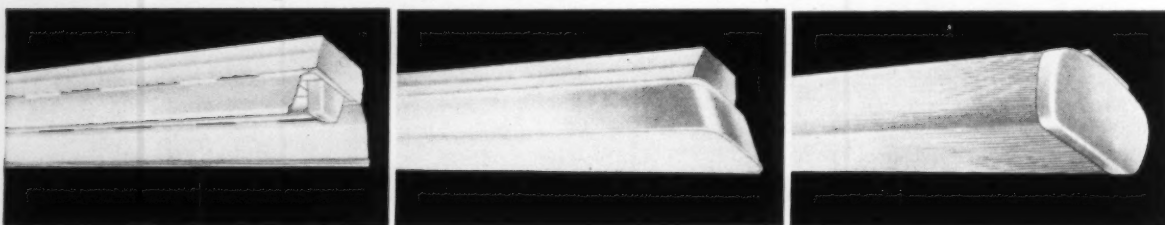
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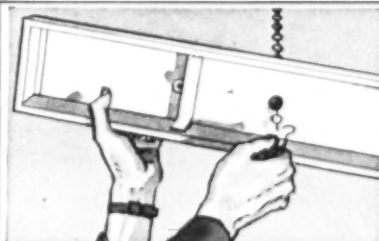
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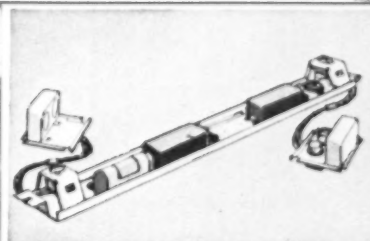
Essex Range

PATENT APPLIED FOR

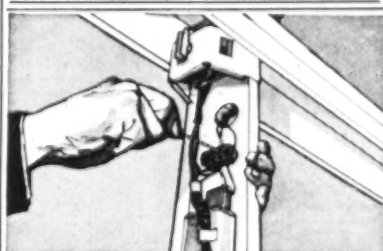
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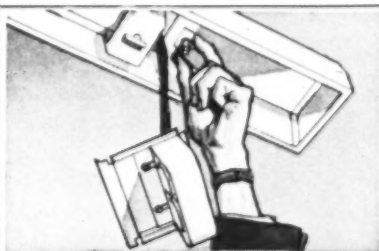
1 First the empty spine is easily fixed to conduit, chain, universal suspension or ceiling. The 5ft. spine weighs only 7 lbs.



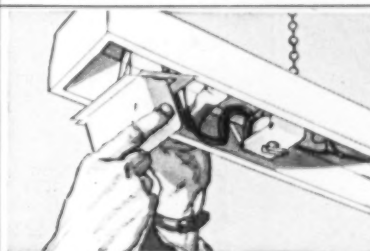
2 The control gear tray is already wired complete with lampholder assemblies. The Switchstart tray for a single tube 80W. fitting weighs only 9 lbs.



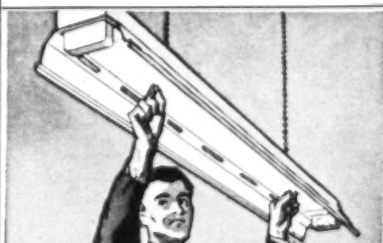
3 Gear tray is hooked into spine and hangs vertically leaving both hands free to make connections.



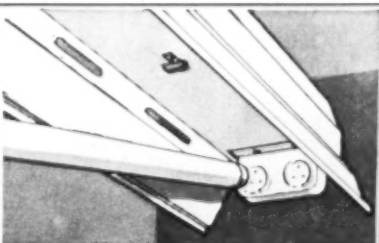
4 The gear tray is now swung up and fixed securely in position by means of the captive wing nut.



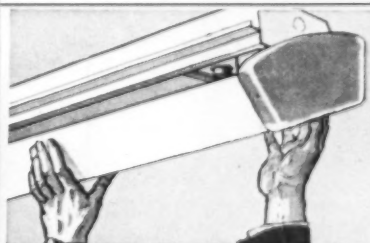
5 The lampholder assemblies are engaged into the ends of the spine and slid into position. No screws or tools are required.



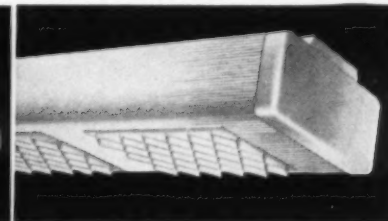
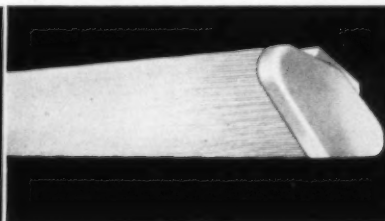
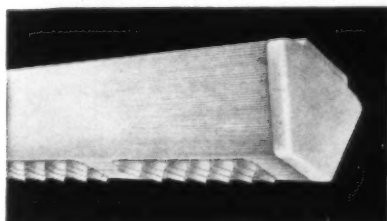
6 Reflectors (or coverplates) are instantly attached to the spine by two quick-fix turn-buttons.



7 Easy tube insertion from one end of the fitting. The fitting is now ready for use.



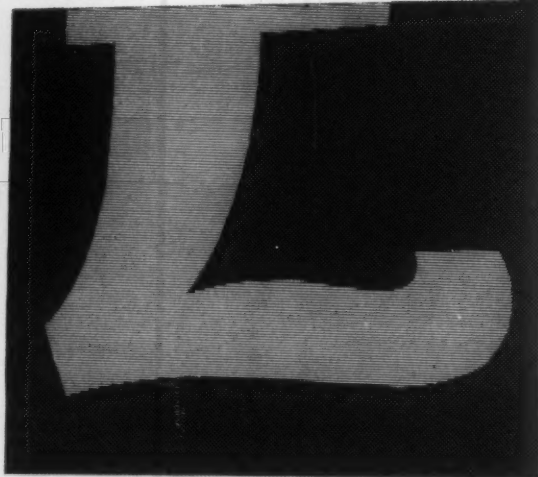
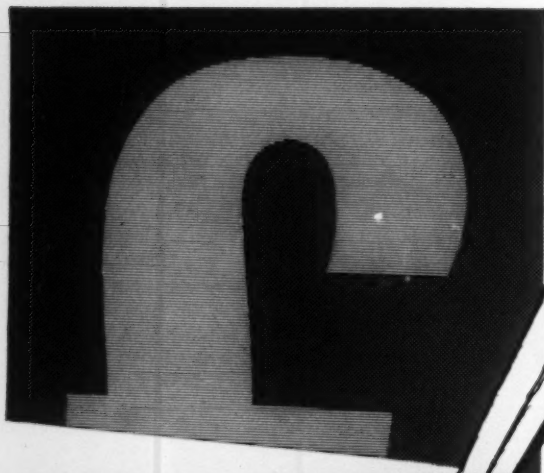
8 This illustration shows the easy method of diffuser attachment. A projecting coverplate is used, the diffuser is hung on to one side, is swung up and similarly engaged on the other side.



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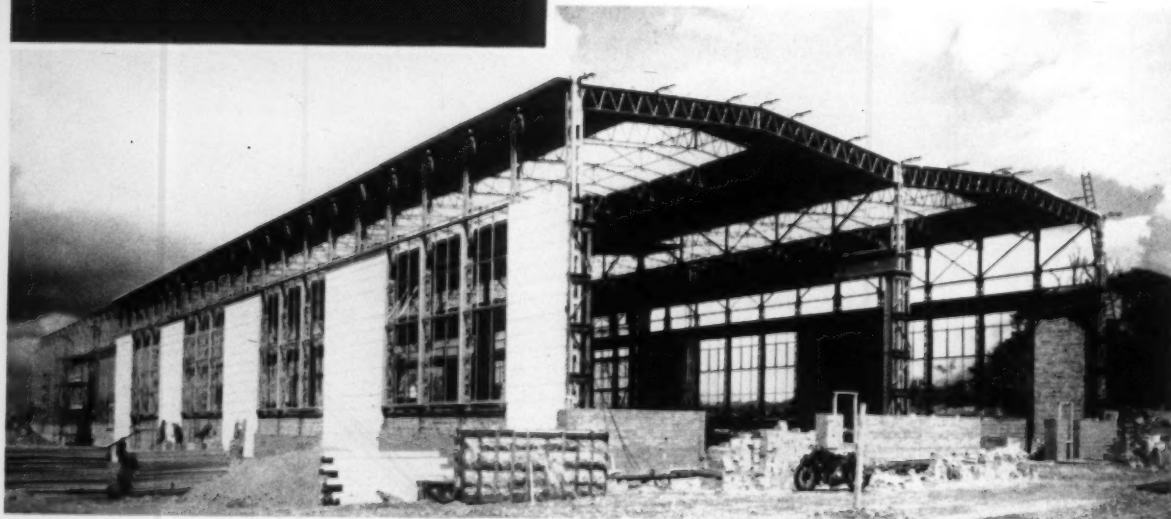


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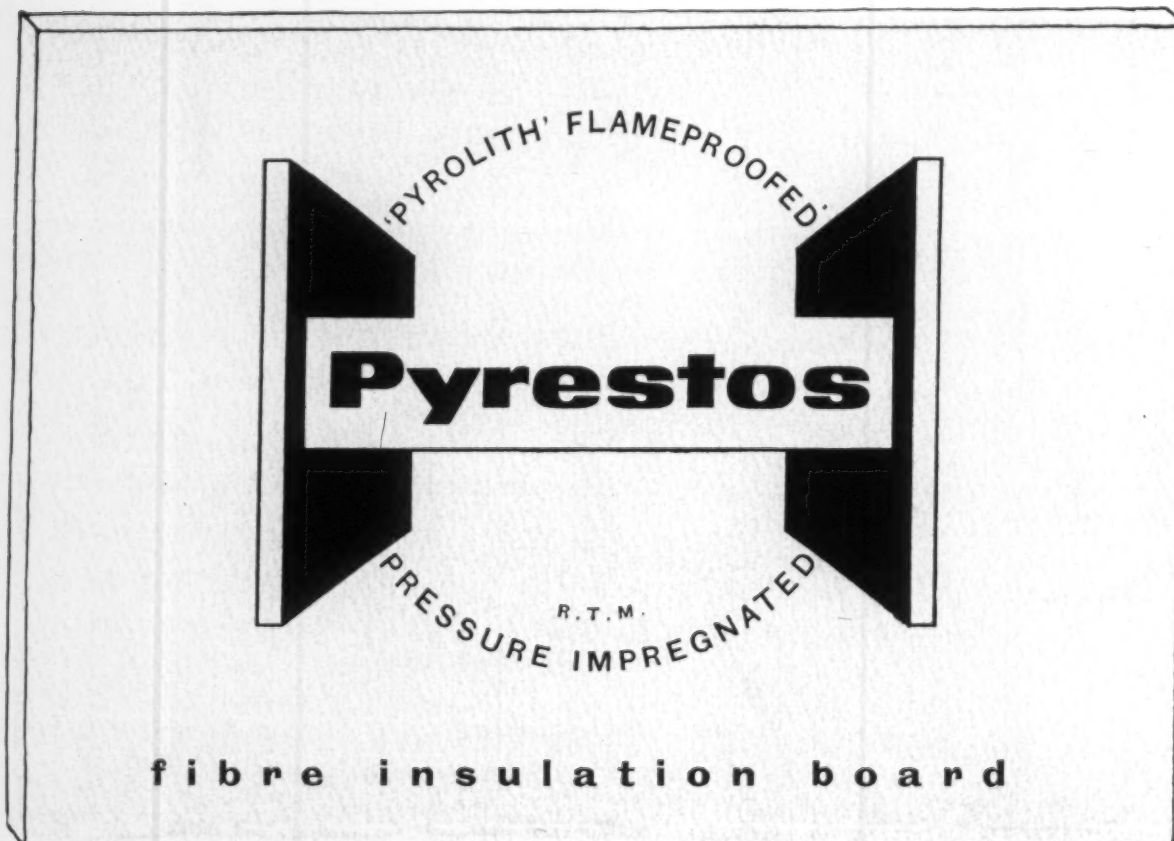
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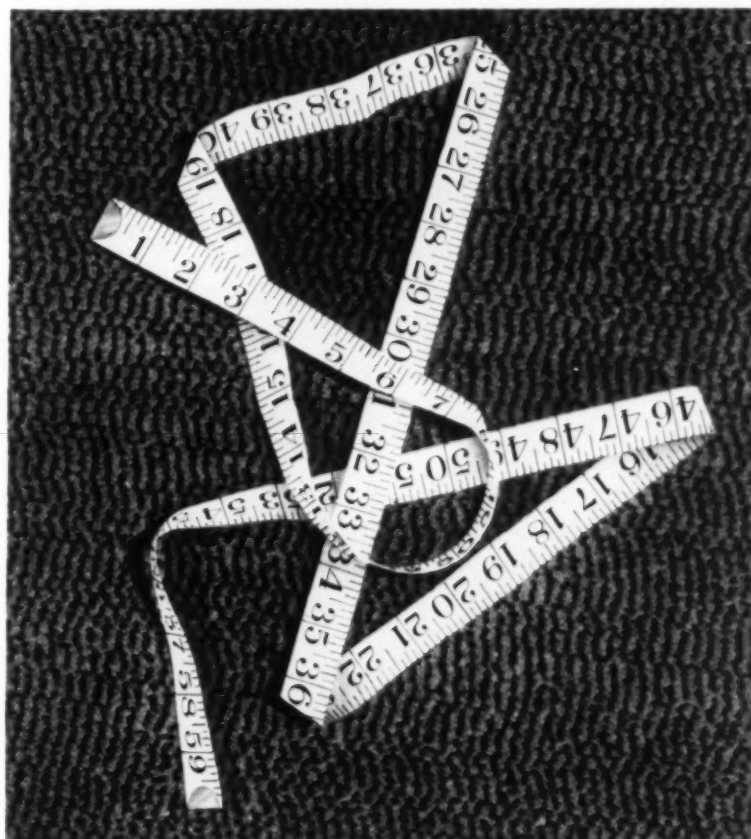
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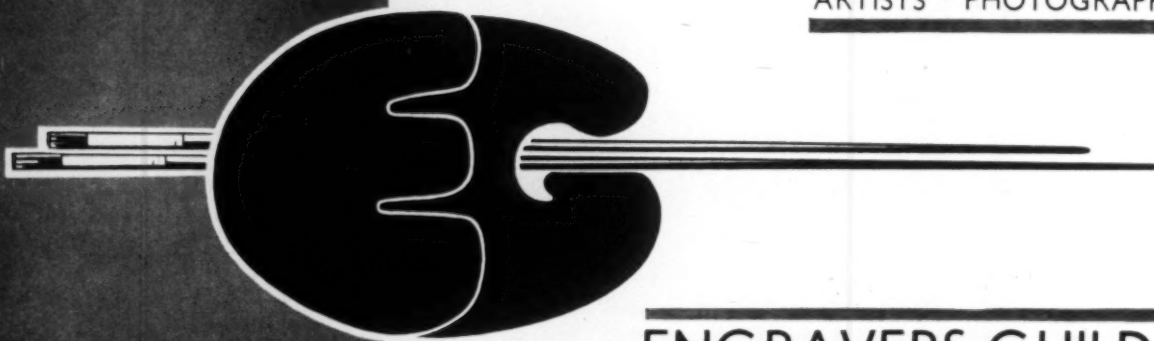
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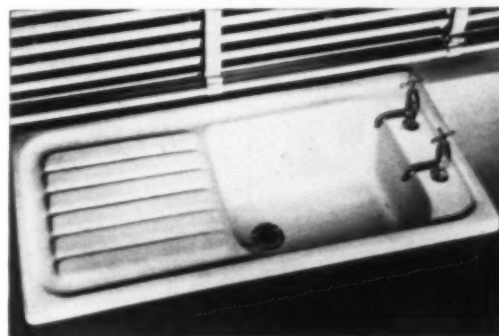
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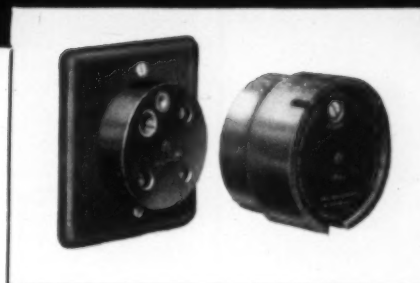
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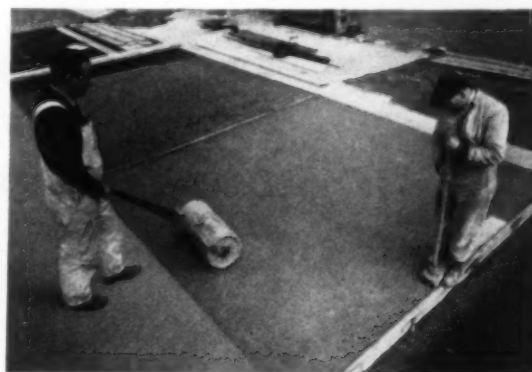
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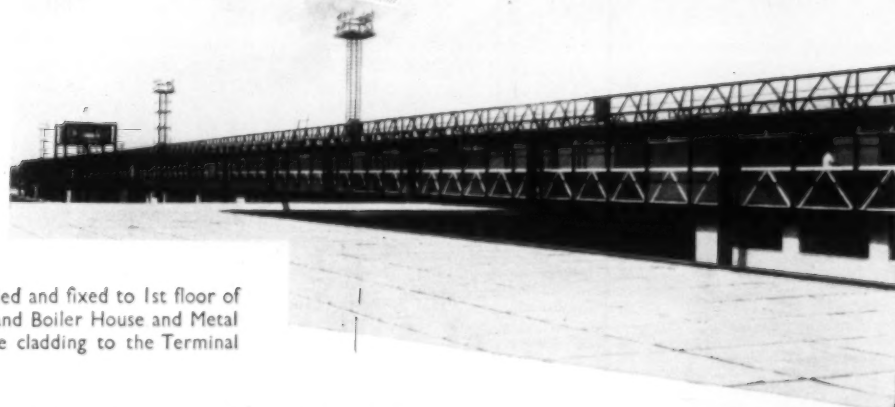
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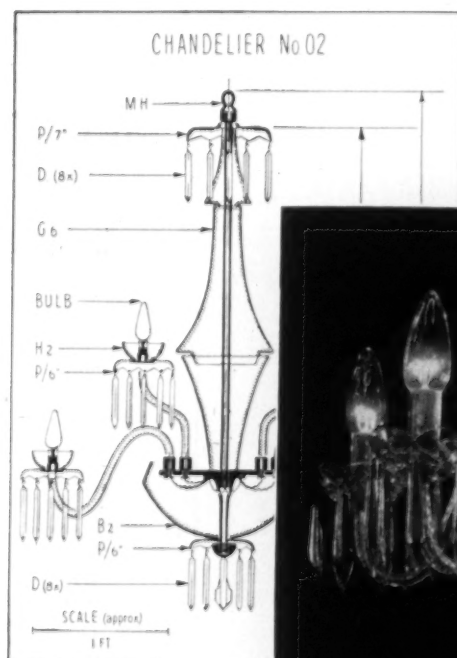


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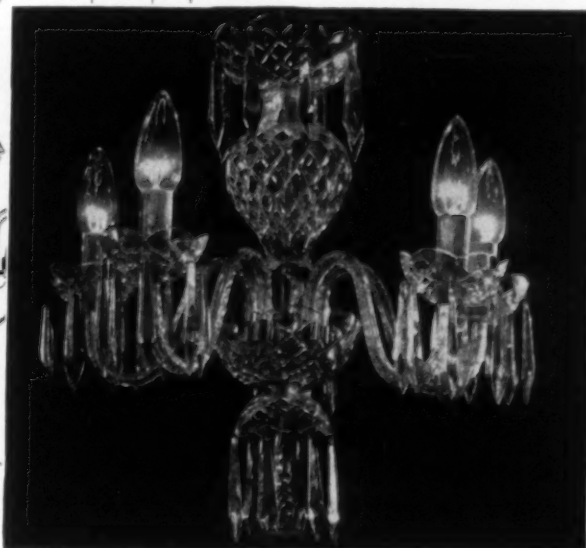


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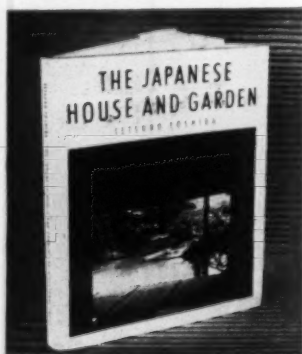


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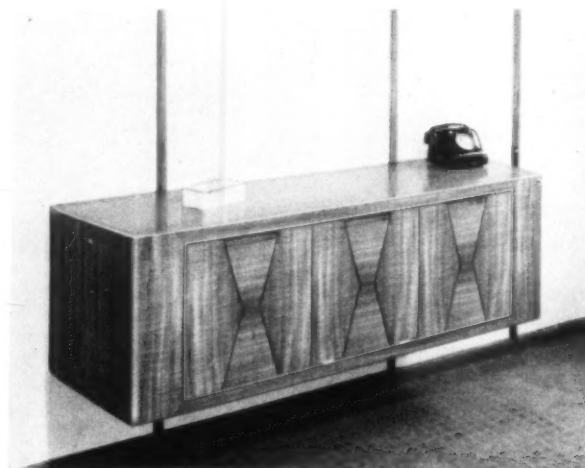
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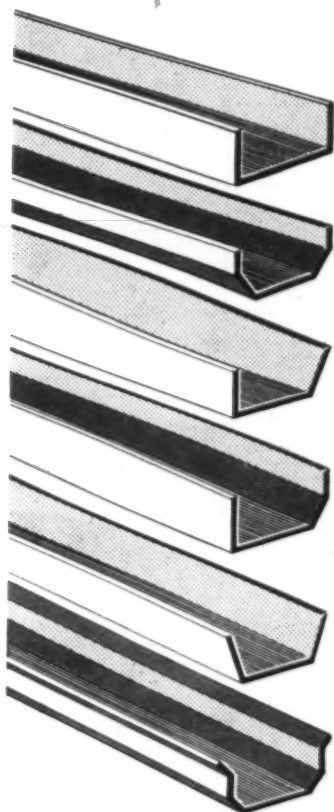


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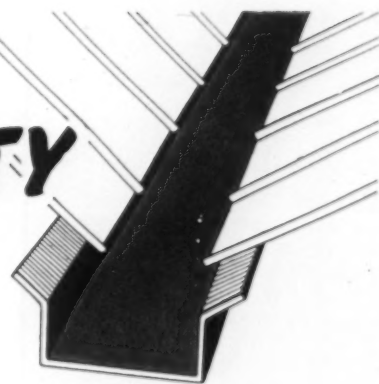
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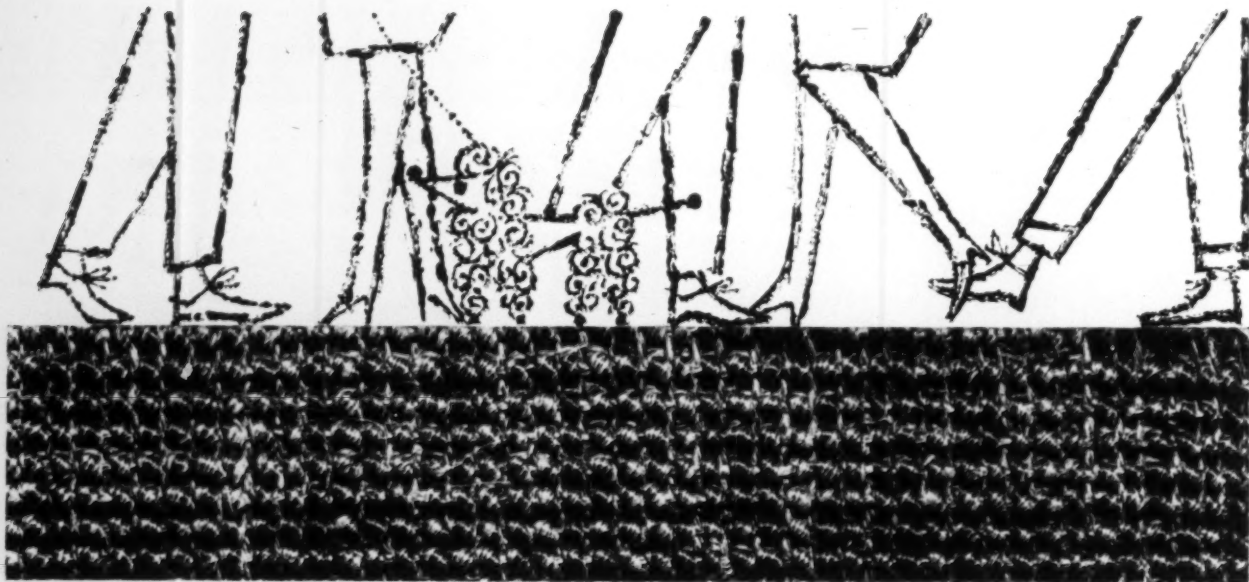
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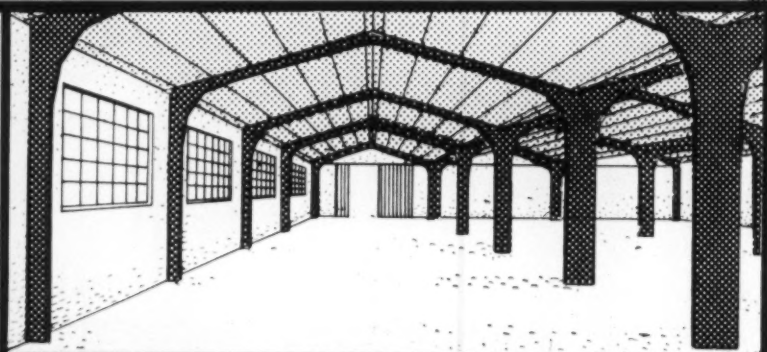
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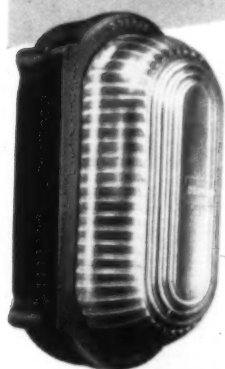
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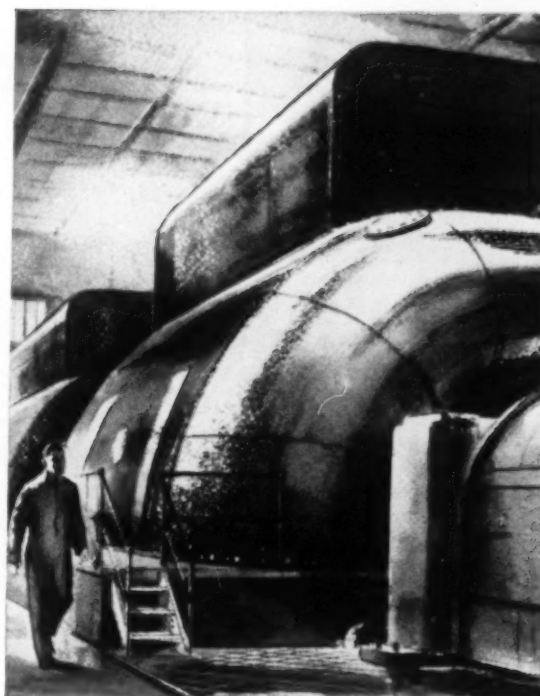
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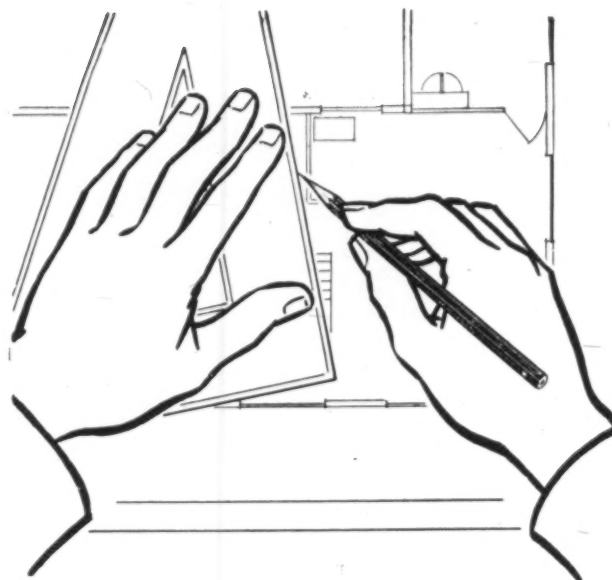


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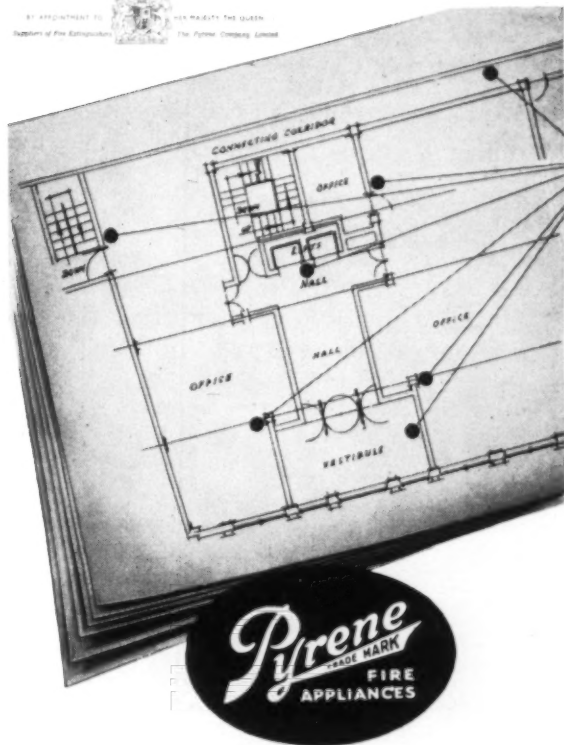
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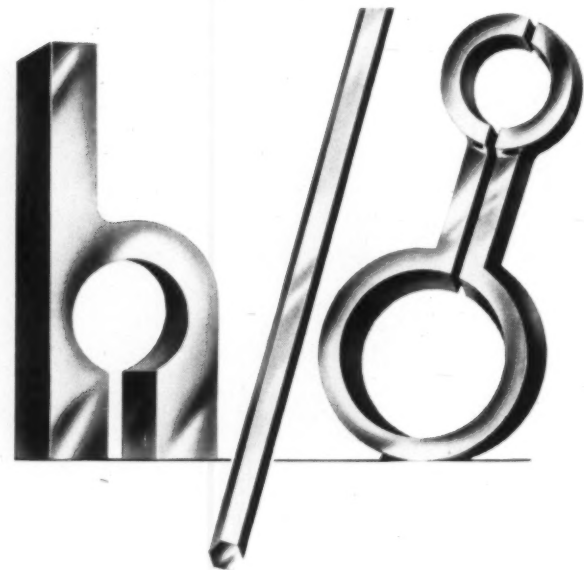
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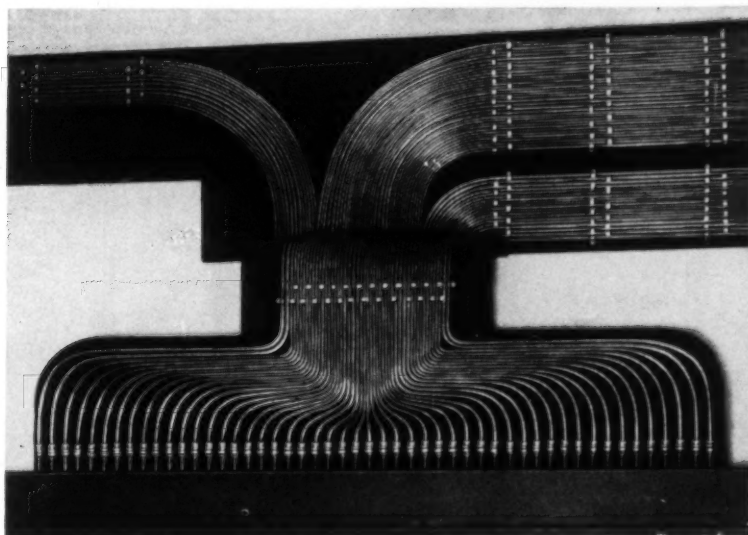
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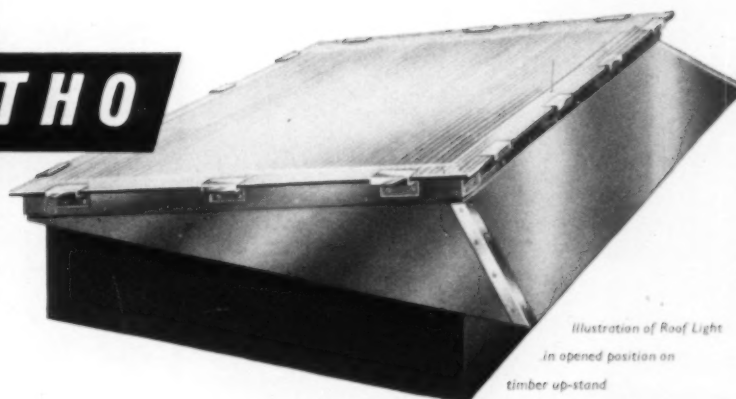


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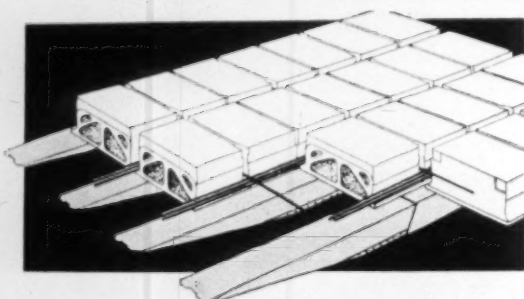
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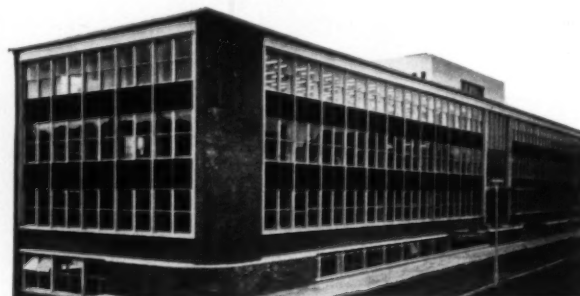
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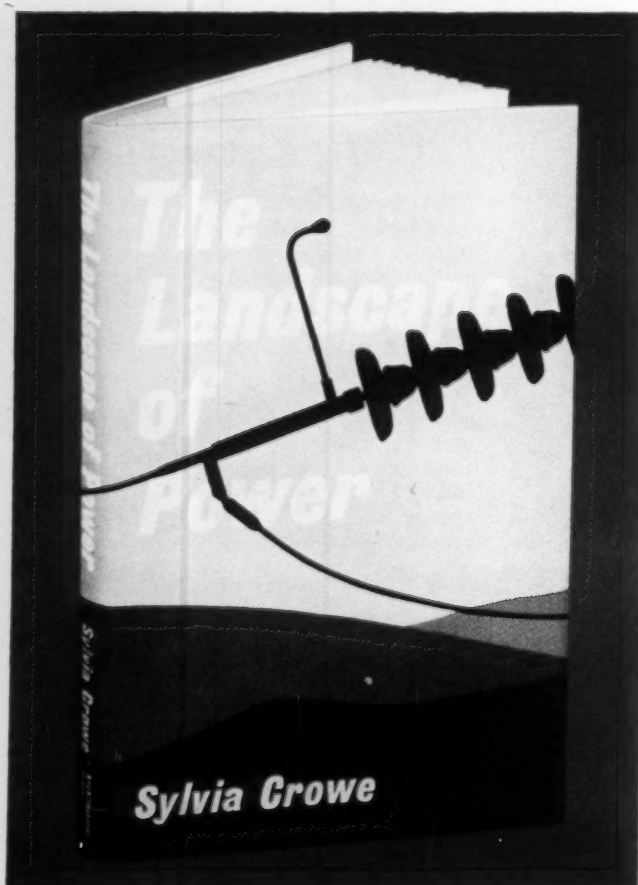
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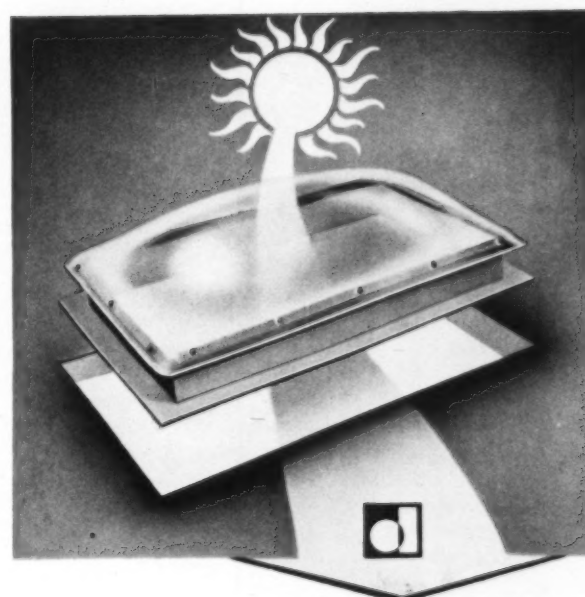
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5' 6"	8/9	8/3	8/3	8/9	8/3	8/3	8/9	8/3
6' 0"	9/9	9/3	9/3	9/9	9/3	9/3	9/9	9/3
6' 6"	10/9	10/3	10/3	10/9	10/3	10/3	10/9	10/3
7' 0"	11/9	11/3	11/3	11/9	11/3	11/3	11/9	11/3
7' 6"	12/9	12/3	12/3	12/9	12/3	12/3	12/9	12/3
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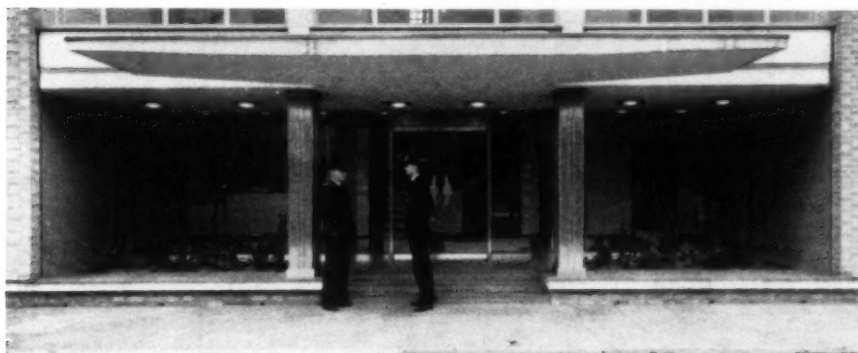
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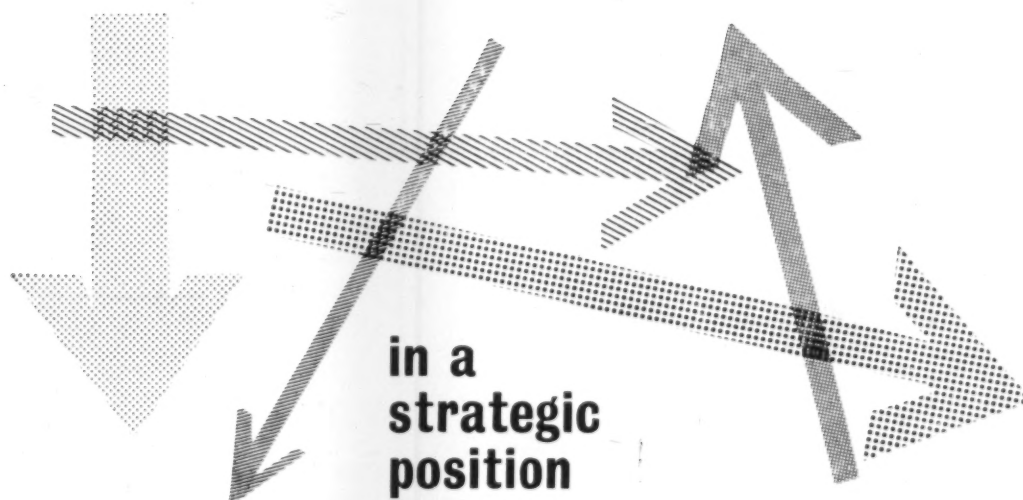
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