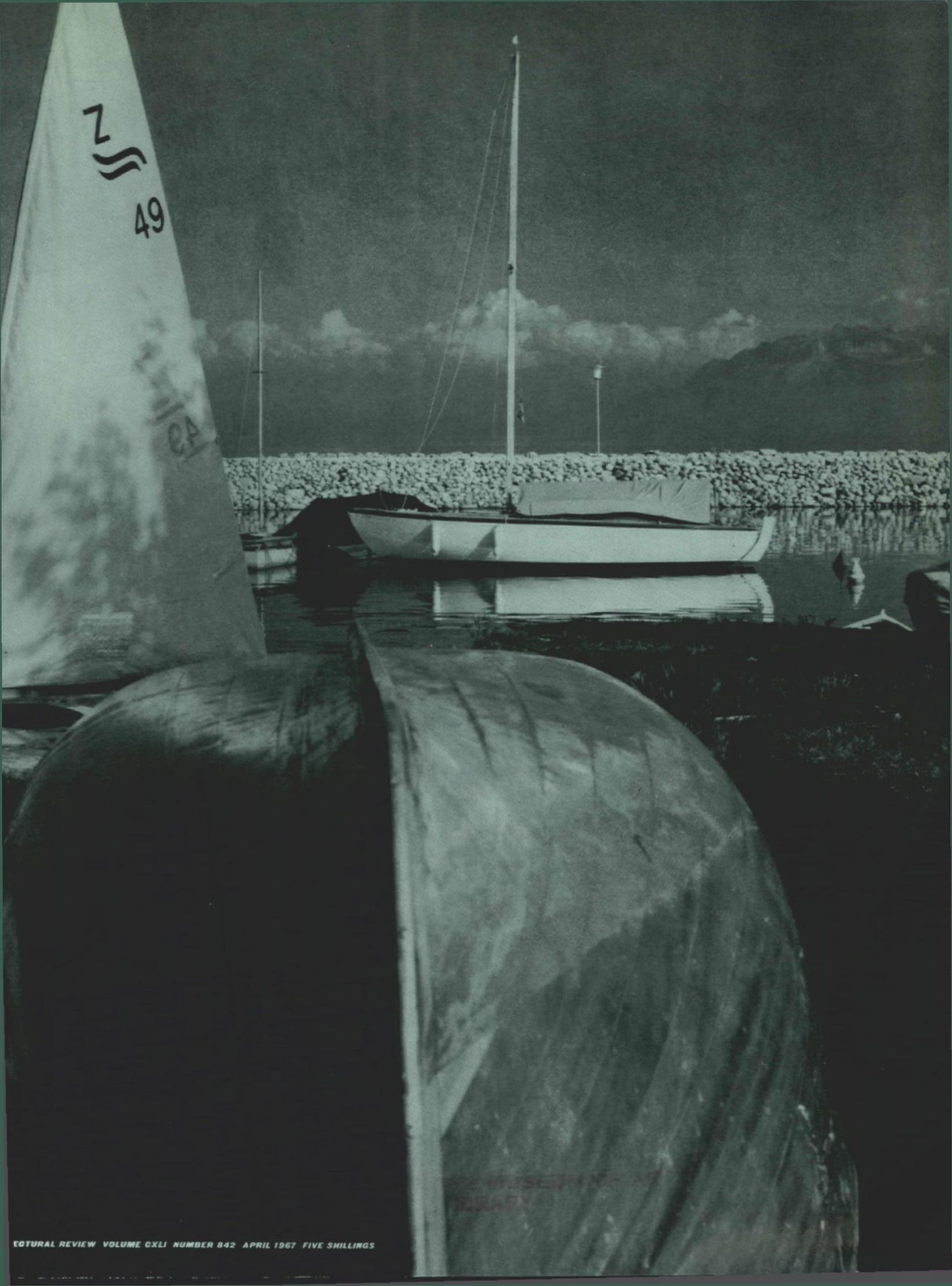

ECTURAL REVIEW VOLUME CXLI NUMBER 842 APRIL 1967 FIVE SHILLINGS

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. . . and you feel comfort and stability at a reasonable price. Polypropylene bar stools can be supplied with three different types of base. Type S black stove enamel frame with a chromed foot rest, seat height 29 ins. Type T pedestal with cruciform base and foot rest, all chromed. Type U with chrome centre column and black nylon coated floor fixing plate. The latter has a seat height of 29½ ins., with or without foot rest, or 24 ins. (type V). Special adaptations can be provided for any specific requirement.

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Pedestal types have a self-return swivel action, so when not in use all seats face forward. The injection moulded Polypropylene shells will not crack, chip, distort or strain and can easily be wiped clean. They are available in charcoal, light grey or orange vermillion. Shells can also be supplied fully upholstered, fitted with a clip-on front cover or alternatively a pvc covered 'throw-in' seat cushion. These bar stools are ideal for use in bars, restaurants or canteens. Call at our showrooms and pop upon a Polyprop.

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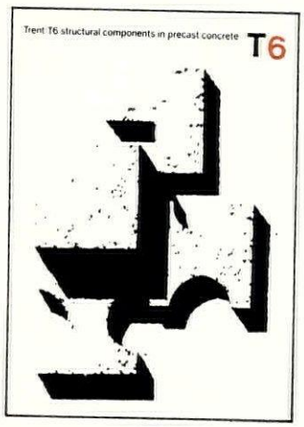
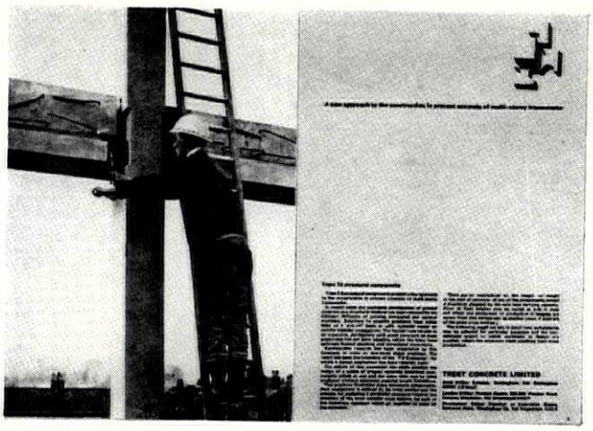
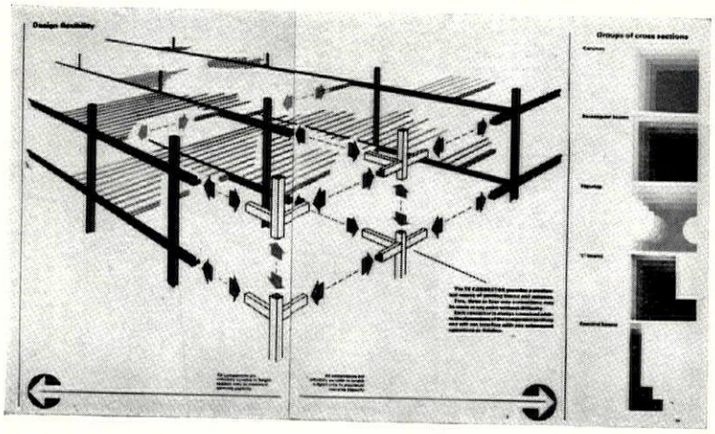
CMC *These ranges are accepted by the Council of Industrial Design for the Design Index.*

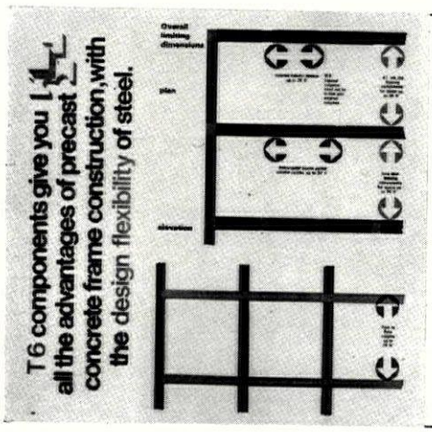
By appointment to Her Majesty the Queen carpet manufacturers The Carpet Manufacturing Company Limited.

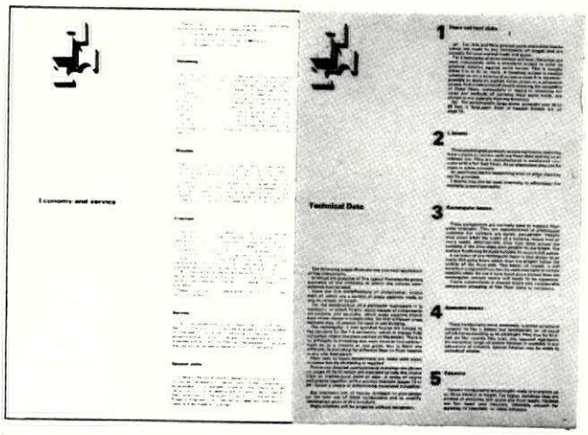
Forty pages like these will give you all the facts you need to make up your own mind about T6

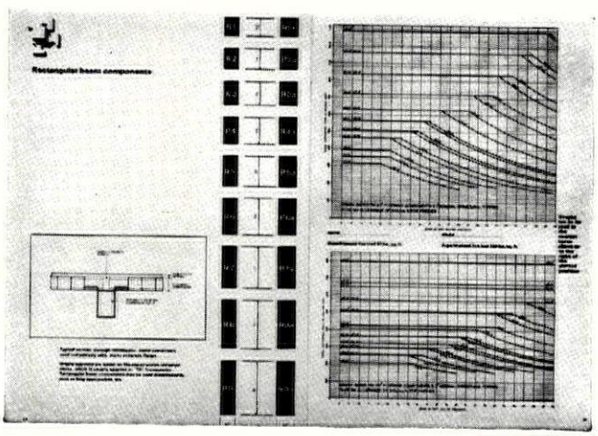












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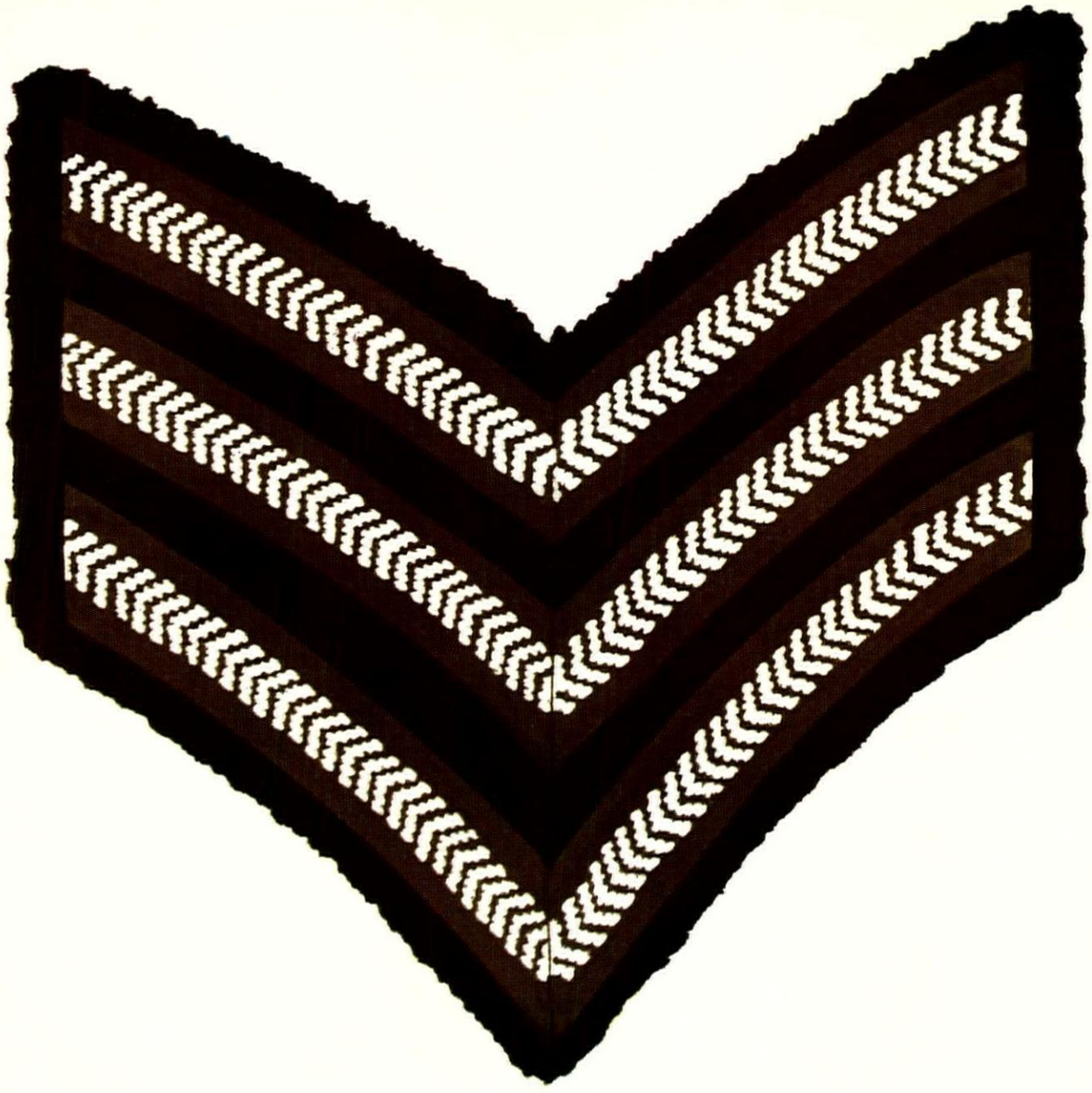

The Army stands easy on Armourflor

Ministry of Public Building and Works selected Nairn Armourflor for the new Army barracks at Aldershot. Why? Because it was the ideal floorcovering—rugged, dependable, easy to look after.

Newly developed by Nairn, Armourflor is a smooth-surface sheet flooring that's as tough as Armourtile—stiletto-proved for over four years in countless installations throughout the world. Armourflor is unusually hardwearing and resilient. It's easy to maintain and withstands most chemical spillages.

Armourflor is available in 3.2 mm. gauge, 72 inches wide (183 cm.). It is suitable wherever a *sheet* flooring of extra durability is required. There are 18 BS colours.

Armourflor is one of Nairn-Williamson's many smooth floorings—vinyl or linoleum, sheet or tile—for all contract and domestic installations.

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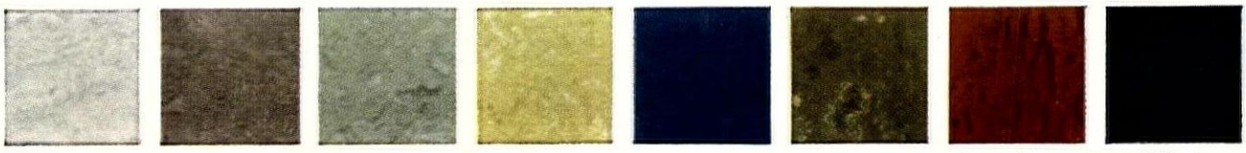
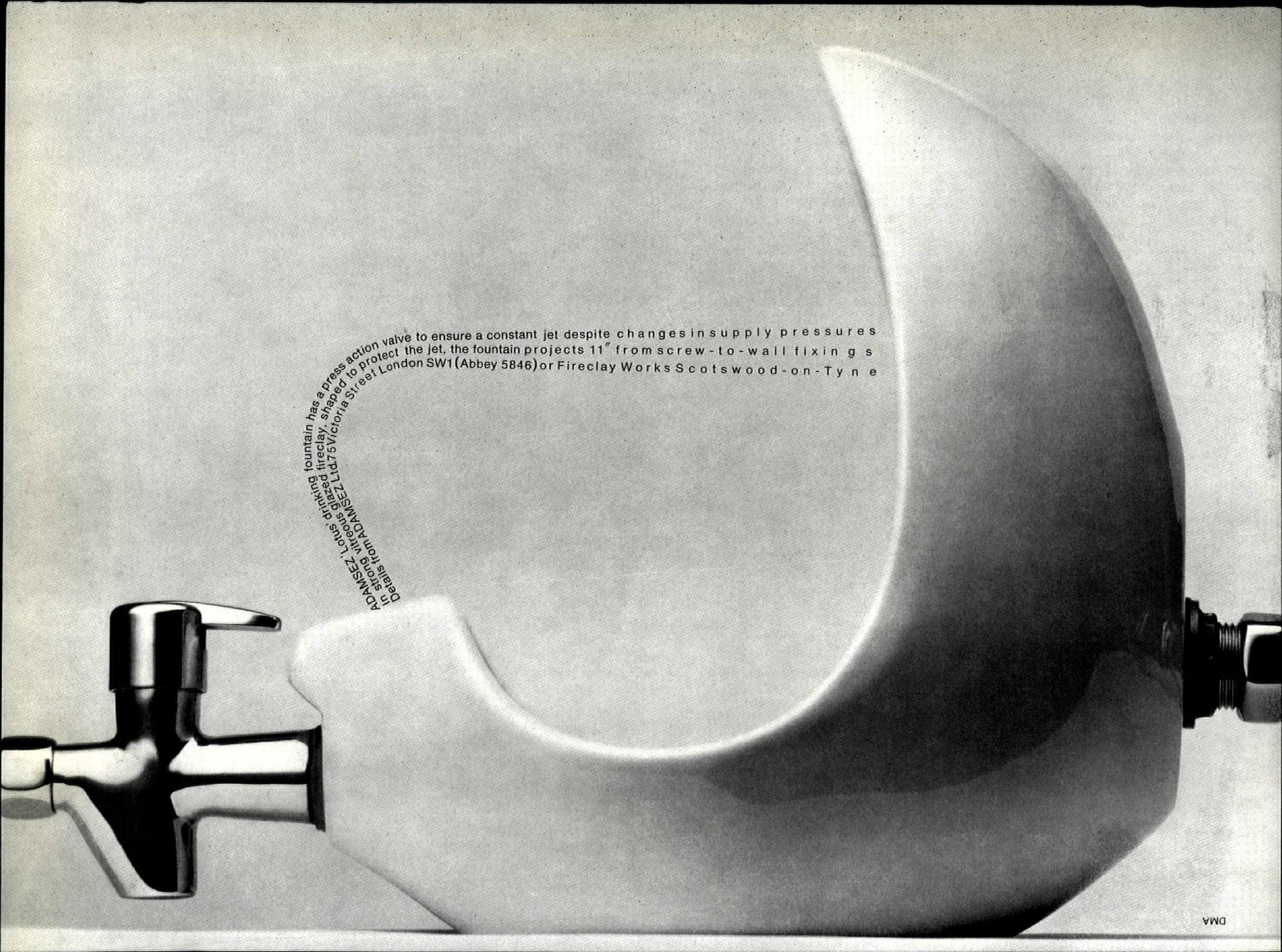


Some of Armourflor's 18 BS colours


ADAMSEZ 'Lotus' drinking fountain has a press action valve to ensure a constant jet despite changes in supply pressures
Details illustrating vitreous glazed fireclay, shaped to protect the jet, the fountain projects 11" from screw-to-wall fixings
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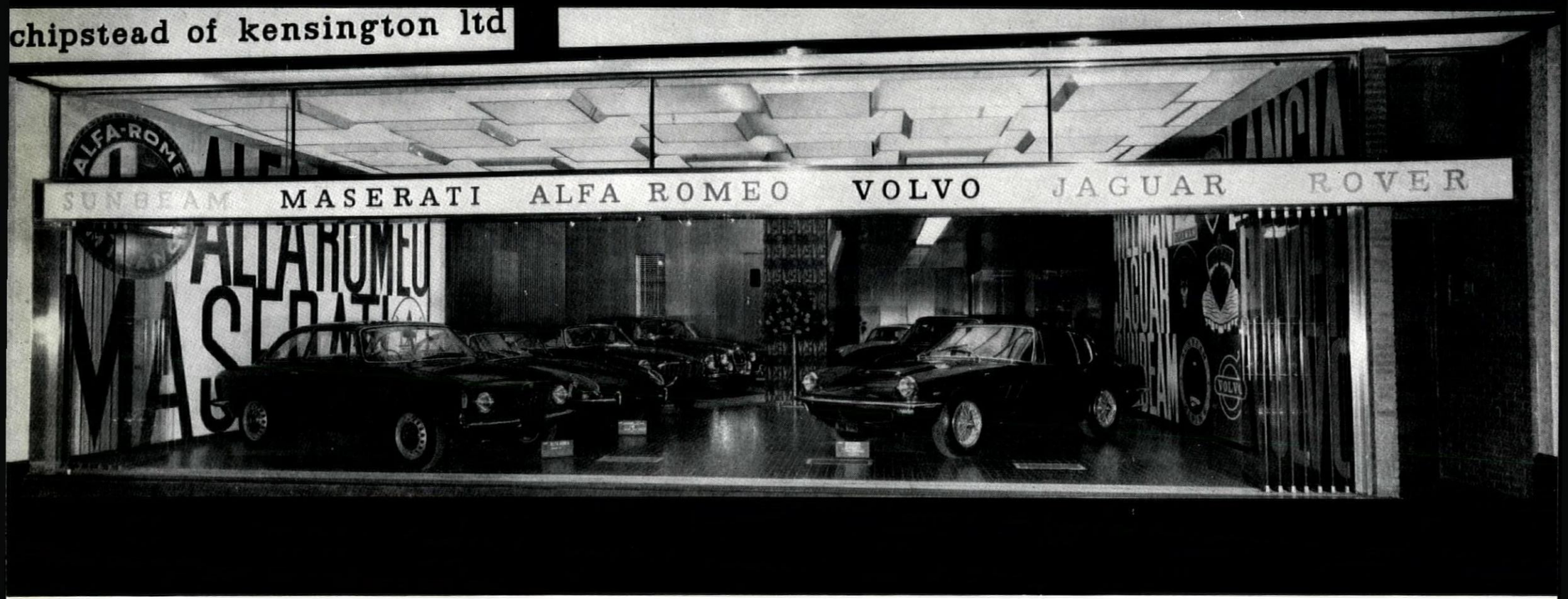

new system of sliding doors

NEWMANS Automatic Doors Limited, Grove House, London Rd., Isleworth, Middx.

The recently opened premises of Chipstead of Kensington Limited are fitted with Compactaway Doors. These doors are designed to provide an efficient and quickly operated method of obtaining a clear passage through any opening requiring a battery of doors. All the load of the door is taken by the floor unit, thus allowing a greater number of doors to be installed in one battery without any sag in the lintel. Throughout the whole operation of folding or unfolding the doors are under positive control and cannot run wild. Automatic location is provided in the top track to register the doors in either swinging or folded position. The unit is supplied complete with threshold tread plates and security locks in the top and bottom rail of the doors. The floor unit only requires a trench 13″ wide x 6″ deep, whilst the transom track is only 2¼″ deep.

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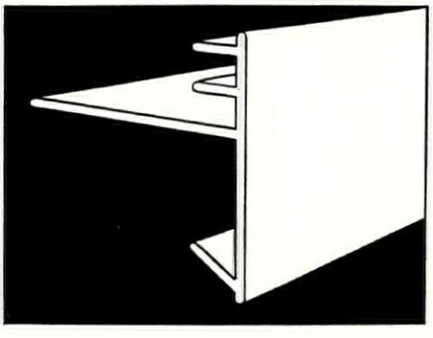
PAPTRIM extruded roof edging



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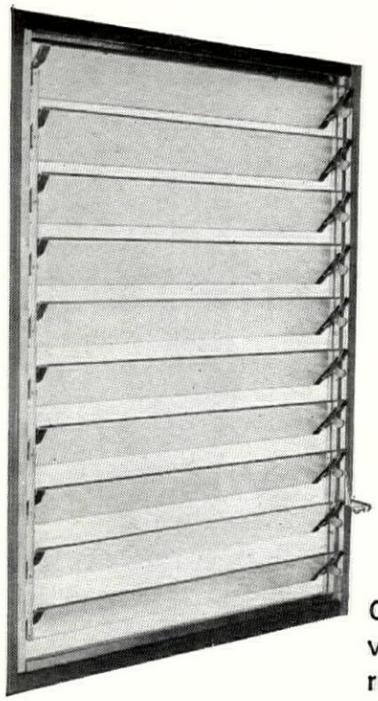

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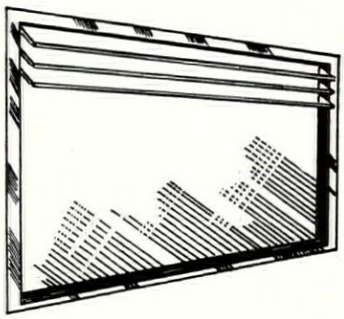

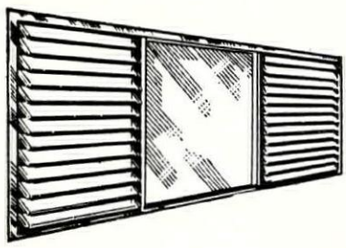

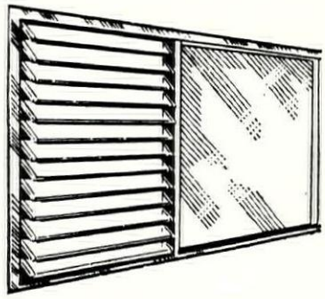

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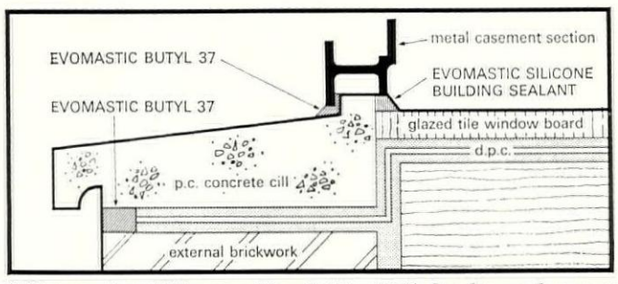

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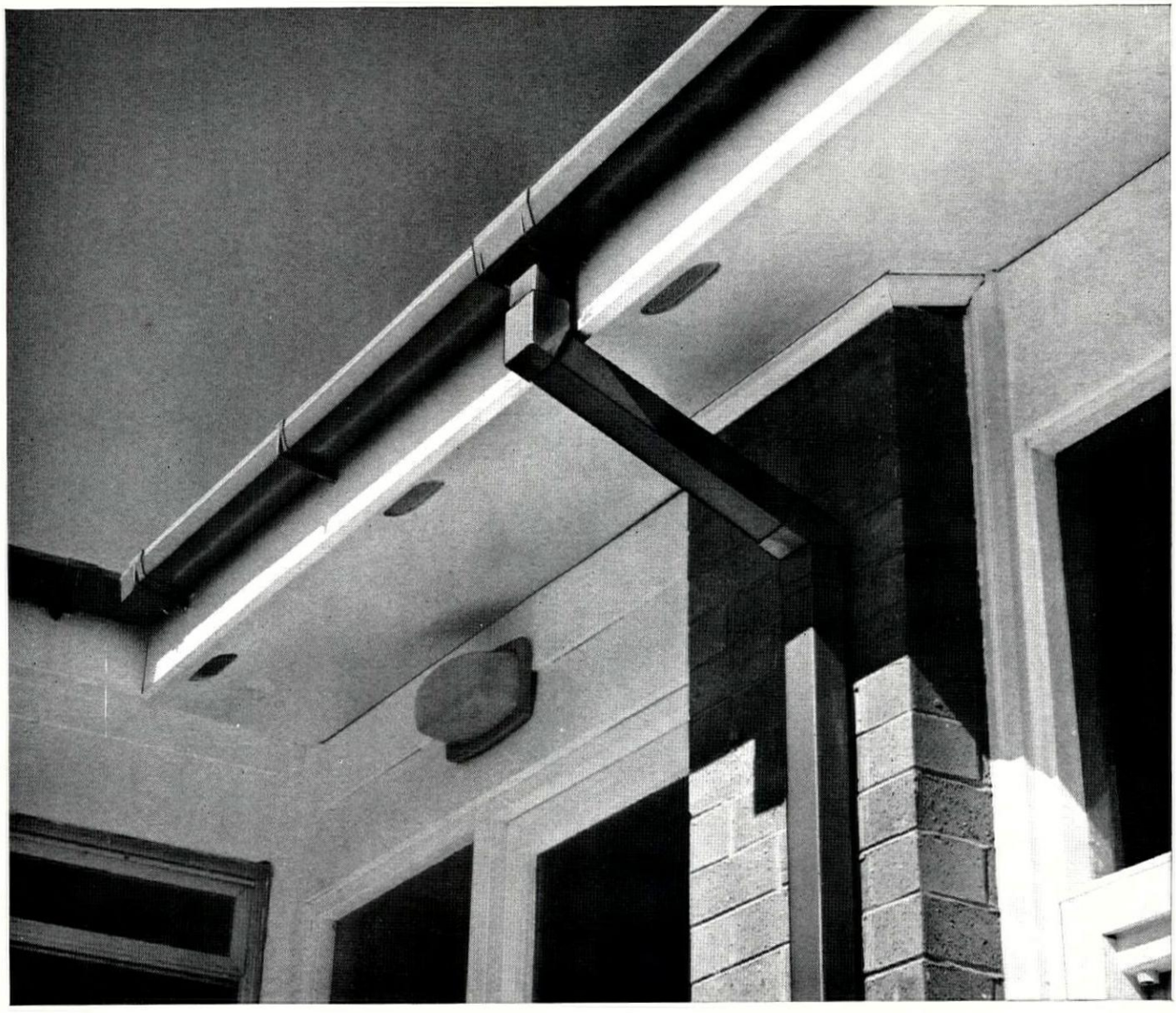
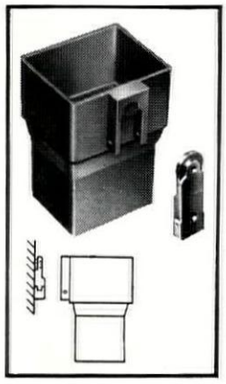


the first pvc rainwater system not to look like an afterthought!



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Solent aluminium horizontal sliders are meeting the requirements in windows for many types of high rise buildings. They are completely weatherstripped, safe to clean from inside – and they save up to 25% in cost against pivoted windows of the same glass area. They reduce heat loss, too. Sophisticated design, exhaustive testing, quality control – these are the secrets of Solent's performance.

PAINTING ELIMINATED
This means large savings in maintenance costs. Preservation of the structural integrity of the window is not dependent on paint.

SAFETY
A gravity catch, positioned above normal reach, prevents the slider opening beyond a safe point. All glass can be cleaned from the inside with a maximum reach of 2ft. The panels are automatically located and secured in their safe cleaning position by additional catches.

PERFORMANCE
Solent windows are designed to meet the conditions encountered in high rise buildings.
Parker Morris stated:
"Double glazing is relatively expensive in relation to the amount of heat saved and it appears that, at present, roof and wall insulation and the weatherstripping of doors and windows is likely to give better value for money." Solents have always been double weatherstripped all round and reduce heat loss substantially.

CUTS COSTS
The Solent cuts first costs, because these aluminium sliders can save as much as 25% compared with pivoted windows. Solents are being used extensively on L.A. and Spec. low rise work, as they are competitive with less sophisticated windows.

TEST CENTRE
Many architects have already seen for themselves how Solent windows measure up to the demands of high rise construction. On request, Archital will demonstrate the performance of the Solent at their Test Centre – where all Archital designs are performance-tested.

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Illustrated

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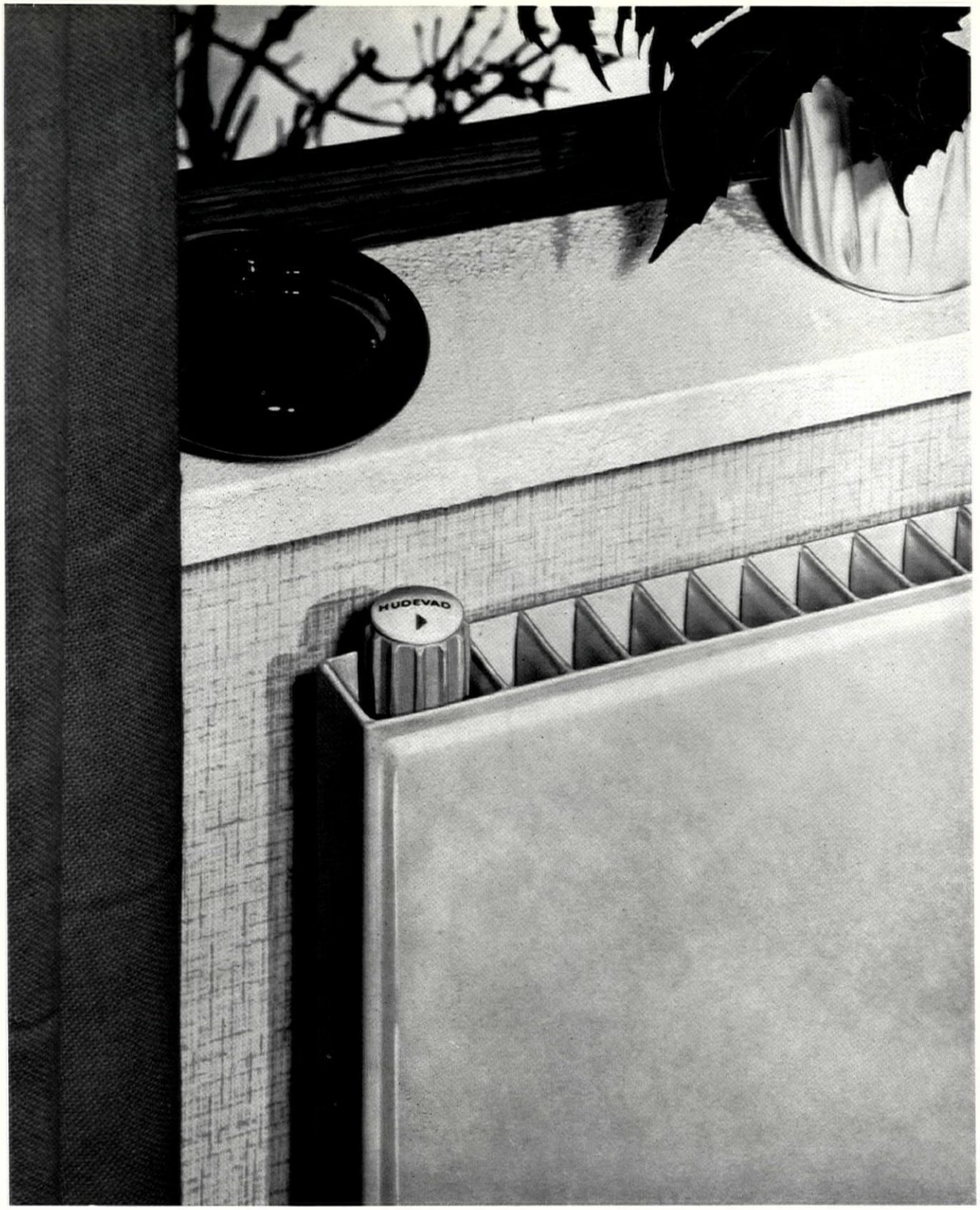

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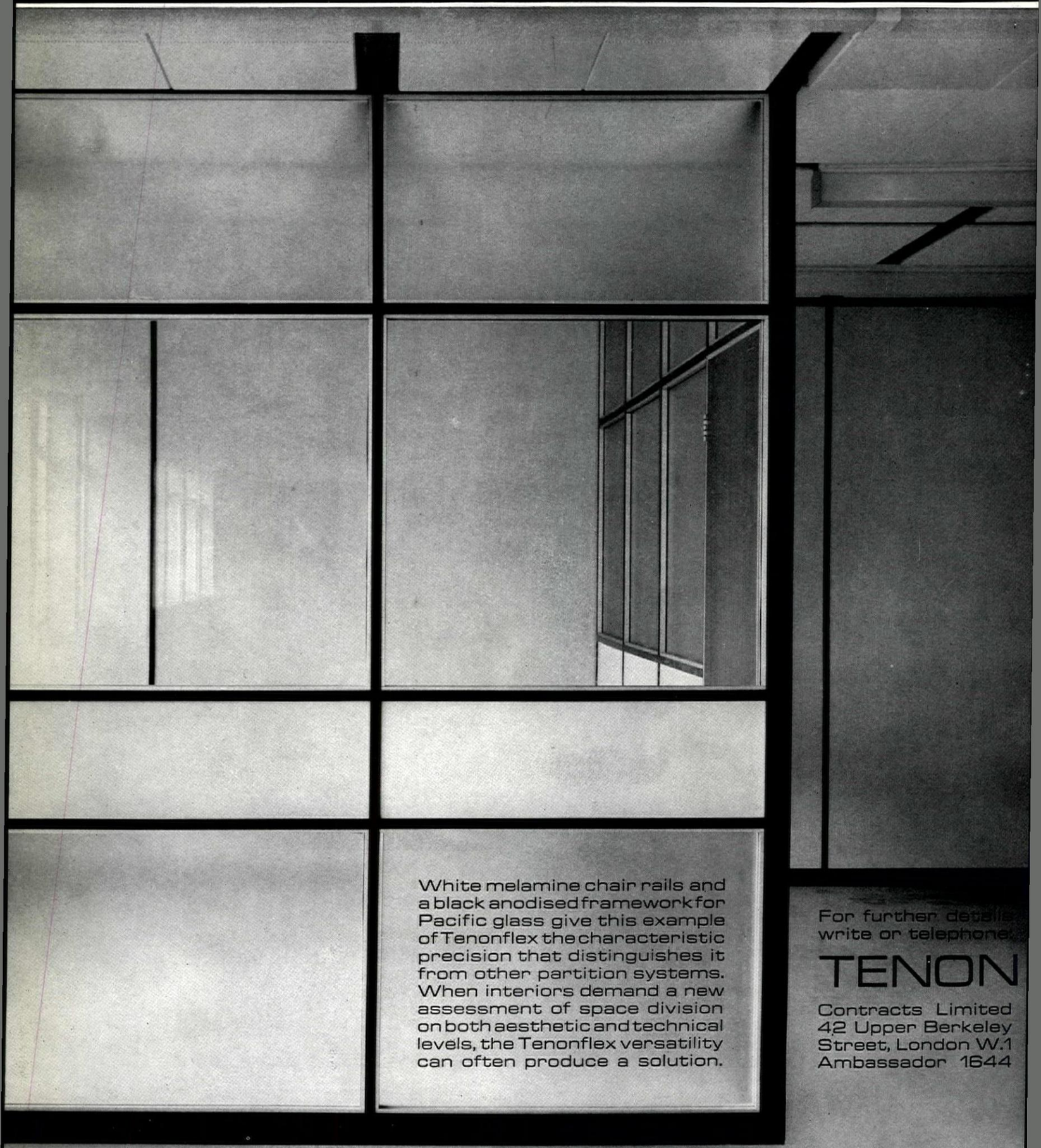

White melamine chair rails and a black anodised framework for Pacific glass give this example of Tenonflex the characteristic precision that distinguishes it from other partition systems. When interiors demand a new assessment of space division on both aesthetic and technical levels, the Tenonflex versatility can often produce a solution.

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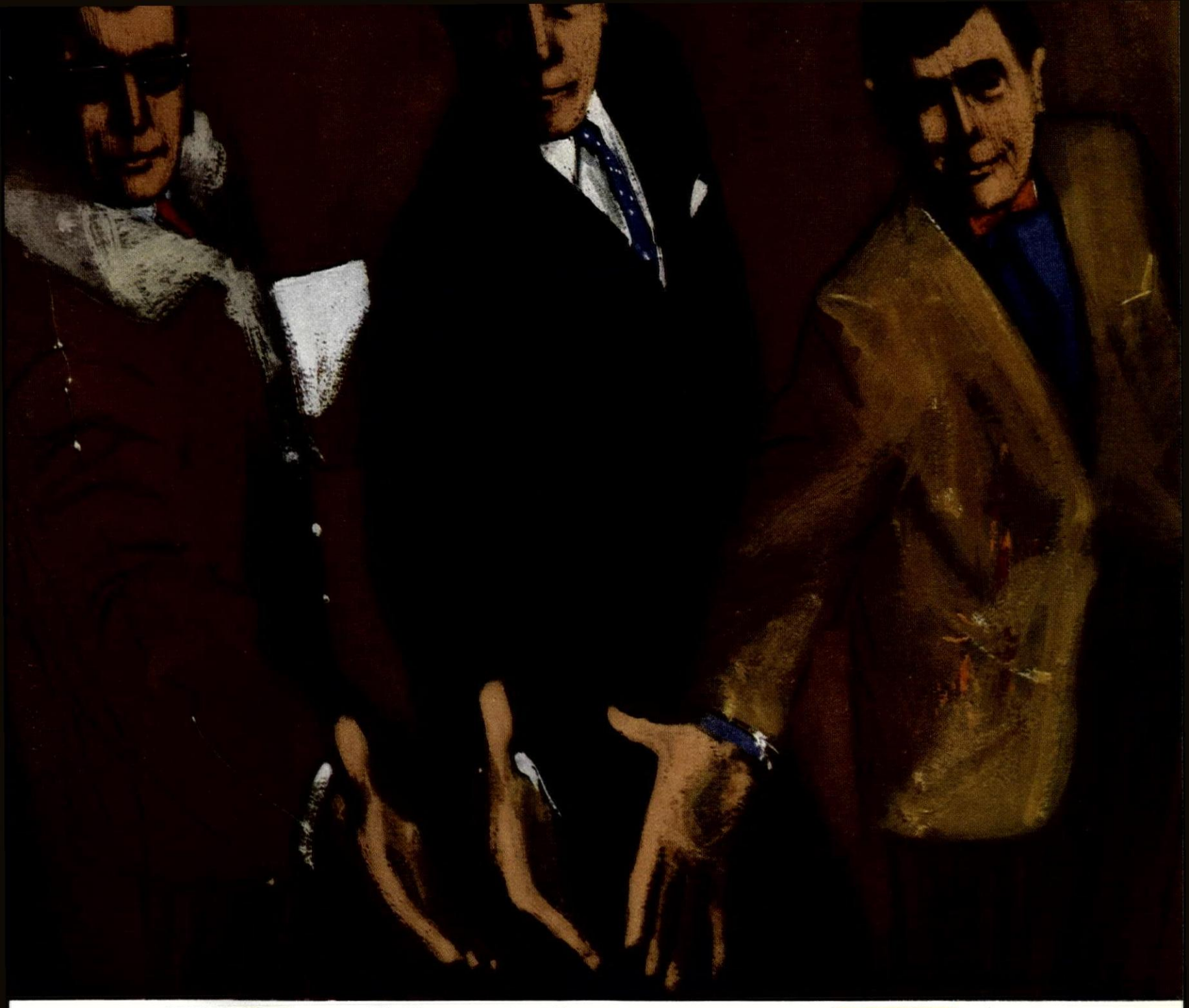

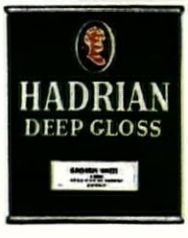

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Builders: Private Development by D. & G. Mills (Builders) Ltd., Hythe.
The COLOURPREST Panels were supplied through R. Passmore & Co.

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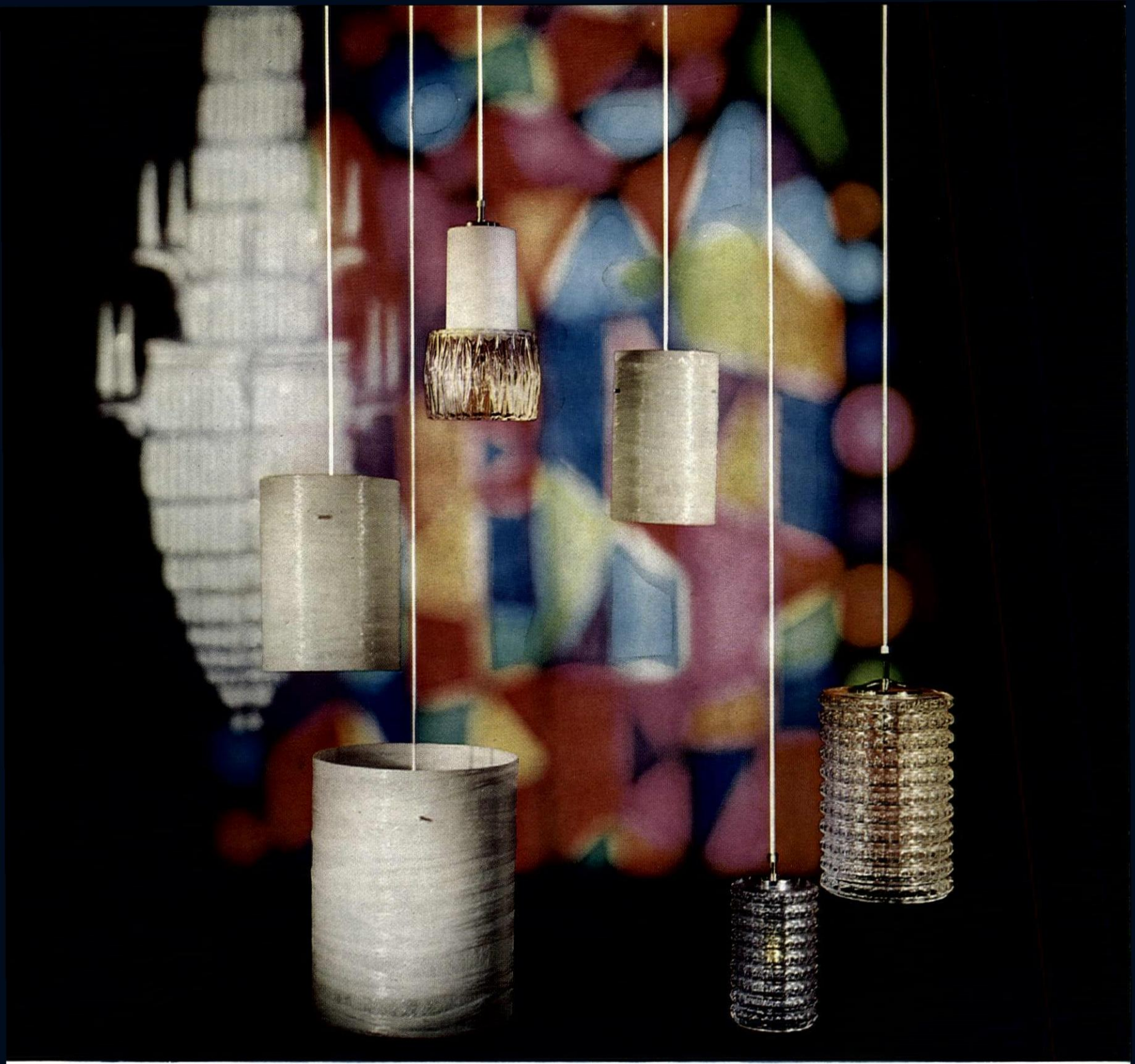

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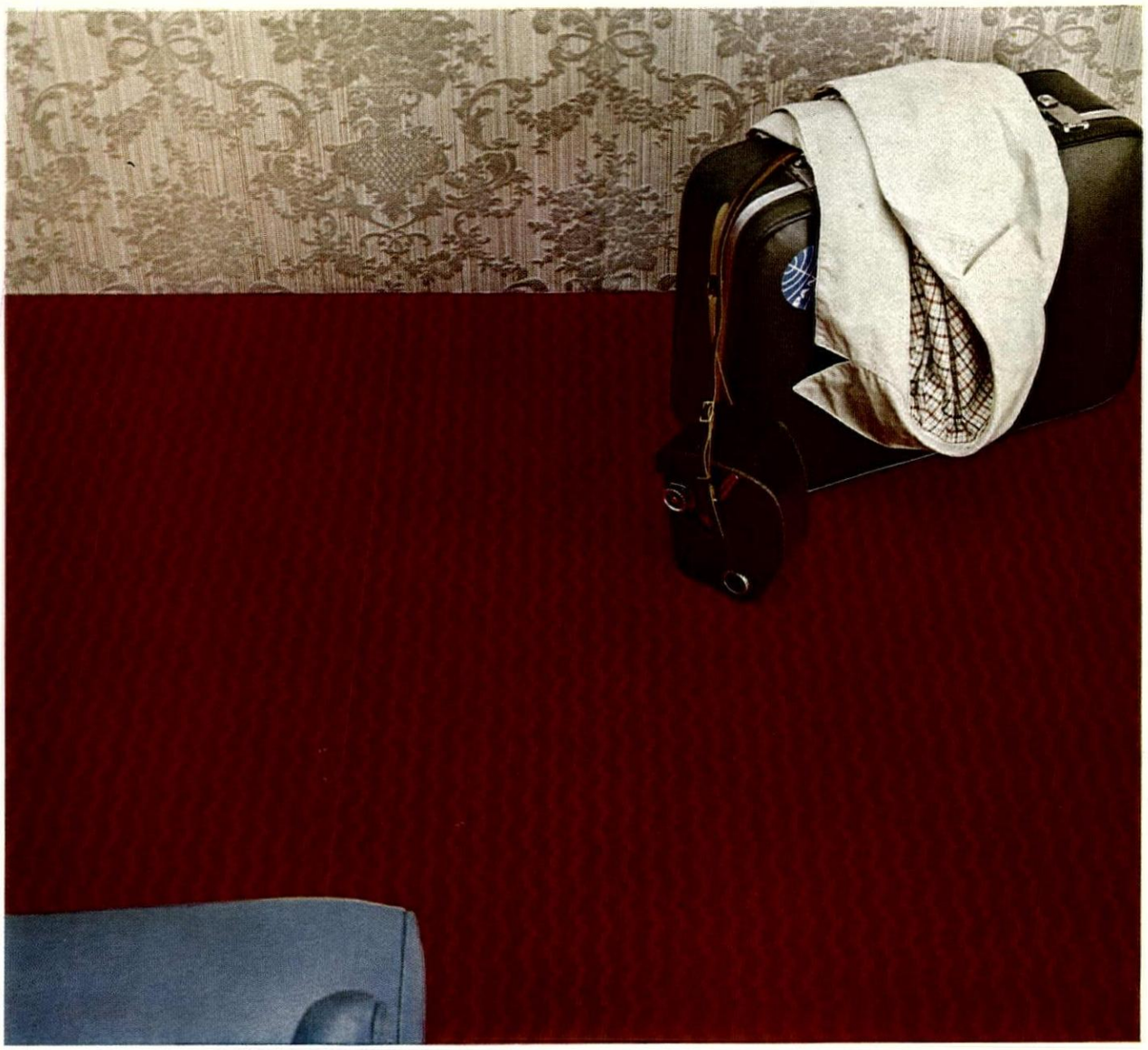

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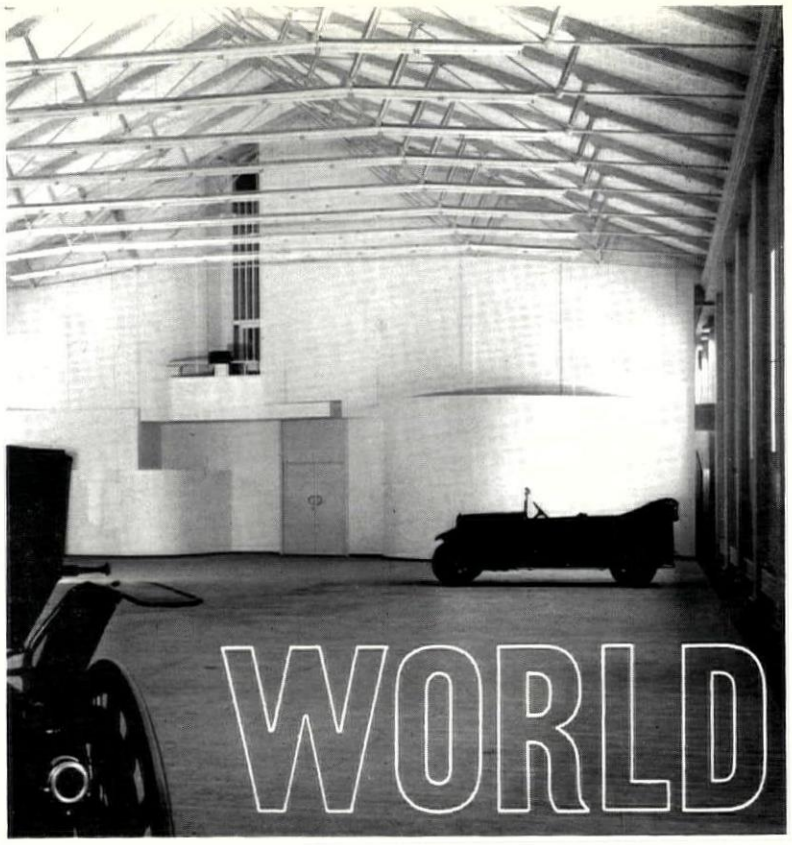


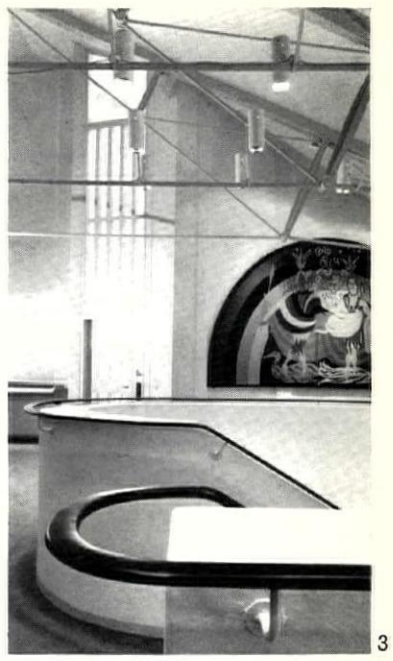
1

2

8

STOCKHOLM STABLE

Vintage cars have been fortunate in the visual sensitivity of their patrons, Lord Montagu at Beaulieu (see last month's AR article) and in Sweden Baron Rutger von Essen, who is comprehensively developing the grounds of the seventeenth-century Skokloster Palace. He has opened the Teknorama Motor Museum in a former stable, converted with exemplary sensitivity by two young architects, Britta and Kjell Abramson. The exhibition hall, 1, occupies nearly half of the externally unaltered building, 4, with a two-storey arrangement of foyer and committee rooms laid out between it and the auditorium in the other half, 5. The staircase of pinewood, 3, leads down to the foyer, 2, with its elegant combination of glossy white columns, red asphalt flooring, white-plastered concrete block walls—and light fittings, specially designed by Rolf Rosenberg, which play up the motoring mood without overplaying it.



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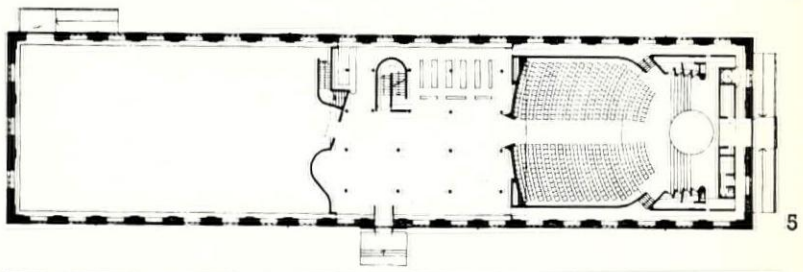
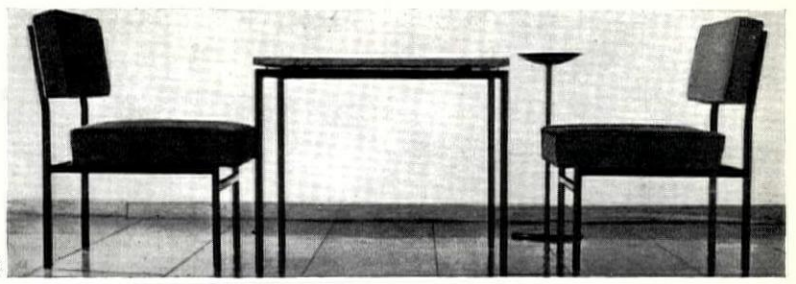


5

POLONAISE

The concert hall is nowadays designed as an instrument to play on—nowhere more so than in the new Warsaw Academy of Music, by Witold Benedek, Stanislaw Niewiadomski and Wladislaw Strumillo. From the microcosm of elegant steel chairs and tables, 6, to the great space of the concert hall itself, 7, the emphasis is on the instruments themselves, silhouetted against a rich neutral background of slatted wood. The recital room, 8, has a



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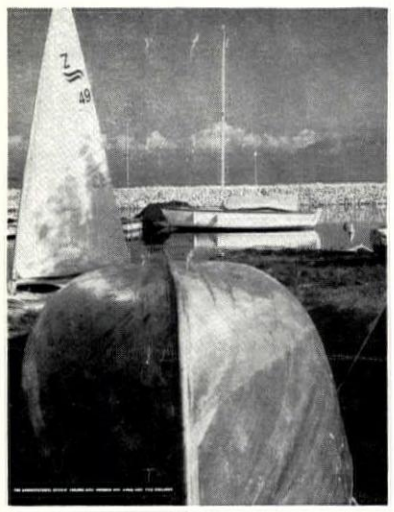
acknowledgments

COVER, Ivy de Wolfe. WORLD, pages 245–249: 1-3, Sundahl; 6–9, *Architektura*; 10–12, *Architecture, Moscow*; 13, 14, *Domus*; 15, 16, 32–38, *Bauwelt*; 17–20, *Arkitektur*; 22, 23, 25, *Baumeister*; 26–31, Reinhard Friedrich; 39–44, *L'Architettura*. FRONTISPIECE, page 252: Galwey Arphot. CREMATORIUM, EDINBURGH, pages 255–259: 1–6, Henk Snoek; 7, A. L. Hunter. WATERSIDE TRIM, pages 260–270: Ivy de Wolfe. HOUSING AT PETERLEE NEW TOWN, pages 271–276: Eric de Maré. HOUSING, KIRKCALDY, pages 277–279: G. W. Harvey. CRITICISM, pages 280–285: 1–10, 13–15, Toomey Arphot; 11, 12, Terence Bendixson. CINEMA, ELEPHANT AND CASTLE, LONDON, pages 286–288: Galwey Arphot. GALLERY, pages 289–291: 1, Tate Gallery; 2–4, Royal Academy of Arts, Photo Studios Ltd.; 5, 6, John Webb. INTERIOR DESIGN, pages 292–295: Geoffrey Gale. TOWNSCAPE, pages 296–298: Richard Reid. DESIGN REVIEW, pages, 299–302: 1–11, 14, 15, Galwey Arphot. MISCELLANY, pages 307–311: Quarr and Bellot, 3, 8, 10, 11, Toomey Arphot; 4, 9, Galwey Arphot. Thaxted Study, 1, Aerofilms and Aero Pictorial. SKILL, pages 312–316, Galwey Arphot. THE INDUSTRY, pages 316–320: 1, Henk Snoek; 3, 4, Dennis Hooker; 7, Allardyce Palmer; 13, Terence Wilson & Partners; 14, Gilbert Davies. STOP PRESS, pages 321–322: 1–5, 9, Nairn Arphot; 8, Peter Burton; 10, 11, John Mills.



This month's cover *shows the yacht harbour at Rolle on Lake Geneva, with its delightful enclosure by rough stone walling of the traditional textures of timber and sail-cloth. That 'the elemental or "primitive" effect is always desirable' is the theme of the article on pages* 260-270 *of this issue on 'Waterside Trim,' which is illustrated by many other photographs taken on the shores of Lake Geneva by Ivy de Wolfe.*

THE ARCHITECTURAL REVIEW

9-13 QUEEN ANNE'S GATE, WESTMINSTER, SW1 WHITEHALL 0611 FIVE SHILLINGS

VOLUME 141 NUMBER 842
APRIL 1967

SUBSCRIPTION RATE: *The annual post free subscription rate, payable in advance, is £3 3s. 0d. sterling, in USA and Canada $10.50, in Italy Lira 6940, elsewhere abroad £3 10s. 0d. Italian subscription agents: Librerie Salto, via V. di Modrone 18, Milano; Librerie Dedalo, Via Barberini 75-77, Roma. An index is issued half-yearly and is published as a supplement to the REVIEW. Subscribers may have their copies bound in half-yearly volumes at the price of £1 13s. 0d. Postage 2s. 9d. extra on the completed volume.*

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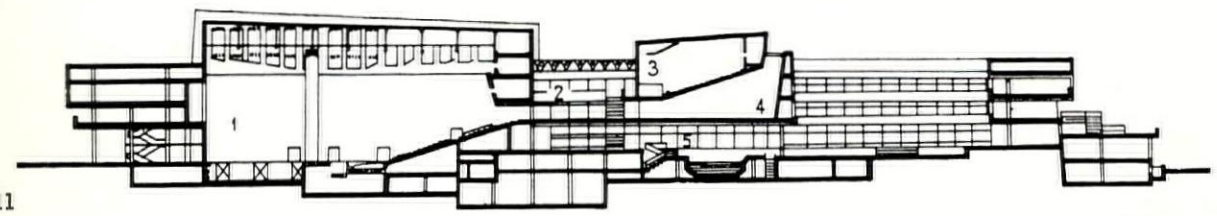

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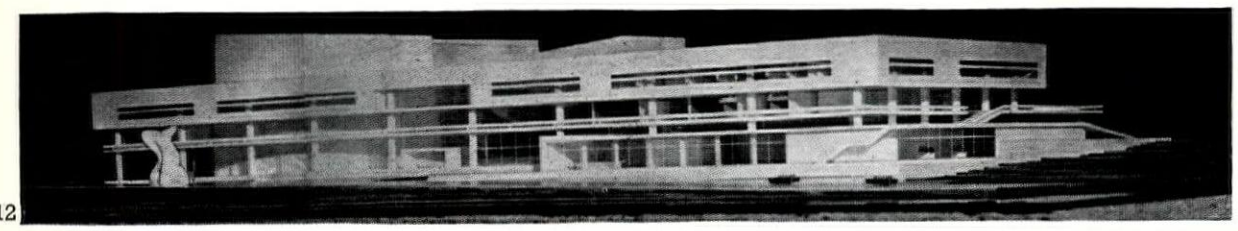


12

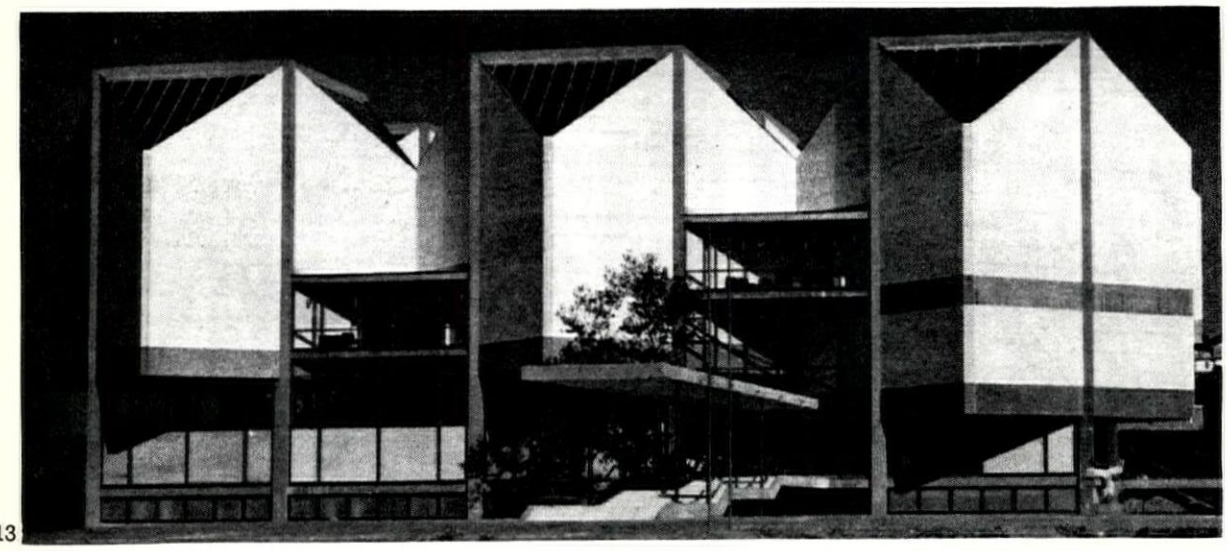
POLONAISE

domed ceiling and a ring of circular spots simulating skylights. Only externally, 9, is there a heavily corseted reversal to the norms of official taste.

9

DYNAMIC

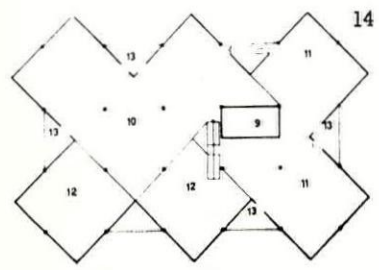
In Russia itself a new elegance in public architecture is emerging. A small civic building recently designed by P. Zinoviev for a site alongside the Borovevskaya Highway on the outskirts of Moscow has elevations, 10 and 12, remarkable socially for their emphasis on pedestrian routes, 11—streamlined towards the highway.



13

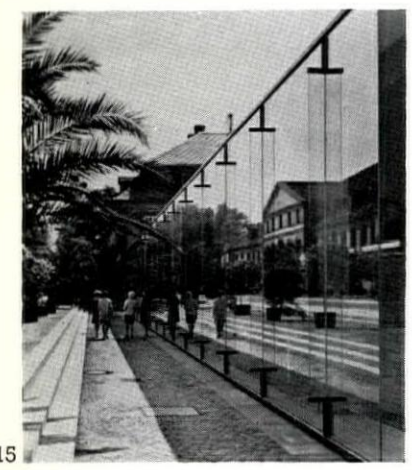
ANTIC

The new Yugoslav Museum of Modern Art, in the great park of New Belgrade, presents a remarkably astringent elevation, 13, of sharp corners, sawn-off prismatic rooflights and white marble



14

cladding. The young architects, Ivan Antic and Janka Raspopovic, have arranged a single space, galleried on various levels, in an irregular formation of eight repetitive square bays, 14; these are lit entirely from rooflights and from the all-glazed curtaining of the ground floor. The museum is designed for temporary exhibitions and conferences as well as to contain the national collection of Yugoslav art since 1900.



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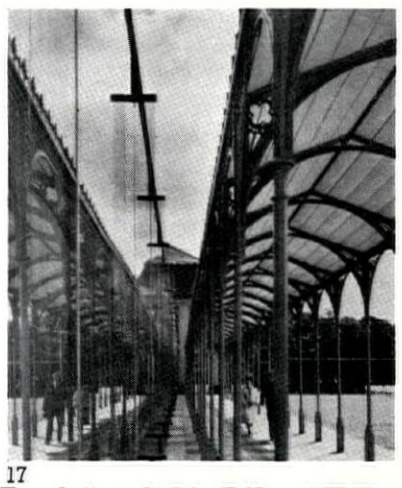
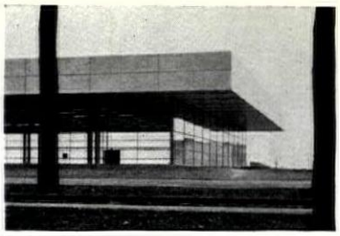


17

EXQUISITE

On a small scale Arne Jacobsen's exquisiteness is perfect: at the Herrenhausen Park in Hanover, next to the site for his proposed belvedere gateway (AR World, May 1965), he has recently completed a miniature all-glass box, 15, intended as a foyer for the concert hall in the former royal stables. A freestanding first floor covers a cloakroom area slightly sunk below ground. Immediately parallel to it runs a delicious cast-iron pergola, 16, and Jacobsen has left a tingling gap between the two, 17. Such artifice is more dubious on a larger scale: the sports hall at Landskrona, 18, cuts a low white streak through the forest,

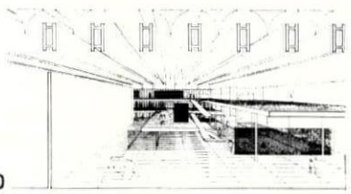
18



19

EXQUISITE

but this is because the hall itself is sunk about 10 ft. into the ground. The spectators' seating is hollowed out in curves, which contrast with the icy rectilinearity of the curtain walling (black painted steel mullions) and the roof (light-grey enamelled steel plates); these have no visible support externally, 19. The proposed Art Gallery at Hanover also displays feats of levitation in its alternation of box beams and triangular rooflight baffles, 20, but



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the exterior, facing on to a lake, 21, will have the same bland grandeur as St. Catherine's, Oxford.

26

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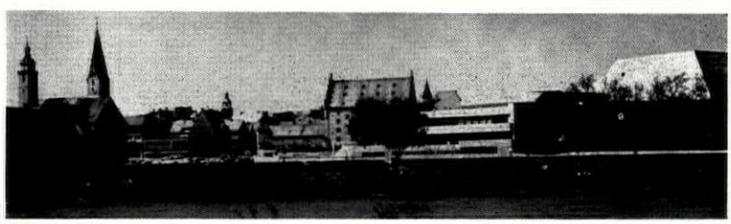

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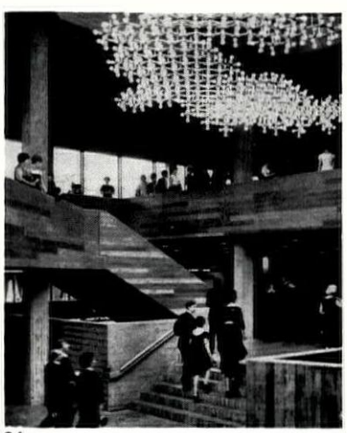
INGOLSTADT

The architectural equivalent of theatrical realism is admirably displayed at Ingolstadt by the local architect Hardt-Waltherr Hämer, who was originally awarded second prize in 1959, no first prize being given. Between the old city wall and the Danube, 22, he has fitted a massive pile, including 750-seat theatre and 1,350-seat banqueting hall, together with repertory company facilities. The brutalist route structure of the foyer is a triumph, 24, set off by Robert Hausmann's delicate lights. Externally, 25, the foyer is articulated grandly with tall steel mullions and stopped off lengths of rough-shuttered upstand and parapet. The sawn off pyramid of the stage tower, 23, is set at an angle to the wing of the kitchens and dressing rooms, from which a stairway wanders round the corner.

23



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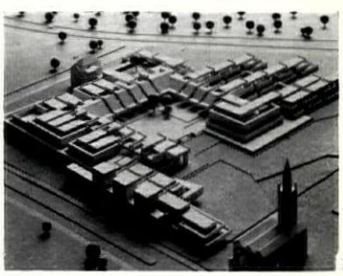
25

GUTBROD'S GALLERY

The recent Berlin State Gallery competition was worthy of Victorian London, with Professor Rolf Gutbrod (interior-designer of Frei Otto's Montreal tent) in the role of Sir Gilbert Scott. His selected design, 26, was put among the also-rans by the jury, who reported adversely on his stellar plan form, with pavilions at the tip of each wing, which blocks the possibility of future expansion of each section, makes contact between the departments difficult and relates badly to the surrounding buildings, 27. These are impossibly difficult and conflicting: Scharoun's Philharmonie (left), Scharoun's projected State Library (background), Mies's nearly finished Gallery of the Twentieth Century (right) and Baumgarten's Shell Haus office block (far right)—all these within the giddy interstices of urban freeways. Within the State Gallery site is the surviving Mathei-Kirche; Roland Ostertag's design, 28, made it



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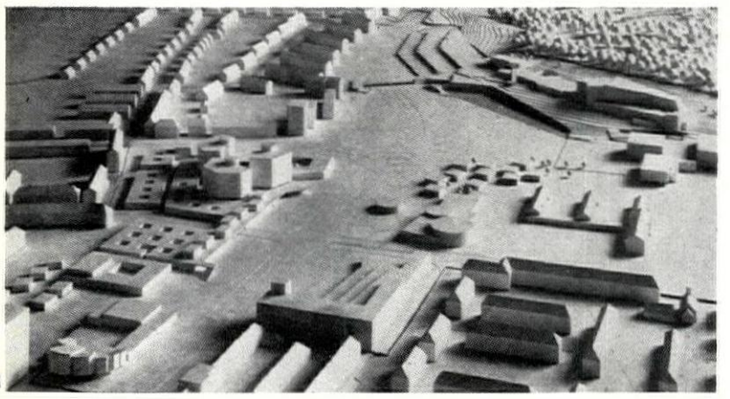
27

BERLIN GALLERY

31

the focal point of a formal plaza, while the Berlin architects Müller and Heinrichs, 29, set if off against a giant slab as backcloth. No first prize was given; of the two second prize designs, that by Horst and Christine Redlich and Reinhard Steinweg, 30, was also of the stellar type, and that by Klaus Meyer of Frankfurt, 31, put intricate patios within a giant anti-social wall. *Bauwelt* said the whole competition should be forgotten and the job given to Aalto.



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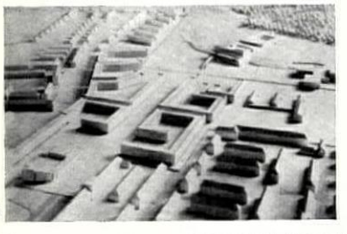
GRAND MASTERS

Aalto meanwhile has lost the competition for the new theatre at the Volkswagen town of Wolfsburg to Hans Scharoun, with Jörn Utzon in third place. Competitors had to suggest (with an almost entirely open brief) the appropriate civic design for Braunschweiger Strasse, which will connect Aalto's cultural centre of 1963 (bottom left in 32–34) to the theatre itself on the slopes below the town park. Scharoun, 32, has satisfied economics and given socially a series of definite places—difficult in view of the sweeping freeway through the centre—by suggesting a variety of 'non-cultural' uses: houses, flats, shops, restaurants, an hotel. Aalto by

33



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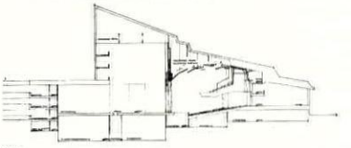
contrast, 33, actually emphasized the freeway and put little beside it, while Utzon, 34, displayed the opposite unreality by suggesting that the freeway be stopped off and diverted to create a precinct flanked by enclosed courtyards of housing—though such 'unreality' is now fortunately an accepted gospel in Britain. Scharoun's theatre has one of his most magisterial plans, 35, with vast lengths of garden walling spreading it out into the countryside; his whale-backed silhouette, 36, is as characteristic of him as sharper irregularity is of Aalto, 37; while Utzon, in a plan of almost Beaux Arts symmetry, suggested burying his auditorium deep into the hill-



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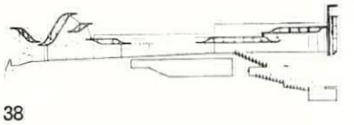

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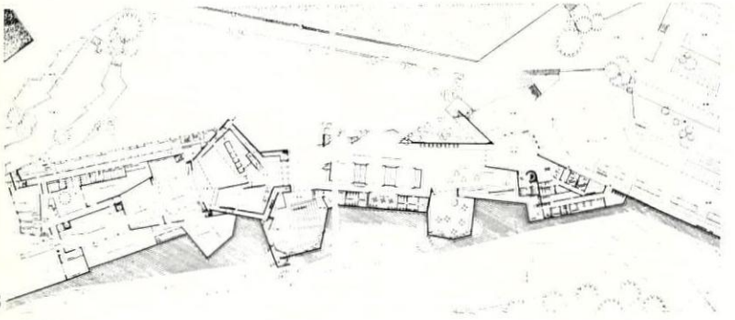
side—part of it is on the right of 38—with its entrance through a wavy-roofed atrium.



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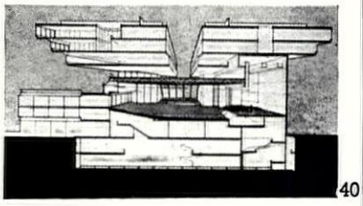
TEATRO PAGANINI

Futurist offices, 39, hide the winning design by Luigi Pellegrin and Giorgio Carini for rebuilding Parma's Teatro Paganini. Sectionally, 40, the auditorium is ground between upper and nether millstones, resulting in a basement, piano nobile and attic formation, 41, the offices in the attic being split down the middle. Behind the theatre is the seventeenth century building known as La Pilotta, its courtyard being open on half of one side—top left in 42–43. The positioning of the theatre on the street frontage was a quite different response to the *ambiente pre-esistente* from the same



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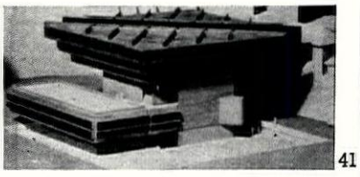

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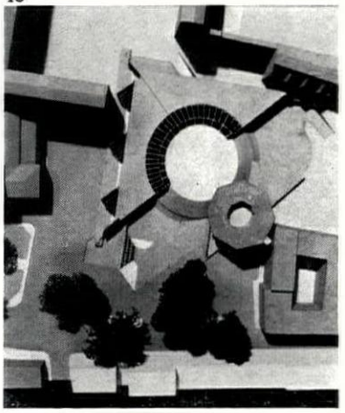

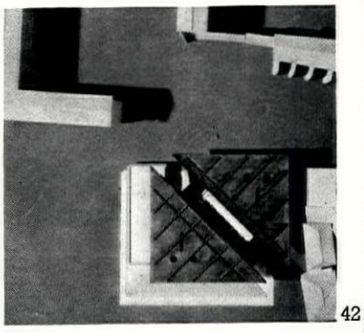

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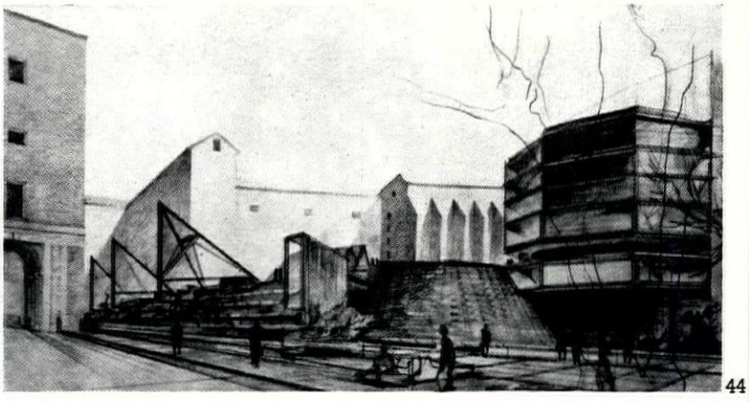
architects' first-stage submission, 43, in which they edged the theatre into the open courtyard and half-submerged it, 44, under a roof-walk.



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VIEWS AND REVIEWS

marginalia

MANCHESTER ASSESSED

There has recently been an encouraging increase in guidebooks to nineteenth- and twentieth-century architecture in British cities. One of the very best, equalled only by the recent Glasgow book (reviewed in AR, July 1966), is the special issue on *Manchester Buildings*—in effect a separate booklet—produced by the magazine *Architecture North West* to celebrate the centenary of the Manchester Society of Architects. It is obtainable from the Corinthian Press Ltd., at 258 Gray's Inn Road, London WC1, or from the Society at the Manchester Building and Design Centre, 115 Portland Street, Manchester 1, at 10s. plus 2s. 6d. postage.

The editor, Dennis Sharp, is a lecturer at the local school of architecture, and has also produced this year a major book on expressionism in architecture (to be reviewed in a forthcoming AR) and a useful bibliography on the Modern Movement for the Architectural Association. His Manchester work consists principally of an excellently annotated photographic gazetteer of individual buildings (assistant editors, John Billingham, Donald Buttress, Peter Davenport and Roderick Males). There are two introductory articles, one a fascinating spate of reminiscences from Cecil Young, the other an equally excellent account of the Society's growth (its original constitution stated: 'The Society shall consist only of gentlemen') by the late Cecil Stewart, to whose pioneering work on the Victorian period, *The Stones of Manchester* in particular, Mr. Sharp acknowledges a well-deserved debt.

What are the distinguishing features of Manchester buildings? There is now little at first sight that rivals Liverpool and Glasgow, with the two glorious Gothic exceptions of the Town Hall by the city's favourite son, Alfred Waterhouse, and the Rylands Library by Basil Champneys. Waterhouse's Assize Courts went in the war and only the opulent exterior of Edward Walters's Free Trade Hall survived. As regards Waterhouse's own home, Barcombe Lodge (1861), Mr. Sharp says that 'demolition is unnecessary and unthinkable'—but demolished it was last summer, by Mr. Sharp's own university. Further out there is the friars'-church poverty, appropriately painted by Lowry, of Bodley's masterpiece, St. Augustine, Pendlebury. The Athenaeum and the Art Gallery by Barry, the Bank of England by Cockerell and the Midland Bank by Lutyens are distinguished classical *tours-de-force*. But there are few works of value by other major London architects: only minor churches by Scott, Street and Butterfield, an uncharacteristic vicarage by Mackmurdo, a pair of semi-dets by Voysey.

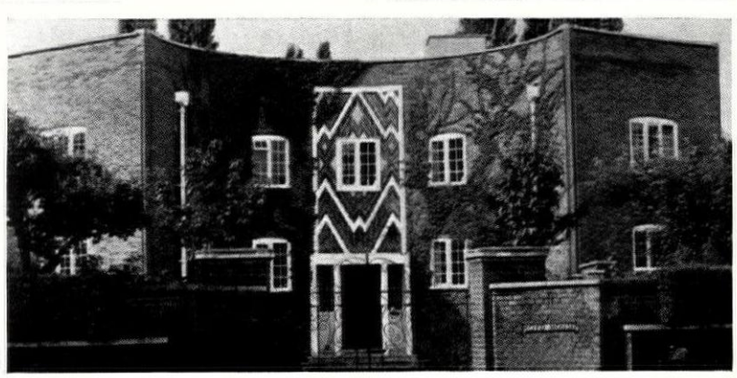
The real quality of Manchester lies in two peculiarly local directions: Edgar Wood and commercial opportunism. After this booklet, and Pevsner's forthcoming *Lancashire* for which it whets the appetite, there will be no excuse for leaving Wood (1860–1936) out of the general histories of modern architecture. The contention in *Manchester Buildings*, based on John Archer's research, is that Wood's switch from the Arts and Crafts irregularity of his houses of the 'nineties to a harder, more precise manner with flat roofs of concrete, was the result of his partnership in 1901 with James Henry Sellers (not to be confused with the earlier J. H. Sellars of Glasgow). Each architect was an exceptional designer: Wood in the Wesleyan Church at Middleton and the First Church of Christ Scientist at Victoria Park, Sellers in Dronsfield's office block at Oldham and both of them (or Sellers only?) at Durnford Street School, Middleton—quite as revolutionary in its way as Mackintosh's Scotland Street School at Glasgow. Wood's own home, Royd House at Hale (1914–16), 1, shows that he was at least equal to his partner's modernism; Cecil Young records that 'it amused Edgar Wood to tell the cabby at Altrincham Station to drive to the ugliest house in Hale. . . . The necessity for the insulation of flat concrete roofs had been little considered and Edgar Wood admitted that he was responsible for heating the Hale district.'

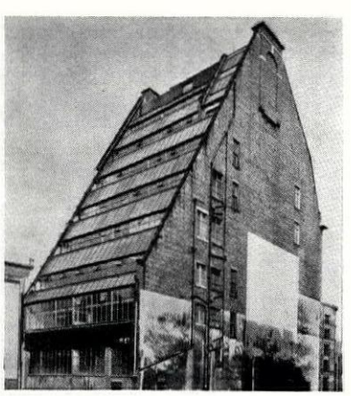
For commercial opportunism at its most uninhibited few cities can rival the cast-iron splendour of Watt's Warehouse in Portland Street by Travis and Mangnall (1856), which Dickens called 'the Merchant Palace of Europe,' and the unabashed tactical victory of York House in Major Street, 2, by Harry S. Fairhurst & Son (1911). The latter's extraordinary section, so prophetic to us of James Stirling, was merely the result of 'well guarded rights of light' to the other textile warehouses which surrounded it until the bombs fell. Buildings such as these, in Mr. Sharp's words, 'reflect in many ways the unambiguous nature of Manchester Man and his traditional hardheaded approach to the facts of commerce and life.' In the post-war period of widespread piecemeal redevelopment throughout the city, this hardheadedness has led instead to a clean, uninspired, gimmick-free impersonality rather similar to post-war German cities. The characteristic masterpiece is the glass-curtained CIS skyscraper; and it is well supported by the works of Cruickshank and Seward, Building Design Partnership, Leach, Rhodes and Walker, Young and Purves and many others. No hopes of any future co-ordination of such rebuilding are shown in *Manchester Buildings* because unbuilt projects are excluded, such as Wilson and Womersley's Education Precinct plan and the 400-acre plan for redeveloping the Longsight twilight area by the City Housing and Development Group.

The latter team works under Manchester's Director of Housing, J. Austen Bent, while the City Architect, S. G. Besant Roberts, deals with all other public architecture—and there is a separate planning department as well. Mr. Roberts has produced a sizeable illustrated report on his work, within this cumbrous arrangement, during the last three years (1963–66). It is the second of a series of reports (obtainable from the Town Hall, Manchester 2), which in their clear presentation could profitably be emulated by the chief architects of other corporations. The work shown is nowhere spectacular—just admirable routine design from the smallest primary school to an enormous abattoir—but the idea of publishing it is a vital official counterpart to the private initiative of the Manchester Society of Architects.

IIDEHA

What should a remote university do to keep up to date? Some answers have been found by the University of Cordoba in Argentina. The School of Architecture some ten years ago created the Instituto Interuniversitario de Historia de la Arquitectura. This post-graduate institute holds once a year, not necessarily at Cordoba, a week's or a fortnight's seminars for university teachers of the history of architecture in South America. Participants may come from Chile, Peru, Uruguay, etc. One such seminar was held by Bruno Zevi, one by Professor Pevsner, one by Sir Herbert Read, one by Vincent Scully. In addition a bulletin is published consisting almost entirely of reprints in Spanish of important articles on topical problems. No. 8 has just come out, and in it is Vincent Scully's paper on Kahn given at his seminar, reviews of Vincent Scully's book on Greek architecture, of Sir Herbert Read's *To Hell with Culture* and Mr. Rudofsky's *Architecture Without Architects* and reprinted reviews by Reyner Banham, N. Pevsner, J. M. Richards and Vincent Scully. The end is over 20 pages of bibliography. Even there one can sense tendencies towards certain points of view as against others and especially towards the aesthetics of space and the emotional qualities of buildings.





1, *Royd House, Hale, by Edgar Wood.* 2, *York House, Major Street, Manchester, by Harry S. Fairhurst & Son.*

ARCHITECTS' FAILINGS: 1819

In her book *Portrait of Jane* (about Jane Griffin, later Lady Franklin, wife of the explorer) Frances J. Woodward referred to, and quoted from, a conversation between Chantrey and Porden recorded in Jane Griffin's diary. She has now kindly sent to the AR the text of the whole conversation which is printed below with acknowledgement to the Scott Polar Research Institute, Cambridge, who own the diary among the other Franklin MSS.

The extract is from Jane Griffin's diary for June, 1819:

'Wednesday the 2d, we dined at the Pordens', where we met a very agreeable party, consisting of Mr. Chantrey, the sculptor & his wife, Mr. and Mrs. Brande of the Rl. Institution, Mr. D'Israeli & Lt. Genl. Thornton. . . At dinner I sat between Mr. Brande & Mr. Porden . . . —the conversation was animated & interesting, turning chiefly on those professional subjects which each individual was best able to speak well upon—The New London Institution was talked about, its architecture, its lecture room & Mr. Brande's audience there—Mr. Porden had seen the outside & admired it, but guessed it to be the work of a young artist—he did not know the name of the architect—(it is Brooke.) I thought there was some self-sufficiency & vanity in his way of talking. Everybody present lamented the want of a better architecture in the streets of London.—Mr. Porden said it was always ding dong in his ears at Paris that we had no architecture at all—they regretted the want of porticos & colonnades. Miss Porden said the *Columnophobia* seemed to rage in London, & Mr. Chantrey told a story of some directors of a public institution for the education of children who wanted to have a sheltered passage constructed from the centre to the wings, & who objected to a colonnade as a useless luxury, to an arcade as the same thing & at last when the prudent artist cunningly proposed a "covered way" immediately approved of an expedient which was a mere disguise to ignorant ears of the former wastefully magnificent structures. Mr. Brande pursued the subject by railing at the

paltry columns formed of scaffolding poles surrounded with brick-work, which perform the office of columns in some of Mr. Nash's new buildings. Mr. Porden could not believe the fact & denied the charge alleged against Mr. Nash—Mr. Brande said he had seen them—Mr. Porden called upon him to name the spot & Mr. Brande was silent—"Well then," said Mr. Chantrey gravely but humorously, "since Mr. Brande has some delicacy in naming the place, I will tell you where *I* also have seen the scaffolding poles—(I think it was in the Regent Circus in Oxford St.) & I can not only affirm that they were scaffolding poles, but poles that to all appearance had seen some service also".'

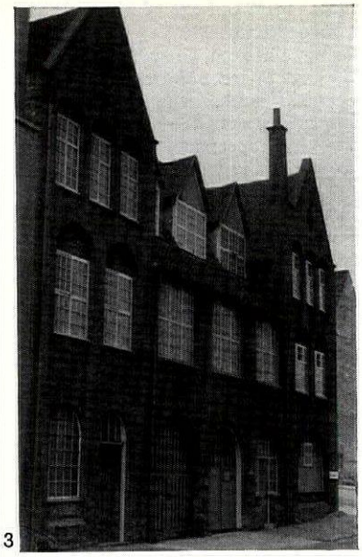
THE PUBLIC'S PARK

Peripheral redevelopment and internal decay are insidiously threatening Birkenhead Park, Sir Joseph Paxton's most celebrated landscape design. Laid out in 1843–7, it was the first park to be provided at public expense, and its influence was immense throughout Britain and also, through the work of Olmsted, in America. The Ionic main entrance and Loudonesque lodges, bridges and boat-house were designed by John Robertson (of Edensor model village fame) and by Lewis Hornblower, doubtless under the master's supervision, but the housing on the perimeter was built over a period of years and Paxton's plan for terraces and villas was not strictly adhered to. Nevertheless, the siting of certain houses is in obvious accord with his intentions and many of their classical, Gothic and Tudor designs are distinguished.

A recent plan by Birkenhead Corporation for redeveloping the perimeter of the park aroused widespread concern, as it involved the replacement of virtually all the existing houses by closely spaced blocks of multi-storey flats. Fortunately this is now being reconsidered. It must be hoped that a wiser scheme will be adopted, which will not only preserve the best of the present buildings but respect the vital character and scale of Paxton's post-Reptonian style of landscape. Meanwhile, although incongruous rose-beds are carefully tended, all too much of both park and perimeter presents an appearance of increasing squalor and decay. The covered 'Swiss Bridge,' for example, has been allowed to fall into extreme disrepair.

DUNEDIN MOSAIC

At a time when British Rail is under attack for its less than consistent care of its industrial heritage, an example of how to behave better comes from New Zealand, where the Railways Department has carefully restored and relaid the mosaic pavement laid in 1904 by Doulton's of Lambeth in the vestibule of Dunedin Railway Station. This is the result of a hard-fought campaign led by the Otago Branch of the New Zealand Institute of Architects who, appalled at a proposal to resurface the settled and cracking floor in terrazzo, enlisted widespread support for preservation from local citizens and also a testimonial from Nikolaus Pevsner, then visiting New Zealand. The mosaic, which combines lively motifs of Greek key and guilloche with realistic portrayals of contemporary (1904) rolling stock and signalling equipment, lies at the heart of New Zealand's finest station, a rich amalgam of Norman Shavian architecture and *Art Nouveau* decoration designed early in his career (1900), by the local architect Sir George Troup, then working in the NZR chief engineer's office.



3 *In the present vagaries of official protection, it is the spectacular such as St. Pancras that are noticed in time; less sure are the buildings of quiet excellence, such as No. 45, Great Charles Street, Birmingham, 3, designed in 1895 as the premises of the Birmingham Guild of Handicraft by Arthur Stansfield Dixon (1856-1929), a close associate of William Morris and Philip Webb who is better remembered as a metal worker than as an architect. Used for some years as the local supplies depot of the Ministy of Public Building and Works, No. 45 now lies empty and is on the corner of a block for the redevelopment of which planning permission is being sought. The Ministry of Housing should 'spot-list' it in grade II without delay and Birmingham Corporation should make sure that it is saved from redevelopment.*

SPAN HOUSING

In the introduction to the housing section of the January AR (Preview issue) the statement was made that Messrs. Wates had, ten years ago, invested in the independent firm of Span. We are now informed that at no time have Wates had any investment in Span, and apologize for any inconvenience that the statement—which was based on what we believed to have been reliable information—may have caused.

OFFICES, TOWER PLACE

In the Interior Design feature on the offices at Tower Place, London (AR, February, 1967), the architects were CLRP architects; architect-in-charge R. S. Fleming.

SCHOOL FOR THE PARTIALLY SIGHTED

The photographs of the School for the Partially Sighted at Exeter, published in the February AR, were taken by John Eastwick-Field, and not by Henk Snoek.

correspondence

INSIDE UP

To the Editors.

SIRS: I am in no way connected with the profession of architecture or with the aircraft industry. Having entered this disclaimer I should like to comment upon one aspect of Mr. Gerald Nason's interesting article under the above title in your December issue, namely the design of aircraft seats.

I have travelled more than a million miles by air as a passenger, in almost every type of aircraft, including some 60,000 miles in 1966 in the super VC10, by far the most comfortable of all aircraft at present in service. Never once has my head reached up far enough to rest comfortably on the head-rest. This fact has long baffled me. I know that careful thought has been given to the design of aircraft seats: angles of slope, dimensions, springing, anthropometric data, mechanical operation, safety, aesthetic impact, sales appeal—all have been studied with great care. They have produced seats which are very comfortable in every way except for this one astonishing defect.

Just sit, *relaxed*, in any aircraft seat of either class and you will find the head-rest contacts the top-back of your head, pushing it forward and downward. For a woman, it ruins either her hat or her hair-dressing as well as pushing her head forward and downward. I am aware that there is no such thing as an average-sized man or woman, and that even if there were no position of the head-rest could be right for both. But the position is now a positive inconvenience for a woman and irritatingly wrong for any but the very tallest man. I have only once seen a man whose neck rested comfortably on the rest of an aircraft seat; he was a professional basket-ball player (yes, I enquired) at least 6 ft. 10 in. tall, who sat in an unnaturally upright posture.

The fault is so well known to all passengers and so easily demonstrable that it is difficult to understand why it persists. The support area should obviously be not the back of the head but the base of the skull and the upper neck, measured when the passenger is actually sitting *fully relaxed*, not bolt-upright, in the seat. Would it not be possible to design an adjustable head-rest, suspended for example on two 'plug-and-slot' straps? Alternatively, if this is impracticable, would it not be better to have a straight-backed seat and rely on a separate cushion?

Doubtless the problem will be solved automatically in a few years' time when passengers will be anaesthetized and transported in racks to Australia at Mach 10. Meanwhile it is one of real importance to all long-distance travellers by air.

Yours, etc.,

G. H. BEEBY

London, W.1.

This letter has been referred to an expert on aircraft seating, Mr. John Cutler (chief designer of Aircraft Furnishing Ltd.), who assisted in the preparation of Mr. Nason's article. Mr. Cutler replies as follows;

The particular bother for designers of comfortable seats is that everybody is an expert sitter-down and their criticisms are consequently worth listening to; so I had better try to give some sort of explanation of the background to the thinking which decides this feature. The head position of a seat occupant may lie between two extremes, reached (i) by a tall person sitting upright with his bottom well back in the 'corner' of the seat and (ii) a short person lounging with his bottom right on the front edge of the seat. Although I have implied the extravagant positions 'bolt upright' and 'slouched,' any person's normal sitting position is usually near one or other of these extremes. By normal, I mean the position in which he uses the chair when he first sits down, discounting any wriggling about which he may do after a while. Consequently, about half the people who sit in chairs tend to find the head-rest too low and bearing on their shoulders; the others find that it is too high and bearing on the top of their head. By straining ingenuity to the verge of hysteria it is possible to achieve a measure of compromise without spoiling the appearance of the chair or going in for adjustable head-rests, which would spend most of life ugly, unserviceable and unloved.

Both BEA and BOAC have tried forms of adjustable head-rest in the past, and Air France are using them now—or were recently—but I doubt if any of them want to repeat the experiment. Straight-back seats with separate cushions are a little better, but the cushions fall about and the passengers who do not want them don't know where to put them.

So far as published anthropometric data is concerned, most aircraft chairs are fairly correct in the back rest but, for reasons of leg space and baggage stowage space under the chair, most of them are about 10 per cent too high in the bottom. And yet nobody I have heard complains about that. Does this mean that designing to statistical data is an unrewarding pastime?

book reviews

FIRST ELIZABETHAN

ROBERT SMYTHSON AND THE ARCHITECTURE OF THE ELIZABETHAN ERA. *By Mark Girouard. Country Life. 6 gns.*

Dr. Girouard's long-awaited book on Robert Smythson goes a considerable way towards finishing the new image of Elizabethan and Jacobean architecture which has emerged since the war. Twenty-five years ago, no period of English architecture was less esteemed. Elizabethan was still thought of as, in Banister Fletcher's phrase, 'a transition style with Gothic features and renaissance detail,' having no particular artistic virtue other than a certain piquancy arising from a vernal coition of naïve curiosity and high spirits. And that piquancy had long ceased to amuse. Nobody—except, indeed, Wyatt Papworth—had thought of a serious chronological study of Elizabethan buildings nor of a proper investigation of who designed and built them. Documents were unsought, perhaps because it was instinctively felt that if pedantry came in at the door, piquancy would fly out at the window.

But to turn one's back on Elizabethan architecture is to be haunted by it. When T. G. Jackson was wrestling with a Gothic design for the Examination Schools at Oxford he tells us that 'before my eyes seemed to come the haunting vision of Elizabethan and

Jacobean work, and especially of those long mullioned and transomed windows at Kirby Hall.' Jackson exorcised the haunting in his Oxford work and continued to design in 'English renaissance' for the rest of his life. Nobody now designs in Elizabethan but the ghosts keep rising and have to be laid by other means—the scholar's way. They are not, of course, always quite the same ghosts. To Dr. Girouard, one suspects, the haunting issued less from grand mullioned windows than from something which had always been overlooked or misinterpreted—the deep romanticism, the conscious Gothic retrospection. Of this there is a strong infusion in nearly all the houses associated with Robert Smythson. Without due recognition of it some of them, at least, are incomprehensible monsters.

The book is built round finely detailed descriptions of the obviously great performances—Longleat, where Robert Smythson first appears, quite humbly; then Wollaton, Worksop, Hardwick and Bolsover (the latter, of course, by Robert's son, John). But if these dominate, as they must, there is a second deck of related houses carefully grouped round the primaries but less minutely described. Some of these may or may not be by Smythson. Attribution on stylistic evidence is a dangerous, if not hopeless, business at this period. Dr. Girouard is careful but the reader has to be careful too, and to remember that the great majority of Elizabethan houses were probably copies, more or less, of other houses. Everybody copied everybody and everybody copied drawings or copies of drawings. Nevertheless, attribution apart, grouping by plan and style is always worth while and some of the relationships pointed out here are extremely curious. I would never have thought of relating Chastleton to Hardwick or Fountains Hall to Wollaton, yet the juxtapositions do tell, and we begin to get a proper notion of the value which the Elizabethans (how rightly!) set on 'platts,' the 'uprights' being infinitely convertible.

A house which seems to me altogether too remote from Smythson to justify inclusion is the Hall at Bradford-on-Avon. Dr. Girouard makes no great case for it and it seems to me that the really significant connection here is with the plan and elevation in Thorpe's book (T95 and 96, Pl. 44, in the *Walpole Society* edition) on which Thorpe based his design for Campden House, Kensington. The whole character of that design is so odd (and so unlike anything else in Thorpe) that one wonders if this was a 'classic' model in circulation at the time and perhaps not even of English invention. This, however, is marginal. Among weightier problems is the question of Smythson's introduction of the cross-hall type of plan (i.e. the hall placed at right angles to the long axis of the house). It appears at Hardwick in 1590, which is earlier than any of the southern examples (Charlton, Greenwich, 1607; Somerhill, c. 1613). Was this a native 'conceit' of the kind on which Dr. Girouard has an excellent passage in his introduction? Or does it come from Palladio? Dr. Girouard is non-committal, but surely Palladio is the answer not merely to the position of the hall at Hardwick but to the whole disposition of hall, colonnades (front and back) and even four of the towers. Smythson must, I believe, have at some time had before him the wood-cut (or a copy) of the Villa Valmarana at Lisiera given in Palladio's second book. The next dateable use of Palladio in England is by Inigo Jones in 1608.

There is another problem at Hardwick which Dr. Girouard does not answer—or, indeed, ask. How does the great 10 ft. wide stone stair with its continuous flush-plastered soffit stay up? It is one of the loveliest stairways in England but its stability is either miraculous or the effect of a subvention (possibly iron) hidden under the plaster, which would argue the whole thing a nineteenth-century replacement. Nobody would want to believe that.

In the long introduction to this book we have what is probably now the best available summary of the social and psychological conditions of Elizabethan architecture. But the main thing is the authority with which the major works are described, not only architecturally but in respect of documents (Longleat especially) and family histories—the latter often a more significant guide to the extent of Smythson's operations than any visual evidences. When it comes to spectacle Dr. Girouard is ready with evocative phrases; and there are passages on Wollaton and Hardwick which combine technical exactitude and critical appreciation with uncommon force. From the beginnings of Longleat to the finishing of Bolsover is quite a long way and Dr. Girouard has done more than give us a map of the route. The landscape is there too.

JOHN SUMMERSON

HARDY AS ARCHITECT

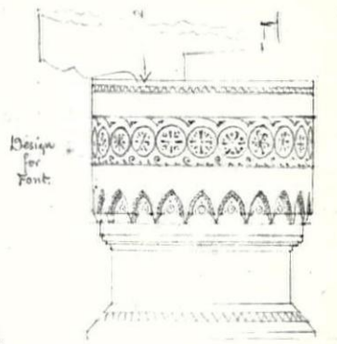
THE ARCHITECTURAL NOTEBOOK OF THOMAS HARDY. *Introduction by C. J. P. Beatty. Dorset Natural History and Archaeological Society, Dorchester, Dorset.* 63*s.*

It would be unfair to suggest that we owe this important publication in replica form of a young architect's sketchbook of the 1860s merely to the fact that its author was Thomas Hardy. As Sir John Summerson remarks in his Foreword, 'Through the young Hardy's sketches and memoranda we can feel the excitement of the new things—of "early French" detailing, of Ruskinian naturalism in ornament and of the possibilities of construction in iron. This would be an instructive document if its author were unnamed.' Dr. Beatty gives full weight to the architectural value of Hardy's sketches; indeed, one of the few criticisms that can be made of his resourceful and breathlessly enthusiastic commentary is that he nowhere makes clear at what stage in his architectural career Hardy started writing. Within months of his actual departure from the architectural profession in 1872, Hardy was still saying to his fiancée, 'that he had banished novel-writing for ever, and was going on with architecture henceforward.'

Born in 1840 of a long line of Dorset master-masons, Hardy was articled at the age of sixteen to the local Dorchester architect John Hicks (1815–69) a conscientious but ignorant church restorer. In 1862 he left to seek his architectural fortune in the London office of A. W. Blomfield, then a 33-year-old whizz-kid of the 'hard' polychromatic school of Gothic—not so much the disciplined piety of Butterfield, whose office was only a few doors away from Blomfield's in Adelphi Terrace, as the confidently commercial constructivism, using iron and brick and concrete, that was being propagated as a synthetic 'Victorian style' by the youthful Architectural Association. Blomfield, as immediate past president of the AA, proposed Hardy for membership as soon as he arrived in London; and Hardy's ambition at that stage as an architect is shown by his winning in 1863 the RIBA Silver Medal for an essay (alas, no longer extant) *On the Application of Coloured Bricks and Terracotta to Modern Architecture.*

Constructivism naturally appealed to Hardy as to any fashionable young architect of the 'sixties; and although he was not specially talented as a draughtsman, he gives in the *Notebook* excellent sketches of 'realistic' iron structures, including daring banisters from Bassett Keeling's Strand Music Hall and massive hinges from Chalons-sur-Marne. Owen Jones's *Grammar of Ornament* supplied him with fantastical shapes for copying; and he culled details from the building papers about a number of well-known buildings (St. Thomas's Hospital, Pearson's Vauxhall church). There are some original designs by Hardy himself, including two splendid fonts, 4, 5. Much the best things in the *Notebook*, however, are the structural drawings of woodwork and ironwork, which show a real feeling for materials; and on page 98 is a small sketch of a vaulted clerestory, 6, which suggests a startlingly modern approach to the free arrangement of abstract stained glass. For there was more than mere fashion in Hardy: he was already thinking deeply about the relationship between his ancestors' traditions of rural craftsmanship and his master's whole-hearted embrace of machine-cut bricks and general contracting. To some young architects, following the lead of Butterfield and Street (of whose Denchworth School of 1850 a sketch appears because Hardy's sister was schoolmistress there), the answer to such problems lay in the adoption of a self-conscious 'vernacular'; to Hardy it lay in leaving architecture altogether—his own horrid house of Max Gate (1884) being a sad postscript which Dr. Beatty omits.

When his health broke down in 1867, Hardy returned to Hicks at Dorchester and on Hicks's death joined G. R. Crickmay (1830–1907) at Weymouth. This period, of which the sketchbook gives many humdrum records in the form of drainage diagrams, joinery details, comparative dimensions of public buildings and so on, culminated for Hardy in the restoration at St. Juliot, Cornwall, where he met his future wife. The drawings for this were discovered in Weymouth by Dr. Beatty (see his article in AR, February 1962). It was Hardy's growing horror of such botched 'restoration,' violating craftsmanship, even more probably than his periodic ill-health and growing literary talent, that broke his back as an architect. The *Notebook* records a later return to architecture, sadder and wiser, in his restoration of West Knighton church (1893–4). He had been active in the SPAB from 1881. Dr. Beatty gives tantalizing extracts of Hardy's architectural philosophy from the novels, where he invented the term 'technicist,' instead of 'architect,' to express his Morris-SPAB belief in the integrated craftsmanship of his ances-



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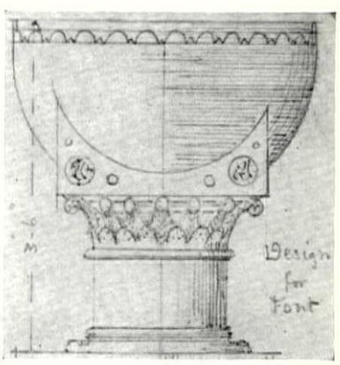

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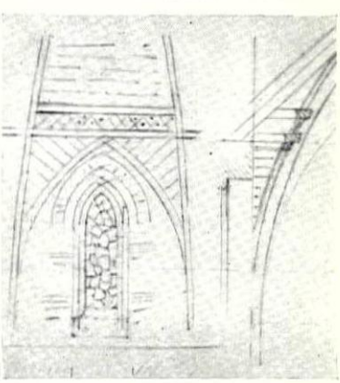

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Three illustrations from The Architectural Notebook of Thomas Hardy*: 4, 5, designs for fonts; 6, design for a vaulted clerestory.*

tors. It will be difficult to omit from future books on nineteenth-century architectural theory the following passage from *A Laodicean*, in which the architect Somerset portrayed, as Hardy himself admitted, 'more of the facts of his own life than anything else he had ever written':

'At his suggestion Paula had agreed to have the works executed as such operations were carried out in old times, before the advent of contractors. Each trade required in the building was to be represented by a master-tradesman of that denomination, who should stand responsible for his own section of labour, and for no other, Somerset himself as chief technicist working out his designs on the spot. By this means *the thoroughness of the workmanship* would be greatly increased in comparison with the modern arrangement whereby a nominal builder, seldom present, who can certainly know no more than one trade intimately and well, and who often does not know that, undertakes the whole.' N.T.

Nikolaus Pevsner is still discovering Pioneers as well as anti-Pioneers. The latest is Dom Paul Bellot, a Beaux-Arts-trained Benedictine monk who in 1910-12 designed the astonishing church of Quarr Abbey in the Isle of Wight. Its distinctive features, which reach their climax (opposite) in the great square tower over the altar, are a proto-Expressionist virtuosity of brick detailing and the spatial intricacy of the separation of its internal structure of Spanish-influenced arches from its external skin of window tracery. The church is the subject of an article by Nikolaus Pevsner on pages 307-310.

R. G. Hopkinson

TOWARDS AN ENVIRONMENTAL AESTHETIC

By tradition the architect was an artist and a craftsman in space and light. His training developed in him a visual aesthetic and it was by the visual impact of his buildings that he wished to be judged. Even at the present day many if not most of the 'great' architects of our time are judged, and judge each other, by the visual strength of their buildings often to the exclusion of environmental comfort and efficiency.

Quite recently Reyner Banham shook the Bartlett Society with the thesis that the first truly modern building was not a Gropius or a Corbusier breaking the tradition of late Victorian neostyles, but an obscure hospital in Northern Ireland which was the first building consciously to plan an elementary system of heating and humidity control to create an environment appropriate for its purpose. In fact, Banham said, the essence of modern building was its purposeful environmental design. If Banham is right, then we cannot train architects in this new age unless we give them an environmental aesthetic. Without this they will not be architects in the sense which we now understand the term. They may be building engineers, or even environmental engineers, but not architects. The essential difference is that the architect, to do his job as he has always done it, must be capable of making decisions in the design process which are not necessarily backed by the facts of building science. He must be capable of seeing his way through a complicated situation, aided here and there by building science theory, by the well-validated results of empirical research, and by the evidence of sound practice, but often left with a wide variety of situations where little or no precedent is able to help him. This is why he needs an environmental aesthetic. He must literally 'feel his way' through his problems where theory and research experience do not exist to guide him.

Research has an important part to play in design, but not an all-important part. Winston Churchill did not need to do research in group dynamics in order to decree that the House of Commons should be designed with insufficient seating to accommodate all its members. This is right; many important decisions in

design can be made without the backing of research. In the hands of the wrong people technological training for building design could indeed turn architects into numerate morons and their work could then be done better by a well-programmed computer. But this is not the intention of those of us who are trying to train tomorrow's architects. Too much scientism will only turn students who might be first-class architects into second-rate scientists instead. The purpose of a well-designed course in environmental design is to increase the architect's awareness, to alert him to the nature of the world around him and to express the results of this alertness in terms of design. The architectural student assimilates this environmental material as the student painter learns draughtsmanship, perspective and the properties of paint, or as a musician learns harmony and counterpoint in order to build up his technique.

There are, of course, dangers in attempting to create an environmental aesthetic in a profession which shuns numeration. The more one expresses in numbers the subjective and qualitative aspects of building design, the less the architect will consider this his province and the more he will hand over to the consultant technologist. The design of windows and attendant devices to modify glare was once something which the architect considered to be his own. Studies on glare at the Building Research Station have produced tables and nomograms which the architect should use himself, but he is now only too glad to hand this work over to the lighting technologist. It is the same with the design of concert hall auditoria, once an aesthetic exercise in which the architect used his skill with natural materials to achieve empirically the effect which he desired. Since acoustics became a science the architect tends to confine his interest to the visual appearance of the auditorium, leaving the acoustic consultants to handle the acoustics as a technical job.

The development of an environmental aesthetic poses many problems which have not been solved. There must be a foundation of basic psychophysics of the visual, acoustic and thermal environment. There must also be extensive study in the field to relate what people see, feel and hear to what the physical instruments measure. For example, field studies of a number of different environments in which the thermal conditions are quite different should involve careful subjective judgments of the thermal sensations on predetermined psychometric scales. Side by side with these subjective evaluations, physical measurements of thermal quantities, like air temperature, relative humidity, etc., are made to enable subjective sensations to be correlated with physical measurements. This form of study gives an appreciation of what these different physical conditions actually *feel like*. Comparable acoustic field studies lead to a direct appreciation of what the reduction in sound level of traffic noise outside through a wall or window sounds like when this attenuation is, say, 30 db., 45 db., 55 db., with certain selective frequency characteristics. A specification in a bye-law which calls for attenuation of 45 db. in certain frequency bands can then be evaluated exactly in terms of human sensation, and above all it can be understood that it does not mean anything like the complete elimination of unwanted noise.

Laboratory studies and field experiments of this kind give the groundwork of the environmental aesthetic. Architects then have to build on this. All too soon they must realize that many decisions in design have to be made without the helping hand of the building scientist. Many things about the environment and its impact on the human being we still do not know. On some of them we can make a reasonable guess based on our research work in other fields. Often ideas relevant to the visual world, which has been the most carefully studied, can be translated to the acoustic world if we are careful not to carry the translation too far. The aesthetic of glare—unwanted light—with that of noise—unwanted sound—offers frequent comparisons. The architect with a developed environmental aesthetic is the man who can become the project leader on really big jobs like a hospital complex, where the environmental problems are of a nature to be handled only by a 'universal man.' There cannot be room for very many top people of this kind, but about the need for a few such people there is no doubt. It would be expected that such a top man would co-ordinate all aspects of design, from the site planning downwards, employing in his team building architects and environmental specialists who would be responsible, under his leadership, for the detailed realization of the whole project. This would overcome a major and just criticism of much of our present mode of design: that the architect, who has sensitivity, can only express this sensitivity in abstract, and that the engineers whom he employs are left to 'work by the book' as a consequence. It is clearly the architect, rather than the engineer, who must develop the environmental aesthetic. We believe, or rather we hope, that knowledge of human responses in buildings has now advanced to the stage where this knowledge can be passed on as a discipline.

CREMATORIUM, EDINBURGH | *architects* SIR BASIL SPENCE, GLOVER AND FERGUSON | *photographs by Henk Snoek and A L Hunter*

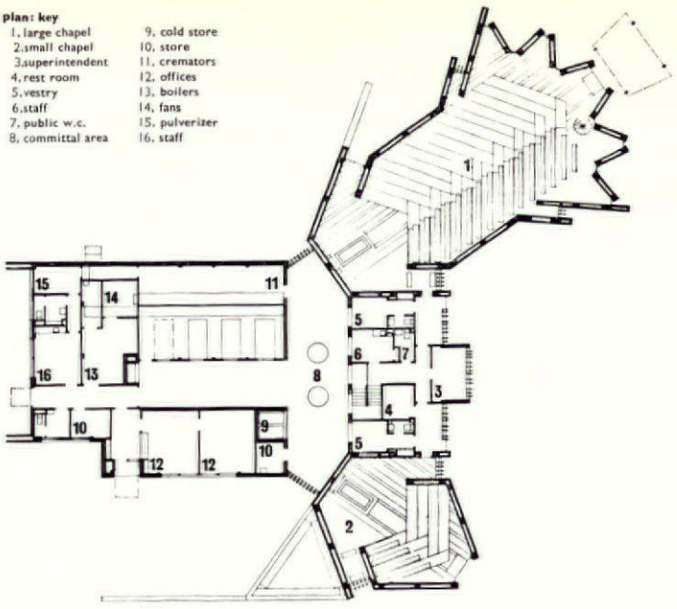
site plan

key
1, staff house
2, car park road
3, public lavatories
4, waiting shelter
5, garage
6, shelter
7, memorial chapel
8, service yard

2

3

plan: key
1, large chapel
2, small chapel
3, superintendent
4, rest room
5, vestry
6, staff
7, public w.c.
8, committal area
9, cold store
10, store
11, cremators
12, offices
13, boilers
14, fans
15, pulverizer
16, staff

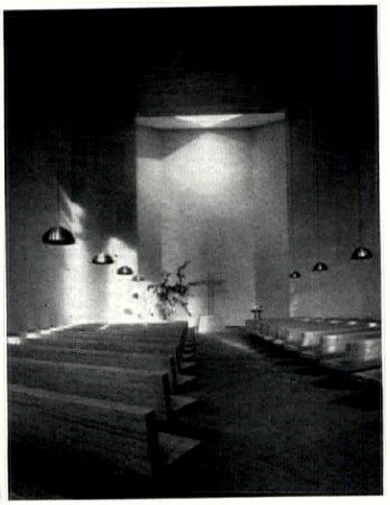


CREMATORIUM, EDINBURGH

The site for this crematorium, designed for the City of Edinburgh, is in a hollow beside a small stream in dense woodland. It is part of Mortonhall Estate belonging to the City which has been developed as a cemetery. Access is from the existing driveway to the cemetery, from which an informal car parking area among the trees is also reached. Adjoining it is a waiting shelter where mourners can join the *cortège* and proceed with it to the appropriate chapel in accordance with Scottish tradition. The three main elements of the crematorium group are the large and small chapels, facing south and south-west, the cremation and services block behind at a lower level, and the Remembrance Chapel to the west. All the buildings have external walling of white exposed calcined flint aggregate concrete block in varying courses, with natural weathered red cedar windows and doors. The lantern and drum of the chapels are clad in zinc.
The larger chapel seats 250, and the small chapel, which will be known as the Pentland Chapel, seats 50. The entrance to the large chapel is sheltered by the timber *porte-cochère* designed to give scale to the main fan-shaped façade with its tall chevron windows. These hold glass of yellow, amber, green, blue, purple and red, which pick up the south light and transmit their coloured patterns to the white acoustic-plastered walls of the interior. The slatted timber ceiling is of natural pine, and the simply designed pews are of laminated pine planks on concrete blocks. These are angled on plan, following the floor pattern of dark grey concrete slabs. The catafalque area is flooded with daylight from the tall flanking windows and from the pyramid lantern in the roof which is a dominant feature of the exterior. The catafalque itself is of hammer-dressed white concrete with bronze metal trim. Behind this stands a wooden cross. The lectern nearby is of pine. Music is provided in the large chapel by a

1 (previous page), south end of the large chapel and the pyramid lantern which lights the catafalque. 2, from the south-east, with the large chapel on the left and the lower level cremation block on the right. 3, the north end of the large chapel, with the boiler room stack on the left. 4 (facing page), west side of the large chapel and part of the vestry block.

5



6

5, the entrance area of the large chapel, with spiral stair to the organ gallery. The tall windows have glass of yellow, amber, green, purple and red; the walls are of white plaster. 6, looking towards the catafalque of the large chapel, which is lit by the pyramid roof lantern. 7, view from the west, with the small chapel on the left and the large chapel on the right.

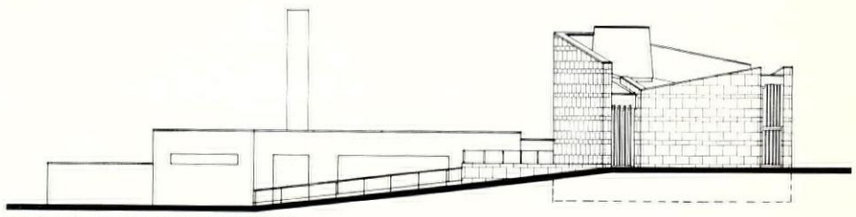
two-manual pipe organ placed on a gallery above the main entrance. The Pentland Chapel has a Hammond electric organ.

The catafalques from both chapels descend to the committal space at the lower level, which gives access to the cremation area. Here the three cremators are housed, with room for a fourth at a later stage. Also on this floor is the superintendent's office, with an outer public office with its own entrance from the grounds. In addition the necessary staff accommodation and other offices are planned at this level next to the service yard to the north. Adjacent to each chapel is a vestry for resident or visiting clergy, where there is also the superintendent's control room, visitors' rest-room and lavatories, and a chapel flower-room. A stair leads down from here to the committal area.

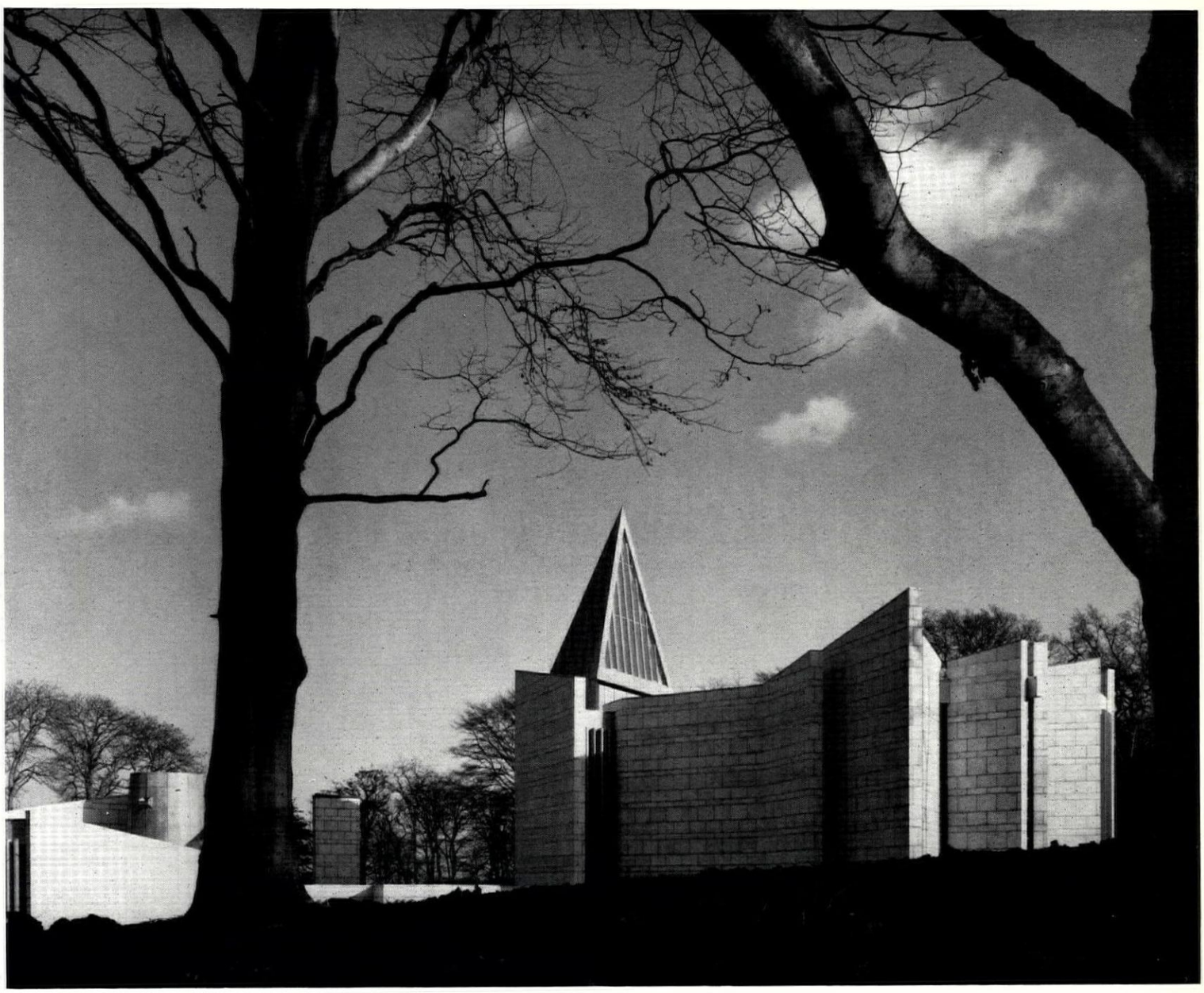
Standing apart from the main group lies the Chapel of Remembrance, where the Books of Remembrance are kept. There are four books in all, the current volume being displayed in a special bronze and glass case. Behind the display case is a large window looking out to the west over grass slopes to a distant white concrete cross against a background of trees. A few chairs are available here where visitors may linger.

Designed in association with the City Architect, Alexander Steele. Structural engineers, Blyth and Blyth. Services engineers, Ramsey and Primrose. Quantity surveyors, J. D. Gibson and Simpson. For contractors, see page 320.

CREMATORIUM, EDINBURGH



west elevation of services block and small chapel



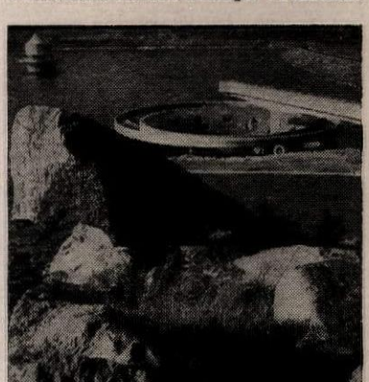
7

Ivy de Wolfe

Waterside Trim

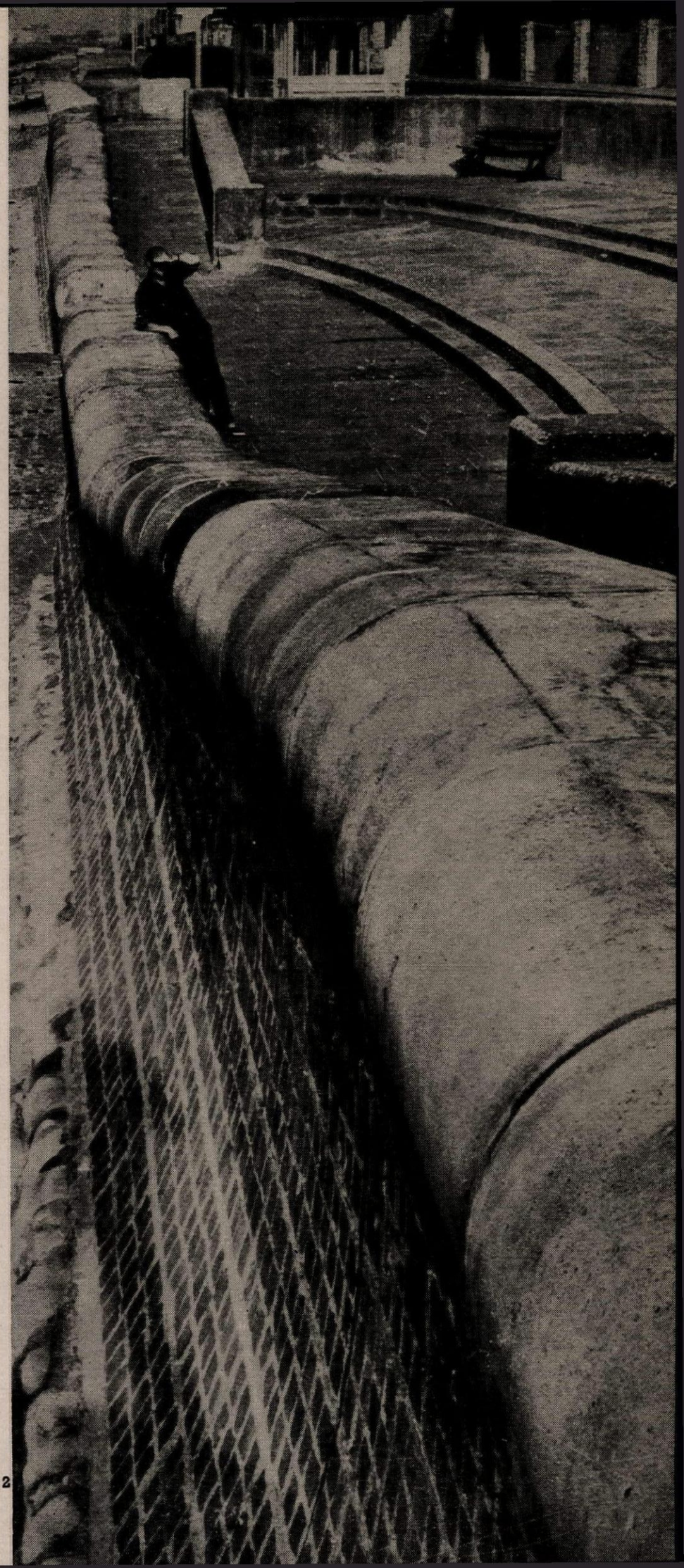
illustrated by examples from Lake Geneva

Water and the treatment of waterscape is not a regional problem because water has no regional or provincial variations. The demands it makes are the same everywhere: the same situations arise and the problems it sets are identical. There is thus a strong case for treating it supra-nationally, as the perfect subject for an international style. Internationalism has always been given due recognition at the seaside, where the black-and-white tradition of fishing ports—buildings weatherboarded and tarred, bollards on quays whitened—has remained constant here and on the Continent—all over the world in fact. What goes for seaside trim goes for lakeside trim, the only difference lying in the tonnage of water. In last month's AR, the article by Frederick Gibberd on his landscaping of the Llyn Celyn reservoir in North Wales showed a first-class British example of lakeside



trim (the inset illustration is a reminder), one that provides a model for such artificial tracts of water. This month an older inland sea is shown: Lake Geneva, with its harbours and quays, its natural and artificial waterfronts.

1 (*opposite*), *the element itself. Water, gallons of it—this is what you have to cope with. With the sea,* 2—*seen here at Sandgate, not Geneva—you have to do some serious work. A sea wall has to keep out a lot of water, and can develop into a fine sea serpent. Lakeside trim, however, has much less work to do and this involves rather different problems, though the variations are quantitative rather than qualitative.*



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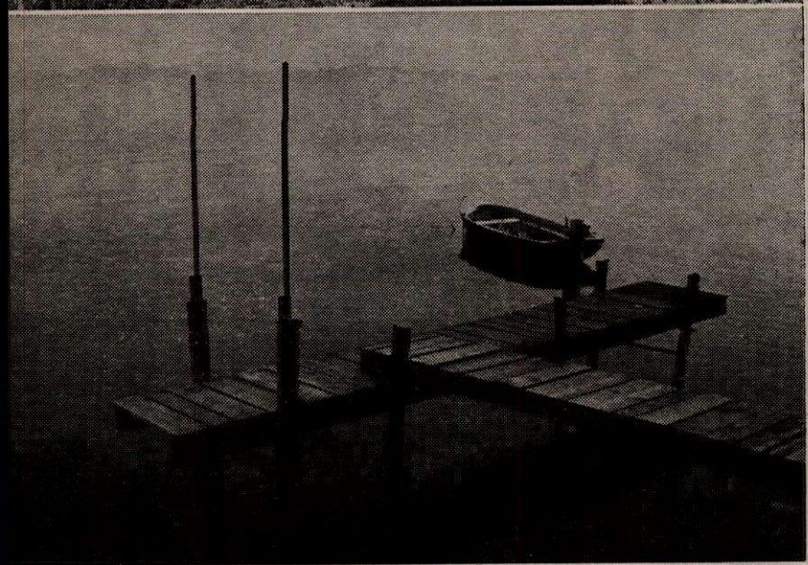

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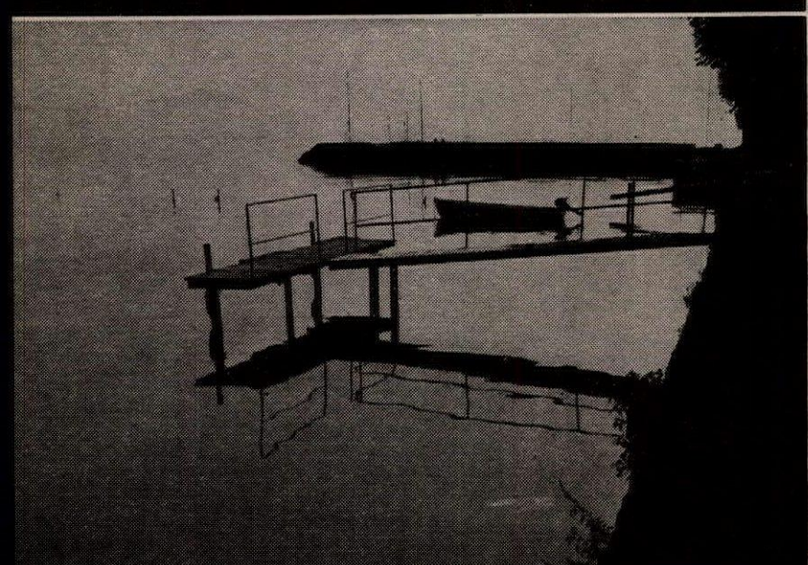


5

6

walls

quays

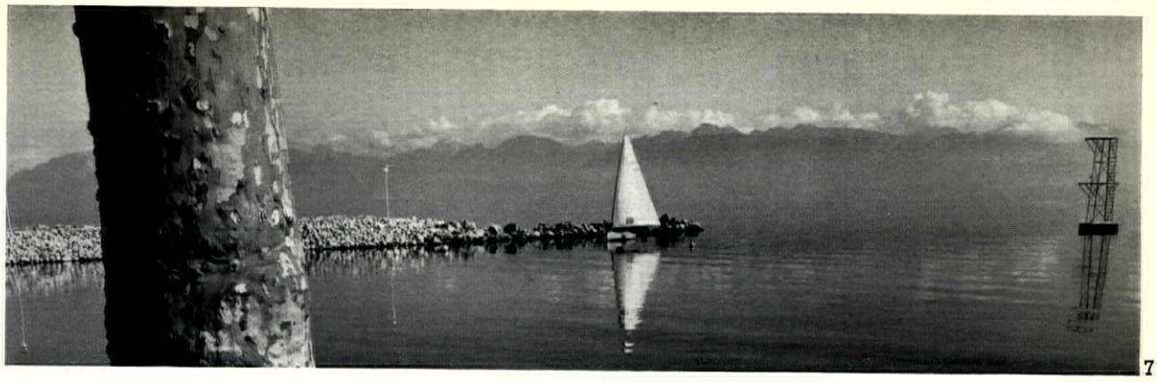
harbours

THE PROBLEM

How to make contact with the water? Having built a wall to keep it out, 3 *(Nyon), you lose connection. Steps can be made, but though you can get into it you still can't get* on *it, or get a boat to it, without danger. So you build a jetty,* 4 *(Rolle), wood being the traditional lakeside material. Stone quays, as in the background of* 5 *(also Rolle), are a more durable alternative. Finally, the quay develops into a harbour,* 6 *(Rolle). Even on lakes a harbour with deep water and protection from the elements is a necessity.*

CAUTIONARY

When the sun shines and the lake is smooth, 7 *(Rolle again), there is nothing to worry about except the enjoyment of sailing. In such weather, the kind of gimcrack wall and subtopian planting seen at Morges,* 8*, horrible though it be, is protected from its true imbecility. But when wind and water get up,* 9 *(Pully)—the suddenness of lake storms is notorious—the phoney shows its unsuitability,* 10 *(same place), and we feel the need for sterner stuff.*



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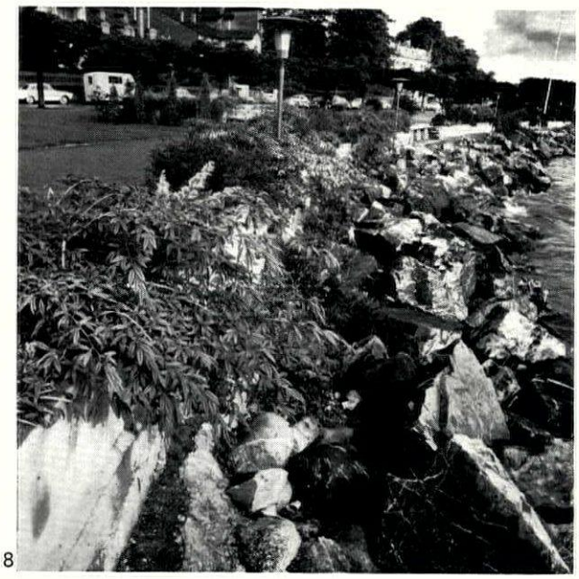

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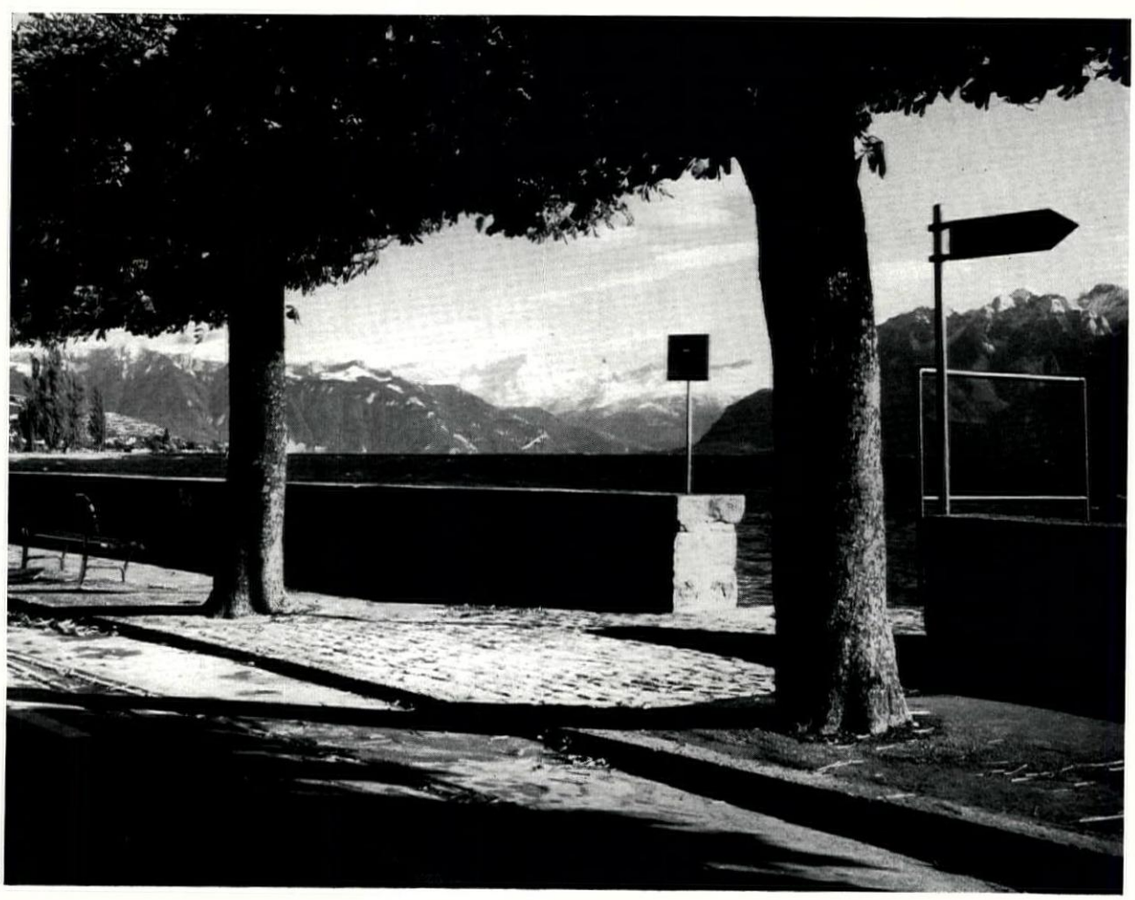
WALLS

Walls of one sort or another are an obvious necessity. At St. Prex, 11, *the wall of a cottage garden makes an informal barrier between lake and village, enhancing a traditional scene. Sometimes you can do without walls, as at Coreux de Gontaud,* 12. *This Arcadian setting of grass lawns is backed by trees which form a natural ornamental wall, giving a deceptive air of seclusion; the main Geneva by-pass in fact is less than one hundred yards away. When walls have to come, the important thing is to hold the horizontals: nothing sticking out, nothing ornamental, and no more verticals than necessary. Distant mountains are framed at Lutry,* 13, *between two horizontals, the foliage and the unbroken line of the wall. It must always be remembered that water is an element and so the more elemental the shapes are kept the better. The wall at Pully,* 14, *is perfect, and the ornamental hedge beyond it, though potentially unsuitable, is in this case tough and chunky enough to make a real foil to the wall. Sometimes moral hazards are more necessary than physical, in which case large stones can sometimes do duty for a wall, as at Pully,* 15, *often being whitewashed. This is a very pleasing motif which Gibberd has used along the embankment at Llyn Celyn. The elemental or 'primitive' effect is always desirable (think of the horror of juxtaposing water with tarmac) and can be obtained by rough surfaces, changes of texture, variations in composite structures. At Morges,* 16, *stones and cement harmonize agreeably with weeds and rocks. Alternatively, a pleasing effect of free forms,* 17 *(Nyon), can be achieved by using the sculptural action of the waves themselves to create a composition out of the combination of concrete and stone.*

11

12



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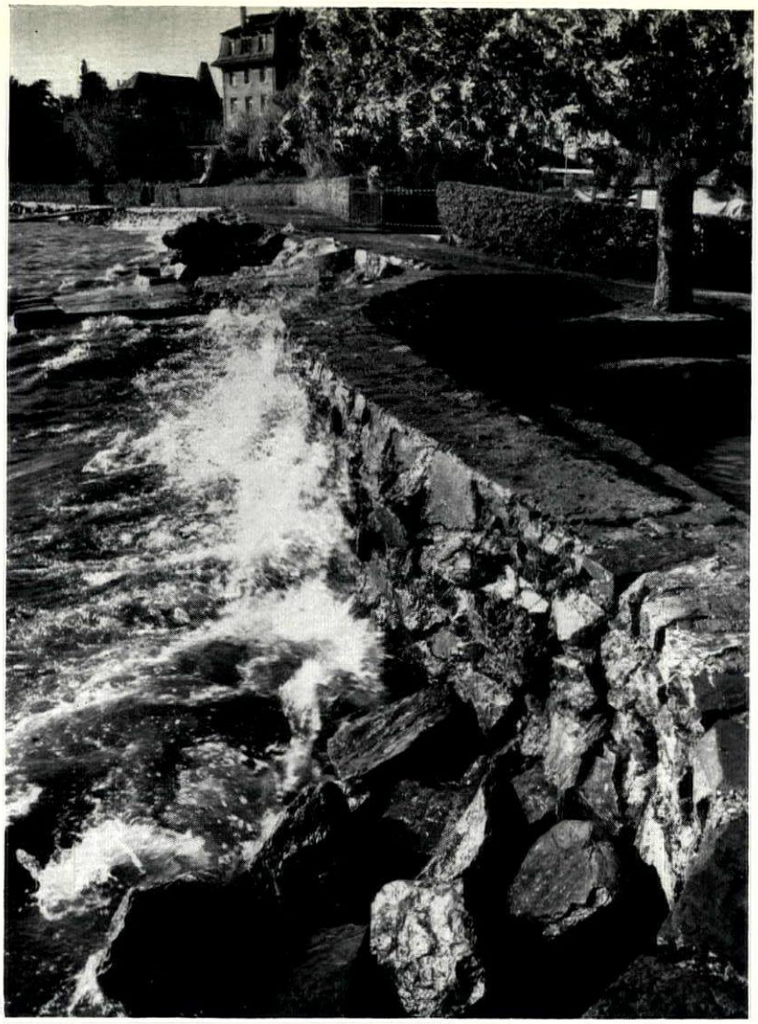

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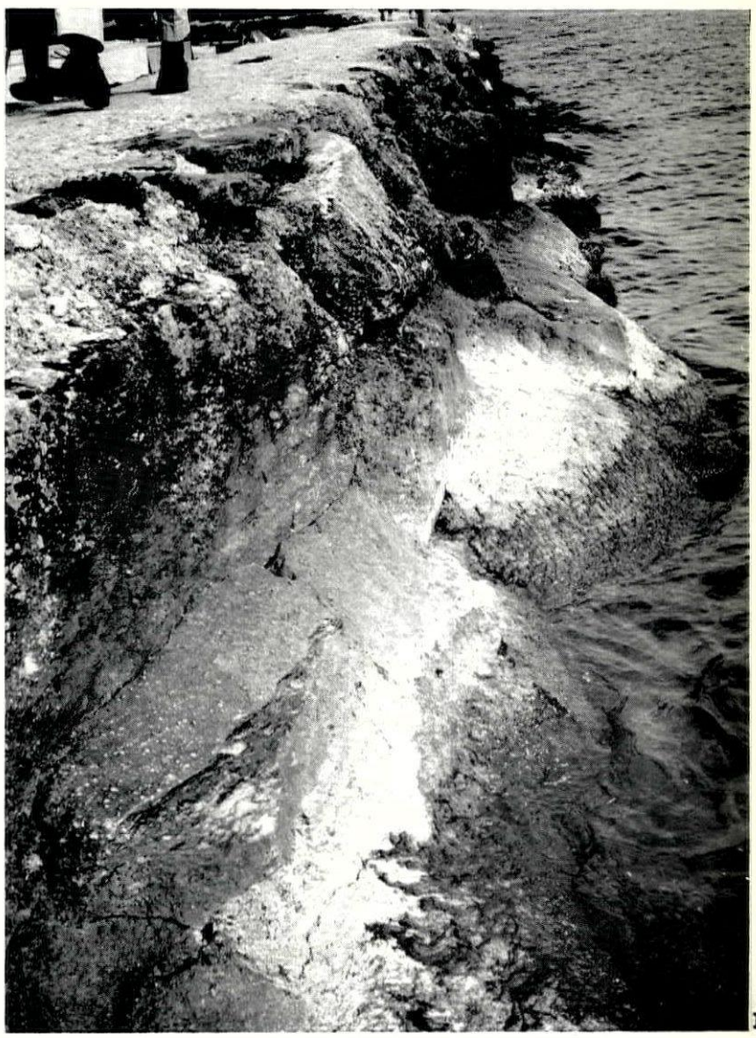

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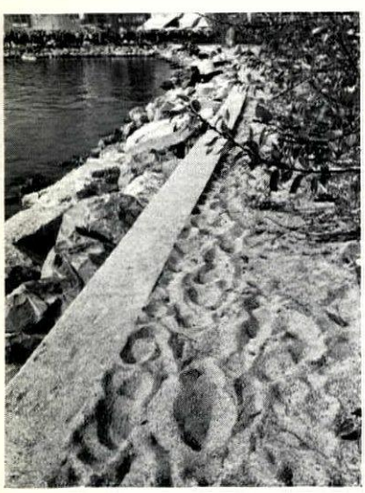

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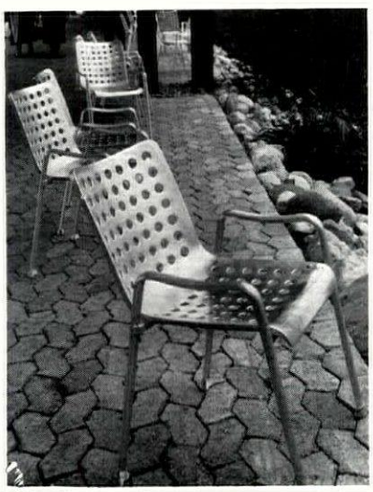

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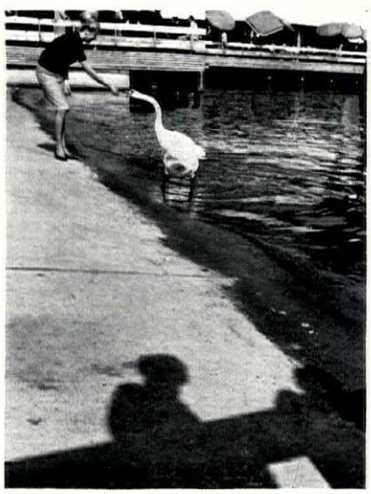

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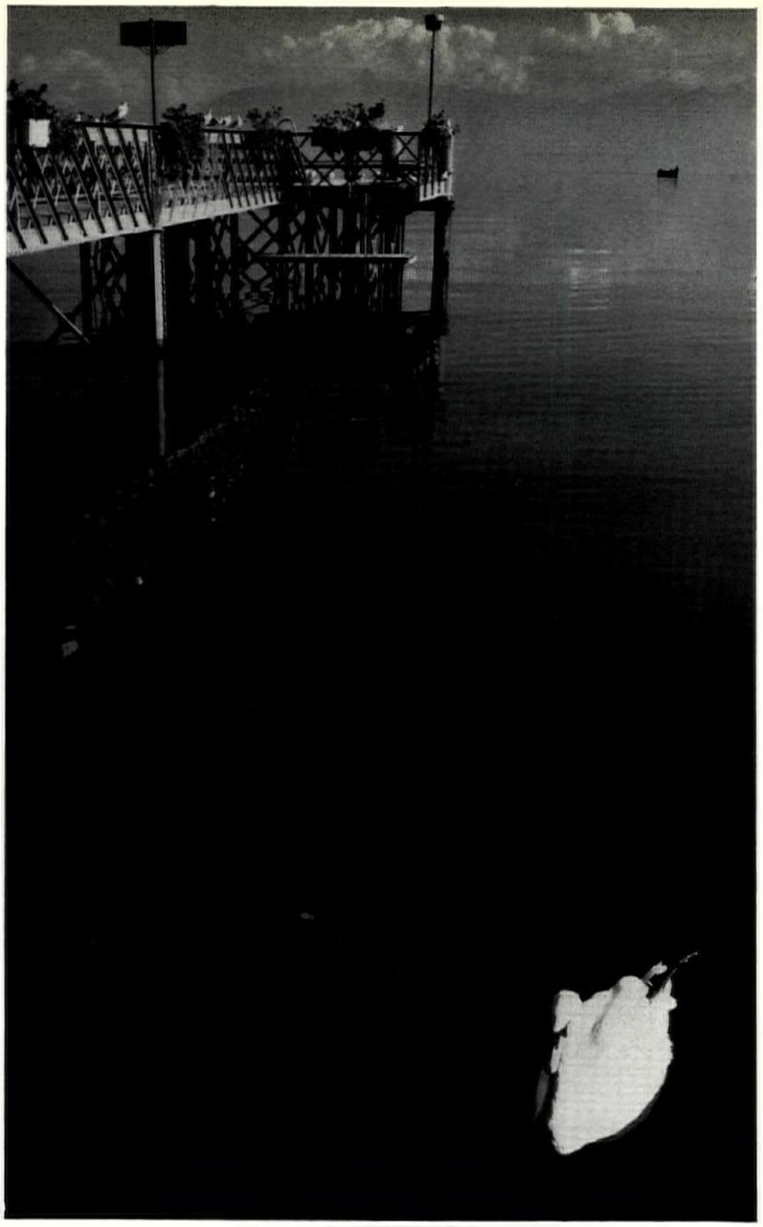

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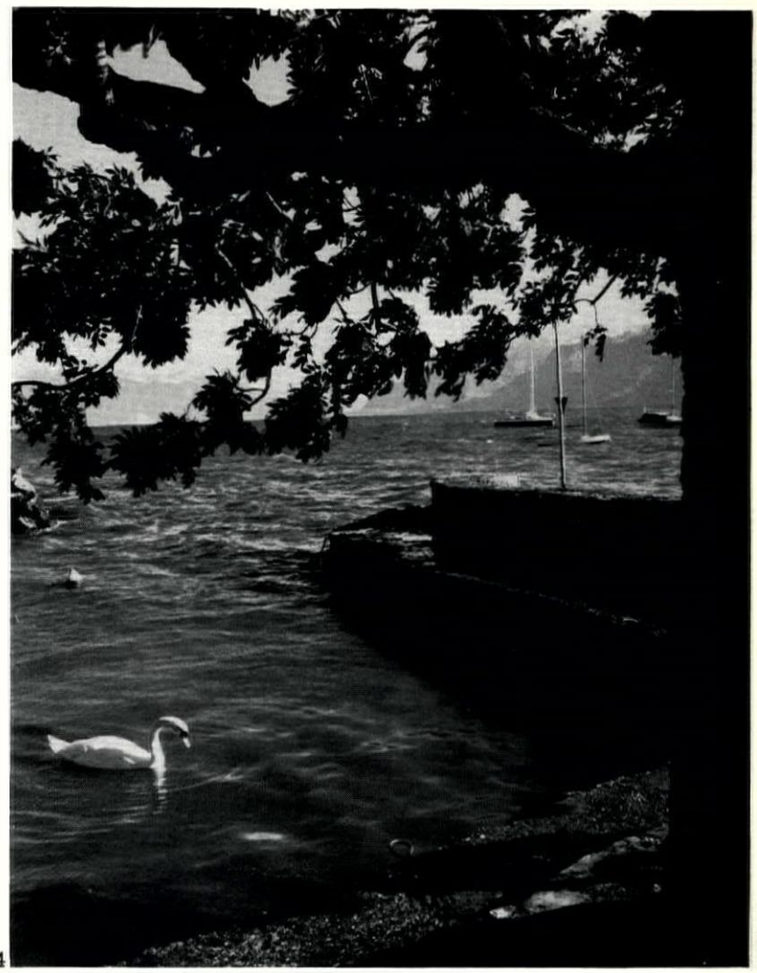
25

QUAYS

For lakeside steamers, as at Rolle, 23, *a pier is necessary, but there can be no possible reason there for the floral effects of hanging geraniums. Again the elemental effect is much better achieved at Pully,* 24, *by the neat nautical appearance of a serpentine stone wall. The standard tie-up for small boats,* 25 (*Rolle*), *is the wooden jetty familiar to marinas, which as a piece of basic design can hardly be bettered.*

WALLS

The foregoing 'natural' solutions do not preclude delightful paradoxes of the 'artificial yet natural.' In this scene from the Lausanne Expo, 18, *everything except the paving looks natural, but in fact all, even the sand, is artificial—carted to the site. The couple on the left are having luncheon at the lakeside. A variation on this,* 19 (*also at the Expo*), *shows the sand kept in order by a curb, and the curb in turn modified by rocks. In heavily populated areas paving is necessary,* 20 (*Expo*), *and can be enhanced by well-designed metal seating; while by the placing of suitable rocks for more informal occasions,* 21 (*Expo*), *the hard line of the wall can be softened and the feeling of immediacy with the water recaptured. An alternative to the vertical wall is what might be called the horizontal wall,* 22 (*Expo*)—*a beach of concrete which slopes imperceptibly into the water. Immediacy is retained—very effective at key points.*



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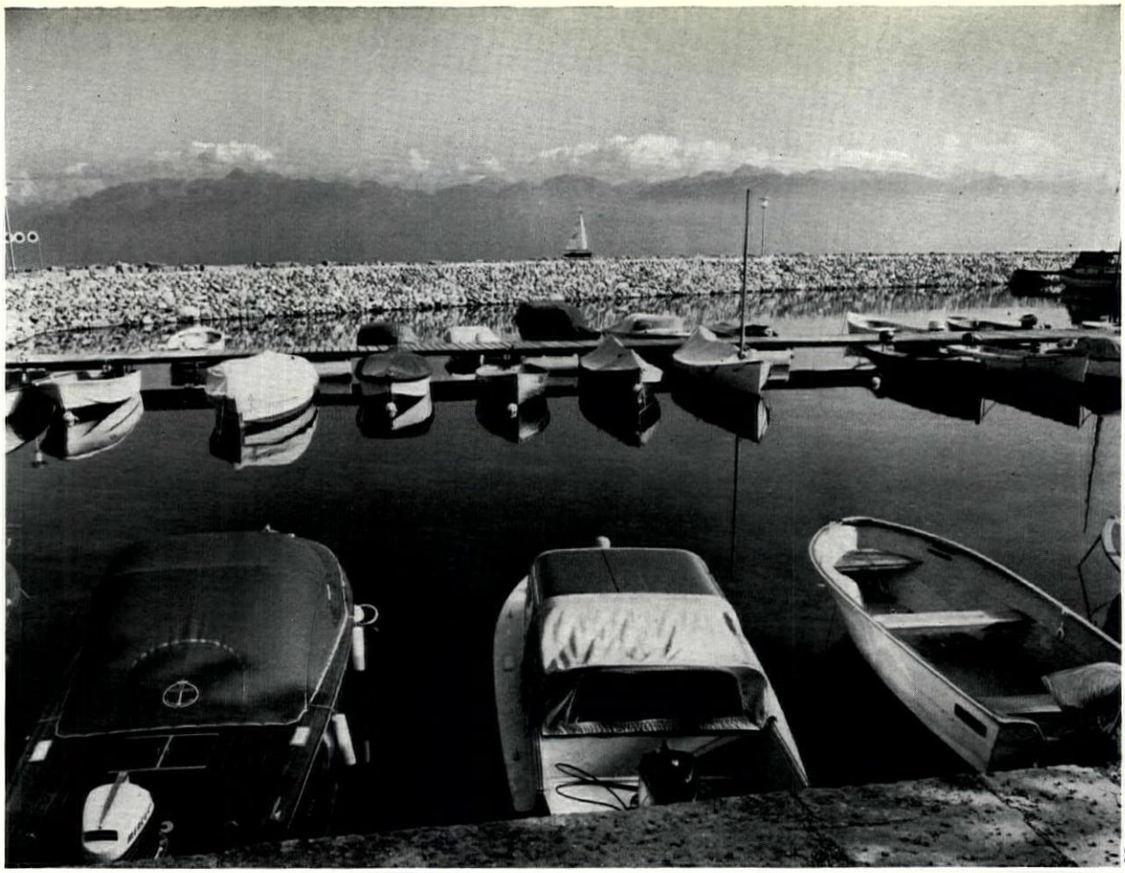
HARBOURS

Though not so heavy as at sea, lakeside storms make it essential to have harbours. Their charm is that they can be dainty, almost dinky. The harbour wall at Rolle, 26, *has the effect of a shingle bank. The wharf type of harbour wall,* 27 *(Vevey), is only suitable for large cities—plenty of room for big ships to tie up and cargo space for loading and unloading. Nowadays the only heavy traffic on Lake Geneva is the tourist paddle steamer, which still sails nightly, a blaze of light, taking those who need a change from the simple life across the water to the more dangerous gambling port of French Evian, and then waits for their return in the small hours. In towns a variation on the esplanade is the lakeside walk which at Vevey,* 28, *has the right elements: concrete, stone wall, boulders, projections—but all used too artificially. The same motifs and materials look much better when used with a more natural effect,* 29 *(Nyon). Good weather gives the chance to go down to the beach or 'floor' of the lake,* 30. *In this case, at Nyon, it is artificial, but has the perennial virtue of immediacy. The harbour wall at Morges,* 31, *is broken down into its twin elements of quay and rocks. Each of these can be used in isolation: the quay for firm control,* 32 *(St. Prex), and the rocks or boulders for rugged effects,* 33 *(Rolle). Where as at Nyon,* 34, *a formal vertical wall is required on the harbour side as a tie-up for boats, ruggedness can be kept going,* 35 *and* 36 *(same place), by 'naturalising' the walk above it . . .*



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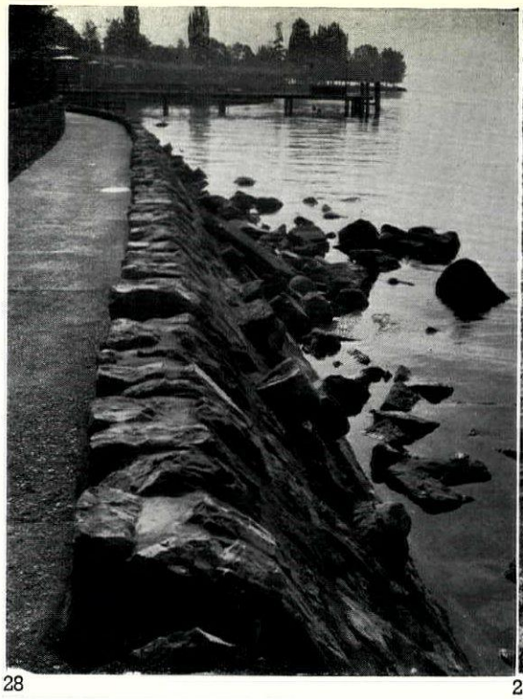

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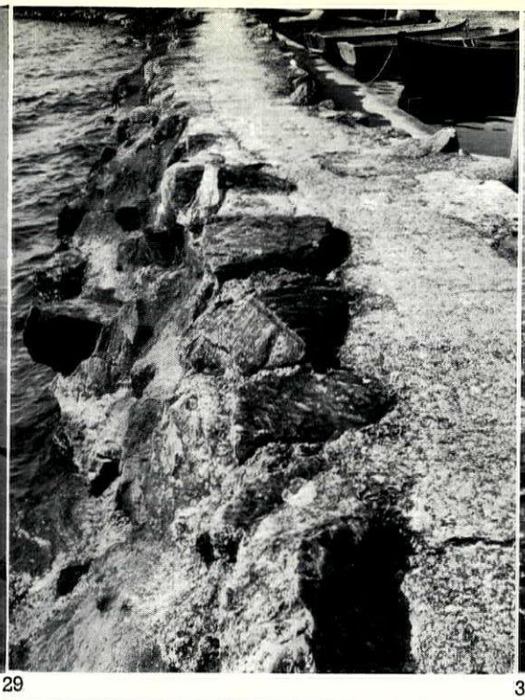

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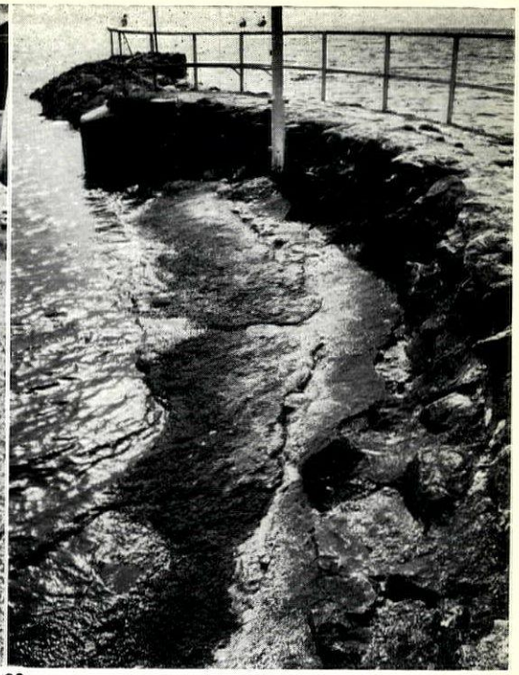

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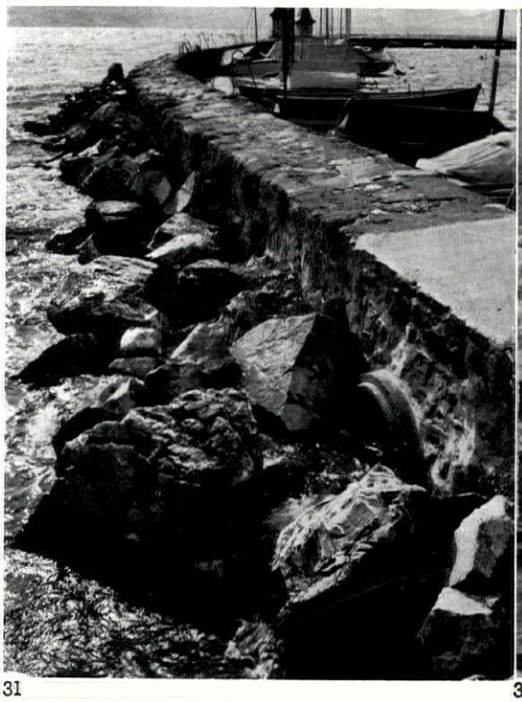

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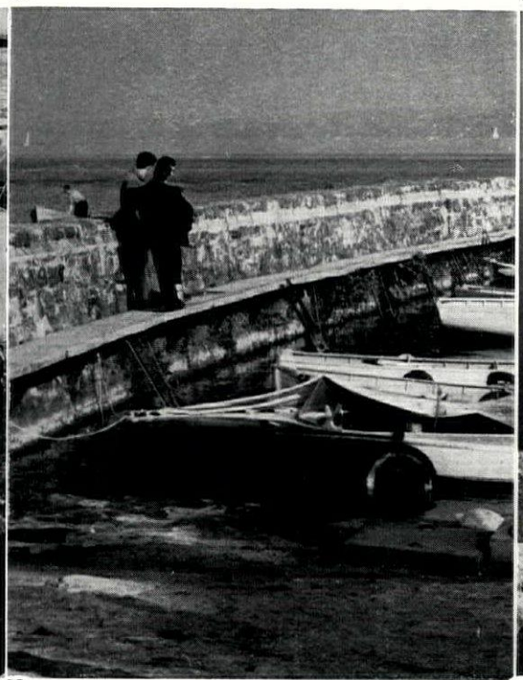

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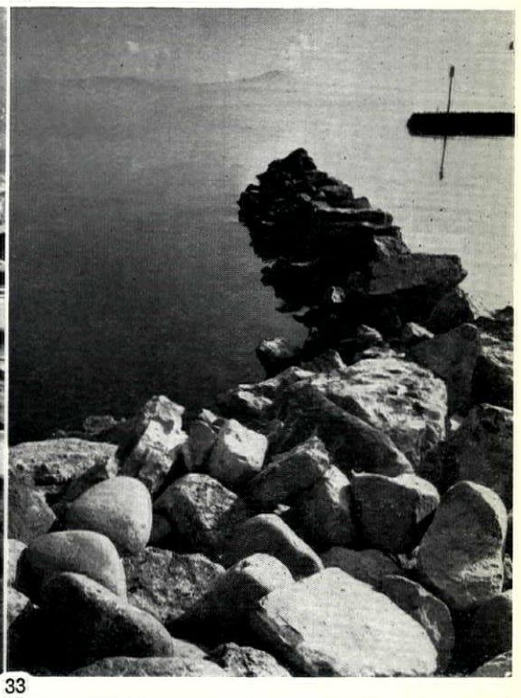

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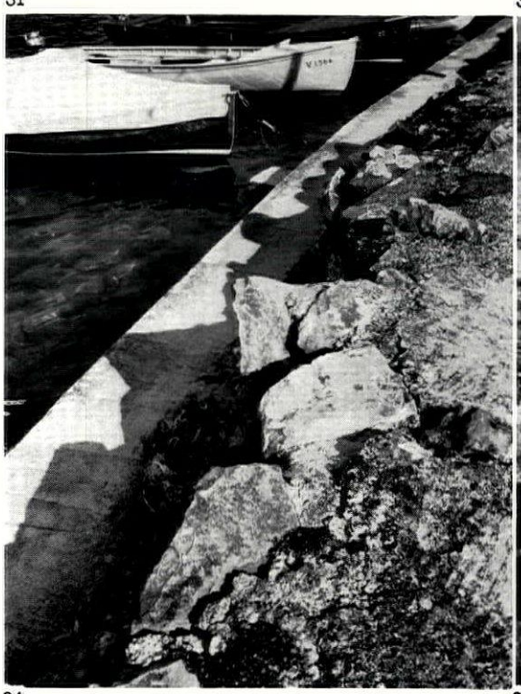

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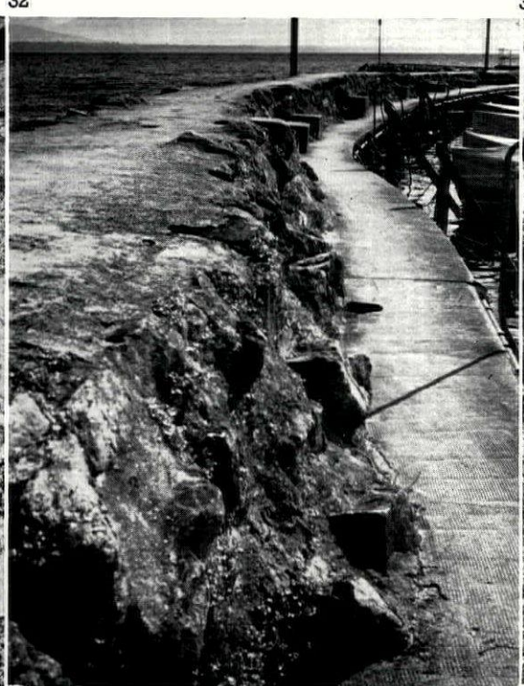

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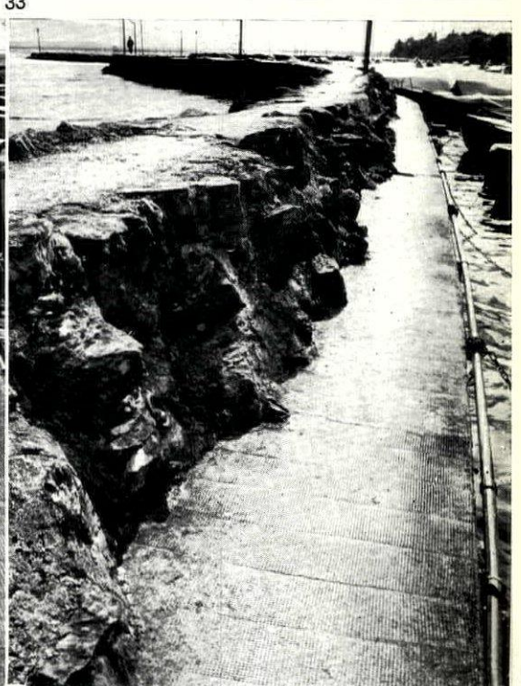

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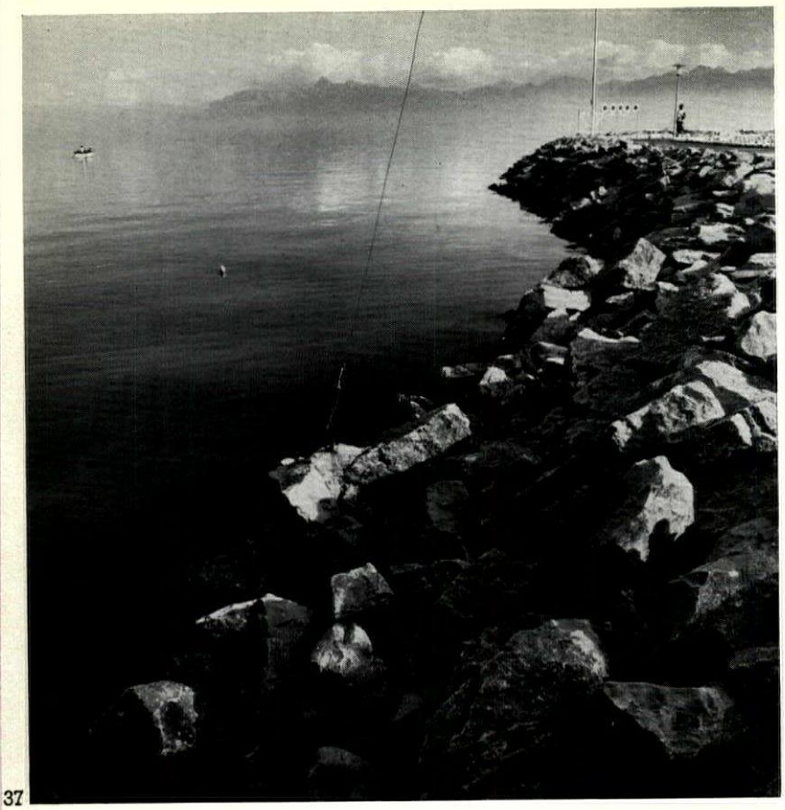

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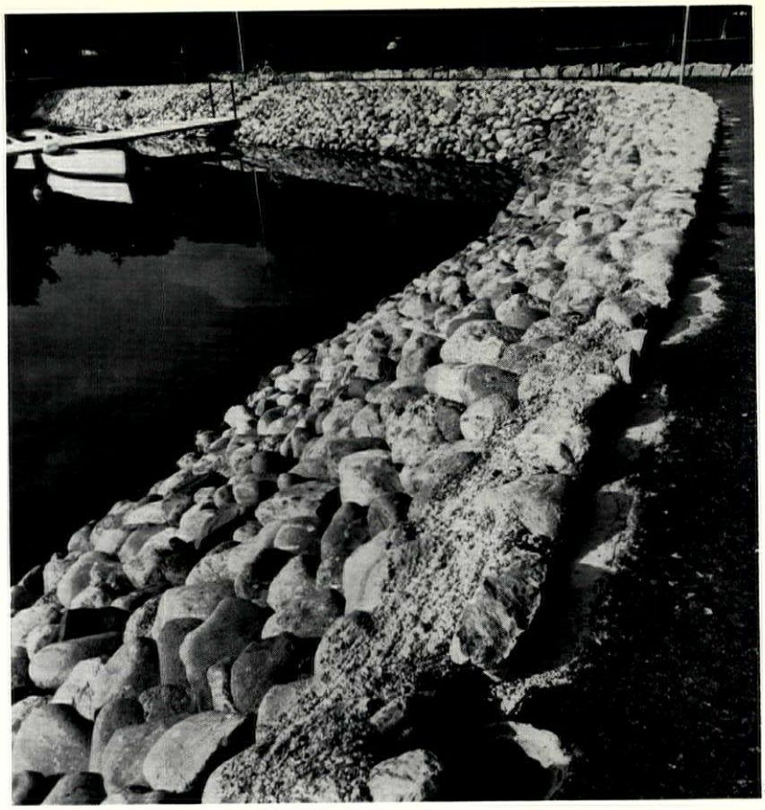

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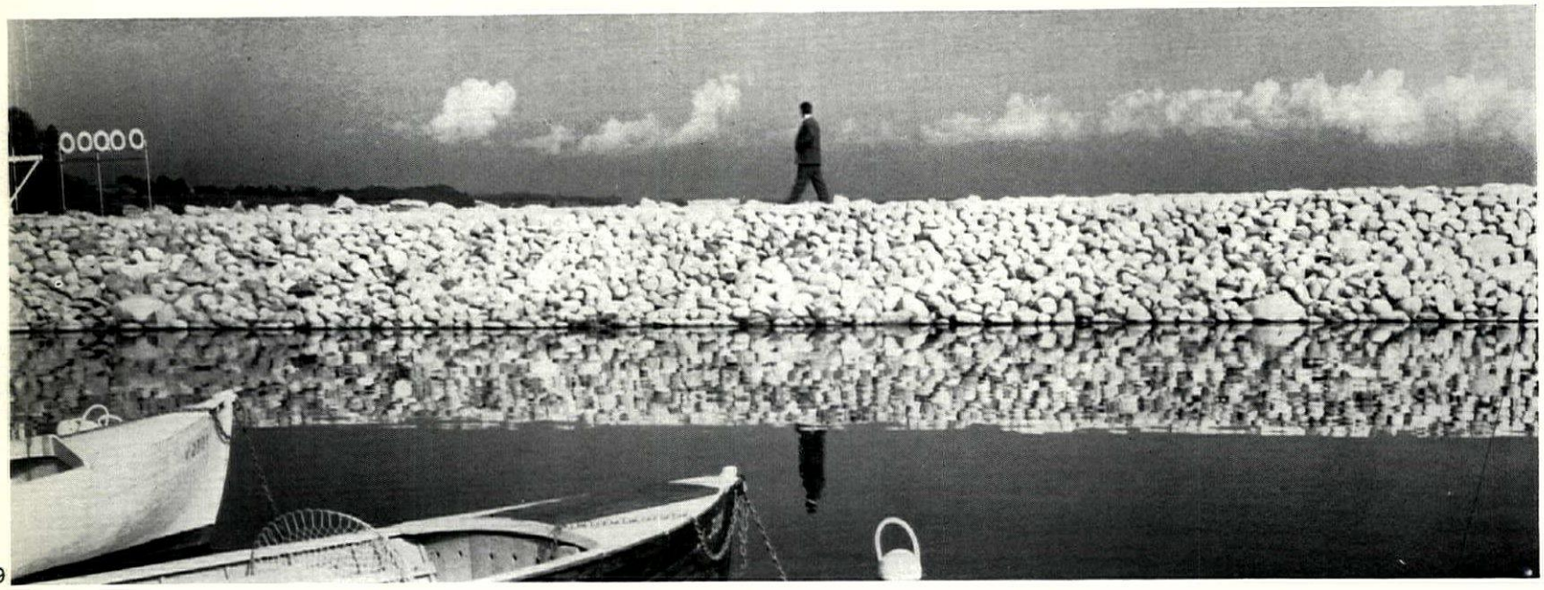


39

HARBOURS

. . . and by continuing the treatment still more ruggedly on the exposed flank, 37 (*Rolle*). *Variations are possible even here,* 38 (*also at Rolle*), *and where softer tones are required, softer stones can be used. The total effect at Rolle is very charming,* 39.

NEW TOWN & OLD TOWN

1. HOUSING AT PETERLEE NEW TOWN, CO. DURHAM

architect **A. T. W. MARSDEN** *chief architect/planner, Development Corporation*

criticism

The rescue operation continues. It was as long ago as 1954 that the general manager of the new town, Mr. A. V. Williams, having started with the excitement of the plans produced by his first chief architect, Lubetkin (which had been shelved for a mixture of reasons—local politics, official conservatism and the Coal Board's unwillingness to accept high buildings on land subject to subsidence) became increasingly frustrated by the kind of town that was emerging under Lubetkin's successor, George Grenfell Baines. The housing in particular was of the dreariest kind, differing very little from the rows of semi-detached villas, lined up either side of the road, that had been typical of Britain's sprawling suburbs since the nineteen twenties. Mr. Williams determined that the south-west area at least—a housing area somewhat detached from the rest because it was surrounded by land which, again because of mining subsidence, could not be built on, and possessing unusual landscaping quality—should be different.

He called in Victor Pasmore, whose work as an abstract artist he had seen and admired, and arranged for him to work on this housing area with two young architects already with the Corporation, Peter Daniel and Frank Dixon, making them responsible direct to him. The first results were illustrated in the AR in 1961 and have aroused widespread interest, not only for what they are but for the possibilities they show of architect-artist collaboration over fundamentals—not simply over the decoration of wall surfaces.

Victor Pasmore has continued his collaboration, as part of an architect-artist-

engineer-landscape-architect team, working in recent years more directly with the chief architect: first H. Durell and now A. T. W. Marsden, and the team's second section of the south-west area, shown here, is as remarkable as their first. It shows an intensification of the same idea of grouping houses round their own secluded spaces, linked by separate pedestrian and vehicular circulation systems, which spaces form part of the three-dimensional architectural build-up of the area and give it some coherent character. Instead of being planned in conventional style along the contours, these houses are planned across them, against a gentle slope, thereby effectively challenging the landscape in spite of the small bulk of the individual units; and it is on this that their unusual geometry is based. This is one of Victor Pasmore's many contributions; he takes part in every stage of the design procedure, from the grouping of buildings on the site to the choice of finishing materials and colours.

The south-west area is only one part of the new town and because of its separateness cannot do much to redeem the ordinariness of the rest. Even the south-west area remains suburban in character in the sense that it is almost wholly restricted to two-storey building, but this is due to the limitations imposed on the architects by the fact of building over a living coalfield. However, one is not aware of the monotony of skyline this produces when one is inside the housing area because the compactness of planning precludes too many distant views. When one is outside, the same compactness of planning allows it to settle into the landscape rather than sprawl over it and the consistent skyline even adds to this sense of the housing being a coherent group.

The colours and finishes are sensitively related to the landscape and to the climate that has created it. It is a fairly severe climate and it is interesting to observe the condition of the finishes in the earlier section of the south-west area, which have been exposed to it for nearly seven years. Some maintenance has been needed—inevitably—but, this having been done, the earlier housing still looks well. In choice of finishes and colours the newer housing has learnt usefully from the experience obtained in the older. It is also interesting to observe how the idiom evolved, through Pasmore's influence, in the south-west area has recently begun to influence design standards in other parts of the new town. J.M.R.

When completed the south-west housing area will form a substantial sector of Peterlee new town. Begun in 1955, it is conceived, not as a continuous pattern of ribbon-developed housing and roads, but as a series of finite architecturally related housing groups separated from each other by areas of open space and each with its own architectural identity. Each group has its own service road and pedestrian system, and is at the same time connected with the others and with the town centre by main traffic and pedestrian lines.

The eastern boundary of the south-west area is formed by a deep densely wooded ravine known as North Blunts Dene, and its northern and southern boundaries by areas unsuited to building because of mining subsidence and a geological fault; these are allocated to public open space and playing fields. This approximately square area is crossed diagonally by a main distributor road linking the town centre with the A19 trunk road at the western edge of the town.

The housing illustrated here is the second section of the south-west area to be undertaken; the first was illustrated in the AR, on completion, in February 1961.

The site of the housing shown here is approximately 18.5 acres on a south facing slope, separated from the earlier development by a stretch of open space accentuated by ground shaping and tree planting. The general principles developed in the earlier housing have been maintained, but this time housing is more closely integrated and a dark blue-grey colour of brick used throughout. Straight lengths of road have been reduced and housing lining the roads has been decreased. A footpath system independent of roads has been integrated into the service system.

Work on the third and last section of the south-west area is about to start, using in this case an industrialized building system but following the same planning and design principles. Also under construction is a general-purpose shop forming part of a small sub-centre at the focal point of the footpath and road system between the earlier and later sections of the area. This sub-centre will also include a public house and a sports centre—the latter serving a wider area.

To differentiate this section from phase I and II new house types have been designed with a different interior plan (to conform to Parker Morris standard) and different exterior detailing. Types of accommodation are as follows:

Old persons' one-bedroom single-storey houses.
Single-bedroom flats; 3-storey stub block over garages.
Two-bedroom, four-person houses; 2-storey, paired.
Three-bedroom, five-person houses; 2-storey with single-storey wing forming courtyard.
Three-bedroom, five-person houses; 2-storey terrace.
Four-bedroom, six-person houses; 2-storey detached.
Bedsitting rooms cantilevered over carport, with first floor maisonette.

There are 292 houses, 214 garages, 15 covered carports and hard standings for 110 cars. The total number of persons is 1,120 at a density of 60 per acre.

The dominating external colours are white and dark blue-grey for the buildings, and white and tan for the fencing. Groups of garage doors are uniformly painted blue, tan or yellow. The total use of external timber is somewhat reduced from the earlier housing, but white-painted fascias, window frames, doors and boarding have been used for horizontal emphasis and contrast with the dark blue-grey sand-lime bricks. Texture is enhanced in the external ground surfaces by the use of granite setts. The main pedestrian routes are finished in black-topped macadam whilst alongside service roads concrete paving slabs are used to relieve the extensive tarmac areas.

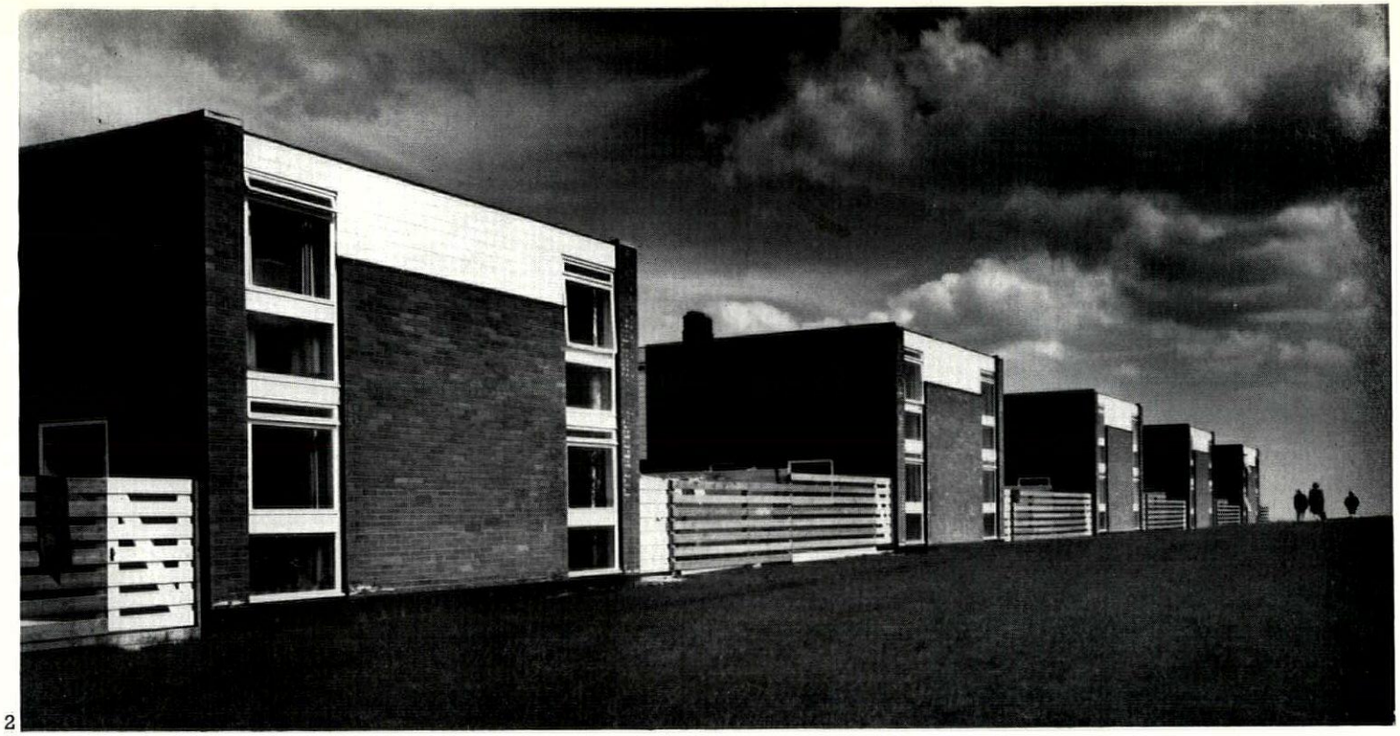
Within the housing area, open space is geometrically defined by the disposition of the buildings. The contours of this space are moulded into the existing contours of the surrounding land. Extensive tree planting is used to emphasize the separation and individuality of the housing areas, to soften the effect of wind and as a component in the three-dimensional design of the area. The pattern of a large section of the layout has been related to an existing group of mature beech and elm trees; part of the new planting is in the form of semi-mature trees transplanted with the Corporation's own machinery. Individual gardens and drying areas are in the form of enclosed courtyards or are screened by horizontal boarded timber fencing for privacy. Small open spaces are hard surfaced where intensive wear is likely, leaving grass areas for informal recreation.

Design consultant, Victor Pasmore. Project team: Harry Durell (A. T. W. Marsden's predecessor as architect-planner); Victor Pasmore; Colin Gardham; David Thirkettle. Executive architect, G. A. Goldstraw. Chief engineer, R. G. S. Roberts. Consultant structural engineer, R. Bolsover.

HOUSING AT PETERLEE NEW TOWN, CO. DURHAM

photographs by Eric de Maré

1, one of the paired two-storey courtyard houses, with garage on the left and terraced house beyond.



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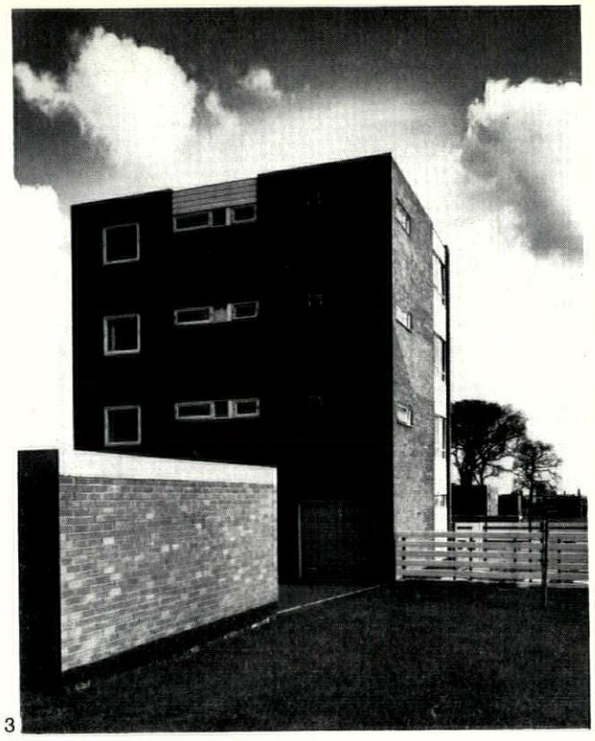

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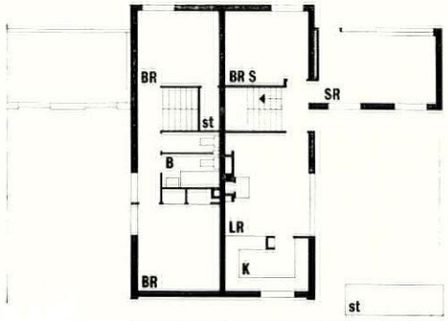
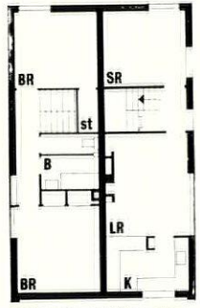
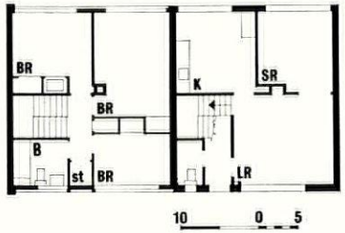
HOUSING, PETERLEE NEW TOWN



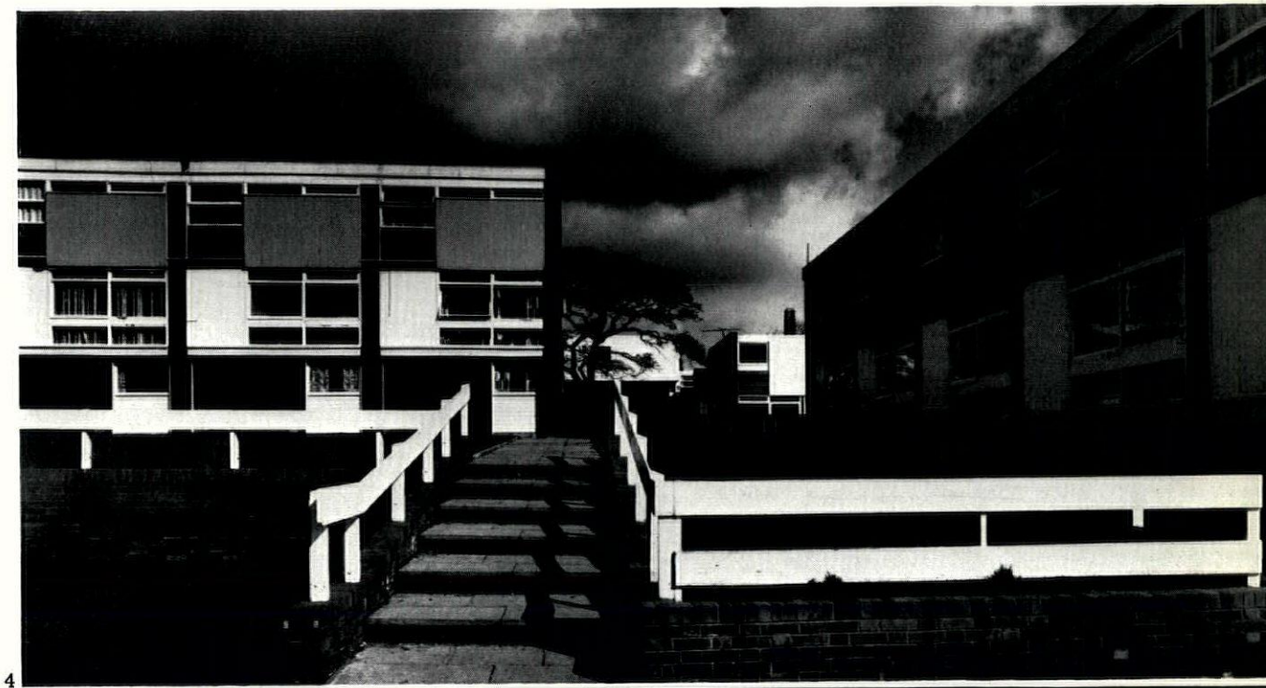
first and ground floor plans, paired courtyard house



first and ground floor plans, paired house



first and ground floor plans, terrace house



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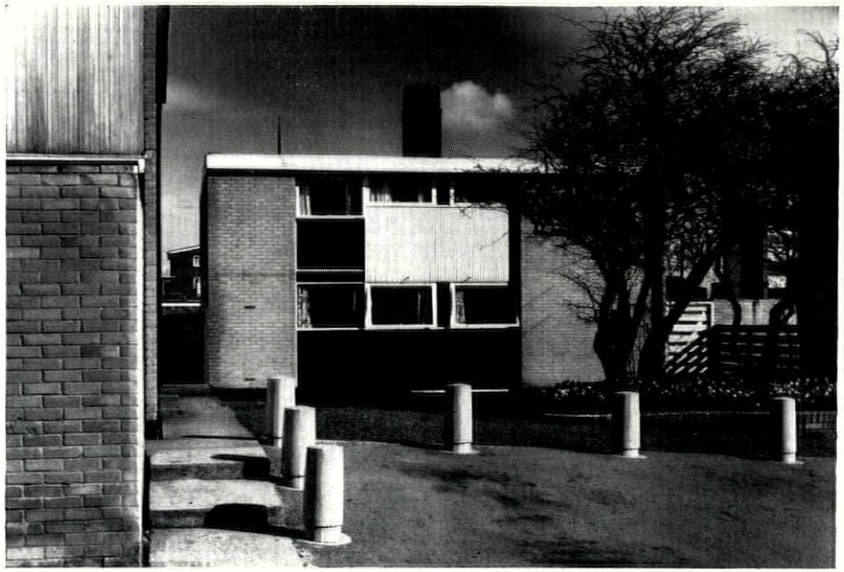
2, a group of paired houses backing on to open space at the south end of the site. Brickwork is dark blue-grey and the fascias and windows are painted white. 3, one of the stub blocks of single-bedroom flats over garages. 4, three-storey and two-storey terrace houses grouped around a footpath. 5, a house on another part of the south-west area. Here the brickwork is yellow. 6, one of the three-storey terrace houses with garage. The upper boarded panel is wine-red and the ground floor boarding is creosoted.



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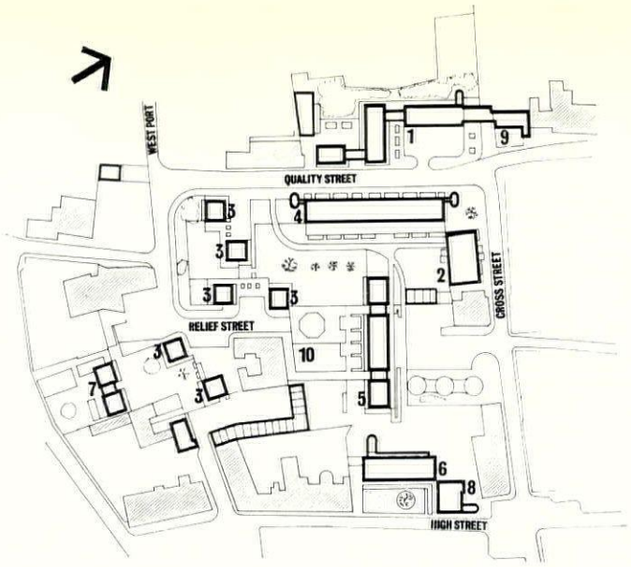
6

7, one of the cantilever houses which has car ports at ground level and bed-sitting rooms and maisonettes above.

HOUSING, PETERLEE NEW TOWN

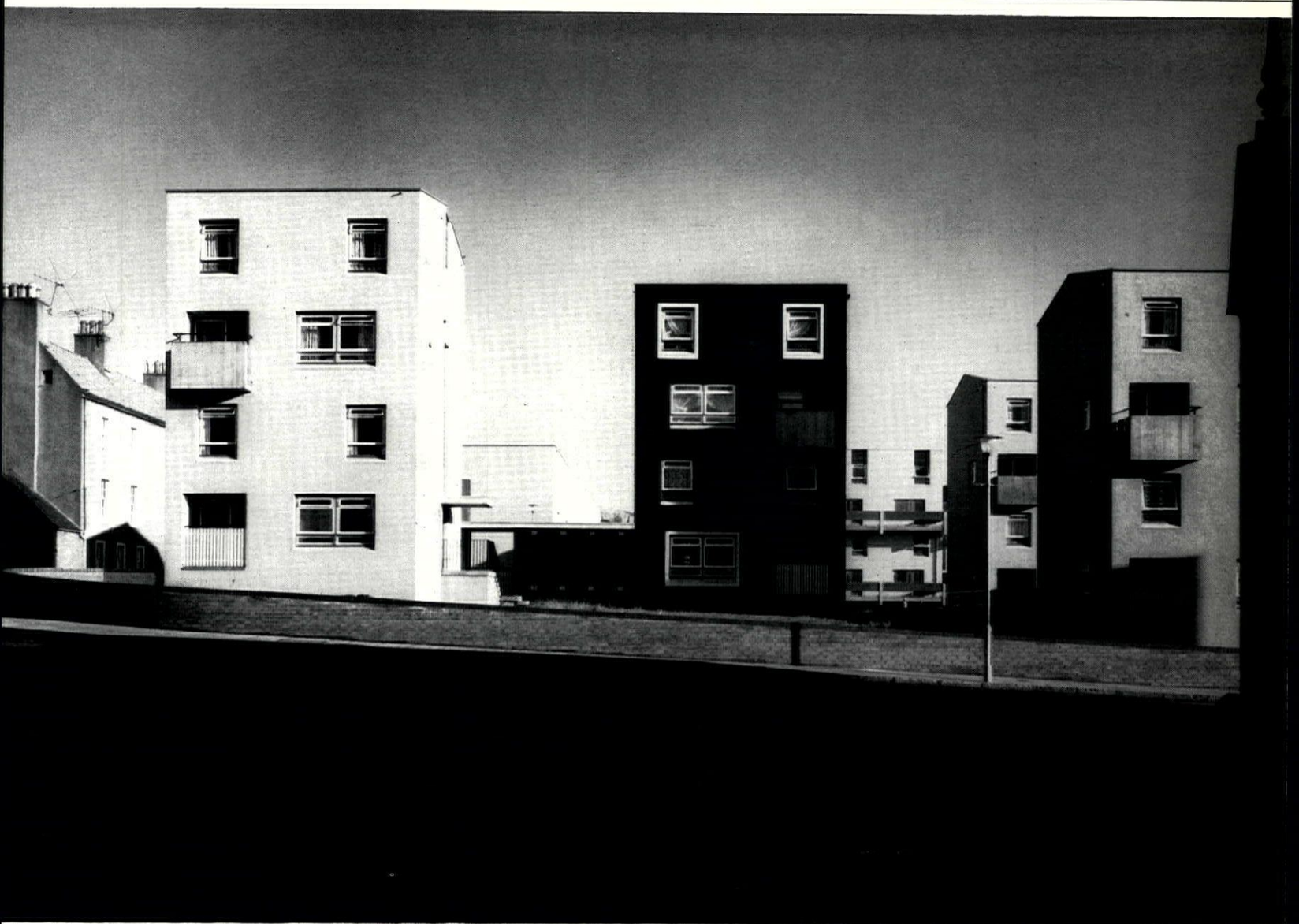
site plan: key

1. 3-storey three- and two-apartment flats
2. 3-storey three-apartment flats
3. 4-storey three- and four-apartment maisonettes
4. 3-storey four-apartment maisonettes, two- and three-apartment flats
5. 5-storey three-apartment maisonettes, and three-apartment flats
6. 3-storey two-apartment flats
7. 2-storey two-apartment flats
8. 3-storey two-apartment flats
9. The Towers
10. play area

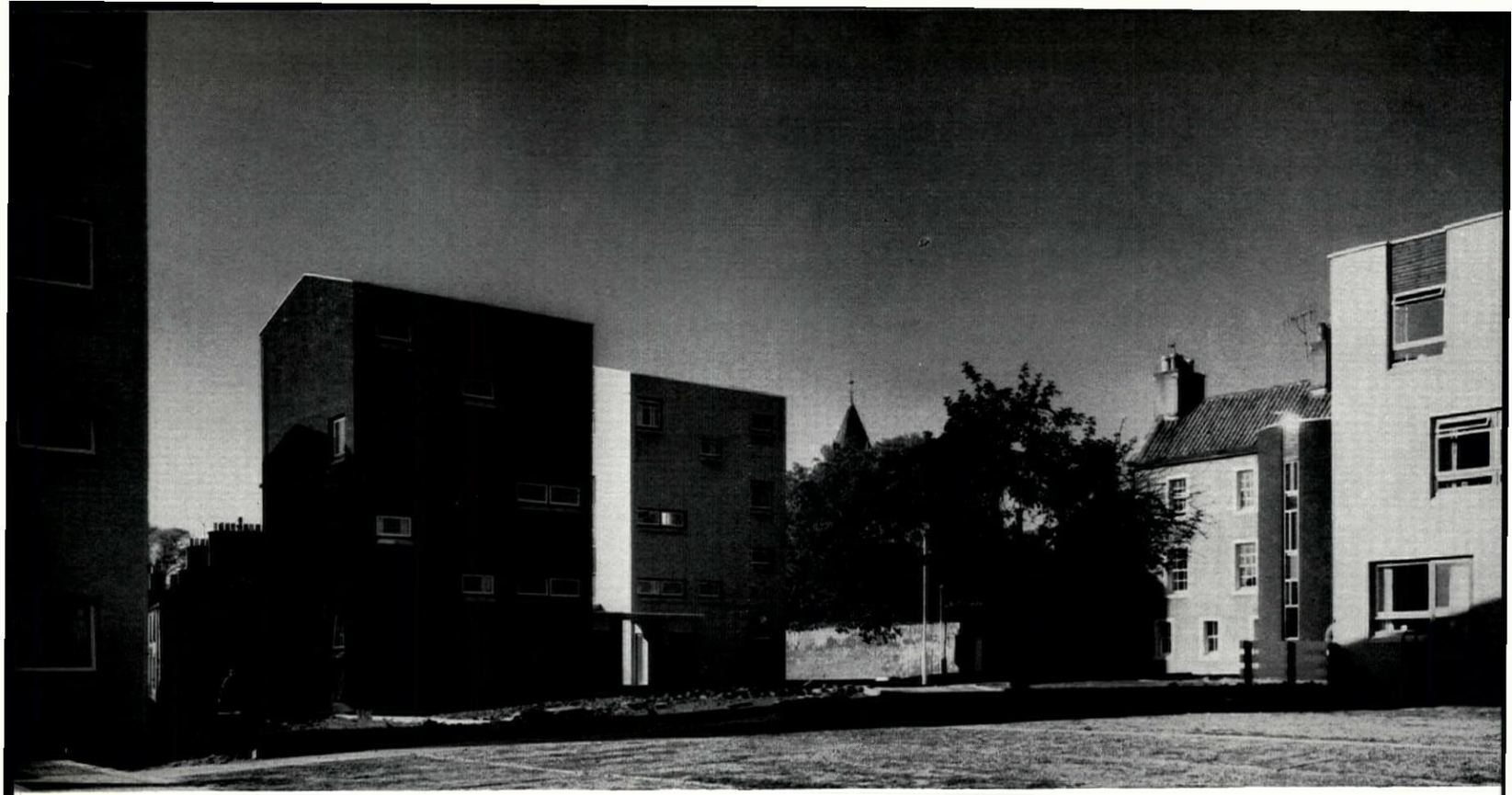


1. The Towers, a sixteenth-century house linked to the scheme.

2. HOUSING, KIRKCALDY | *architects* WHEELER AND SPROSON | *photographs by G W Harvey*



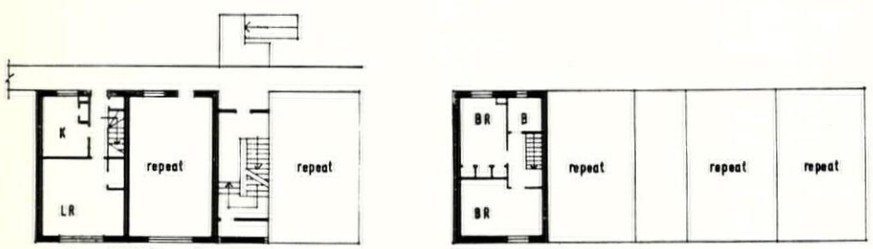
ster of four-storey maisonettes seen from West Port, with the five-storey block beyond.



3, looking towards Quality Street, with the four-storey point blocks on the left and the end of the three-storey maisonettes right.

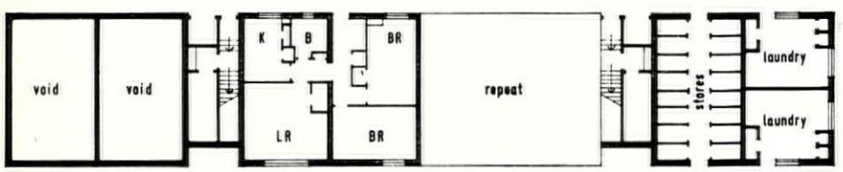
The redevelopment scheme illustrated here, which is the second phase of a larger development, is in Dysart, during the seventeenth and eighteenth centuries a lively trading port with the Low Countries and now (since 1930) absorbed by the larger town of Kirkcaldy. It contains fine examples of Scottish vernacular architecture much of which had fallen into disrepair. The redevelopment area includes two well preserved sixteenth and seventeenth-century buildings and a sixteenth-century building called The Towers, which has been restored. These old buildings create spheres of architectural influence around which the new buildings have been modelled. Although the form of the new buildings in no way resembles that of the old, the architectural scale has been preserved. Altogether, there are 92 new dwellings in the development comprising houses of two, three and four rooms.

It is an inward looking place. Relief Street, which bisected the site, has been closed to traffic, making the core a place for pedestrians and children, with penetrations for vehicular service and lock-up garages. On the north side of Quality Street, a composite flatted block links a privately owned seventeenth-century house with the restored Towers. On the south side of Quality Street is a three-storey maisonette block, linked round the corner to a three-storey flatted block in Cross Street. A strongly modelled five-storey maisonette block forms the core of the development. Immediately to the south, a three-storey right-angle block forms a small pedestrian square off the High Street. The tortuous lines of the old road pattern at the west side of the development and the incidence of the old buildings presented a considerable layout problem. Six small tower blocks have been sited to give interesting glimpses between. Each tower consists of a two-storey house on top of another two-storey house, the four-storey unit presenting an ideal contrast to the large maisonette block to the east. The placing of the towers allows afternoon sun to penetrate between them. The

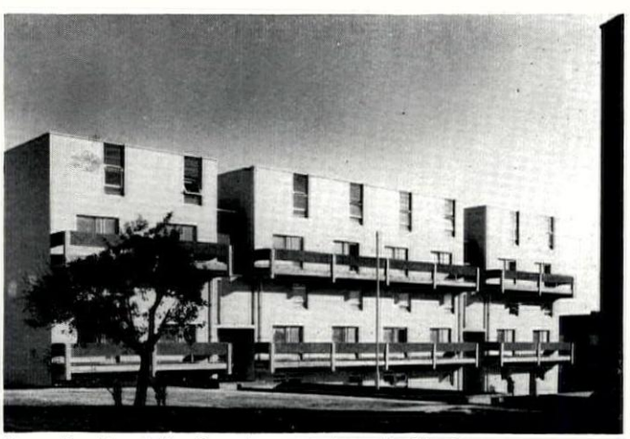


part first and third floor plan

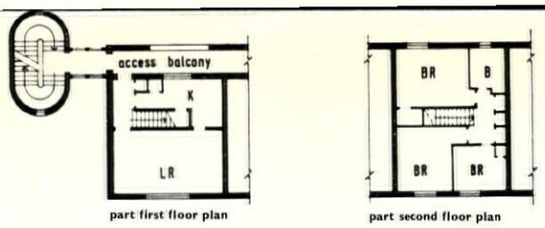
part second and fourth floor plan



ground floor plan, five-storey maisonettes

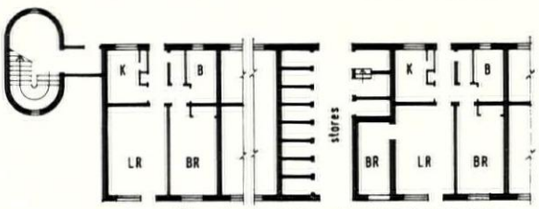


6, south side of the five-storey maisonette block.

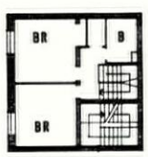


part first floor plan

part second floor plan



part ground floor plan, three-storey maisonettes off Quality Street



first floor plan

fourth floor plan

ground floor plan,
four-storey maisonettes

second floor plan

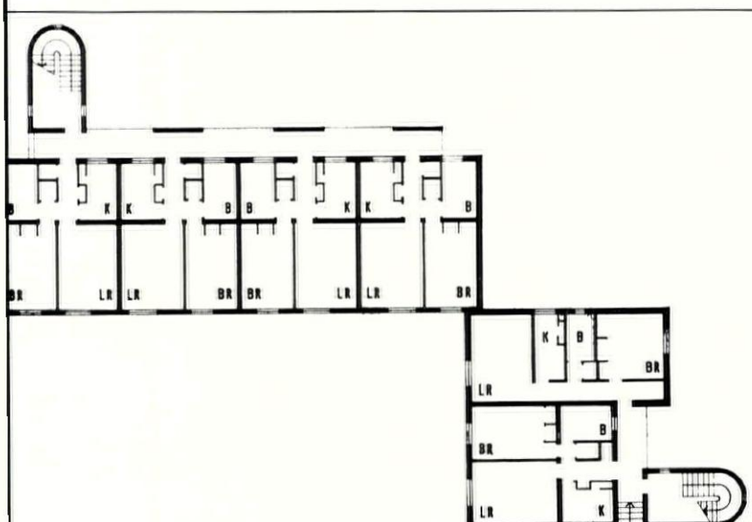

4, inside the cluster of four-storey maisonette blocks.

sloping ground is terraced by grey brick retaining walls. Laundrettes with full drying facilities have been distributed throughout the development, under large blocks or in discreet outhouses. The 26 lock-up garages have been placed either under flats to use up space have been placed either under flats to use up space which would otherwise be wasted, or in screened courts. The only existing tree on the site, an old pear tree, has been preserved. Some new semi-mature trees have been planted in addition to shrubs and roses. Otherwise the landscaping is of hard paving, setts, cobbles and textured concrete.

The buildings are of load-bearing brickwork, finished mainly with traditional white harling, which is contrasted with a black charcoal colour on two of the tower blocks and on the curved staircases. The long narrow staircase windows are treated with coloured glazing in rectangular panels. Windows are of clear varnished Douglas fir with the opening parts painted white; common entrance doors are varnished mahogany. This redevelopment was awarded the Saltire Society's annual housing award for Scotland last year. The earlier phase of the redevelopment by the same architects received a similar award in 1960.

Quantity surveyors, Robert Galbraith & Lawson. For contractors see page 320.


5, looking north-east inside the development.



ound floor plan, three-storey flats off High Street


7, the flats off the High Street, with the town hall beyond.

1 (*opposite*), *senior citizens of Southwark appear lost in the mosaic-lined subway approaches at the Elephant and Castle redevelopment, with the office slab on Boissevain and Osmond's shopping centre in the background. In this article Terence Bendixson discusses the ups and downs, literal and metaphorical, of one of the few major examples of comprehensively planned urban renewal in central London, which is now nearing completion.*

criticism

Terence Bendixson

Co-ordinating architect-planners: LCC Architect's Department

Elephant and Castle, London

The idea of the Elephant and Castle as a gateway—a sort of Port St. Cloud—into central London from the south was put forward by Abercrombie and Forshaw in their 1943 County of London plan. They proposed to convert it from a shopping centre strung along a spider of streets into a bold, polygonal circus fortified by Bush House architecture and with two huge pepper pots at the north end. A building something like the Albert Hall was to sit in the middle.

Evidently the idea was well received, because it was incorporated in London's first development plan and the Elephant and Castle became an area for comprehensive development. Planning got under way in the late 'forties and early 'fifties with the result that in January 1956 the London County Council was able to bring out a brochure on the Elephant. This showed Abercrombie's polygonal road pattern changed to a dumb-bell and gave details of five large sites suitable for new offices or shops. The brochure also made clear, what had been implicit in the gateway concept all along, that the new Elephant and Castle was to be pre-eminently a place for transients. A gate, after all, may be something at which you are forced to stop, but it is primarily something to pass through.

Yet other aims were mixed up with those of road improvement. The new Elephant was to be the Piccadilly Circus of south London, a place of entertainment, shops and hustle. It was also to be a step towards the revitalization of a neighbourhood still lousy enough in 1965 to earn dishonourable mention in the Milner Holland report on London housing. The nearby Brandon housing estate, which was sprouting (for London) unprecedented 16-storey blocks of flats by 1960, was part of this renewal.

However from the civic design point of view the crucial issue at the Elephant was the decision to try to combine an important traffic circus with a shopping centre. This carried with it the need to design spaces suitable both for driving through and walking in, although it is notable that the special aesthetic needs of the man in a 20 m.p.h. vehicle are not mentioned once in any of the comments I have found on the Elephant. Or was Ernö Goldfinger thinking about this when he told the Architectural Association, before a visit to Alexander Fleming House: 'Architecture is the Art of defining space. The space thus defined is used for *being in*, and the user, stationary or moving, is subjected to its impact. This impact is *subconscious*.'*

With the benefit of hindsight many people now feel that the segregation of people and vehicles should have been more complete, but clearly the success or failure of the Elephant as civic design must be judged by sticking to the rules chosen by its originators and that means considering many of the spaces as shared ones. What then did the LCC architects and planners set out to do, given as they were the dumb-bell road pattern designed independently by the engineers in 1948? The brochure says: 'The main object has been to create a new centre for this part of London by a spacious development surrounded on the east, west and south by buildings of similar height, and on the north by an imposing tall building worthy of this position.' The model of the circus accordingly showed frontage development of four, six or seven floors round most of the dumb-bell and a 17-storey tower with a façade like that of the Shell building at the north end.

The exception to the frontage development was on the east side of the link between the two roundabouts. 'A prominent feature in this new centre will be the broad pedestrian concourse in front of the new major shopping parade, which will not only give a feeling of spaciousness but will ensure that the space created by the two roundabouts will be integrated into the design.' I am not sure what that bit about integration meant, but I think it reflected concern not to allow the isthmus of space between the two traffic islands to get too skinny.

There was only one other important idea in the earliest scheme. It was prompted by awareness that before the bombing a virtually continuous shopping centre had run down London Road, past the Elephant and Castle pub and along Walworth Road, and that the new road pattern with its companion pedestrian underpasses would sever this continuity. The LCC brochure therefore said: 'It is also suggested that a direct link between the two shopping centres (the old one in London Road and the new one to be built beside the dumb-bell) might be provided by means of a pedestrian way crossing the roundabout at subway level.' This was to be a broad footway about 24 ft. wide opening out into a crescent of small shops in the excavated heart of the roundabout. It was an ingenious attempt to retrieve what promised to be a commercially disastrous gap between two clumps of complementary shops.

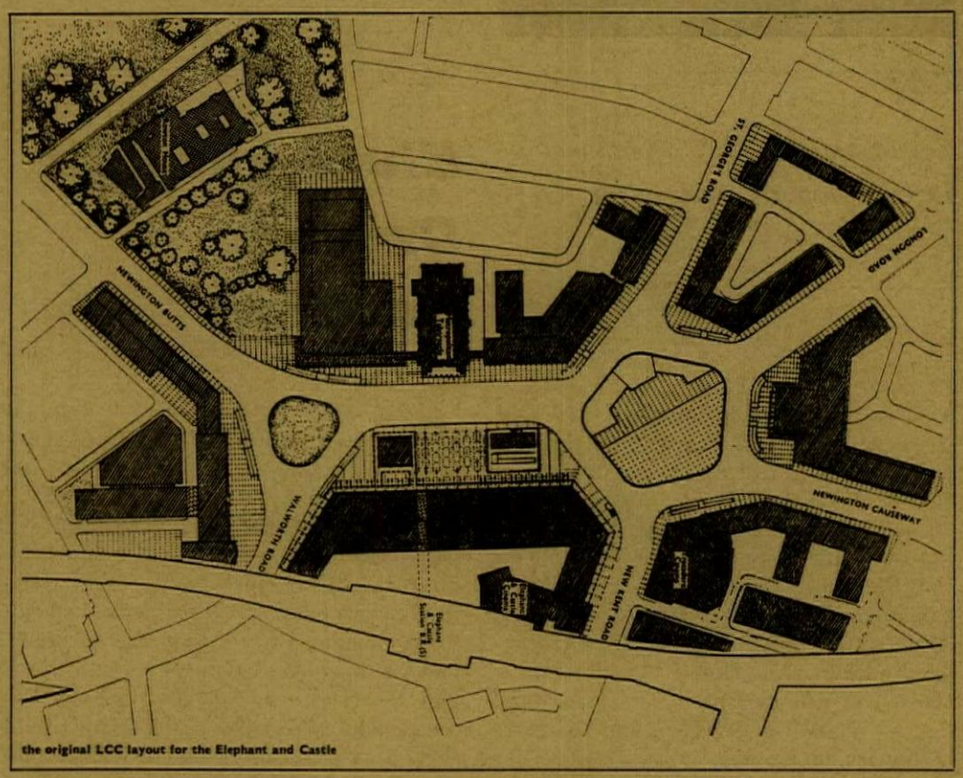
However, the brochure fell on stony ground. Perhaps all the developers were getting rich quick in the West End or maybe they were frightened off by the sleazy reputation of Walworth; anyway, according to Percy Johnson-Marshall,* their enthusiasm to develop the Elephant was so slight that the LCC decided to prime the pump by filling one of the commercial sites with a school of printing, thereby freeing the southern end of the circus for a clutch of houses and flats. It was presumably at this stage that the original 1953-4 civic design concept worked out by Graeme Shankland's team in the LCC town-planning department crumbled, for both Edward Hollamby, job architect on the Draper Street homes, and the architect of the printing school opted for solutions involving towers. Subsequently Fort-

* *AA Journal*, April 1962.

* *Rebuilding Cities*, p. 186. Edinburgh University Press.

post Investments, with Ernö Goldfinger as their architect, won a competition for one of the commercial sites with a proposal containing three more towers, and Willett's with Boissevain and Osmond, won a competition for the shopping 'parade' with a matchbox-on-a-muffin design.

All of a sudden the Elephant was a cluster of towers—indeed a prototype for the clumps of asparagus that Philip Johnson was urging cities to strive after in 1964. Yet it cannot be pretended that the cluster at its 1967 stage of growth is very successful. In the first place Walworth is so flat and the towers, by Manhattan standards, are so small that they can barely be seen a thousand yards away from the Elephant and Castle. Only if one approaches the intended gateway along London or Walworth Roads does one get any warning of what is ahead, and then it is only because one sights Paul Boissevain's lumpy slab. Inside the dumb-bell the effect is equally unsatisfactory but this is partly because of the gaps that have yet to be filled. Work is likely to start on one of these this year, but action on the others seems further off. Percy Johnson-Marshall has ascribed the failings of the Elephant to the varying heights of the blocks, but I think he partly misses the point. For one thing the printing college tower and the shopping centre slab are the same height. The trouble seems rather to stem from the lack of any formal relationship between the various towers in plan. This shortcoming was perceived early on by Ernö Goldfinger, who published a private plan for the whole comprehensive development area which, rightly to my



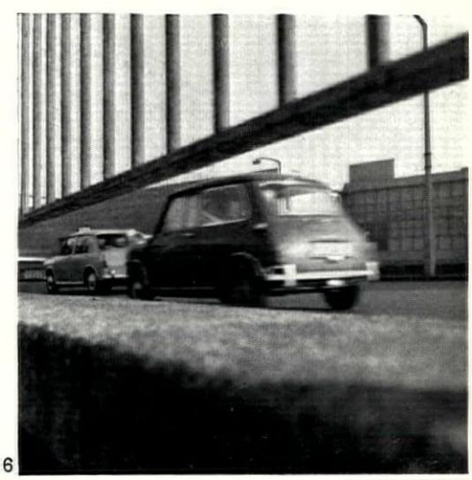
the original LCC layout for the Elephant and Castle

the latest GLC layout: key
1. shops and offices
2. public house
3. underground station
4. ABC cinema
5. Odeon cinema
6. Alexander Fleming House
7. Faraday memorial
8. housing
9. London College of Printing
10. Metropolitan Tabernacle
11. baths site
12. Draper Street site
13. proposed car park

(Architects: 1, Boissevain and Osmond. 2, Stewart, Hendry and Smith. 3, K. J. H. Seymour, LTB chief architect. 5, 6, Erno Goldfinger and Associates. 7, 8, 9, 12, Hubert Bennett, LCC architect. 10, portico of 1896, Searle and Hayes: rebuilding of rest, R. Mountford Pigott and Partners.)

Elephant and Castle, London

Motorist's view of the Elephant: 2, *buildings bold enough to be taken in at a glance (right, the shopping centre with offices above; centre, Underground station with Alexander Fleming House beyond).* 3, *the approach to the Elephant up Walworth Road—easily the best one.* 4, *the approach up the New Kent Road—no relationship at all between the Elephant and its surroundings.*
Pedestrian's view of the Elephant: 5, *the Metropolitan Tabernacle and London College of Printing seen from the upper-level walk of the shopping centre.*
Pedestrian's view of the motorist: 6, *the underground ramps give an unusual aspect of passing cars.*



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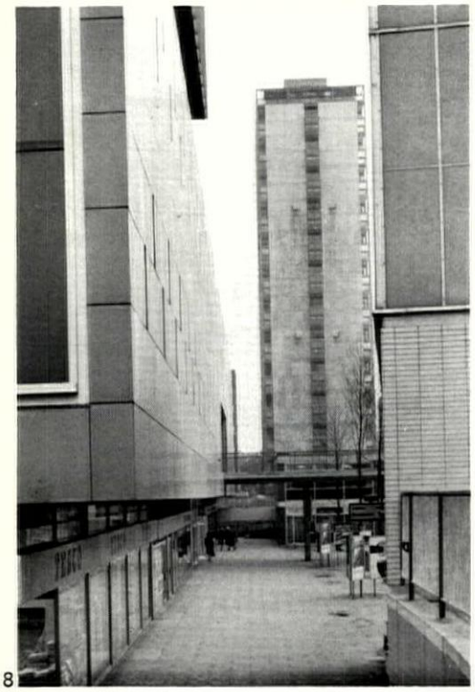

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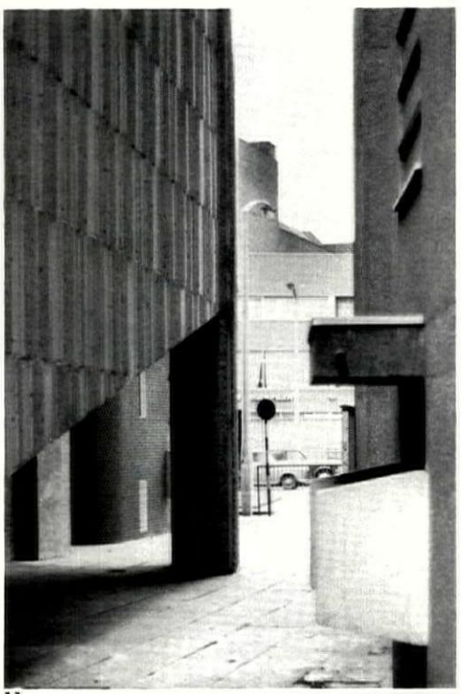

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Elephant and Castle, London

7, 8, *the broad pedestrian concourse in front of the shopping parade, looking towards the Draper Street housing.* 9, *the small sunken square at the north end of the shopping centre, showing a clumsy handling of levels.* 10, *the ramps do at some points give excellent protection from traffic noise and frame some interesting views.* 11, *the only squinch on the site—a narrow little passage between Ernö Goldfinger's cinema and office block. A pity it leads to somewhere interesting in one direction only.* 12, *another nicely-handled transition for the pedestrian, from the courtyard of Alexander Fleming House out into Newington Causeway.* 13, *a pedestrian tunnel.* 14, *life inside the shopping centre (the elephant and its castle are relics from the demolished pub which gave the area its name).* 15, *desolation outside—advertising space opposite one of the main tunnels, unused and apparently unthought about.*

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mind, surrounded the symmetrical road layout with a largely symmetrical group of towers. Nor was this proposal altogether ignored, for the new housing site on which the Greater London Council expects to start this year contains a tower carefully related in height and bulk to one of the flank towers of Goldfinger's Alexander Fleming House on the opposite side of the northern roundabout. Interestingly, this is also a step towards the pepper-pots of Abercrombie's sketch which Percy Johnson-Marshall calls 'academic, backward-looking.'

But the sprouting of towers was not the only change to upset the original Shankland concept. The broad footway that was to bind old and new shops under the northern roundabout fell by the wayside because the impoverished Ministry of Transport would not squeeze out the grant necessary for such lavish subways. Even so the quite modestly dimensioned tunnels that were built broke new ground with their gentle ramps and glass mosaic-wall finishes. They were also built very close under the roadways to reduce the descent and ascent to and from them even though this led to expensive diversion work on services. Another setback was that a London Transport transformer station—a key input to the Bakerloo line—proved to be very costly to move and had to be popped down in the middle of the northern roundabout. There, masquerading inside a box of dimpled stainless steel, it is now a memorial to Faraday, who lived where the southern roundabout now is. Furthermore, although the Boissevain and Osmond shopping centre included the 'broad pedestrian concourse' fronting the road, it also harked back to the tradition of the Victorian arcade and was planned around a cross of internal avenues. Goldfinger is acutely critical of this inward looking plan, but with the Elephant's 1962 figure of 42,000 vehicles a day expected to double by 1981 it was probably the best of a bad choice of decisions.

Last but not least Rank's decided to rebuild the cavernous old Trocadero cinema which had long looked like a huge meteorite around which Goldfinger had had to fit his office slabs. The cinema has now just been completed* and with it the missing elements in the adjacent office complex have been slotted into place. As a result of all these changes the Elephant and Castle that has been built in the first half of the 1960s is a very different kettle of fish from the one planned in the early 1950s. With three major sites still derelict, it is even now not yet complete, but enough has been done for some conclusions to be drawn from it. The first of these concerns the impact that this gateway has on people in vehicles approaching it from the south. I have already referred to the lack at the Elephant of any early warning such as one gets at another LCC redevelopment of the same period—Notting Hill Gate. There the glimpse of one of the towers that can be got through the tunnel of plane trees as one climbs Holland Park Avenue, unmistakably marks an entrance to central London.

The Elephant could offer corresponding thrills if a very tall tower was built where the original design had its 17-storey block. Such a tower, as the planners of the early 1950s presumably realized, would be a beacon to anyone approaching the circus up Walworth Road. With its vertical form emphasized by internal illumination to contrast with the horizontality of the shopping centre slab, which could also do with some brightening up, the distant view could be a South London tour-de-force. Unfortunately the GLC is currently cowed by the government's control over office building and is thinking of using the unbearably noisy north end site for housing, plus a buffer building for some kind of entertainment fronting the roundabout. The council would do better if it advertized the site as suitable for a vast office tower and used the ground rent to buy worn out offices elsewhere in central London for redevelopment as flats.

Fortunately things improve for the motoring spectator once he sweeps on to the dumb-bell. The buildings are bold enough, particularly Goldfinger's 5 to 1 plot ratio pile-up of towers and cinema, to give some nice fleeting impressions as one whirls around the roundabouts. However, once the offices switch off their lights the Elephant gets a bit gloomy. The LCC engineer's department routine trunk-road lighting is a dim utilitarian insult to a place that is meant to be festive. The lighting of a place such as the Elephant and Castle should have been given to a theatrical designer like Sean Kenny. The advertisements on the recessed corners of the shopping centre are equally grim. The sooner they are done in neon instead of being illuminated cardboard super-soluses, so much the better.

I have left discussion of the pedestrian's view of the Elephant until last because, as is probably inevitable in a scheme dominated by road improvements, it is a second best. Admittedly the pedestrian is carefully separated from whizzing machines but he is battered by noise, forced to descend into, and ascend from, the subway and, worst of all, disoriented in an underground rabbit-warren that cuts him off from the sight of landmarks. People who cannot quickly understand a map must be baffled by the place. Yet the Elephant is not without some benefits for the man on foot. For instance the 42,000 vehicles a day do not conflict with the visual scene because it has been designed for them. The dumb-bell is no Piazza San Marco but a place where one can enjoy the traffic Its simple, seen-at-a-glance, façades can easily take London Transport's forty horse-power, diesel-engined, monarchs of the road sweeping across them.

Nor, surprisingly enough, is the scale of the circus as seen from the pavements overwhelming to the walker. Indeed by the time all sides of it have been closed off its waisted plan will probably seem a good deal cosier and more interesting than Trafalgar Square. Furthermore the much abused rabbit warren of subways provides the pedestrian with something that at first seems lacking in the Elephant—smallness of scale. Nor is their poor lighting and general dimness always a disadvantage. On a bright day these alleys with lids on are a marvellous prelude to the towers and the sky-high space that awaits at the end of them. Still, this is probably taking the niceties of civic design too far, for the bad light and lack of visual interest in the tunnels is more often depressing. A stab was made at enlivening them with patches of geometrical decoration, but it is the possibility of filling them with brilliant pools of light that needs considering. The GLC's decision to cheer up one of the subways in order to try to get custom to the shops stranded on the Draper Street site provides the chance.

Above ground the pedestrian spaces are the same mixed bag and only the main one outside the shopping centre is an unequivocal success. It is a space within a space and gets its sense of semi-enclosure from being below road level and having buildings on three sides of it. Busyness and complexity are provided by people, trees and a pedestrian highwalk that cuts irreverently across the portico of the Methodist tabernacle on the opposite side of the roadway. Less fortunate is the absence of walkways into the Elephant apart from the pavements of the main approach roads. This seems to reflect a more general failure among the planners to graft this new bit of London on to the old bones of Southwark. Maybe something will be done about it when the remaining three sites are developed, although the bleak layout of the north-west chunk does not look helpful. What the local inhabitants need is narrow alleyways which will conceal the full size of the dumb-bell from them until the last moment. A squinch between Goldfinger's cinema and one of his office towers has just the right quality, and it is equally exciting to walk from the monastic seclusion of the courtyard of his Alexander Fleming house through its coffered entrance into Newington Causeway. Planners and architects working on further buildings for the Elephant could do worse than look at these two contrasts of scale.

* It is illustrated on the following pages.

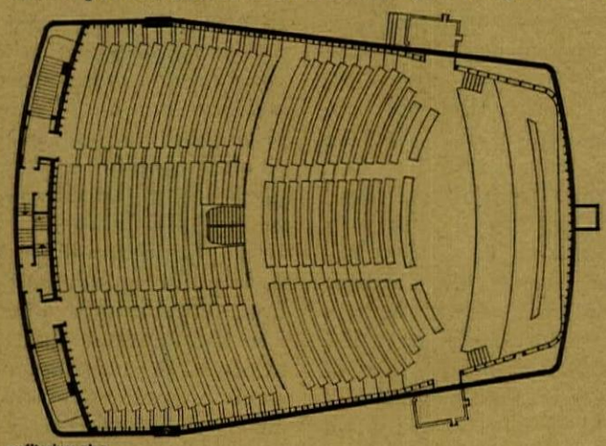
ELEPHANT ODEON

CINEMA, ELEPHANT AND CASTLE, LONDON | architect ERNO GOLDFINGER | photographs by H de Burgh Galwey

This new Odeon Cinema, designed for the Rank Organisation, occupies the site of the old Trocadero Cinema at the Elephant and Castle, and adjoins the same architect's Alexander Fleming House, occupied by the Ministry of Health (see AR, February 1963). It seats 1,050.

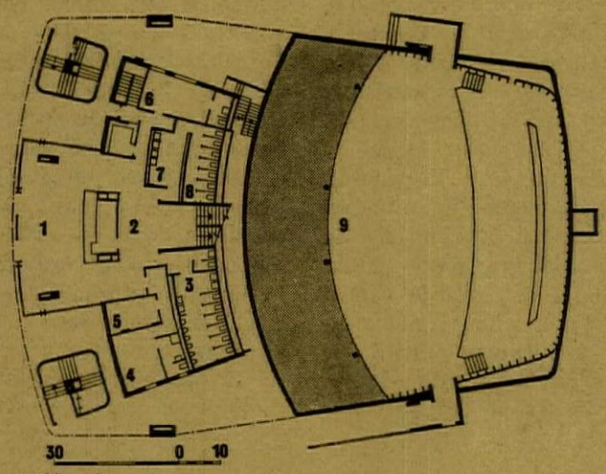
The structure is basically a 12in reinforced concrete perimeter wall cantilevered at the back of the auditorium (the south end) and supported on two columns at the spring of the cantilever and around the sides of the auditorium towards the screen. The two columns support a 102ft. clear span, post-tensioned *in situ* reinforced concrete beam. Two diagonal concrete beams are connected on their southerly ends to the post-tensioned beam and, on their northerly ends, rest on the perimeter wall. These beams form an integral part of the architectural conception of the building on the outside as well as the inside, enclosing with their roof the beams of projection and the sight-lines of the auditorium.

Steel trusses are used to span the central segment of the roof, which serves as a maintenance void, with lightweight concrete slabs at the top and bottom boom. The sides of the building, which are lower than the centre portion and of *in situ* concrete, tie the perimeter wall, the post-tensioned beam and the diagonal beams into one monolithic structure. The thicknesses of walls are calculated to give proper sound insulation, and expanded polystyrene, together with the wall carpet, gives thermal insulation. The stucture above roof level houses services for air conditioning, and is clad in profiled aluminium.

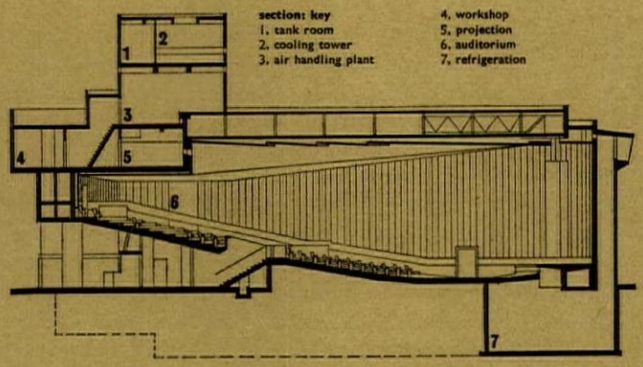


auditorium plan

key
1. foyer
2. inner foyer
3. men's w.c.s
4. manager
5. male staff
6. female staff
7. powder room
8. women's w.c.s
9. auditorium



ground floor plan



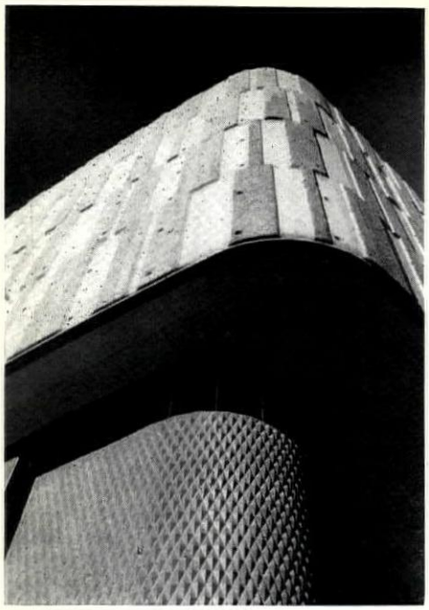
Grey glazed tiles on the walls of the projection suite contrast in texture with the patterned white concrete of the perimeter walls, while shaped coloured tiles are used on exit stair walls. Blue Staffordshire brick is used to form the amenities core under the rake of he auditorium slab which is, however, still seen through a full height external glass screen to the foyer. A special radial shuttering is used on this soffit to guide the eye towards the geometric centre from which auditorium seating lines are described. The free-standing combined sales and ticket kiosk and columns in the foyer are clad in white marble. Floor carpet which echoes the pattern of external walls continues into the auditorium and over the stage.

There is no proscenium arch and no curtain—the screen floats clear of the enclosing surfaces and has no masking; the required reductions in picture size are achieved by light projection. During the intervals, projection lanterns housed in the floor of the stage provide, on the screen, colour and pattern sequences synchronised with music. Electrical services are controlled from one pre-programmed console situated in the projection room. The ceiling of the auditorium forms a suspended shell which is free of the walls and through which conditioned air enters the auditorium. Perimeter lighting in the ceiling void allows a choice of colour.

Seating was specially designed for this cinema (a design now patented) but this has not in fact been used; instead, the cinema has Rank Organisation standard seating. Only the colour and fabric of the upholstery are part of the architect's original design for the interior.

Associate in charge, Mira Molis. Structural engineers, Ove Arup and Partners. Mechanical services engineers, J. Roger Preston & Partners. Electrical consultant, W. E. Cucksey. Quantity surveyors, Davis, Belfield and Everest. For contractors see page 320.

CINEMA, ELEPHANT AND CASTLE



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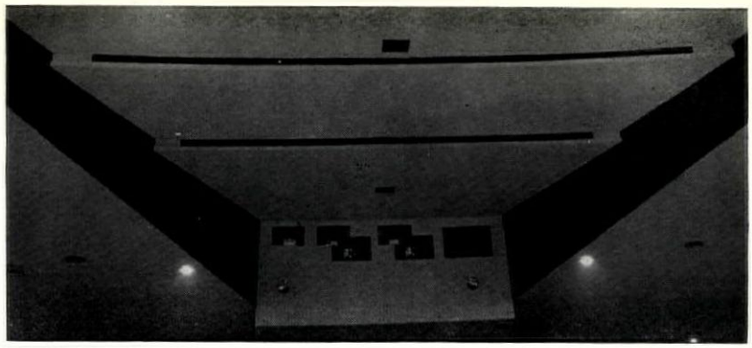

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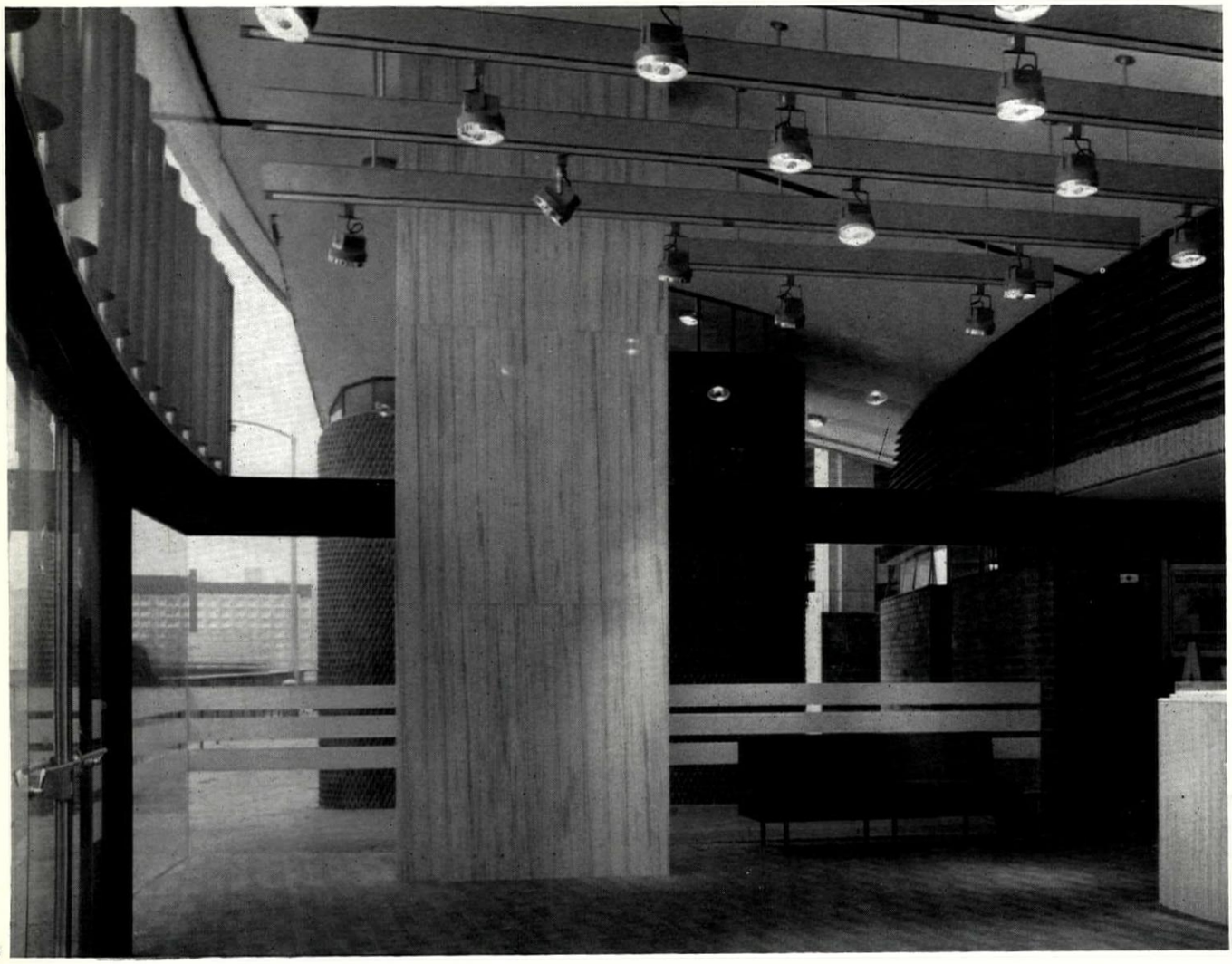
1 (page 287), the cinema seen from the New Kent Road, with Alexander Fleming House (also by Ernö Goldfinger) behind. 2, corner detail showing patterned concrete auditorium wall and tiled staircase wall. 3, the entrance foyer. 4, projection room at the back of the auditorium. 5, the auditorium, looking towards the screen.



3

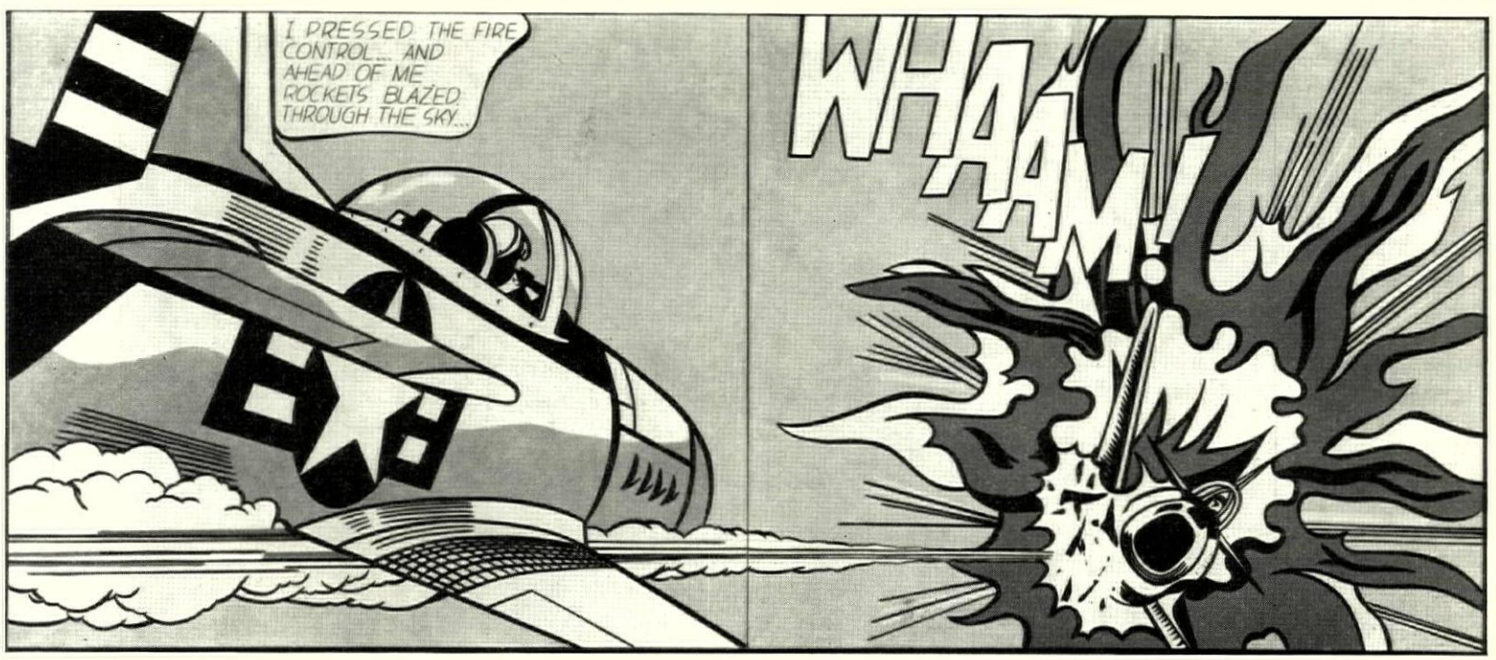

ODEON

a monthly symposium on painting, sculpture and the applied arts

GALLERY

BATTLEPIECES AND GIRLS

Robert Melville



1

The Tate Gallery recently acquired a first-rate example of the work of the American painter Roy Lichtenstein, and it was ingenious of the Director to claim for 'Whaam!,' 1, the virtues of Uccello's 'The Rout of San Romano,' in the National Gallery. I admire the Lichtenstein and would like to be convinced that there's substance in the claim.

The similarities are quite striking. Both pictures are extremely sophisticated but appear to be somewhat naive or at any rate a bit eccentric, and there will always be someone around to refer slightingly to the one as a glorified nursery picture and to the other as a glorified comic strip. Both are battlepieces, and convey a sense of violent action by means of carefully devised decorative forms. The Lichtenstein is on two separate canvases of equal size, and curiously enough there is a vertical line, either a crack or a join, down the middle of the Uccello panel; in both, an abstract device has been used to make the two halves interdependent. In the Uccello, the green harness of a string of horses on the left form a horizontal colour stripe which penetrates the right half of the picture like a battering ram. In the Lichtenstein, the exhaust fumes and the rocket trail of the victorious aircraft have been joined together to form a long narrow wedge which crosses the division between the two canvases to prick the loser like a spear.

It could even be argued that the fighter planes are a sort of equivalent to Uccello's armour, and that the tongues of flame from the exploding plane emblemize victory for the other side even more obviously than the waving banners emblemize Nicolo da Tolentino's victory over the Sienese. Furthermore, the Uccello was painted about twenty-five years after the event it celebrates and the planes depicted in 'Whaam!' look as if they became obsolete during the Second World War.

Yet it's impossible to think of the Uccello, let alone stand in front of it, without realizing that the Lichtenstein is poverty-stricken. I don't expect the impossible. There is one passage in the Uccello which would be beyond the vision and capacity of any twentieth-century painter other than Picasso. It's the passage in which Nicolo's page rides calm and bareheaded—the profile exquisitely sensitive, the yellow hair as soft as down—amidst the large, hard, inhuman forms of breastplates and closed helmets. I shall never expect to see anything on the level of this profound example of physical and spiritual perception in Lichtenstein's paraphrases. But on the face of it he ought to be able to do something about the undernourished look of his paint. It obviously and disturbingly reduces the value of his work and makes all the little resemblances to Uccello of no consequence.

The reds and yellows in 'Whaam!' are flat sheets of acrylic, and 'half-tones' are created by a system of dots. The entire background is composed of small, neat, evenly distributed blue dots, and the same blue dots are combined with red dots to obtain an optical effect of mauve for the shadow on the side of the plane on the left. The dots are applied through stencils, and the flat areas of red and yellow appear to be sprayed on. It looks more like printing ink than paint, and it is of course an intentional imitation of coarse colour printing. It operates brilliantly as social commentary, but it never was a satisfactory technique for a painting. He has already produced hundreds of works in this systematic manner, and if he goes on using it indefinitely he will simply be a conspicuous victim of the dehumanizing processes he demonstrates.

His pictures lack physical presence, and he would have to be able to create flat surfaces as substantial as those in, say, a Mondrian before he could be called a painter in any European sense of the term. It doesn't seem too much to ask of him but it probably is. After all, he chooses his material—a comic strip, a painting by Picasso, a splash of paint—only with the intention of discrediting the value of making a choice, and his mechanistic technique is part and parcel of his cult of the impersonal. It could almost be the outcome

of a time and motion study. Perhaps the Tate should now acquire one of his big, thin, dry, linear copies of a juicy paint splash. It would be a beautiful joke against the paintings in the collection which were produced by artists who approached their canvases with loaded brushes, knowing only that they were going to make big, sweeping, profoundly personal marks on them. If there were no other choice I would always find the cult of the impersonal preferable to the cult of personality.

Few of us are as obsessed by little girls as the Rev. C. L. Dodgson, but neither do we look down at them from the lofty heights attained by Eminent Victorians like John Everett Millais and the Archbishop of Canterbury who was at the Academy Banquet in 1863, and we've dropped their unpleasant habit of treating them as symbols of purity and innocence. It was in 1863 that Millais exhibited at the Academy his well known painting of a child in a Little-Red-Riding-Hood cloak listening attentively to her first sermon, and the Archbishop remarked at the banquet, 'Our hearts are touched by the playfulness, the innocence, the purity and may I not add [here he pointed a finger at Millais' picture] the piety of childhood.' The picture was so popular that Millais painted a sequal called 'My Second Sermon' and exhibited it at the Academy the following year. The same little girl in the same red cloak was now fast asleep and the same Archbishop archly observed in his banquet speech, 'I see a little lady here . . . who has in truth, by the eloquence of her silent slumber given us a warning of the evil of lengthy sermons and drowsy discourse.' The second picture was even more popular than the first because, as everyone knows, little girls asleep are even more pure and innocent than when they're awake.

There are several other pictures of children in the big Millais show at Burlington House, and although they are far from being without charm they all have the fatal saccharine touch. The earliest ones are curiously stiff; the child in 'Mrs. James Wyatt Jr. and her daughter Sarah,' 2, for instance, is as doll-like as the children in nineteenth-century American primitives, though lacking their formidable presence. The rag doll and the picture-book are nice details, but there's something faintly preposterous about the reproductions of Italian masterpieces on the wall; one has the suspicion that he was trying to connect his mother and child with the Virgin Birth. Two other paintings are of children asleep. One of them 'The Random Shot,' 3, is supposed to be based on an incident in the French Revolution, and is just about the most unconvincing bit of story-telling one's likely to come across. There would surely have been enough symbolism even for Victorians in depicting a child asleep on a tomb without putting a big bandage on the kid and covering her with a military tunic. The idea that somewhere just outside the picture a noble officer is fighting in his shirtsleeves to protect the House of God and an Innocent Child is too silly for words. In the other, which is simply called 'Sleeping,' 4, the story-telling element is much slighter, but the flowers clutched in the girl's hand did not of course go unnoticed. The critic of the *Athenaeum* remarked, 'the girl sleeps, and will wake; the flowers all

2

3

4

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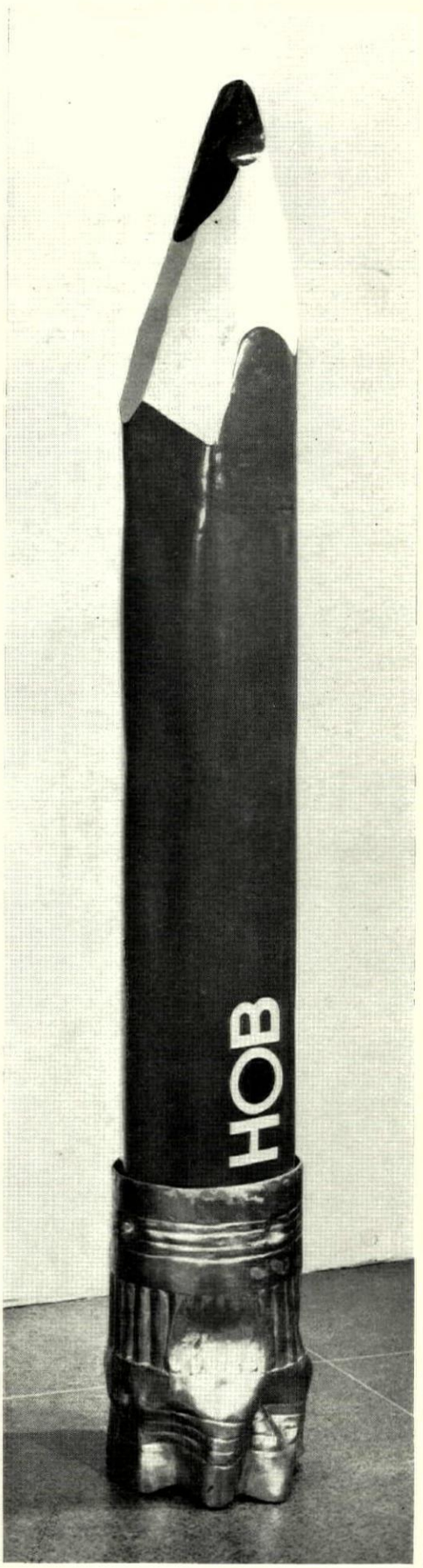
beautiful though they be, will die. . . .' And gluttons for pathos could think of the nursemaid in the shadow as the guardian of a sick bed.

'Ophelia' seems to me to be the one story-telling picture in which there was no sentimental interference. It was a peculiar triumph; the triumph of an artist who was unimaginative and who for once realized his limitations. Perhaps it's his one stroke of imagination, for he seemed to realize that if he chose to depict the moment of unruffled floating before Ophelia's face went under the water he needed no histrionics, only a careful account of Elizabeth Siddall lying fully dressed in a bath of warm water. One is not surprised to learn that when it was exhibited at the Academy in 1852, *The Times* thought it 'strangely perverse' of him to deny the public the sight of Ophelia's 'drowning struggle.' The background is a meticulously realistic study made on the banks of the Ewell, and Millais had great trouble with the painting of a rat. We can be sure that he saw the rat there, but he was finally persuaded to paint it out 'because it's presence suggested a painful idea.' 'Ophelia' is a marvellous example of poetic literalism. It's Millais's solitary masterpiece, and it's almost a miracle that an artist so sensitive to the prevailing sentiments of his time succeeded in producing even one unflawed picture.

Two of the object-sculptures included in the Young Contemporaries show at the Tate are reproduced here. The assemblage figure with thick legs called 'In Order to Love,' 5, is by A. C. Bindloss, in the manner of Bruce Lacey. The arm can be moved to drag away a mask to reveal a flayed face. Presumably we are intended to draw the conclusion that love doesn't improve a girl's appearance. The other object, 6, is called 'Graffiti' and it's by Peter Wright, in the manner of Oldenburg. It's a very large model of an HB pencil, and may be a memorial to a particular pencil belonging to a compulsive pencil-biter. The title suggests that it was used for writing on walls. The 'O' between the grade letters probably stands for 'outsize.'

It is to be hoped that the Tate Gallery is not expecting to be the permanent home of the Young Contemporaries annual exhibitions. The number of works it can take is too small. There may not have been any more artists chosen for the exhibitions at Suffolk Street, but at least they could exhibit more than one work each. It's impossible to tell from one work whether a student is on the track of a personal discovery. Only two young people had the distinction of having a couple of works each in the Tate show and since their pictures were no less tentative than those of many others, it was grossly unfair to single them out for special attention.



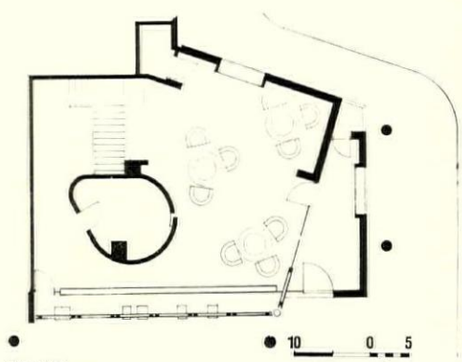
6

Jeweller's Shop, Jermyn Street, London

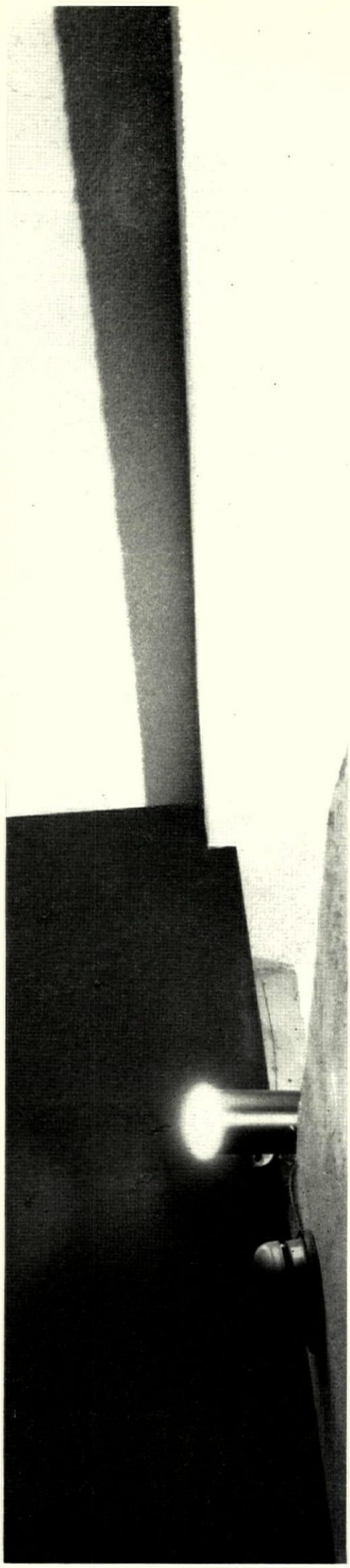
architects: G. H. & G. P. Grima

photographs by Geoffrey Gale

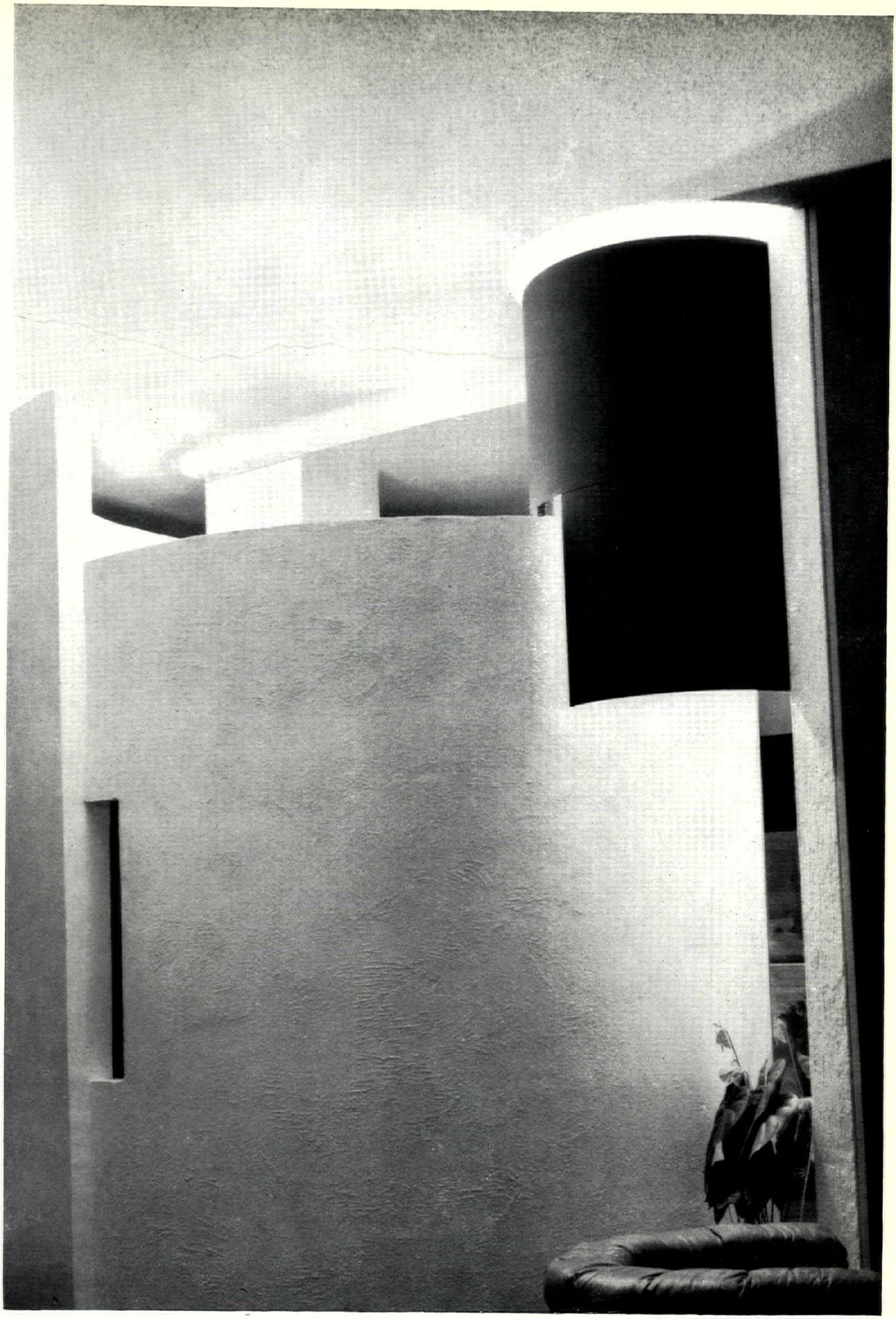
This shop, for Andrew Grima the jewellery designer, is on the corner of a new hotel block. The Jermyn Street frontage consists of a screen, designed by Bryan Kneale, of unpolished black steel frame. Showcases of varying sizes are incorporated in this screen. The outer door, weighing a quarter of a ton and automatically operated, is a solid cast aluminium design by Geoffrey Clarke. The interior takes its character from the contrast afforded by the intricate filtering of light through the screen against fairfaced walls of honey-coloured bricks and black-painted steel. Running the length of the shop-front is a showcase made up of steel girders with plate glass doors running between them. The office, with curved walls, acts as a further foil to the screen and carries on its ceiling the main light source, iodine tungsten floods which throw light upwards to be reflected into the shop.
Entrance to the shop is gained through a lobby, the door of which is controlled from inside, this being one of the necessary security devices built into the structure.
The furniture designed by the architects consists of club chairs and circular display tables upholstered with tan-coloured hide. The carpet is charcoal grey.



floor plan



1. *detail of light fitting in office, the curved walls of which are shown in 2 (opposite).*



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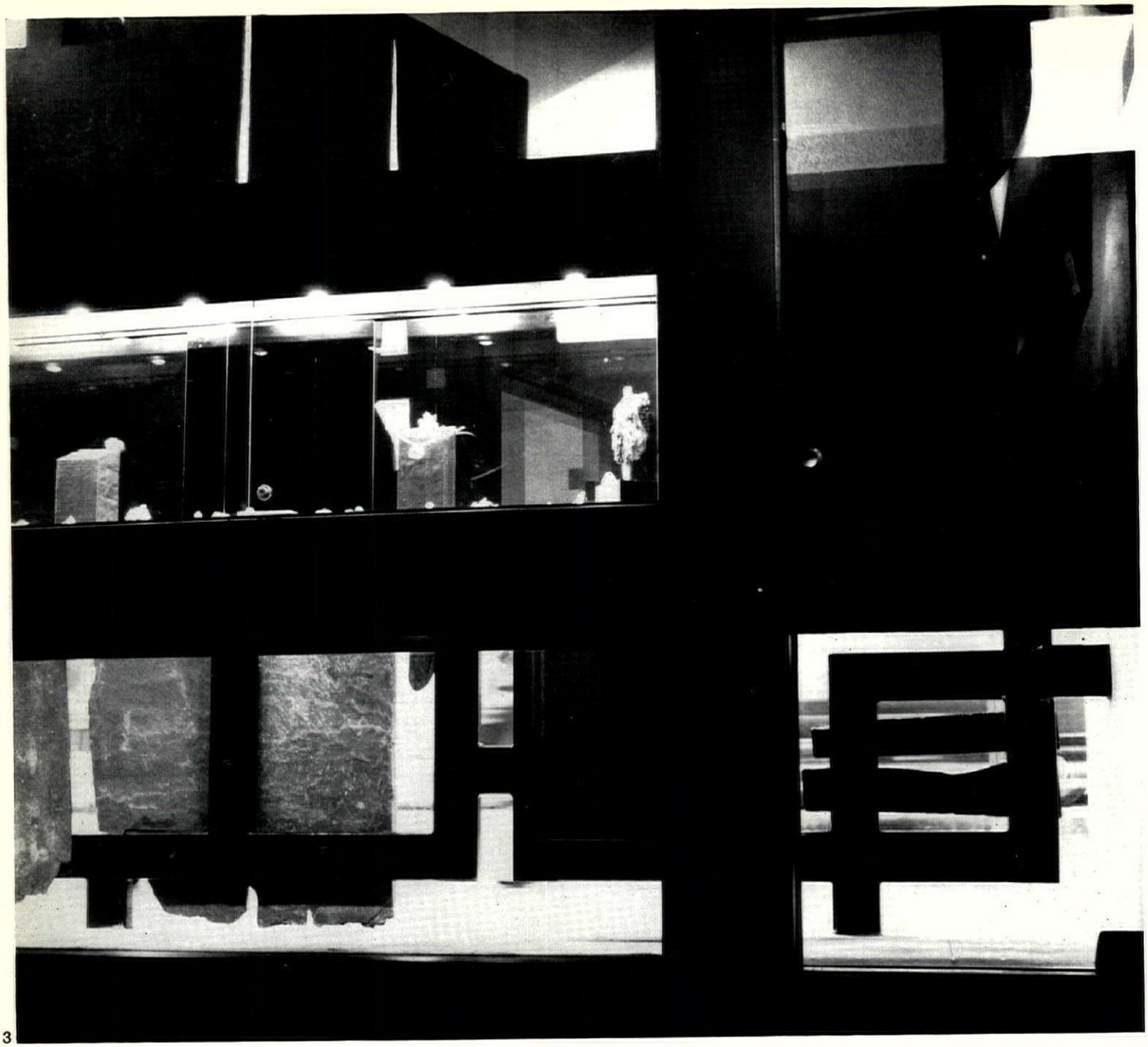

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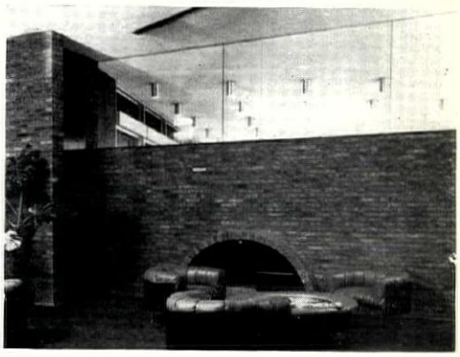

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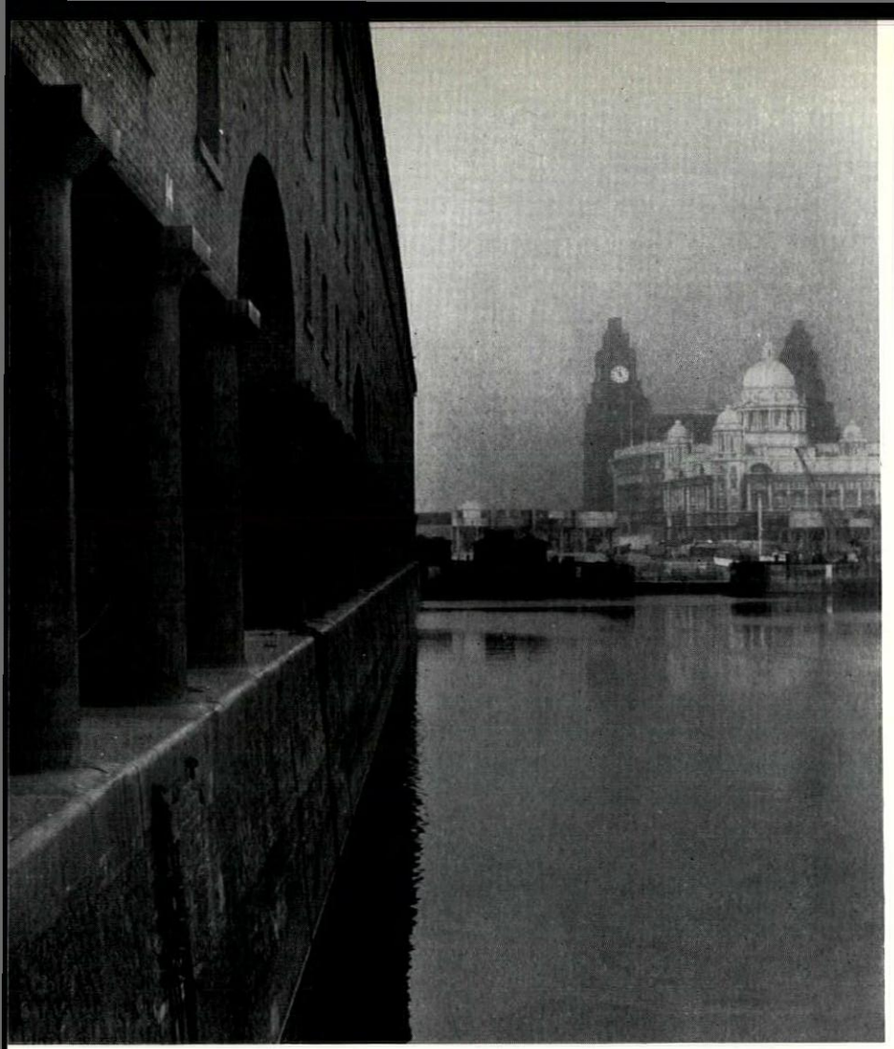
3 and 4 (opposite). 3, detail of shop-front showcase with slate screen beyond. 4, glass-topped display table and club chair. The table has a padded seating surround and is illuminated from inside. 5 and 6, lobby corner of shop, both views showing how light filters through screen. 7, group of chairs around display table. Beyond low wall is the foyer of adjoining hotel. 8, view across secretary's desk at rear of shop.

Jeweller's Shop, London



The desolate scene at the Albert Dock, Liverpool. The warehouses are threatened with demolition, but in the article opposite Richard Reid suggests how they could be restored and integrated with the new office developments proposed for the area.

TOWNSCAPE

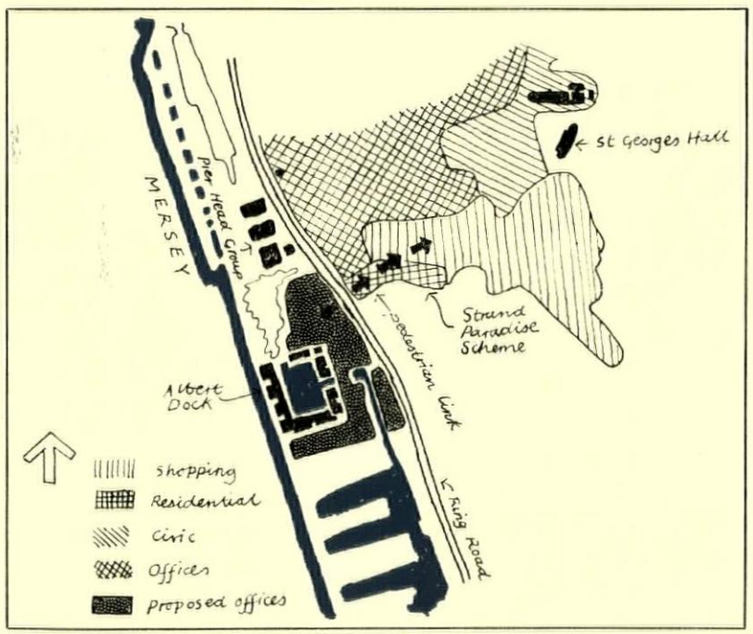
Richard Reid

A New Life for the ALBERT DOCK

A fifty-three acre site along the Mersey, west of Wapping and south of the Pier Head group, was offered by the Mersey Docks and Harbour Board for development. This site includes the magnificent Victorian industrial architecture of the Albert Dock warehouses (see The Exploring Eye, AR July 1966) and four other docks, but is outside the area designated for the city-centre plan; it was not until the plan was nearing completion that this site was made available. The result has been a build-up round the civic centre with offices and shops, ending east of Wapping, in the residential complex of the Strand Paradise scheme, which provides for 3,000 middle-income residents. This new site has been bought by the Oldham Estate Company for development into the biggest office complex outside London. Ironically, it might well have been earmarked if known of earlier by the city planning office, for residential purposes with the office complex located on the Strand Paradise site and a pedestrian link between them under the ring road.

The developer's proposal was to build 10 million sq. ft. of office space over the next seven years, but this meant the demolition of the Albert Dock. The city planning office strongly advocate its preservation, and with this in mind the idea has thinned to 7 million sq. ft. within ten years, keeping the dock. The developer, however, remains sceptical about the preservation of the dock buildings although a survey has shown them to be in good structural condition. There are also many people who consider concentration of development

Below, map showing location of the Albert Dock and proposed new offices. The linked courtyards of the new offices could frame views of the Albert Dock, like this one of the old offices, right.



here wrong, although, with the new proposed rail system, commuter facilities are excellent. These people feel the complex should be moved, lock stock and barrel, across the Mersey to Birkenhead. But the developer won't go across—he wants central office area development and the prestige that sells it—and who can blame him?

He says that with the squeeze in London there are many firms, needing a million square feet each, who would be prepared to move as a group. If they move and scatter, one to Birmingham, for example, another to Manchester, another to Newcastle, it will be harmful to their business, but here, in Liverpool, in the middle of the city, is what amounts to a regional office centre. It is only 2½ hours by train to London, there could well be a fourth major airport at Birmingham and perhaps a direct rail link through the north by-passing London and straight on to Europe via the Channel Tunnel. It is the second major port in England and could well become another Rotterdam.

Liverpool can't afford to mess the developer around. In the next twenty years the city will have to find another 200,000 jobs. With the 7 million sq. ft. this developer will build in ten years, 40,000 of these jobs will be provided.

So the city has a problem. It wants to keep the Albert Dock but at the same time keep the developer. The warehouses do lend themselves to conversion to deep offices, but the city has still to sell the idea to the developer—and must sell it hard, for all he sees is filthy water and rust and dead grotty old buildings. Yet in these buildings lies what could be the most fabulous office environment imaginable. The city planning office, under Frances Amos, is, at the moment, working on ideas for this area. The Liverpool School of Architecture is also preparing a study under Professor Gardner Medwin. These notes meanwhile, and the accompanying drawings, show some of the possibilities prompted by a visit to the site, and suggestions of how, if Albert Dock were kept, the various elements could contribute to the new use.

There is a fine view out from the southern end of the dock across the dock water and an opening on the northern end of the dock framing the pier-head buildings. Care should be taken not to block this. There is also a view across to the Anglican Cathedral, again framed by an opening in the warehousing; this time on the east side.

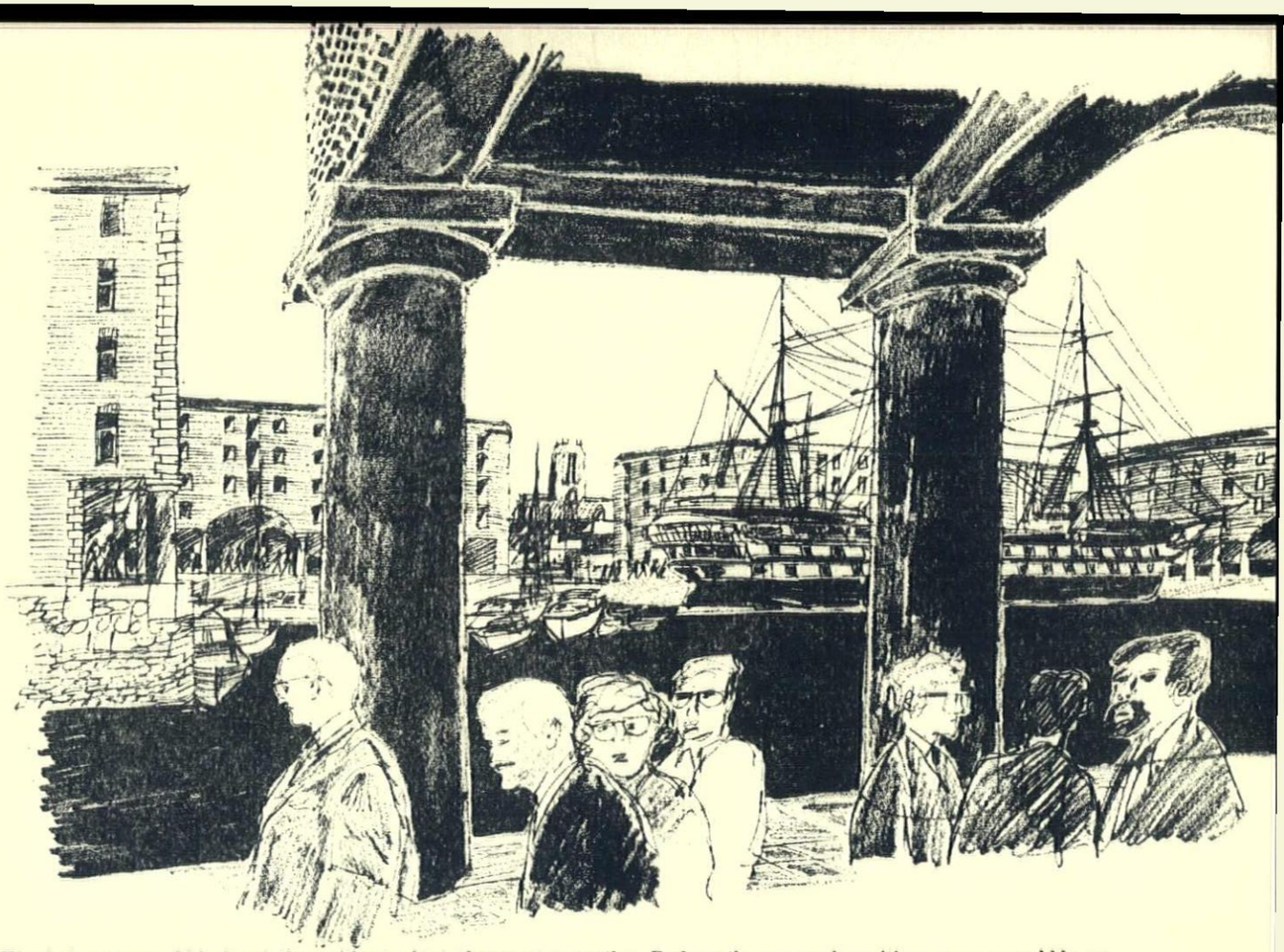
Care should be taken with the heights of new buildings so as not to clash with the pier-head group. The new development around the dock should be low in height. The area here is very exposed and therefore the formation of a series of linked courts with offices around seems the most obvious answer.

The basement of the docks is at present used as a bonded warehouse for spirits. It would be very costly to build a new building for this purpose, and unnecessary. There is only one entrance, which is carefully controlled, and a fire exit. This presents no problems in circulation. The developers feel that the three acres required by the city council for the proposed Maritime Museum could be provided on this site. The museum could be in one of the warehouses, and could include an old ship moored in the dock.

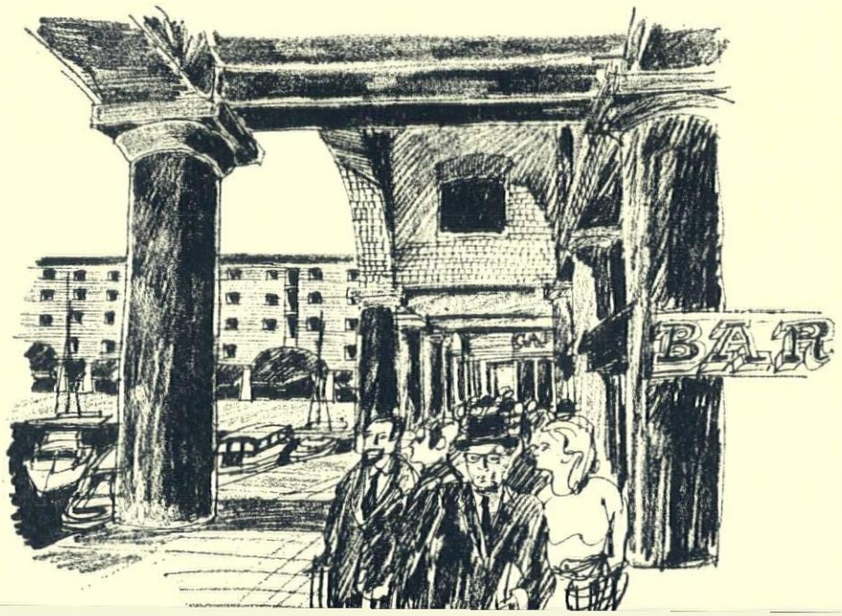
The Canning Half Tide Dock should be closed in, since it opens into the narrowest part of the Mersey with strong currents which would be dangerous to small craft. There would however need to be a change of water in the dock, or it would stagnate; so why not keep a section of Salthouse Dock open and, if Dukes Dock were closed, the small boats moored there at present could use the Albert Dock. This use of the locks would save installing costly pumps for filtering the water.

Some of the ground floor of the warehouses could be used for cafes or restaurants for the office population. There could be small, all-purpose shops, like a confectioner's, a small electrical shop, a boat shop and a chemist's, but definitely no big stores, as the city shopping centre already caters for this demand. As a regional office centre there is at least a need for an 'on the spot' hotel. There could be a conference centre and a sort of communal computer shop.

Although the day life of this area would be strictly working, there is no reason why the cafes and restaurants should not cater for night life if there was the demand; and being in such a strongly defined environment there could well be a demand. After all there will be a direct pedestrian link from the shopping centre through the Strand Paradise scheme, under the Ring Road to the docks; to say nothing of the view of Birkenhead across the water at night.



The dock water would look pointless without a boat of one sort or another. Perhaps the proposed maritime museum could be extended on board an old sailing ship.



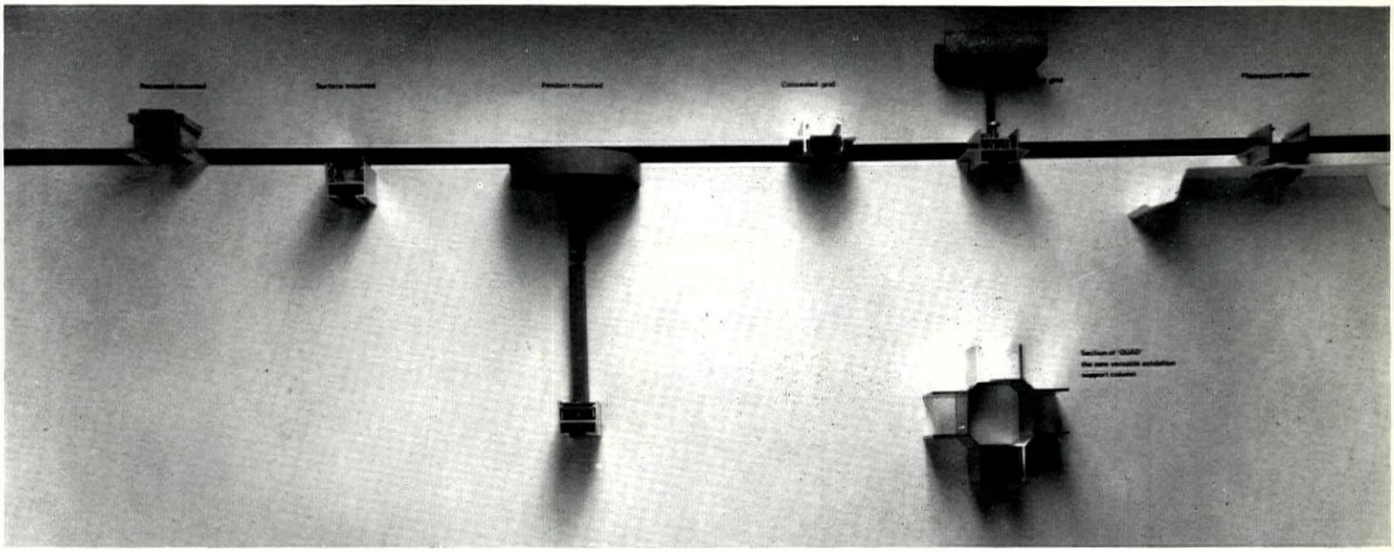
There could be small cafes and restaurants, local shops like a newsagent's or chemist's and perhaps a pub. Above these would be the offices.

Design Review

New products chosen and annotated
by Ronald Cuddon

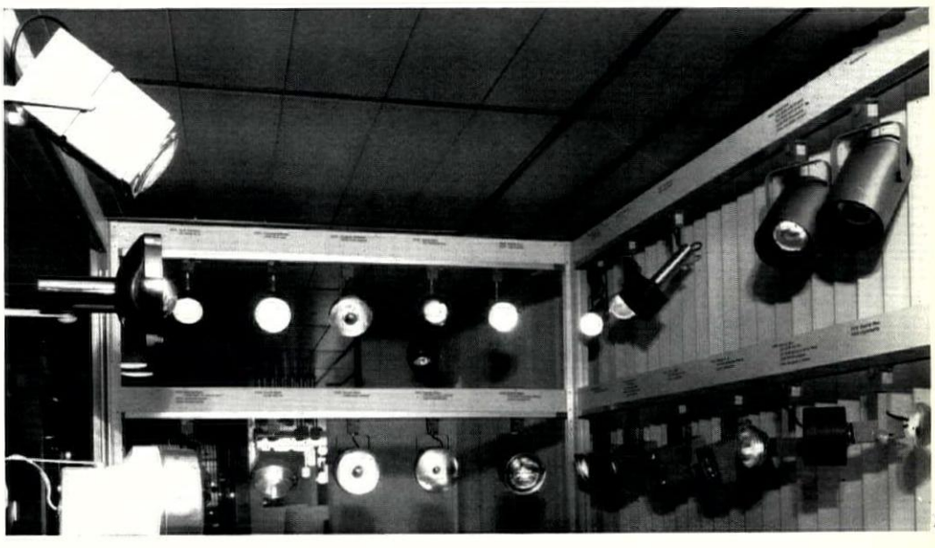
DR

Light fittings



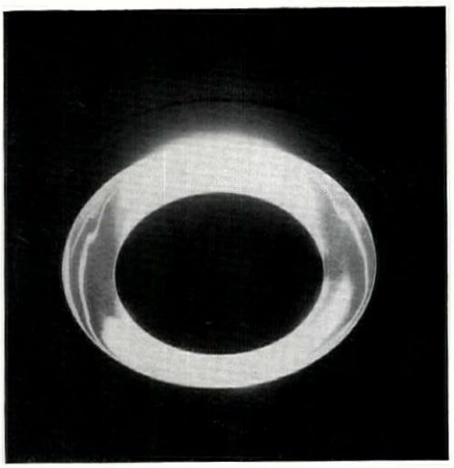
1

Lighting, natural and artificial, is perhaps the most fundamental contributory factor in making a building, or any space, a delight to move, work or play in. Whether the lighting exhibition at Earl's Court this month measures up to this demanding factor is arguable since the building in which it is held is forbidding and without splendour, and any magic ingeniously contrived with artificial lighting and sensitive design on one stand can easily be cancelled out, or much diminished, by crude design on another. Nevertheless the exhibition is of interest and some importance to those concerned with architecture. Apart however from developments of a purely technical nature, I suspect that there has been little or no advance in lighting technique since my review of Lytespan which appeared two years ago on these pages. I still think, as I did then, that Lytespan has made a very considerable breakthrough in lighting technique, freeing fittings from fixed locations, affording enormous flexibility in the type of fitting and establishing a control over the quality of illumination hitherto unknown. 1, a display panel at the Rotaflex showroom, illustrates how Lytespan tracking can be used in differing circumstances with the black line representing ceiling level. It also shows in isolation a section of the recently introduced Quad system, a versatile exhibition support column into which Lytespan tracking, structural display panels or partitions may be fitted. It is a single extrusion, anodised in satin silver, copper or bronze, and is available in standard lengths from 8ft. to 16ft. or up to 25ft. to special order. The large hollow core permits wiring and communication cables to be fed through any structure and allows lighting equipment to be connected at any point along the integrated Lytespan track.
Although visually heavy in small units, the quadrangular extrusion does facilitate the construction of large-scale multi-level display and exhibition structures and makes possible the design of long spans and high spaces. Cast aluminium floor plates are available should anchorage to floor be required. It is claimed that the system allows for a high degree of stand and display prefabrication, that it is simple to erect and dismantle and that this facility results in 100 per cent recovery of materials. 2 shows a small very simple structure, using Quad sections and Lytespan tracks, from which are hung or connected the extensive range of fittings developed by Rotaflex. Although the track adaptors criticized in my last review on this subject now seem more positive in their mechanical action, their size still gives a clumsy appearance to this otherwise excellent lighting system.
The principles on which lighting practice is based are now better understood, but there is a danger that science will eliminate art. In a recent BRS digest, a highly informed text states the need for integrated daylight and artificial light in buildings, but some of its illustrations of interiors indicate the arid and inhuman results that high level illumination and shadow-free surfaces tend to produce. It sadly emphasizes the gap between the lighting engineer and his aesthetically orientated counterpart, the architect.
If the American pattern of living is followed, higher lighting levels are inevitable and the view will be put forward that the totally artificially lit area is more efficient and controllable than that employing an integrated system, and that this man-made atmosphere is more conducive to high productivity and physical and psychological well-being. Turning day into night and then back to day artificially is an alarming prospect. Natural daylight, no matter how dim or distant, should be cherished, and the hope and potential freedom that a glimpse of the passing scene can give to those entombed in the bowels of some office building or factory can also preserve or salvage something of human identity. Apart from this broad issue, I am not convinced that for most activities the ever-rising overall levels of



2

artificial illumination are justified, since the spiral upwards is never ending and the enormous contrasts that occur between work areas operating at 80 to 100 lumens per sq. ft. and the street or home where 1 to 5 lumens per sq. ft. is the rule tends to disturb and depress. Furthermore the heat output from lamps at high levels of illumination is a problem and makes air-conditioning essential, which will be reflected in rocketing building costs.
In my opinion the most satisfactory lighting is that where sources are concealed, giving indirect or reflected light and freeing the interior from the clutter of pendant and other fittings. This is facilitated by the development of strip and tubular lamps, but the efficiency of these is impaired when they are used indirectly and running costs are increased by the need to compensate this loss by adding to the number of lamps. This



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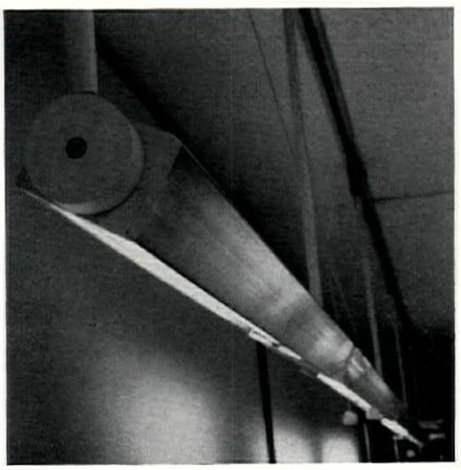

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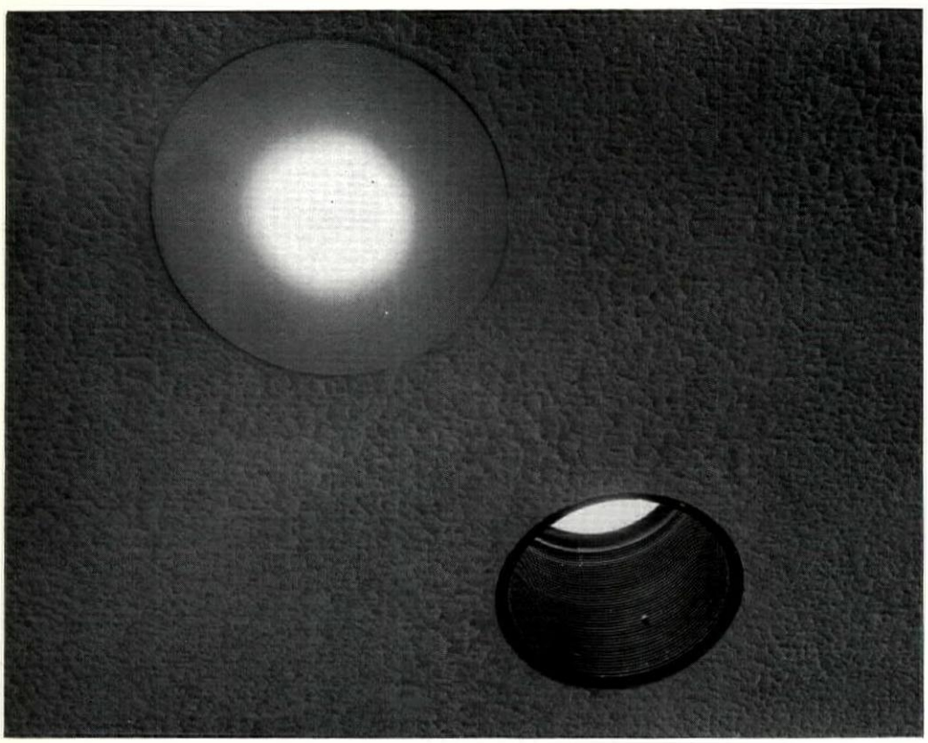

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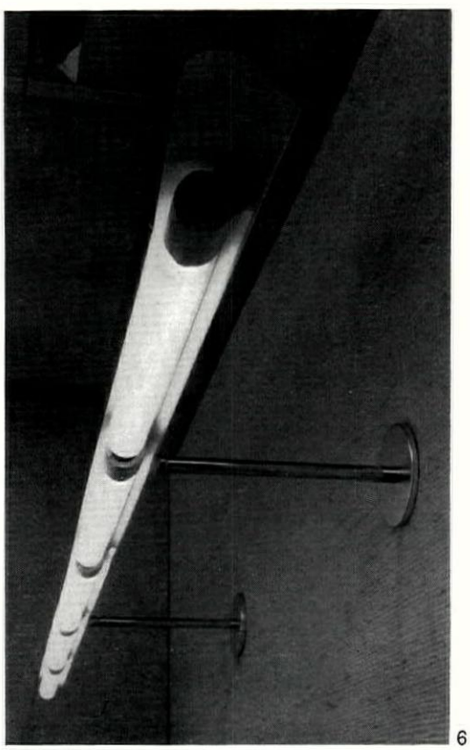

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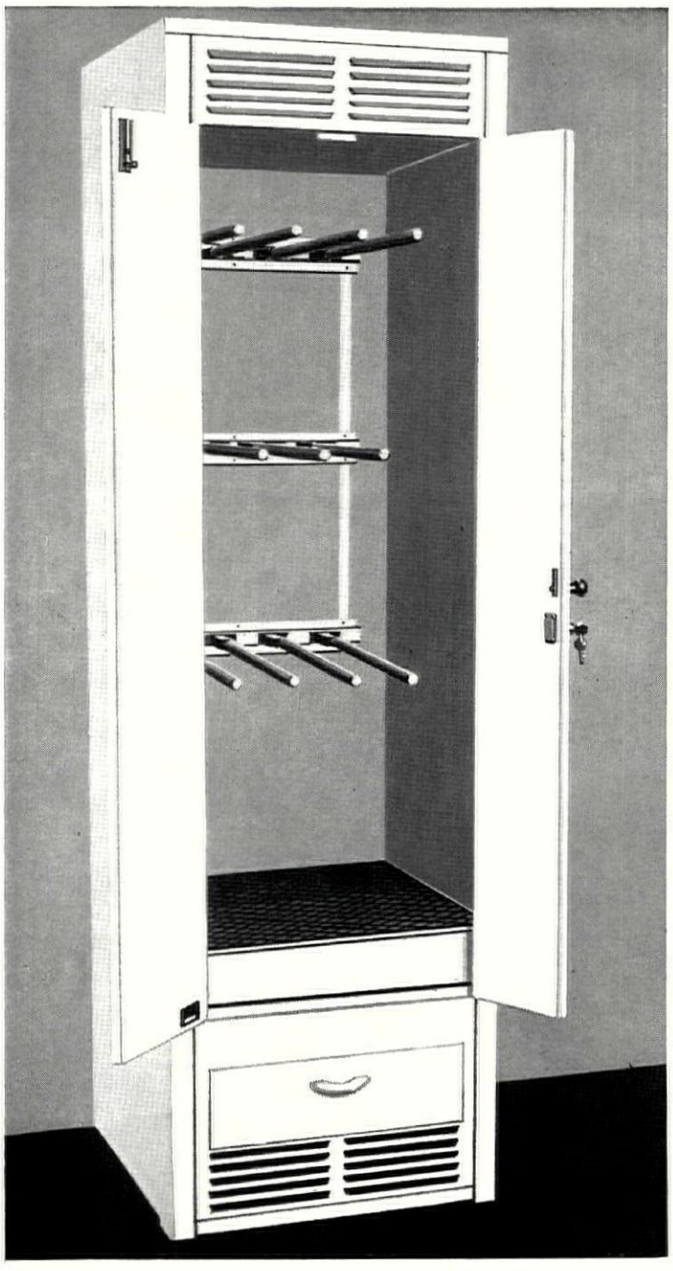
defect, however, can be offset by the use of incandescent downlighters. Such fittings completely concealed in the ceiling can punch a beam or spread of light of high intensity exactly where it is needed, they can minimize or articulate the apparent source and they can give direct lighting to achieve a specific mood or illumination effect. In skilful hands the combination of indirect, fluorescent and concealed direct incandescent lighting can satisfy most modern demands, whether functional or aesthetic, and can also be successfully integrated with air-conditioning systems. 3 and 4 show three out of many downlighter fittings manufactured by Rotaflex. The spill-ring fitting, 3, conceals a primary reflector which punches the light upwards to a secondary reflector, which in turn reflects all light downwards through an annular slot. Glare-free light of considerable efficiency is the result, but the secondary reflector tends to attract attention by the intensity of refracted light. In contrast, the pinhole fitting (top of 4) concentrates light from an upper reflector, through a lower reflector, past a very small aperture to produce a wide angle beam with minimum evidence of light source. The multigroove recessed fitting (4, bottom) can also be obtained semi-recessed or surface mounted. The compression-moulded baffle has finely textured rings closely spaced to provide a glare-free dramatic light source suitable over merchandise or where, in public areas, the transition from daylight needs to be accomplished gradually. From experience I have found that when these are used as flush fittings in plaster ceilings, care must be taken by plasterers and electricians to obtain a positive junction between fitting and surrounding plasterwork to avoid leakage of light. All recessed and concealed fluorescent or tungsten fittings need space, and suspended ceilings are necessary for a successful installation. Where this is not possible or desirable Lytespan can be used or fittings that can be fixed to wall or ceiling and are capable of washing walls with light from sources behind reflectors, as shown in 5 and 6. The Silverline, 5, designed by Robert Heritage for Rotaflex, has been given a design award. It is a fluorescent fitting with control gear mounted at the end of the tube but contained within the extruded aluminium lamp-housing. A die-cast swing-down cartridge allows for access to control gear, and die-cast end plates enable fittings mounted in runs to be precisely aligned. This fitting can be side or top surface mounted but is most interesting and useful when a rotary action is employed as shown in the photograph. The second of these reflector type fittings, 6, is by Merchant Adventurers and has been on the market for some years, but it continues to be a most useful and elegant product. The photograph shows tungsten lamps, though fluorescent tubes are also obtainable; these unfortunately are less successful as the control gear is not integrated with

A built-in drying area that takes a whole family wash in less than four square feet

Specify the Flavel Multiplex clothes drying cabinet

(GAS, ELECTRIC OR WARM AIR)



Compact—that's the Flavel Multiplex drying cabinet. In less than 4 square feet of floor space it will take a whole family wash. Standing 78″ high, 23⅝″ wide, with 24″ overall depth, the Multiplex takes 16 lbs. of damp washing—and dries it ready for ironing in less than 2½ hours, using gas, electricity or warm air.

Easily Installed. With the use of breeze blocks or sheet metal sides, the double-doored front assembly can be built into a corner, on to a plain wall, or in a series for laundry rooms. Eleven hanging rails are provided at three different levels and can be supported either from side to side or from the back wall. A top-plate is available, but when this is not required, panels can be supplied to extend the cabinet to ceiling height.

Gas and electric models have a clothes guard fitted above the burner box—a removable front panel is provided for easy access to the controls. Top and bottom louvred panels provide sufficient ventilation for well aerated rooms, but where aeration is poor, extension flueing is necessary; this is catered for by a sheet metal top with a 4½″ flue spigot. The warm air model is fitted with a 12″ x 8″ adjustable ventilator inside the cabinet; as an optional extra, a similar ventilator can be fitted to the plain bottom front panel for room heating.

The Multiplex is delivered in prime coat finish.

The model illustrated is for communal use and is fitted with a lock and key as an optional extra.

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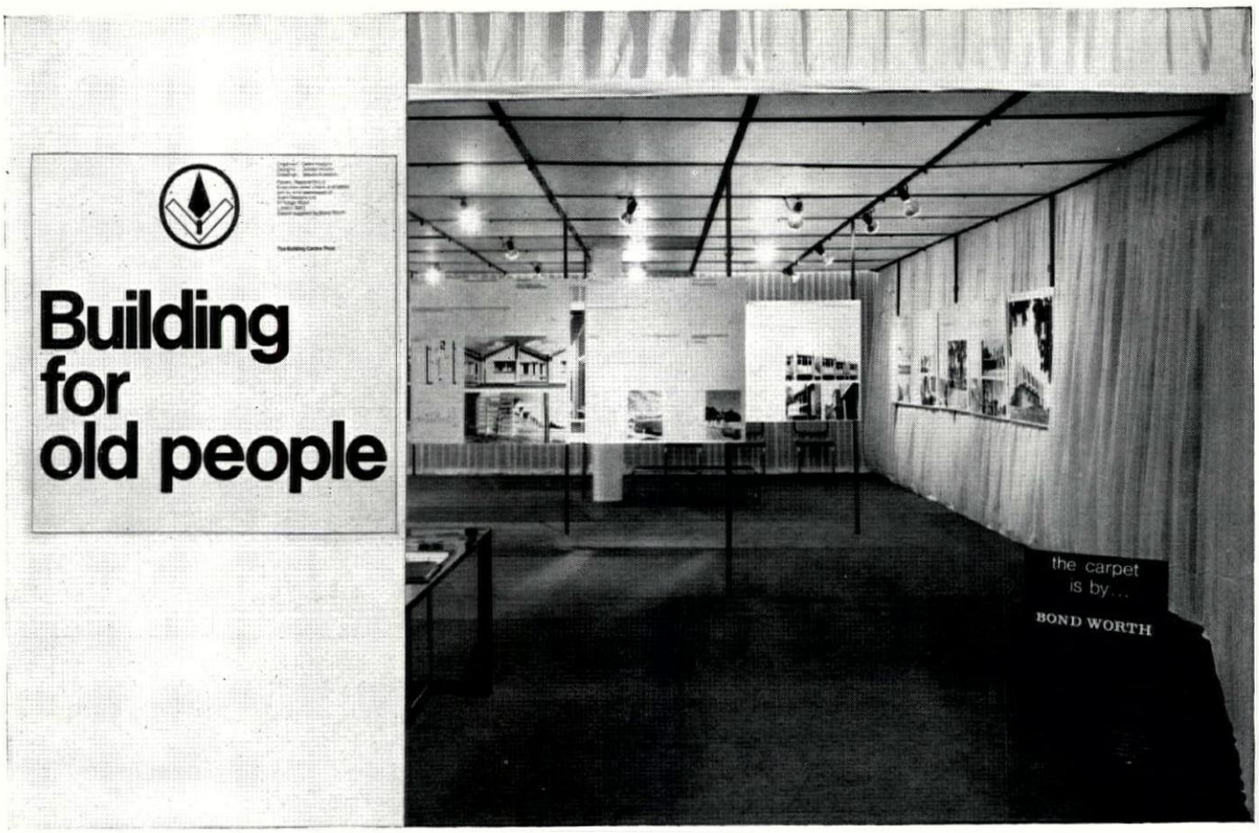

'Building for Old People—an exhibition by the Building Centre Trust.

Bond Worth makes a point at an exhibition

The Bond Worth carpet chosen by the architect to set off this most successful exhibition strikes just the right note. It does more. It quietly makes the point that Bond Worth can supply carpet of just the right quality, style and price for old people's houses and homes, for the carpet here is just such a carpet. Bond Worth in fact make carpet in many grades to suit projects ranging from halls of residence to hotels, restaurants, theatres and ships, and our Design Service is always available to discuss specific requirements in decor. With these resources we can always see that function and price live together in comfort. So tell us your needs. You can be sure we can supply the right carpet.

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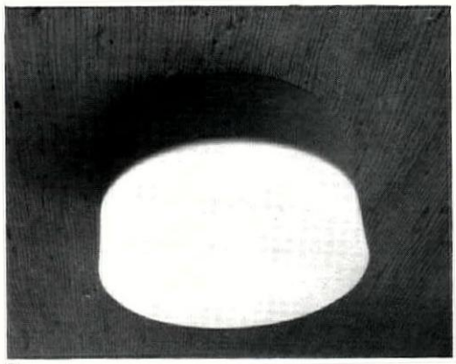
the tube as in the Rotaflex design but doubles up as a backplate.

Merchant Adventurers have recently introduced a new ceiling or wall light that is retailed at the astonishingly low price of £1 2s. 6d. plus purchase tax. It is called Trimline, 7, and is a drum-like fitting with white opal precision-moulded plastic snap-on diffuser and pearl grey plastic gallery, measuring in total depth 4in. with a diameter of 7in. Unbreakable, it is intended for interior and exterior use. The tendency for plastic to attract dirt and to discolour is a disadvantage, though the cost is so modest that a replacement when the fitting is shabby would not cause too much pain. In contrast, the wall-light, 8, designed by Arne Jacobsen for Louis Poulsen of Denmark, is expensive and agents in this country seem to be reluctant to stock it in any quantity. Rotaflex are agents but the delivery dates quoted are irritatingly long and replacements for opal glass diffusers can be delayed for many weeks. However it is a superb fitting, unique in the shallowness of its disc diffuser which gives it a simple elegance. The fact that the diffuser oversails the gallery creates a halo of light which is outstandingly effective, particularly in external situations.

A fascinating new development is the micro-miniaturization of lamps. Two are illustrated here, the Lloyd lamp, 9, marketed by Merchant Adventurers but of Japanese origin, and the Super Mini manufactured by Rotaflex, 10 and 11. Both are the result of compact design and engineering, though the Lloyd lamp has the edge in terms of sheer ingenuity; but then the price is £5 5s. 0d. as opposed to the Super Mini's £3 19s. 6d. It is a fully directional high or low intensity, multi-purpose lighting unit which can when folded provide an elegant night light, whereas the Super Mini is less versatile. It has however a more stable swivel and tilt action. The bases of both lamps house the miniature transformers that convert mains current to 12-volt power, making the lamps safer and economical in use. So small and versatile a lamp implies complete independence of piped services and should therefore, like a torch or the Sectícon clock, be powered by battery.

The possibilities inherent in external lighting have been very little exploited. That an urban or suburban landscape could be lit by anything other than the grotesque lamp standards prescribed by the Ministry of Transport and most local authorities has perhaps never occurred to those responsible for large sectors of our physical environment, and although the enchantment of illuminated foliage and trees is a rewarding experience, this technique has been used in this country only in a few isolated examples and in some national exhibitions. Span Developments have seen the advantages of architectural landscape lighting and a mushroom fitting developed by Frederick Thomas with Span for use in formal and residential settings was illustrated in ' The Industry ' in the February REVIEW. The wall light, 12, and the column version of it, 13, are both also by Frederick Thomas and are suitable for landscape and functional application in gardens, pedestrian areas, drives and patios. The column light stands 8ft. 6in. above the ground and



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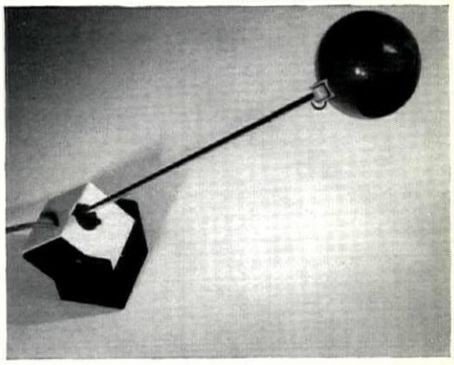

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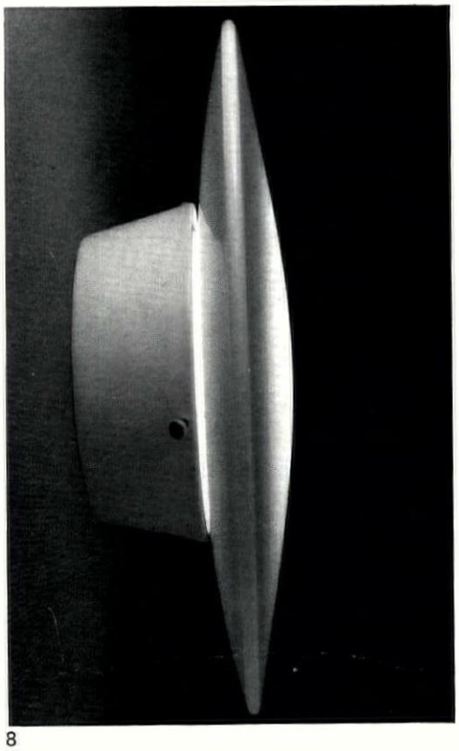

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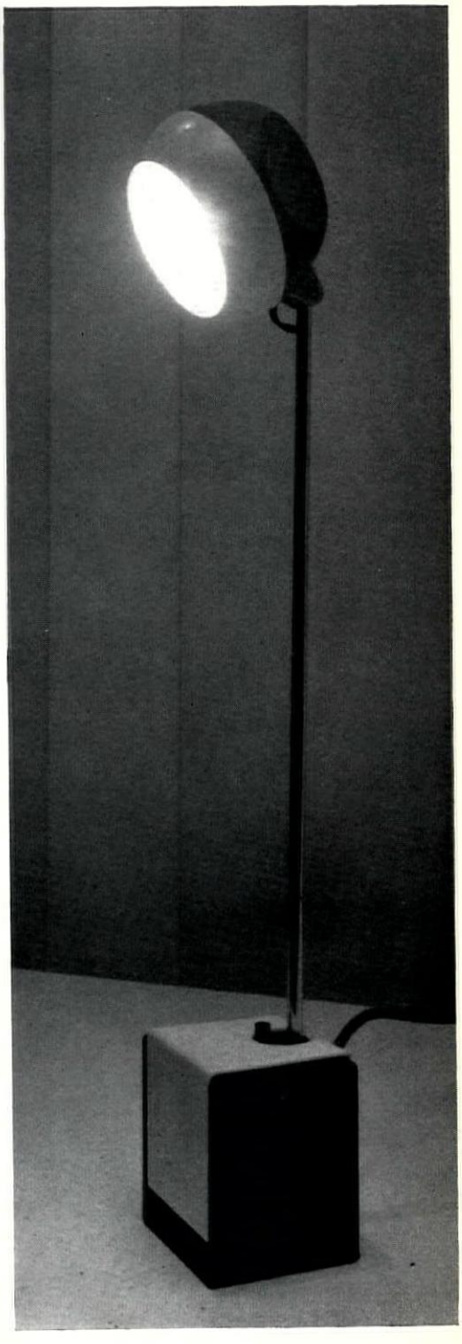

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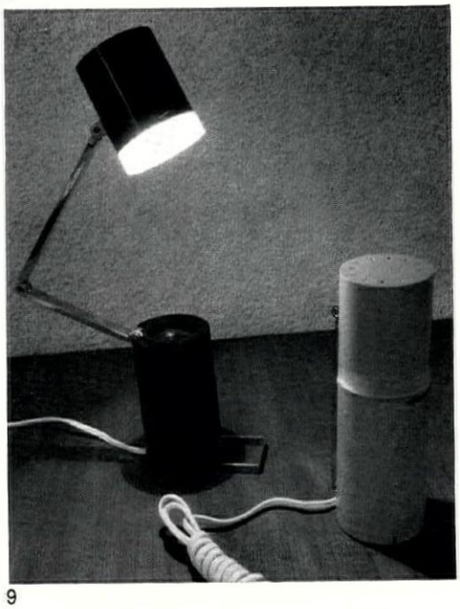

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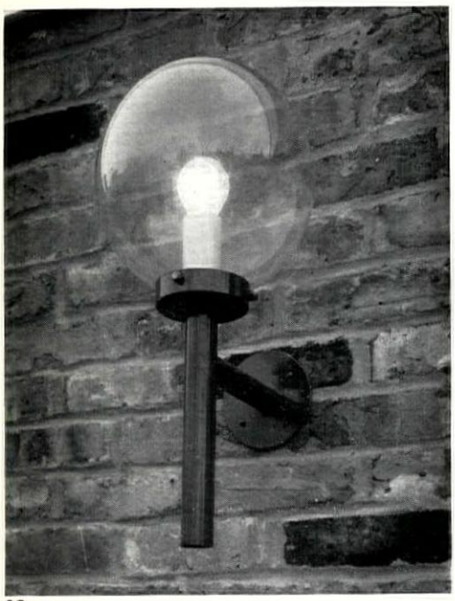

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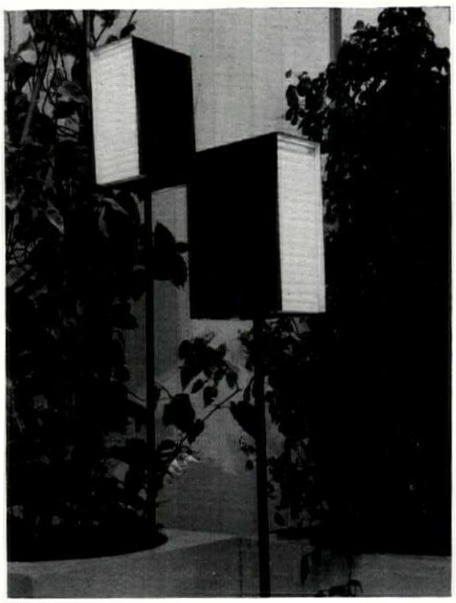
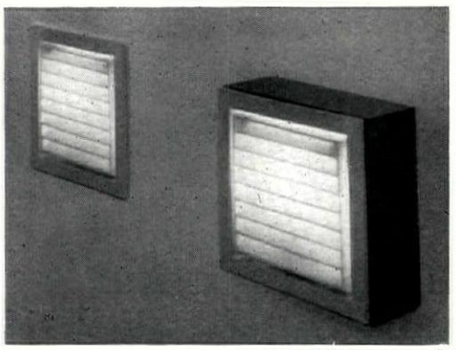


14

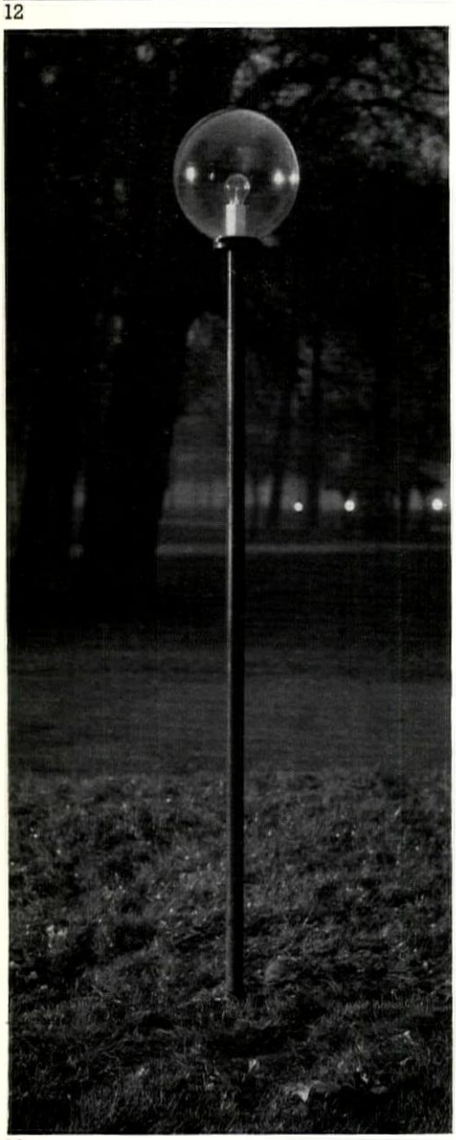
throws a pool of light through a clear crystal glass sphere to a wide surrounding area. These lamps are delightfully simple and direct.
The Framelite range of weatherproofed fittings, 14 and 15, is manufactured by Rotaflex. The photographs were taken in their showroom where the fittings appear out of context, but the quality of light they provide is very good. The design is a little boxy and the sheet-metal technique



15

employed does not bear comparison with the die-cast components of many of this firm's other products.
C. M. Churchouse Ltd. are also about to distribute a range of outdoor lights. They are made in Germany and marketed under the name Churchouse Bega. From their literature it would appear that the range is comprehensive and includes bollard, mushroom and column lights. In addition the Bega radiary fittings are designed to fit apertures formed between 6in. tiles and standard bricks in single or multiple units and they can therefore be incorporated as an integral part of the building fabric. Unfortunately photographs were not available at time of writing.
I have not discussed pendant fittings because I feel that their application outside domestic work is becoming increasingly limited. They are useful where a focal point is required or where a budget is so tight that a basic but reasonably efficient solution is a necessity. However the number of pendant type fittings available is enormous and the good ones range from the paper lanterns of Le Klint and Noguchi, with their geometric folds and spiral frames, through blown opal, tinted and clear glass globes to the cut and folded spun metal shades pioneered by the Finns.
16 shows a glass fitting manufactured by Vistosi of Venice, whose concessionaires in this country are Swift Continental of Reading. This fitting fascinates by its strange medieval appearance and its apparent flexibility, for it is made in two pieces and can be used as a wall light, as a table lamp or as a single wall or ceiling pendant, or it can be strung together by means of a metal screw and locking swivel device into vertical chains or clusters. The glasses when the two halves are together measure approximately 8in. x 8in. and could in a large space, and if massed skilfully, form a cascade of glass reminiscent of a giant chandelier.

Products: Light fittings.
Manufacturers: Rotaflex, Merchant Adventurers, Frederick Thomas, Churchouse, Swift Continental (Vistosi).



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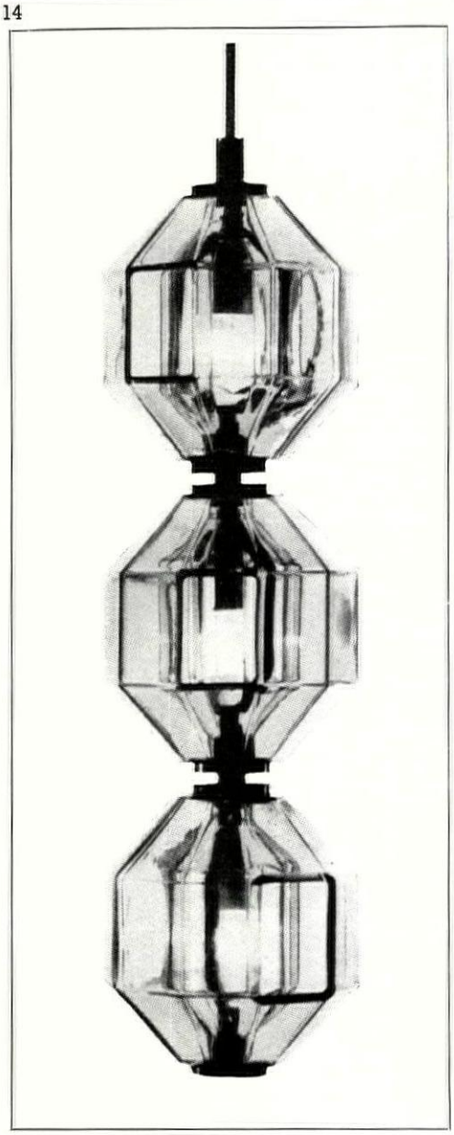

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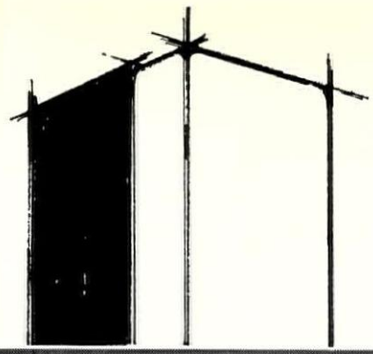
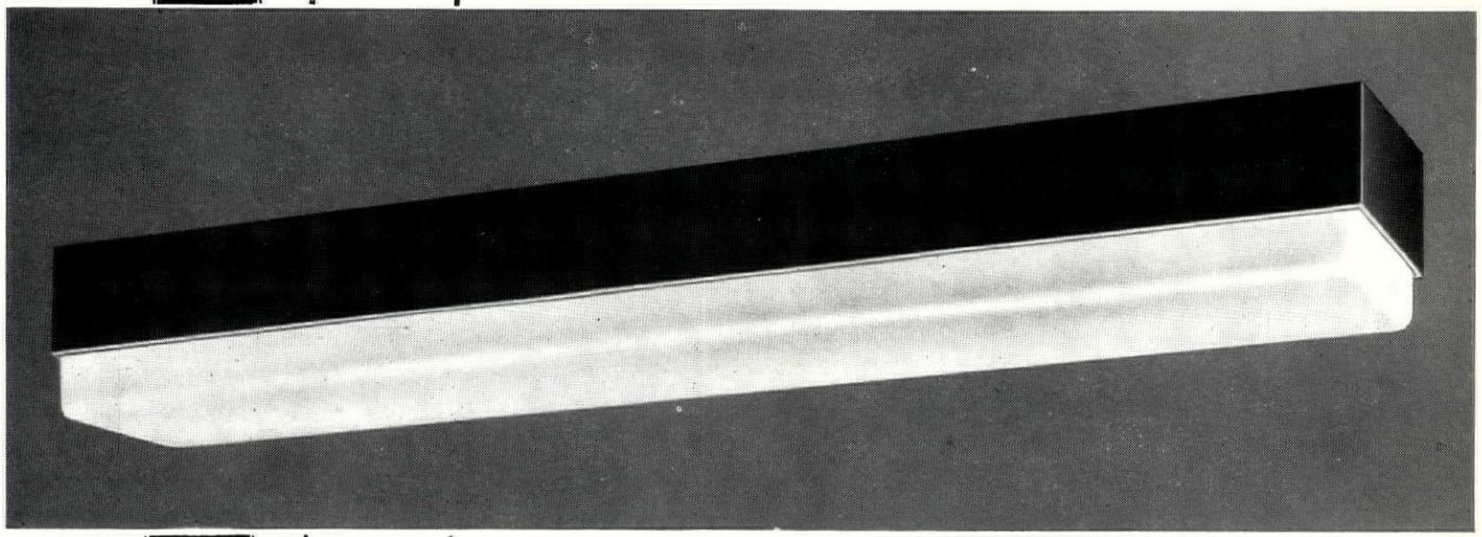
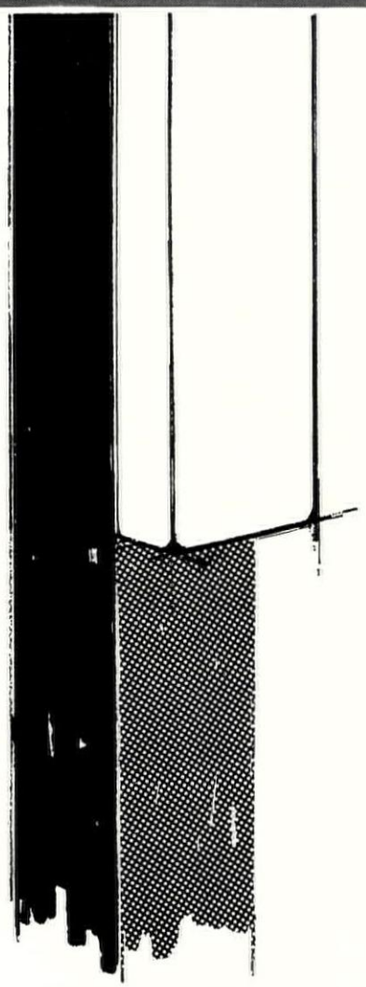


CHURCHOUSE
extruded lighting fittings...





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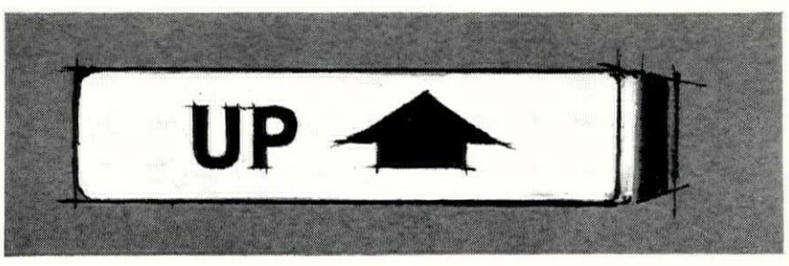

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THE CELEBRATION OF DEATH

some thoughts on the design of crematoria

Peter Bernard Bond

In view of the widespread contemporary use of crematoria (the newest example in Britain, the Edinburgh city crematorium by Sir Basil Spence, Glover and Ferguson, is illustrated on pages 255-259 of this issue) it is surprising that their functional and liturgical basis has not been more closely examined. This is what Mr. P. B. Bond attempts to do in this article, in which he also puts forward some new ideas about layout designed to remedy some of the defects he finds in present-day practice.

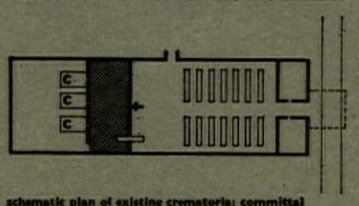
We are witnessing a very rapid increase in the use of cremation. Not only are personal and social economics having their effect, but there appears to be a change in various attitudes towards cremation. Of particular note is the recent decision of the Roman Catholic Church not only to permit Catholics to be cremated but also to allow religious accompaniment to and in the crematorium. Nevertheless, crematoria in this country fail to provide an appropriate background to the solemn occasion to which they owe their existence.

We see in the historical facts concerning them a mode of disposal, introduced and pioneered by a secular society to which religion has become attached. This is precisely the feeling the buildings impart, and I believe that it is this conflict between the secular and the religious which is at the root of the failure of present-day crematoria. A re-examination of the several tasks they have to perform is needed to see if a more satisfactory solution is possible. The functional need to dispose of bodies need not concern us here, but we have to consider on the one hand a religious rite, and on the other those means by which human beings are able to give expression to rare and profound emotions. Both may be linked through a discussion of the function of ceremony, which has attended the disposal of the dead throughout history. Ceremony, or the performance of a rite, involves a series of movements and actions combined with words, which together form a complete and significant pattern. A person experiencing this pattern should find in it a correspondence to the feelings which move him at the time. The degree to which this correspondence is achieved will determine the extent to which a person will be able to find expression of his feelings and the measure to which he is fulfilled.

One of the first things we notice about existing crematoria is that they have no familiar form—no dominant pattern in which can be clearly recognized their ritualistic purpose. Lacking a truly conceptual basis these buildings often resort to arrangements which are pompous rather than reverent. Their form does not derive from considerations of the liturgy, which is not surprising since there is no rite for cremation. It is simply the burial service, clumsily adapted and inappropriately used for the purpose. Yet for a great number of people cremation is a religious act, and it would be reasonable to expect the guiding principle in the arrangement of those parts of the building used in a religious service to be the liturgical expression of a religious rite. At the same time, since there are other people who do not belong to the predominant religious group but to another, or perhaps none at all, the building should deal with their needs separately and in a way that will not offend their feelings.

What happens in practice, however, is that a group of people arriving at a crematorium is confronted with a building of indifferent significance, into which they enter without ceremony and listen whilst the minister conducts the service. At the words of committal various things can happen: a curtain can be drawn to cut off the coffin from the view of the mourners; or the coffin can slowly descend through the floor; or the coffin can move silently through a hole in the wall. That is the end of the service. The mourners disperse. What has taken place? The coffin has disappeared from view—that is all. It has passed into a chamber, usually bearing the title 'committal chamber,' where it may be committed to the furnace immediately, or it may not.

We are able to see that the committal spoken of in the service is not a committal *at that time* and as an event is not integrated with the service. What is the significance of this fact for the mourners?



schematic plan of existing crematoria: committal chamber tinted: C indicates cremators

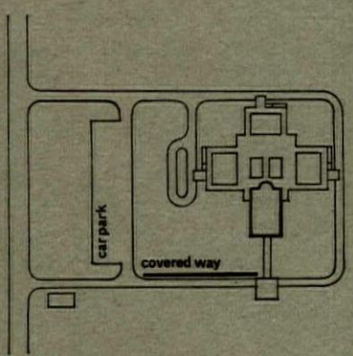
The moment of committal is the climax of the ceremony and of all those relationships which existed between the deceased person and each of the mourners. A social pattern has lost one of its units. It is the reality of the end of earthly life as we know it. This moment can only be expressed by a true and direct committal at the time and not, as at present, by merely removing the coffin from view and leaving the mourners uncertain of the consummation of the ceremony and with a feeling of having left the deceased behind. In earth burial no one fails to recognize the significance of the moment when a coffin is lowered into the ground. Those witnessing it are subjected to a deep emotional experience, and like all experiences it has entered into the life of those who stand around the grave. The reality of that moment has been faced, has been suffered. Present-day arrangements allow no such significance to exist in the case of cremation.

So we come to the question: what form could crematorium buildings take which would provide a ceremonial pattern appropriate for this act? It is evident from an analysis that what is known as the 'committal chamber' is somehow the barrier between the mourners and the act of committal and it is legitimate to ask therefore: how has the present committal chamber come about? As far as is possible to conjecture, there are two origins. The first is that it has been thought more tactful to avoid subjecting the mourners to a view of the mouth of the cremator. This should be rejected, since there are means of avoiding such a view other than with a committal chamber. The second, and I believe principal, origin is entirely functional and arises out of the difference between the time required to conduct the service and the time any one cremator takes to complete the process of cremation. A service will take twenty minutes, more or less, and the process of cremation one and a quarter hours. It is obvious that if a chapel is to be used to capacity, services must be continuous, one following the other; and in order that this should be so three cremators need to be provided. The problem of how to get the coffin to these cremators is solved by the committal chamber; therefore, the very existence of the chamber is due to a functional expedient, and the obvious question arises: should this be the main criterion governing the search for a plan-form for these buildings?

The layout illustrated in the diagram explores the possibilities arising from not accepting the latter formulation and pursuing ideas whereby the ceremony in which the mourners are involved is complete. The suggestion is that the mode of entry into the chapel should be in itself a ceremonial act. Two things are required to achieve this: time and distance; therefore, a ceremonial route leading from the hearse to the door of the chapel is required. The distance separating these two points will be determined by the need to allow a procession to form and move in concert.

In the layout as proposed, assembly in the chapel is straight-

forward. The coffin is placed in a position of significance, related to the mourners and the minster, and prayer is conducted in the usual manner. Then the point of the service is reached where the committal is to take place, and what we are looking for is some ceremonial expressive of that moment. To bring out its full significance the act must involve the minister, the coffin and the mourners. At the same time it must solve the problem of getting the coffin to a place where one of the cremators is located. Since access to the cremators is no



road system for proposed crematoria

longer from the chapel itself, the whole assembly must move out of the chapel. This move is most important, since the act of prayer differs considerably in character from the act of committal and their juxtaposition in existing crematoria detracts from both and gives rise to the shock that many people feel.

Removing the committal to a place outside the chapel leaves the chapel solely as a place of prayer, and by the absence of the device used for removing the coffin there is nothing to distract the mourners as they pray. To preserve the individual and private aspect of the ceremony for each of the services, there should be three separate places to which an assembly can move. This would also eliminate the unhappy impression of factory-like activity inevitable if all three cremators were to be accessible from one space. There are other important advantages offered by having three spaces. Once an assembly has moved from the chapel to the place of committal, the mourners may, if they wish, stay there for any period of time up to seventy-five minutes. The chapel would also be freed for perhaps ten minutes before the following service is due. This allows any special arrangements to be made at leisure. At busy times the early or late arrival of a cortege would cause no embarrassment since a total margin of about twenty minutes has been achieved. It is obviously necessary to enclose these spaces by walls and to provide the assembly with cover. These requirements are answered by the cloistered courts shown in the plan.

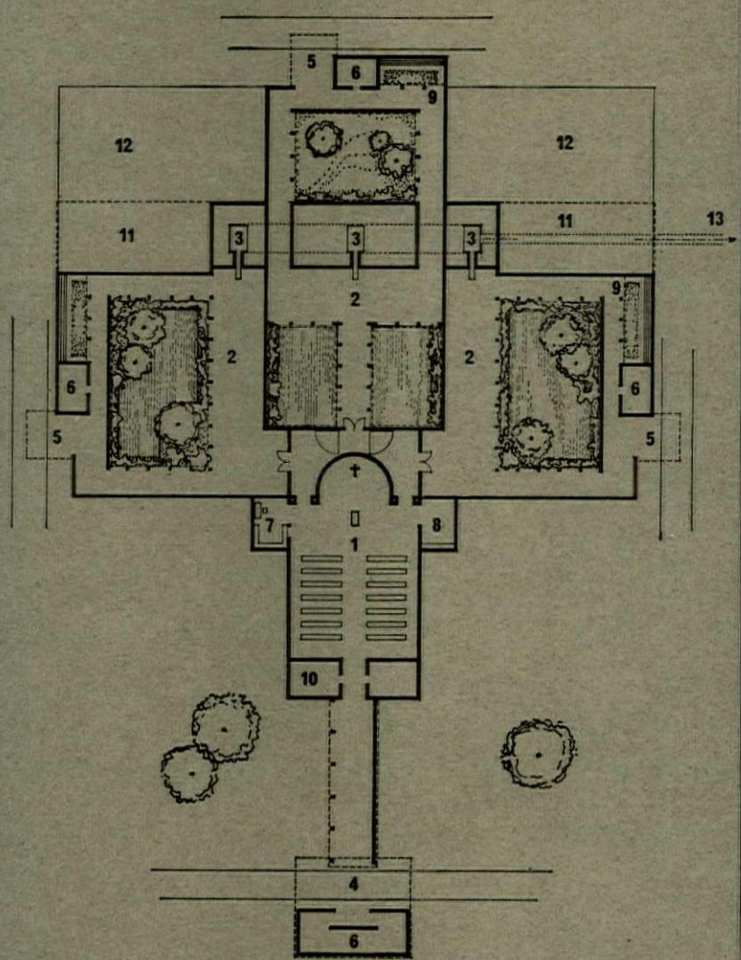
These courts also serve the purpose of providing a change in atmosphere from that of the chapel which is desirable. By passing out of the chapel into the open air there is an environmental change which can provide a certain relief, and this is enhanced by the small level of background noise from beyond the boundaries of the site together with the presence of trees, plants and perhaps running water in pools within the courts themselves. The most significant feature in this arrangement of the building is that the actual committal is no longer carried out by municipal operatives but by the minister himself. The committal is thus direct and true to the words of the service, with nothing coming between the ceremony and its fulfilment.

Views differ so violently, however, on whether or not mourners should see the coffin entering the interior of the cremator that an alternative must be provided. The plan shows a 'baffle chamber' which allows the doors of the aperture in the court to close before those into the cremator itself open to receive the coffin. If desired both can open simultaneously, and so permit a view of the coffin entering the flames. Thus the differing wishes of different people are catered for, and provision is also made for any future change of attitude that may take place in relation to this all-important question, for there is no escaping the fact that the committal of the body to the flames is the real conclusion to the ceremony and, being real, it may be valuable, however painful, that it should be faced. It is worth noting that owing to the impossibility of permitting the noise of the cremator jets to invade the essential quiet of the chapel, the evolution of the act of committal has hitherto been restricted. With the introduction of committal courts there opens up the possibility that the committal could become an act of great dignity in which the mourners would participate more fully.

There remains the problem of the need for a physical link between the cremator chambers, in order to provide access for the staff who have to operate the controls. In order that each court can be accessible from the chapel, and the mourners can leave each court separately, the link between the cremator chambers needs to be below or above ground level, and the illustration shows this link below ground to preserve the separateness of each of the courts. The road system around the buildings is a simple matter which to a large extent eliminates the possibility of one cortege meeting another, so long as there are two site entrances and the necessary administration arranged.

Here, then, we have a building in which the religious rite can be given the fullest ceremonial expression called for, and yet avoids the current dilemma of people attending crematoria who have no desire for a religious service but yet do feel the need for some dignified ceremonial. At present they are compelled to use the chapel as a place of assembly, and a number of embarrassing devices have been evolved whereby crucifixes can be hidden or taken away or, at worst, submitted to. In the suggested planform such people may come to the committal court directly without passing through the chapel. They can enter, move on a ceremonial route to a point at which committal takes place, and retire on a ceremonial route to their waiting cars.

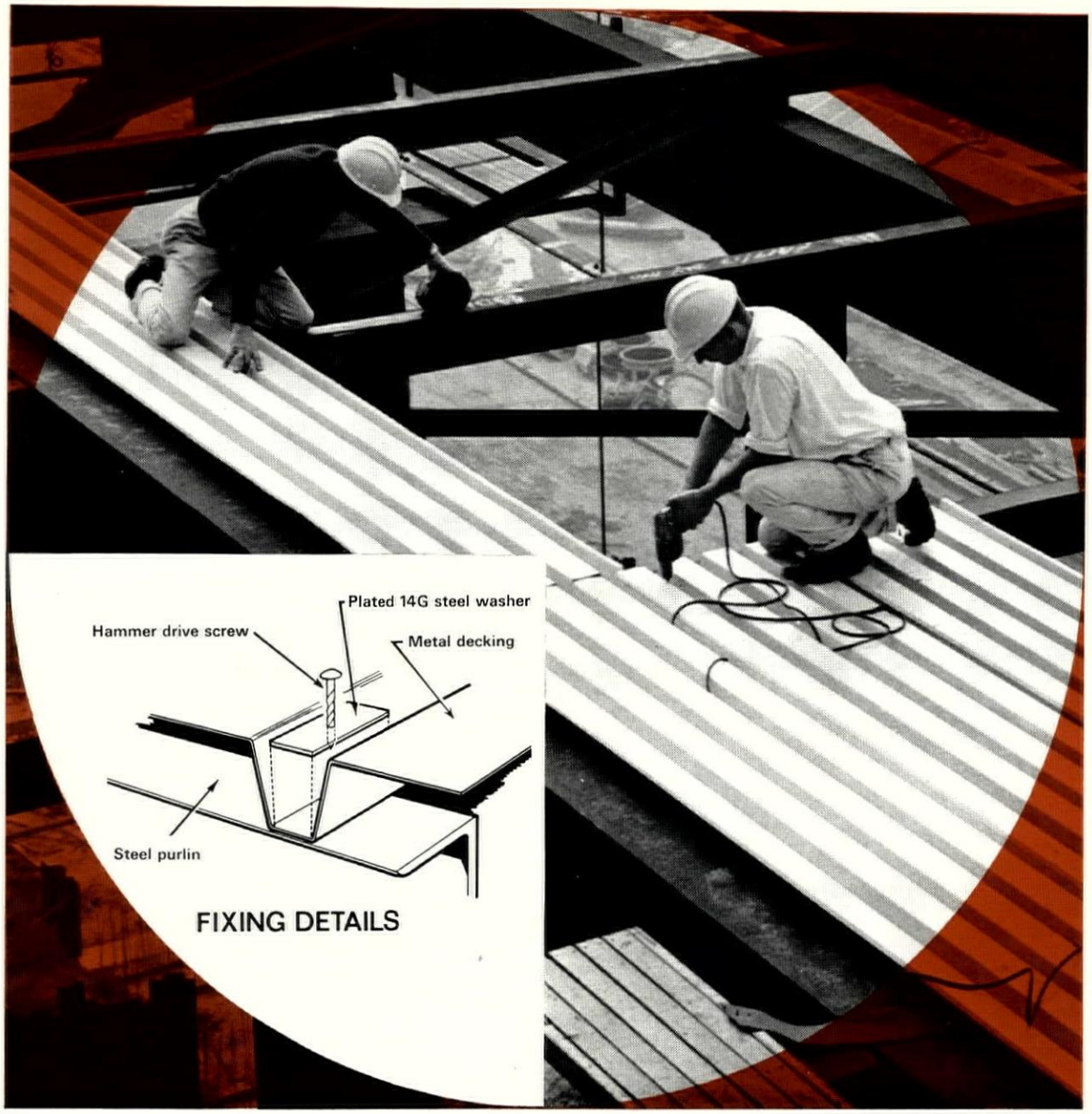
This discussion has been confined to crematoria in Great Britain because the subject, being of such subtlety, can be affected by many factors. Attitudes to death, religious and social customs, density of population, methods of administrative government, etc., which differ from one country to another may have a bearing on the particular solution found. Whatever secondary differences exist, however, the problem is in all cases essentially the same and it is hoped that this article will stimulate a search in those branches of religious and secular administration whose concern it is to see that the spiritual needs of people are satisfied.



plan of suggested arrangement of crematoria

key
1. chapel
2. committal court
3. cremators
4. entrance for Christian ceremonies
5. exits and entrances for non-Christian ceremonies
6. waiting and lavatories
7. choir and organ
8. retiring room for bearers
9. vertical flower display
10. vestry
11. service room
12. yard
13. duct to remote flue

THE CELEBRATION OF DEATH



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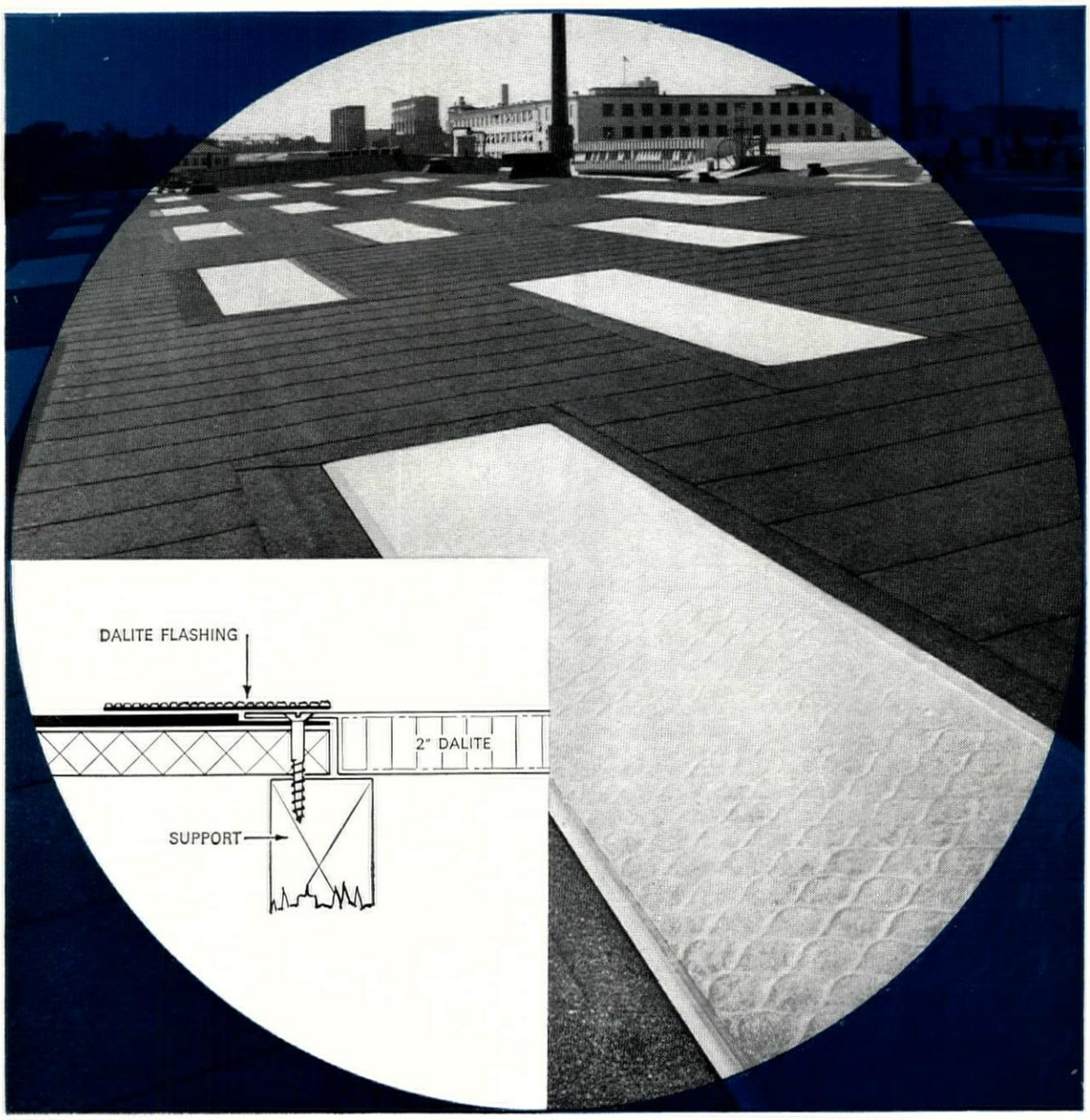

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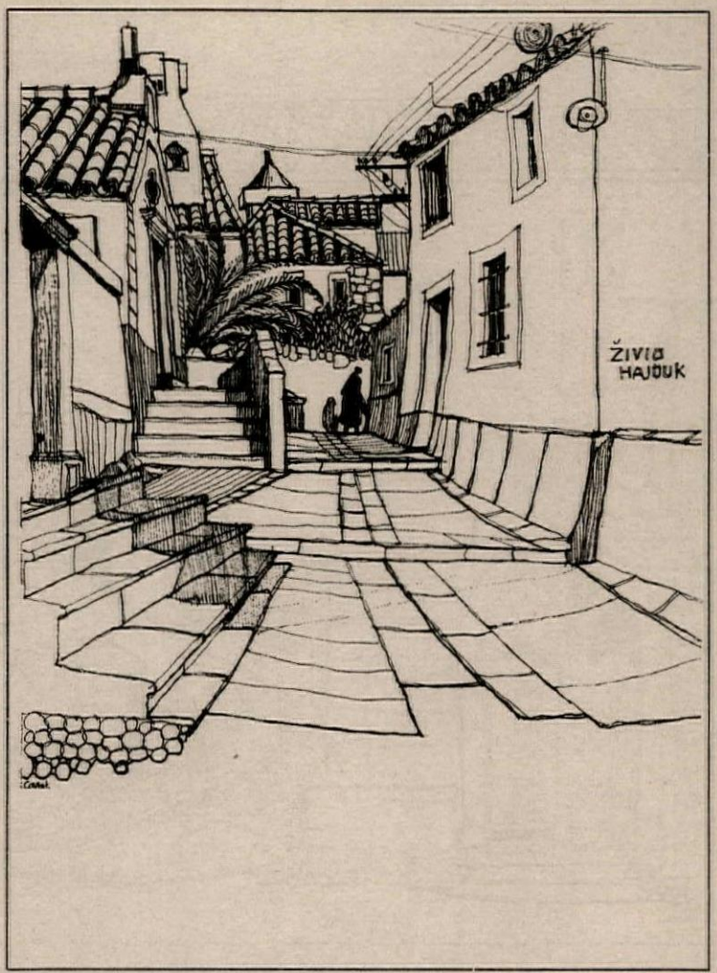
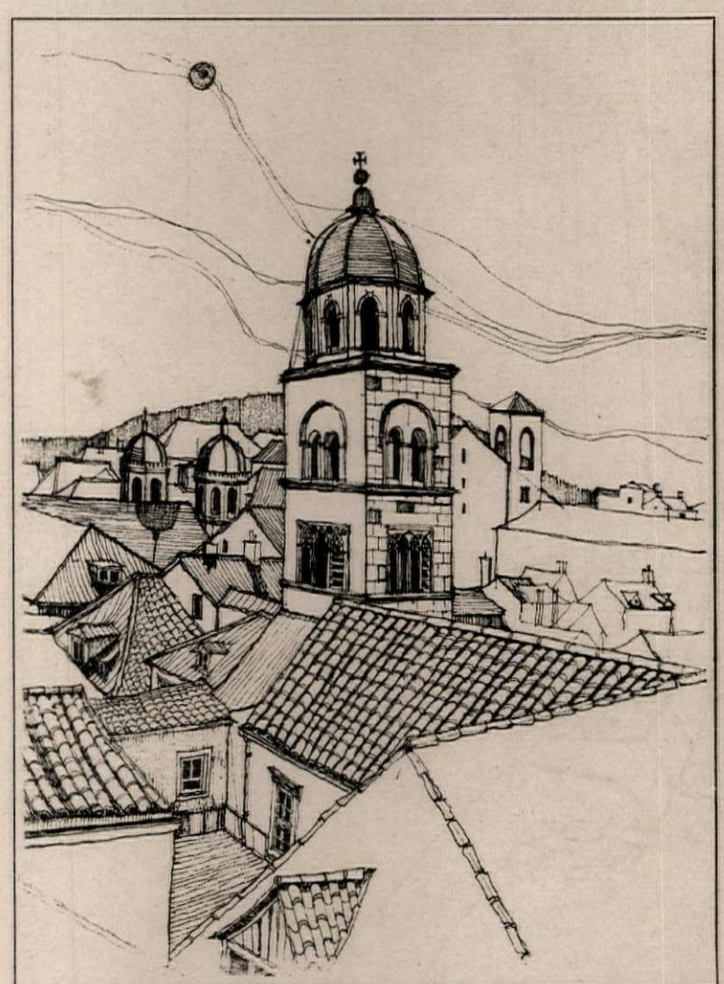
contemporary draughtsmen

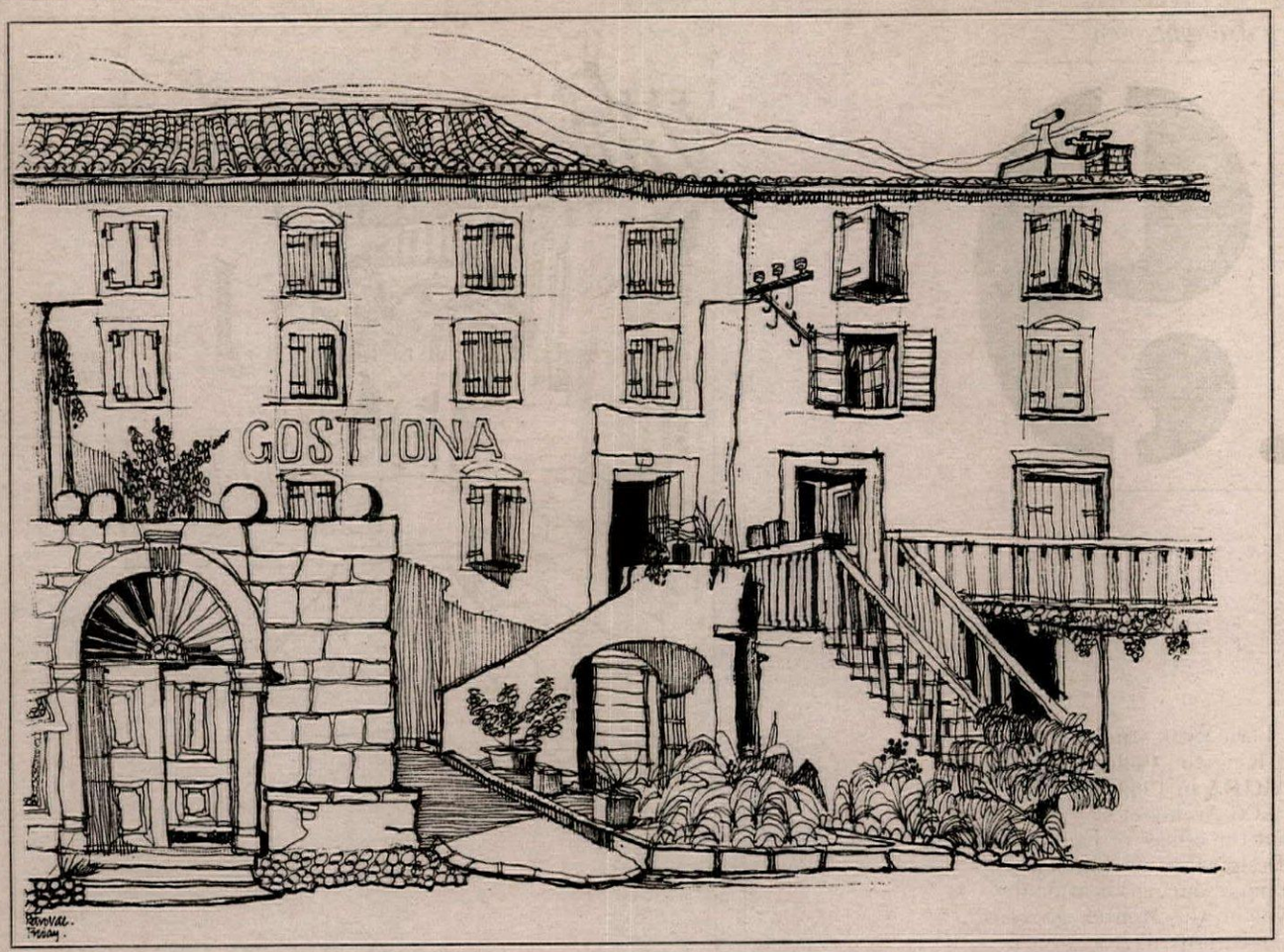
19

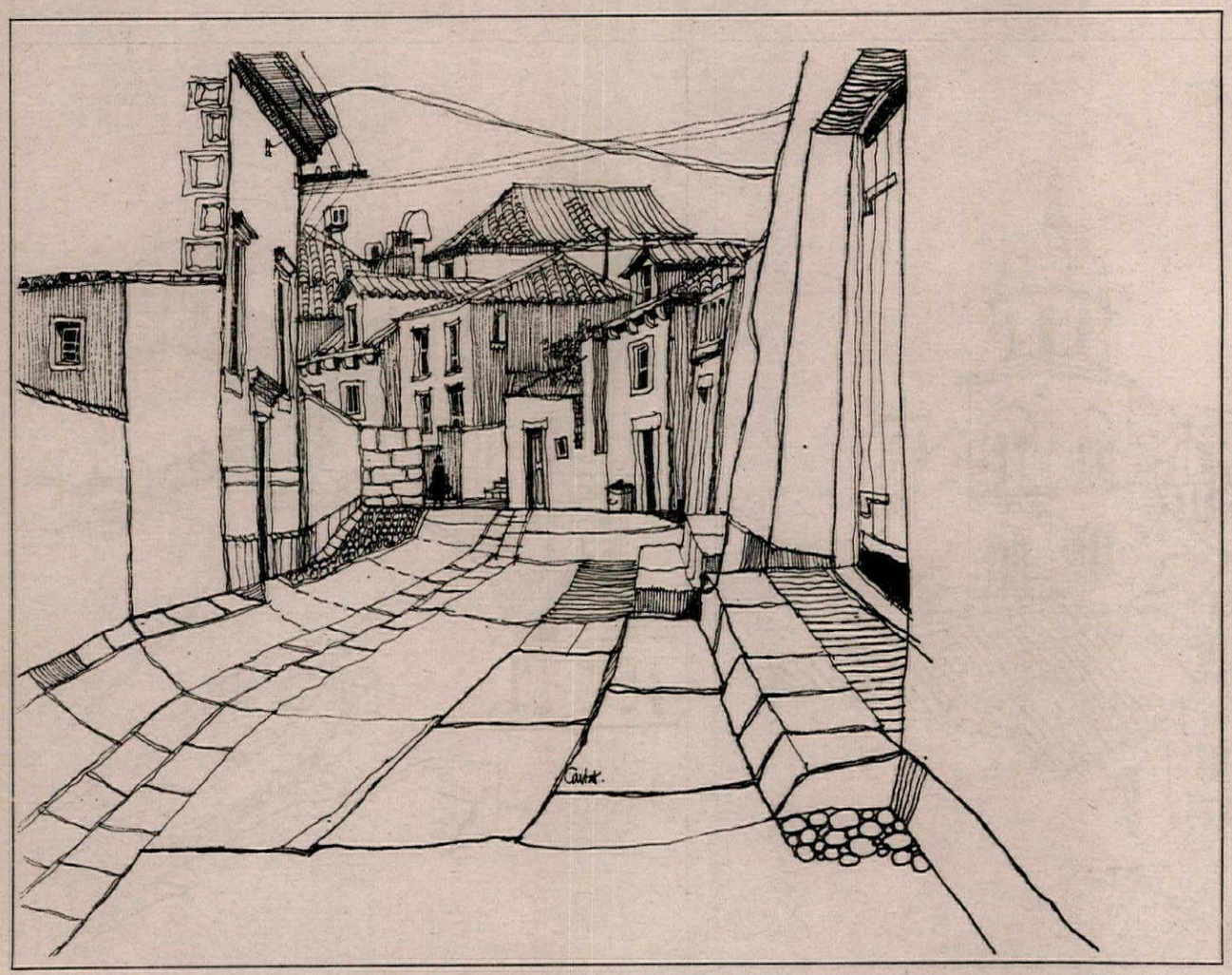
Robert Coffin

Robert Coffin, born 1939, studied architecture at Kingston College of Art, becoming an ARIBA in 1966. He has worked in the LCC Architect's Department and the offices of Eric Lyons and Building Design Partnership. These drawings were made during vocational trips to Petrovac on the Montenegro coast and Cavtat near Dubrovnik.









contemporary draughtsmen: 19 *Robert Coffin*

QUARR AND BELLOT

1, *the north-west corner of the abbey church at Quarr, seen from the cloister garth.*

MISCELLANY

One can still discover 'Pioneers' buildings in England; i.e. buildings of about 1900 looking forward, not backward. Quarr Abbey on the Isle of Wight is neither in my *Pioneers* nor in Hitchcock's PHA volume, nor has it to the best of my knowledge ever been treated from a twentieth-century point of view. Yet there is a large book on the life, the work and the architectural theory of its designer, Dom Paul Bellot.

He was a Frenchman, born in 1876, the son of an architect and trained at the Beaux Arts himself. He received his diploma in 1900, but

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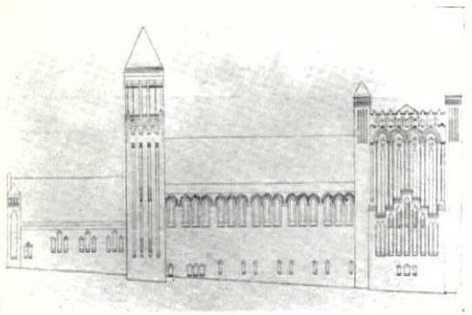
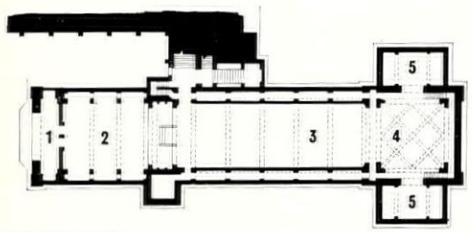


3

2, aerial view of Quarr Abbey from the south (the Solent is just off the top of the picture). 3, south elevation. 4, the monks' choir, looking west to the short and low nave. The brick, imported from Belgium, is a vividly mottled pink colour.



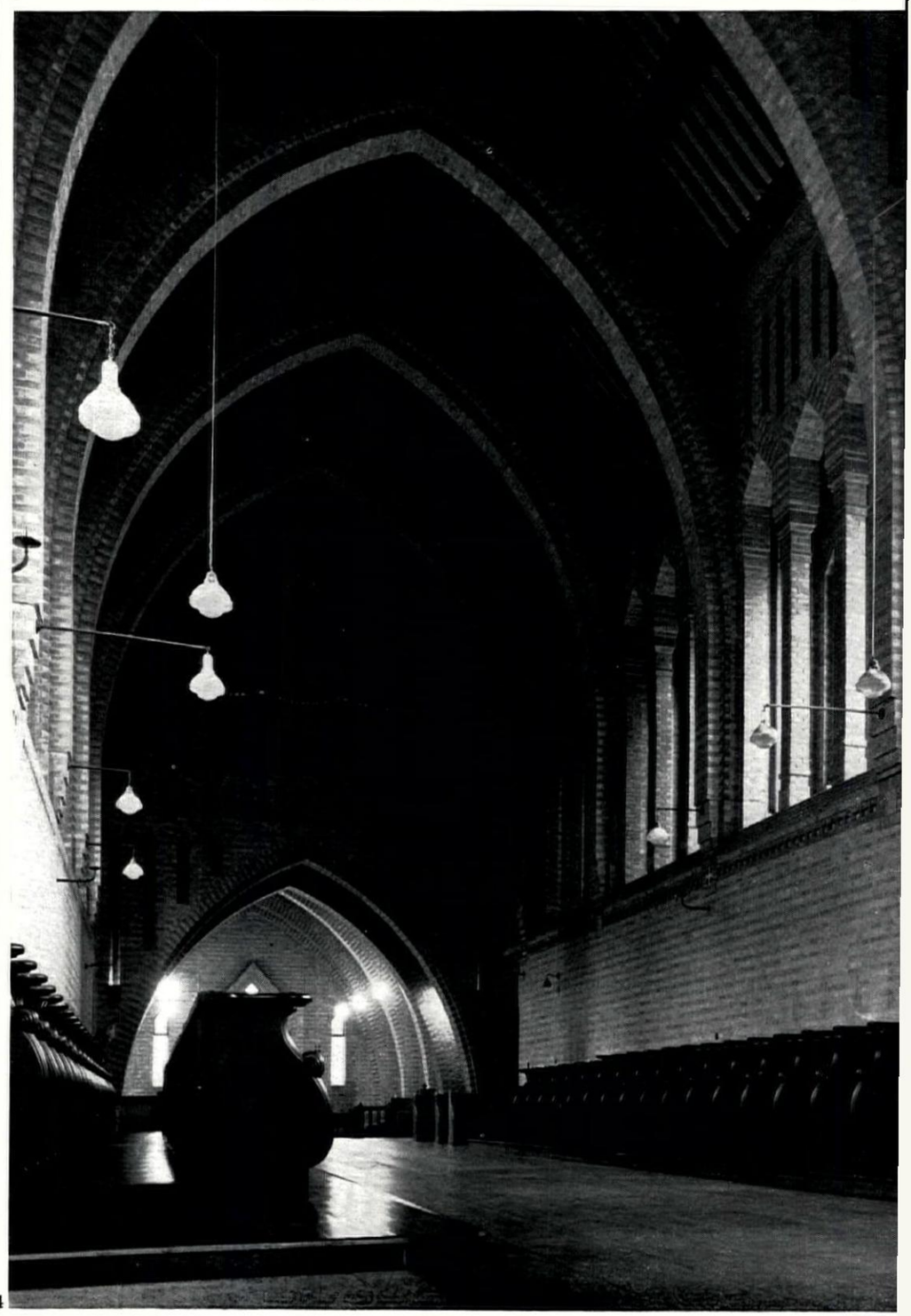
plan of Quarr Abbey

key
1, porch
2, congregation
3, monks' choir
4, sanctuary
5, chapel

entered Solesmes, head-house of a group of Benedictine abbeys. His profession as a monk took place in 1904. By that time the religious orders had been exiled from France and Solesmes had taken refuge on the Isle of Wight. They first rented Appuldurcombe, the most sumptuous English Baroque, i.e. Early Georgian, house on the island, and in 1907 moved to Quarr, the site of a medieval abbey of which only ruins remained. A Victorian house was there, but new buildings were evidently needed.

Paul Bellot had in the meantime, contrary probably to what he intended, been brought back into architecture. The monks of St. Paul de Wisques had gone to Holland and started the building of an abbey at Oosterhout in 1906. Bellot designed cells, the cloister and the chapter house. In 1907 he went to Quarr and started building there. The monastic buildings, except for church and guest-house, were ready for occupation in 1908. The church was built in 1910–12. It is as remarkable in plan as it is in elevation and total spatial effect. It consists of a short low nave without aisles, followed by a much higher choir which in its turn is followed by a tower-like square altar-space. A turret with a conical spire stands at the south-west corner of the monks' choir and forms a counterweight to the broad square altar tower. The church and the whole abbey are of brick, and Bellot used this his favourite material with virtuosity. Not only are there patterns of different colours of brick, but there are also plenty of purpose-cut bricks to form triangles and stepped triangles instead of arches, grids with lozenge openings instead of tracery and also corbels and the like. The tower space is singled out by a pattern of rib-vaulting (also in brick) of a type neither usual in England nor in France. Bellot must have come across it in illustrations of Moorish vaults at Cordoba and Toledo. It consists of a pair of diagonal ribs crossed by a lozenge of ribs connecting the middles of the four sides. It is not exactly like anything in Spain, but very obviously a variation on the Spanish theme. At Quarr the vault stands on four big pointed arches so that the lozenge starts on their apexes, a bold effect made yet more dramatic by the groups of tall slender windows on the east, north and south sides of the sanctuary appearing behind the arches, both below and above them.

As for brick patterns and brick ribs, Bellot had been fascinated by them from the very beginning. Both motifs appear already at Oosterhout, the ribbing in the form of transverse pointed arches across the chapter house. At Quarr this is the same, in the refectory as well as the chapter house. The closest parallel is Poblet in Catalonia and other Catalan buildings, monastic and secular (Tinell, and Atarazanas, Barcelona). But South French Cistercians did the same (Le Thoronet). So we can't say what inspired Bellot. The turret on the west wall of the monks' choir certainly



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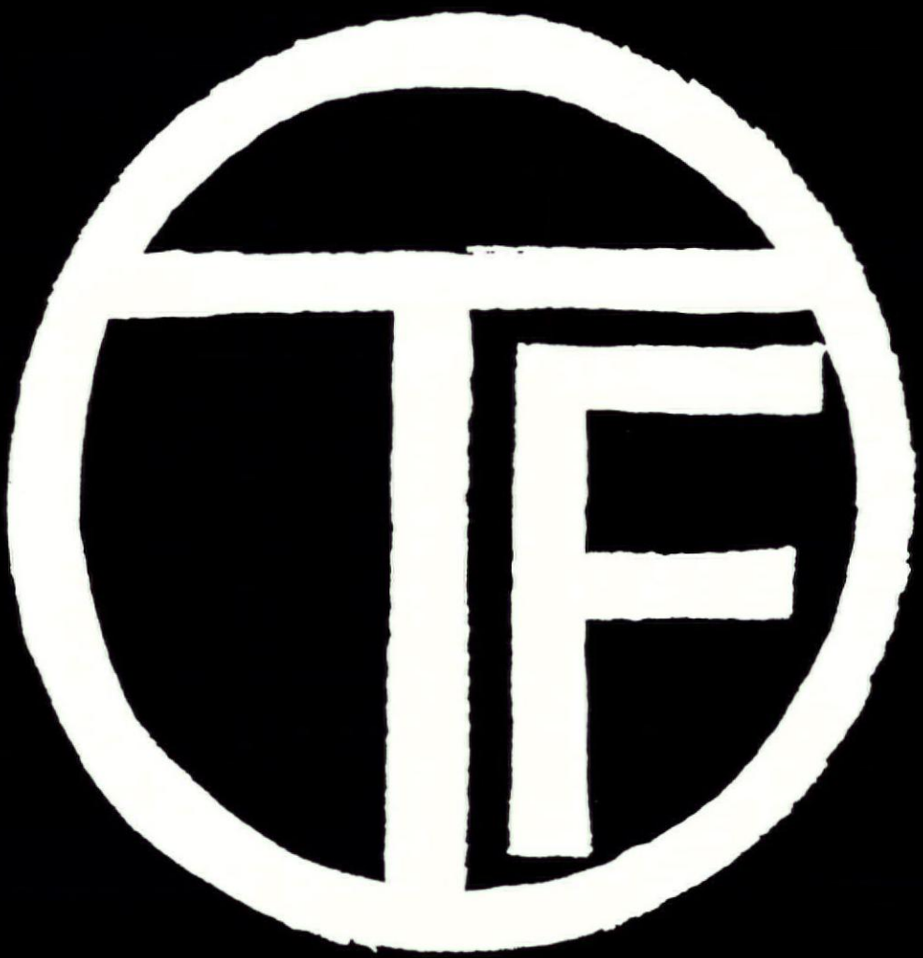

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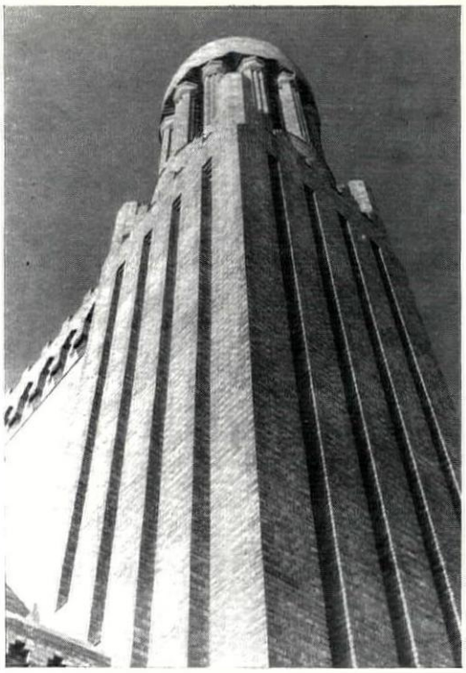

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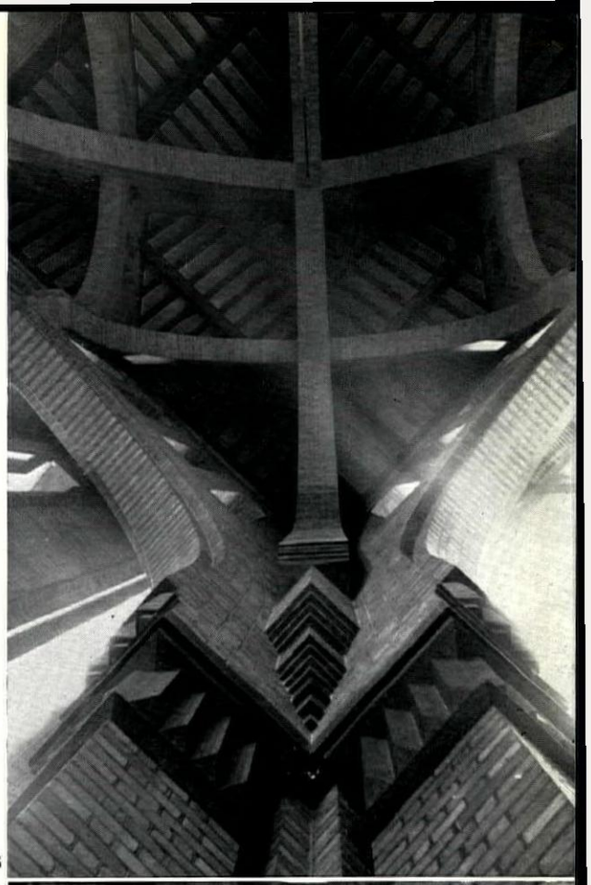

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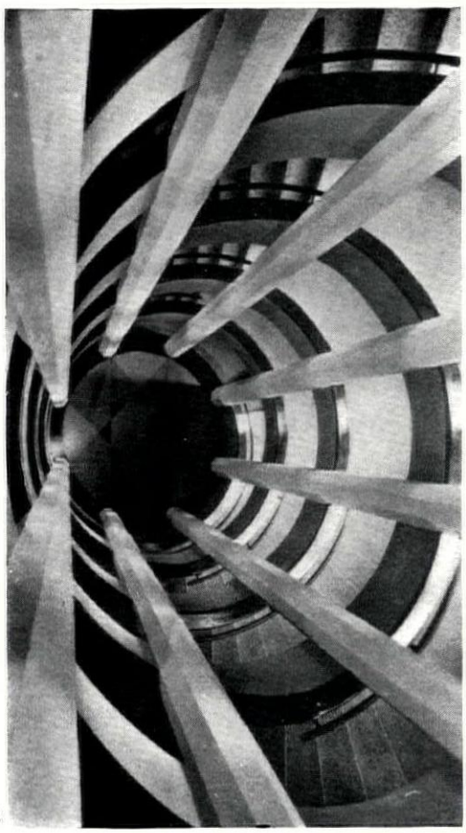
5, Quarr Abbey, the south-west tower of the church. 6, inside the sanctuary tower-space, looking up at the Moorish-influenced brick vaulting (see also the frontispiece to this issue, page 252). 7, a glimpse along the triforium passageway of the monks' choir, where Bellot's transverse arch motif is reduced to a diminutive scale. 8, a view down a staircase at one of Bellot's later works, St. Benoît du Lac in Quebec Province, Canada.

is modelled on Poitevin patterns. In the church at Noordhook in the Waal delta, which was done shortly after the First World War, Bellot went further and replaced pointed by parabolic arches. Did he know another Catalan master, and a more recent one: Gaudí? Brick decoration on the other hand was a recent French passion, and of course went on right down to the London Institut Français of 1939.



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With this Franco-Spanish inspiration Bellot stands outside the English tradition, and the English revival of essentially original and of powerful rather than accomplished churches. Yet it is at least highly curious that the very motif of pointed transverse arches stressed as strongly as at Quarr had appeared only just before in Lethaby's Brockhampton* and Prior's Roker churches, i.e. in 1901 and 1907. And since Brockhampton has also the grid with lozenges instead of tracery, might not Bellot have known about it? This cannot now be decided. But historically Quarr certainly belongs, with Brockhampton and Roker, among the most daring and successful church buildings of the early twentieth century in England.

Paul Bellot, even if he must be considered totally unknown to architectural critics and architects in England now, was not without recognition in his own day. His œuvre comprises a number of churches in Holland, Belgium and France, and in 1927 a splendid tome on it was published at Boston.† Cram thought highly of him, and in 1934 Bellot was invited to give eight lectures in Canada. In 1936 he was commissioned to complete the grand church of St. Joseph du Mont Royal at Montreal. He died in Canada in 1944.

From his lectures we learn something of the man and much of his views. He is of course concerned about Christian art and Christian architecture. His views are on the whole conventional: Christian art 'is not imitation of nature, but an analogy, the sister of nature.' The title of one of the lectures is 'The unchanging conditions of Beauty.' He admires medieval art ('No-one has ever been wiser than the architects of St. Sophia and of Vézelay or the carvers of Chartres'), but praises Greek temples as well. He was a firm believer in proportions and tells how the book by Dom Desiderius Lenz of Beuron came as a revelation to him, and then the book *Tempel-Masse* by Father Wolf. Lenz (1832–1918) was the creator of the Beuron school of art. Wolf's book operates mostly with hexagons and altogether angles of 60 degrees, and this, Bellot says, he himself did thereupon at Quarr as well, not without 'acrobatic gymnastics.'

Bellot praises Viollet-le-Duc frequently, as the restorer to due admiration of the Middle Ages. But he also blames Viollet, because he connects him with what he disliked in art and architecture of his own time. He saw this in two guises. First as *Art Nouveau* and the *fin de siècle* mood. He mentions with disapproval the 'clowns and saltimbanques whom artists liked to paint'—thinking probably of

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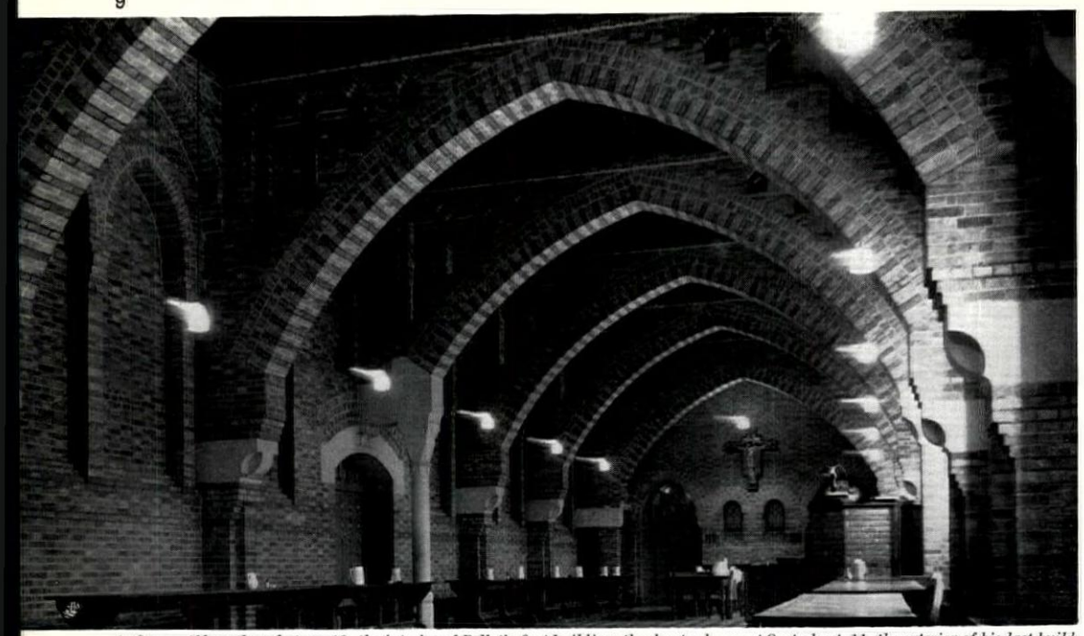
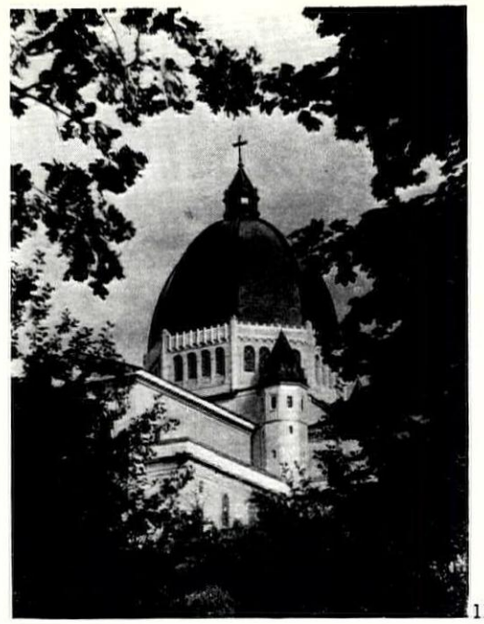
* See THE ARCHITECTURAL REVIEW, November, 1961.

† *A Modern Architectural Work* by Dom Paul Bellot, OSB, with text by H. Charlier and Maurice Storez. Marshall Jones Co., Boston 1927. *Cf.* also *L'Artisan et les Arts liturgiques*, XV, 1946, (by H. Charlier) and Cahiers d'Art, Arca, IV. *A propos d'un Batisseur du bon dieu*, Montreal, 1948 (the eight and also lectures given by Bellot). *These books and magazines were kindly made available to me by Father Paul Meyvaert, librarian at Quarr Abbey, who gave generous help throughout the preparation of this article.*

9





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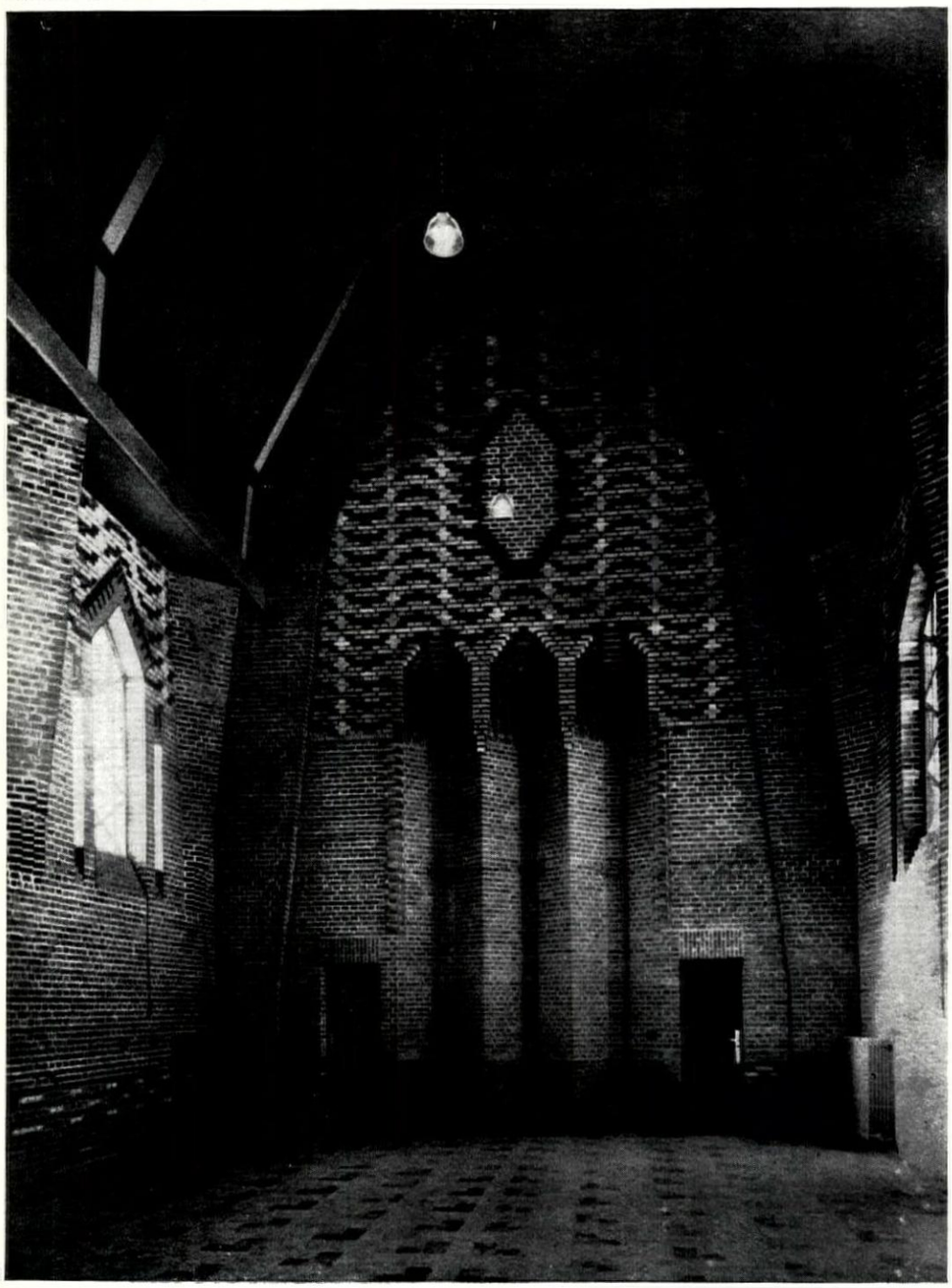
9, *Quarr Abbey, the refectory.* 10, *the interior of Bellot's first building, the chapter house at Oosterhout.* 11, *the exterior of his last building, St. Joseph du Mont Royal at Montreal.*



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Toulouse-Lautrec and possibly of early Picasso —and with stronger disapproval *'le style Guimard, architecture au macaroni'* in which he includes Lalique and Gallé. But his disapproval extended to the International Modern as well. He calls it *'une autre galère'*: 'One organizes a building for the sake of its function. Form matters little, and the laws of aesthetics and the joys of contemplation matter little too.' For this fallacy he makes Viollet-le-Duc responsible. His own solution to the crisis is 'the interpenetration of thought and feeling'—not the superimposition of 'the laws of beauty upon the laws of usefulness' but 'the turning of the laws of use.'

NIKOLAUS PEVSNER

THAXTED STUDY

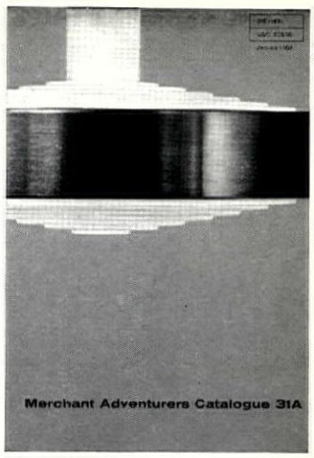
The small and historic cutlers' town of Thaxted is the subject of a recent survey carried out by Donald Insall and Associates for the Essex County Council*. Published by the County Council in conjunction with a social and economic survey made by Leslie A. Leaver, the county planning adviser, the object of Donald Insall's historical and architectural survey is to define the town's essential character, pinpoint those things which are particular to it, and show what steps are necessary if that character is to survive. How urgent such action is can be appreciated from the accompanying air view, 1, where the recent estate (at the top) is isolated from and turns its back on the existing town.

In the course of the survey, all buildings over 100 years old were examined in conjunction with the MOHLG list which is reappraised in the report and additions suggested. Many of the timber-framed buildings were found to be structurally defective and suggestions are

**Thaxted—an Historical and Architectural Survey.* Published by the Essex County Council. 25s.

lighting concepts . . .

Elegant pendants providing upward and downward illumination, and an equally pleasing appearance from above or below, are among the ranges of over 500 lighting fittings in Catalogue 31A, which illustrates some of the best ideas in tungsten lighting to-day



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made for their conservation. Townscape problems are examined and ideas put forward for additional planning control to cover standards of design, materials, grouping and street furniture, while maps show the town's principal assets: for instance, important views, areas of high landscape value and special buildings. Also defined are the areas where development could be allowed, those needing special skyline control and places requiring more detailed survey and particular care. Recommendations include setting up a planning and information centre to contain a permanent exhibition of the town's history with a photographic record of all buildings and a model of the town. The latter would be invaluable in visualizing the effect of any development proposals.

The demand for this survey originated from the town itself, through the Thaxted Society, and this has ensured particularly good co-operation. It is the kind of survey which is vital if the individual character of towns and villages is to stand any chance of survival. However, the degree of detailed information on failure and repair of structures contained here (2 is a typical sketch) would not need to be repeated in every report but could be covered by a general guide for each county. Also a closer investigation of the townscape possibilities, visualized from ground level, would be an advantage. K.B.

2


1

Wiring in the home

As this number of THE ARCHITECTURAL REVIEW *coincides with the Lighting Exhibition, this month's Skill is devoted, not to light fittings, which get regular attention (new examples are surveyed in Design Review, 299-302, and in The Industry, pages 316-320), but to the distribution of light itself and of electricity, which get little or none. Yet as Peter Jay, the author of this article, points out, the means of distribution count for much in respect both of convenience and of visual quality; and the customary arrangements are far from satisfactory.*

Skill

Applications for electricity in the home are developing much faster than techniques of wiring and, quite apart from the question of cost, it is becoming a problem to predict likely requirements and provide sufficient flexibility to avoid on the one hand a forest of adaptors and flexible cables trailing round the edge of the carpet, and on the other a mass of unused socket outlets defacing otherwise virgin walls.

In England the use of electric gadgets, like most other things, is class linked. Above a certain income level we affect to take pride in our ability to sharpen a knife or grind coffee by hand in a manner learned from our parents, or preferably when on holiday in Calabria, whereas those who cannot afford either parents or holidays in Calabria take an unaffected pleasure in having a gadget to perform these operations for them. Again, buying an electric can-opener implies the embarrassing admission of occasionally eating tinned food.

All things considered it is never wise for an architect to assume what the client's requirements for socket outlets may be, and even less wise to believe any specific requirements he may give, since he will certainly forget half the appliances he has and at the same time place extravagant hopes in others which he expects to smuggle in from America.

Types of wiring

When the electric light was first installed in stately homes the cables were very sensibly pulled into the gas pipes which were there already and wiring technique still shows signs of this practice. Apart from some altered dimensions and a greater range of accessories, conduit installations differ very little from gas piping, but there are now two alternatives available. The first, most commonly applied to private houses, is sheathed wiring in which insulated conductors are laid up together and sheathed overall either with rubber or p.v.c. Such cables are cheap and reasonably convenient when a limited number of outlets is being connected, but become rather bulky when a large number is required. The other type of wiring is m.i.c.c., in which copper conductors are enclosed in a copper tube and held in position and insulated by finely compressed magnesium oxide. The latter is virtually everlasting so long as it remains dry, and these cables have a very long life provided that the sheath is not punctured: if this does happen the insulant absorbs moisture and eventually becomes useless. Apart from this, m.i.c.c. cables require a moisture proof seal at all terminations, which is bulky and therefore makes them unsuitable for the connection of large numbers of outlets.

There have been many experiments with skirting ducting, which offers an easy passage for cables and should permit the installation of a socket at any point, and future progress may well lie in this direction. Even so trunking cannot yet be said to be popular if only because it still employs discrete socket outlets each of which has to be individually connected and altered. Slotted trunking containing busbars into which a plug can be inserted at any point has obvious attractions, apart from the question of switching. In any room there will be portable lamps and other similar appliances which must be switched from the door, and others such as fires and television sets which should be independent. None of the busbar trunkings makes provision for this, although a three bar system in which only one bar is switched should cope with the difficulty. The general acceptance of trunking of this kind also depends on the availability of a really good design, but without the assurances of large sales it is scarcely worth any manufacturer's while to invest in one.

The liberality of US practice is often quoted in discussion, but the common voltage in American homes is 110, as against the English 240. It is possible to take many more liberties with the lower voltage than the higher, depending on the death rate normally considered acceptable.

Lighting

We are bombarded with glossy literature which assures us how the cunning use of lighting can transform our homes, but most of us still have one point placed centrally (or even more maddeningly, off-centre) on an 8 ft. 3 in. high ceiling and spend many frustrating hours looking for a fitting which could conceivably be mounted on it.

At last it seems as if this practice will be abandoned not, of course, for the good reason that it is pointless and inconvenient, but because system building makes if difficult to carry cables over from a switch on the wall to an outlet on the ceiling. Alternatives are being considered of which what has been called the 'Scandinavian system,' with an outlet at high level on the wall from which cable can be run to a ceiling hook at first sight looks promising. It is only fair to add that the Scandinavians indignantly deny responsibility for the idea and it is doubtful whether it will become popular.

Other possibilities are wall brackets connected to skirting trunking referred to above, or plastic coving surrounding the door frame which can accommodate the switch, although it is not altogether clear where the wiring goes after that.

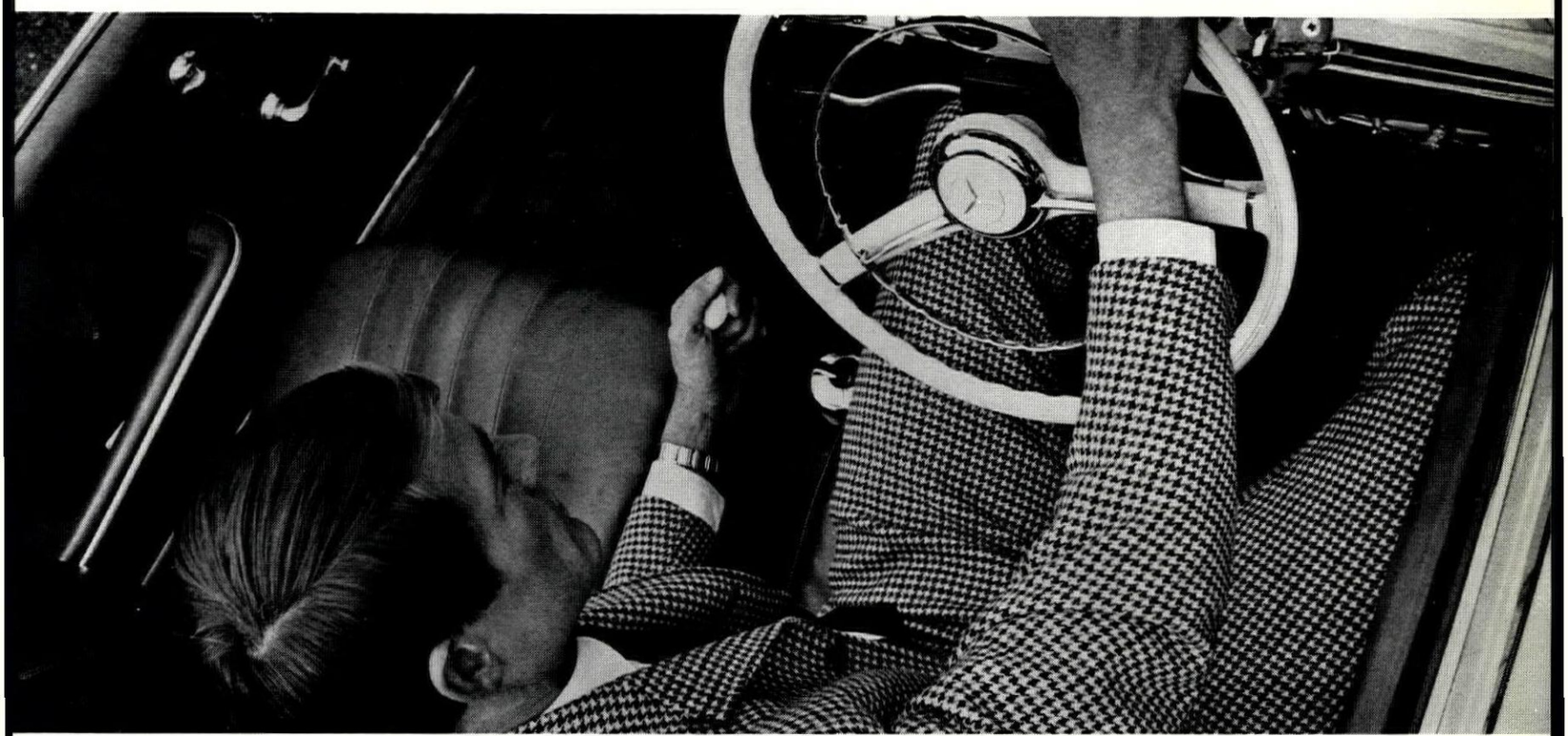
The commonest solution is to provide some sockets switched from the door and others which are not. It is convenient to use 13-amp ring circuits for the sockets which are not master switched, but if the same type of socket is to be used for those fed from the door it is necessary to employ either a single pole 30-amp switch or a double pole 20-amp switch, both of which will be very clumsy. Instead it is more convenient (for the installer) to provide 2-amp sockets switched from the door which are not interchangeable with the 13-amp type, and can be controlled by a 5-amp lighting switch. The advantage of a universal type of socket is then lost, although this need not matter if there is a sufficient number of each type.

Control

In recent months small dimmers that can be fitted to ordinary switch boxes giving smooth control of the output of lighting fittings up to 300/500 watt have come on the market. Such devices are not entirely new but the use of transistors makes them neater, cheaper and much more reliable than in the past. They are particularly valuable in lighting rooms where quite a low level of illumination may be required at night, but much more may be needed during the day to avoid a feeling of gloom when there is some, but not enough, daylight.

[continued on page 314

take a quick run through the high performance range



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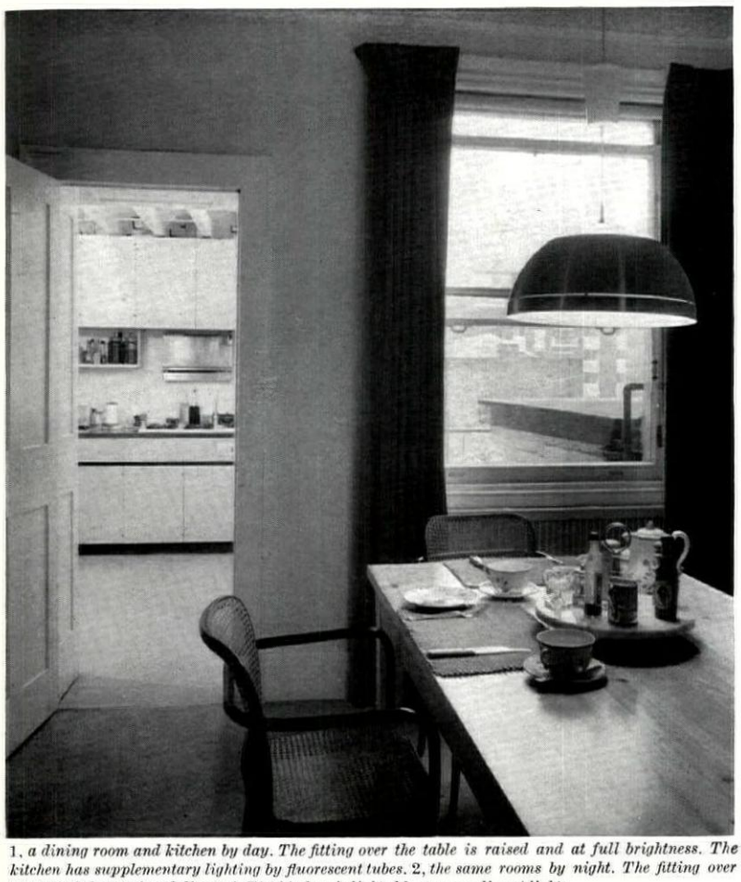
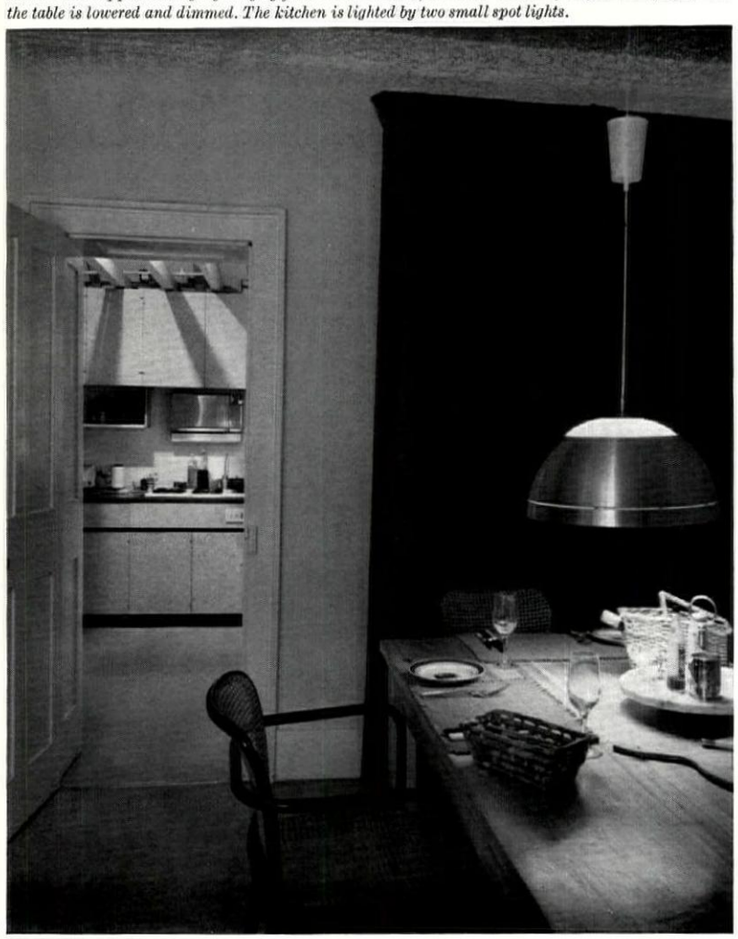
skill

continued from page 312]
The concept of permanent supplementary artificial lighting which was developed for offices and classrooms has equal importance for dwellings.

In the former case there is usually little difficulty in employing multi-lamp fluorescent fittings in which perhaps all tubes are used by day and only some at night, but in houses



1, *a dining room and kitchen by day. The fitting over the table is raised and at full brightness. The kitchen has supplementary lighting by fluorescent tubes.* 2, *the same rooms by night. The fitting over the table is lowered and dimmed. The kitchen is lighted by two small spot lights.*



3, *dressing table set in recess between fitted cupboards. The two outer spot lights are directed at the fac the two inner on to the dressing table. All spot lights are controlled by a dimmer seen on the right.*

this is rarely feasible and one fitting with a dimmer is often better, 1 and 2.

Kitchens

It is frequently suggested that the kitchen is the one place in the home where fluorescent lighting can be used and the advantage of shadow-free illumination over the cooker and sink is widely quoted. Although this kind of thing is quite suitable for preparing meals by day, at night it can be disagreeable for the housewife moving from a dim dining room into a bright kitchen and back, as she may have to do several times in the course of a meal. A small incandescent spotlight directed at the sink and another at the cooker plus one or more fluorescent tubes to give general lighting for use only by day on overcast afternoons can be more effective. At night one spotlight only can provide a pleasant atmosphere and give quite sufficient light for clearing and serving without in any way making a disagreeable contrast with the lighting of the dining room, 1 and 2.

Mirrors

Insufficient attention is normally devoted to the lighting of mirrors. 'Built-in lighting' over a mirror in the bathroom or bedroom is often arranged primarily to illuminate the surface of the mirror itself, but what really needs to be illuminated is the face of the person looking into the mirror.

A wall bracket over or beside the mirror may be clumsy and unsightly, but the solution shown in 3 has certain advantages. Two spotlights are directed obliquely at the face and two shine down the wall and highlight the dressing table. In the installation shown the spotlights are separately switched but controlled by one master dimmer so that the illumination level can be adjusted for use by day or by night. The cost of the four small spotlights, the fixed wiring and the dimmer is very much less than that of a pair of good quality table lamps that might otherwise have been placed on the dressing table.

In and through the ceiling

The use of lighting for defining spac may also be worth considering especially in entrance halls an lobbies where there may be a numbe of conflicting planes. In the cas shown in 5–8 the closed lobby imme diately over the door has bee provided with a slatted ceiling with high level of fluorescent lightin above to give an impression daylight, 4. By contrast, the lobb opening off it has two fluorescen tubes above a panel, which give a so light primarily for use at night, 5. Non of the devices shown is expensiv since they employ cheap and basi components, but all play their par in creating the impression of th internal environment.

No more fuseboards

One nuisance to which no householde need any longer be subject is repair ing fuses. A circuit breaker is a automatic switch which simply turn itself off in the event of a fault, an thereafter may be turned on again A few years ago these devices wer regarded with suspicion, but there i no longer any excuse for looking a them in this way.

The new edition of the IEE Wirin Regulations which came into force i 1966 has, for the first time, explicitl recognized that suitably chose devices such as circuit breakers an cartridge fuses permit higher rating of cables than are appropriate for th antediluvian rewirable fuses. I larger installations extra money spen on circuit breakers can therefore b partially recovered by economie elsewhere, although in houses an flats the reduction would be ver small. Even so the extra cost circuit breakers should be no mor than about £6, with great saving trouble. Cartridge fuses are just a reliable as circuit breakers, bu nobody ever keeps enough spares all the sizes in use, while the cost only a few replacements is equal t that of circuit breakers anyway.

However, there must still be fuse in 13-amp plugtops associated wit ring circuits, but because nearly a plugs are sold with the largest siz

[continued on page 31

architects and designers who specify **Crossley Carpets** are in good company

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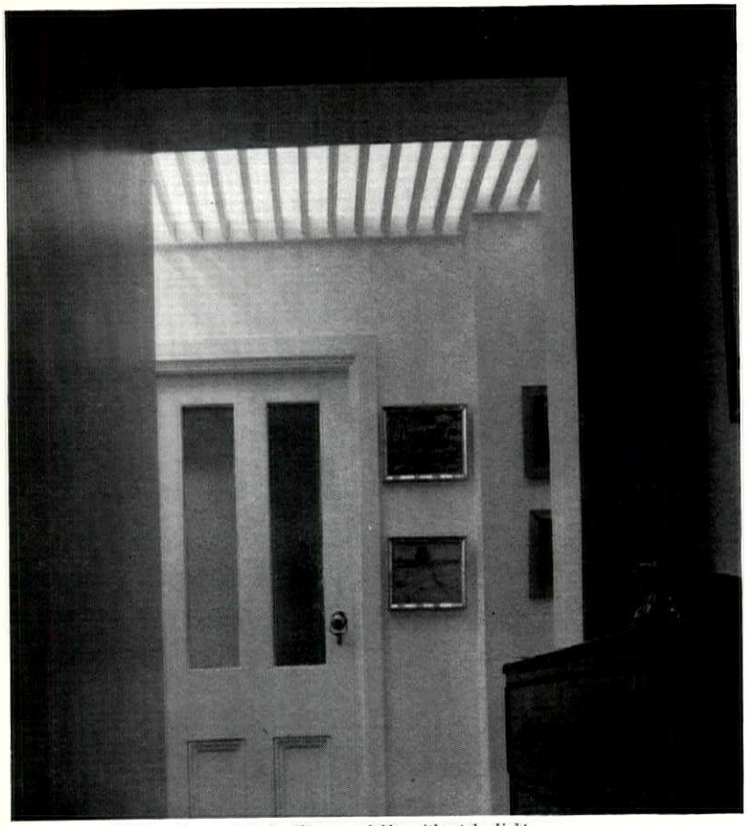
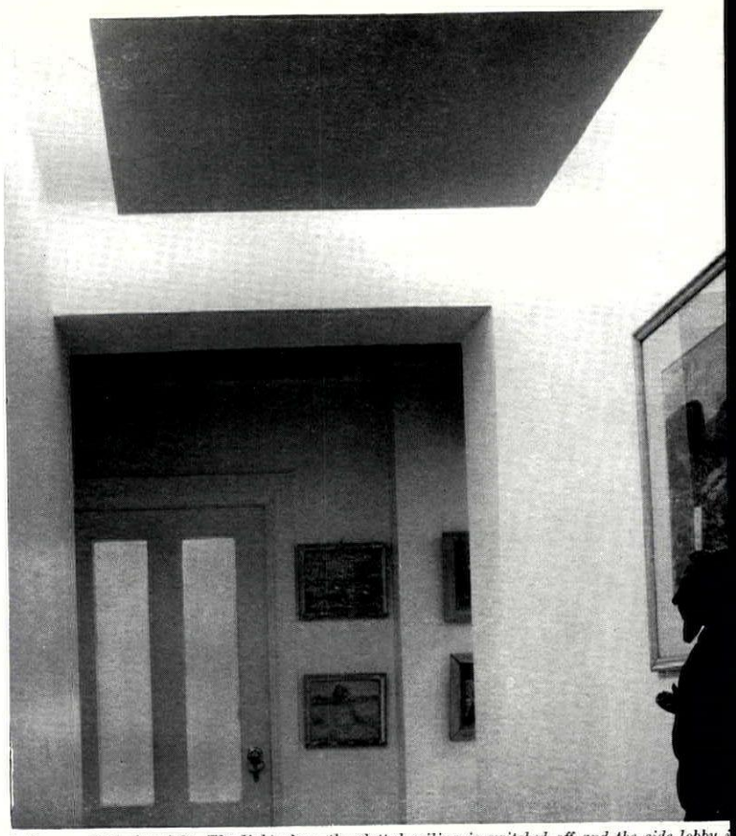


4, *fluorescent lighting above a slatted ceiling on a lobby without daylight.*

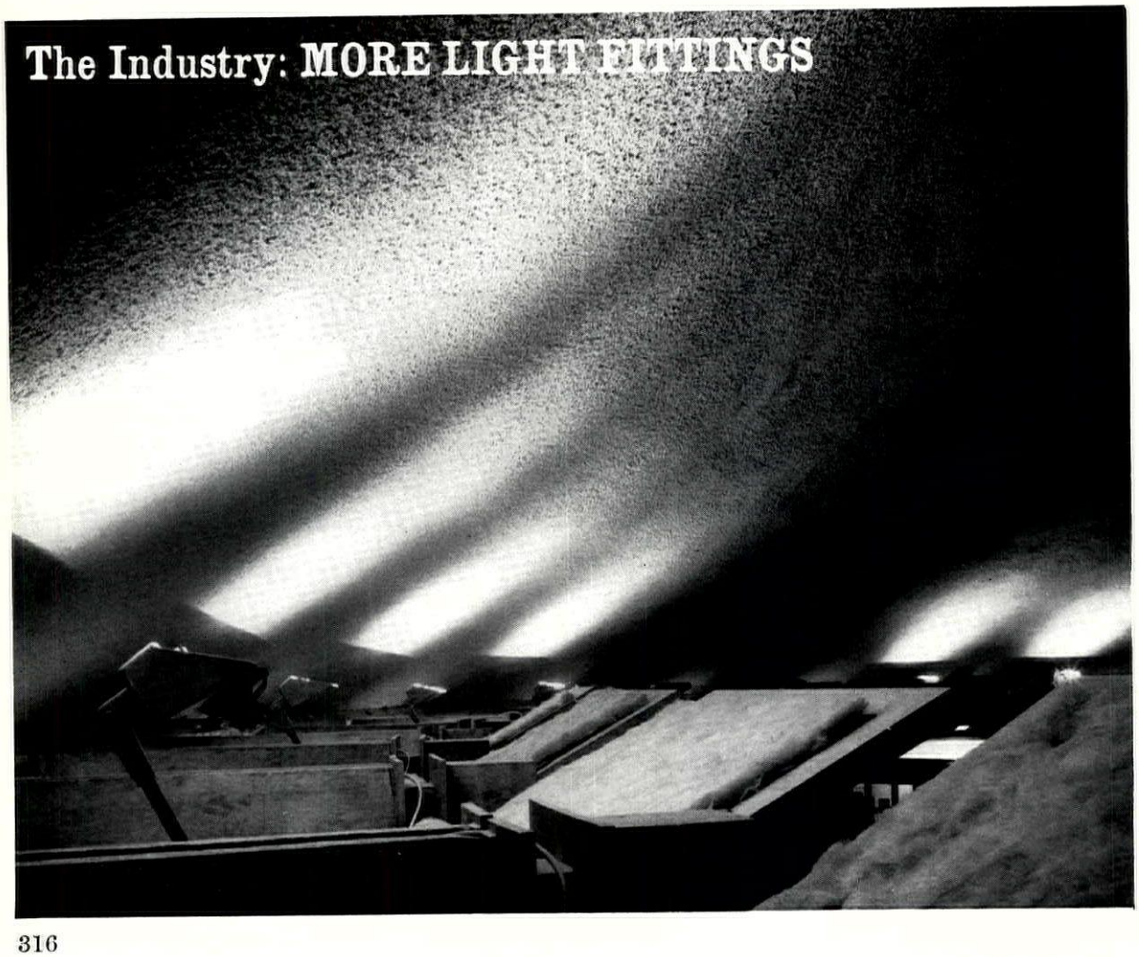


5, *the same lobby by night. The light above the slatted ceiling is switched off and the side lobby i lighted by fluorescent tubes above a dropped panel.*

continued from page 314]
of fuse already fitted it ought to be changed for small appliances such as radios and table lamps, but rarely is.

The new edition of the Regulations seeks to improve matters by reducing the number of sizes of fuse available from four (2, 5, 10 and 13 amps) to two (3 and 13 amps). This will be a help, but the matter will never be properly dealt with until it becomes an offence to sell a plugtop with the fuse fitted and the price of 3-amp fuses is made less than that of 13-amp fuses, giving a positive incentive to reduce the fuse size to the proper level

The Industry: MORE LIGHT FITTINGS



The Lighting Exhibition

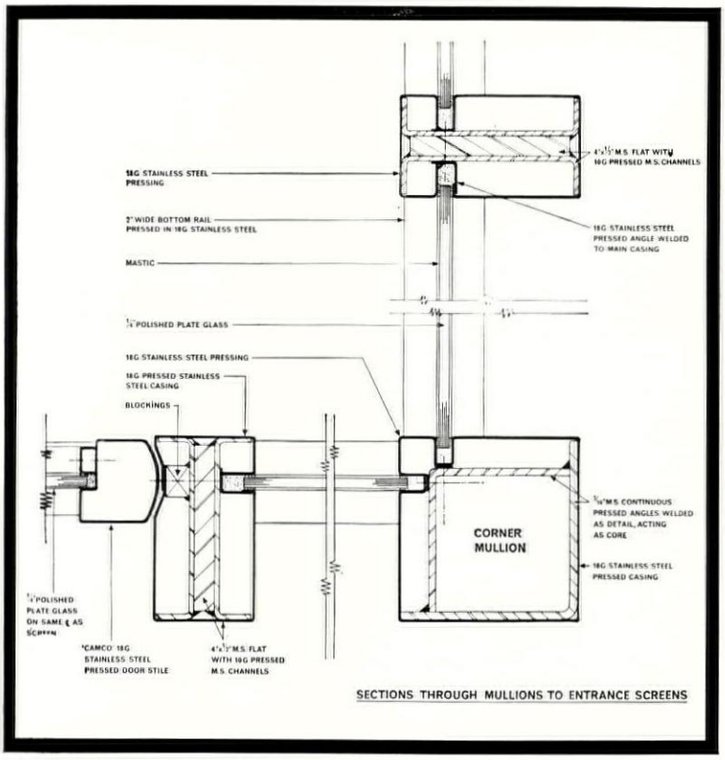
Opening at Earl's Court on the 25t of this month and running over int the first week of May, the Lightin Exhibition is sponsored by the Elec tric Light Fittings Association an forms part of the old-establishe Engineering and Marine Exhibition The show is about twice the size o the last one, held in 1965, an includes lamps and fittings of a kinds for commercial, industrial an domestic purposes, as well as fitting for street lighting, parks, airfield and open spaces of all kinds. specialist exhibition, even though may be part of a larger one, shoul serve a useful purpose, as there ar so many manufacturers of lightin fittings that it is by no means eas to compare one with another. Mos makers produce well illustrate catalogues, but it is difficult to mak a logical choice, for the pile of leaflet and handbooks, even though the may all be A4 size and SfB classifie reaches a formidable height.

The British Lighting Council has als organized a series of afternoon con ferences, with papers on such sub jects as lighting and increased pro ductivity and the designing of fi tings, and there is also a review o lighting in the United States, a which the speaker will be Richar Kelly, one of America's leading con sultants. Other principal speaker

[continued on page 31

1, Sunflood fittings by Atlas Lighting install in the chapel of Sussex University. These ar other light fittings are described on the followi pages, and also in Design Review (pages 29 302).

The Centre, Feltham. Architects: R. Seifert & Partners. Contractors: R. Costain Ltd. Stainless Steel fabrication: Culford Art Metal Ltd.



SECTIONS THROUGH MULLIONS TO ENTRANCE SCREENS

Stainless Steel

Slender 'Silver Fox' stainless steel-clad mullions have lasting elegance

The Centre at Feltham, built by Hallmark Securities and leased as shops and offices, makes admirable use of the effects which only stainless steel can create. Here, slender mullions of Silver Fox Stainless Steel are contrasted cleverly with the deep-section canopy. Consequently, the building conveys an impression of airiness and light combined with strength and structural efficiency. The main mullions to the screenwork are formed of pressed box stainless steel sections, and the doors are pressed hollow stainless steel sections. The canopy is constructed of rolled steel joists, encased in stainless steel.

SEPARATE GLAZING BEADS AND CILLS ELIMINATED

If glass has to be replaced in the screen, the stainless steel centre pad rails and head sections can be removed to allow the glass to be placed in the open rebates, and slid behind the vertical sections. This eliminates the use of separate glazing beads and cills.

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continued from page 316]
will include John Reid, Graeme Shankland, J. M. Waldram and J. S. Bonnington. The lectures will be open to all exhibition visitors and will be followed by discussions to which all visitors are invited to contribute.

Some new fittings

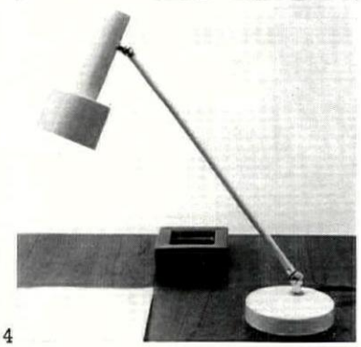
An interesting new Sunflood fitting, 1, from Atlas Lighting (Thorn House, Upper St. Martin's Lane, London, WC2) uses a 500 watt tungsten halogen lamp and gives a wide angle of light distribution from a dimpled reflector. It is small in size and is intended for external uses of all kinds in car parks, factory yards and also on building sites. The illustration shows it used in the interior of Sir Basil Spence's chapel for Sussex University to illuminate the ceiling and walls. There are thirty floods set round the conical ceiling set so that they do not show above the baffles.

The new Nova range of opal glass fittings for tungsten lamps was introduced by Atlas at the beginning of this year. The NF type, 2, has a shallow, satin etched bowl 11 in. or 15½ in. diameter for one or two 100 watt lamps. The gallery is aluminium anodized and satin polished, but the fitting can be flush mounted on low ceilings. The trim round the circumference of the glass is black.

2

The new series 707 range of frameless modular fittings by Allom Heffer (17 Montpelier Street, London, SW7) has been designed for quick fixing and easy maintenance and is made in surface and recessed mounting types. All the fittings have opal or prismatic diffusers held in position by special clips which allow them to be hinged down for re-lamping, 3, or removed altogether for cleaning. The smallest fittings are 1 ft. square to take a 25 watt lamp, the largest 8 ft. by 2 ft. to take either three or four 125 watt lamps. Special sizes can be made when required and the fittings can also be modified if they are to be used in heated ceilings. There is a further Ventlite model which incorporates the ventilation system designed by Burgess Products and has air diffusers with adjustable baffles down one or both sides. This gives virtually draughtless ventilation without any need for separate diffusers. There is also a newly introduced range of fully adjustable display fittings. These are suitable for 100 and 150 watt silvered reflector lamps and can be mounted on walls or ceilings, while the 60 watt table lamp, 4, is also made with a modified base for clamping.

There have been some recent additions to the range of lead crystal glass fittings by Clarklite Electrical (216 Kensington Park Road, London W11). These are available as single pendants or as multiple units in a range of patterns, the metalwork of the fittings being either nickel plated or brass. There are also recessed ceiling fittings, 5, at prices starting at £2 19s. 6d.



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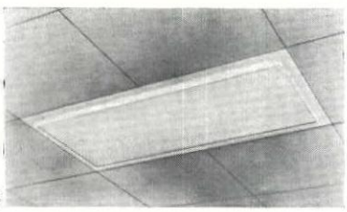

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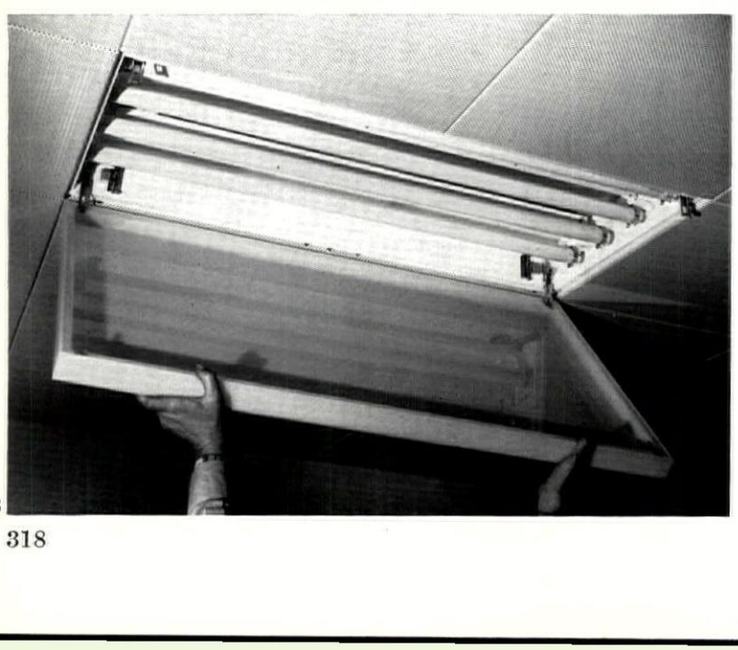


3

Almost every type of fitting outside the purely domestic sphere is listed in a new catalogue from Simplex Electric (Blythe Bridge, Stoke-on-Trent, Staffs.). These include flameproof and bulkhead fittings, factory lighting units and floodlights as well as lighting for public buildings. 6 shows a recessed fluorescent fitting, on a 2 ft. module, which is made in lengths up to 8 ft. It is designed for use with a wide range of the currently available ceiling grids and can be incorporated in multi-service suspended ceilings which provide heating, ventilating and acoustic treatment. All fittings are basically two-lamp, but can be easily fitted with three or four lamps. Diffusers are opal plastic, or have prismatic bases and opal sides: they are easily removable and are also hinged for re-lamping. The depth of the recess needed in the ceiling is only 4⅞ in.

The latest range of tungsten fittings from Falks (91 Farringdon Road, London, EC1) is intended mainly for commercial use in public buildings and offices, though many of the designs are perfectly suitable for domestic purposes. 7 shows a typical seven-light example, the same model being made with five or three lights, or as a single pendant. Many of the other fittings are designed on the same basis, and there is also a variety of other types, cylindrical, hemispherical and conical, with opal or crystal glass diffusers and shades and stove enamelled or brushed metal reflectors and shades.

Many of the fittings in the Osram GEC (East Lane, Wembley, Middlesex) range are in the low price bracket starting at about £3. The Cabaret designs, 8, are made in seven different colours and are designed to be hung in groups to make splashes of colour at selected points in restaurants and bars. The fittings take 100 watt tungsten lamps and have satin-finished aluminium canopies.

Troughton & Young (Lighting) Ltd. (Wansdown Place, Fulham Road, London, SW6) have been producing well designed fittings since the early ninteen-thirties and still keep up their high standard. One of the more interesting recent designs is a fluorescent fitting, 9, made in lengths of 2, 4 and 5 ft. This design was awarded a prize by the Royal Society of Arts and can be used in a number of different ways. It is asymmetrical in section, 10, and can be mounted on walls or ceilings, either singly or in pairs, or on the sides of beams or above mirrors. The metalwork is silver anodized aluminium with die cast end plates and an extruded plastic clip-on diffuser. There are also some new Mondolite fittings, both pendant and for ceiling mounting, made of lead crystal with a high oxide content. The profiles both inside and outside are designed to give good light distribution without glare. The top unit of this particular model, 11, is white flashed opal glass.

8

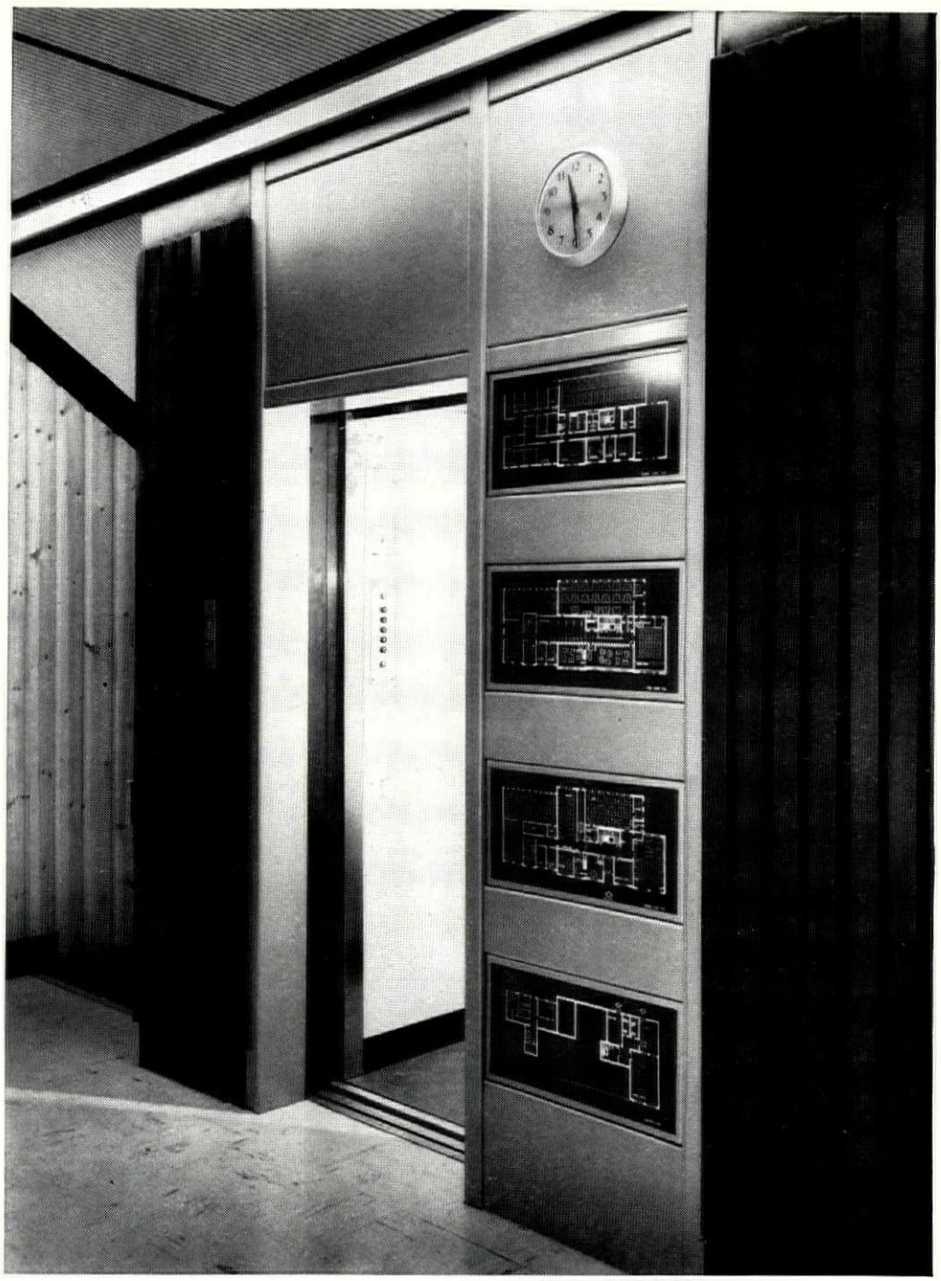
9

10

11

BBI Lighting (Telford Road, Houndmills Estate, Basingstoke, Hants) are marketing a very full range of fittings for both fluorescent and tungsten lamps. The units are of German design, but many of the parts are now being made in this country. Fluorescent fittings are made up to 4 ft. square, and are fitted with chokes guaranteed to be completely noiseless for five years. The two fittings shown, 12, are designed to take three 60 watt lamps: the nearer fitting has a satin opal glass diffuser and a body with a mirror reflector, the other has a lead crystal glass

[continued on page 320



HεC LIFTS

VERTICAL TRANSPORTATION BY

HAMMOND & CHAMPNESS LTD

School of Architecture. University of Newcastle upon Tyne. *Architect: Henry Wood & Partners*

This new lift installation is another good example of how our engineers work closely with clients. To the architect's own specific design and requirements, we installed enclosure fronts with illuminated legends giving plans of each floor, and lined the lift car with Formica, fitting stainless steel surrounds.

The lift is an eight person, two-speed passenger model with power operated doors, and push-button control; 'lift coming' indicators are on each floor, and 'car position' indicator in car. Owing to exceptional construction difficulties, the hoisting machinery was located in the basement to the side of the lift shaft...

...As you can see, we always find a way to give you the lift you want!

See Barbour Index

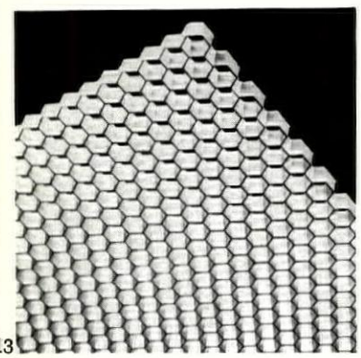
Hammond & Champness Ltd., Blackhorse Lane, London, E.17 Tel: LAR 1071

One of the Pollard Group of Companies

continued from page 318]
and the body is silvered internally. For use with various types of wall fitting there is a series of self adhesive letters, figures, direction signs and symbols made of matt black foil. These can be stuck to the glass as required after the fittings have been installed.

Courtney Pope (Electrical) Ltd. (Amhurst Park Works, Tottenham, London, N15) have for some time made a very full range of equipment for display lighting, illuminated ceilings, modular fluorescent and tungsten fittings. The firm has some

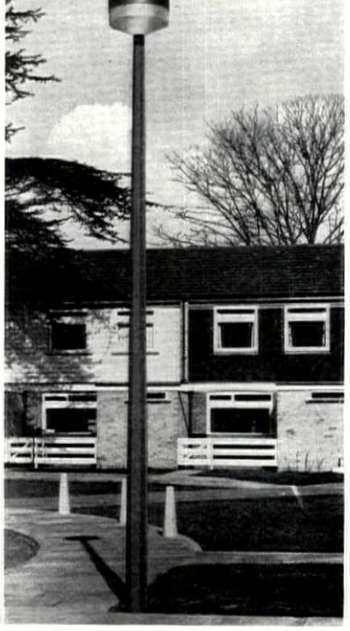

12


13

interesting louvred materials which are virtually glare free and have low brightness at illumination levels of 150 to 200 lumens/sq. ft. Parahex, 13, is an open hexagonal design in styrene, the wall of each cell being parabolic in section so that the output from the light source is reflected at an angle greater than, or equal to, the shielding angle. The hexagons have a metallic coating to act as a mirror reflector and give precise control. Finishes are specular or satin silver, or satin gold and copper, and the louvres can be made in sheets up to 4 ft. by 2 ft. There are also some good display fittings, notably a compact low-voltage 6 in. diameter spotlight with a 48 watt tungsten iodine


14


15


16

lamp, 14, the body of the lamp housing the necessary transformer. Wall bracket and body are finished in blue and off white.

Merchant Adventurers (Hampton Road West, Feltham, Middlesex) have a new Trimline 1020 range which contains a number of pendant, wall and ceiling fittings at surprisingly low prices. (see Design Review, page 301). In the same series is the Ledu spring counterpoised lamp, 15. This has a reach of 40 in. and is made with various wall brackets and bases for clamping to drawing boards or desks.

Well-designed road lighting standards are not always easy to find, but Concrete Utilities Ltd. (Great Amwell, Ware, Herts.) have a number of types, four of which have received COID awards. The type shown, 16, is the Liteway, in prestressed spun concrete with a lantern height of 15 ft. It can be supplied with a slate grey, green or yellow finish, or with a choice of several smooth ground granite aggregates. The column is a 6 in. octagon at ground level, tapering to $3\frac{5}{8}$ in. at the top.

Contractors etc

Cinema, Elephant and Castle, London. *Architect:* Ernö Goldfinger. *General contractor:* Tersons Ltd. *Sub-contractors: Grouting to cable anchorages:* The Cementation Co. *Blasting concrete:* Demex Ltd. *Plumbing drainage:* G. N. Haden & Sons. *Formwork:* Humphreys Ltd. *Glazing:* Pearson Pugh Ltd. *Plastering and paving:* Plastering Ltd. *Sewer connection:* D. R. Paterson Ltd. *Coloured glazing, glazed enclosures and doors:* Robinson King & Co. *Grouting and ducts:* E. Reader & Sons. *Rod reinforcement:* The Rom River Co. *Suspended ceilings, plasterwork: to radius walls:* Steel Bracketing & Lathing Ltd. *Scaffolding:* Steel Scaffolding Co. *Steelwork:* Lindsays Paddington Ironworks (1948) Ltd. *Mosaic finishings and terrazzo:* Alpha Mosaic & Terrazzo & Co. *Electrical work:* Alliance Electrical Co. *Asphalt:* Amalgamated Asphalte Companies. *Siporex roof units:* Costain Concrete Co. *Re-positioning chamber:* City Telephone Area London. *Supply to transformer room:* London Electricity Board. *Heating, electrical and ventilation:* G. N. Haden & Sons. *Granite and marble:* Marmi (England) Ltd. *Fire hydrant:* Metropolitan Water Board. *Structural steelwork:* Octavius Atkinson & Sons. *Acoustic ceilings:* Roof & Lining Construction Ltd. *Gas installation:* South Eastern Gas Board. *Balustrades:* The Wessex Guild Ltd. *Steel doors:* The Bolton Gate Co. *Expansion jointing:* F. Brooks Ltd. *Aluminium cladding:* A. W. Banks Roofing Ltd. *Painting:* A. Bagnall & Sons. *Fibreglass fins to the walls of auditorium:* Balclutha Ltd. *External signs:* Knight Electrics (Neon) Ltd. *Internal marble cladding:* Marmi (England) Ltd. *Projection room ceiling:* Roof & Lining Construction Ltd. *Electrical installation:* Alliance Electrical Co. *Readograph box and louvre ventilators:* Triple HK Engineering Ltd. *General contractor for fitting out interior:* Stephen Easten Ltd. *Sub-contractors: Painting and carpet-hanging:* A. Ghilchrist & Sons. *Scaffolding:* Mills Scaffold Co.

Crematorium, Edinburgh. *Architects:* Sir Basil Spence, Glover and Ferguson, in association with Alexander Steele (City Architect). *General contractor:* W. & J. R. Watson Ltd. *Sub-contractors: Piling:* The Cementation Co. *Precast concrete:* Samuel Tyzack & Co. *Plaster and cement:* Peter Walker & Son (Edinburgh). *Heating:* G. N. Haden & Sons. *Electrical:* James Scott & Co. *Plumbing and zinc roofing:* P. Blackhall & Son. *Road asphalt and felt roofing:* Limmer & Trinidad Lake Asphalt Co. *Glazing:* James Thow Ltd. *Metal windows:* Standard MacLean Ltd. *Architectural metalwork:* Charles Henshaw & Sons. *Smithwork:* William Nichol & Sons. *Ironmongery:* N. F. Ramsay & Co. *Flooring:* Dunlop-Semtex Ltd. *Acoustic ceiling:* R. F. Morrison & Co. *Laminated timber beams:* Muirhead & Sons. *Refrigeration:* Central Refrigeration Ltd. *Mosaic painter:* Toffolo Jackson & Co. *Painter:* Neil Nicholson. *Cremators and associated equipment:* Dowson & Mason Ltd. *Pipe organ:* Harrison & Harrison. *Electric organ:* Rae Macintosh & Co. *Memorial books:* A. C. Foley, Hulton Studio. *Lecterns and cross:* Heggie & Aitchison Ltd.

Housing, Kirkcaldy, Scotland. *Architects:* Wheeler and Sproson. *General contractor:* R. Pert & Sons. *Sub-contractors: Floor screeding:* Wm. Kenyon & Sons. *Thermoplastic floor tiling:* Rowen & Bowden Ltd. *Metal railings:* Robert Gourlay. *Excavation, etc.:* Sportsworks Ltd. *Wood windows:* Allan Bros. *Ironmongery:* Bell-Donaldson & Co. *Stair handrails:* The Marley Tile Co. *Steel reinforcement:* The Square Grip Reinforcement Co. *Roughcast work:* Alex. Birrell (Kirkcaldy) Ltd. *Plaster work:* Peter Kelly & Sons. *Tile and terrazzo work:* Toffolo, Jackson & Co. *Glazier work:* James Thow Ltd. *Painter work:* Neil Nicholson & Co. *Pre-stressed concrete floors and balustrade panels:* Concrete Ltd. *Bituminous felt roofing and asphalt work:* Wm. Briggs & Sons.

Jeweller's Shop, Jermyn Street, London. *Architects:* G. H. and G. P. Grima. *General contractor:* PM Designs Ltd. *Sub-contractors: Electrical:* J. J. Wise & J. Everett. *Burglar alarm:* Electrical Protection Service. *Scaffolding:* Big Ben Scaffolding Ltd. *Brickwork:* D. Parsons. *False ceiling:* BCL Ltd. *Tyrolean ceiling:* E. E. Cheeseman & Sons. *Metalwork:* JRF Panels. *Locks:* Bramah Locks Ltd. *Furniture:* R. Benbow & Co. *Air conditioning:* Barnet Refrigeration Ltd. *Carpets:* Turberville Smith & Sons. *Glazing:* James Clarke & Eaton. *Timber mouldings:* Charles Plowman Ltd. *Automatic door fittings:* Automatic Doors Ltd. *Steelwork:* Stewarts & Lloyds Ltd. *Lighting:* Atlas Lighting Ltd. *Brickwork:* Williamson Cliff Products Ltd. *Marble:* Marble Products Ltd. *Ironmongery:* Yannedis & Co.

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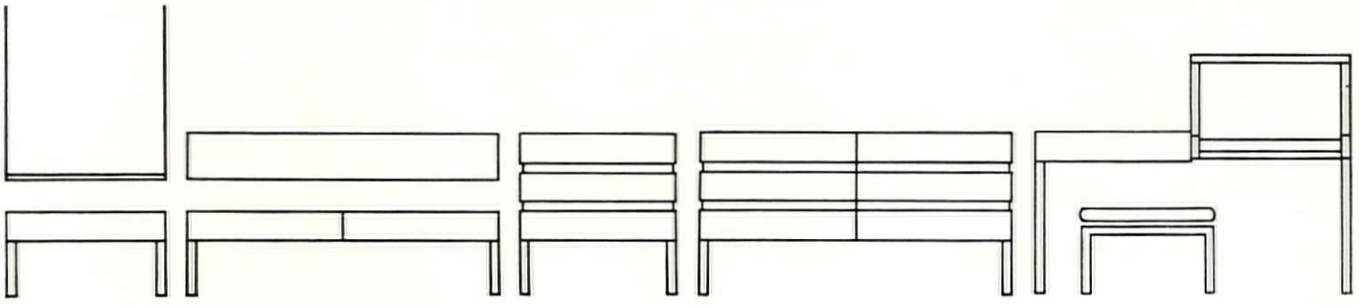


Ian Nairn

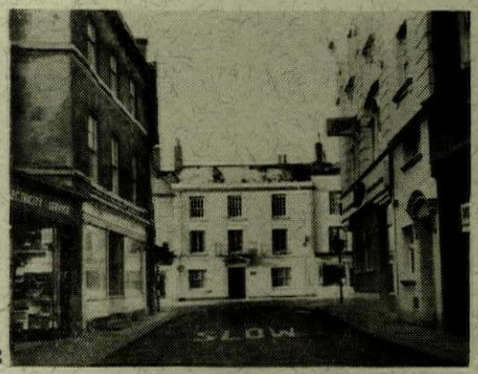
STOP PRESS

A monthly anthology from all over Britain of townscape problems, outrages and opportunities, compiled by Ian Nairn.

S.O.S.

PORTSMOUTH
A long-term plea for the most elaborate of the Brickwood's pub fronts: the Hearts of Oak in Commercial Road, 1. Not yet in danger, but on the edge of a clearance area; many other Brickwood pubs seem to have an uncertain future. Yet, collectively, the fascia decoration in tiles or painted lettering is the best thing that Portsmouth has.

DEVIZES
Two empty buildings in one of the best country towns in England. One closes the



2

view at the end of one of the main streets 2, the other with its bay window, 3, is an essential component of the street sequence down to St. John's Church, 4 —again, one of the best of its kind in the country. In cases like this it is better to be safe than sorry, especially as...

OUTRAGE

... this is what happens in Devizes when an old building is remodelled, 5.

THE LYE, STOURBRIDGE, WORCS
The same old story of disconnected units, 6 and 7, sent to us as a Press release, presumably for praise rather than blame. To quote: "The new development, perched like a citadel on a steeply sloping 8-acre site with commanding views, has changed the look of what was an obsolete area—once known as 'Waste Bank'—and which accommodated some 80 old-fashioned dwellings. The dwellings were in many cases very well maintained,

1


3


4

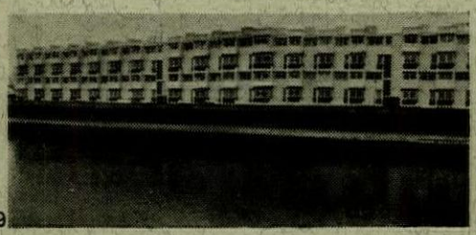
5

but they were obsolescent and the road pattern was irregular and confined and there was an indescribable inter-mixture of residential, commercial, industrial and other uses."
If many were well maintained, why were they pulled down? Was the 'indescribable inter-mixture' just possibly a worthwhile fabric to live in? Did the new development—by Wates, consultants Jackson & Edmonds—have to be so mediocre?

6

NEAR WHITBY, YORKS
A jolly new structure for a national park, on the Whitby-Gainsborough road at Scaling Dam, 8. Courtesy of the Tees Valley Water Board; what price elegance at Cow Green, after this?

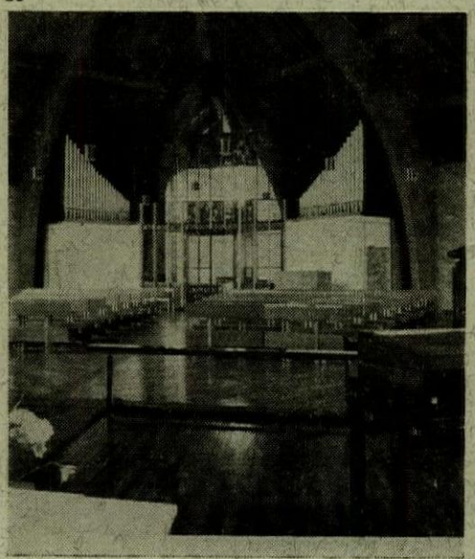
PADDINGTON, LONDON.
The kind of design that has been thought suitable for the blocks overlooking the canal at Blomfield Road, 9. Little Venice, it is called; Little Salford might be more apt; and even at that it is a slander on a decent Lancashire town.

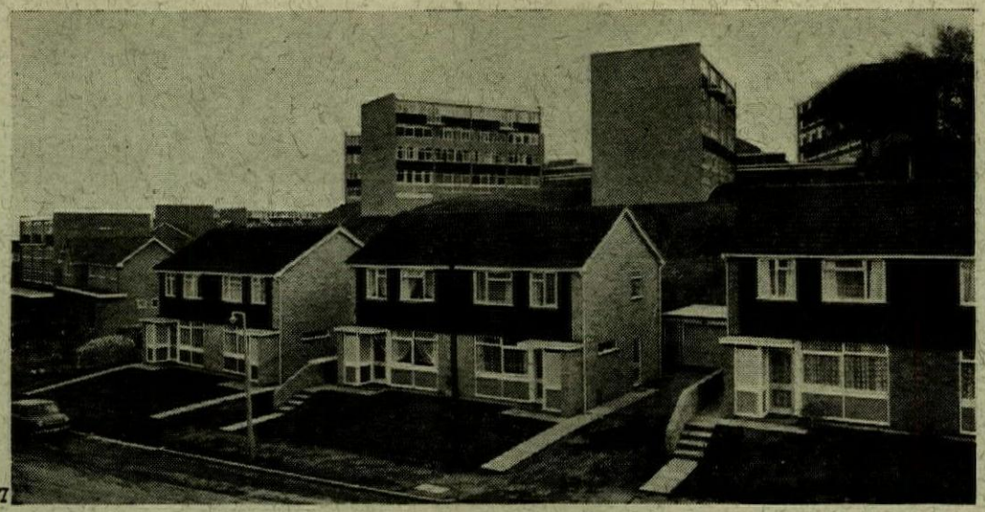


9

LIVERPOOL
The final chapters in the story of St. Mary Anfield (AR, June, 1963 and January, 1965). Victorian certainly has been replaced by pusillanimous doubt, and doubt without any worthwhile Mannerism to express it. This feeble replacement, 10 and 11, makes the original decision to demolish the ruins all the more odd: why couldn't they have been kept and a smaller church built inside them, like Hawksmoor's St. George-in-the-East?

10





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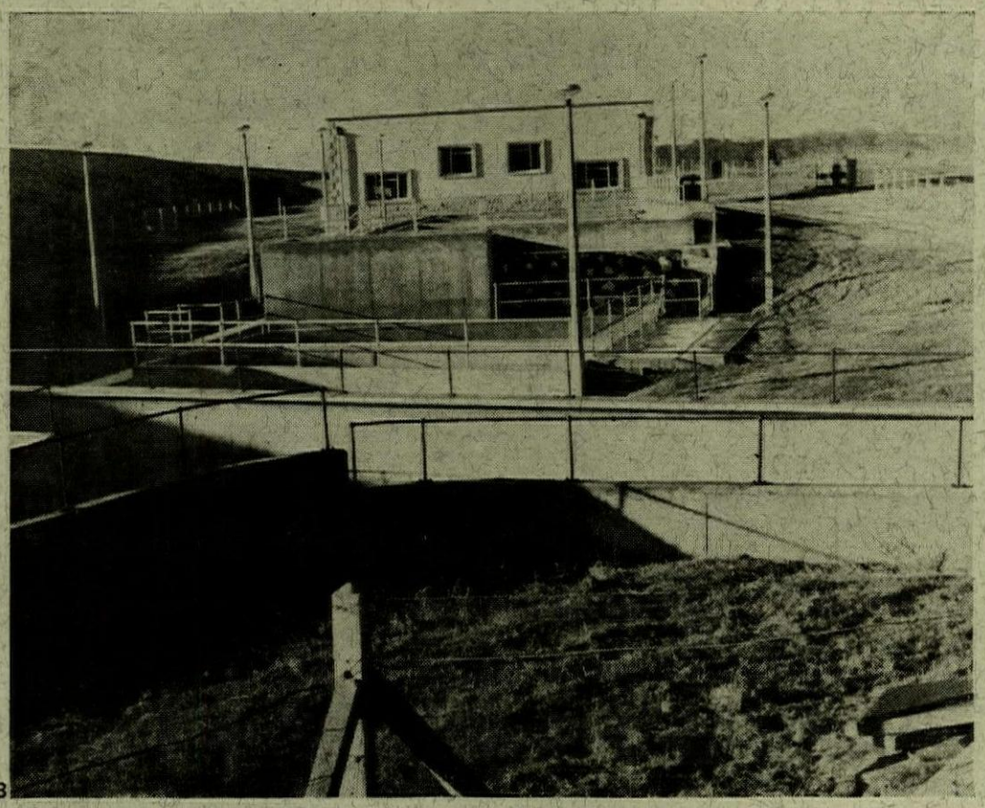

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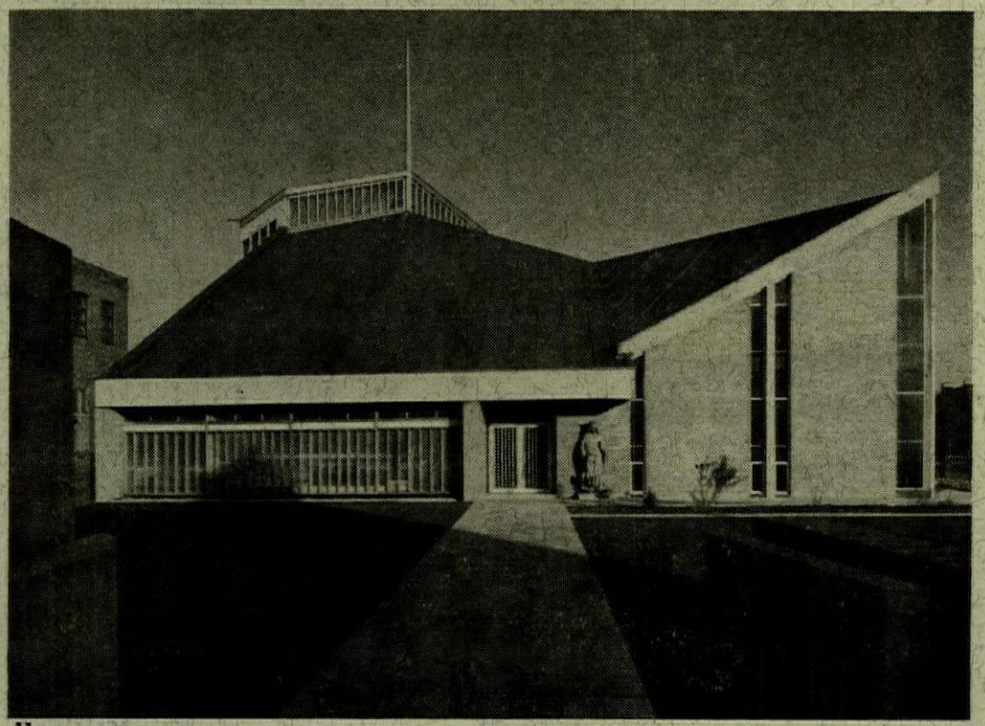

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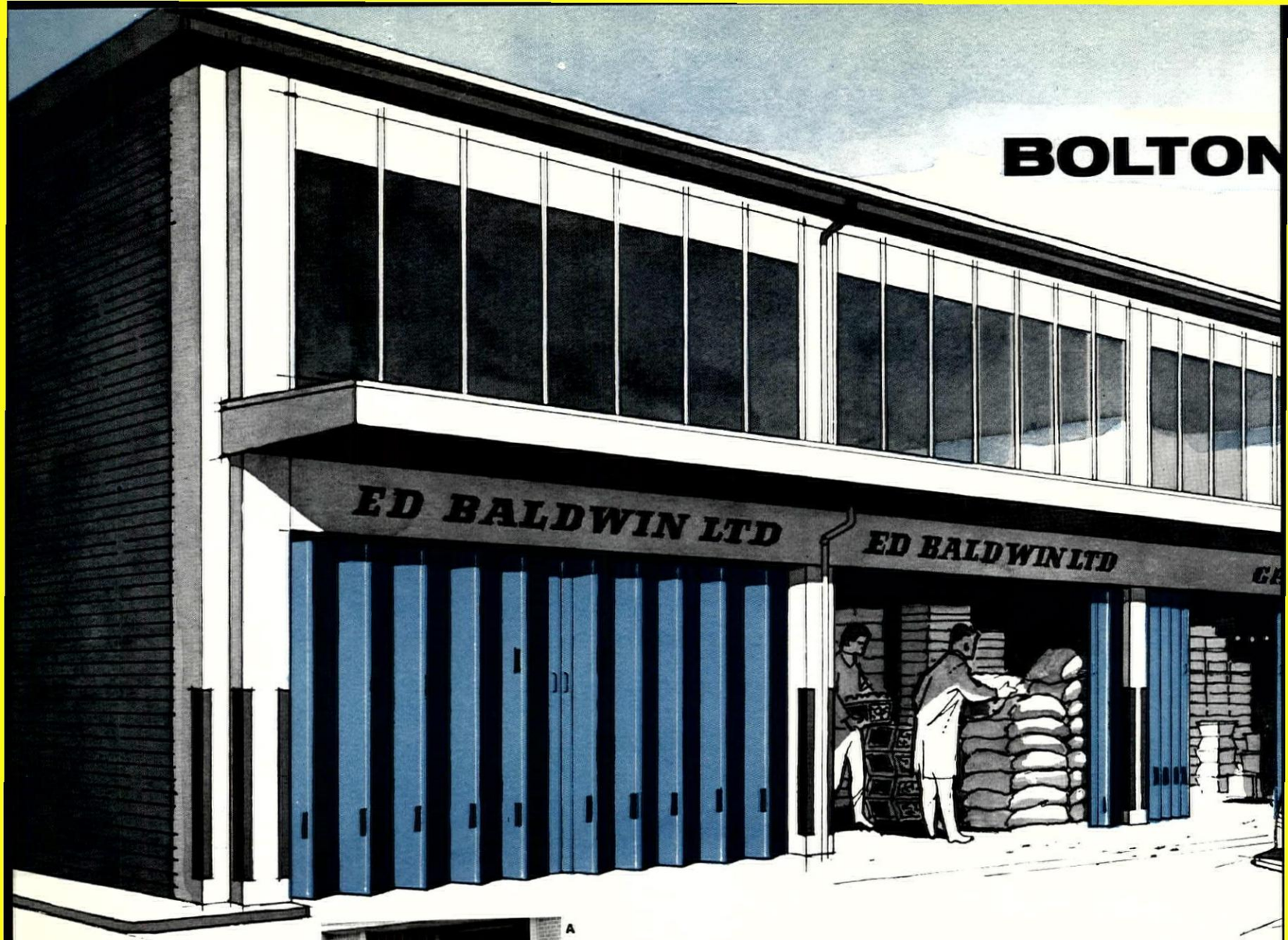
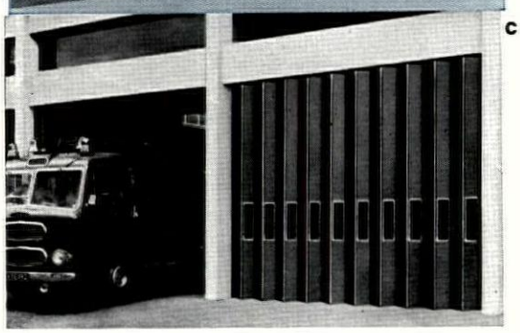


A *A factory installation of Bolton photo-cell controlled Shutter Doors.*

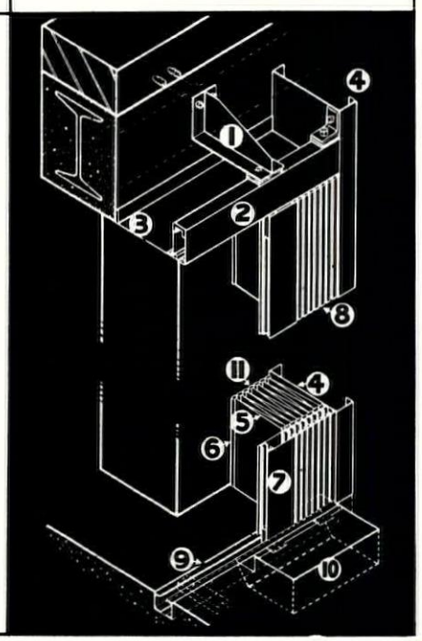
B *Bolton Shutter Doors installed in BEA Freight sheds, N. Ireland.*

C *Bolton Electrically operated Shutter Doors at Shoreditch Fire Station.*
Architects: Architect to the Greater London Council, Hubert Bennett, F.R.I.B.A.



This isometric drawing shows the ideal fixing for Bolton Shutter Doors. Suspending the box track from the inside face of the lintel allows the doors to bunch clear of the opening by folding behind the walls. The cover plate (3) and the end panels (4) make the installation draught-resisting.

1. Welded mild steel suspension bracket.
2. BOLTON patent, totally-enclosed box-type top track.
3. Mild steel cover plate for the exclusion of draught.
4. Mild steel end panels.
5. 16's gauge (1.63 mm.) mild steel shutter leaves, Sherardised against corrosion.
6. Non-ferrous hinging strip.
7. Rigid front to accommodate locking arrangement.
8. Steel pickets on which the door is built.
9. Self-cleaning bottom track, built up from rolled steel channels.
10. Mild steel sump-box with hinged lid to facilitate cleaning out.
11. Shutter leaves rolled round $\frac{1}{8}$" (3.2 mm.) diameter wire reinforcement to give great vertical strength.



SHUTTER DOORS ARE BUILT TO LEAD A BUSY LIFE - AND LAST!

Bolton Shutter Doors installed in Blackburn Wholesale Market.

Fruit market .... fire station .... freight sheds .... factory .... four typically busy situations for which Bolton Shutter Doors have been selected. In some of these they will have to withstand rough, heavy usage - they're built to! In others they must provide instantly easy operation - they're designed to! The basic reasons why Bolton Shutter Doors satisfy so many needs are shown in the detail drawing. There are many variations - from standard sizes to purpose built doors accommodating overhead cranage or other special requirements. Sherardising is the standard finish: you can also have Stelvetite leaves or cellulosed leaves and they can all be fitted with vision panels up to 2′ 6″ deep. Bolton Shutter Doors can be power operated, and control methods vary from simple push button to remote radio.
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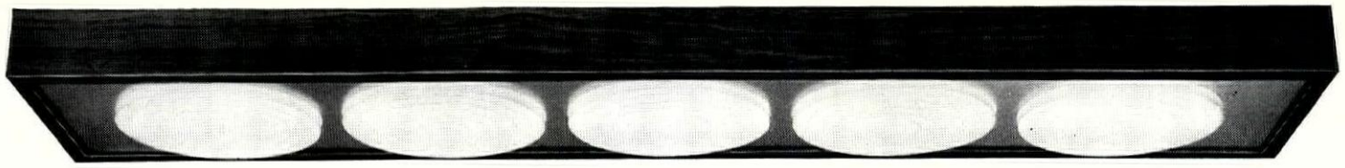


Osram-GEC's brilliant new 103 LINE

Behind the pretty faces [33 exclusive channels, diffusers and reflectors] are a host of important features

WHY THE NEW 103 LINE IS SUCH AN IMPORTANT DEVELOPMENT IN FLUORESCENT LIGHTING

103 LINE — a new approach to fluorescent lighting
103 LINE is a big step forward. It offers a complete family of fittings suitable for every commercial use, from factory to boutique. The diffusers and reflectors include many designs completely new in concept. They represent an entirely new approach to the possibilities of fluorescent lighting.

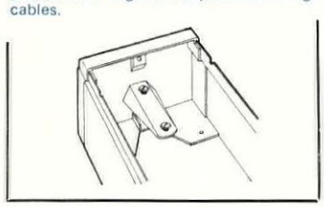
New design for channels
Osram-GEC went right back to basics in planning the 103 LINE. The result is a new channel design which is better fitted to the job. It makes fixing and maintenance easier. The strong steel channel is finished to a very high standard in white acrylic paint to give greater resistance to damage and yellowing than ordinary stove enamel. Die-cast end-plates are used to give extra rigidity and have interlocking keyways to make accurate continuous mounting simpler.

New Bi-pin Holder makes tube replacement easy and safe, ensures reliable contact
One important feature of 103 LINE is the wiping contact in the new spring-loaded bi-pin holder. This wiping contact "scrapes" the tube pin to ensure clean positive contact. All troubles associated with poor contact are eliminated. This holder combined with another new feature — high quality GEC intermediate section, polyester-filled control gear — ensures correct tube performance, low-loss, cool, silent, trouble-free operation.

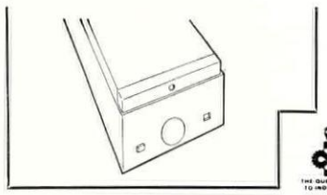
Switch or switchless — Three lampholder positions
103 LINE is available either switch or switchless, in 4 ft (40w), 5 ft (65w), and 8 ft (125w) channels. The 8 ft size is available also in 85w switchless version. In addition to the normal single and twin lampholder arrangement, there is a wide spaced version of the twin tube type with lampholders on either side of the channel. When used with the wider diffusers, this allows shallow close-to-the-ceiling mounting with improved optical performance and better overall appearance.

Teak Veneer and circular louvres
Among the many diffusers and reflectors unique to 103 LINE are some that completely revolutionise previous thinking on fluorescent lighting. Most notable is an entirely new type of fluorescent diffuser incorporating 5 concentric circular louvres set in a satin aluminium panel supported by a teak veneer frame. This elegant pattern marries with circular tungsten fittings and makes it ideal for use in shops, hotels and restaurants. The teak veneer tray which won't warp is another interesting innovation. As an alternative, the tray is also offered with white melamine decorative laminate finish. These trays carry varied and original diffusing panels — prismatic low brightness, minicell louvres, opal plastic with unusual circular apertures. In addition to these unique attachments there is a full range of trough reflectors and 4 ft, 5 ft and 8 ft opal and prismatic diffusers.

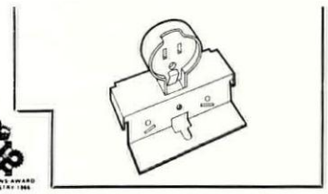
¾" conduit entry provided in each end-plate with conduit clamping screw for ease of assembly and good earth continuity. Polypropylene wiring channel protects through cables.



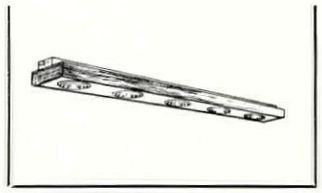
Exclusive die-cast end-plates for rigid lampholder mounting, with positive keying to give accurate register for in-line continuous mounting without difficulty.



Exclusive new spring-loaded bi-pin holder with wiping contacts ensures clean, positive electrical contact.

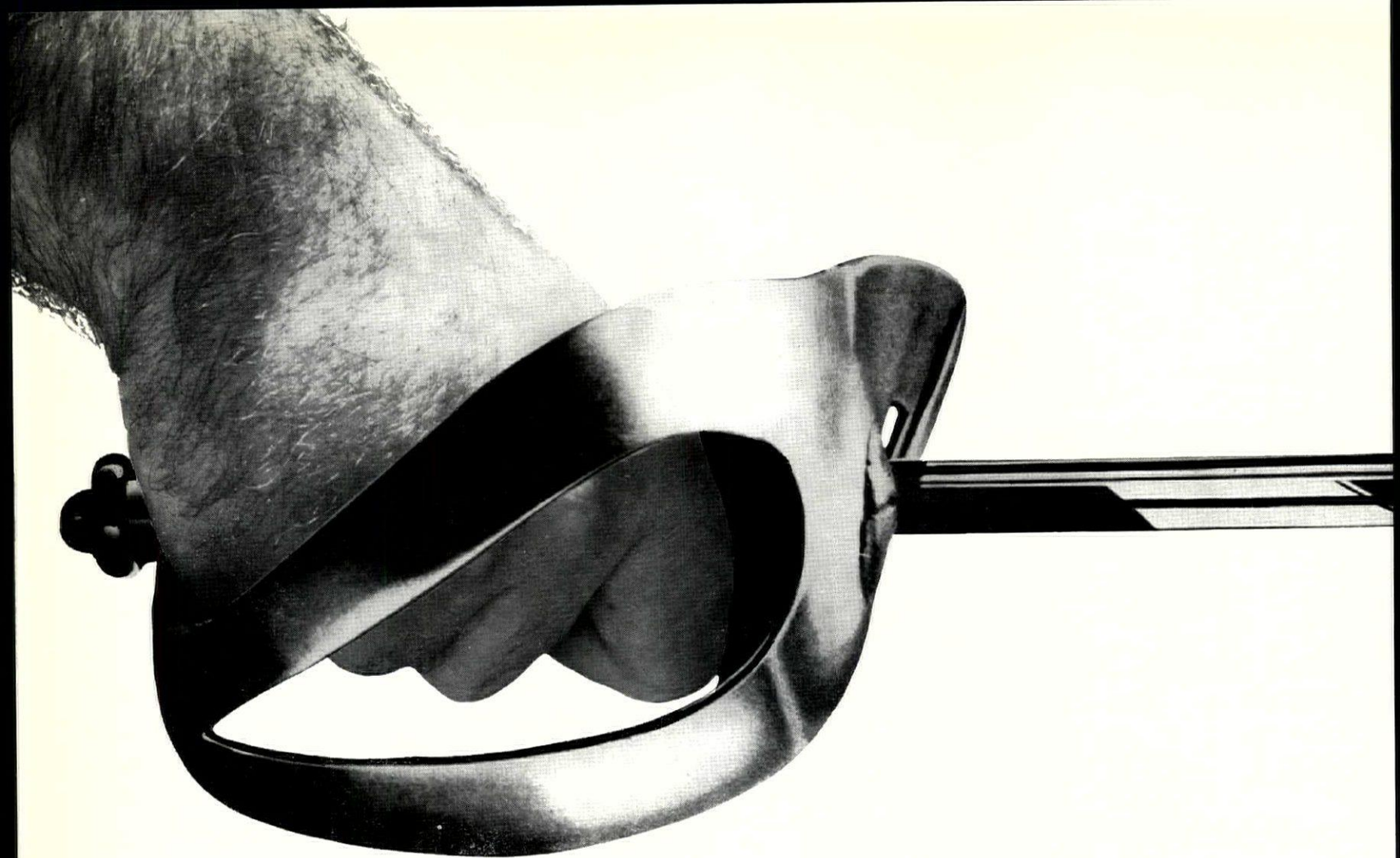


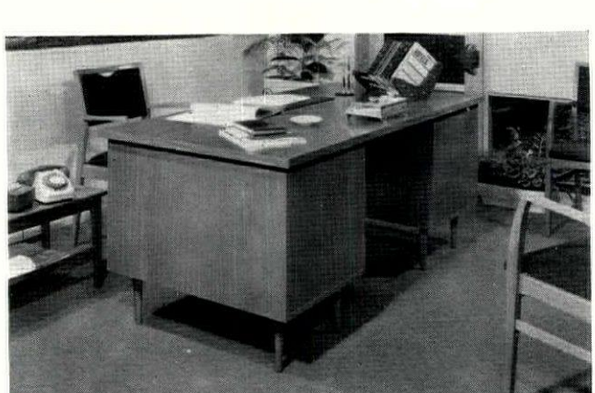
Revolutionary tray attachments in real teak veneer or white melamine decorative laminate with five new diffusing panels.



See the 103 line on stand No. C.14
at the Lighting Exhibition, Earls Court, 25th April–4th May

Or at: Osram (G.E.C.) Lighting Centre · Kemble House · Kemble Street · Kingsway WC2 or write to: Osram (G.E.C.) P.O. Box 17 · East Lane · Wembley · Middlesex





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