AR

THE ARCHITECTURAL REVIEW VOLUME CXXII NUMBER 847 SEPTEMBER 1957 FIVE SHILLINGS

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(O-43)

Timber-frame housing speeds your building—and cuts your costs too!

The intense industrialisation made possible by timber-frame construction methods now takes on a new dimension of cost saving. By permitting the use of large, factory-constructed units, it gives you big new savings under the Selective Employment Tax; on-site man hours can be reduced by more than 85 per cent by the speed and ease of the timber-frame method. And the production of timber components for timber-frame houses—as well as the wide range of timber components available for other constructional methods — is classified in approved establishments as a manufacturing process and qualifies for the full tax rebate to the producers, plus the premium payments.

Three to ten times faster Building speeds from three to ten times faster than conventional methods can be achieved by timber-frame construction. The method combines intensive industrialisation with a wide degree of freedom for the architect, both in internal planning and external cladding, and provides a house which is permanent, attractive, economic and some two to three times warmer than conventional housing.

Now, the method assumes even greater importance in keeping down builders' costs, saving highly-skilled labour on site and increasing productivity. Build better houses faster and reduce your tax liability through timber-frame housing techniques.

Diary of a Timber-frame house

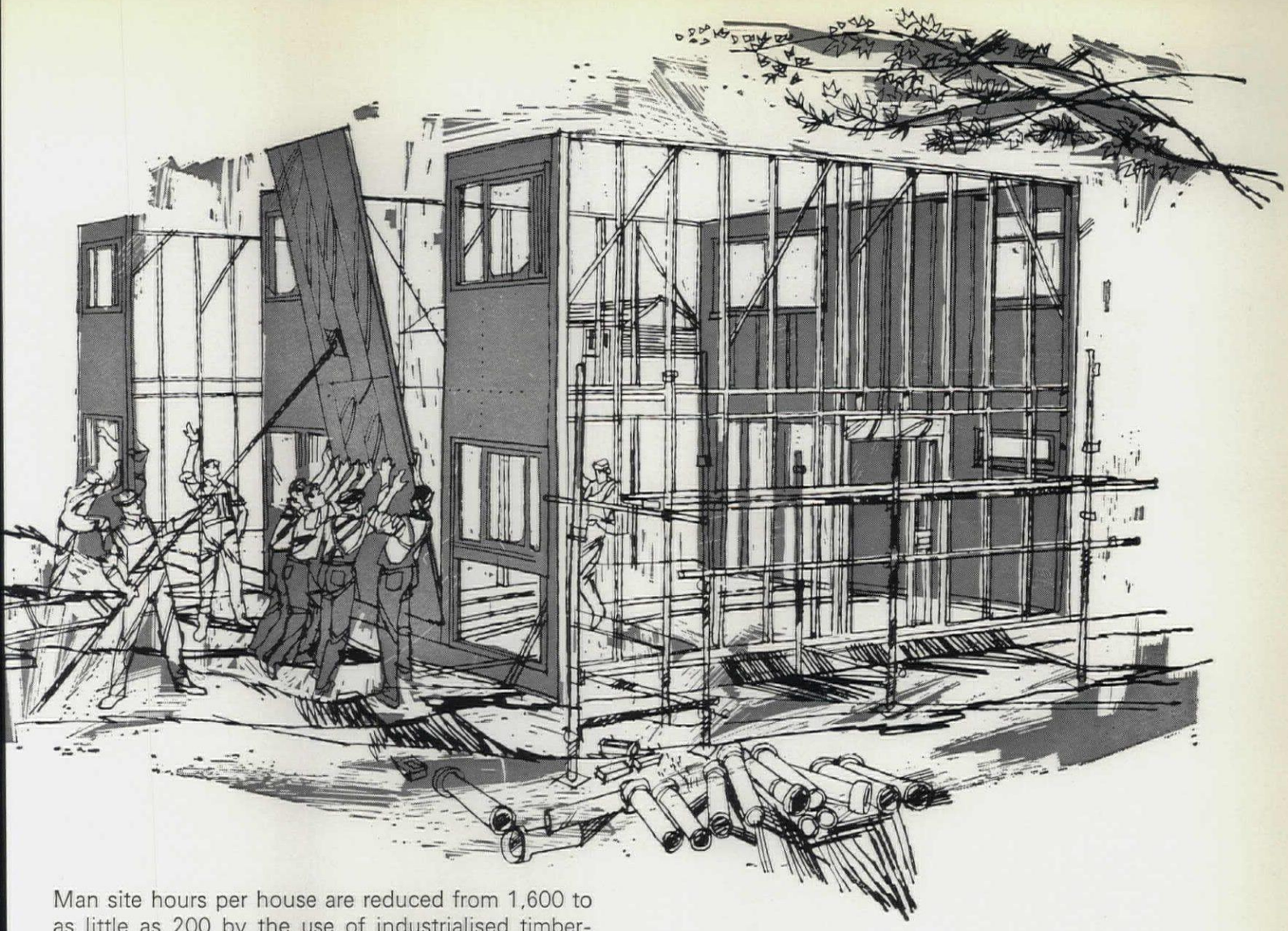
This sequence illustrates a few of the stages in the construction of a typical timber-frame house. Much higher speeds are provided with fully industrialised methods.

1st DAY

8 am Frames ready for erection on prepared foundations.

8.15 am Erecting frames for all external walls.

3 pm Walls erected. First floor joists laid.
5 pm carcass completed.



Man site hours per house are reduced from 1,600 to as little as 200 by the use of industrialised timber-frame techniques. Complete factory-built room units can be assembled, giving an average time of about two days for completion of a house. Or roof, wall, floor and other factory-produced components can be assembled on site with phenomenal speed. Timber-frame methods can be used for housing developments of any size—the smaller builder can adopt a timber-frame system just as easily as a large contractor and so benefit from its tremendous advantages.

the new world of **WOOD**

Write for further information on the Timber-frame Housing technique.

THE TIMBER TRADE FEDERATION OF THE UNITED KINGDOM
CLAREVILLE HOUSE (DEPT AR 10) WHITCOMB ST LONDON WC2 TRA 1891

2nd DAY

5 pm Roofed, clad and weatherproofed.
Inside work commences.

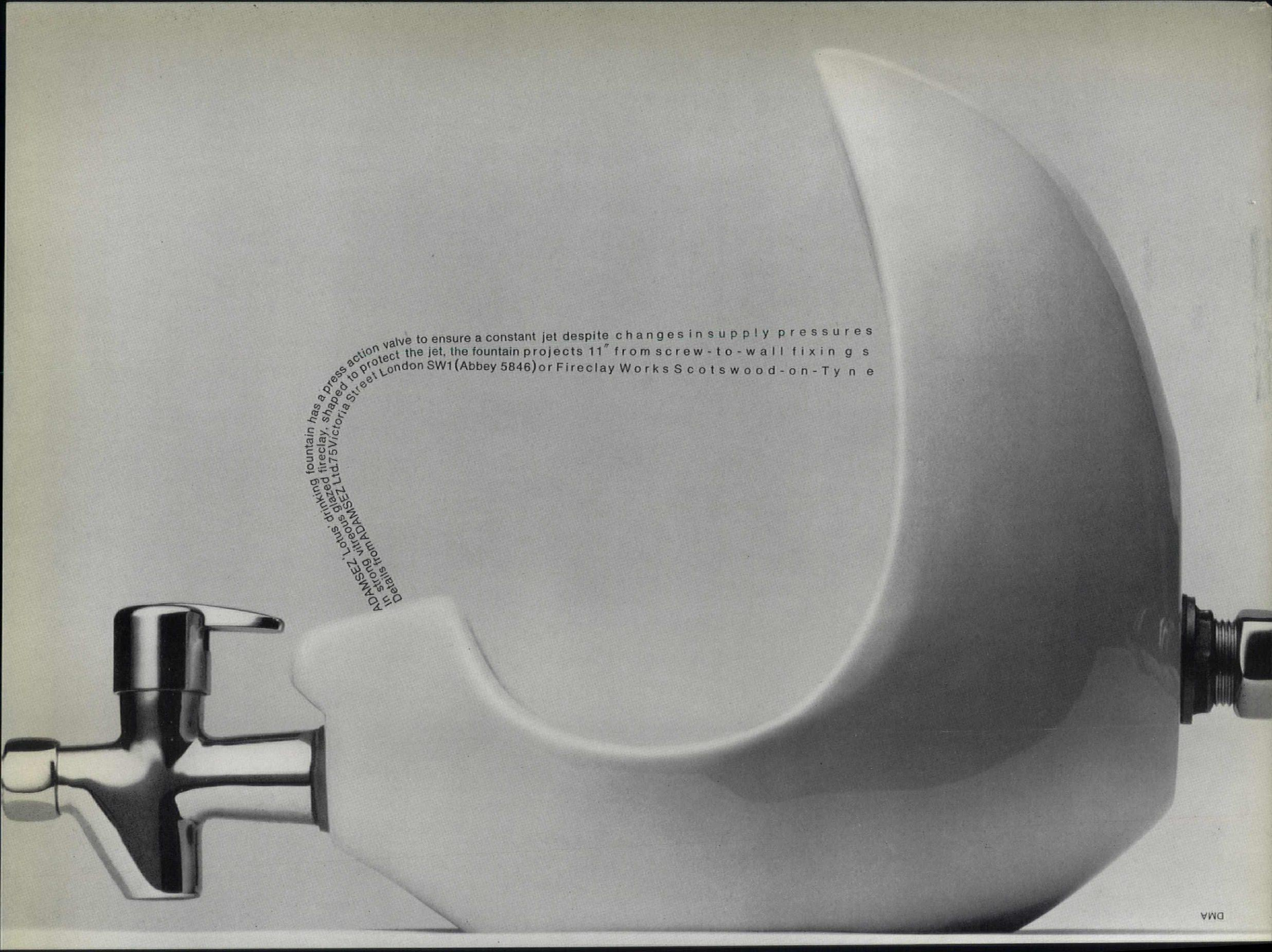
6th DAY

External work finished.
Internal fitting and decoration.

25th DAY

OCCUPIERS MOVE IN

TT20/1


ADAMSEZ 'Lotus' drinking fountain has a press action valve to ensure a constant jet despite changes in supply pressures
Details from ADAMSEZ Ltd. 75 Victoria Street London SW1 (Abbey 5846) or Fireclay Works Scotswood-on-Tyne
Its strong vitreous glazed fireclay, shaped to protect the jet, the fountain projects 11" from screw-to-wall fixings
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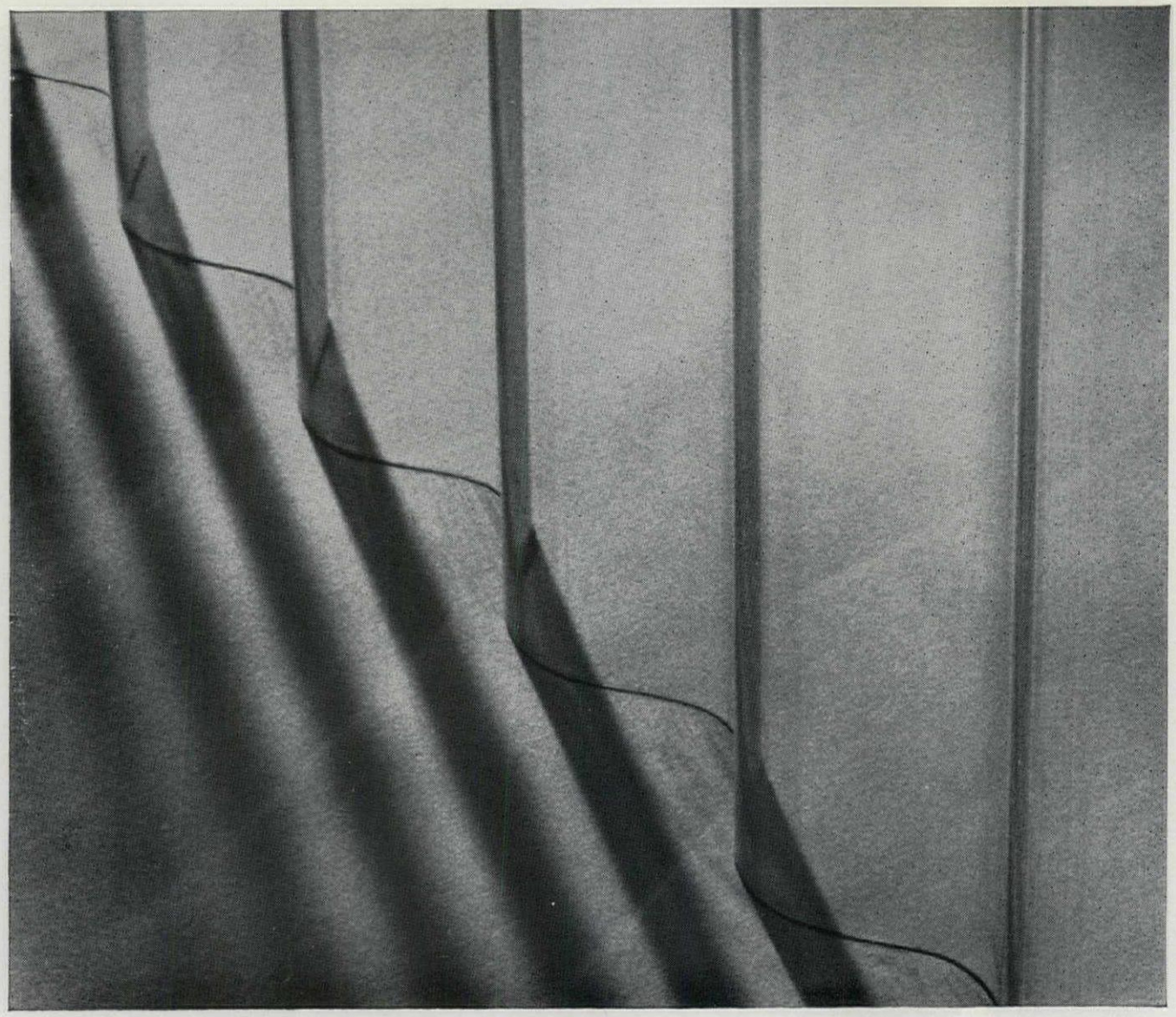

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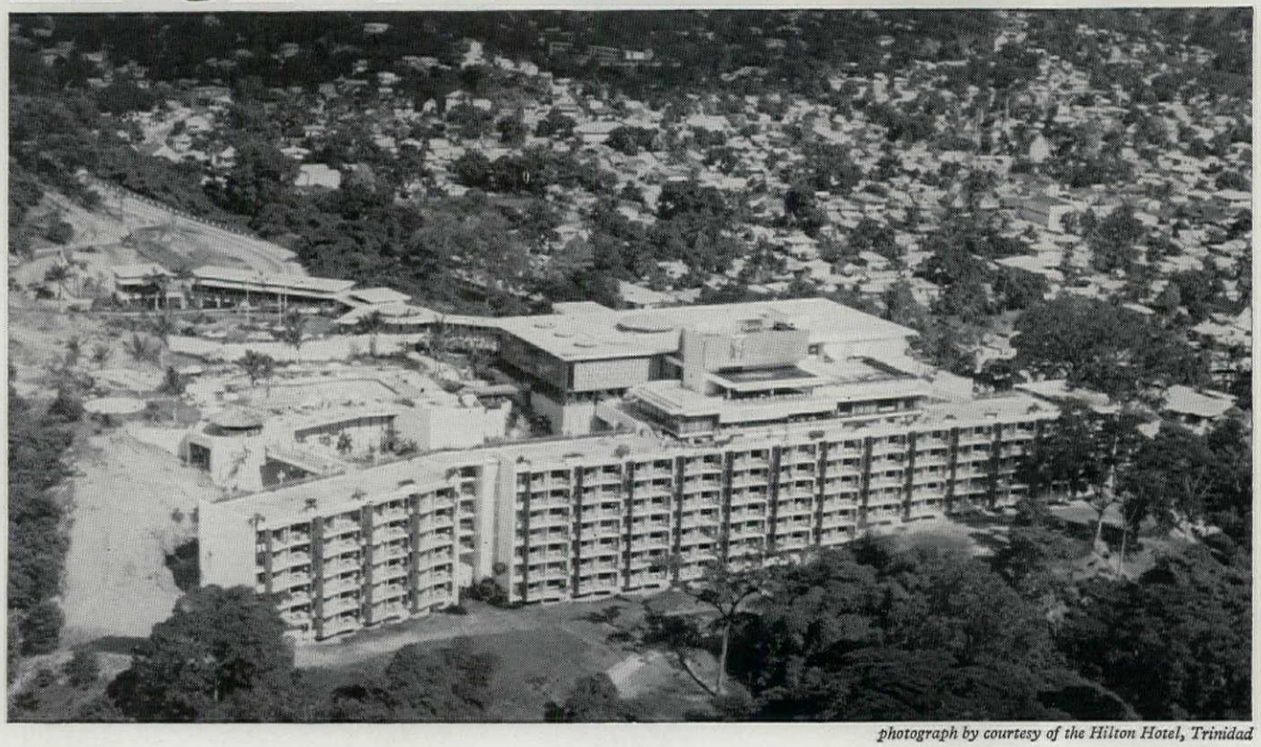


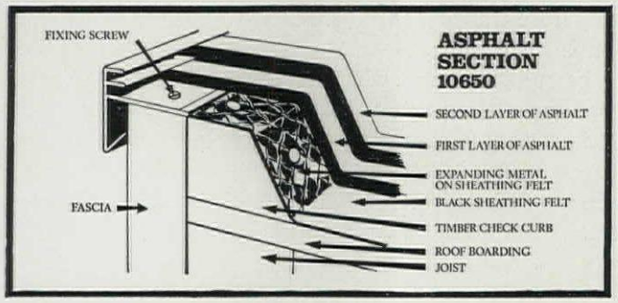
photograph by courtesy of the Hilton Hotel, Trinidad

PAPTRIM – the first (and still the finest) extruded roof edging

Paptrim – the first and still the finest extruded aluminium roof edging, is to-day's top idea in modern roofing techniques. It is designed to withstand all possible hazards. It locks in waterproofing and gives a clean, unbroken line on elevation. Its tough construction provides a rigid, undamageable surface for ladders.

Paptrim is inexpensive and easy to fit and with the addition of rigid PVC facing strip – available in a wide range of colours – forms a really attractive and lasting roofing finish.

See how Paptrim fits in perfectly with your roofing plans.



PAPTRIM extruded roof edging

Find out the facts, write for literature to: Patentees: PITCHMASTIC ASPHALT PAVING CO. LTD. Excelsior Works, Sandiacre, Notts. *Sandiacre 2681/2/3/4/5*

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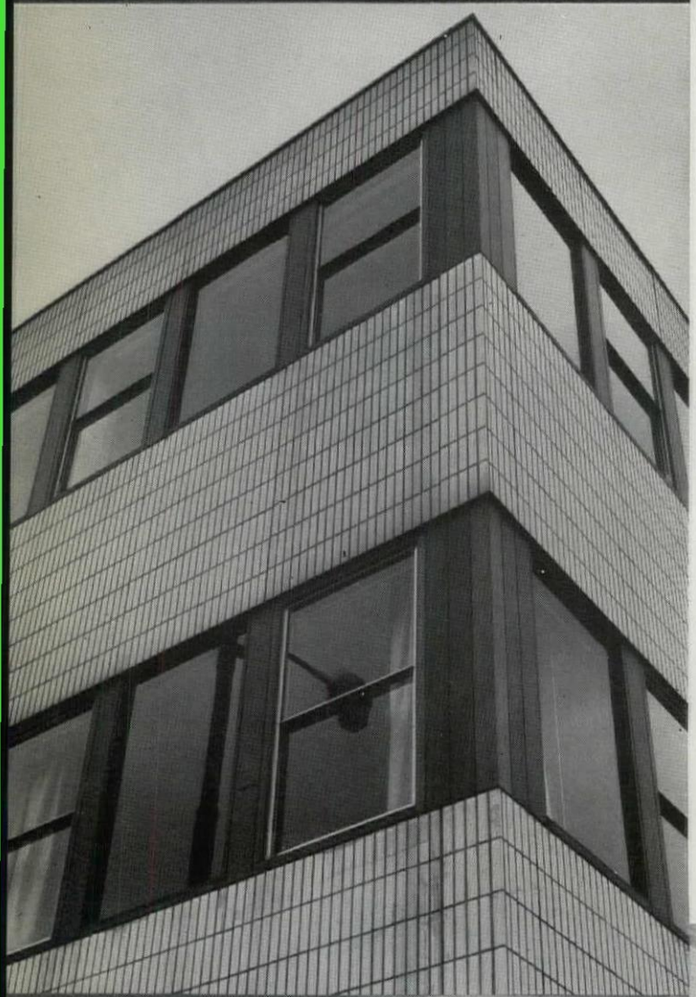
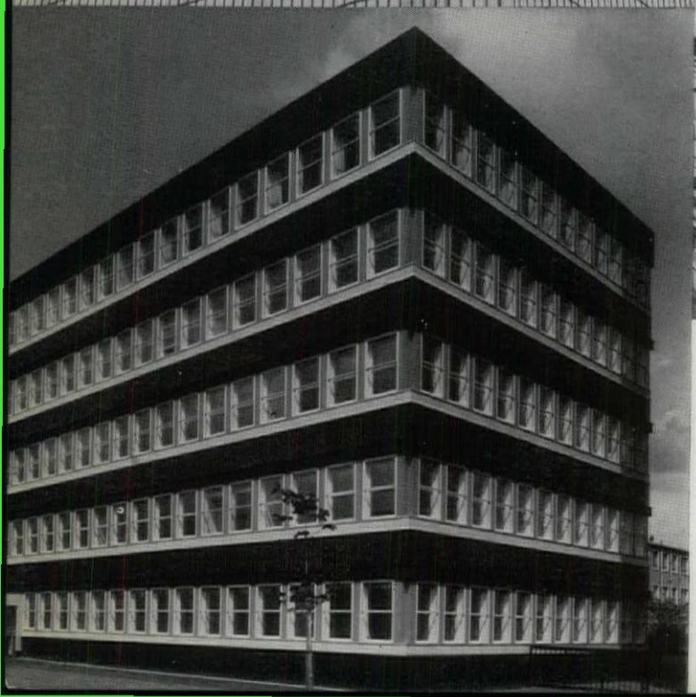
Luminair

a new word
in the vocabulary
of building design

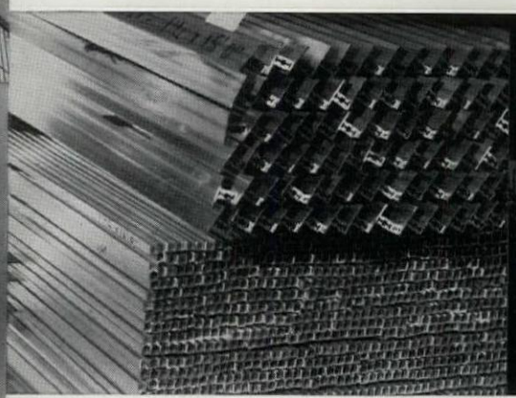


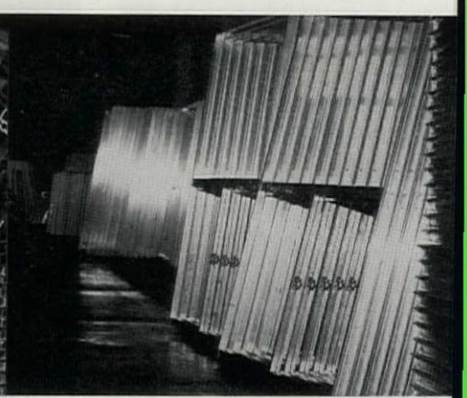


Modern windows designed and manufactured to meet the special needs of today's and tomorrow's buildings...

Luminair

'Luminair' *Aluminium Sliding Windows* by Crittall represent an important part of the modern-day building design vocabulary. Up-to-date design in both *horizontal* sliding and *vertical* sliding types, manufactured in a modern, up-to-date material—*strong, light, attractive aluminium,* with low maintenance cost. 'Luminair' windows are quality engineered, carefully designed, skilfully manufactured by the most modern production methods by Britain's leading manufacturer of metal windows.





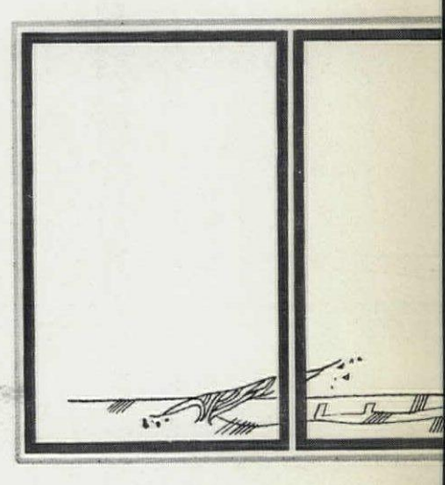
'Luminair'—a new name introduces a newly-rationalised comprehensive window range. More *aluminium* windows are being specified than ever before—windows with all the advantages that this modern-day design material offers . . . bright, pleasing appearance, corrosion-resistance, low maintenance cost—all the right properties for good window design.

Crittall launch 'Luminair'—This marks the rationalisation and re-naming of all Crittall Aluminium sliders under the new name 'Luminair'. The well-proved and highly successful Crittall 'Essex', 'Suffolk', '43', 'Mark III', and other aluminium sliding window types, are now re-named and take complementary places within the highly comprehensive 'Luminair' range. All these existing types have been modified and improved, and further additions to this extensive range are being prepared for production now. Other designs will follow. **'Luminair' is the name to remember when modern windows—aluminium sliding windows—are to be specified for any architectural project.**

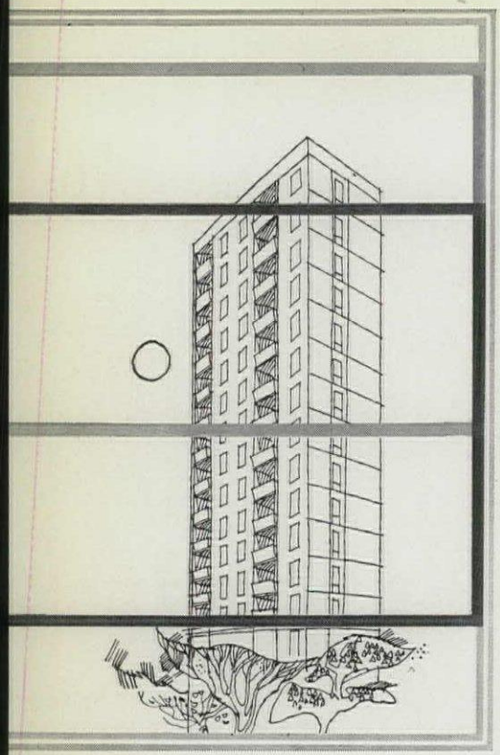
LUMINIUM SLIDING WINDOWS from CRITTALL

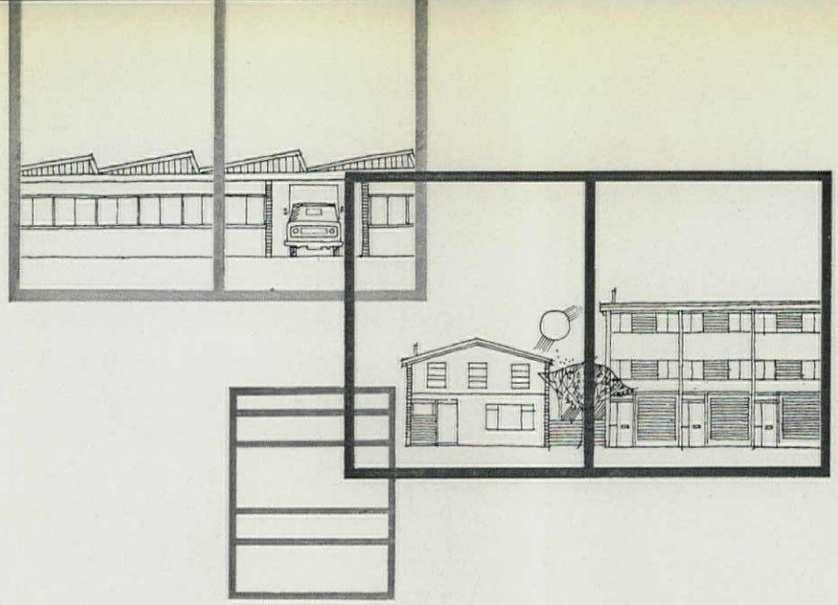
nair'—The product of Crittall Research and lopment, and long experience in aluminium ation and window manufacture: each n scientifically tested for weather-tightness, filtration and water penetration. The scale ittall research is unequalled by any other w manufacturer.

Modern, attractive visual design. 'Luminair' permits the kind of fenestration modern housing and other architectural projects call for today—aesthetically pleasing design, satisfying proportions aided by slender and elegant window framing, with unobtrusive sight lines. 'Luminair' windows meet the need for maximum light admission, better and brighter vistas, wider windows, with the long horizontal picture window now becoming a practical design possibility in domestic housing at economic cost. **'Luminair' means good design in modern fenestration with all the many advantages of bright, attractive maintenance-saving aluminium.**



Luminair'–Sliding windows like these present no obstructions or projections within or outside rooms, and thus permit planning to make full use of available space. These Aluminium Sliders are also the ideal specification where windows face onto patios, terraces and balconies.

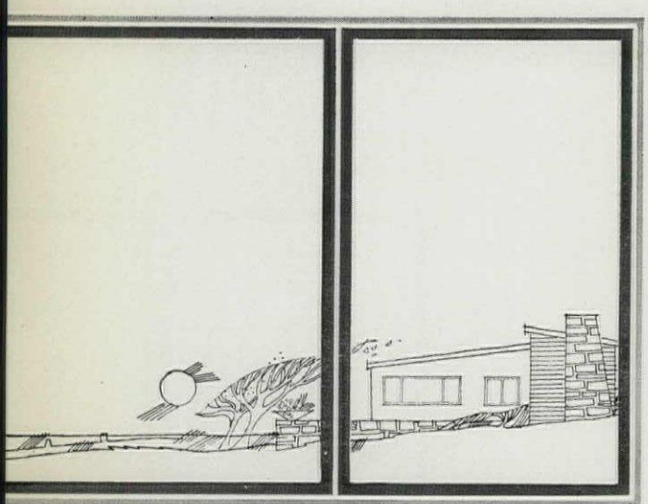




'Luminair'—Better windows to live with. Crittall's fine-quality engineering in aluminium is based on the experience of well over 15 years in fabricating windows, doors and other products in aluminium for the building industry. Precision in production plus efficient design of window-runners or spring-balance mechanisms give great ease of opening and window operation in both horizontal and vertical sliding types. Modern, effective, weatherstripping with neoprene gaskets and nylon pile assures high standards of draught-proof comfort with economy. Fixed or adjustable ventilators can be provided. Acrylic or anodised finish is available in addition to the normal mill finish. Crittall's own acrylic and anodising plant ensures the highest quality.

Luminair

'Luminair'—Simplifying life for the architect too. Rationalisation of Crittall aluminium sliding window types by re-naming and grouping within a single comprehensive range will now greatly simplify the architect's task in specifying aluminium sliding windows to fit his plans or his project. Coding of standard 'Luminair' shapes and sizes is based on MoPBW recommendations. A clear system of coding and naming—Luminair 'HS' (Horizontal Sliders) and Luminair 'VS' (Vertical Sliders)—will benefit all concerned with the choice of windows and their specification.



Your 'Luminair' catalogue is ready now. It has up-to-date information on this important range of aluminium sliding windows. Write now for your 'Luminair' catalogue No. 380 to the address below.

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CRITTALL

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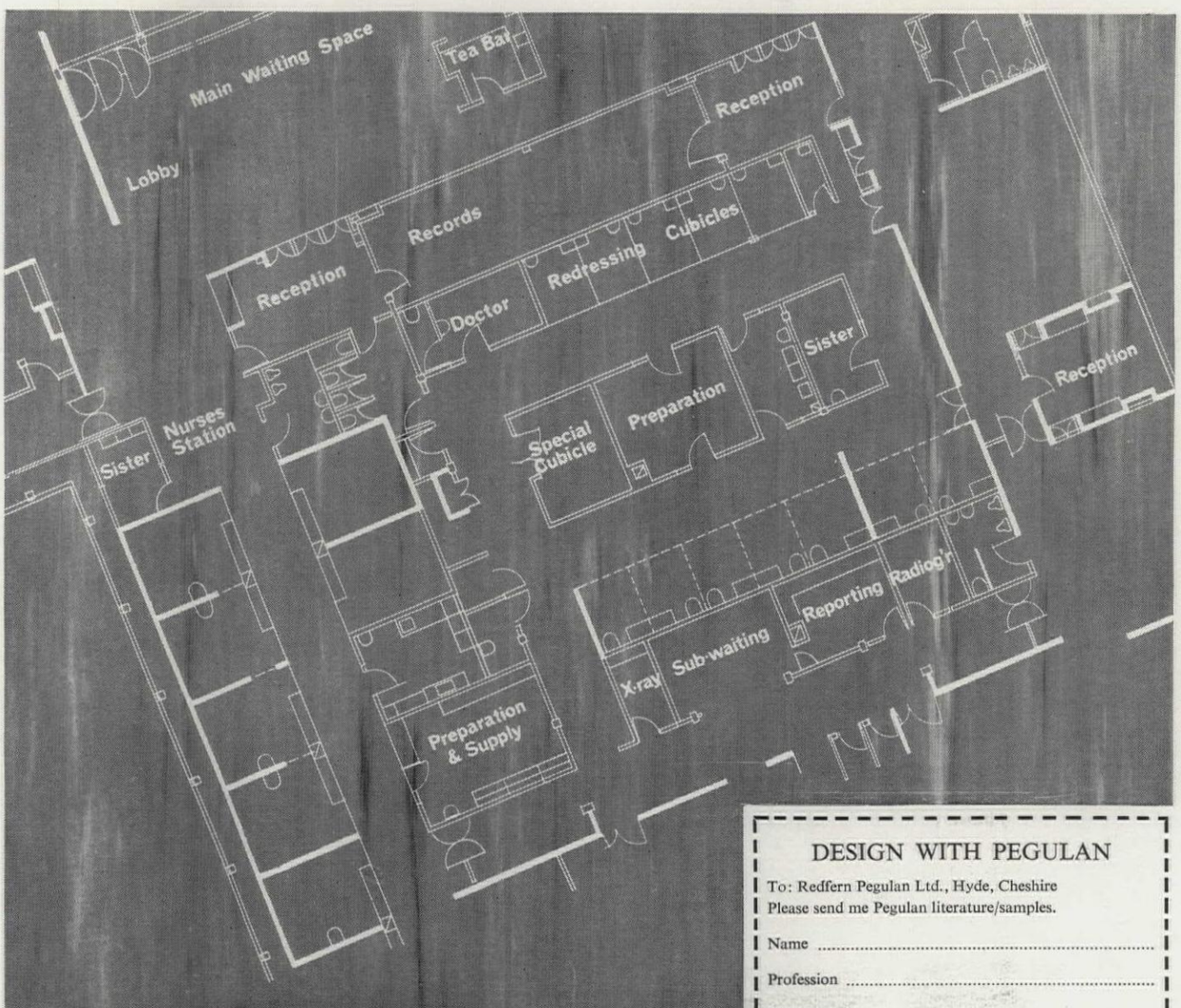

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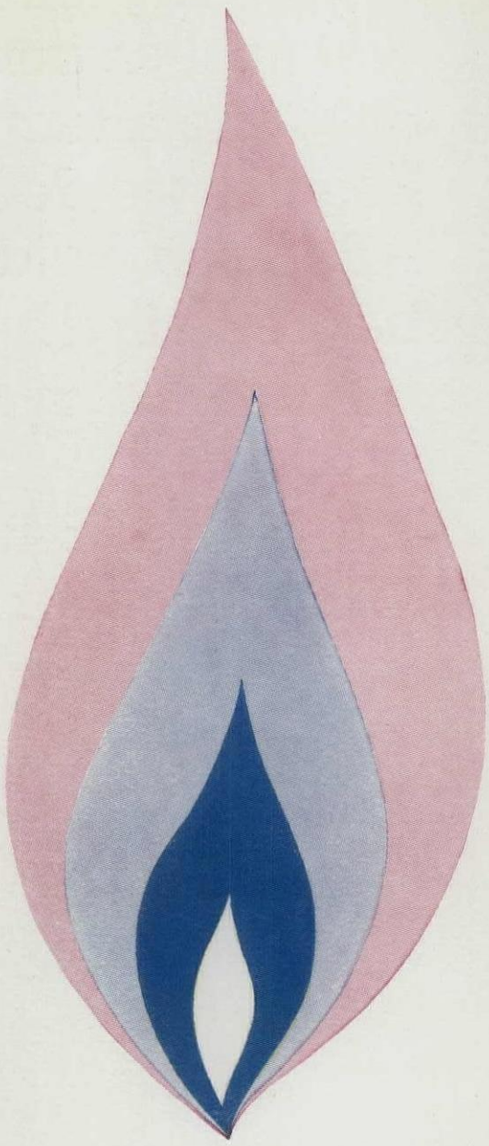

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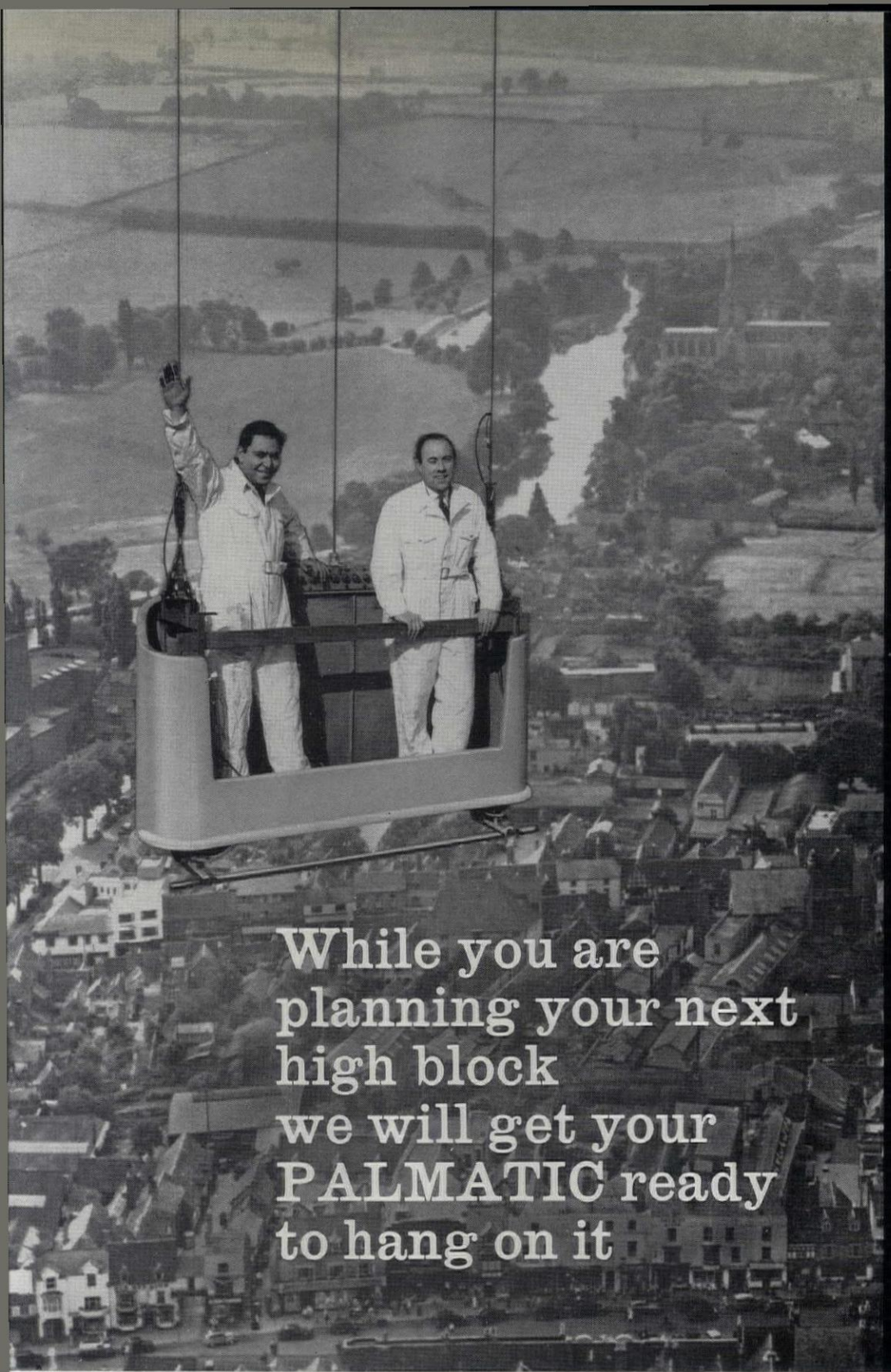

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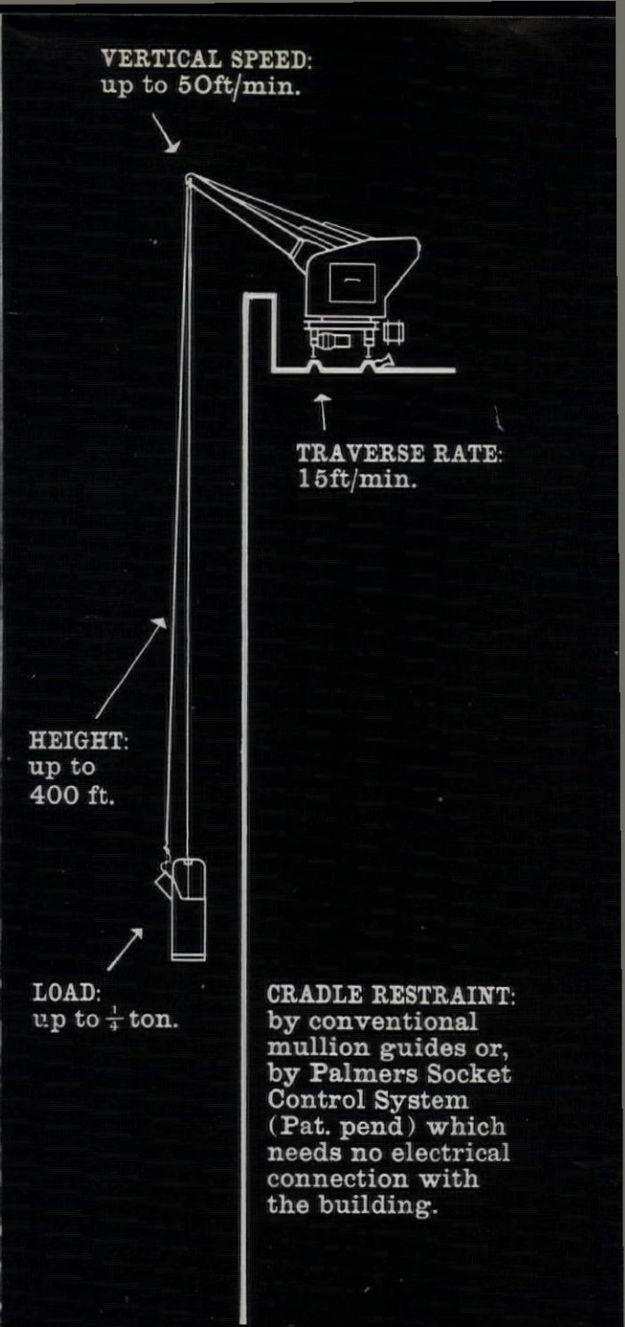

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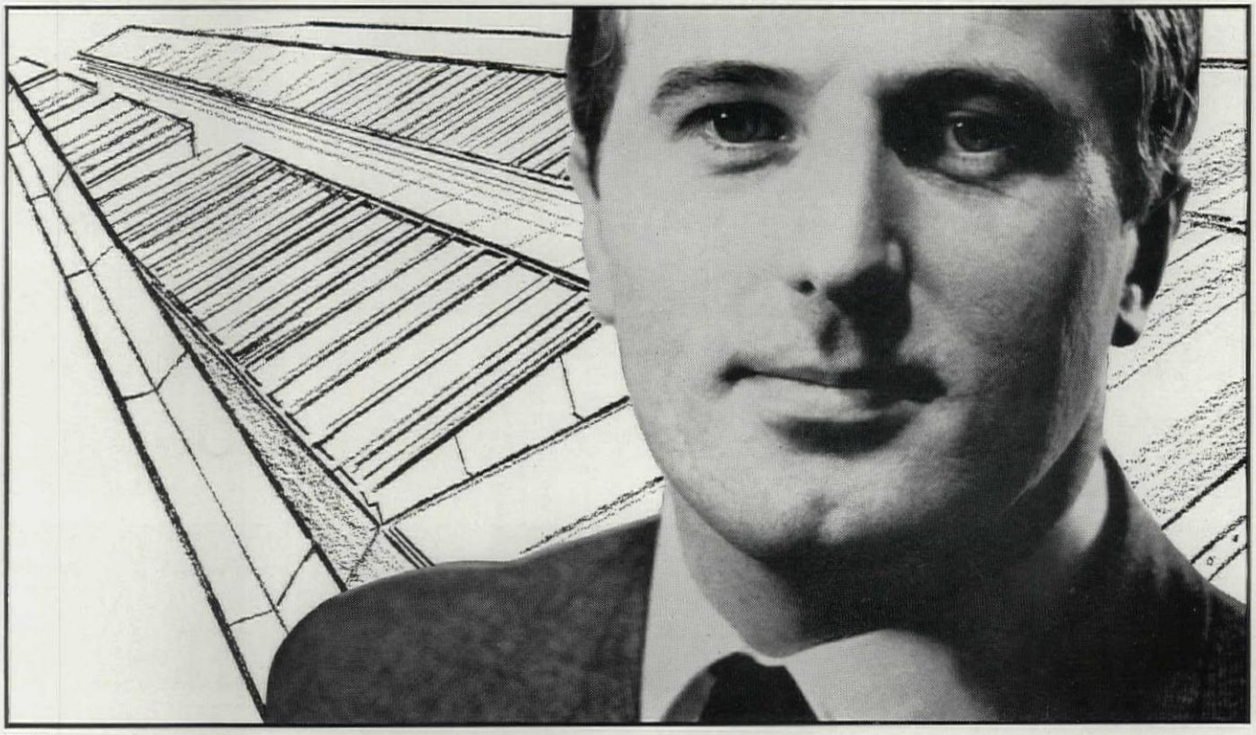

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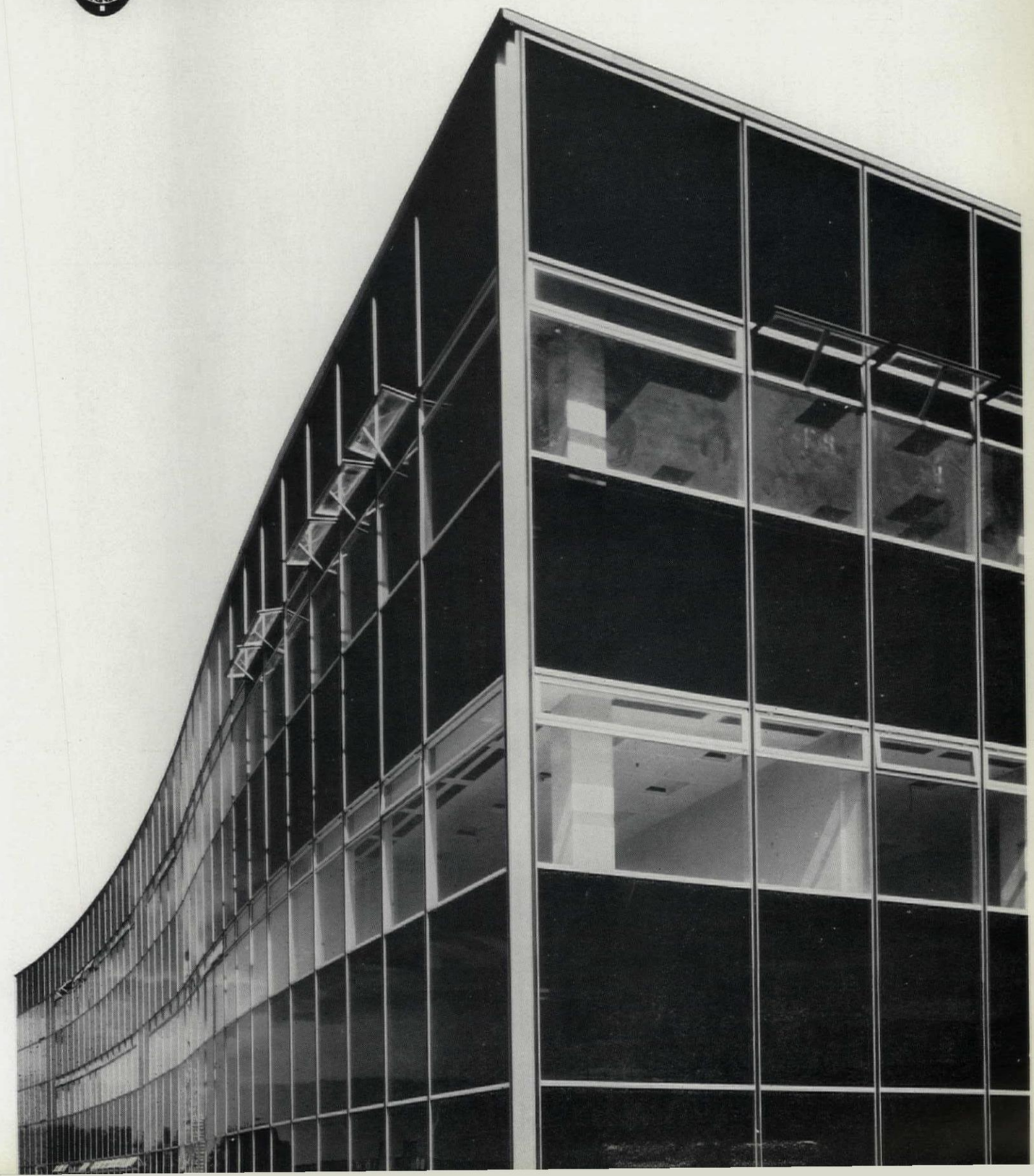

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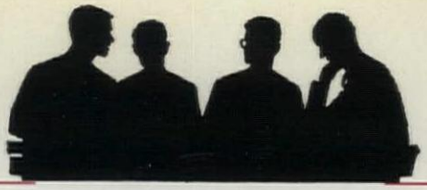

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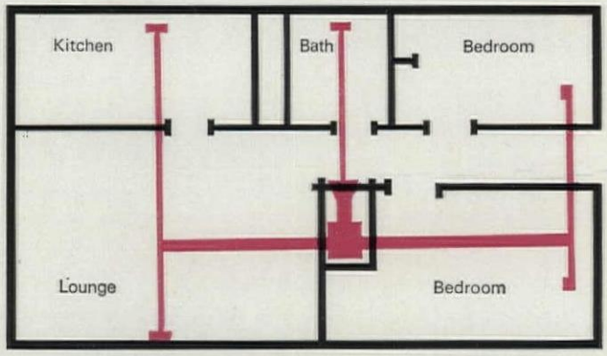

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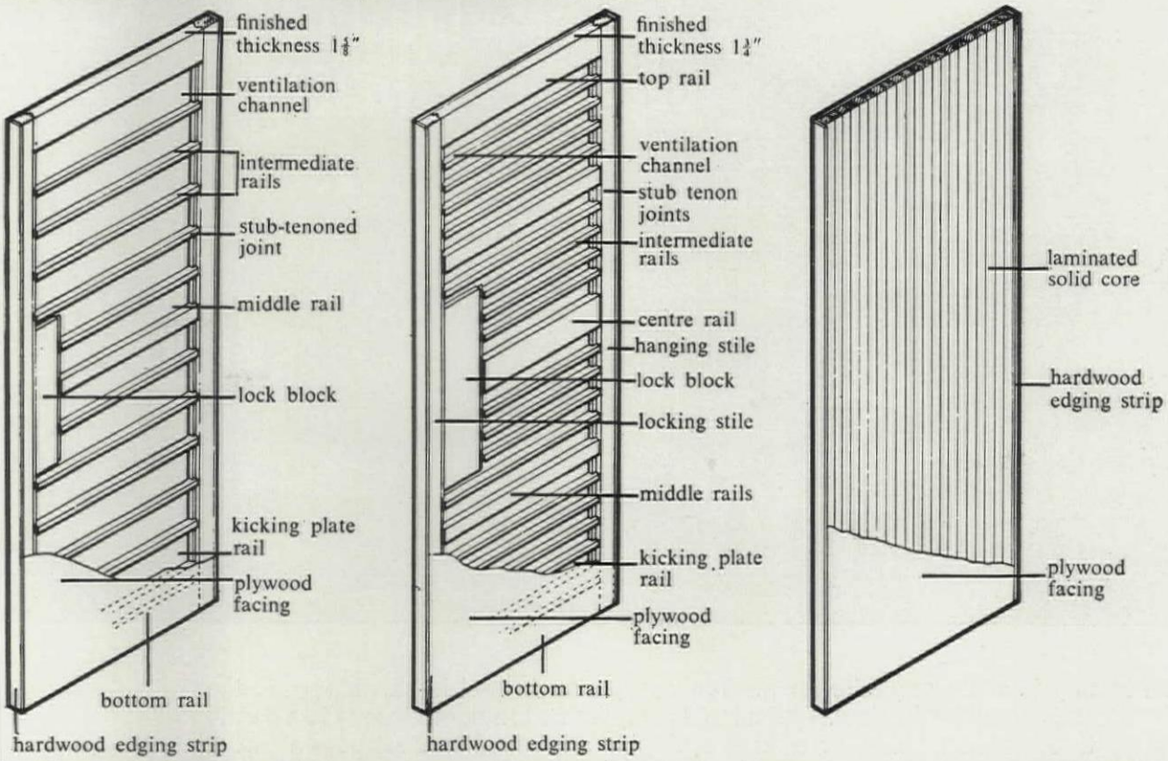
SfB (32)

A guide to quality flush doors

Over the past 25 years Leaderflush doors have established a reputation for quality which is second to none. Here is a convenient guide to the various types of Leaderflush doors, with details of the materials and constructional features which are the hall-mark of their inbuilt quality.

The Leaderflush range includes all the main types of flush doors; solid, semi-solid, timber-cored and asbestos lined fire check doors.



MATERIALS Canadian Western Red Cedar is used exclusively for all cores. Its low coefficient of expansion virtually eliminates the risk of distortion even when subjected to changing temperature and humidity. Facings are beech for interiors and West African mahoganies for exterior work. Veneers may be specially selected, book matched and laid to order, or can be supplied from stock laid at the time of manufacture of the plywood. All timber is subjected to electronic checking for correct moisture content before it is permitted to be incorporated in a Leaderflush door.

CONSTRUCTION Solid doors are constructed with core laminations laid alternately to balance stresses and thus reduce the risk of distortion. Semi-solid and timber-cored doors have horizontal rails stub-tenoned into the stiles to give added strength and eliminate surface undulations. As the illustrations clearly show, no extra blockings are required to accommodate door closers or other ironmongery. Semi-solid Leaderflush doors contain **50% TIMBER.** We do not permit the use of packing or filling materials which contribute nothing to the strength or stability of the door. No nails or metal fasteners are used in the construction of Leaderflush doors, which are constructed on the aircraft stressed skin principle to give great strength and freedom from distortion. To protect the edges of plywood facings, all vertical edges are lipped with hardwood.

FIRE CHECK DOORS The standard solid core Leaderflush door has been tested and approved by the Fire Research Station as a ½ hour fire check door. Where a 1 hour fire check door is called for, a special asbestos lined solid core door is available. This door has been tested and approved by the Fire Research Station as a 1 hour fire check door.

Although the four types of door illustrated above form the basis of the Leaderflush range, a substantial part of our business is in purpose-made doors to individual requirements. For complete details, write or telephone

Leaderflush (Doors) Ltd., Trowell, Nottingham Tel: Ilkeston 4111
London: Bush House, Aldwych. London W.C.2. Tel: COVent Garden 2243
Belfast: 143, Northumberland Street, Belfast 13. Tel: 22802

Leaderflush

Britain's finest flush doors

Endurance testing is a pre-requisite for all Newman products and is carried out in the group laboratories, illustrated below. Typical tests require Briton door closers to operate consecutively three million times, or a floor spring to be tested to destruction under normal and simulated tropical conditions. To ensure the highest standard is maintained at all times tests of a great variety are carried out on Automatic Doors, Glass door rails, Flexible Doors, Panic Hardware and Window Controls, and also on products of our competitors.

WILLIAM NEWMAN & SONS LIMITED, HOSPITAL STREET, BIRMINGHAM, 19

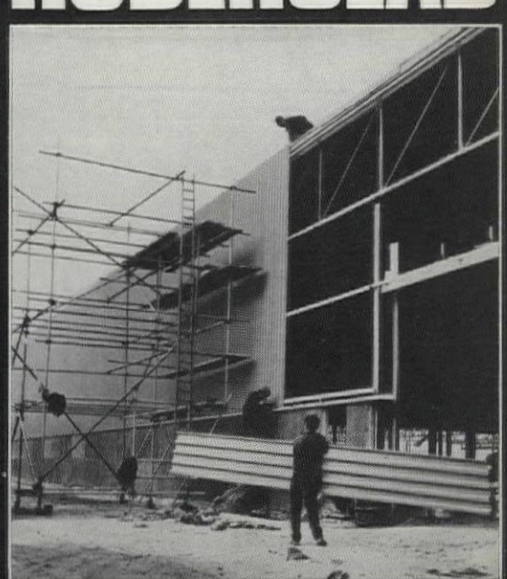
NEWMANS

Twin systems for roofs and walls using lightweight, troughed metal decking and a rapid erection technique. For roofs, Ruberdeck in steel or aluminium, with insulation and Ruberoid Built-up Roofing. For walls, pvc coated Ruberclad, sandwich insulation and inner skin as required. Up to 30 feet in height without horizontal laps. For the complete envelope of a building the Ruberoid Design Service can save money and time. Your local Ruberoid office will be glad to hear from you.

design saving money-

dry construction saving time

RUBERDECK
RUBERCLAD



Ruberoid

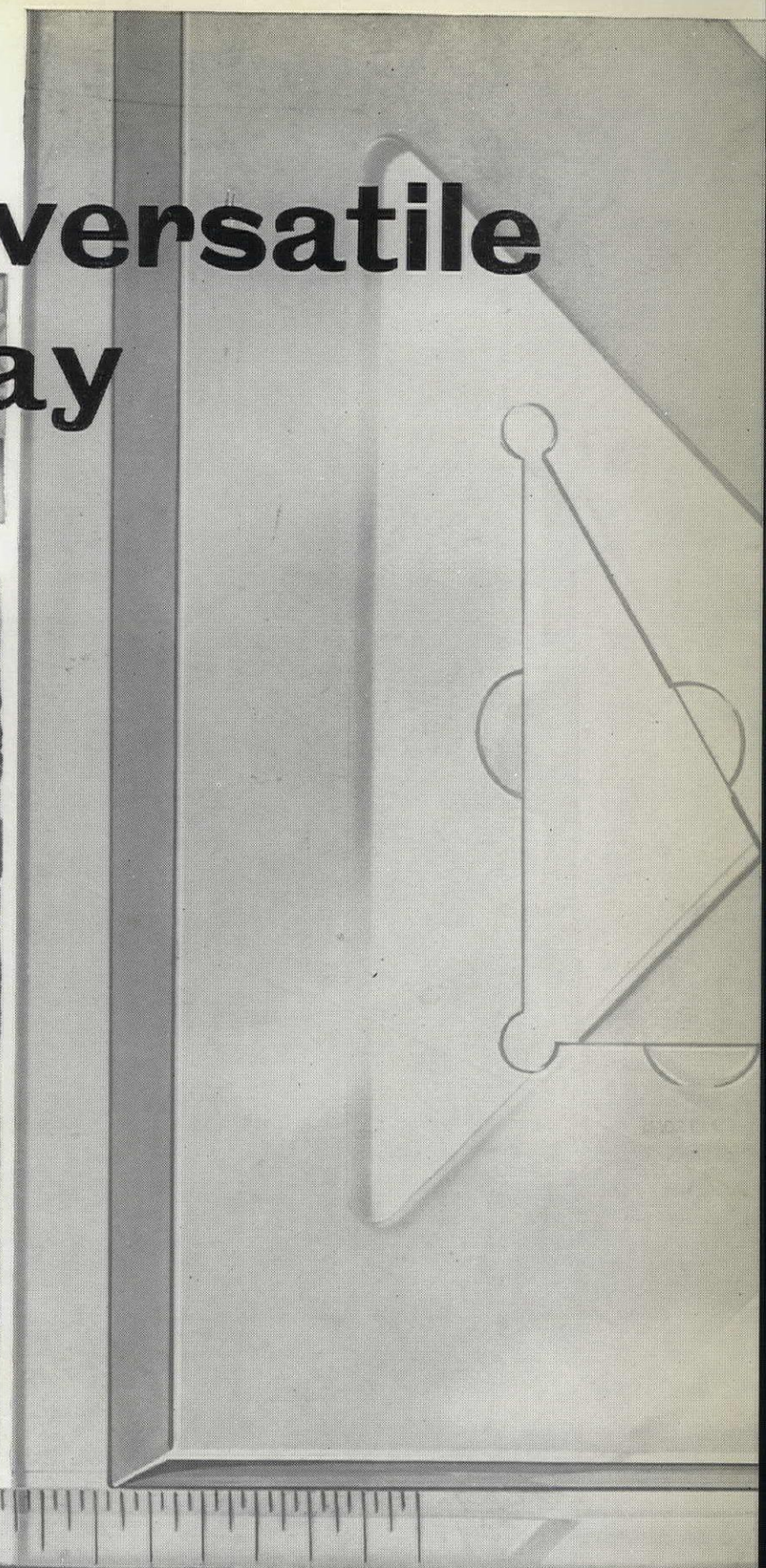
The Ruberoid Company Limited · 90 UK Commonwealth House · 1 New Oxford St. · London WC1
London (Head Office) Holborn 9501 □ (Eastern Region) Advance 6532 □ (Southern Region) West Forest 5144/5 Bristol 35839 □ Birmingham Springfield 4487 □ Nottingham 76830 □ Manchester Trafford Park 1832 □ Newcastle Upon Tyne Wallsend 623061 □ Glasgow Douglas 7121 □ Edinburgh Caledonian 1409 □ Belfast 26808

Ruberoid

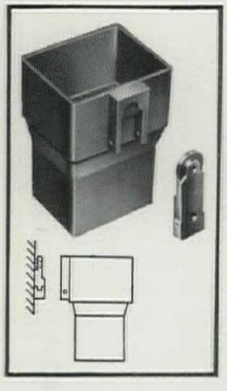
This component in British

This is the 'Phorpres' Fletton brick. It is indigenous to Britain and British building. There is no cheaper or better solution to the problem of low-cost, low rise housing. The 'Phorpres' Fletton used in efficient rationalised construction can compete with any other method of building, not only in cost but in speed of erection, low maintenance and aesthetic appeal.

is the most versatile building today



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



Up to now houses have been rectangular, and rainwater systems round.
Not the most logical of arrangements, is it? That's one of the reasons why we developed LIMPET PVC Rainwater Goods, a really good looking, efficient rectilinear system. The first system in fact that gives a house that 'planned-to-the-very-last-detail' look.
For all it's polish — and the finish really is mirror-like — the LIMPET system incorporates a lot of practical advantages. Factory fitted neoprene seals, expansion gap markers, and a new one screw fixing method: every fitting just snaps into place. All in all, the LIMPET system is easier to fix, faster to erect.

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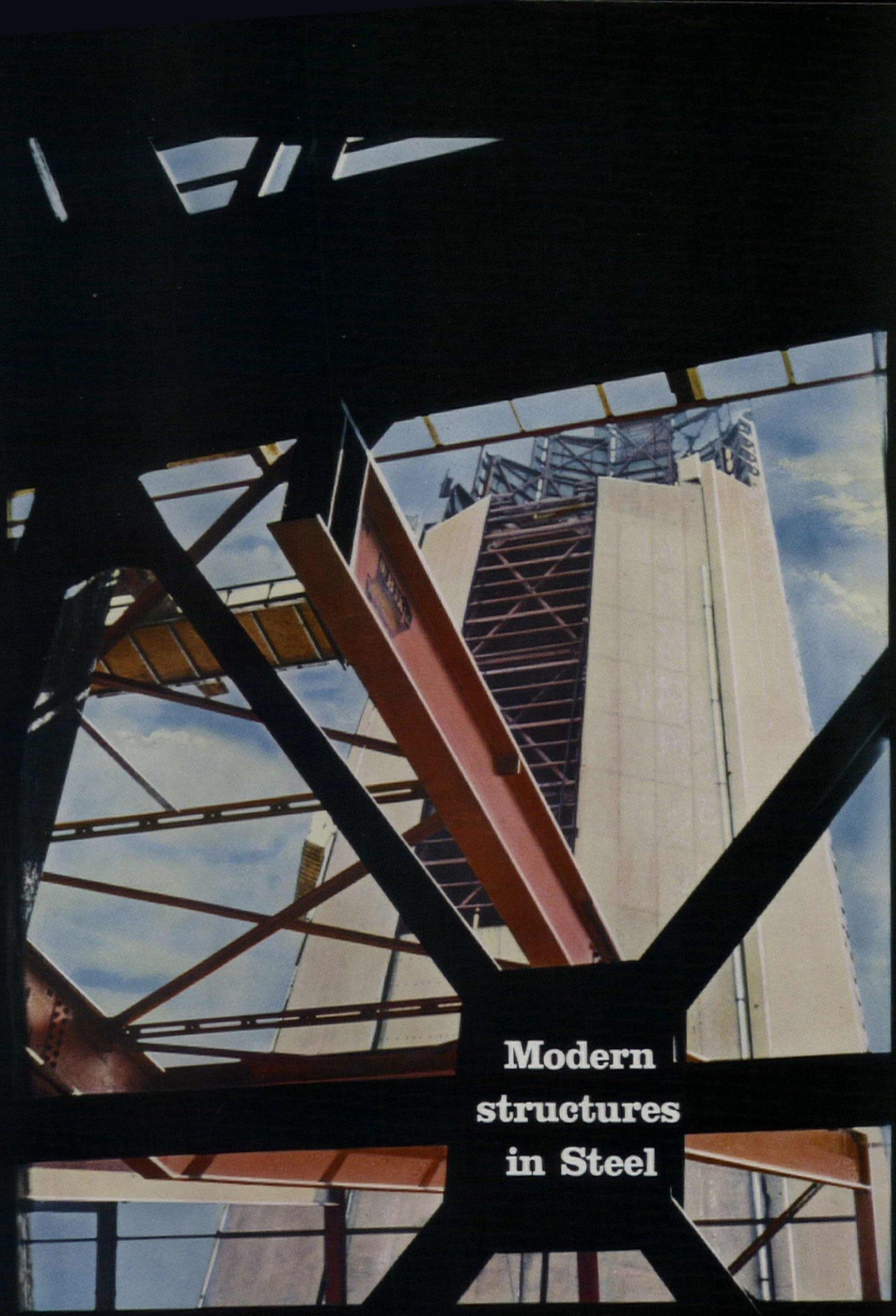
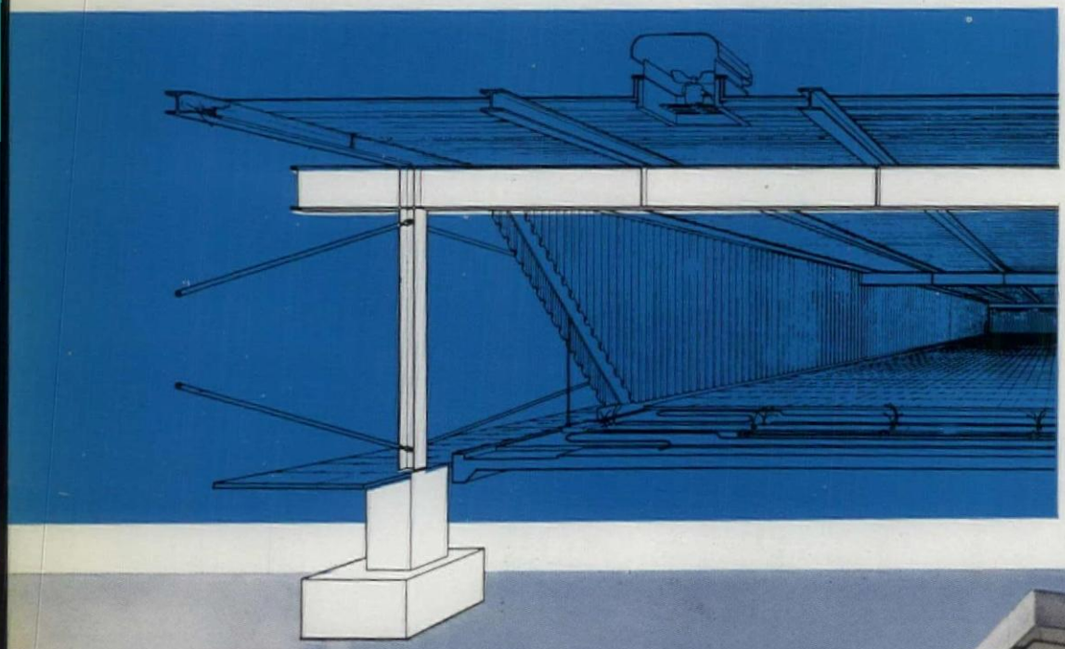


Modern structures in Steel

Functional design on a low budget

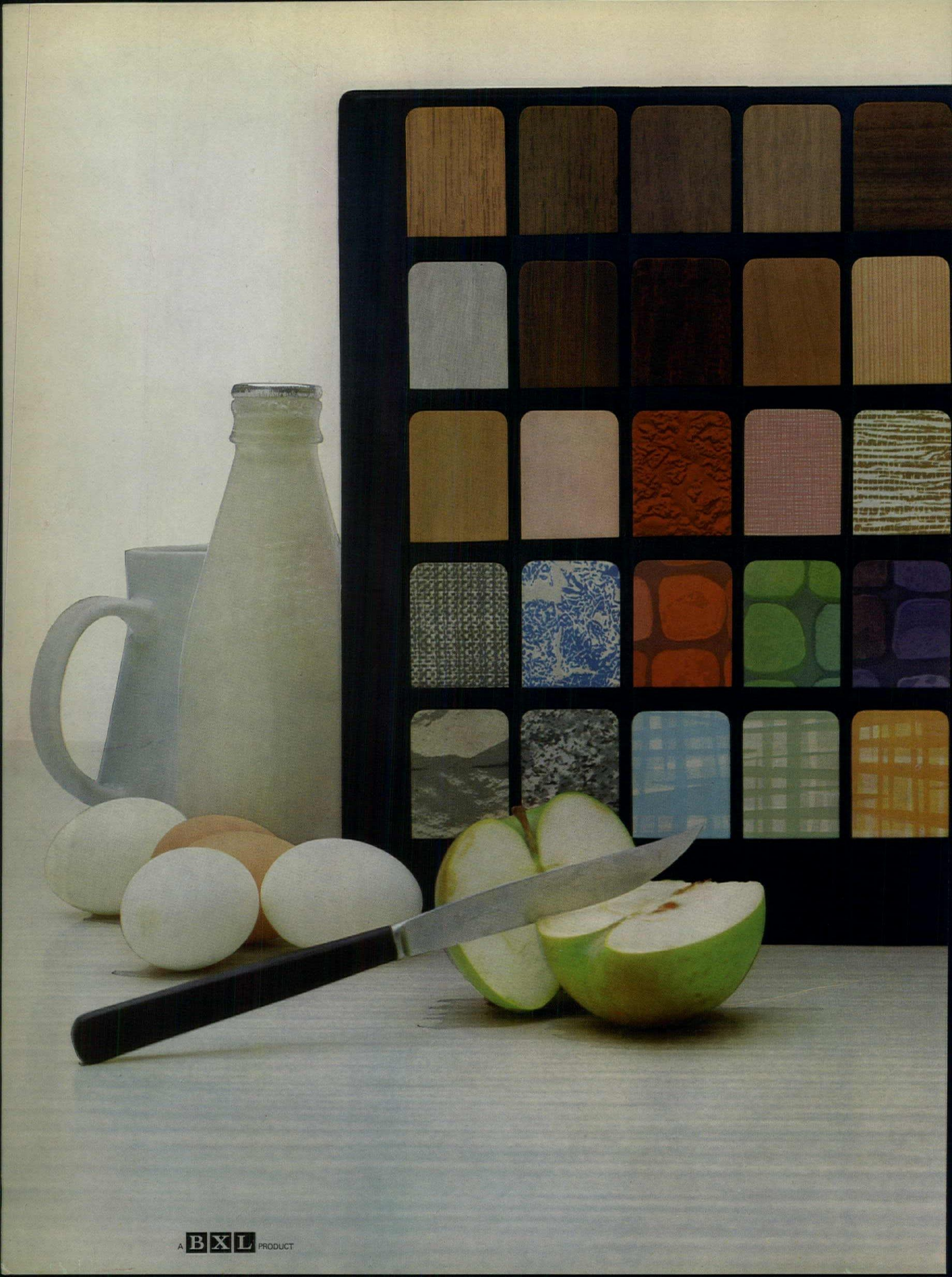
Steel-framed, steel-clad electronics factory

This remarkably economical project represents something of a break-through in industrial architecture. Its simple yet attractive design heightens the linear nature of the structural material its design group have employed throughout—*steel.* A functional solution was achieved working to a pressing 9-month schedule and a brief which required building cost to be *under* £3.10s. sq. ft. Speed in design and construction work, and provision for future extension and change, were aided by the choice of steel framing and maximum use of standardised elements. Plastic-coated galvanised steel sheet gives corrosion protection and a maintenance-free exterior colour finish to corrugated double-skin wall cladding. Full storey height panels are 12 ft high without intermediate support. Insulated steel deck roofing of similar trough section neatly recesses tubular fluorescent lighting and power feeds to ventilator fans.



Services: These are integrated within the fabric of the building and along a central underfloor service trench, giving complete flexibility of planning and clean uncluttered interior. **Structural frame:** Steel Universal columns were erected with shop-welded 9-ft cross heads, and centre beam sections were temporarily bolted before site welding to produce continuous beams. Perimeter columns and diagonal tubular steel wind bracings are deliberately exposed as part of the design.

Electronics Factory at Swindon, for Reliance Controls Ltd. Design Group: Architects: Team 4—N. Foster, W. Foster, R. Rogers. Consulting engineer: Anthony Hunt. Quantity Surveyors: G. A. Hanscomb Partnership. Services: G. N. Haden & Sons Ltd.



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before you plan a kitchen

Warerite decorative laminates are at home in every kind of kitchen, from the trend-setting to the traditional. Cool marbles, warm woodprints and new plain colours carefully selected to blend with any decorative scheme. And all have Warerite's tough, wear-resistant, melamine surface. See them all in the new, 3-volume compendium. **Warerite products include** Warerite Veneers*, Warerite Wallboard, Warerite XL Board and Warerite Wonderboard.

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DECORATIVE LAMINATES

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'A Town Called Alcan'

(3)

notation

The observant layman's code for his environment

Our second broadsheet on notation dealt with the application of Gordon Cullen's HAMS Code to an imaginary village called Long Lent. In this broadsheet he considers the development of a medium-sized industrial town, to which he will later apply a system of notation. The business of Alcan is, of course, the making and selling of aluminium. The traffic in ideas between industry, planners, architects, sociologists and builders is nevertheless an important part of this business.

Architectural Consultants:
Alun Jones, Ward and Partners.

For a reprint of this study and previous 'A Town Called Alcan' studies—unofficial and sponsored solely by Alcan—write to Alcan Industries Ltd., Banbury, Oxon.

THE CODE TO DATE

Scales

Primary divisions	H humanity	A artifacts	M mood	S space
Secondary divisions	Scales COMMUNITIES	Scales STOCK OF PARTS	Scales STIMULI	Scales CLAUSTRO
RANGE	(1-) croft (2-) hamlet (3-) village (4-) estate (5-) town (6-) county town (7-) suburb (8-) city (9-) megalopolis	(1-) sky (2-) water (3-) land (4-) plants (5-) animals (6-) objects (7-) structures (uninhab) (8-) structures (inhab) (9-) complexes	(1-) touch/size (2-) texture (3-) colour (4-) pattern (5-) key (6-) tempo (7-) rhythm (8-) meaning (9-) intellect	(1-) exposure (9-) enclosure
USE	EMPLOYMENT (1-) work (9-) leisure	TENURE (1-) natural life (2-) commercial value (3-) (4-) positional value (5-) (6-) group value (7-) (8-) preservation value (9-) canonisation	CONDITIONING (1-) factory (9-) fairground	WHERE AM I? (1-) here (9-) there
BEHAVIOUR	ZESTS (1-) conventional (9-) revolt	STYLE (1-) functional (9-) romantic	PASSION (1-) propriety (9-) outrage	FORMALITY (1-) formal/axial (2-) axial/sloping (3-) asymmetrical (4-) logical complex (5-) continuous persp. (6-) random complex (7-) overlapping (8-) osmotic (9-) irregular
RELATION	ASSOCIATION (1-) opting in (9-) opting out	LOCATION (1-) hidden (numinous) (2-) glimpsed (3-) recessed (4-) merged (5-) particular (6-) incident (7-) closing (8-) blocking (9-) axial feature	FOILS (1-) simple (9-) complex	SERIAL VISION (1-) known (9-) unknown

Indicators

CONNECTORS
- pedestrian access
- essential sight line

POINT OF REFERENCE

SPACE ENTITY

AMBIENCE (using typical building as example)

LINKED SPACE

SPACE BARRIER
- access
- vision

VISTAS
- panorama
- vista
- glimpse

SERIAL VISION SEQUENCE

INFINITY

WATER

GROUPS
- random
- architectural

GROWTH

PROPORTION
- cross section

LEVELS
- spot
- building height
- storeys
- towers etc.

FACING DIRECTION (statue etc.)

ATTACHMENT

CONTINUITY BETWEEN TWO POINTS

CONTINUITY SCALE IN OPERATION

SIMILARITY ESTABLISHED

NARROWS

SOCKETED VISTA

VERTICAL ANGLE VISTA

In previous broadsheets on this subject a system of notation has been outlined, as shown above, the purpose of which is to improve the liaison between those who mould the environment and those whose job it is to carry out the work, the constructors.

It would be unrealistic to expect that all building work, factories, roads, industrial workings, etc., should be supervised in detail by qualified designers. There aren't enough of them.

On the other hand, an indication of what a particular situation needs can be conveyed quickly by a system of notation.

The code can also be used to annotate the existing scene so that the non-committal Ordnance Survey sheet can be brought to life. This would have relevance in assisting civic groups and should also form a significant part of guide books.

In order for a code or system of notation to be relevant it should cover the range of human experience; and the code shown here (somewhat jocularly referred to as HAMS Code), although it exists only in skeleton outline, is capable of exploration in depth, a task that we would like to undertake at a future date.

In the meantime we turn to the consideration of a central area redevelopment scheme to see if notation is of relevance here.

Muffin-gilders Hall

Muffingilders Hall stands derelict, its paint peeling, and it bears, under the frowning pediment, the Estate Agent's board advertising its availability for purchase.

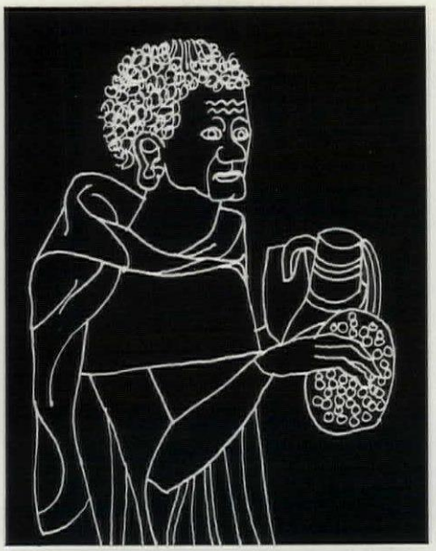
Those windows which have not been boarded have been smashed by bricks and the building is grimy with smoke from chimneys which have been innocent of blame for at least five years.

It stands on the east side of Hanaper Square in a non-descript Midland town. As lumps of plaster fall from the ceiling of the court room, loosened by rain from the leaking roof and finally persuaded by the rumblings of the new diesel trains on the viaduct behind, let us consider its story so far.

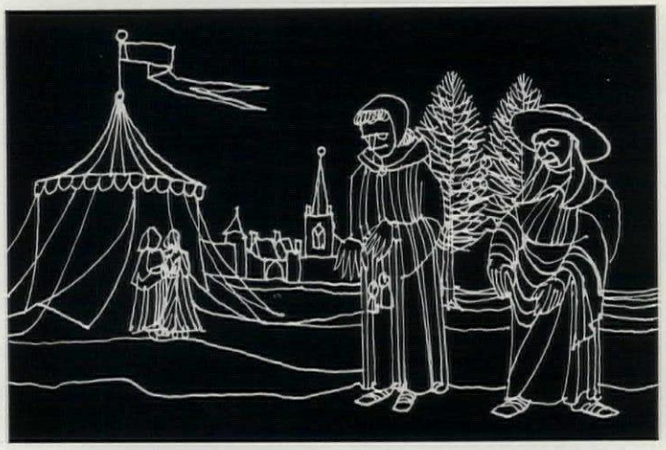
The Muffingilders originated in Medieval times as a voluntary association of bakers for the mutual benefit and protection of its members. Even at that remote time it was recognised that man did not live by bread alone and, in fact, the Gild was as much concerned with the spiritual as with the temporal values. Of all the Gilds in that part of England the Muffingilders most fervently practised Christian brotherhood and whilst some gilds forbade the playing of football the undefeated side sent out by the Muffingilders on the second Crusade is familiar to all.

In the regulation of trade the Gilds and Livery Companies had certain rights as, for instance, the goldsmiths' assay of metals and the vintners' tasting of wine. The Muffingilders held a monopoly of yeast and it is from this wealth that they endowed the Church of St. Luke's and completed its tower. They commissioned madrigals and sent representatives to Europe to learn the secrets of the latest confections. They built schools and almshouses, looking after the young and the old, they provided pageantry and insurance against hard times. They mixed piety with jollity, acumen with compassion.

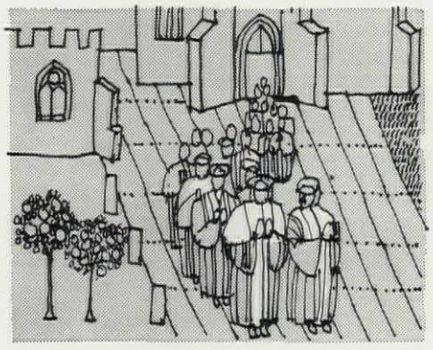
However the Muffingilders, like so many of the other Gilds and Companies, were unable to cope with the new economic forces of the 17th and 18th centuries. New industrial methods meant that the Gilds lost control of the regulation of their trades and there came a period of decline. Fraternal co-operation gave way to privilege for the few who mixed with the dignitaries of the region and administered charities.



◀ A medieval illustration showing a freeman pouring honey over a muffin in the induction ceremony of the Muffingilders.



▼ The Master and Wardens inspecting their common lands on the outskirts of the town.



◀ The annual procession of the Muffingilders to St. Luke's Church.

▼ The interior of the Hall.

For a brief period before the first world war Muffingilders Hall became the flourishing headquarters of Christian Socialism with speakers such as G. D. H. Cole expounding, along with fraternal delegates from France and Italy, in its now silent walls. This attempt to restore dignity and harmony to labour, industrial self-government, nearly got off the ground with the National Building Gild which built several housing schemes but collapsed in 1922 through lack of funds.

Since then the fortunes of the Muffingilders have steadily receded. In 1935 the premises were sold to the municipality and they have been used successively as library, Local Taxation Office, furniture store and Bingo Hall. The archives are deposited with a bank and the last known Master is believed to live in Auckland.

Hanaper Square is, in fact, quite a jolly place. There is a good market twice a week and, with two banks, a hotel, shops, several pubs and the County Court crowded round it, there is usually a feeling of bustle and happening. The buildings in the square are of no great merit architecturally, being simple and sometimes naïve. None has a Building Preservation Order, but some half a dozen are listed. The local stone, a honey-coloured limestone, and colour washing are the principal facings.

From the plan it will be noted that there is a small space to the south of the main square called Old Market Place. Obviously as the town grew in size so the need for a larger market place became pressing and, since people then as today are loth to lose their homes, the new market place was located to the north on the garden of Muffingilders Hall. The medieval building was burnt down during the Napoleonic Wars and rebuilt in the Grecian manner.

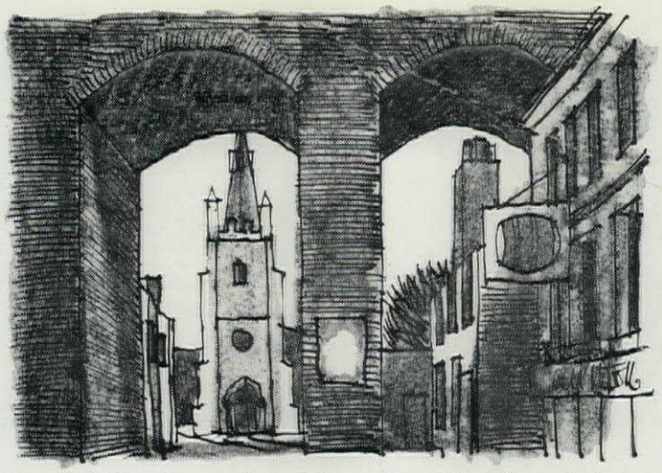
Behind the Hall stand the arches of the railway viaduct and on the far side lies St. Luke's Church. From this side several narrow streets and alleys run gently downhill into Hanaper Square.

Meanwhile the town continues to expand and its Development Plan has taken note of the need for improved traffic circulation, for adequate car parking in the commercial centre and for an extension of the shopping and business accommodation.

We can distinguish two separate factors at work. First is the expansion of impedimenta: the Old Market Place proved to be too small and the market moved north to Hanaper Square. Now this is proving to be too small and there are cars, buses, delivery vans to be considered also.

On the other hand we note the decline of the Muffingilders from a position of power to that of complete irrelevance. And no doubt you will have guessed that Muffingilders stand for human values.

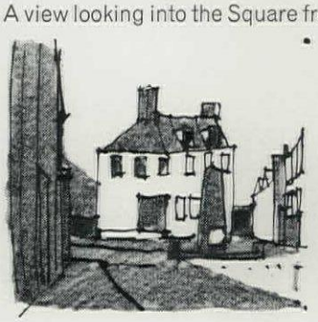
On the desk of the Town Clerk lies a shiny report from Instant-centres Ltd. The Town Clerk is sipping coffee with the Engineer and Surveyor.



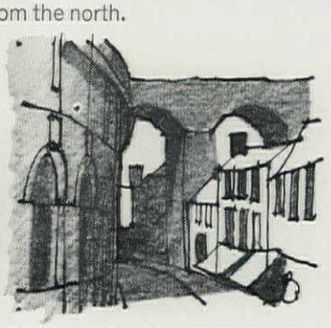
St. Luke's Church seen through the arches of the railway viaduct.

King's Hanaper Square, to give it its correct title, seen from Westgate Street.

A view looking into the Square from the north.

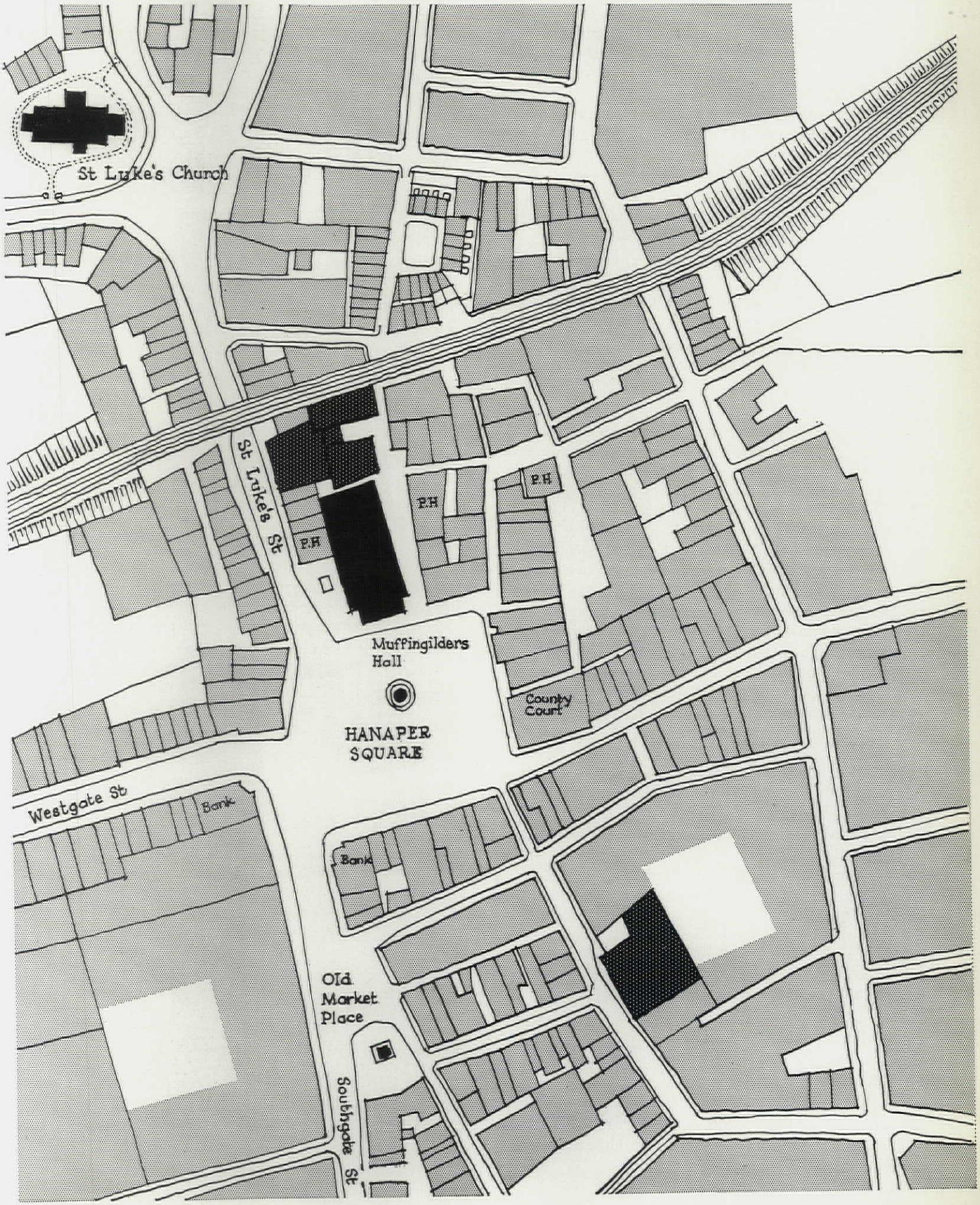


Old Market Place.



St. Luke's Street.

Below is a plan of the area of which Hanaper Square is the centre. It will be seen that St. Luke's Church lies beyond the railway viaduct to the north. Muffingilders Hall is shown in black and the two buildings marked by a heavy grey tint are of recent and substantial construction. To the south lies Old Market Place. The land slopes down from west to east and rises beyond the viaduct to St. Luke's Church.



The following notes have been gleaned from the developers' report:

"There are no buildings in the area under consideration on which there is a Building Preservation Order and only five are classified, Grades Two and Three. In view of the need for the utmost economy in the construction it would be impossible to incorporate these five buildings in the new development due to the fact that they are scattered and not in a single group. Also their structural condition is poor. There are however two buildings which must be retained, a bank and a public house, both of which are of substantial modern construction.

The site can, in fact, be regarded as subject to almost total clearance. It is in every way ripe for development.

It has not been found possible to retain the old street pattern for two reasons:

1. Hanaper Square is too large from the point of view of economical shopping, i.e. the distance the shopper is asked to walk from one side of the square to the other would be a discouragement.
2. The lanes and alleys that lead into the square would be too congested for pleasant shopping and also they afford a ready means of escape from the shopping centre.

Consequently a fresh layout has been evolved. There will be a covered shopping Mall running north and south. It will have the optimum width, be illuminated by concealed lighting, and have background music. At either end of the Mall there would be office blocks and a cross axis running east and west would terminate on escalators leading to the overhead car-parking bays. Bus-stop bays are provided near the main entrance and the development is all at the level of St. Luke's Street. The parking areas feed into the proposed central relief road which runs to the growing suburban areas. The whole area will be completely safe for shoppers.

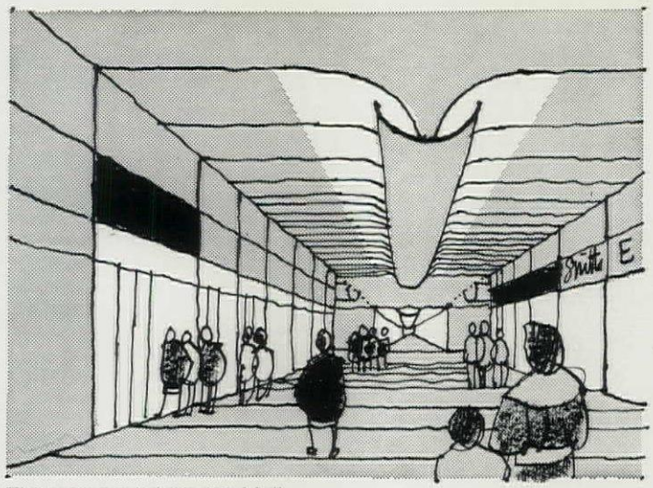
In view of the fact that the shopping precinct will be locked after the shops have closed for the evening it has not been thought necessary to introduce other amenities than lunch-time snack bars. The aim has been to provide an unobtrusive but contemporary background to shopping and business. There are no distractions: the atmosphere is equably conditioned, the floors are of sound-absorbing, non-slip material and the shop doors controlled by electric-eye.

The architecture will be carefully and sensitively handled on a repetitive module of 3 feet 6 inches which will be standard throughout the development.

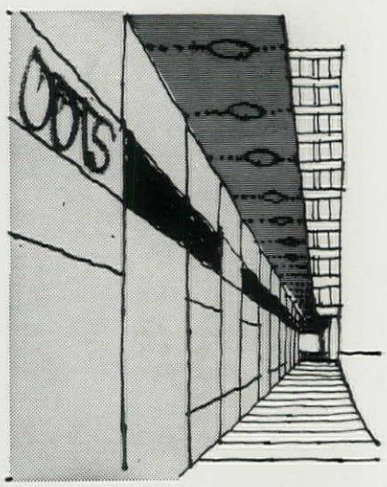
The areas designated for phases two and three are shown on the plan."

As another chunk of plaster falls from the ceiling of Muffingilders Hall a P&O liner is tying up at Tilbury. One of the passengers stands looking moodily at the dreary, grey landscape. He is here for a holiday and among his varied qualifications and honours he has a special, if whimsical, pride in being the last Master of the Muffingilders.

Will he be able to solve the problems of Hanaper Square? Will the HAMS Code, in the hands of an expert, point the way to an attractive alternative solution? *See our next broadsheet.*

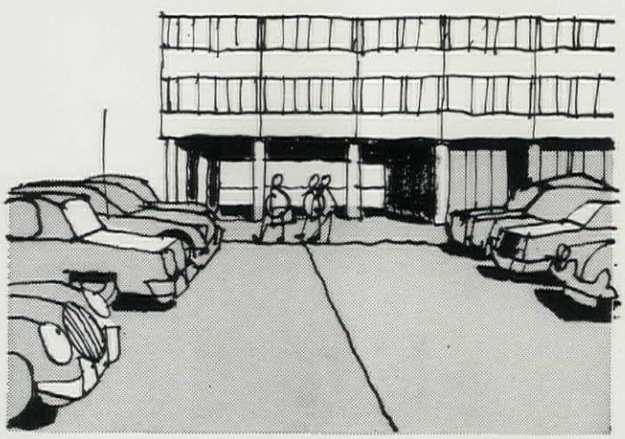


The proposed shopping Mall.

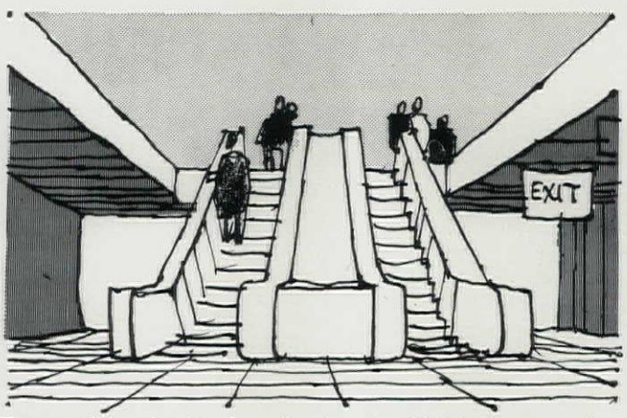


Sketches on these two pages are from the developers' report

The clean lines of the building can be seen.



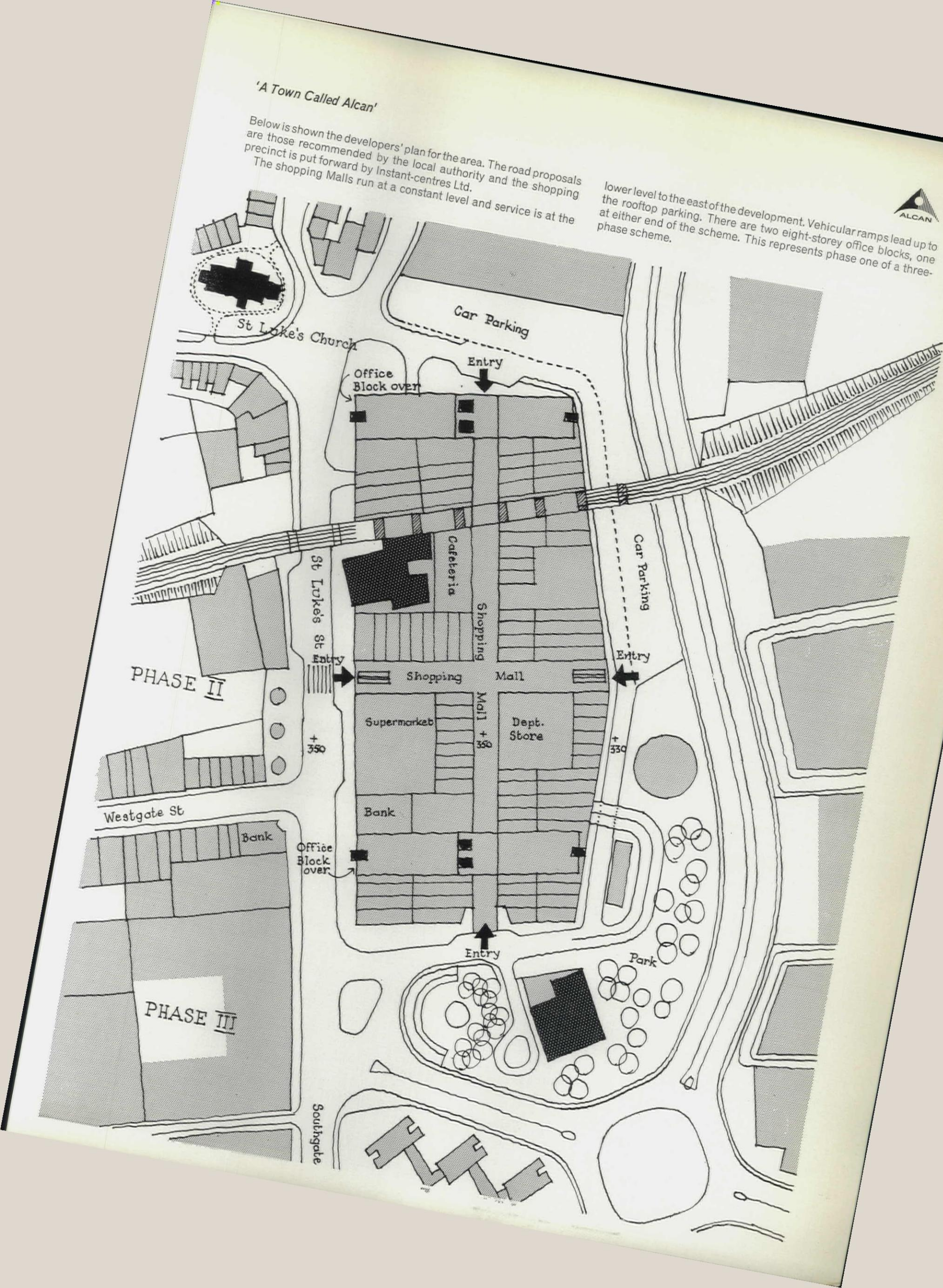
The elevated car park with part of an eight-storey office block.

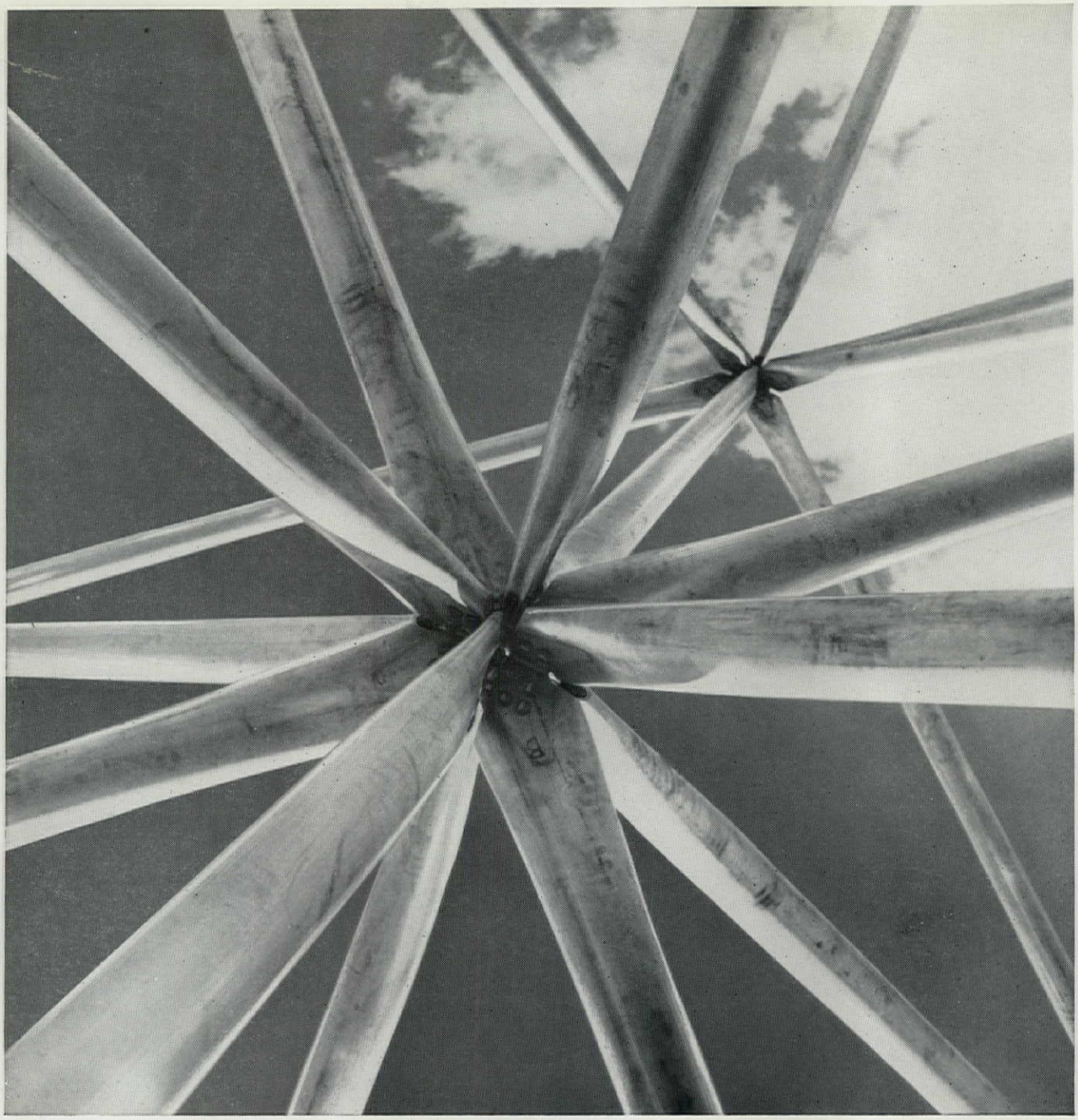


The escalators leading from the shopping Mall to the car park.

'A Town Called Alcan'

Below is shown the developers' plan for the area. The road proposals are those recommended by the local authority and the shopping precinct is put forward by Instant-centres Ltd.
The shopping Malls run at a constant level and service is at the lower level to the east of the development. Vehicular ramps lead up to the rooftop parking. There are two eight-storey office blocks, one at either end of the scheme. This represents phase one of a three-phase scheme.



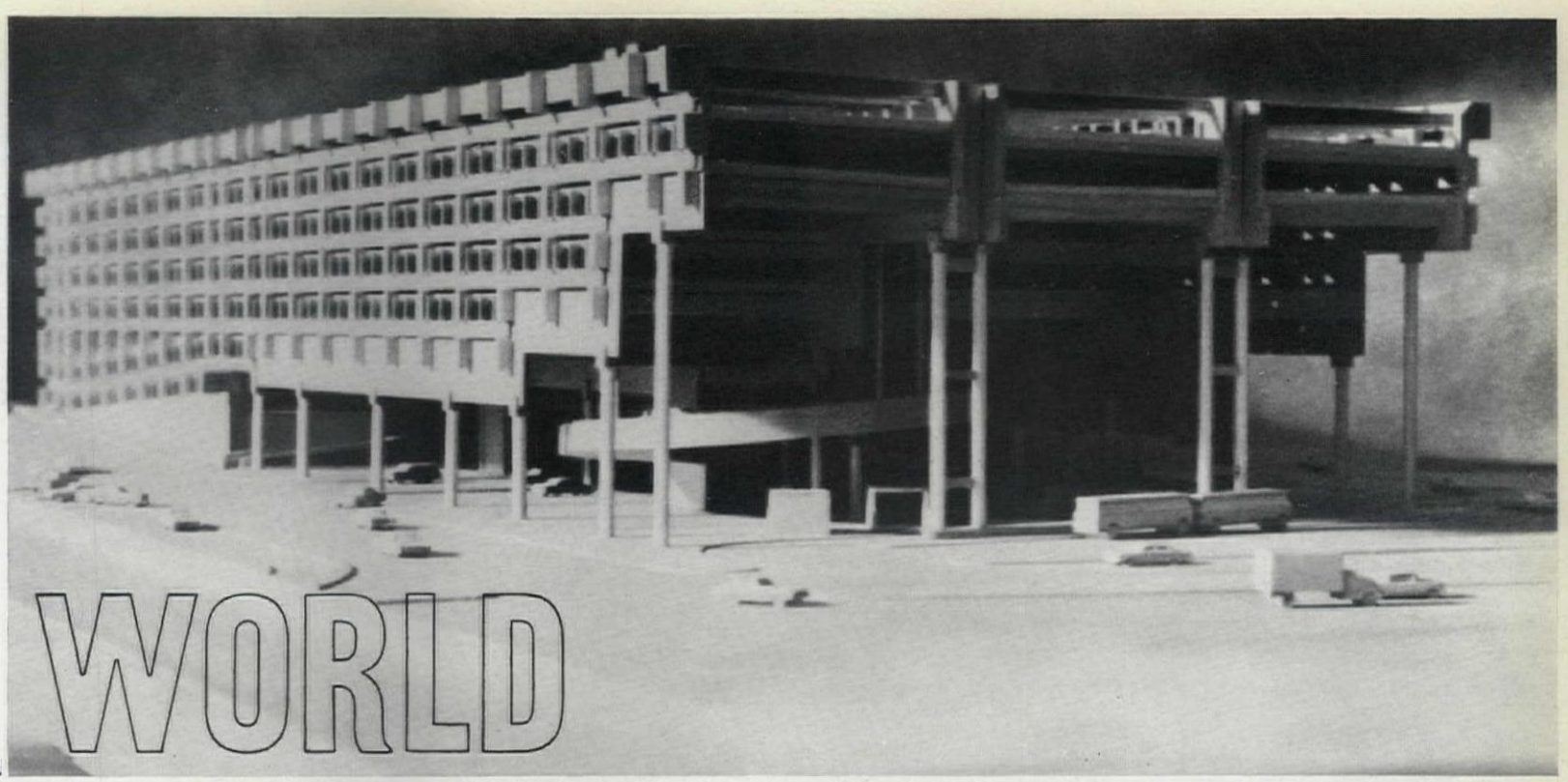


Gyrotron, Expo'67

The structures of pavilions at Expo '67 are a fair indication of where modern architecture is heading. That over 1200 tons of Alcan aluminium went into making them is no mere coincidence.

For our booklet, Alcan at Expo, write to:
Alcan Industries Limited
Publicity Department, Banbury, Oxon

ALCAN



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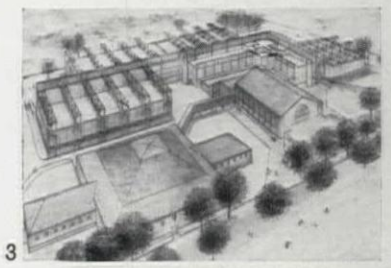

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BOSTON'S MONUMENTS

The multi-storey garage is one of the few components of a modern city centre which carries with it the singleness of purpose of the great renaissance monuments. The Boston Government Center's proud palazzo, 1, the Cá Park as it were, has been designed by Kallmann and McKinnell (in partnership with S. Glaser Associates) with a notable lack of that straining for effect that is apparent in their nearly completed City Hall. The 60 feet wide trays, 2, which hold 2,000 cars in all—half as many again as in Paul Rudolph's New Haven garage — are carried vertically on short lengths of wafer-shaped balustrade beams; these in turn stand on the continuous horizontal T-beams which appear at first sight to be directly expressing the trays as they slot into the massive 'hooker' columns of the main structure. Structural hierarchy can also be seen in Kallmann and McKinnell's Athletic Facility for Phillips Exeter Academy, 3, in the relationship between rooflit sports halls and rooflit L-shaped concourse.

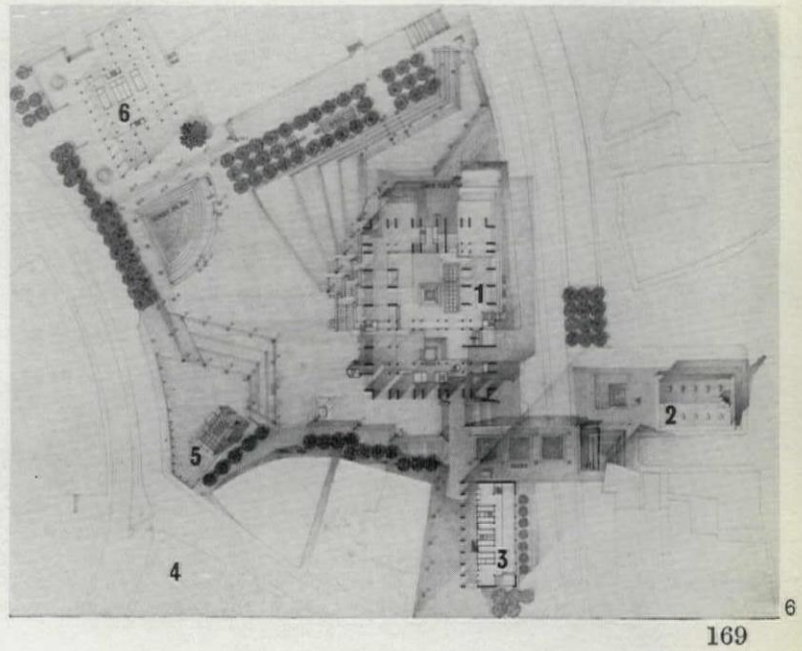
The Government Center has taken an enormous gash out of the poorer part of old Boston, below Bulfinch's State Capitol on Beacon Hill (top right in 5). In spite of a block plan by I. M. Pei, the rigid zoning and disintegrated grouping of the new monuments seems unpromising—and this in a city famous for its urban renewal programme under Ed Logue.

The first finished structure is the Federal Office Building, 4, by The Architects' Collaborative, a pallid exercise in precasting. The curved corners, each screening an obstructive internal column, are a motif apparently taken from the granite frame of the nineteenth-century Sears Block (right in 4), which is sensibly being restored as part of the opposite flank of the new

5

key to model
1, City Hall
2, Federal Office Building
3, Garage
4, State Office Building
5, Government Service Center
6, Fanum Hall
7, Skyscraper offices
8, Sears Block

key to plan
1, City Hall
2, Fanum Hall
3, Skyscraper offices
4, Sears Block
5, Subway station
6, Federal Office Building



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acknowledgments

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This month's cover *is based on a photograph by Clarence J. Laughlin of a tomb, dated* 1884, *at Buffalo, New York. He has called it 'The Vision of Dead Desire'. His own account of it appears under that title on page* 174.

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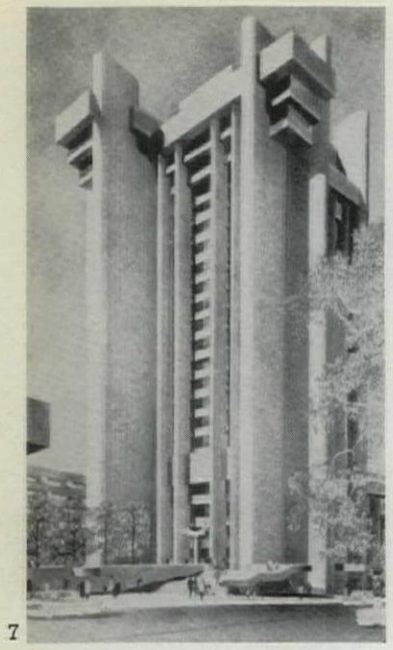

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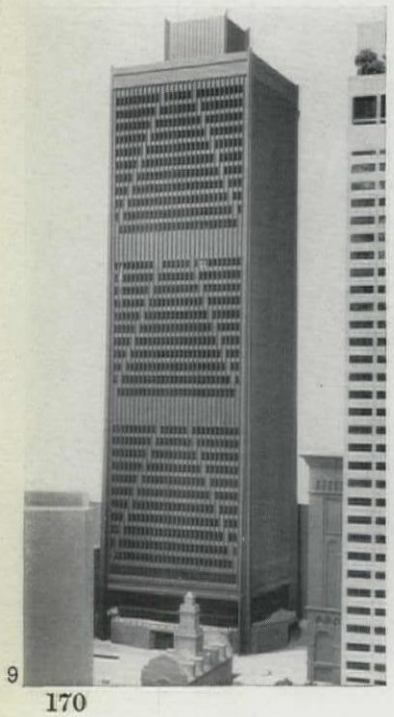
BOSTON: PLAY SPACE

City Square around the City Hall. In the centre of 4 can be seen the plum-coloured bunker, reminiscent of Sir Leslie Martin's Caius building, which covers one of two subway stations and forms a beginning to Kallmann and McKinnell's landscaping of the square, 6. This is impressively varied in form compared with the glacial expanses of marble popular in American civic life. The one place in the overall plan, 5, where enclosure by buildings has been attempted is in the Government Service Center for which Paul Rudolph is overall architect. It consists of a sensational tower block, 7, surrounded by stepped terraces. In the plaza, 8, Rudolph has let himself go with three contrasting textures of concrete in an Expressionist vein, though not without rationalizing it: 'The benches (i.e. the steps) are curved for sociability . . . they are my social statement.'

More rational eclecticism can be seen in Pietro Belluschi's design, 9, for the Boston Company Building, which will rise not far away in the city's financial district—the source being the Nervi-Moretti tower at Montreal.



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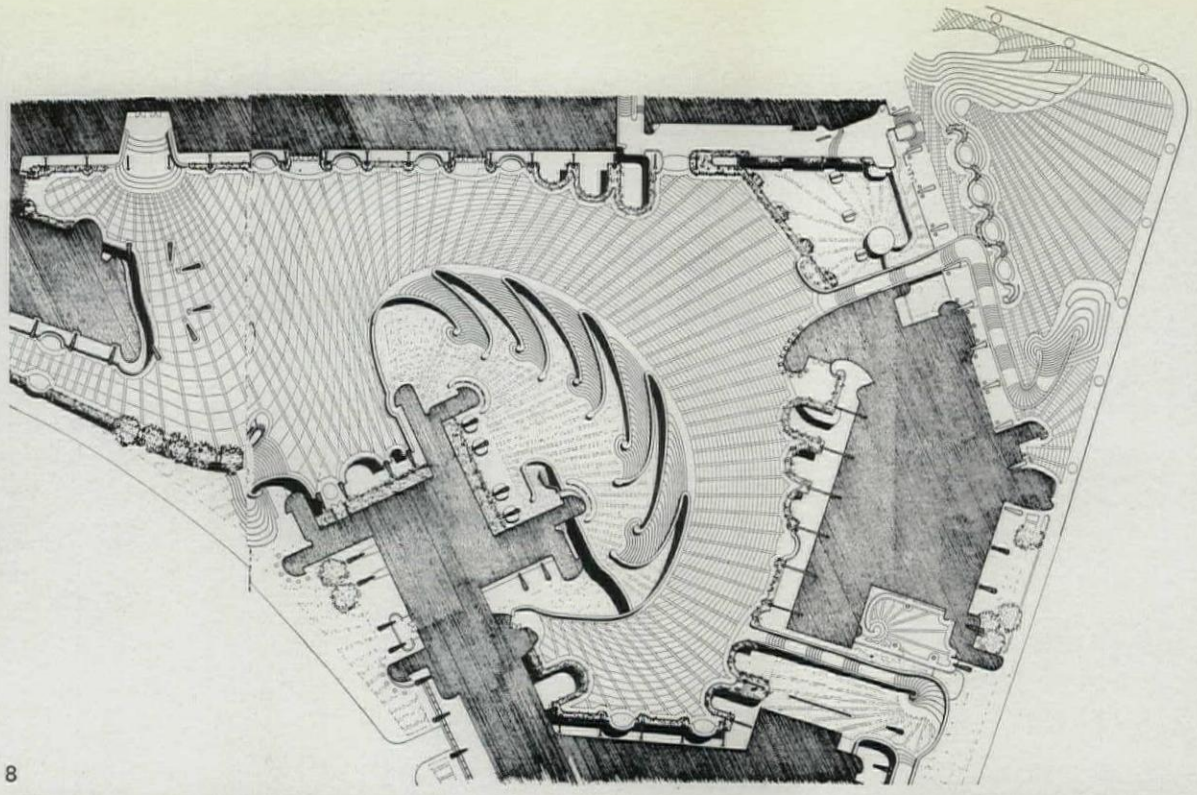

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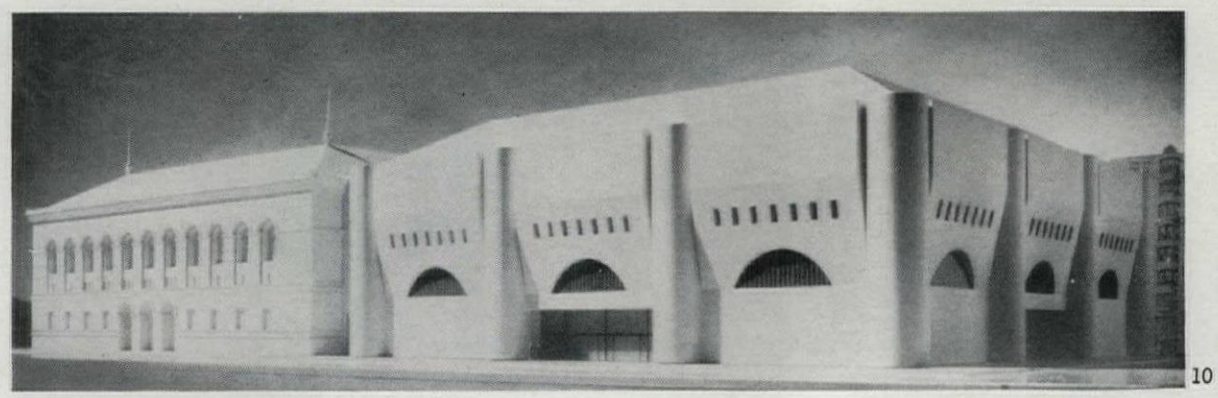

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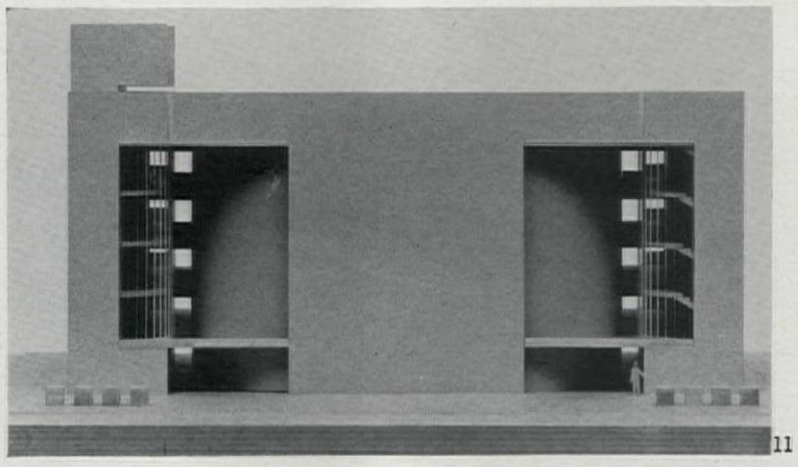
BOOKCASE

No one minds Philip Johnson's private jokes as long as they are kept private. But when, in association with Architects Design Group, he produces a 480,000 sq. ft. addition, 10, to McKim, Mead and White's superb City Library in Boston's Back Bay area, in a garbled mixture of Kenzo Tange (round towers) and Robert Venturi (neo-Palladian lunettes), it is a matter of public concern. McKim's building is calm and serene in its external elevation and in its complex unscrambling of levels internally—yet there seems to have been no protest whatever against the juxtaposition with it of Johnson's elephantine antics.

CAR CASE

Mitchell/Giurgola Associates are prominent in the Kahnian priesthood at Philadelphia. The second parking garage they have designed there for the University of Pennsylvania has a typically sophisticated exercise in facadism at one end, 11, with its separation of service towers from what is just an *in situ* concrete screen wall in the middle. This is the pedestrian exit and entrance, cars being kept to the other short end. The enormous height



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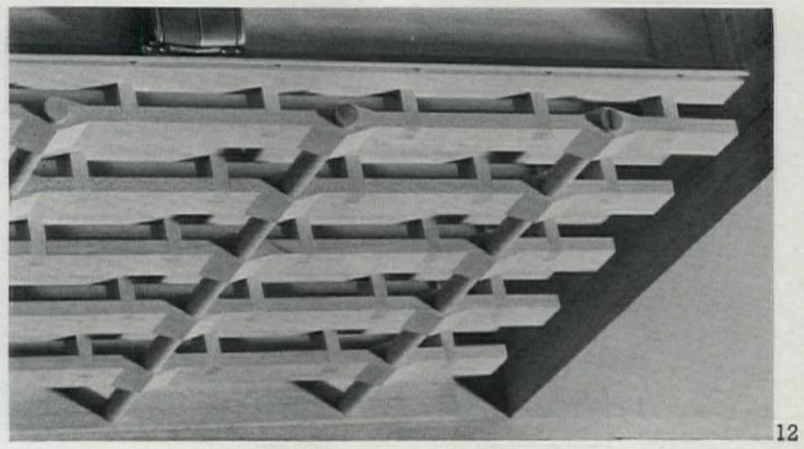


12

CAR CASE

of the openings is apparently intended to match those in the wall of the Franklin Field stadium opposite. The side elevations are more rational, 12, in their threading of post-tensioned and precast elements, kept proud from the tray edges.

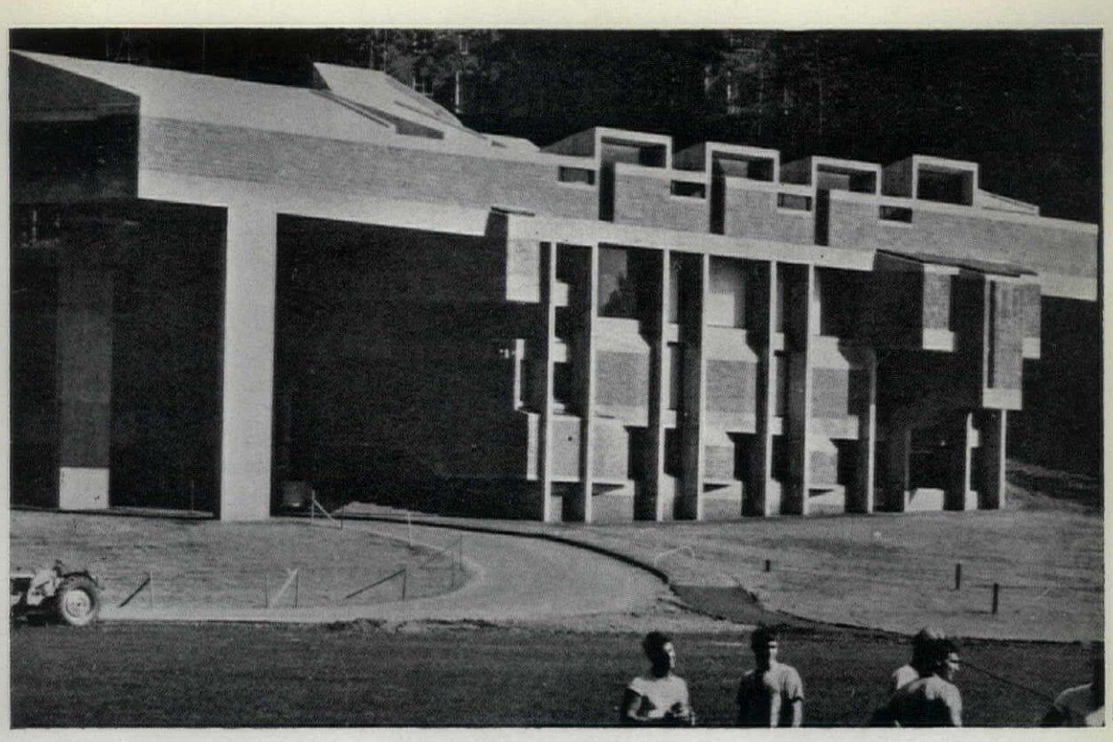
IMPLIED SPACES

In Paul Rudolph's work, as in that of Waterhouse or Butterfield, the superficially capricious goes hand-in-hand with the fundamentally radical. Take the Charles A. Dana Creative Arts Center at Colgate University in the Massachusetts countryside, 13. The top floor was not extended as planned as a bridge to the hillside; and the cost escalated (to $1.5 million, or $26.50 per sq. ft.) while the finishes declined from ridge-hacked concrete to ordinary blockwork. Yet it is still a firm statement of two important propositions: first, that 'classical' megastructure should be kept separate from 'organic' infill; secondly, as the first floor plan shows, 14, that even wholly enclosed rooms, as for music practice, should carry an impression of the adjoining spaces—Mies's idea of 'implied space' within an overall unity. Such unity is realized admirably on a simpler brief at the ridge-hacked Christian Science Student Center, 15, recently completed on the University of Illinois campus at Urbana.

But what works on plan, 16, for Christian Science is unlikely to work as easily for conventional science. Rudolph declares that 'flexibility is the enemy of architecture and should be limited as much as possible since it tends to become characterless.' On the level of the individual house it may indeed be appropriate to enshrine a particular 'character' permanently—the Tarzan image, for example, of Rudolph's abortive project for a 'house in the South,' 17. By contrast the interlocking spaces of the immense Orange County Courthouse at Goschen, New York State, a small part of which is shown in 18, may well in a hundred years convey as unsuitable a sense of legal terror as that of Street's Law Courts in London or Poelaert's in Brussels.

Rudolph fortunately contradicts himself. The John W. Chorley Elementary School at Middletown, New York State, will not only have repetitive spaces on either side of a central spine, 19, but each classroom wing can become one big auditorium or be partitioned off. Concrete block walls and exposed space frame joisting, 20, have kept it all within a modest budget.

The first completed phase of the Institute of Technology at North Dartmouth, Massachusetts, is also flexible, in that the general culture wing accommodates temporarily the library and administrative offices. Vast circulation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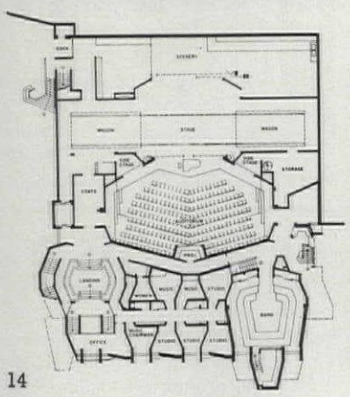
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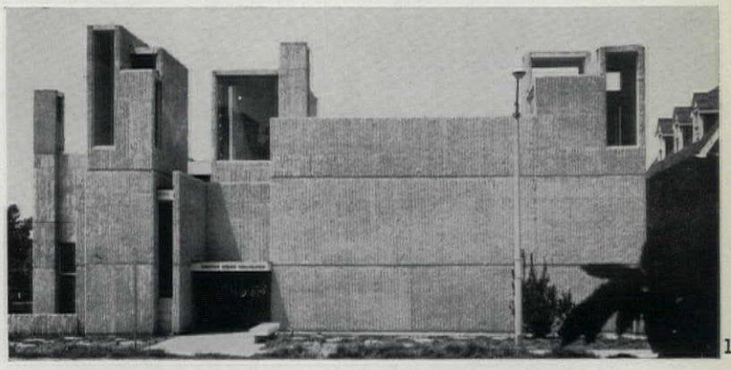
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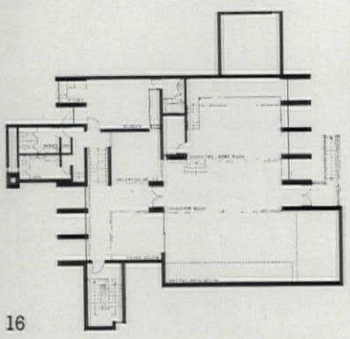
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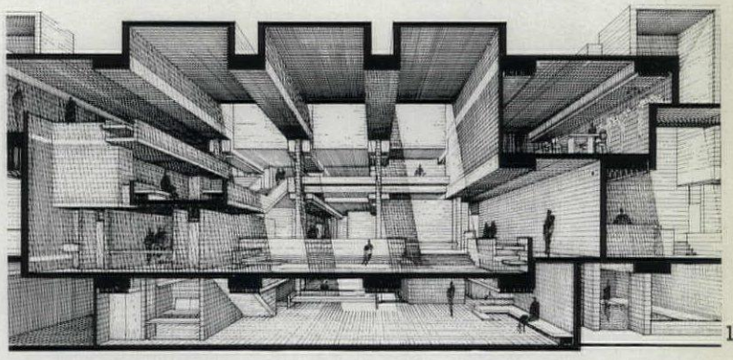
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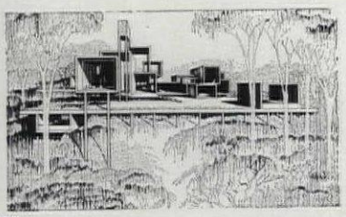
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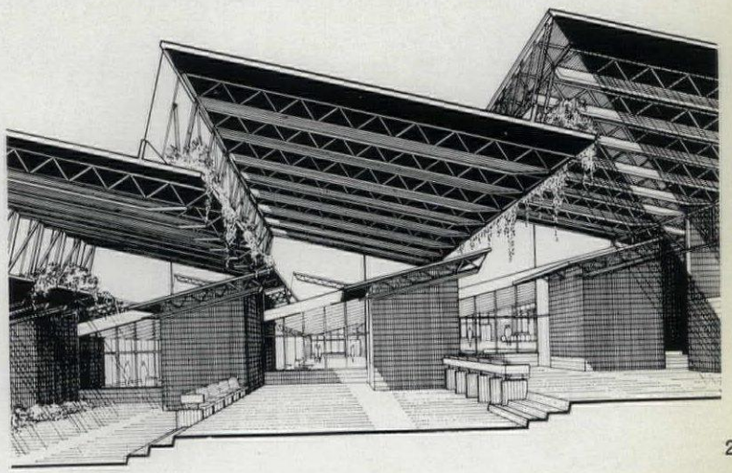
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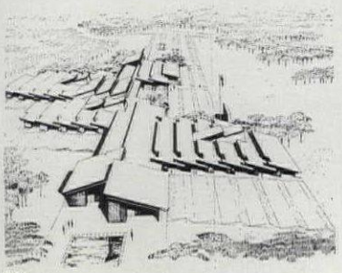
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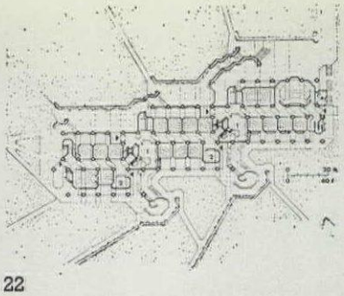
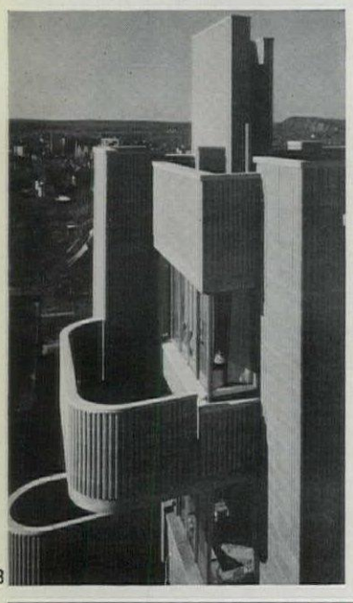


22

RUDOLPH'S SPACES

halls, 21, are placed at regular intervals on a structural grid reminiscent of Louis Kahn, 22. Meanwhile, at the scene of Rudolph's earlier triumphs, the Crawford Manor apartments for old people at New Haven, 23, have risen in the form of a disintegrated slab, 24, alongside an expressway. The apartments have variety of shape and of views, 25—the lateral thrusts being based on those of Wright's Falling Water.



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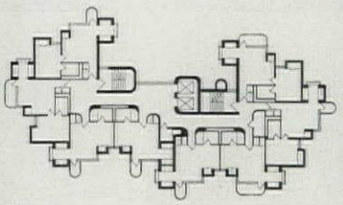

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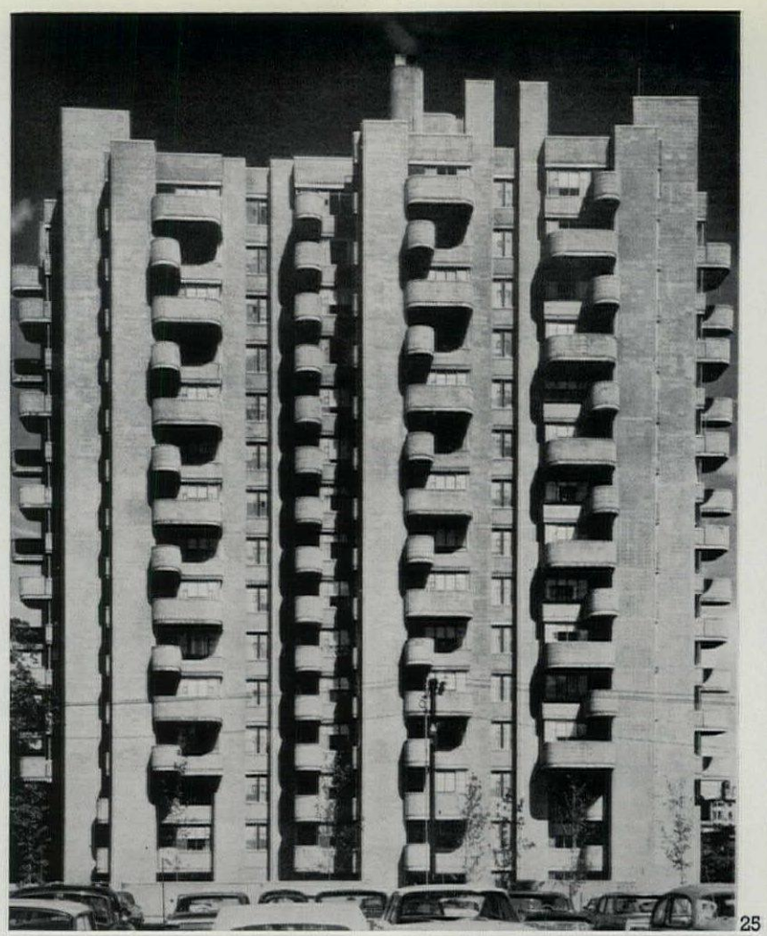

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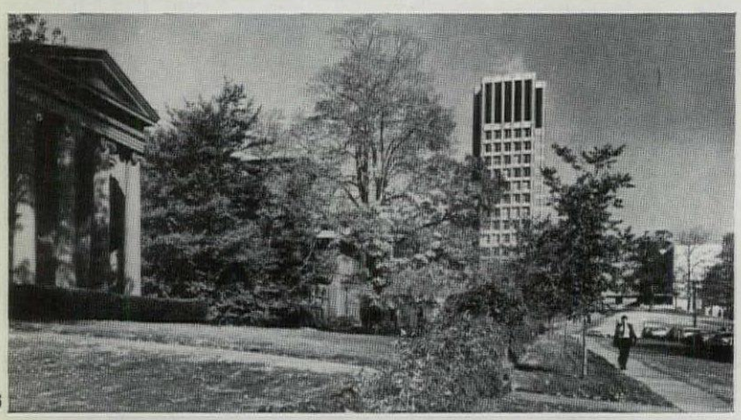

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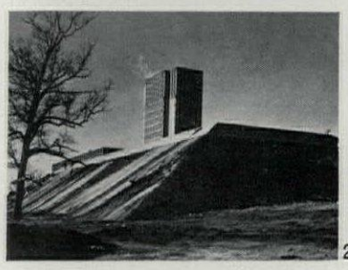
KLINE SILO

Sharing the New Haven skyline with Crawford Manor (see above) and Roche's forthcoming Knights of Columbus (AR, World, January, 1966) is Philip Johnson's heavyweight Kline Biology Tower on the Yale campus, 26. In its unashamedly glossy exterior, 27—can we wait for the 'book of the building'?—it flaunts sandstone and iron-spot brick as a coating for what in essence is good pipework, services being contained within each fat column. Johnson's handling of relationships at a distance is undeniably clever, whether it is the Collegiate Gothic of the Sloane building, 28, or the neo-Ledoux moon landscape of the new tandem accelerator building, 29, designed by the local firm of Douglas Orr, de Cossy, Winder and Associates.

28



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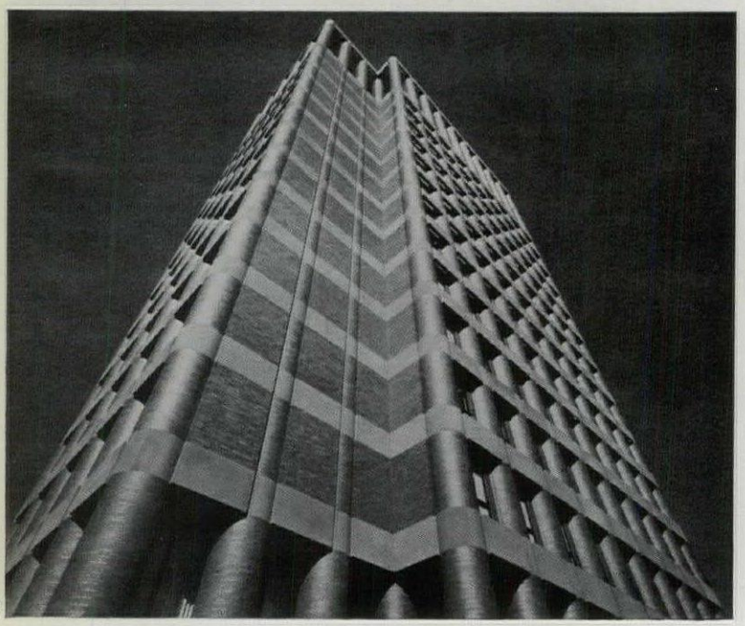

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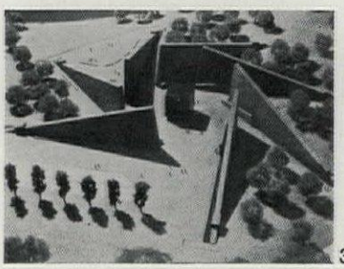
NO DEAL

The Roosevelt Memorial in Washington is the architectural non-event of our time. After the Roosevelt family finally killed the Hoberman-Wassermann competition winner (AR, World, September, 1961) Marcel Breuer was appointed after some widely publicised short-list interviewing. His design, 30, is less dramatic than its predecessor but cuts a better figure in its pattern seen from the air. This time, however, with the Roosevelts happy, it was the capital's Fine Arts Commission—similar to our own Royal body—who unanimously rejected the design, as not fulfilling the criteria of 'the highest standard of artistic achievement and significance.' No reasons given.



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The 'Kiva' at the Eveline Lowe Primary School, London, S.E.1. Architects: Development Group of the Department of Education and Science

VIEWS AND REVIEWS

marginalia

DEDHAM UPGRADED

The recent designation of Dedham Vale as an 'area of outstanding beauty' by the National Parks Commission was only the latest in a series of encouraging moves since the protest marches and rows of a couple of years ago (AR, May, 1965). The preservationists' success was in persuading the Minister of Housing to persuade the three county councils—Essex, East Suffolk, West Suffolk—to join in planning the Vale as a whole, instead of 'rounding off' their border territory with large chunks of low density housing. One housing estate got away—at Stratford St. Mary, one of the less attractive villages. But the first joint report of the three councils last year showed that positive proposals were in the air: riverside walks, vantage points for views, foresight over tourists' car parking—but large new hotels, restaurants, cafes and so on to be kept out of the actual Vale itself. Even 'natural' increase in population, said the report, should be housed outside the Vale, at neighbouring towns such as Sudbury. At present the county councils are said to be having further talks with the Ministry with a view to a more detailed master plan; it will be interesting to see what new forms of positive conservation of cultivated landscape can be suggested.

TIME HONOURED LANCASTER

The second volume of Osbert Lancaster's autobiography (*With an Eye to the Future*, John Murray, 25s.) contains—as was only to be expected—many passages about architecture and, indeed, some about THE ARCHITECTURAL REVIEW, to which he was a valued contributor for many years. During the 1930's he wrote every month the paragraphs (which he disrespectfully calls 'a column of architectural chit-chat') that were the predecessors of those among which this note is numbered.

He illustrated them with his own drawings, and this was the origin of the series of books (beginning with *Progress at Pelvis Bay*) which gave him his wide reputation as an architectural commentator, satirical, funny and serious at the same time.

In the orotund prose of his newest book, his interest in architecture—especially as a conveyor of nostalgia—emerges page after page, and architecture seems to have pursued him as actively as he pursued it. The book opens, for example, with a reference to his war-time experience as an air-raid warden, his Warden's Post, as it happened being Leighton House, Kensington, where 'the fountain in the pool in the Arab Hall tinkled irrelevantly, emphasizing rather than breaking the silence; the squares of sunlight on the marble floor were cross-hatched by the patterns of the carved wooden grilles which covered every window; in the fretted squinches, supporting the dome, gold-leaf gleamed in the bluish transmuted light reflected in the peacock tiles. . . . Even a large canvas by G. F. Watts representing, according to the legend beneath, "Chaos Disrupting the Arts of Peace," which might possibly be thought to have possessed a certain topicality, seemed in the contemporary predicament only to offer a wholly inadequate generalization, conceived in a period of unbroken tranquility and totally lacking any hint of prophetic menace.'

REGENT'S CANAL

The future of London's Regent's Canal remains a question mark but that it still has a future is apparent from a report* published in April by the Regent's Canal Group, with the backing of the Civic Trust. As the report says, 'though most of the major towns in this country and several of the New Towns, are threaded by canals, as yet little attempt has been made to use them as a positive element in the urban scene. In many cases they could be transformed, in the new age of leisure, from a liability into an asset.'

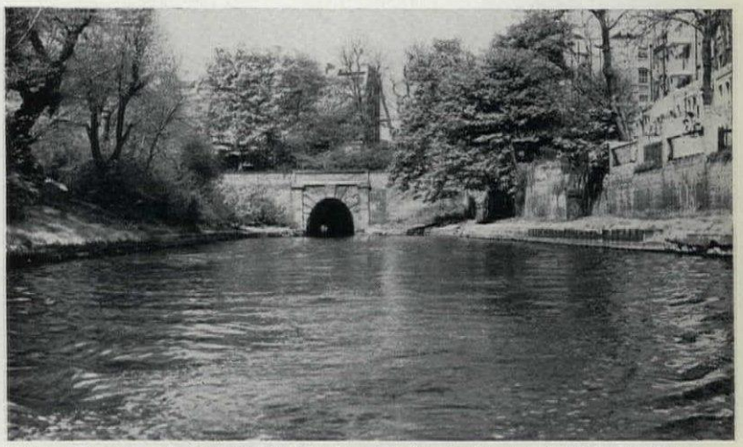
This report aims to show how, from being a neglected backwater, the Regent's Canal could become a popular and accessible centre for boating, free from noise, danger and traffic fumes. The report is timely in view of the formation last year of the London Canals Consultative Committee (including representatives of the Greater London Council, British Waterways Board and eleven London Boroughs), the creation of the Lee Valley Regional Park Authority (the Regent's Canal links the Lee to 2,000 miles of inland waterways) and in view of the Government's promise to improve the leisure uses of inland waterways generally.

The report is in three sections, the first being a review of the existing situation, pointing out the social deficiencies in the areas through which the canal runs, particularly poor housing and lack of open space; also the opportunities arising from the fact that much of the land along the canalside is in process of large-scale redevelopment. It also points out that much of the interest and charm of the canal today lies in the variety of land use and scenery, the contrast between enclosure and openness—in fact the infinite variety in cross section through canal and buildings. The second part of the report outlines policies for the future and design principles which should be observed; for instance that the enclosed and secret nature of the canal should be retained over substantial lengths and that wholesale 'opening up' would ruin its special character. The massing of future buildings must be carefully considered in relation to this. Also, although more trees and open development, as at Little Venice, would be welcome in some areas, the canalside is no place for formal flower-beds or rockeries.

It suggests that a GLC design manual should be prepared as a guide to sympathetic canalside trim and the handling of redevelopment along the canal. The final section shows, by means of eight design schemes for selected places along the canal, the opportunities that exist for incorporating the canal into surrounding areas. On the lines of similar studies in the REVIEW article 'London's Own Canal'†, these schemes vary from pure landscaping and conservation as at Vincent Terrace, Islington (by John Hunter), to a full-blooded comprehensive redevelopment of the

* *Regent's Canal: a policy for its future.* A study by the Regent's Canal Group (10 Vincent Terrace, London, N1). The group, consisting of The Paddington Waterways Society, The St. Pancras Civic Society and The Islington Society, was formed in 1965 and later joined by the Inland Waterways Association.

† By Lewis Braithwaite, with drawings by Richard Reid. March, 1966.



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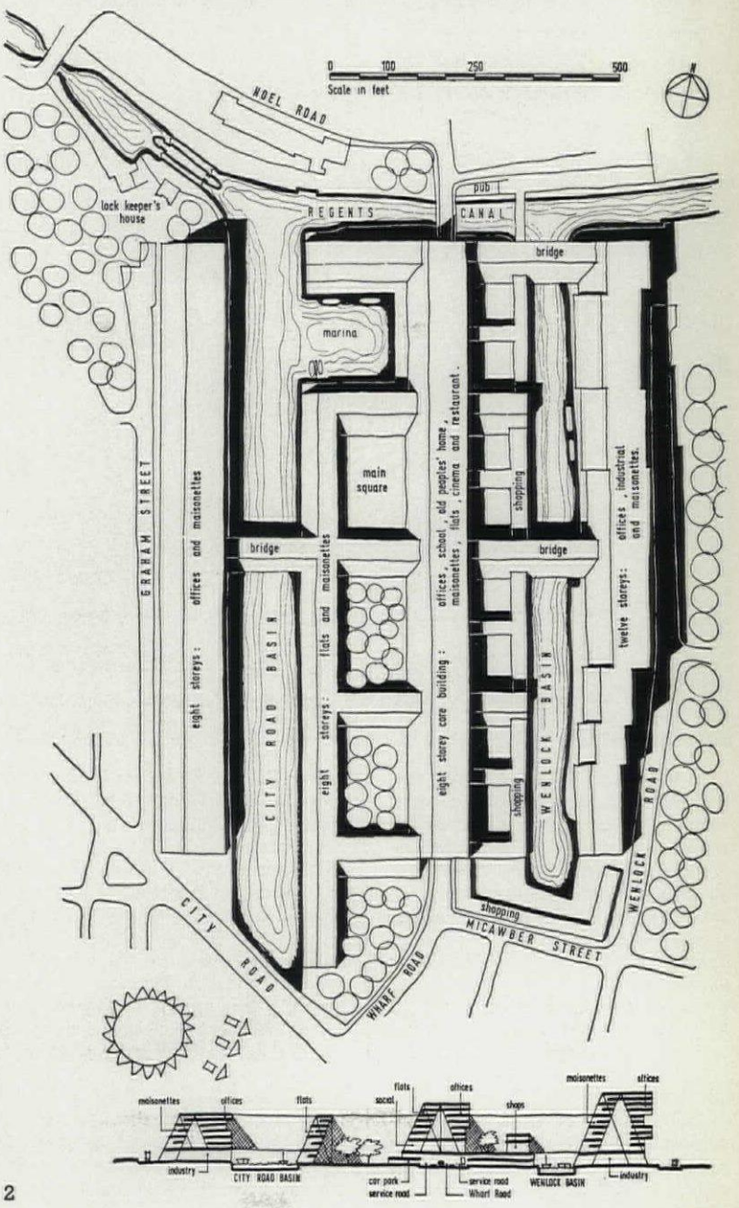

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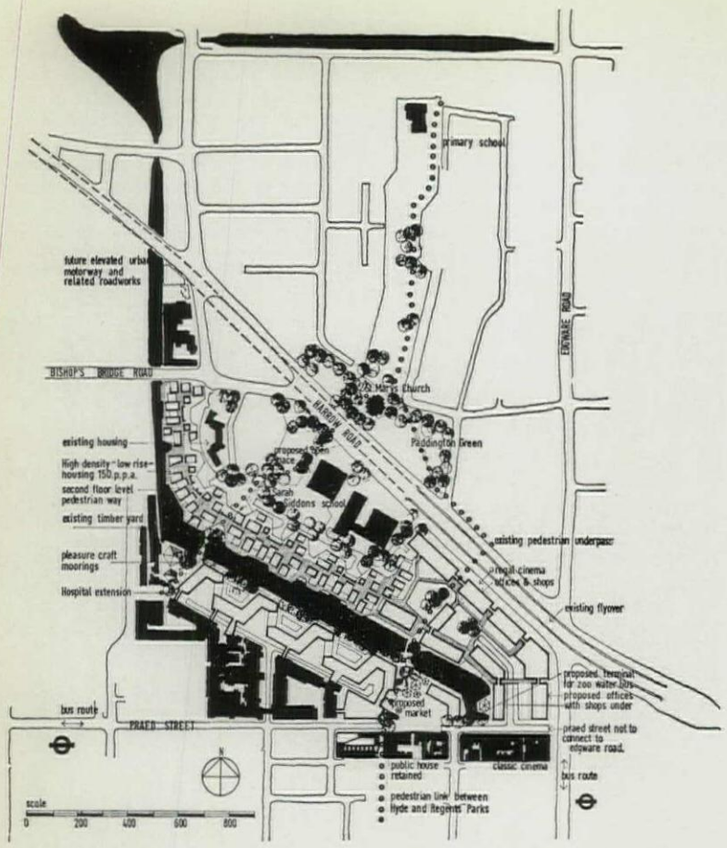
1, Vincent Terrace, on the Regent's Canal. 2, scheme for the redevelopment of the City Road Basin.



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3, proposed redevelopment of the Paddington Basin. 4, near Harrow Road.

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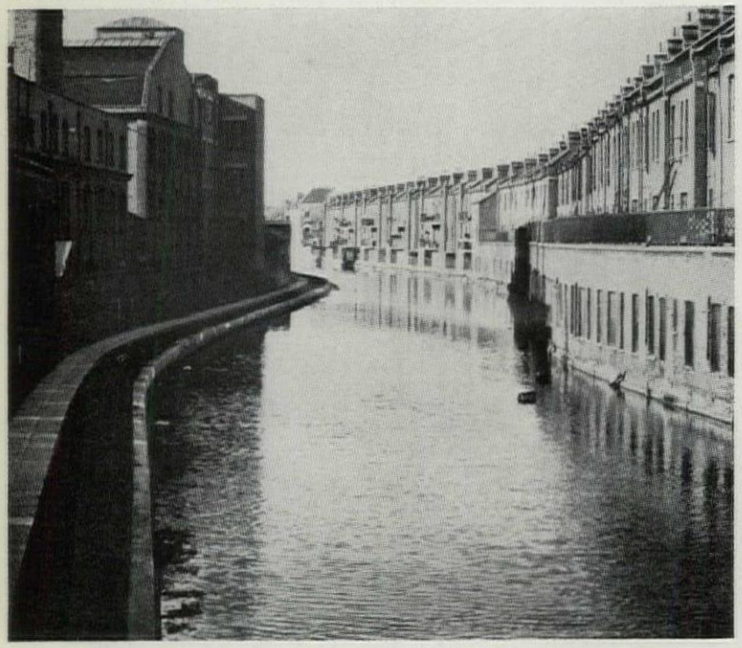


City Road and Wenlock Basins (by Richard Reid). At Vincent Terrace, 1, the present charming green setting would be retained and linked to Duncan Terrace Gardens above, with all through traffic removed from the area and with a wall or building across the southern end of Duncan Terrace as a much needed noise barrier to the heavy traffic along City Road. The scheme for City Road Basin, where there is great opportunity, suggests an intensive build-up of flats, maisonettes, shops and offices over warehouses, 2, built round a series of squares and incorporating a marina enclosed on three sides by buildings. Other schemes include a canal recreation and boating centre, linked to Victoria Park at the junction of the Hertford and Regent's Canal (by Raymond Harris) and redevelopment of the Paddington Basin (by Peter Smith) with regular boat services on the canal, 3.

Though the recommendations in this report are in general excellent, certain points are open to question. For instance, under the heading of 'visual access,' the report condemns the present frequent masking of views of the canal from bridges by hoardings and high walls. But it is worth observing that today, where a traffic route crosses the canal, these serve a useful purpose as sound baffles and contribute largely to the welcome contrast between quiet canal and noisy road. In some cases, particularly where heavy traffic occurs, it may well be better to compromise with well designed barriers containing viewing places rather than completely open out all bridges to the canal.

Another important point is not overdoing things. Vincent Terrace is a case in point. It has great attraction as it is and care would be needed not to over design or 'municipalize' it. The adjacent garden in Duncan Terrace is an awful warning with its bits of Dartmoor rockery utterly out of sympathy with the regular terraces facing it. Again, though 4 (a view looking west near Harrow Road) is shown in the report as typical of the dreadful state of much housing along the canal, this stretch demonstrates certain design principles which should not be overlooked when designing canalside buildings. First, the scale of the terrace does not overpower the canal. Second, its serpentine form, casually following the line of the water, is sympathetic to the canal; instead of being in opposition as would be the case with rigid straight lines and disjointed blocks. The regular line of balconies raised above the water is worth noting also.

KENNETH BROWNE

THE VISION OF DEAD DESIRE

Mr. Clarence J. Laughlin, of New Orleans, who took the photograph on which the cover of this issue is based, sends the following account of its subject:

In Buffalo, New York, in the year 1884, a huge mausoleum was erected, by one of the most prominent German families of the city, for an only son. The son, it seems, had had a love affair with a beautiful maid in their employ. In order to bring the affair to a halt, he had been packed off to Europe by the family; where, it appears, he died shortly therafter. Overwhelmed by remorse, the family caused the erection of the mausoleum —and within it, the life-size figures of the father and mother, in marble, look down, from each side, on the form of the son, stretched on a marble bier (although they cannot be seen in this photo). Over the son's head, is an angel, with frills in her wings —and she descends to place a crown of flowers on his head—a crown which suggests a wedding cake. For the angel is said to be *the image of the maid*— and she descends, like a vision, out of the dark mystery of time—a vision of dead desire. And the mausoleum becomes an amazing example of the power of architecture to express things which the books on architecture never talk about—in this case, the feeling of 'guilt'—since architectural forms, at times, *can* become linked up with the subconscious mind.

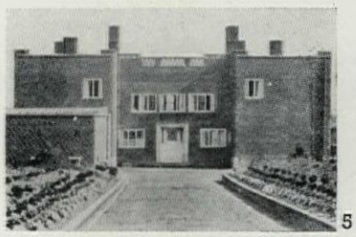
GAIETY ANONYMOUS

The campaign to get buildings attributed to their designers has met with a slight rebuff at the corner of Aldwych and the Strand. English Electric, with the worthiest historical intentions, placed a bronze plaque on the outside wall of their offices, stating that they had been built on the site of the Gaiety Theatre, 'designed by R. Norman Shaw.' The Gaiety was in fact designed (in 1902) by Ernest Runtz and G. McL. Ford, with Norman Shaw responsible only for the facade, and the press officer at the RIBA (Michael Hanson) approached English Electric at the instigation of John Runtz, son of one of the architects, with the suggestion that the plaque should be altered—especially since it bore another mistake in its reference to the first production at the Gaiety.

After some correspondence the assistant secretary of the English Electric Company wrote finally to say that they did not accept the incorrectness of the wording on the plaque but had decided to remove it altogether. Although no attribution is, one supposes, better than a wrong one, this is nevertheless a disappointingly negative outcome of the RIBA's vigilance.

EDGAR WOOD

Twenty-five years ago Nikolaus Pevsner wrote in the AR (May, 1942) that 'the only English private house of the early twentieth century which looks as if it might have been designed about 1935 with a view to expressing the structural characteristics of concrete is a normal building, a house at Stafford, designed in 1908 by Edgar Wood (1860–1935), the Manchester architect.' Edgar Wood has at long last been made the subject of a thorough and admirably organized biographical article by J. H. G. Archer, which has been reprinted as a pamphlet from the *Transactions of the Lancashire and Cheshire Antiquarian Society*. Mr. Archer reveals that the Stafford house, Upmeads, was preceded a year earlier in almost all its features—flat concrete roof, symmetrical massing of brick rectangles—by



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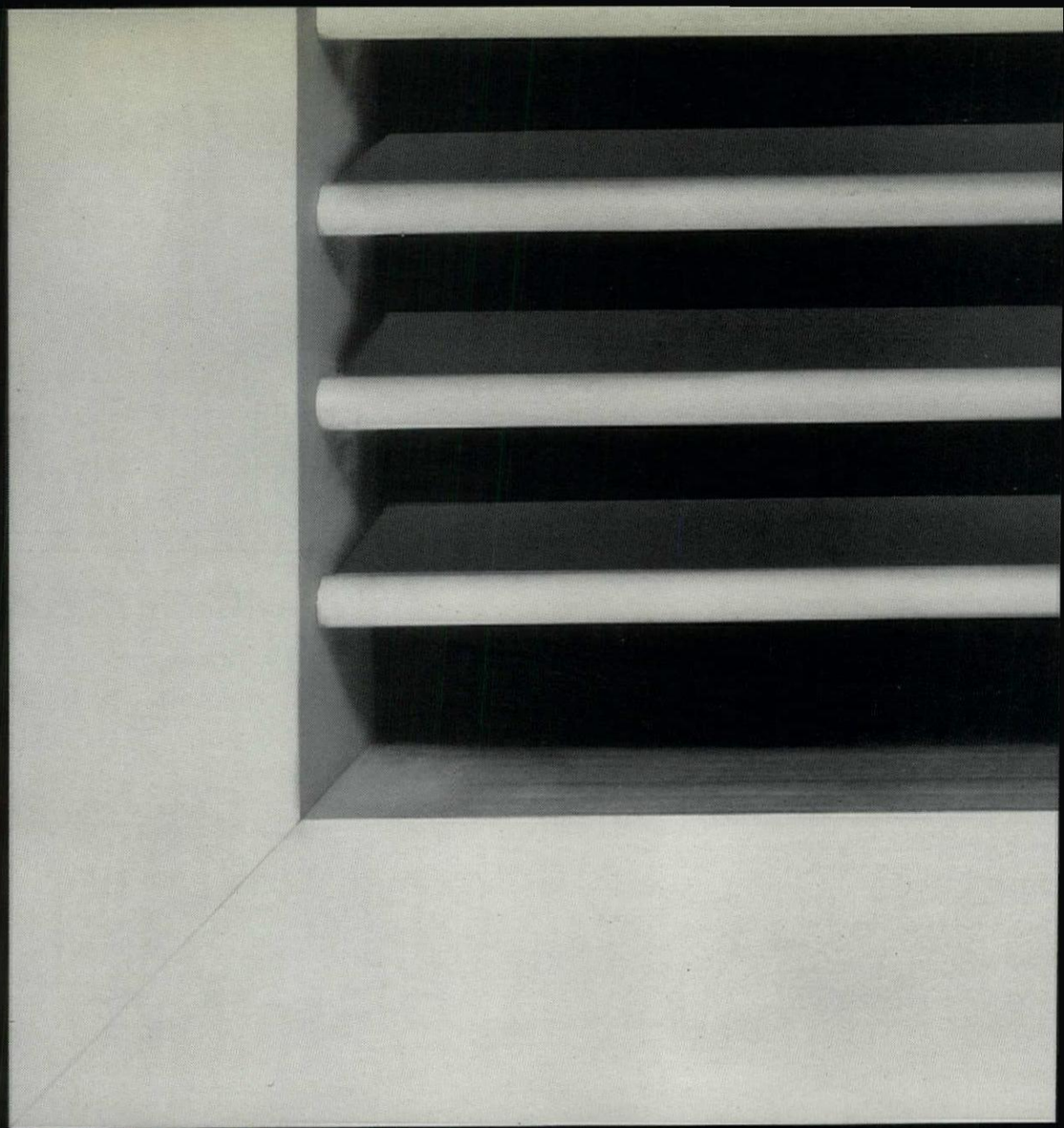
Dalneyreed, 5, a little-known house at Barley, near Royston, Hertfordshire.

Mr. Archer provides in thirty-five pages an account of Wood's life and a closely written *catalogue raisonné* in small type of his works; there are also thirty-four illustrations—making good value for 12s. (8s. for members of the said society), from the Hon. Editor, Lancashire and Cheshire Antiquarian Society, c/o The Portico Library, Mosley Street, Manchester 2.

LITURGICAL TESTBEDS

Considerable practical achievements in developing modern church design are evident in *Research Bulletin* 1967, published by the Institute for the Study of Worship and Religious Architecture at Birmingham University (10s. plus postage). The bulletin contains a report by the Institute's deputy director, Dr. Gilbert Cope, and by the project architect, Martin Purdy, on the planning and design of a whole parish centre for St. Philip and St. James, Hodge Hill—an Anglican community on the outskirts of Birmingham. The parsonage was



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the first new building there; then the existing dual-purpose church, which was to have been kept as a hall, was burnt down, giving the leaders of the project an acid test of their ability to think the whole brief out afresh. The originality of Hodge Hill lies in 'the fundamental concept that only a people and not a building can be thought of as "holy".' This means that although in the worship room there are fixed and definite spaces for sanctuary, baptistry and choir, the room will be used fairly freely for social activities and games, without any special protection to shield 'sacred' objects during 'secular' use. Attached to the church is a very large youth centre, on which work will start this summer. Purdy's actual designs, reproduced in the bulletin, look promising; he describes in detail a research project on the design of the church's seating. Also in the bulletin is a report by Prof. Denys Hinton on the Baptist Church he has designed for Highgate, Birmingham; C. R. Hinings presents a sociological survey of attitudes to religion in the area—showing, among other things, that non-churchgoers, not surprisingly, still tend to prefer the church to remain a 'holy' place set apart, instead of the mixture of sacred and secular at Hodge Hill.

AR EXPO ISSUE

The Editors regret that, owing to an error at the REVIEW's printers, the fold-out plan of Expo '67 in the August issue was wrongly bound in a number of copies, resulting in the centre part of the plan being hidden in the fold and pages 99 and 102 being transposed. Any subscribers who received wrongly bound copies, and who wish to reinsert the four relevant pages the right way round, can obtain duplicate copies of these pages by applying to the publishers.

book reviews

THE OTHER GEORGIANS

THE GEORGIANS. *By David Marshall Lang. Thames and Hudson.* 35*s.*

Georgia, like Armenia, was an early outpost of Eastern Christendom. Its patron Saint is St. George, but its name derives—contrary to common belief—from the Iranian 'Gurj.' One of its myths tells of a rock-throwing contest between Christ and Prometheus, in which Christ was the winner. Unlike the Armenians the Georgians ejected the earlier Turkish invaders, and the Christian dynasty of the Bagratids thus reigned over them for a thousand years. Its kings claimed descent from King David, their royal arms incorporated the seamless coat of Christ, and the greatest of them, King David the Builder, made Georgia a power in international affairs from the twelfth century onwards.

The Georgians, one of the oldest races on earth, had a keen aesthetic sense and showed notable architectural genius. They excelled, as Professor David Marshall Lang writes in *The Georgians*, 'in the creation of cathedrals and monastic ensembles which, in their majestic setting, with the snow-capped peaks of the Caucasus range as a backcloth, can scarcely be matched anywhere in the world.' These gems of architecture are little known to the traveller, partly because—with the exception of a few churches in Turkey which have only lately become accessible—they now lie within the frontiers of the Soviet Union; partly because Josef Strzygowski, the egregious Viennese art historian, ignored them at the expense of the Armenian churches, which he speciously claimed to be the original model for all Christian architecture, from Byzantium to Romanesque Europe. These fanciful theories have now been reliably exploded, and the Georgian architecture of the Caucasus has come into its own, interpreted and illuminated by such scholars as David Roden Buxton and David and Tamara Talbot Rice, and now described by Professor Lang for the general reader.

It flowered at its finest in the eleventh and twelfth centuries. Its largest and loftiest monument is the patriarchal cathedral of the 'Life-giving Pillar,' in the small town of Mtskheta which is Georgia's ancient Christian capital. Standing in a large grassy enclosure, within crenellated walls, the cathedral houses the tombs of the Georgian kings right up to the nineteenth century. Its roofing shows features of the vaulted basilica, and its walls and windows are adorned with fine carvings in stone, representing grotesque beasts and natural foliage. The carved stone ornament, both on the inside and on the outside walls of these Georgian churches, tends to be livelier and more naturalistic than that of the Armenians, which was often influenced by the abstractions of Islam.

The cathedral, monastery and academy of Gelati, built and endowed by King David the Builder—who was once injured in a fall from its scaffolding—contains his full-length portrait in fresco, today disfigured by the graffiti of Russian and Georgian tourists, and a fine Byzantine mosaic of the Virgin and Child. The cathedral of Allaverdi, still a centre of pilgrimage for citizens of the Soviet Union, stands amid fields and vineyards, with 'a very tall, attenuated dome, giving it a skyward soaring air which is sublime when viewed against the peaks of Daghestan.'

Professor Lang, praising the grace and the monumentality of these buildings, claims for their architecture and sculpture a certain influence on the Romanesque style, in the Byzantine and Mediterranean worlds. They are the ultimate evolutionary product of earlier churches, which survive in various parts of Georgia and the surrounding lands. The earliest, built between the fifth and eighth centuries, follow the plan of the basilicas of Syria and Mesopotamia. Next came the more distinctive cruciform church, with a central dome, and this led in its turn to the round church, with the conical roof, so characteristic both of Georgian and Armenian architecture.

This cone may well derive from the traditional timbered dwellings of the area, described in detail by Vitruvius and still so built today. Hewn logs and beams are laid in rectangular or octagonal form, then piled up in diminishing layers into a corbelled cupola, shaped like a pyramid. A solid wooden 'mother pillar' takes the weight of the roofing, and is finely carved, together with all the woodwork—doors, beams, fireplaces, seats and chests—in a style similar to that of the ecclesiastical stonework.

Generously illustrated, covering not merely art and architecture but every aspect of Georgian history, life and culture, *The Georgians* provides a valuable contribution to Dr. Glyn Daniel's excellent series of volumes on 'Ancient Peoples and Places.' KINROSS

TASTE AND PROPRIETY

HENRY HOLLAND: HIS LIFE AND ARCHITECTURE. *By Dorothy Stroud. Country Life Ltd.* 84*s.*

Miss Stroud published a short life of Henry Holland in 1950, as well as the first edition of her biography of Holland's father-in-law 'Capability' Brown, but her new book is rather more than just a revision of the old one. It has been largely rewritten and a great deal of new material added. It appears in the standard Country Life format for architectural books—with adequate illustrations and a well printed text in bold type on thick paper, ample margins and footnotes at the bottom of the page—a good, solid if slightly old-fashioned looking job; and Miss Stroud maintains similarly high, old-fashioned standards of scholarship. This is not to be sniffed at. She is eminently thorough and accurate and her book is likely to remain the standard work on Holland for a long time to come.

Unfortunately, however, the flow of her straighforward narrative account is frequently interrupted by indegestible lumps of barely chronicled facts. In the account of Holland's work at Althorp, for instance, we are given the names of the plumber, the smith, the joiner and even of the man who supplied the bricks; similarly at Woburn the names of the bricklayer, smith, plumber and slater are dutifully listed; and at the Drury Lane theatre we are even told who supplied the brass wire ropes and who lined the water cisterns on the roof. It is just conceivable, one imagines, that someone might, some day, find such information useful but its proper place is surely in the footnotes or, better still, in a catalogue. The addition of a catalogue would have make the book very much easier to use and consult.

On Holland's contacts in Paris and the influence on his style of such Louis XVI buildings as Ledoux's Hôtel de Thélusson, Rousseau's Hôtel de Salm and Belanger's Bagatelle Miss Stroud has some interesting and intriguing suggestions to make though the similarities between Holland's Marine Pavilion at Brighton and Belanger's pavilion in the Bois de Boulogne are somewhat exiguous. However, her new information culled from several archival sources on Holland's relations with Delabrière, Trécourt and the furniture dealer Daguerre is extremely valuable and revealing, necessitating perhaps some revision of our ideas on the Regency style in furniture and interior decoration. This would now seem to have been more directly indebted to French inspiration and, in particular, to French standards of craftsmanship than has hitherto been supposed. Holland himself was evidently well aware of the debt he owed to these French *emigrés*. Indeed he seems to have though of retiring from business after Trécourt's and Daguerre's deaths. But it would be hazardous to attempt any precise estimate of the extent to which Holland was influenced by them and Miss Stroud is admirably cautious when dealing with such matters.

In the end, therefore, the new information contained in this book illuminates but does not radically alter Holland's position in the history of English art and architecture. Horace Walpole's comments still seem as just and clear-sighted as any made later. After visiting the newly completed Carlton House in 1785, he wrote: 'There is an August simplicity that astonished me. You cannot call it magnificent; it is the taste and propriety that strike. Every ornament is at a proper distance, and not one too large, but all delicate and new, with more freedom and variety than Greek ornaments; and, though probably borrowed from the Hotel de Condé and other new Palaces, not one that is not rather classic than French.' JOHN FLEMING

Changes in road surface too often mean loss of character. Here, 6, at Market Harborough, Leicestershire, the Surveyor to the Urban District Council, Mr. T. W. Hustler, has lately put down a new floorscape well suited to its location and with the smooth flagged pathways well differentiated from the rough-textured setts alongside.

6

Architectural pleasures were added this summer to the musical pleasures of the Aldeburgh Festival when the Festival's new concert-hall at Snape was used for the first time. It has been created out of a disused maltings and proves how effectively, given some imagination, these splendid monuments of the nineteenth-century functional tradition can be adapted to new uses. The photograph opposite, taken by John Donat, of a corner of the building after conversion, shows how sucessful the architects, Arup Associates, have been in preserving the original character.
See also pages 202-207.

A personal view by John Gloag

THE REMAINING THIRD

When one-third of this century was completed, THE ARCHITECTURAL REVIEW celebrated that moment of time by publishing a special Thirty Three and A Third issue, which examined what had happened in architectural design, social life, and civilization between 1901 and April 30, 1934. For that issue I wrote an article called 'The Next Third,' which I began by saying: 'If I am alive at the end of August in 1967, and London is still standing, I shall take the trouble to turn up the files of THE ARCHITECTURAL REVIEW for the purpose of re-reading this article.' I am still alive, have re-read the words I wrote then, and have concluded that at 70 (71 by the time this appears in print), I am not so pessimistic and overshadowed by a sense of impending doom as the young man who ended that article with these minatory sentences: 'People have always been imagining since the Middle Ages that civilization was about to collapse. This anxiety has expanded during the last hundred and fifty years. To-day the anxiety is more profound: civilization has learned so much more about the technique of suicide.'

I had anticipated a second world war, when I wrote: 'Within a few years the Germany army will be back on its 1914 footing, burning to stage the revenge for which the narrow French logic of the nineteen-twenties has provided such ample provocation.' Many of my glum forebodings were justified by grim events; by outrages on human dignity paralleled only by the Roman games, though the horrors of the arena were surpassed by those of Belsen; by devastation that wiped out towns and areas of great cities in a few hours; and by the advent of that ultimate devil of destruction, the atomic bomb, though, like many other people, I had thought that the release of atomic energy lay in the very remote future. We have learned to live with the threat of the bomb in the background; civilization is now precariously united by 'ties of common funk,' as Kipling once described the cohesion of the former British Empire;* and although the world to-day, for people of my generation, seems to have been invented by H. G. Wells in uneasy and contradictory collaboration with Edgar Wallace, England at least is a better, cleaner, and far healthier place than it was in 1934. Then I had believed that even if we were spared the calamity of another war, the prospect of continued government 'by politicians who are incapable of planning, and financiers who are incapable of thinking,' would commit us 'to a patch-as-patch-can policy in economics and social order for another generation,' and as the technocrats had 'been laughed down by the popular newspapers,' we should also be 'committed to a policy of holding back information and bolstering up the existing technique of industry, transport and distribution.'

Well, the politicians are still with us, and have perhaps a little more vision, though not much more intelligence; and the financiers are also there, notably deficient in public spirit, and still able and even willing to spread as much devastation in our cities as any of Hitler's bombs. But on the credit side, the advance has been spectacular. The technocrats, no longer rejected and despised, are at least heard, though their ideas are as yet only used in a desultory and haphazard way. The clean air bill has already changed the character of many cities—snow now stays whiter than white in Manchester, for example—and the old barbaric saying:

* *Actions and Reactions.* 'The Puzzler.'

'Where there's mook there's money,' is as dead as the founding fathers of our northern and midland industries who once mouthed it with such feckless arrogance. We have conceived and carried through a social revolution, without bloodshed or too much injustice, as sweeping as that which disfigured the reign of Henry VIII; and, despite the despondent mendacity of demagogues who invent and exploit grievances, the results of our revolution are happer than anybody anticipated.

Naturally there are some disadvantages: public leisure has often been increased at the expense of individual privacy; the heavy taxation necessary for the redistribution of incomes has turned crime into a highly organized and major business, for its profits are tax-free; bureaucracy stretches the long arm of incompetence into all our affairs; we are no longer a great power, the British having withdrawn from their Empire considerably faster than the Romans were kicked out of theirs; but there has been a turbulent revival of the technical ability and creative vigour that generated the first industrial revolution, with all its attendant gifts and dangers. The insurgent industrialism of the nineteenth century nearly obliterated the face of England: we could easily finish off what remains, and be blandly unconscious of what we were doing, because we are in the early stages of yet another revolution, as yet unrecognized, but of pregnant significance for the future of architecture and the architectural profession, and likely to develop rapidly in the remaining third of the century.

In 1934 the missionary fervour of architects who led the modern movement was undiluted by doubts: those came later, after the second world war, when the modern movement had crystallized as the contemporary style. In the previous century, the Great Exhibition of 1851 had marked the end of the classic tradition in design, and replaced it with the lush confusion of a free-for-all in matters of taste; the Festival of Britain in 1951, held while the rigours of rationing and utility design were still needlessly maintained, changed the bleak tradition of functionalism, let in the light of imagination, and revealed a limitless prospect for those endowed with that god-like gift. Some of the earnest young missionaries of the 'thirties, sobered by the cares and cautious restraints of middle age, failed to respond to the challenge; but many did, with a rapturous enthusiasm that sometimes produced decidedly queer results.

The 'fifties were distinguished by some magnificent experiments and inspired buildings, though few, apart from Coventry Cathedral, are likely to be standing in the next century, not because they are destined for a violent end, but because their economic life will have run its course. The contemporary style became established, though still immature and occasionally diverted from the promise of urbane and graceful development by such aberrations as Brutalism; and nearly always trimmed and squeezed for lack of money, for nobody had any to spare except the state, and though government departments could be and often were madly wasteful, as patrons of architecture they were usually as mean as Scrooge. The contemporary style was disliked and condemned by reactionary architects, of whom some were regrettably vocal, as well as by many public figures, who enjoyed making pronouncements and, like Ruskin, identified their personal taste with Divine revelation; while that new and influential character, the professional television interviewer, consistently provided the diverting spectacle of an intelligent man pretending to be a fool in order to placate the prejudices or minimize the ignorance of viewers, especially when needling some architect with moronic questions about some new building.

The mounting interest in the Victorian Age and all its works may be an unconscious protest against the smooth and sometimes too obvious common sense of contemporary design. Thirty years ago we were still too close to that chaotic time to have any sentimental regard for, or to condone, its intractable ugliness; but during the 'fifties, a nostalgic tenderness for the worst period of architecture and design the world has ever known became modish. Interest in that period is now widespread and sincere; the large membership of the Victorian Society is only one indication of its extent; while books and articles about Victoriana continue to be published. John Betjeman, who has done more than any man living to make people conscious of the architectural treasures of this country, and of their responsibility for guarding them, will probably be credited by future architectural historians for initiating the Victorian cult, as Horace Walpole was credited with initiating the Gothic taste in the eighteenth century: both assumptions are wrong. Interest in Gothic fashions was firmly established before Walpole began to have his fun with Strawberry Hill; and even in the nineteen thirties there was a lot of regretful hankering after the tranquillity of Victoria's reign. A mild indulgence in a little judicious nostalgia does no harm, and the only thing against what has been rather unkindly called Betjemania is the debilitating effect it has upon the judgement of contemporary design. As I was born in the late Victorian period, I am immune from the passionate admiration that is now lavished by much younger people on Victorian buildings and objects that are wholly destitute of any kind of merit. At least the Victorian revival is acknowledged as a fashion, and not as a moral revelation to be spoken of with the hushed reverence accorded to some of the fashions that came in with the modern movement, and bequeathed so many deplorable architectural clichés to the contemporary style.

Ephemeral modes and amusing quirks of taste occur in every century; they are transient diversions that enliven life, and help to sweeten the bitter taste of English puritanism. Though the Victorian revival may console those whose sensitivity is abraded by the stridencies of the nineteen sixties, there is a real danger that a tacit approval of Victorian taste may hamper architects and industrial designers and all professional men and women who have to do battle with the art-proof philistines, who are always with us, unlike the poor who used to be, but are now, at least officially, non-existent. Fashions only exert a predominant influence on civilizations that are on the way out, like the Rococo style in France before the Revolution; and the influences that may come to dominate our way of life and whole environment may be identified now, and suggest that this civilization,

far from being on the way *out*, is on the way *in* to conditions of living that humanity has never yet experienced.

So far as this country is concerned, the remaining third of the century may be marked by a partial loss of identity, as we become a component of the United States of Europe, though even that impressive unity may become a component of something larger and less friendly by the year 2001. Improvement in communications; the, so-far, unrestricted expansion of population; the increase of traffic, on land and in the air; and the managerial changes in industry and government departments, are already having an effect on the character of life and in particular of architecture. Everyone is aware of the more spectacular influences: the tyranny of television; the crowded and bursting cities; the thronged roads and jet-torn air; all manifested by a terrifying increase in noise. But most sinister and potentially disastrous for art, liberty, and the pursuit of happiness, is the rise of the accountant, whose incursion into management has debilitated enterprise; whose presence in the Establishment destroys or diminishes the generous and often far-sighted ideas of the few imaginative ministers who appear now and then in both political parties; and whose crabbed caution has already foisted on us what can only be described as actuarial architecture: buildings with 'an economic life,' but no other kind of life, as deficient in vitality as nineteenth-century slums, and often as ugly.

Industrialism, as Toynbee believes, put the 'drive' into democracy: the computer may well put the 'drive' into accountancy, and transform not only management, but every human activity. Hitherto, new structural inventions, new materials, and new social needs have made architects adventurous, and architecture glorious. Professor N. S. Sutherland, who has the chair of Experimental Psychology at Sussex College, has said that the development of computers may lead to the superseding of human beings by their own artefacts. Olaf Stapledon propounded the same idea in *Last and First Men*, published in 1930; but that was a work of imagination, a scientific romance in the Wellsian tradition; Professor Sutherland is dealing with actualities.* If industrialism energized democracy, mechanized accountancy may kill it; though it is too pessimistic to assume that the creative gifts of man would be extirpated. No computer, as yet envisaged, could exhibit the fecundity of invention that distinguishes a good architect, though management controlled by computers may end all opportunities for architectural design. While computerized architecture might give us higher and larger buildings, condensing a town into one colossal structure five miles high, punched cards fed into a calculating machine would be unlikely to produce ideas as startling as those of the French architect, Yona Friedman, who visualizes cities hanging in space above the ground, leaving land free for agriculture, and even suspending mobile, airy buildings from huge metal frames above the streets, parks, and waterways of existing cities.

Such solutions to the demands of the population explosion invade our already overcrowded air, and although nothing so bold and revolutionary as Yona Friedman's mobile cities in space has been attempted, in England we have for some little time been building over hitherto wasted open ground, occupied by railway marshalling yards and junctions. The use of such sites is being developed extensively in America, where part of the proposed John F. Kennedy High School in New York City will be bridged over a railway in northern Manhattan; a new Bronx Community College campus will cover a subway-car yard; two public school complexes will similarly cover railroad yards; while the city's new North-east Bronx High School will stride over the Hutchinson River Parkway. We may, eventually, repair the ravages of the first industrial revolution by bridging over the slag heaps and ruins of old workshops, with platforms that carry new towns, instead of allowing the lateral expansion of existing cities, or the siting of new residential areas, to devour agricultural land. The well-meaning but helpless people who govern us pay lip-service to planning, but are always prepared to disrupt a plan if expediency demands; and they habitually think small, not big or generously or for future generations; and this leads to national disasters like Stansted.

We have restored the tower to architecture with a reckless disregard of skylines and scale, so London and other cities now look like poor relations of New York, Detroit and Pittsburg; and these tall buildings, stunted by American standards, are for the most part the crude children of greed, conceived by accountants and development companies. So far we have not attempted to build underground, apart from a few pitiful scratchings just below the surface, like the tube stations at Piccadilly Circus and Leicester Square; but perhaps by the end of the 'seventies or during the 'eighties we may vastly increase the value and profit rental of city sites, by sinking ten or more floors below street level, as well as rearing twenty or thirty storeys to the sky, though of course the accountant may veto the initial cost. By that time the motor car may have conquered the city, and something like the much-criticized traffic system of Los Angeles may be in operation everywhere. That system has its defenders, and at the 1966 TCPA Conference on 'Transport and Environment,' Dr. Peter Hall contended that it worked aesthetically and emotionally, 'provided you accept the principle that this is a city to be seen from the view-point of the car, not from the traditionally urban vantage point of the pedestrian.' Dr. Hall, perhaps unknowingly, was enunciating the tenets of the new doctrine of inhumanism, that is conditioning our minds to accept as something agreeable, necessary, and inevitable, the direction of life by machines. The result may be a form of servitude that Samuel Butler foresaw nearly a hundred years ago, when he asked: 'May not man himself become a sort of parasite upon the machines? An affectionate, machine-tickling aphid?'*

The city will no longer be made mainly for man; pedestrian traffic will be safely segregated, underground or overhead, with a few special precincts for strolling at leisure; those who desire to walk in the country may have to apply for walking licences; and freedom of movement, except in public or private

* 'Revolution by Computer,' by N. S. Sutherland. *The Observer*, April 9, 1967, page 21.

* *Erewhon*, Chap. XXIV. Published in 1872.

vehicles, may be as restricted as the movement of Roman slaves and mediaeval serfs was restricted. As annual road casualties now far exceed those incurred in the minor wars of the old empire, we shall save life at the expense of freedom. Meanwhile we legalise such detestable invasions of privacy as spot-checks by the police to test the alcohol content of drivers, for it pleases puritan administrators to attribute bad driving to drink, and no politician dares to tell their potential supporters that reckless and dangerous driving is the result of bad temper, bad manners, and a heady sense of power that overcomes so many inferior people when in charge of a car. These human defects are unlikely to be cured by any improved road system that may, or may not, be completed by the end of the century: the United States, which has the finest highways in the world, is if anything in a worse plight than we are. The car population is rising yearly; we are filching acres of parks and commons and destroying secluded villages for our motorways, and we have diverted to roads the heavy and dangerous traffic that should be carried by our diminished and now far from efficient railways.

How many of us, let alone how many public men, ever sit down and think clearly about the frightening number of idiotic, wasteful, and dangerous things that are done every day to honour some archaic political theory or to bolster up some mismanaged industry? A take-over by computers might be the answer to many of our apparently insoluble problems. When thinking computers are perfected, they may make life safer, tidier, easier, and insufferably boring. As Professor Sutherland has said: 'There is, indeed, no obvious upper limit to the intelligence of a computer.'

Whatever such superhuman control would do to our lives and environment, the effect of it on the architectural profession and on architecture would be profound. Are architects prepared to accept this threatened dictatorship, or is the profession considering the formation of study groups so that its members, the most civilized men in the community, may master the computer? Or will the computer become an irresistible super-accountant, always playing for safety and enforcing mediocracy?

I said at the beginning of this article that I was not overshadowed by a sense of impending doom as I was thirty years ago. But I am perplexed and apprehensive about the character of the changes that may abolish every familiar way of life, and the forcible imposition of a coldly logical system, when our irrational human loves and likes and dislikes, recorded on punched cards, will be classified, and all the little peculiar individual gifts and endearing eccentricities of men and women docketed, filed, and perhaps fully suppressed. I believe the rebellious violence of so many adolescents is prompted by a sub-conscious fear that such dull orderliness may be thrust upon them. I fear the prospect of such a tidy world as I once feared the insensate destruction of war. The outbreak of another world war, even with China in an aggressive mood, is I believe unlikely; but the danger of some stupid war for prestige or revenge is latent, and some of the new African and Asian states, smarting from the memory of efficient colonial rule that rebukes their present administrative incapacity, may be tempted to use crude atomic weapons to get their own back. I hope the temptation will be resisted.

Men may not lose control, and the computer, so long as it remains a servant and is not allowed to become a benevolent or puritanical tyrant, may allow us to enjoy the stupendous promise of this new phase of the scientific industrial age. The computer could encourage clear thinking by those equipped with the necessary apparatus for thought; it may even rescue technocrats and administrators from the morass of jargon in which so much common sense and so many creative ideas get bogged down.

The exploration of outer space is beginning. Science fiction may be conditioning young minds in preparation for new adventures, as the tales about new lands and strange countries conditioned young minds in the late fifteenth and early sixteenth centuries, when seamen swapped yarns in portside pubs. Such flights of imagination were and may still be a prelude to the actualities of exploration.

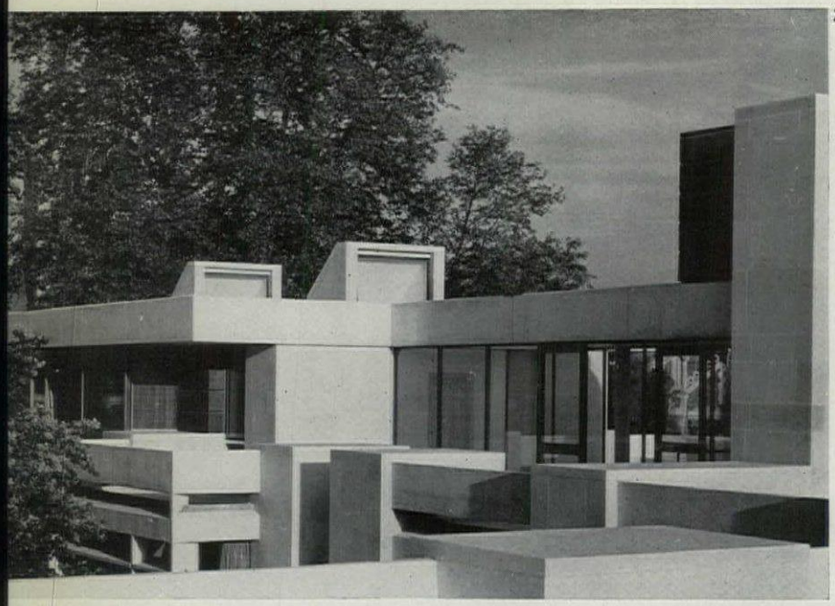
I shall not be here if and when an article appears in the January issue of the year 2001 AD, assessing the social and architectural history of this strange, exciting, and savage century. Some young man, now living, who will then be getting on in years, may write it; though the author is more likely to be a computer, supplied with all the relevant data, for by that time the new revolution may be accomplished, and the United States of Europe, together with Russia, America and China, merged in the world state of Computerstan.

1, punt harbour on north-east of site between new block and Magdalene buildings.

CRIPPS BUILDING, ST. JOHN'S COLLEGE, CAMBRIDGE

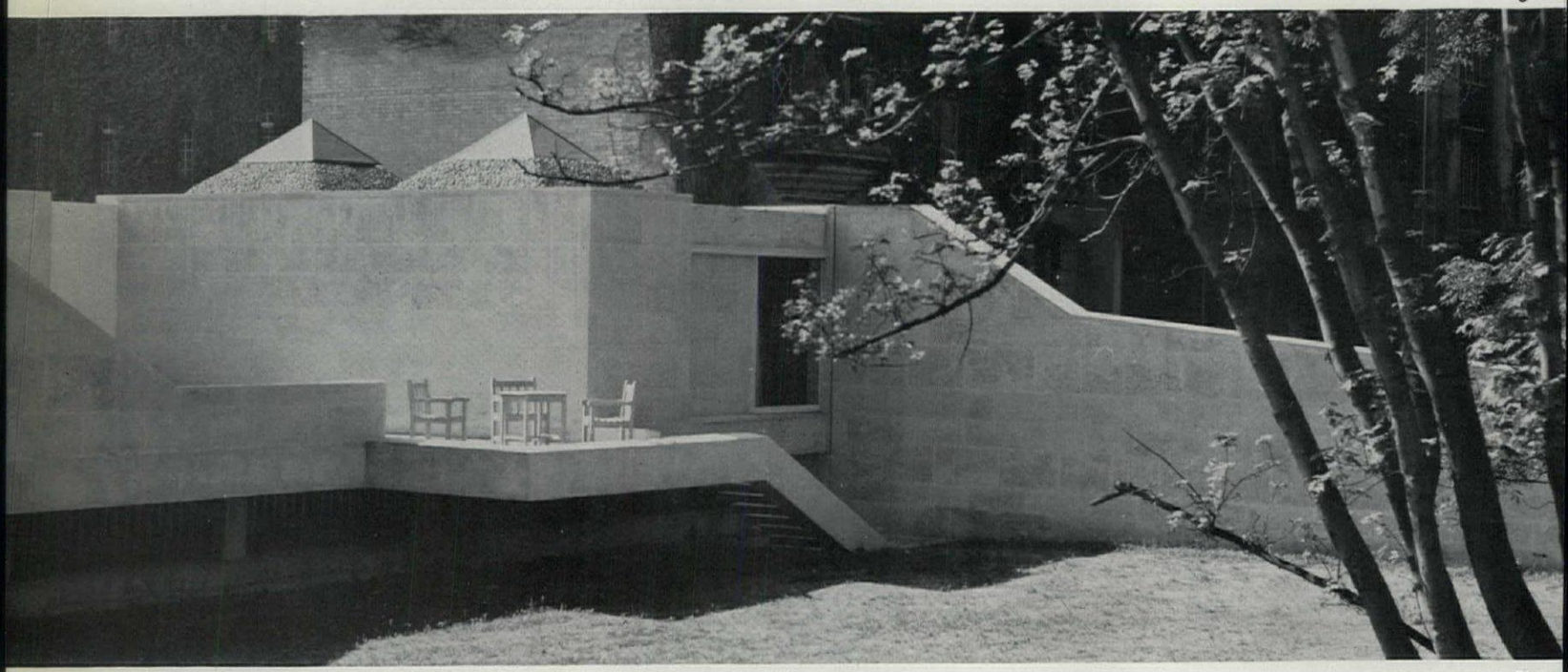
architects **POWELL AND MOYA** | *photographs by Michael Bass, John Rawson and W. J. Toomey*

2



2, detail of roofline opposite School of Pythagoras. 3, terrace over grassy area between Bin Brook and junior common room with New Court buildings beyond. 4 and 5, staircase under main block: 4, looking south-east: 5, looking back towards School of Pythagoras.

3



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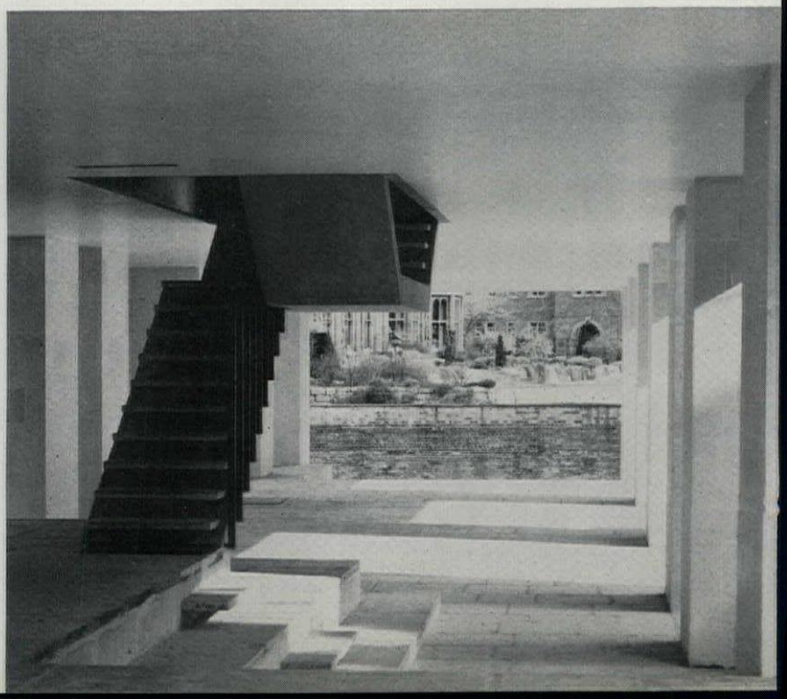

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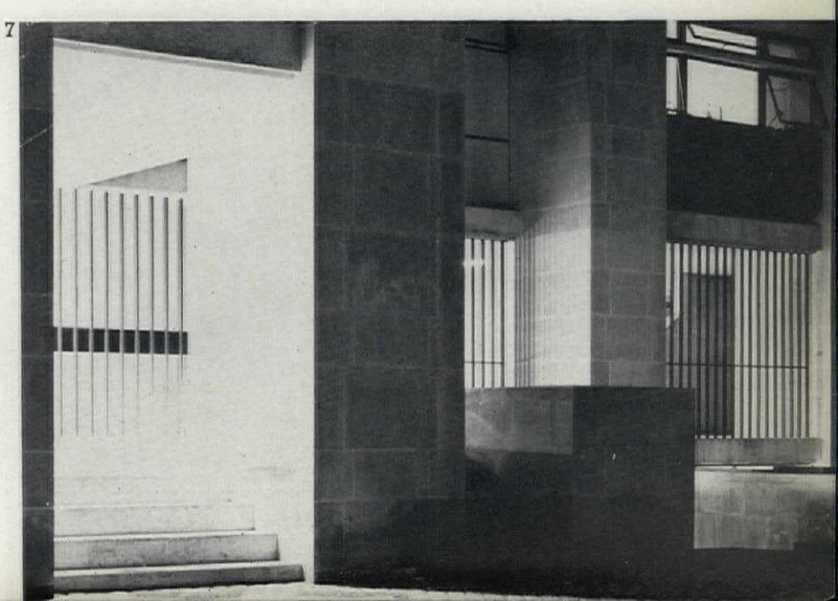
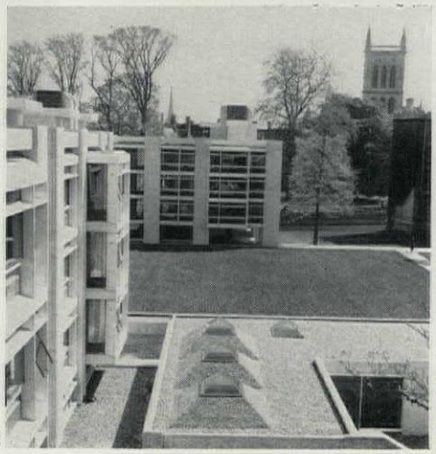


6, roofline and terraces seen from westernmost end of building.
7, detail of stonework at ground level.

CRIPPS BUILDING, CAMBRIDGE

8

9



10

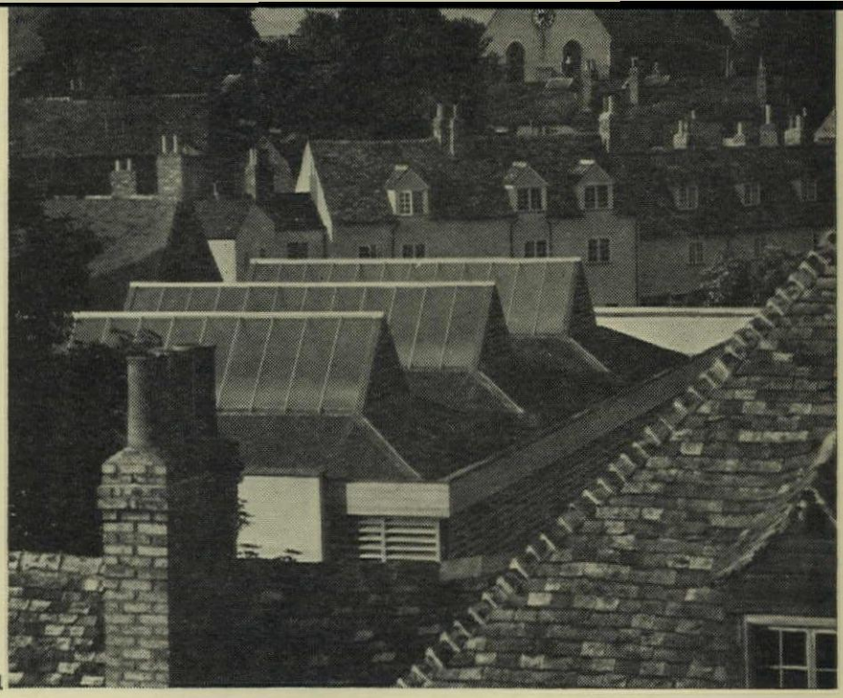
A residential building, mostly for undergraduates, on the other side of the River Cam from the old college buildings (i.e. on the Backs), sited between Rickman and Hutchinson's gothic (1830) New Court on the south, Lutyens's Benson Court, belonging to Magdalene College, on the north and the twelfth-century School of Pythagoras on the west. The eastern boundary is the river, and the site is bisected by a tributary, the Bin Brook, which flows into the river at the north-east corner. There is vehicle access from Northampton Street and pedestrian access also, through New Court, via the Bridge of Sighs from the old part of the college.

The buildings—four storeys high plus penthouse—have been laid out as a bent ribbon, thereby creating a series of courts through the enclosing effect of the adjoining buildings and making the best of the view and the sun. The space on the north side, between the new buildings and Benson Court, has been flooded to provide a punt harbour and water separation between the two colleges.

There are about 200 sets of undergraduate rooms (three-quarters of which are two-room sets, the remainder being bed-sitting rooms) and, in the penthouse, eight larger sets for Fellows. The upper level of some studio sets rises into the penthouse, which also serves the purpose of avoiding a flat unbroken roofline which would have been disturbing in relation to neighbouring buildings. Off each staircase are two groups of four rooms. In the north-facing wings the end rooms are through rooms with sun reaching one end window. Middle rooms have bay windows to give them east and west sun. The building also contains a junior common-room, three squash courts and some college workshops.

Construction consists of L-shaped reinforced concrete columns (incorporating service ducts) round the perimeter of the building and flat *in-situ* concrete floor-slabs whose edges are exposed, showing a white calcined flint aggregate, grit blasted. The columns are faced with Portland stone (Whitbed). Window mullions and transomes are polished white concrete. Windows are bronze with lead-faced panels below. External walling (e.g. the back wall of the cloisters) is Portland stone (Roach) with quoins of Portland stone (Whitbed). Partitions are non-structural, usually of concrete blocks in two leaves with an air space for insulation. Internal walls are rough-textured plaster; floors and joinery are hardwood. Background heating is from electric coils in the floor-slabs and is supplemented by fan-assisted storage heaters in the window-seats.

Structural engineers, Charles Weiss & Partners.
Electrical consultants, Peter Jay & Partners.
Mechanical services consultants, David Kut & Partners.
Quantity surveyors, Gleeds. For contractors see page 244.



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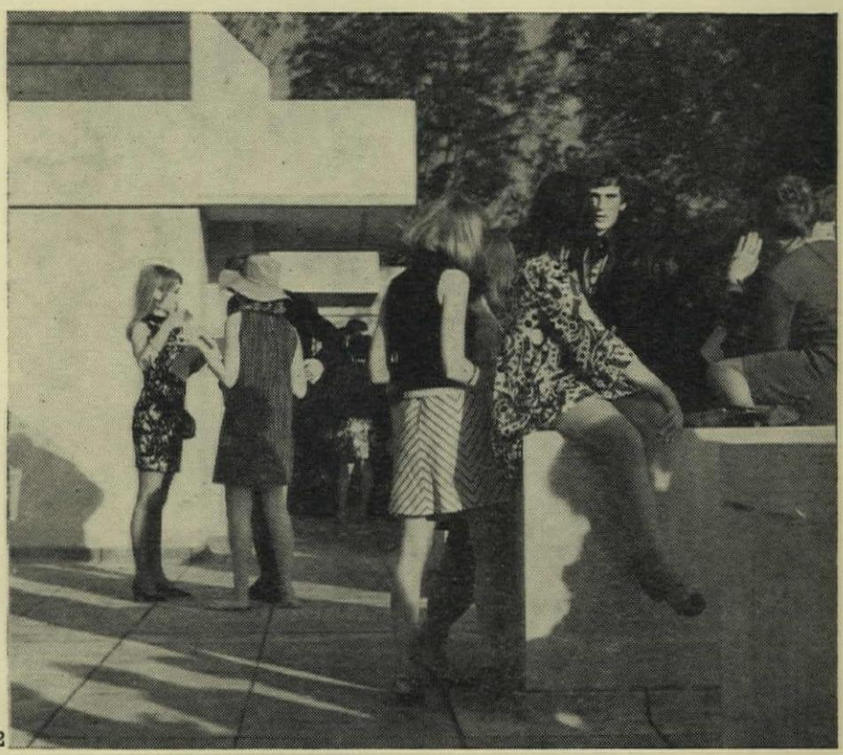

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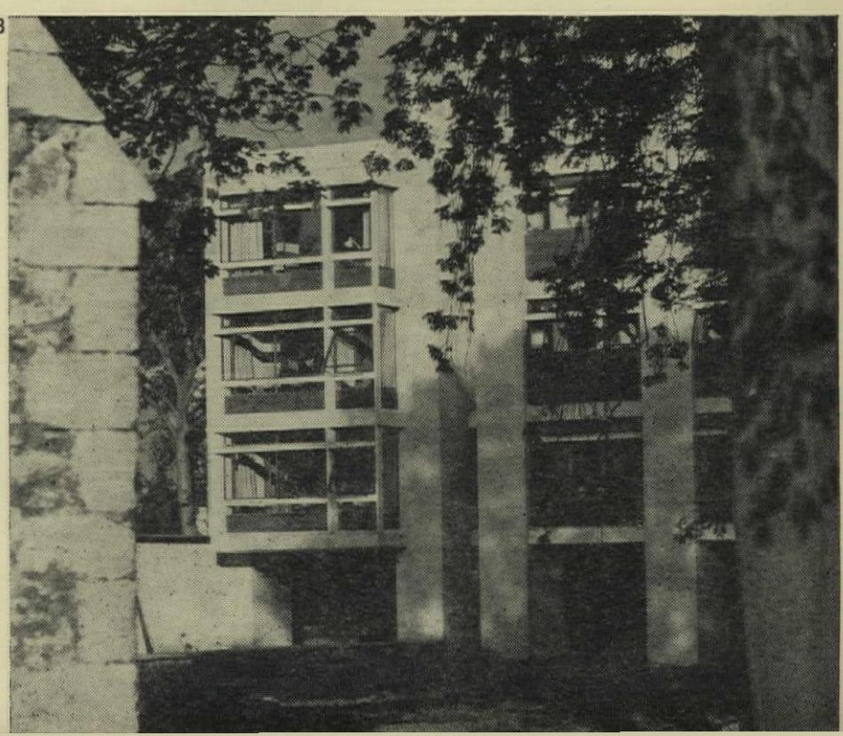

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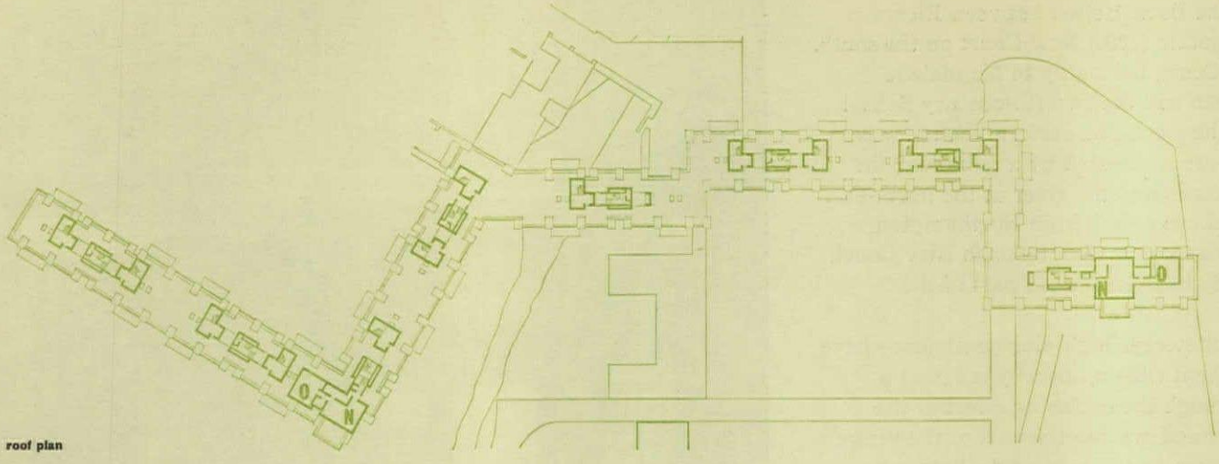
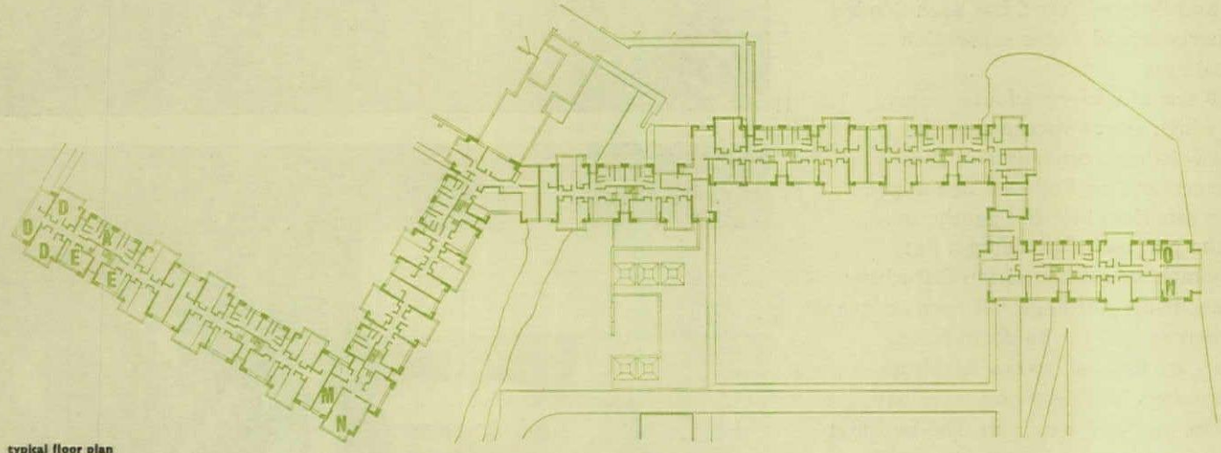
CRIPPS BUILDING, CAMBRIDGE

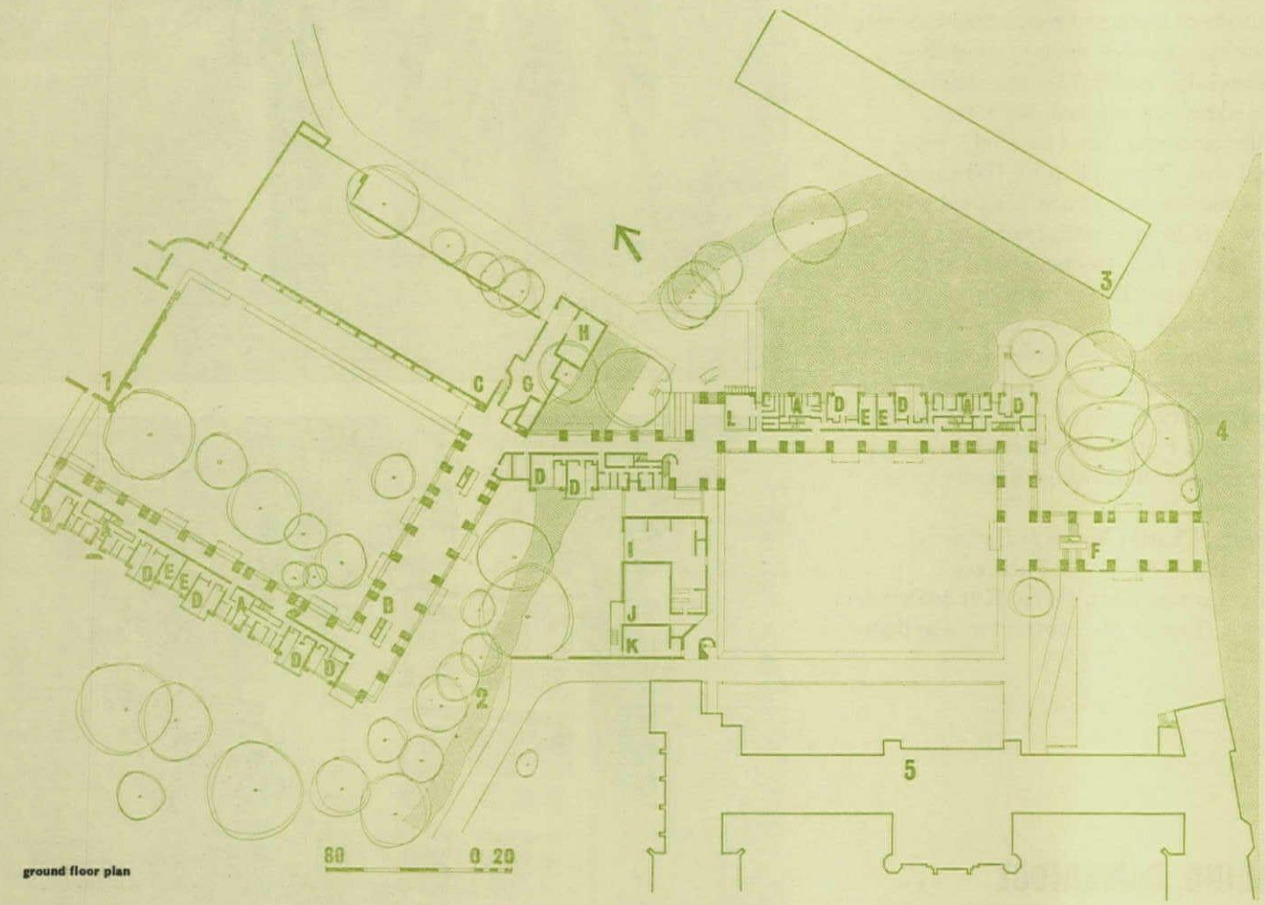
8, 9 and 10 (opposite). 8, eastern end of building. 9, general view, with corner of New Court building on left. 10, view over junior common room roof looking south-east. 11 and 13, the new building in its setting of older buildings and trees. 12, roof terrace in use.



roof plan



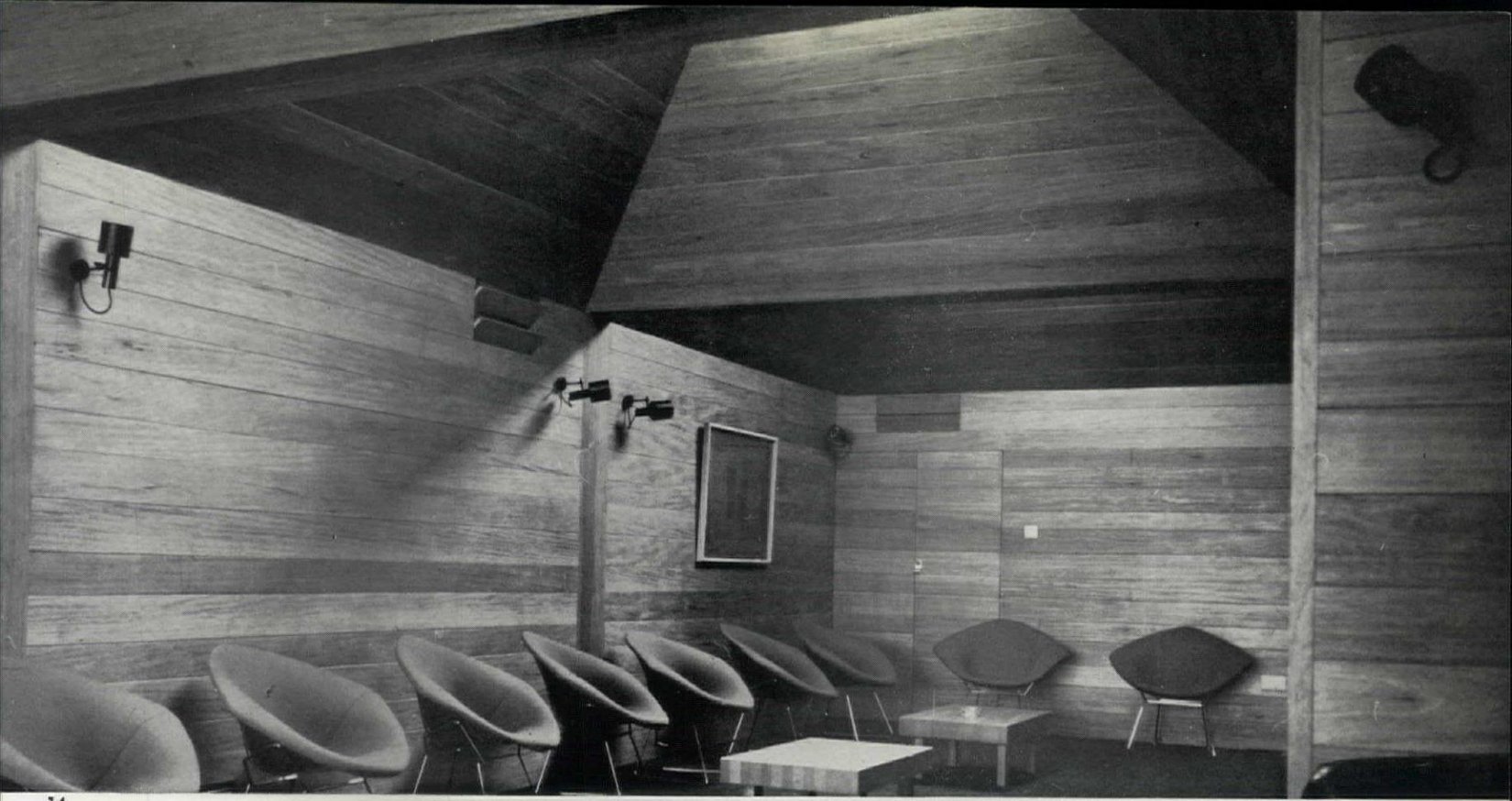
typical floor plan



ground floor plan

key

A, gyps and bath
B, cloisters
C, parking
D, undergraduate room, type 1
E, undergraduate room, type 2
F, covered open space
G, refuse
H, plant
I, junior common room
J, junior common room terrace
K, seminar room
L, porter
M, fellow's set: study
N, fellow's set: keeping
O, fellow's set: bedroom
1, School of Pythagoras
2, Bin Brook
3, Magdalene Buildings
4, River Cam
5, New Court



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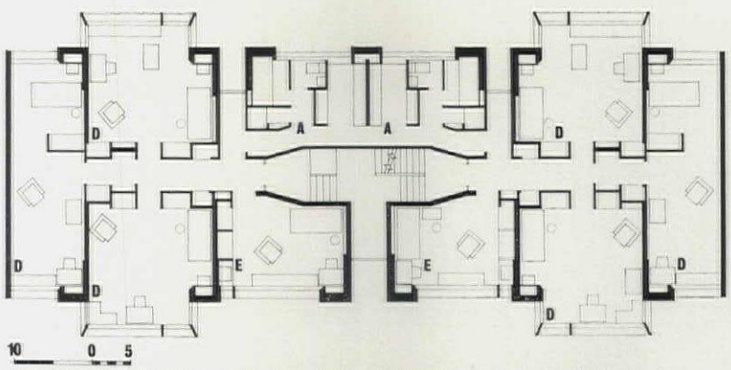
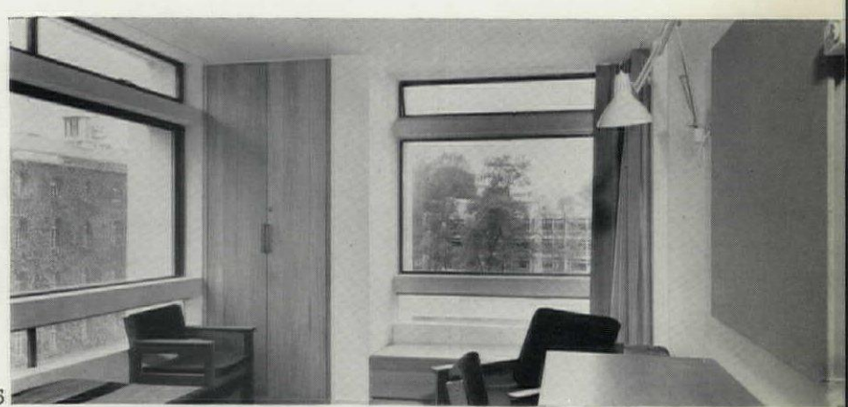


plan of standard set of rooms around one staircase (A, gyps and bath. D, undergraduate room, type 1. E, undergraduate room, type 2)



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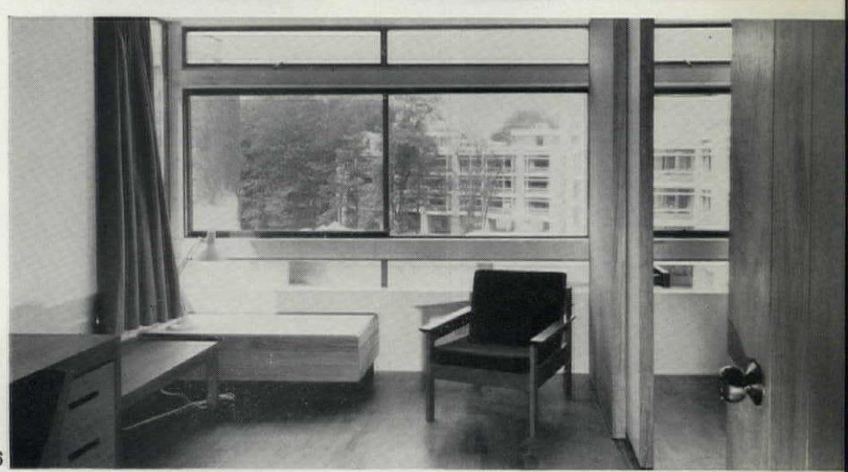

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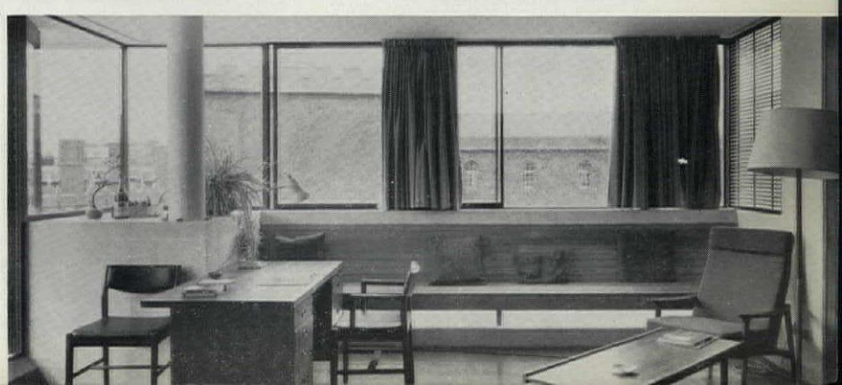
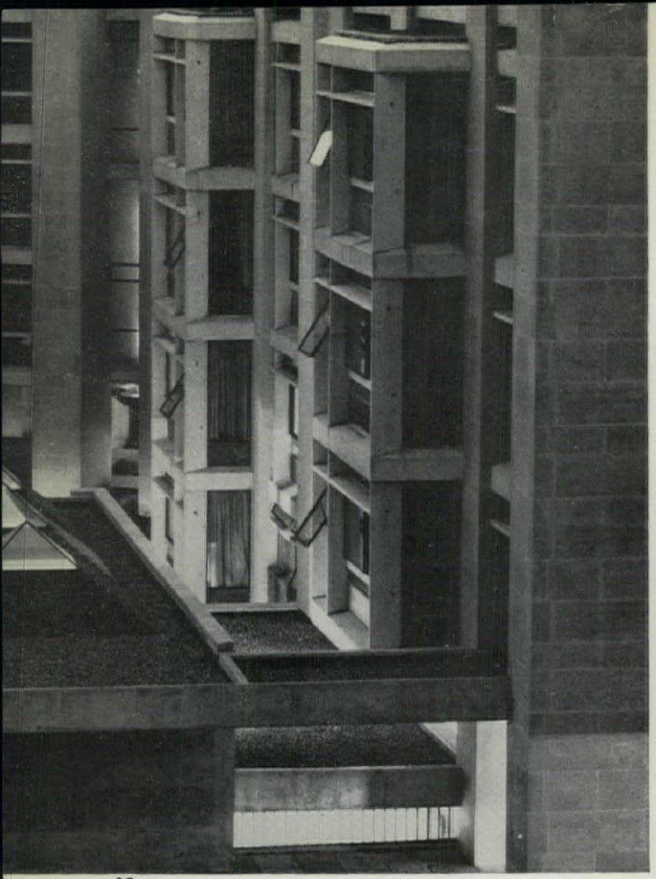
17



14, junior common room. 15, undergraduate room, type 2. 16, undergraduate room, type 1. 17, fellow's set.

CRIPPS BUILDING, CAMBRIDGE

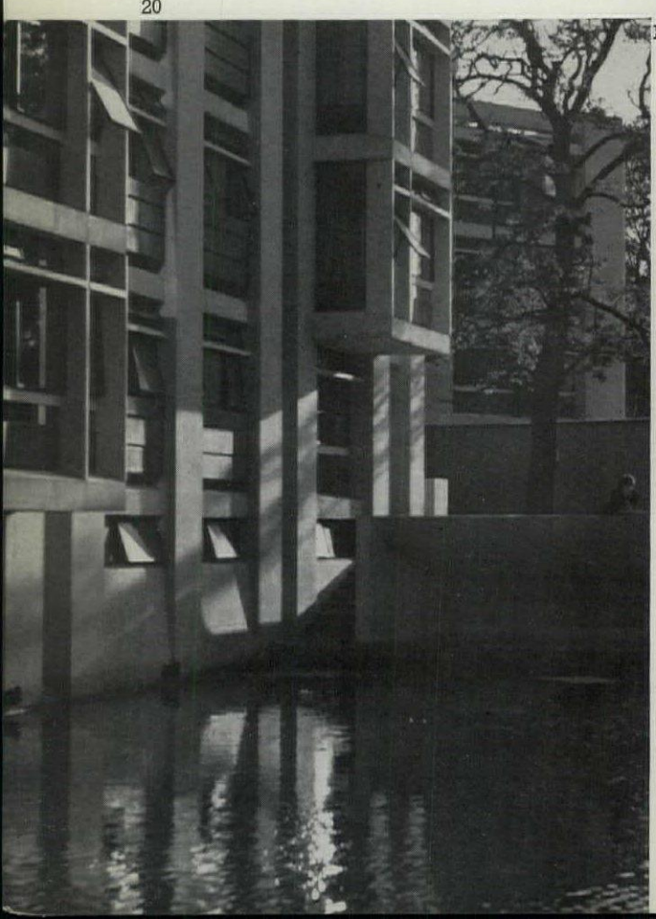


18

CRIPPS BUILDING, CAMBRIDGE

18, junction of junior common rooms and main building. 19, column and staircase detail. 20, west corner of the punt harbour.

20



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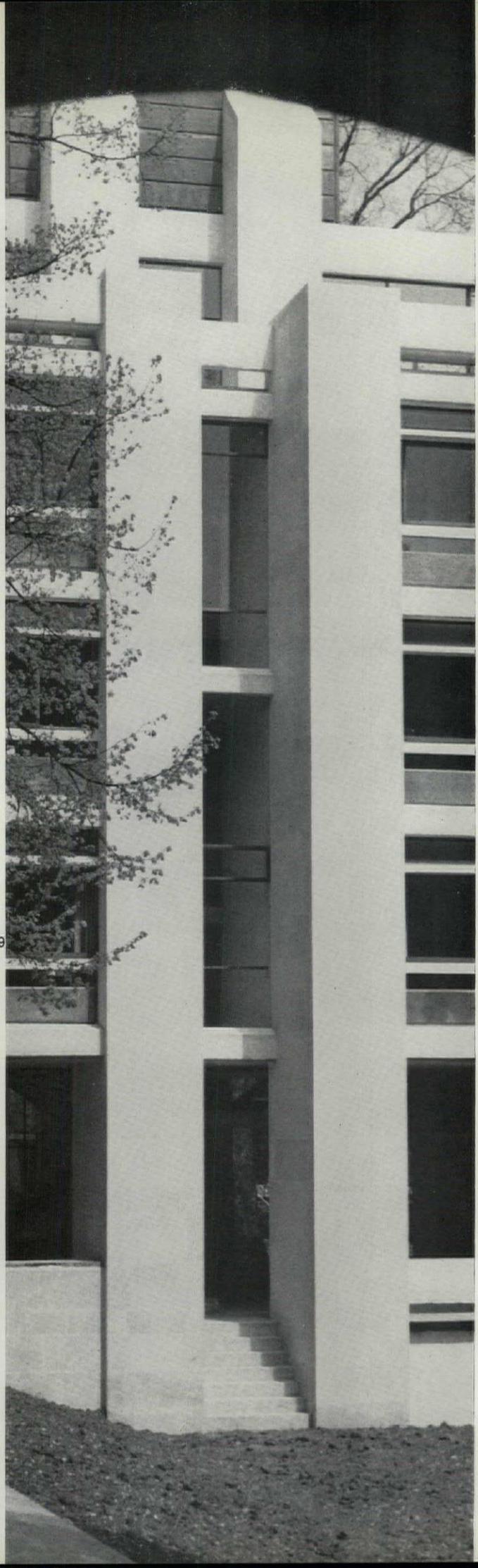


P L Willmore

A few years ago, it was widely believed that no form of public transport could compete with the private motor vehicle in speed and convenience for short-range transportation. The Buchanan Committee supported this view in their 'Traffic in Towns' report although they concluded that replanning to accommodate the unrestricted use of private cars would be costly in towns the size of Newbury, and impossible in cities of the size and density of Leeds. Since thattime, there has been a growing acceptance that the use of private cars must be restricted. In this essay Dr. P. L. Willmore, of the Department of Astronomy, Edinburgh University, puts forward an alternative to restriction, which is that the private car might simply be outclassed. His proposals for co-ordinating public transport systems are also relevant to the current controversy about the siting of new London airports.

HIERARCHIES OF TRANSPORTATION

As a starting point in this investigation we must define the classes of transportation, basing the distinction less on the matter of ownership than on the method of use. In such a classification, the main distinction is between the inherently public 'scheduled' service, in which the vehicles follow prearranged routes between fixed stopping points, and the 'command' service, in which the vehicle proceeds all the way to a destination chosen by a passenger. A subsidiary distinction exists between public command vehicles like taxis, which can drop one load of passengers and pick up another, and the private or private-hire vehicles which must stand idle when the owner or hirer is not using them.

The advantages and disadvantages of the various types of system are given in Table A overleaf.

Basic theorems of public scheduled service

The inherent operating condition of scheduled service is that a journey of length L is divided into n stages. Assume that the process of starting and stopping introduces a delay t_0 in relation to a non-stopping vehicle, and that the interval between successive vehicles is $2T$. Each station of the network will be surrounded by a 'catchment area' the radius of which

TABLE A: ADVANTAGES AND DISADVANTAGES OF TRANSPORTATION SYSTEMS

Type of service	For	Against
Public scheduled service	(i) Large vehicles permit high density and economy. (ii) Automatic control permits high speed. (iii) In some types of network, intersections can be simple cross-overs, without requiring the vehicle to turn from any one route to another.	(i) Vehicles lose time at stops which are not required by all passengers. (ii) Passengers lose time in getting to the stopping points and waiting.
Public command service	(i) No unnecessary stops. (ii) Can carry different passengers out and back.	(i) Usually needs a driver other than the passengers (a notable exception is the private-hire car which is picked up at one garage and left at another one). (ii) Uncontrolled routing causes congestion, and introduces all the other limitations of human control.
Private hire service	As for public command, plus (i) A choice of vehicle type for special need. (ii) Some prestige and driving pleasure.	As for public command, plus (i) Needs parking when hirer is not using it.
Private ownership	As for private hire, plus (i) Certain availability. (ii) Maximum prestige and driving pleasure.	As for private hire, plus (i) One vehicle normally has to serve many purposes, so acquisition involves compromise.

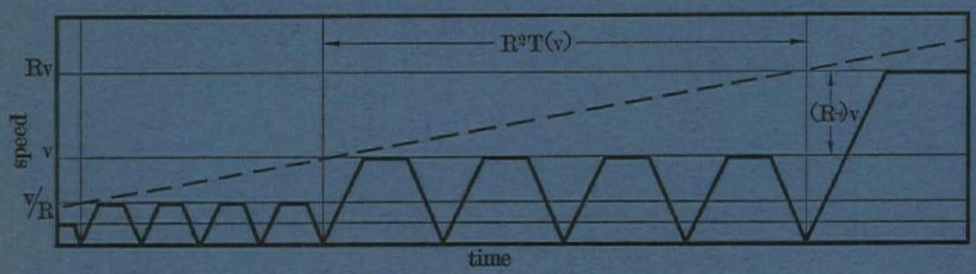


Diagram 1: escalation through two levels of hierarchy.

TABLE B: JOURNEY TIMES THROUGH HIERARCHIES OF DYNAMICALLY SIMILAR SYSTEMS

Speed	Distance		Time	
	Stage	Total	Access	At speed
R=3				
9	200 yds	½ mile	2 mins	3 mins
27	1 mile	4½ miles	8 mins	10 mins
80	9 miles	40 miles	28 mins	30 mins
240	80 miles	360 miles	1½ hours	1½ hours
720	720 miles	D (as far as you like)	4½ hours	D/720
R=4				
15	200 yds	1 mile	2 mins	4 mins
60	2 miles	16 miles	10 mins	16 mins
240	32 miles	256 miles	42 mins	64 mins
960	512 miles	D	3 hours	D/960
R=7				
21	¼ mile	6 miles	5 mins	18 mins
150	12 miles	300 miles	40 mins	2 hours
1050	600 miles	D	4 hr 40 mins	D/1050

will be about half the stage length, so that if the system is set up in the form of a square mesh, the average user will have to travel a distance of order $\frac{L}{\sqrt{2n}}$ to get on to the system, and a similar distance to travel from the point of disembarkation to his ultimate destination. We assume that these initial and final journeys are covered at speed v_1 and that the cruising speed of the high-speed vehicle is v_2. Then the average total journey time T is given by

$$T = T + \frac{L}{v_2} + nt_0 + \frac{L}{nv_1}.$$

Noting that the network planning authority can choose n for any given length of an average journey, we differentiate with respect to n and find that the minimum journey time is achieved when $nt_0 = \frac{L}{nv_1}$.

This simply means that the time lost in stops during the average journey on the fast system is equal to the average access time on the feeder system.

We now imagine a hierarchy of dynamically similar systems, such that all vehicles have the same acceleration at any given fraction of cruising speed. Thus the time required for acceleration and retardation is proportional to cruising speed, and we shall not depart too far from reality if we assume that the waiting time at each stop is also proportional to cruising speed. Hence dynamic similarity yields the relations

Stage duration $\propto$ speed
Stage length $\propto$ speed²

We now compare the average time for a journey using the high-speed system, with the time required for the same journey in a command vehicle travelling at the speed of the feeder service. Using the high-speed system we have

$$\frac{T}{L} = \frac{1}{v_2} + \frac{2}{nv_1} + T.$$

In the absence of the high-speed system,

$$\frac{T}{L} = \frac{1}{v_1}$$

Even if the frequency of service on the first system is sufficient for us to ignore T, the high-speed system only saves time if

$$\frac{v_2}{v_1} > \frac{(1-2)}{(\overline{n})}$$

For n=3, the inequality requires $v_2 > 3v_1$. With smaller speed ratios, the faster system only wins if the number of stages is increased. In Britain, cars beat trains over most journeys because the speed ratio in favour of trains is too small. Cars often beat aeroplanes because airline stages are too long in relation to the size of the country, and because air services are too infrequent.

Finally, we consider the rate at which speed increases as we pass from one level in a hierarchy to the next. Setting $v_2 = Rv_1$, we note that the difference between the speeds in the two levels is $(R-1)v_1$ and that

the number of stages which must be traversed at the lower speed in gaining access to the higher level is of order R^2. Hence the average acceleration through the hierarchy is proportional to $a(R-1)/R^2$, where a is a measure of the acceleration in any one level (diagram 1). Thus the rate of escalation is most rapid when R=2 and tends to a limit, proportional to 1/R, as $R \to \infty$. In practice, the advantage of using closely spaced stages will be counterbalanced by the inconvenience and loss of time associated with numerous changes of vehicle, and the eventual choice of ratio may depend on detailed consideration in specific circumstances.

Journey times through possible hierarchies

The performance of hierarchies for various values of R is illustrated in Table B. In the example given we assume that the passenger walks a short distance to a local feeder service, and is then conveyed through successive levels, always travelling half the length of a stage of the faster system in gaining access. Indicated journey times therefore approximate to the expected values between any two points of a uniformly populated service area. Local concentration of population into towns and cities should react in favour of the public system, by improving the economics of special feeder services in the most populous areas, or by offering the opportunity of putting pick-up points in favourable positions. It can be argued that the continued viability of existing main-line rail services depends entirely on advantages gained in this way.

All journeys for which R=3 or 4 are assumed to start with a 100-yard walk, requiring a total of two minutes to get to and from a stopping point of the slowest public system. Thereafter, the tabulated times are those actually spent in vehicles, ignoring the waiting times *T*. Taxis or other command services would provide for the handling of baggage in the first one or two levels of each hierarchy. Container transfer systems would be desirable at higher levels.

The hierarchy for R=3 is well within the capabilities of modern vehicles, and the first 3 levels could have been realized about 60 years ago if the early momentum of Victorian railway development could have been maintained. In the modern context we see that the system performance up to the third level is comparable to that of cars on motorways, and that the fourth level is only worth having for journeys in excess of 120 miles.

The fifth level is in the speed range of international air services, in which actual operating conditions are hardly compatible with dynamic similarity. It may, however, be considered suggestive that the speed is in the area of competition between aircraft of high subsonic or low supersonic performance. High supersonic speeds would not offer a useful sixth step in this hierarchy, because the minimum useful journey would be more than half way round the world.

If we had a more advanced selection of vehicles and improved operating conditions, we would probably seek to improve the performance of the local network, and then to reduce the number of levels between local pick-up and long-range air services. Accelerations and retardations of about 0.1 g would give local service speeds of about 15 m.p.h. and escalation with R=4 would give speeds of 60, 240 and 960 m.p.h. for the higher levels.

To reduce the number of levels to three, we must set R=7, giving speeds of 21, 150 and 1,050 m.p.h. An initial 200-yard stage would now require accelerations of about 0.2 g which would probably be regarded as undesirably hectic, at least on long journeys. It would, therefore, seem better to increase the mean stage length of the local system to, perhaps, $\frac{1}{4}$ mile, and that of the faster vehicles in proportion. The vehicles have about the same performance as those used for R=4, but the 60 m.p.h. vehicle has dropped out, and the 250 m.p.h. vehicle, operating shorter stages, is making lower average speed. If, however, we had the appropriate network density and enough vehicles, we could 'leap frog' between stops, and in that way make the distance between access points substantially less than the average 'hop' in any given vehicle. In this way, access times could be kept down, the long hops could be used to build up high speeds, and very high performance might be developed.

The local system

We begin by picking up pedestrians, and conveying them for a few miles at average speeds of about 20 m.p.h. At present we have trains, buses and taxis for this purpose, but trains tend to be too infrequent, buses too slow and taxis too expensive to gain general acceptance.

Frequency of service is the most important consideration here for if one is seeking to complete a typical 5-mile journey in 15 or 20 minutes of vehicle time, a few minutes waiting can destroy the effectiveness of the system. Our ability to strike an appropriate balance between cost and frequency requires a plentiful supply of vehicles of the right size. Buses and trains are usually too large for off-peak service. The 'collectivo' system cuts the cost of taxis, but when a maximum of five people have to share the cost of vehicle and driver, the conclusion must be that the vehicle is too small. We need fleets of handy vehicles, capable of seating 10–20 people, for both road and rail use.

Next, we must look at the combination of speed and stage length, noting that, on the railways at least, stops are often incorrectly spaced. If limitations of vehicle performance are keeping us in the hierarchy for which R=3, we must decide whether the service on a particular route is of the first or second level, and adjust the station spacing to the appropriate value. We must also ensure that networks of any given level are properly connected, and that the feeder services make proper connections with the stations of the faster system. An outstanding example of incorrect development is the Inner Circle of the London Underground system, which is of prime importance as a connector of main line and suburban railways but has a number of irrelevant stops and no special facilities for that purpose.

Thirdly, we must recognize that urban systems must have their own rights of way if the appropriate network speeds are to be achieved. When there is no railway system, reserved lanes for fast buses must be created, even if substantial engineering works are required.

Finally, we must overcome limitations of the strongly radial route patterns, which channel people and business into congested town centres and make it difficult to provide adequate service elsewhere. Delays resulting from initial inadequacies of routes for setting up a square-grid pattern will be at least partially offset by the fact that a passenger on the square-grid system can always take the first vehicle going in the desired direction, so that waiting time for given stock of vehicles are reduced. In time the straightening of routes and bridging of intersections should produce marked increases in speed.

Vehicle density can be calculated by noting that 220-yard squares require 32 lane miles per square mile. At an average speed of 16 m.p.h. about 120 vehicles per square mile provide 1-minute service.

The 250 m.p.h. system

Each of the hierarchies includes a system operating at an average speed between 150 and 250 m.p.h. which probably implies an available top speed of about 300 m.p.h. When R=3 the stage length is 80 miles, so that existing short range aircraft could perhaps be used in full scale trials. As the system develops, we envisage the stage length being reduced to perhaps 12 miles, so that guided surface vehicles seem to offer the only final solution.

In laying down the route pattern for operating at this speed, we shall seek to cover the whole area of the country, without excessive concentration on existing areas of population. This will break the grip of the old transportations system on the population pattern, and thereby create numerous opportunities for urban development in a completely new environment.

Diagram 2 illustrates a possible pattern, much of it following motorway routes. Lines running up the east and west coasts of Britain are crossed by a number of east-west routes. A diagonal link from Manchester-Liverpool via Birmingham and London could be extended through the

Channel Tunnel to the Continent. In all, the system requires about 3,000 miles of double track. At an average speed of 240 m.p.h. about 75 vehicles moving in each direction could provide a 10 minute service at all points.

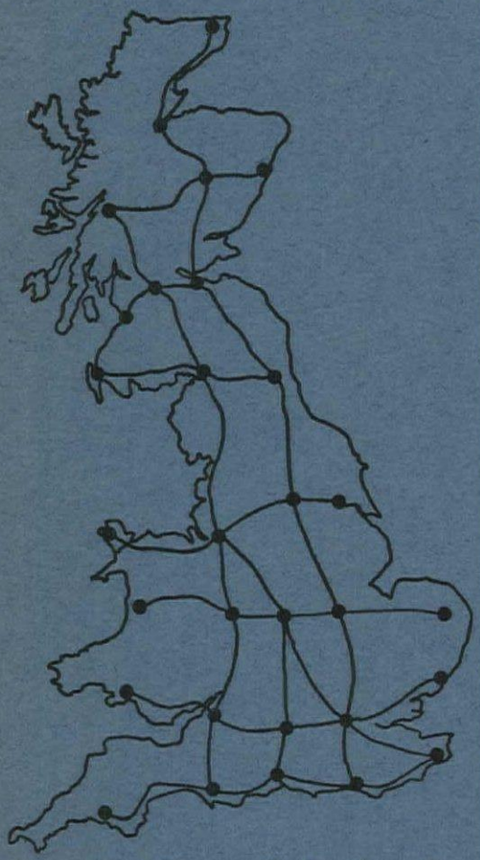


Diagram 2: possible network for 250 m.p.h. operation; stations are marked only at intersections or terminals. Other stations or regional feeder networks could be added were appropriate.

As the system will be picking up passengers largely from roads, the main requirements for a station are a large parking garage, good bus and taxi services, and a car-hire agency. Machinery for transferring luggage from cars to the system vehicles should be installed at the garage. The whole object is to make it easy to leave a car at a station, to move oneself and one's luggage easily on to the faster vehicle, and to get back on to a hire car or local public vehicle at the end of the high-speed journey. As the facilities might take quite a lot of space, it is probably better to imagine the network stations as being between cities rather than in city centres. In the London area, one obvious place for a station is at Heathrow airport.

International airlines

It would be interesting and perhaps useful to consider the possibilities of extending the grid concept to the intercontinental scale, but in practice we must concede that numerous special interests and circumstances may stand in the way of any simple set of proposals. The first interaction between our proposed developments and airline practice is therefore likely to be in the recognition of the fact that airports could move away from cities and could be reduced in number. In such ways, airlines would be relieved of the cost of expensive suburban real estate, and city dwellers would be spared the noise and danger of low-flying aircraft. In due course, we should hope that rationalization of route patterns would lead to much improved frequency of service.

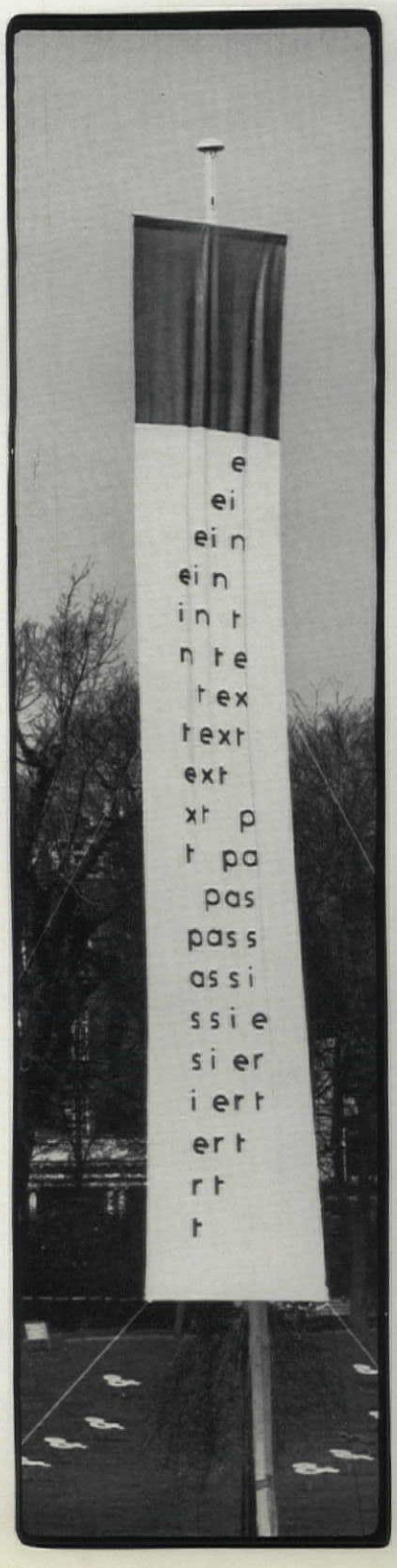
Implementation

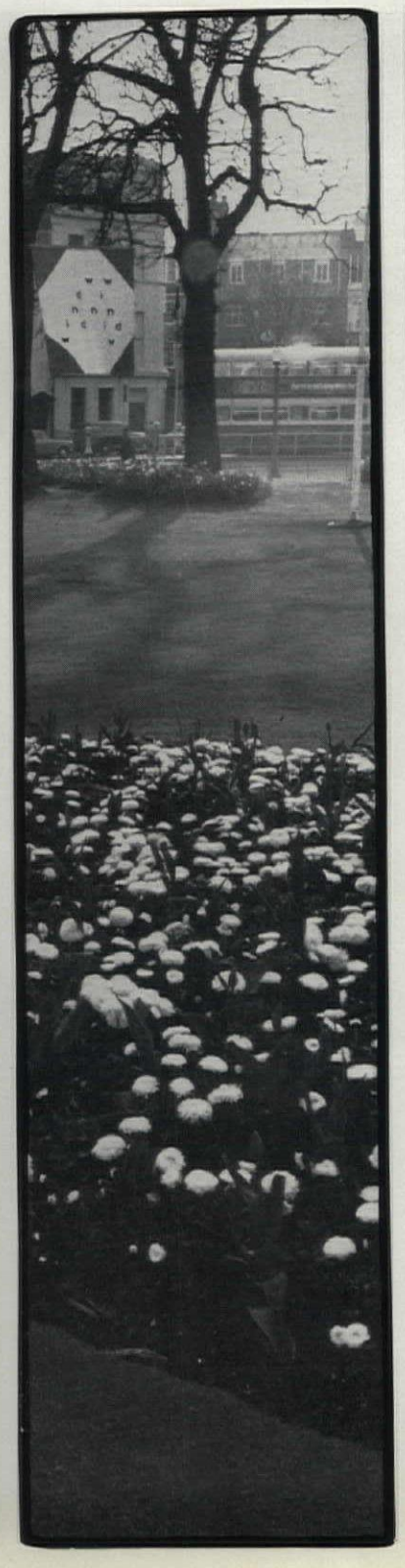
The essence of the problem is to convince both planning authorities and the general public that the co-ordination of public transit services can soon offer a complete substitute for private car ownership and can ultimately provide service which is far superior. This will clearly be far from easy, and our public systems will initially be competing with vastly greater resources distributed in private ownership, and with insistent demands for road improvements to sustain the private car as a useful and enjoyable possession. The essential demonstrations of the inherent superiority of public services should probably be made simultaneously at the local, and at the 250 m.p.h. levels.

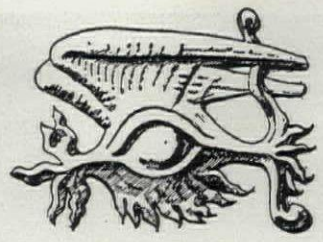
At the local level, a few urban trunk roads or railway lines should be developed. The initial investment in rail vehicles or in bridging over road intersections to provide fast coach routes should be regarded as a national experiment as much as a local service, and funded appropriately. If the systems work, we shall hope that growing appreciation by the public would lead either to profitable operations, or to acceptance of appropriate long term charges on local or national revenue.

The really important decision must, however, be made at the 250 m.p.h. level, for it is only here that the unimpeded private car can be outpaced. The potential benefits of developing the right system far outweigh the economic potentialities of any one new type of aeroplane or car or the prospects of railway modernization. The scale of investment in the system development should be judged accordingly.

Finally, one should face the problems of disruption in the aircraft, car and railway industries, which would result from successful development on the lines which have been discussed. The writer believes that the effects would not be as unfavourable as some might fear, for in the short run the industries concerned could benefit from the research and investment in the new system, and in the long run would have a head start in a potentially large export market. If developments were not attempted here, we would face the risk of successful completion elsewhere and the possibly disastrous situation of having both an obsolete transit system, and an obsolete set of industries geared to it.

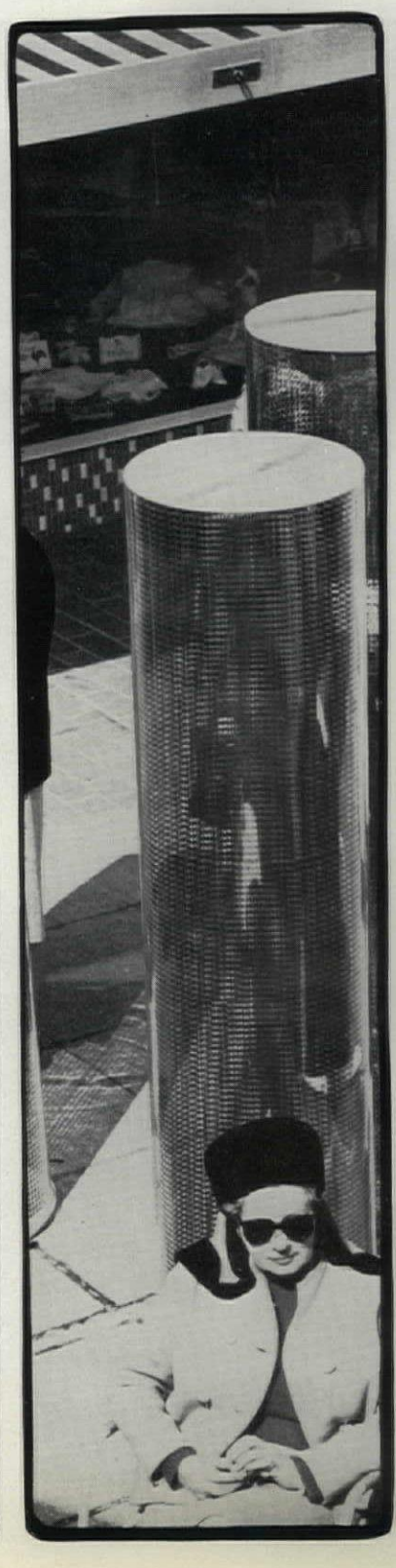


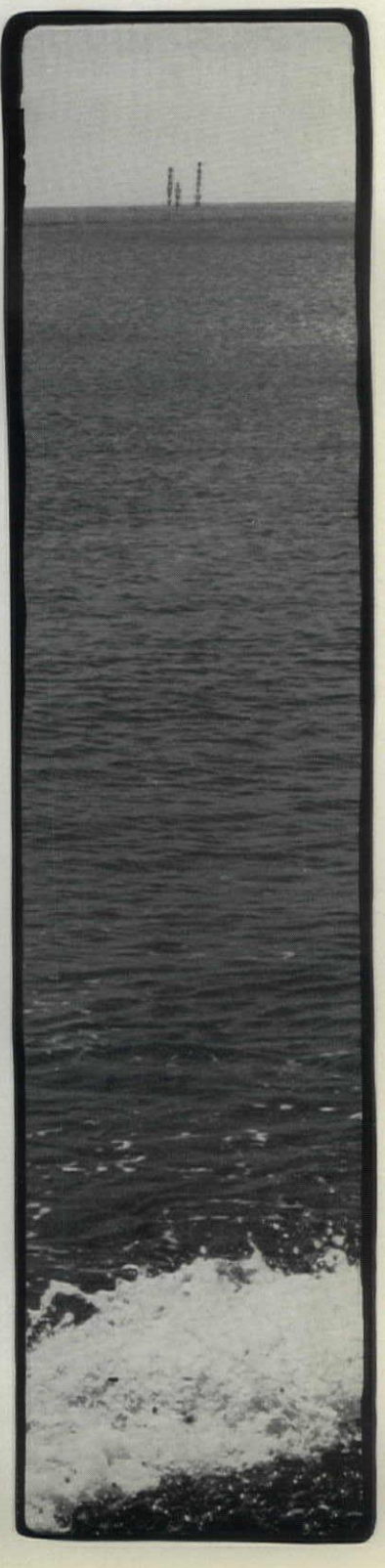


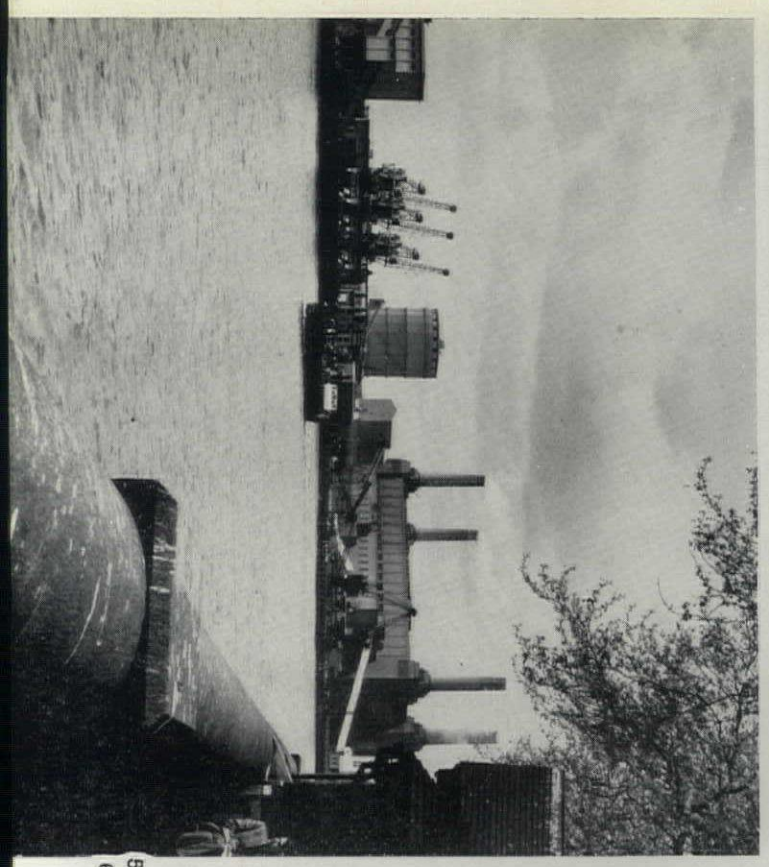


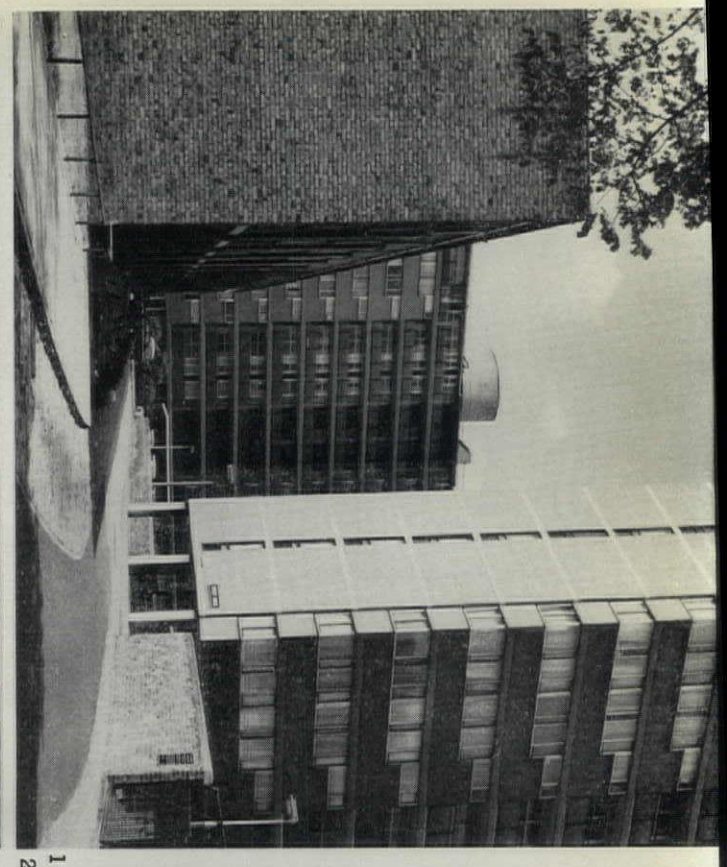
the exploring eye

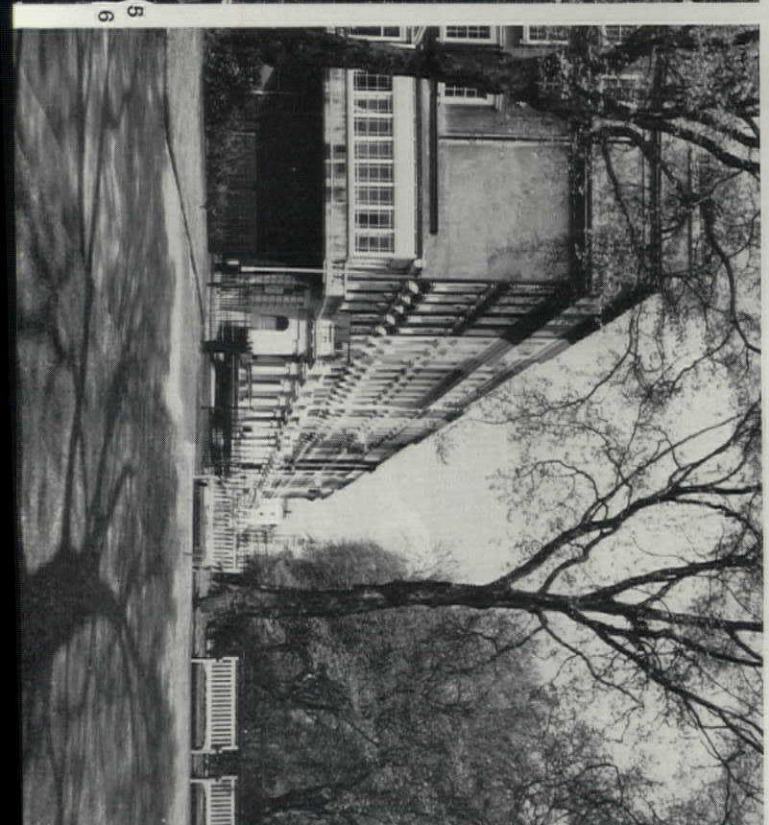
As part of the recent festival at Brighton, the town itself was strung about with pieces of concrete poetry. Although the intention of this was to involve people with art as environment, around and between the poets' work was the people's own contribution; on hoardings, walls, monuments and fascia-boards.
Once-removed from the scene, Adam Ritchie's photographs record this juxtaposition, while G. R. MacLennan's poem is twice-removed, as it was written of, and from the photographs. Concrete poetry is where you find it.

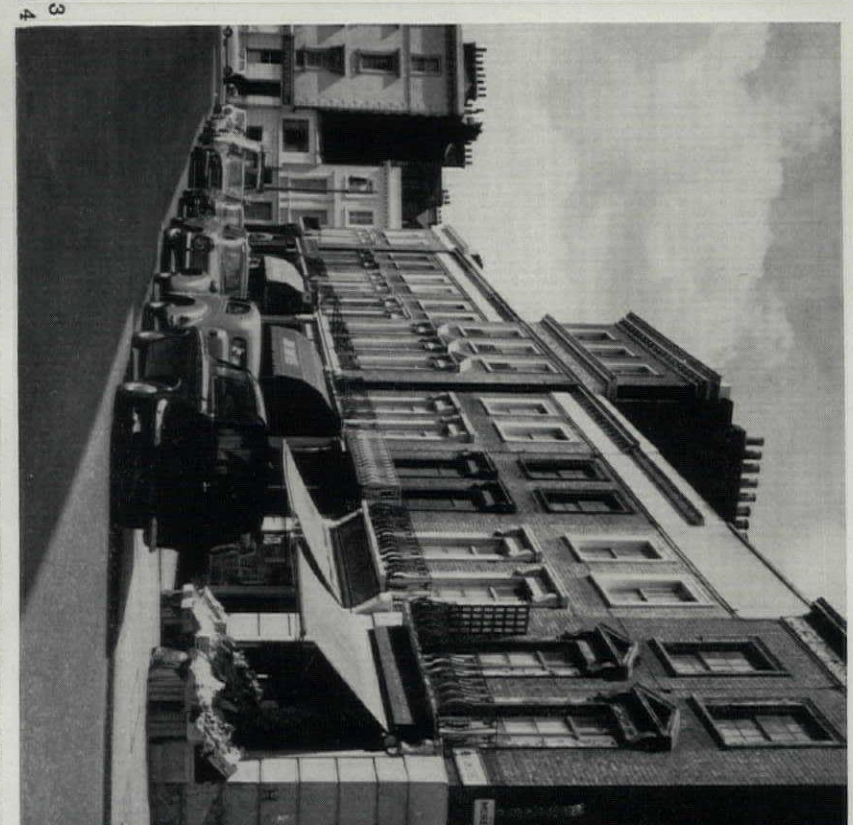


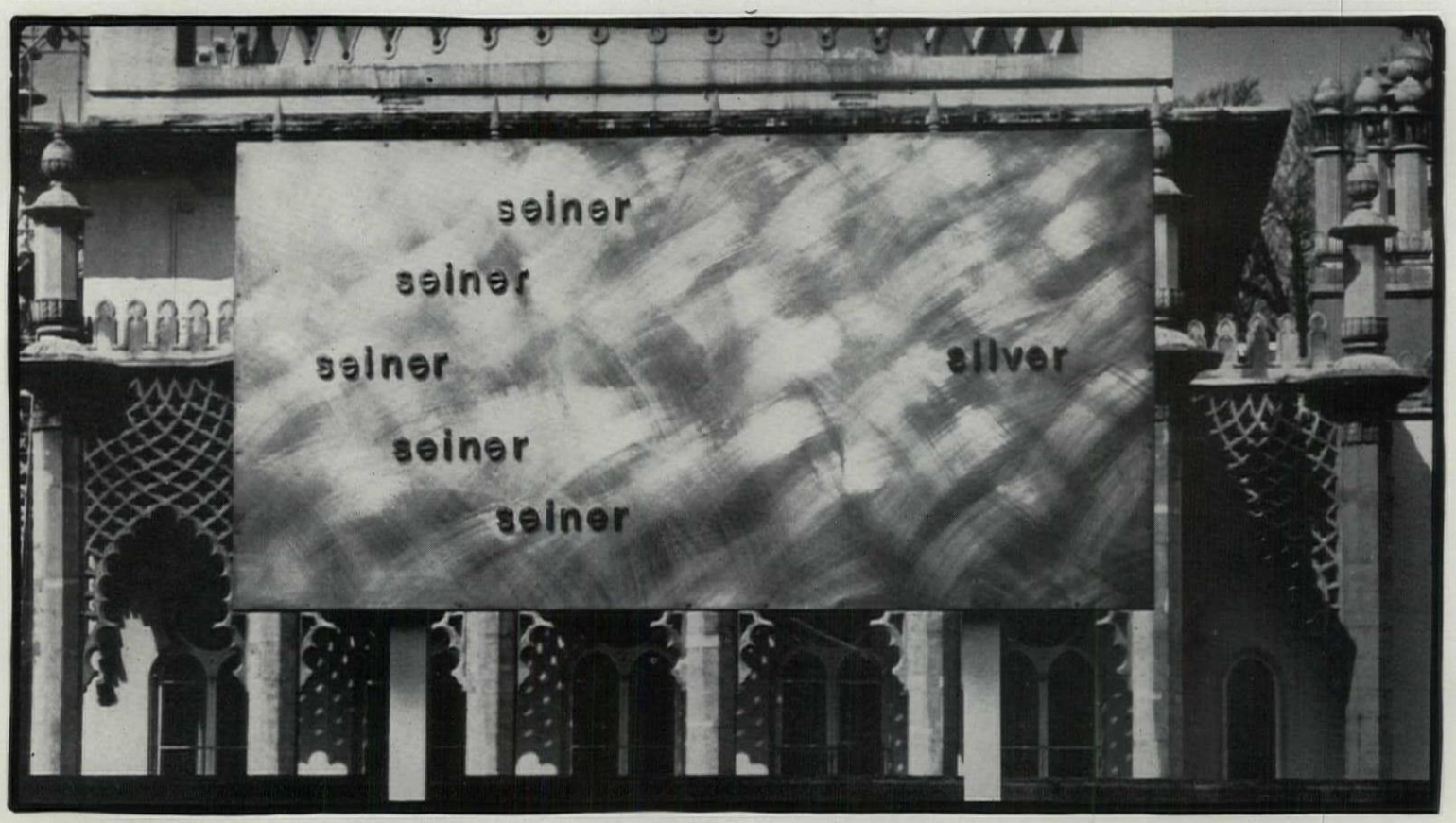


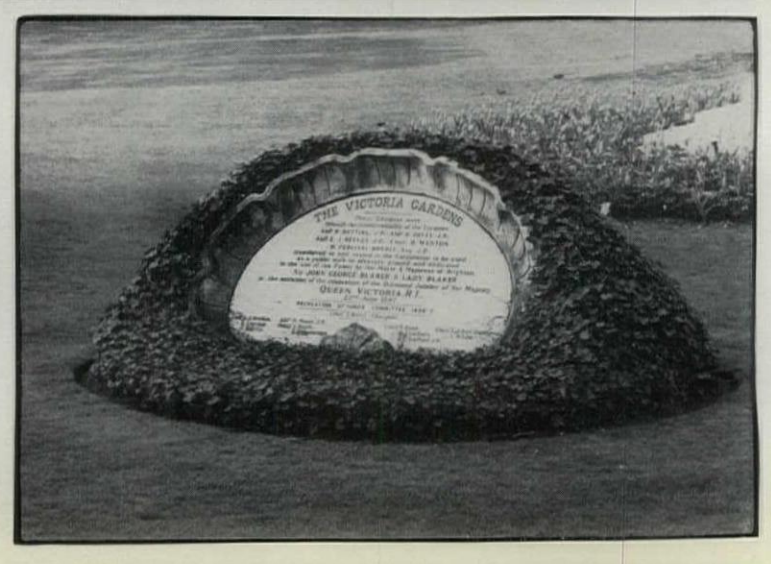


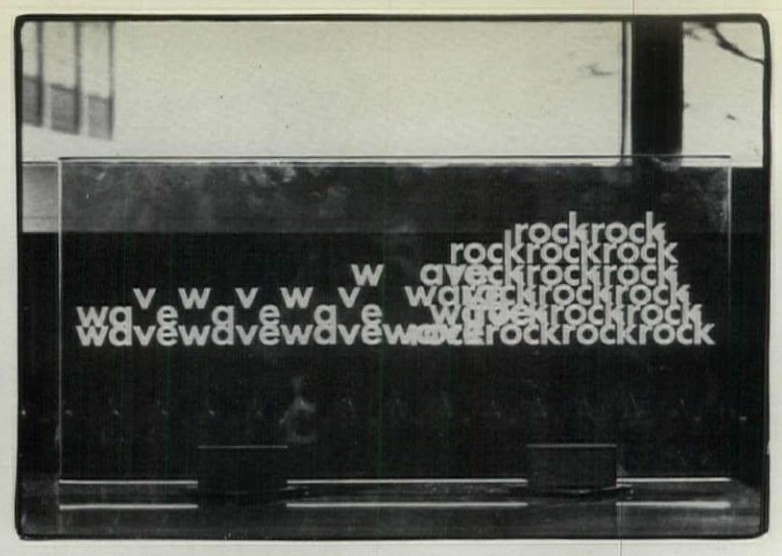












concrete poetry is

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rbe **ra** exc
ber **a e** xcr
era **ex** cre
ra **exc** ret
a e **xcr** etu
ex **cre** tus

sea **saw** sea
see **sea** see
saw **see** saw
saw **sea** saw
see **saw** see
sea **see** sea

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ght **ont** ogr
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rig **hto** nto
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ont **ogr** owt
oma **keb** rig
hto **nto** gro
wto **mak** ebr
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nan **196** 7

TOWNSCAPE

PIMLICO

Kenneth Browne

1, *Churchill Gardens.* 2, *Eccleston Square.* 3, *Dolphin Square.* 4, *Moreton Street.* 5, *View up river from Pimlico Gardens.* 6, *St. George's Square from Pimlico Gardens with the tower of Westminster Cathedral at the end of the vista.*

The street pattern of Pimlico is so confusing that you almost need a compass to get say to Victoria from the river at Grosvenor Bridge. You find yourself tacking through a series of angled grids which seem determined to take you off course, and added to this there is no Underground. As plan *1* below shows, Pimlico is contained by a rough triangle with Victoria Station at the apex and the river forming a curving base. The east side is Vauxhall Bridge Road; the west the railway lines from Victoria. In between lies the bewildering maze of streets which results from the grid parallel to Vauxhall Bridge Road, Belgrave Road and St. George's Drive being suddenly cut through by Lupus Street and changing direction by 45 degrees (in order to strike the river more or less at right angles). Add Warwick Way which slices across at random between Ebury Bridge and Rochester Row, and direction is soon lost. Here you rely on landmarks—the church towers, the trees in the squares and recently the tower block in Stag Place. The latter orientates you immediately at the otherwise hopeless six-way junction where Denbigh Street crosses Belgrave Road and ends the view up Denbigh Street with authority. Pimlico is a mainly residential district and probably best kept that way. Comparatively inexpensive, by contrast with its grander neighbour Belgravia, it has a lively shopping area including a street market around the junction of Warwick Way and Tachbrook Street (*M* on plan *1*).

PLACES

The main features of Pimlico are its nineteenth-century squares, Eccleston (*A* on plan), Warwick (*B*), and St. George's (*C*), together with the huge red 1930's bulk of Dolphin Square (*F*), and Churchill Gardens (*E*), the extensive Westminster council estate by Powell and Moya. The typical Pimlico landscape however remains the 1850 stucco terraces, mostly fag-end classical but still with much that is worth retaining. The long curving riverfront is a potential asset which unfortunately is almost entirely neglected, save at the south end of St. George's Square where it becomes Pimlico Gardens, *5*, *6*. The embankment road, Grosvenor Road, carries heavy traffic and effectively cuts off the housing from the river. Though there is a splendid view across to Battersea Power Station from Churchill Gardens*, in general the Nine Elms bank opposite is just a scruffy mess badly in need of imaginative redevelopment.

The luxury flats of Dolphin Square and the various Westminster council estates, notably Churchill Gardens already mentioned and the new estate now building in Lillington Street (by Darbourne and Dark), account for a considerable part of the total area of Pimlico. It is interesting to compare them with each other and also with the nineteenth-century squares. Taking the squares first, both Eccleston (1835) and Warwick (1843) look like Belgravia, Thomas Cubitt having been the developer of both districts. These squares lie at right-angles to Belgrave Road, which continues the spine of Belgravia into Pimlico, and are grand in scale—five-storey terraces round a central treed space approximately 700 feet long by 300 feet across. In neither is the classical detail very good, Eccleston being the better of the two, but a grandeur of scale and unity is achieved through sheer size, rhythm of projecting porticoes and unifying cream-painted stucco against which the magnificent plane trees in the central gardens show to perfection.

Warwick Square has the added interest of a church spire at its west end (see *11*).

St. George's Square (*C* on map) is very elongated (approximately 1,100 feet long) stopped at the north end by St. George's Church and at the south end open to the river. Again, regular terraces to either side and a tree-filled central space give a satisfying unity, reinforced by the repetition of balconies and porticoes. Along the west side of the square is a distant view to the tower of Westminster Cathedral, *6*. Unfortunately the south end is separated from the river by the heavy traffic of Grosvenor Road though the space is continued on the other side of the road by Pimlico Gardens. The latter, a riverside garden, is the one place on the mile of river between Vauxhall and Grosvenor bridges which uses the waterfront as public amenity.

Churchill Gardens *E*: Good modern architecture, well landscaped and particularly striking when seen from the Grosvenor railway bridge. From there the trim repetition of parallel slab blocks at right angles to the river is reminiscent of berthed transatlantic liners, an impression reinforced by the nautical roof line. Yet from inside it does not have that feeling of place which the older squares most certainly have. This may result from the staggered height of the various blocks, four, eight, nine, ten storeys which, coupled with perspective, have the effect of disrupting the enclosure of space. The environment is very good indeed when carefully photographed as *1*, but often worryingly broken up when you walk through it. Existing buildings have been incorporated into the scheme, some successfully, as for instance All Saints Church, some only working from one viewpoint like the Balmoral Castle pub, which from certain angles look like a left-over hunk of cheese. The gardens and planting are particularly well handled.

Dolphin Square, *F*. This is the other extreme. Where at Churchill Gardens space tends to fall out, it is here rigidly, even oppressively, contained by the regular ten-storey wall of building which encloses the central green space. However, the surrounding wall is a good sound barrier to the traffic outside and given better architectural expression the 'private world' idea has its merits.

AREAS TO KEEP

In planning the future of Pimlico, and deciding what to keep, Eccleston, Warwick and St. George's

Plan 1

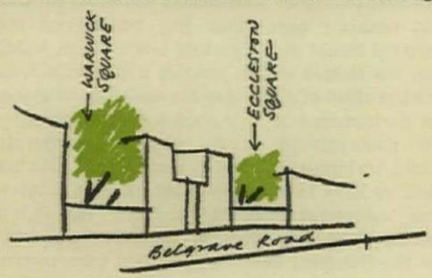
(*Broken line indicates route followed on pages 198 to 200*)

Key

A, Eccleston Square. B, Warwick Square. C, St. George's Square. D, Pimlico Gardens. E, area now occupied by Churchill Gardens estate. F, Dolphin Square. G, site of new school. (Map does not show layout of Churchill Gardens.)

* This is already a street of some interest with shops and pubs and though in places it could be improved by rebuilding it is particularly attractive at the south end, where it meets Lupus Street.

Squares must take priority. It is important, too, that their immediate surroundings should be carefully considered and the protection of Eccleston Square (like Westminster Cathedral), when Victoria is rebuilt as a large continental interchange station, needs careful study. Massive road works are bound to be entailed and a careful survey is needed to decide which streets should be retained and which should go, for they vary very much in quality. Some are important on account of position, for instance the Cambridge Street terrace which forms the background to St. Gabriel's church when seen from Warwick Square. Some, such as Clarendon Street behind Eccleston Square and Churton Place, **9**, should be kept on merit, while others could be rebuilt keeping the basic street pattern. What should not happen in urban design terms is unfortunately being demonstrated at this moment on the north-west side of St. George's Square. Here a large site, **g**, between Chichester and Lupus Streets, has been cleared for a new GLC secondary school. Though to judge from the model, an interesting building may result, there has been a ruthless disregard for the effect on St. George's Square. The regular wall of buildings enclosing the sides of the square has been broken to allow what will almost certainly be a disastrous leakage of space. If possible the mistake should be made good with the existing terrace line continued (in modern idom) and with the school behind.

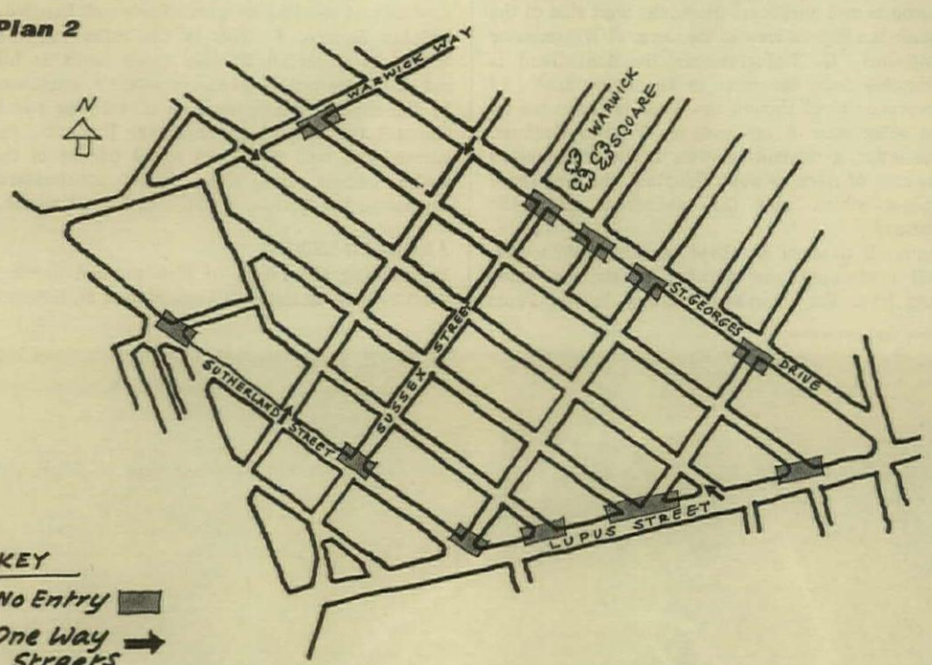


TRAFFIC

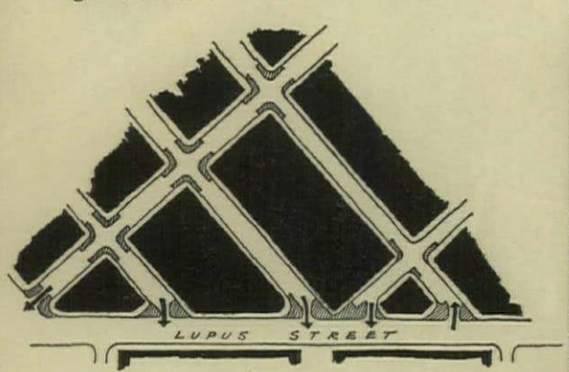
The whole of Pimlico is harassed by traffic, much of it taking short cuts across the residential streets. It is particularly heavy in Belgrave Road where its noise intrudes on Eccleston and Warwick Squares and some form of wall, (left), at the end of each square would be worth considering to act as a barrier. Again, Grosvenor Road on the embankment is almost impossible to cross so that there is the exasperating situation of an unusually long stretch of river front housing which is nevertheless divorced from the water by the traffic. Between Churchill Gardens and the river there is just a great stretch of tarmac, while Bessborough Gardens by Vauxhall Bridge is an extreme example of space made unusable by circulating vehicles.

In an attempt to defeat the short cut takers, the Westminster council have recently carried out an experimental traffic management scheme in the

Plan 2



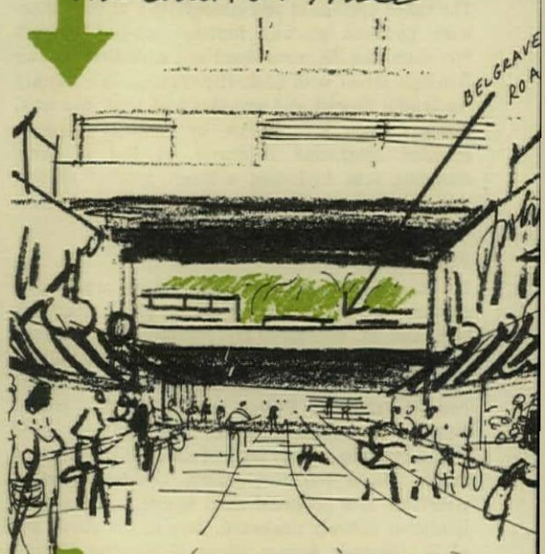
The City of Westminster Pimlico Precinct scheme. Above: plan showing system of traffic management. Below: detail of plan showing new areas of pavement (shown shaded) at junctions and typical view at ground level.



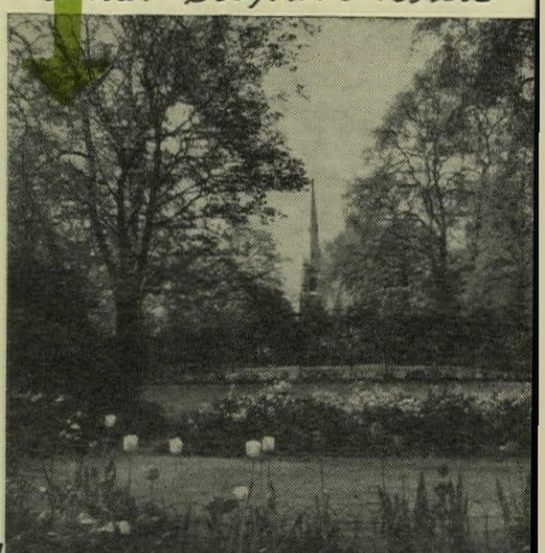
LINKING

8 from the market area

9 via Churton Place



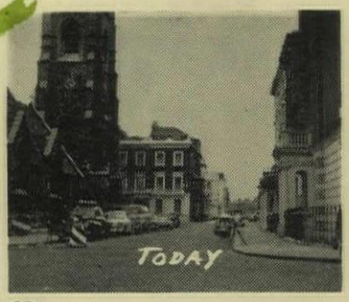
10 under Belgrave Road



11 into Warwick Square

7

12



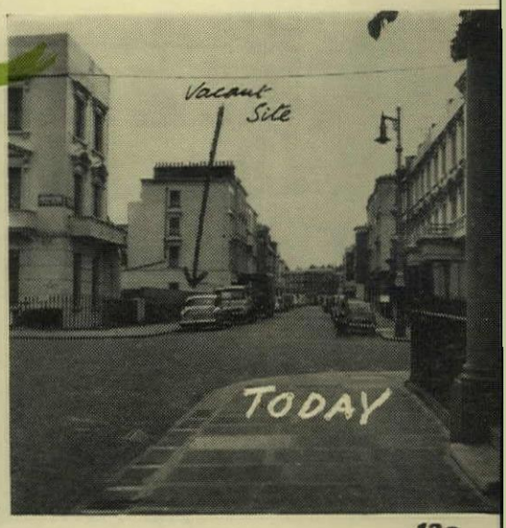
12a

– then down Sussex Street (reclaimed from traffic)

tions better for the pedestrian while at the same time providing links in what is at present so confusing an area. For instance Sussex Street*, which centrally crosses the grid shown in plan *2*, could become entirely pedestrian except where it is intersected by streets. The stretches between streets are short (only three or four houses), so the inconvenience to occupier/drivers would be minimal, while the environmental gain could be great. This, combined with such measures as for instance turning the existing vacant plot shown in *13a* into a small park, *13*, could become the backbone of a pedestrian route joining the market area around Warwick Way and Tachbrook Street (via Warwick Square, Sussex Street and Churchill Gardens) to

* The smoke from the power station chimney is another matter and urgently needs attention.

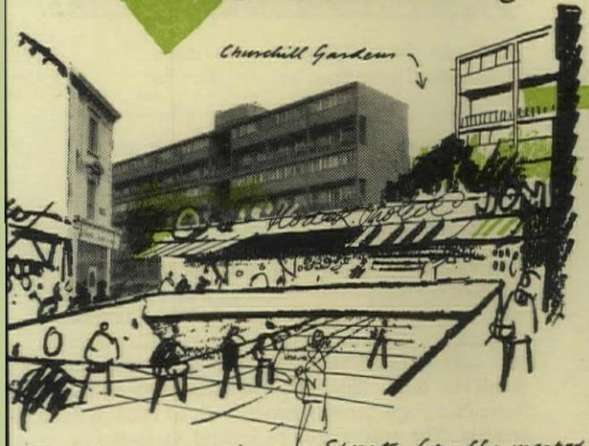
13



13a

Sussex Street becomes mainly pedestrian. Vacant corner site converted into small park.

some rebuilding keeping existing scale – turn left down Winchester St.



14 – then under Lupus Street (traffic masked by single storey shops)

15

16

residential grid between Sutherland Street and St. George's Drive. Plan *2* shows entrances to the area limited to one on each side and the road ends narrowed down by paving with tree planting at the street corners. It remains to be seen how well this will work in traffic terms but it should improve the environment.

LINKING

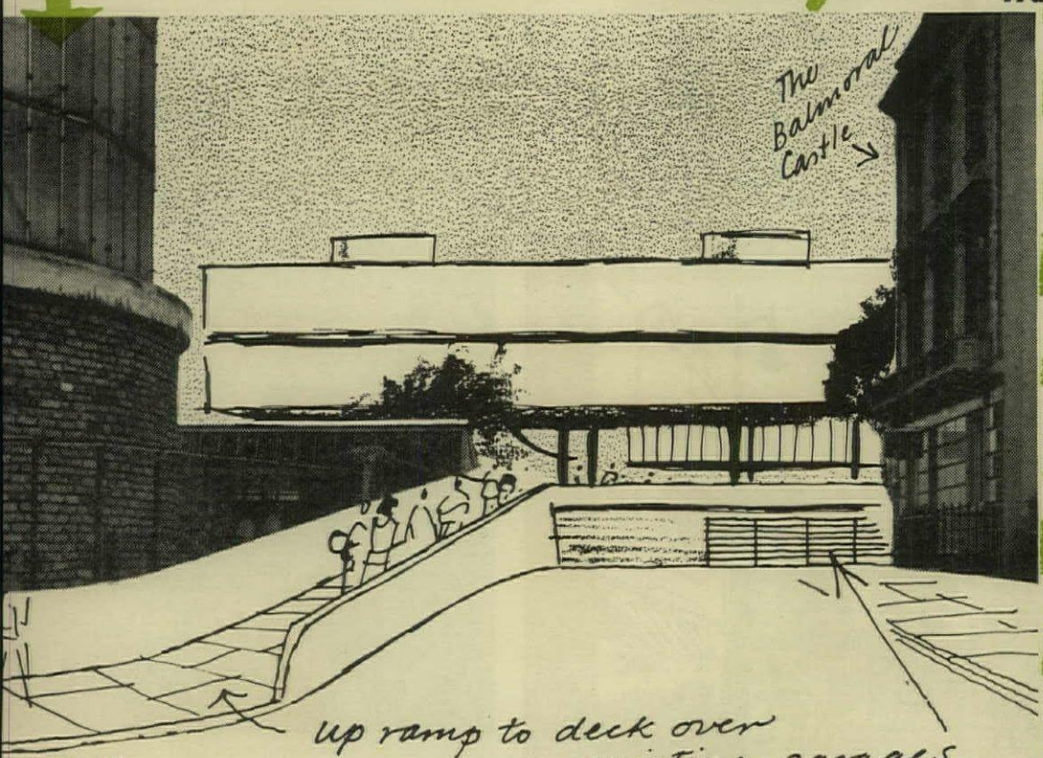
This kind of action could be just a beginning to a series of limited schemes aimed at making condi-

.. into Churchill Gardens .. along footpath ..

Linking (contd.)

the river (see broken line on plan *1*). An idea of how this might look in practice is shown in sketches and photographs *8* to *19*, culminating in a riverside terrace opposite Battersea Power Station, reached by a deck over Grosvenor Road.

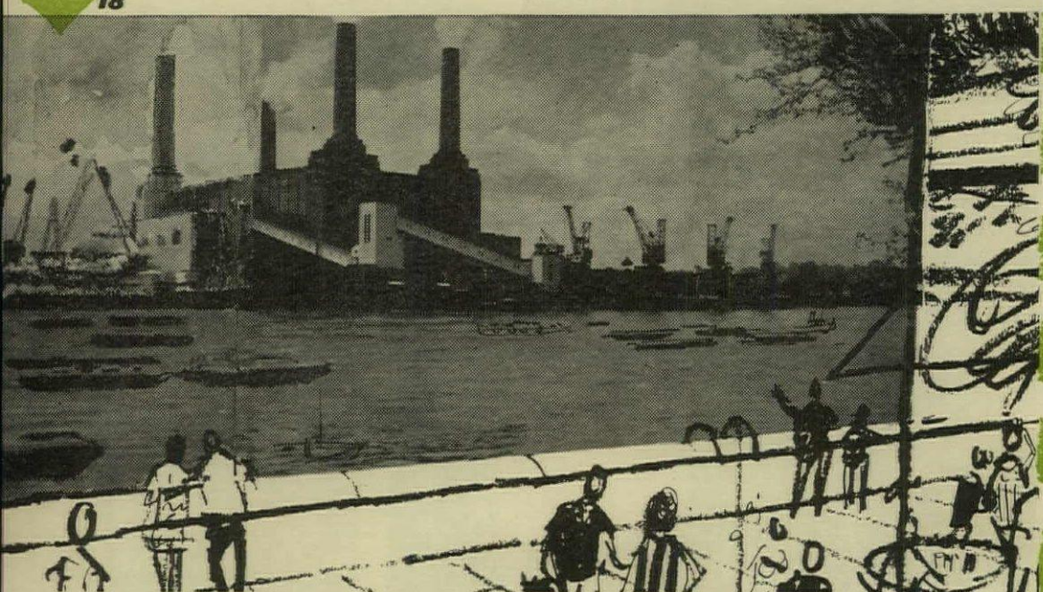
17a



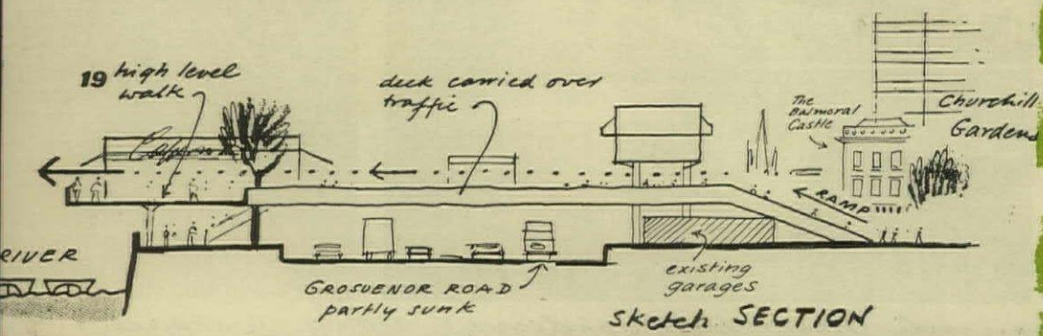
17

up ramp to deck over existing garages and bridging Grosvenor Road.

18

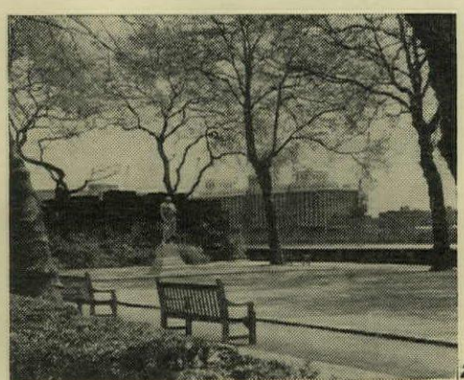


. . and out on to riverside promenade raised above the traffic



RIVERSIDE

Today this is a mess and entirely wasted except for Pimlico Gardens, *5*, *6*, *20*, *21*. Single storey warehouses, a GPO workshop, a garage and a petrol station block views of the river. Failing a sunken riverside highway here when terraces could link across the traffic to the river, what can be done? Sketches opposite show some of the possibilities. Save for gimmicky shelters and over-prominent seats, Pimlico Gardens is very pleasant as it stands—just a river wall, a statue, well-kept grass and two rows of fine plane trees. Indeed it should hardly be touched and certainly not gingered up. Most important, too, it is not an endless



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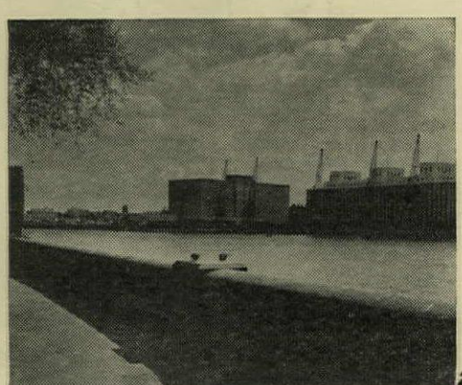

21

20, *Pimlico Gardens from Grosvenor Road.*
21, *view down river from Pimlico Gardens.*

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draughty stretch of park. It is small, even snug, a place to sit and watch the river, bounded at either end by high walls over one of which cranes appear. Any alterations must not destroy but follow the idea in a series of linked spaces—for instance starting from Vauxhall Bridge, the high arched walls of the single-storey warehouses might be kept and a river walk run over the top. Pimlico Gardens, entered through an archway in the existing wall, needs little change, as we have seen; even the greenhouse should be kept. However, the connection to St. George's Square across Grosvenor Road remains a problem. The road might be bridged as shown in the sketch on the left (in which case it should take the form of the square being carried over the road, not just making do with a flimsy bridge) or effected by an underpass. Between Pimlico Gardens and Grosvenor Bridge the route would follow the river, first past an existing but refurbished wharf, then under a new riverside restaurant (with private garden) and eventually connecting with the deck in front of Churchill Gardens seen in *18*.

AS IT COULD BE

existing trees

Grosvenor Road

promenade

a promenade over warehouses with steps down to playground

then through an archway into the quiet of Pimlico Gardens (walled garden)

ramp up to deck over road

wall to baffle traffic noise

then along river wall past existing wharf

and under a new riverside restaurant overhanging the water

steps up to restaurant garden

at the far end steps lead up to the promenade opposite Churchill Gardens (see 18)

CONCERT HALL, SNAPE, SUFFOLK

architects and engineers **ARUP ASSOCIATES**

The architects were asked by the Aldeburgh Festival of Music and the Arts to convert a disused malthouse into a concert hall for use during the Festival and at other times as a recording studio. The only secular hall hitherto in regular use by the Festival has been the Jubilee Hall at Aldeburgh (5 miles from Snape) which only seats 320. The new concert hall seats 824.

The disused malthouse was divided into three parallel blocks with a smaller building at right-angles, at the north-east corner of the site near the River Alde.

The remainder of the site is occupied by maltings which are now used for grain drying and storage. It is entered at the north-west corner near Snape Bridge (see site plan) and arrival at and departure from the concert hall is by a one-way road system through the existing complex of buildings. Minor improvements have been made to the internal landscaping and space has been provided for parking 450 cars.

In view of the defects of auditoria designed to serve several purposes, it was decided to design this primarily as a concert hall, though facilities are provided for opera productions. The conversion involved extensive demolition and complete removal of all the internal walls separating two of the three blocks, including the complete removal of the heavy brickwork forming the lower parts of the malthouse and the steel-framed pammet floors. The external brick walls, and the one internal wall that remains separating the auditorium and the foyer, have been raised some 2 ft. and a completely new roof structure provided. This conversion gives a single rectangular space, enclosing auditorium and stage, with a large foyer running the full length of the auditorium. The small end building has been converted into dressing rooms on the ground floor and a restaurant with kitchen and bar on the first floor.

The only substantial alterations to the outside of this building are the insertion of a double row of windows to light the restaurant, kitchen and bar and the dressing rooms below. An external timber staircase has also been provided so that concert goers can come out of the restaurant and down on to a raised terrace, giving them views across the marshes. A lighting control box has been added externally to the back wall of the auditorium, in a form taken from a traditional granary hoist.

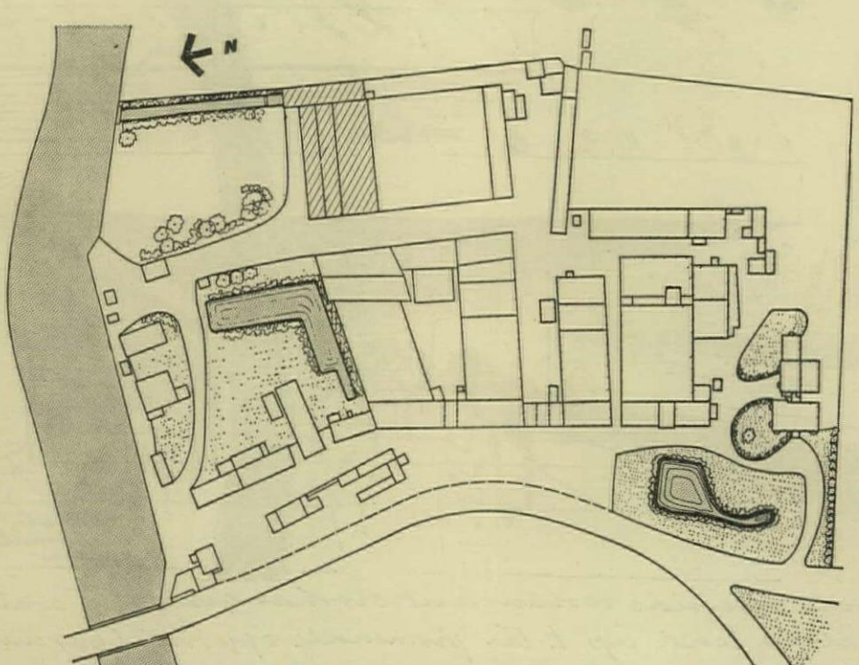
The new auditorium roof structure, which retains a similar shape to the old roof although the height and slopes have been adjusted, consists of simple trusses of 60 ft. span 12 ft. apart of standard triangular form, except for the flat-topped section where crossed ties are

auditorium seating, in beech and cane, specially designed by the architects

used. Compression members are of Columbian pine and tension members of high tensile steel with rigging screws. The roof has white wood purlins and two layers of tongued and grooved boarding. The characteristic smoke hoods serving the old malthouse have been replaced by similar hoods housing electrically controlled motorized dampers for the ventilation system. The old brick walls have been grit blasted and sealed to get back their original colour. The floor and stage of the auditorium are finished with Gurjun hardwood strip with cork underneath the fixed seating. Doors are Columbian pine. The foyer floor and staircase have 12 in. square red pammets, a local product.

It was required that the auditorium seating should be removable and stackable, and also desirable that it should fit in with the nineteenth-century semi-industrial character of the building. It was eventually decided to use a cane seat similar to those at Bayreuth. A seat using cane with an ash frame was designed by the architects and made by an Ipswich firm. The seats can be linked in rows and fixed to the floor.

The acoustics of the auditorium, which have proved highly successful, give a reverberation time of two seconds in the 500 to 1,000 cycles-per-second frequency band. They had to be designed both for orchestral and chamber music performances with a full audience, and for BBC transcription recordings, live broadcasts and recordings without audience.



site plan of Snape maltings: the diagonal hatching shows the block of buildings converted into a concert hall: the River Alde is on the left and the entrance to the site is beside Snape Bridge at the bottom left-hand corner

photographs by John Donat, Colin Westwood and Hans Wild

The increasing interest that has been taken in recent years in early industrial buildings has by no means necessarily led to their being safe from demolition when no longer needed for their original purpose. This is chiefly because of the difficult problem of re-use. The work recently completed at Snape and illustrated here is an encouraging exception: an unwanted range of maltings successfully and sympathetically converted into a concert hall for the Aldeburgh Festival. The maltings, dating from the middle of last century, were a splendid example of the functional tradition and indeed were included in the AR special issue of that title published in July 1957,* in which buildings of this kind were first evaulated and illustrated. They remain a splendid example, since the architects have admirably succeeded in preserving their character through the necessary process of adaptation as the before and after photographs shown below demonstrate.

1

2

* Reprinted in book form as *The Functional Tradition in Early Industrial Buildings*, by J. M. Richards (photographs by Eric de Maré). The Architectural Press. 1958. Price, 36s.

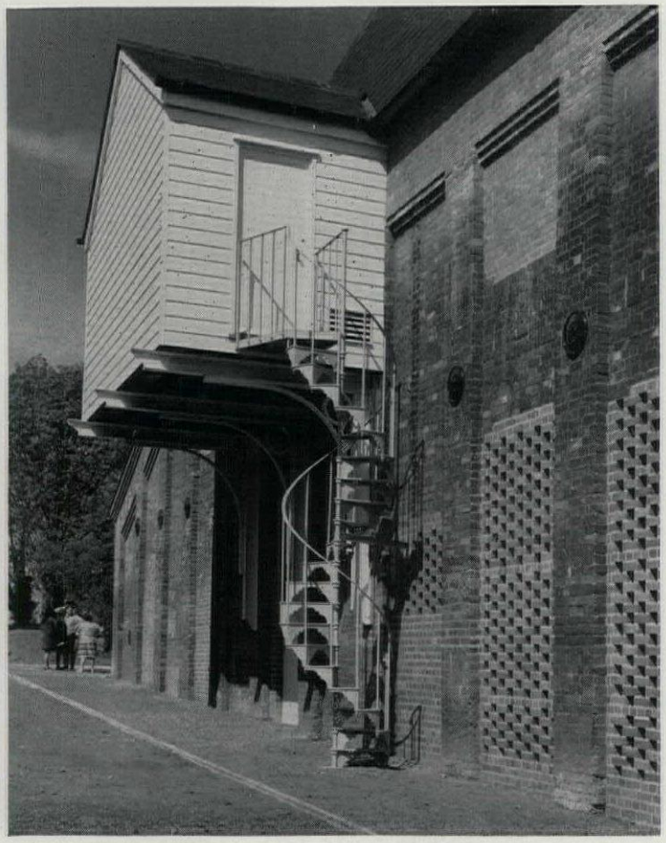
1, Snape maltings from the north-east before conversion. 2, after conversion into a concert-hall. The lower block on the left contains the restaurant. In the foreground: the River Alde.

3

CONCERT HALL AT SNAPE

3, the restaurant block with the concert-hall behind; in the background, old maltings still used for grain-drying and storage. 4, the terraces overlooking the river and marshes. 5, lighting control box at the back of the auditorium. 6 (facing page), the auditorium with a concert in progress. See also the frontispiece to this issue, page 176.

4



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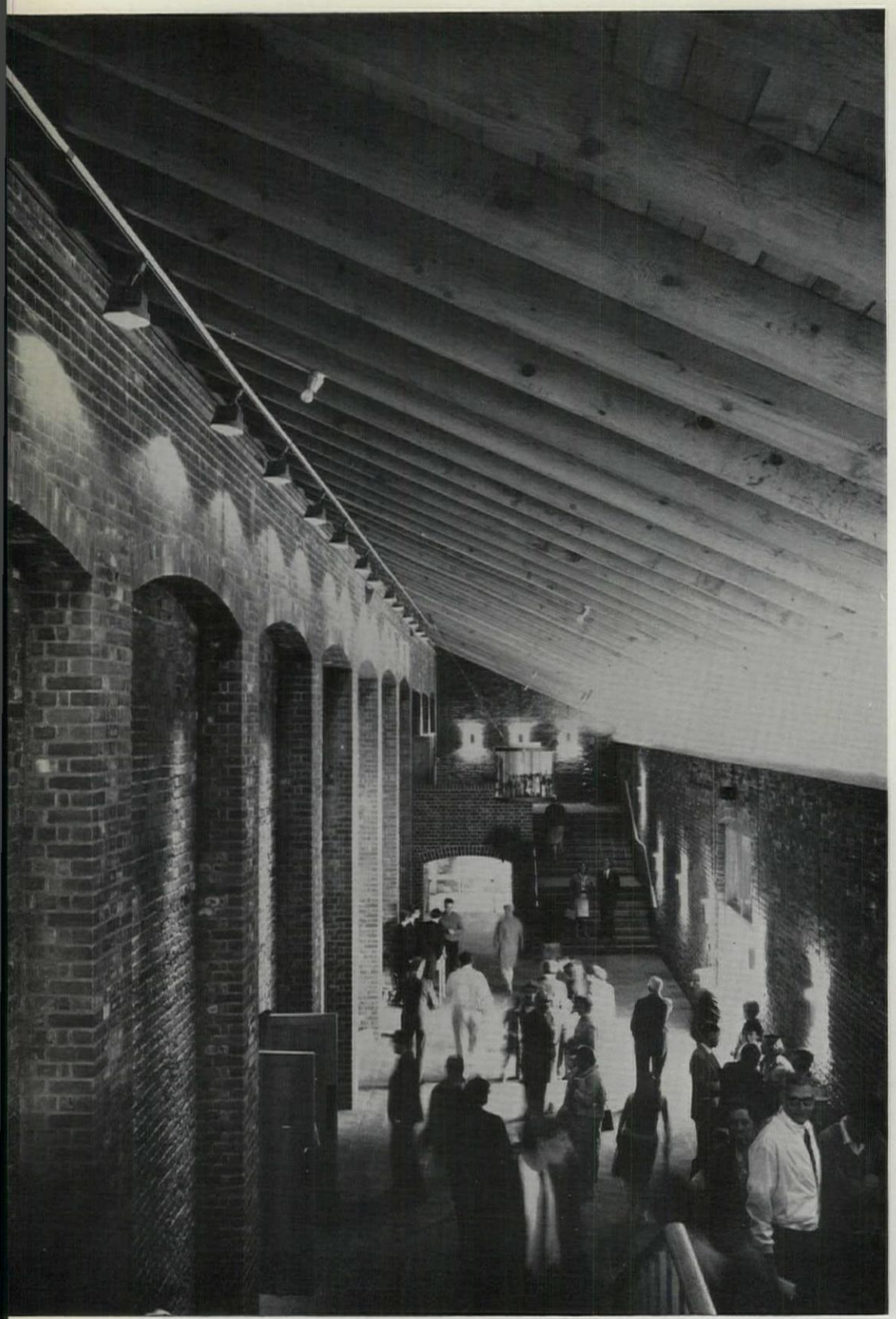

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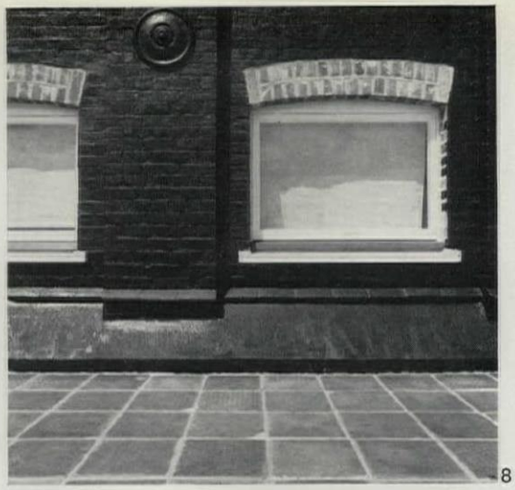

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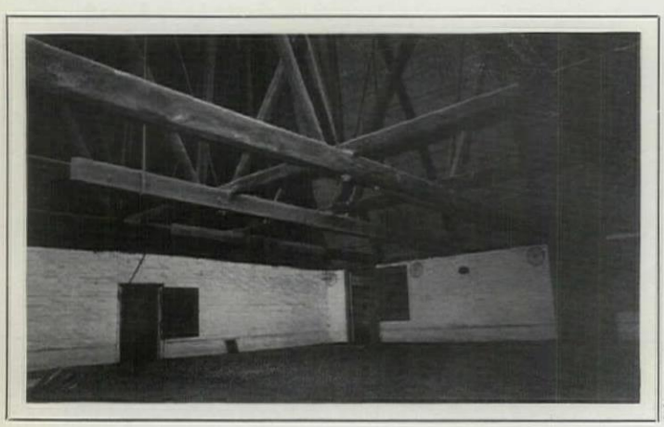
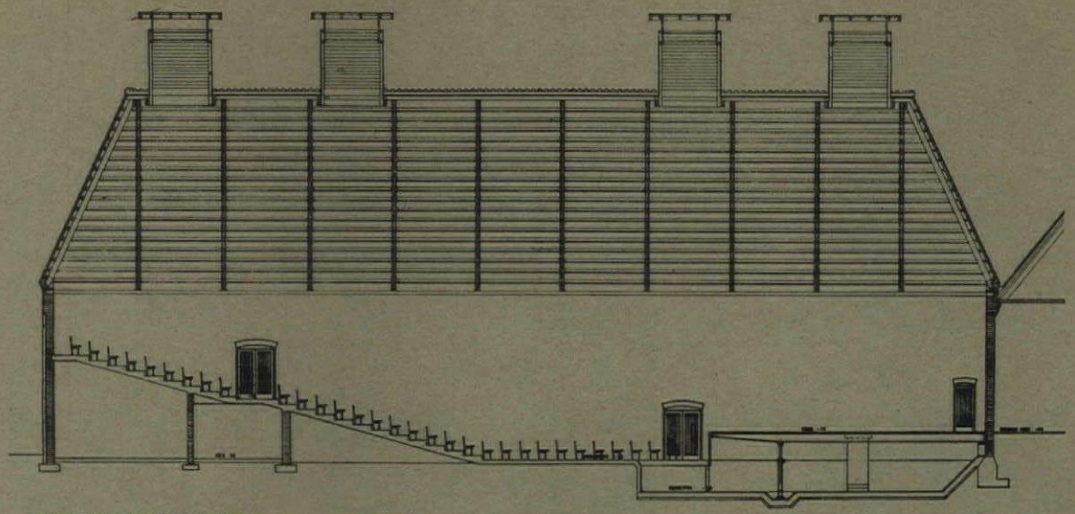


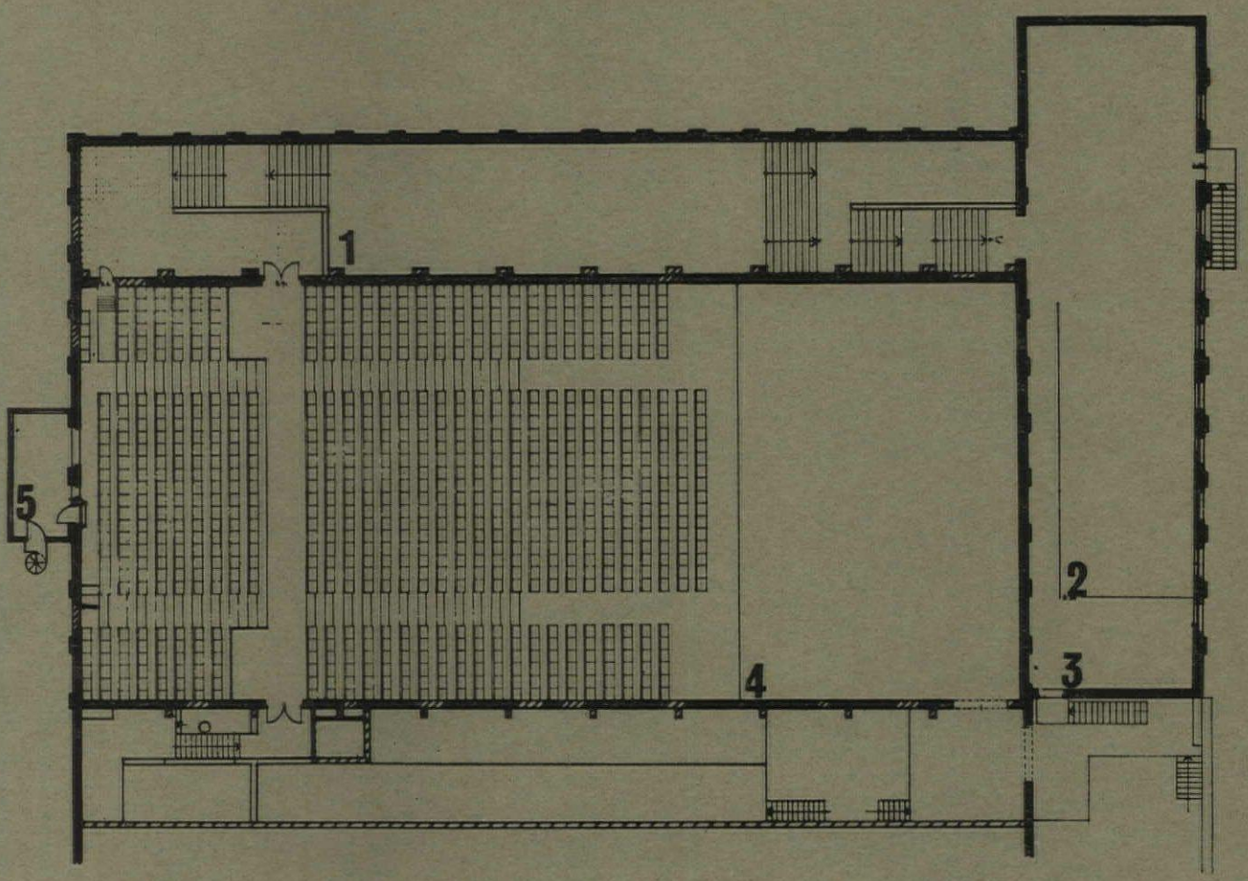
11

7, the foyer alongside the auditorium. 8, new windows of the old pattern in the lower floor of the restaurant block, lighting the dressing-rooms, etc. 9, inside the restaurant—new range of windows on right. 10, the auditorium looking away from the stage. 11 (left), the original roof construction photographed by John Brandenburger before the conversion.

CONCERT HALL AT SNAPE

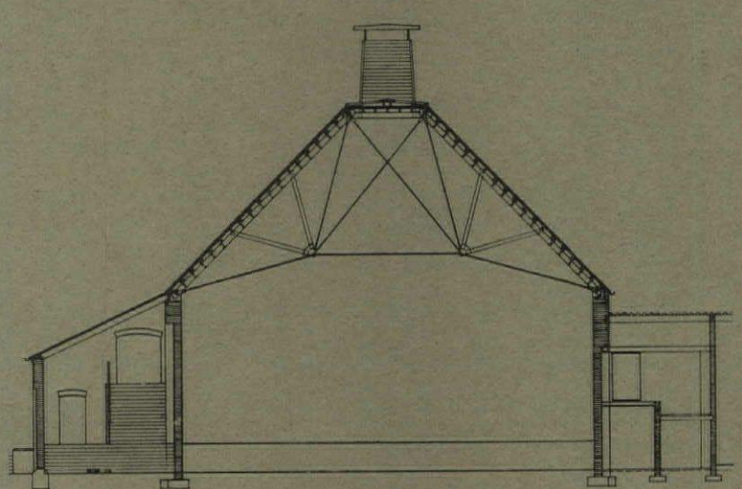


long section through auditorium

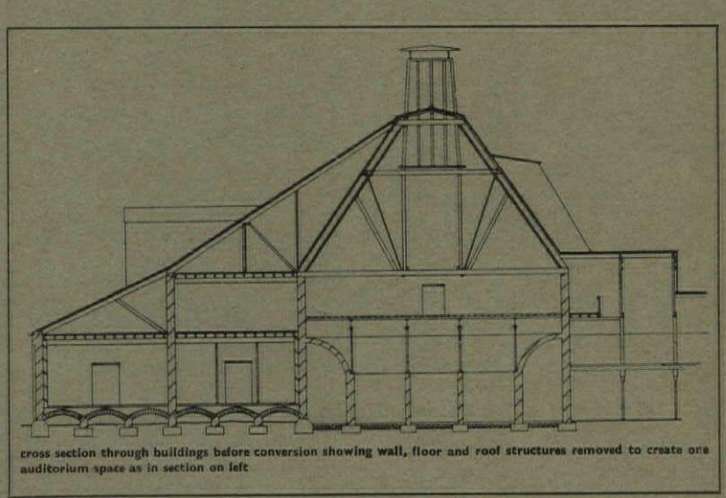


key
1. foyer
2. restaurant (dressing rooms under)
3. kitchen
4. stage
5. lighting control box

plan at auditorium level



cross section



cross section through buildings before conversion showing wall, floor and roof structures removed to create one auditorium space as in section on left

Sir Robert Smirke, from a portrait by George Dance, 1809

SIR ROBERT SMIRKE

A CENTENARY FLORILEGIUM

J MORDAUNT CROOK

1967 marks the centenary of the death of Sir Robert Smirke. Treasurer of the Royal Academy; protégé of the Tory establishment; architect of the British Museum, the Royal Mint, the old General Post Office and Covent Garden Theatre, the Custom House and King's College, London, numerous churches and innumerable country houses, several London clubs and a number of provincial court houses. Smirke dominated Regency architecture to an extent only equalled by his fellow architects at the Office of Works, Nash and Soane. The extent of his practice has never been in doubt[1], but his talent has generally been dismissed as second-rate. Recent research has gone some way towards rehabilitating his reputation as a key figure in the development of professional practice and modern structural techniques. He was the first British architect to make use of load-bearing foundations composed of mixed concrete, the first to make regular use of quantity surveyors, and probably the first to demonstrate the structural value of cast-iron beams in domestic, as opposed to industrial, architecture[2]. This article sets out to illustrate his significance as a Greek Revivalist—not from his architectural designs, which are already well known, but by means of quotations from his own treatise on architecture, a book which was never published.

Smirke's philosophy of architecture is contained in a series of manuscript fragments preserved in the RIBA Library[3]. Random watermarks and scraps of internal evidence suggest that the essay was begun in 1815 and extensively revised over the next ten years with a view to publication. Its language is occasionally pompous and its digressive structure benefits from drastic pruning and rearrangement. But although Smirke apologises for 'the . . . brevity and slight texture of this . . . hasty sketch,' its historical importance is considerable. On the whole Regency architects published little in the way of architectural theory. Thomas Sandby's Royal Academy lectures have survived in manuscript form; those of Soane and C. R. Cockerell are available in print[4], but George Dance neither lectured nor published, nor did Nash, nor did any of the pre-Victorian Wyatts.

Apart from its obvious rarity, Smirke's treatise is intrinsically interesting as an expression of doctrinaire Neo-Classicism. His admiration for Greek architecture is intense. 'On turning over the vast collection of that ingenious and indefatigable raker of antiquities, Piranesi,' he finds no more than 'a monument . . . of corrupt [Roman] taste.' But unlike Wilkins he is more concerned with theory than with archaeology. He concentrates on principles rather than on precedents, leaving 'the learned labour . . . of the antiquary' to 'the idle or the curious.' His standpoint is that of a disciple of Cordemoy and Laugier. But his adherence to the fundamentalist philosophy contained in Laugier's *Essai sur l'Architecture* (1753) and *Observations sur l'Architecture* (1765) is more dogmatic and more complete than that of either of the two English architectural writers who are usually labelled most 'influenced by Laugier,' Isaac Ware and John Soane[5]. The source of Smirke's attitudes can almost certainly be traced to George Dance. Dance acted as the young architect's private tutor after his brief stay in Soane's office and prior to his tour of France, Italy, Greece and Germany in 1801–5.

Smirke's reputation as a scholarly, archaeologically-minded architect can scarcely survive his essay's belated publication. He is revealed as a romantic functionalist. The theme is structural integrity rather than decorative accuracy. His treatment of the orders is based on Laugier's doctrine of 'apparent utility,' the fiction of decoration 'as if'—what Sir John Summerson once called 'subjunctive architecture'[6]. Smirke sums it all up with a parable about a lame man whose crutches are compared to classical columns: 'after being cured of his lameness, should he still choose to carry his wooden props about with him . . . he would deserve the ridicule that would certainly follow so absurd a conceit. If he must needs carry his crutches . . . he should at least *affect* to be lame.' It is this affectation of rationality which makes some of the premises of Neo-classicism so difficult to accept. After all Smirke's Greek Revival buildings were structurally dependent on cast iron and concrete. Nevertheless the intellectual credentials of Greek Revivalism have a certain closed-circuit validity. The discovery of Smirke's treatise underlines the fictional quality of much Greek Revival architecture. But it also indicates the extent of the movement's emancipation from archaeology.

'The elements or component principles of . . . architecture [are not] Design, Invention or Composition . . . [but] Utility . . . Stability . . . and Fitness. . . . On these truly fundamental principles, it is for good sense, for genius and taste, to erect the fabric of architectural art. . . . [These fundamentals, when] subjected to the plastic powers of genius, . . . produce . . . architectural excellence . . . [provided genius has an eye to] Grandeur . . . Simplicity . . . and Uniformity. . . . [For a study of] the *system of construction* . . . [demonstrates] the close connection subsisting in this art between *beauty* and *truth*: on the preservation of which, its purity and permanency so much depends. . . . [For] what is not *good*, in respect to mechanical excellence, cannot be *beautiful*. . . . Good taste must disapprove what is neither useful nor natural . . .

'The imitative arts . . . painting and sculpture, are the reflections, artfully composed, of natural objects and circumstances. . . . [But architecture] has no prototype in nature, nor any known criteria, except such as are of artificial origin, which, besides being changeable, must be learned in order to be known. . . . [Hence the origin of architectural styles]. A style of architecture, when chosen, should be considered as a patrimonial inheritance which we are bound to preserve with pious care, and leave unimpaired to our successors. . . . The architect may find abundant scope for talents of the first order, in composition; in forming new combinations with the materials provided to his hand; in selecting them with taste and judgement, and adapting them

gracefully to new purposes: mindful, however, that he neither perverts his legitimate forms, nor combines them according to principles not in unison with the system to which they belong, lest he produce monsters that no species of art can acknowledge. . . .

'[There are six principal] varieties in the style of architectural art . . . Egyptian, Persian, Hindu, Chinese, Gothic and Grecian. . . . As works of mechanical contrivance, adapted to their respective uses, their merits . . . may be nearly equal; but as productions of taste and genius [the Grecian style] . . . is certainly the noblest. . . . Simple, grand, magnificent without ostentation, and everywhere discovering a rational purpose effected by the best means, it is a style which . . . [Nature might have chosen] had Nature provided . . . edifices for man's use. . . . [For] with its other merits it has a kind of primal simplicity. . . . An excess of ornament is in all cases a symptom of a vulgar or degenerate taste. . . .

'[Greek architecture degenerated in Roman hands] till its despicable remains were almost everywhere superseded by that singular and mysterious compound of styles, which, under the general denomination of *Gothic*, overspread the greater part of Europe. . . . [Architects] introduced many forms unknown to the ancients: chiefly the transformation or translation of parts selected from the rude complication of styles which had long prevailed . . . and hence were derived the steeples, towers, pinnacles, balconies, balustrades and other features [of Renaissance design]. . . . Venice . . . abounds in examples of every kind of vicious excess. . . . Yet . . . that extraordinary city . . . [produced] *Palladio*, to whom, it must be confessed, the art is deeply indebted. . . . But [he] . . . thought only of purifying the different orders; . . . conceiving the excellence of a work to depend on the fidelity with which these important and beautiful parts were imitated, rather than the skill and fine taste of their application. Hence [his] buildings . . . seem not so much to be *composed* of the materials they exhibit, as to be *hung round* with them. . . . The boasted Parisian buildings are chiefly of this description. . . . The Tuileries, the Louvre and Palais Royale. . . . Here are colonnades in abundance . . . but their pillars are either half-buried in walls they cannot support, or standing just isolated, affording neither shade nor shelter. . . . Generally speaking, men of genius in that country are so voracious of distinction that every work in which they engage is liable to be *overdone*. . . .

'It is this Italianised Roman architecture that now overruns the European quarter of the world to the exclusion of almost every other. From its first, or nearly first, introduction into this country by Inigo Jones, the Art has undergone no material change, and, till of late, scarcely any improvement.

. . . [For example] the whole front of [the Banqueting House in Whitehall] . . . is richly hung with . . . architectural *paper* . . . exhibiting a spacious, but false show of . . . beams . . . that in better times were accustomed to give proofs of real usefulness. . . . The double range of columnar ghosts . . . intersected by successive courses of entablatures, checker and divide it into square compartments . . . [producing a design] on which the forms of architecture are spread for no purpose that might not, with equal advantage, be answered by their painted simulations. . . . [This] *basso relievo* style [has given birth to] . . . much that is ingenious, little that is good, and a prodigious mass of what is execrable. . . . [Still] Inigo Jones was a man of superior talents, . . . [who] rescued our architecture from the monstrous barbarism into which it had fallen on emerging from the Gothic. . . . In a better age [he] would have shone with more distinguished lustre. . . .

'Sir Christopher Wren followed Inigo Jones and sustained the credit of English architecture with at least equal ability. . . . His great work of St. Paul's is . . . entitled to much more than cold applause, being unquestionably one of the noblest productions of modern art. . . . [But it and St. Peter's, Rome] are both in the same impure taste, so that it would be difficult to determine which is the least defective. . . . St. Peter's . . . is *grand* chiefly because it is so *great*: having neither breadth nor simplicity . . . the elements of true grandeur . . . nor the just subdivision of its own bulk. . . . In St. Paul's, however, . . . the building and all its parts appear quite as large as they are in fact. . . . [Nevertheless] except the porticoes . . . the exterior . . . is covered with the usual frippery of the art. . . .

'Sir John Vanbrugh, an architect of ponderous memory . . . was a man of powerful talents but his mind had an unfortunate warp. . . . *Heaviness* was the lightest of his faults. . . . His genius, though irregular, was powerful and impressive, and was chiefly unhappy in being devoted to architecture . . . The Italian style . . . which . . . he . . . contrived to caricature . . . is apparent in all his works; he helped himself liberally to its vices, contributed many of his own, and by an unfortunate misfortune, adding impurity to that which was already greatly impure, left it disgusting and often odious. . . . His works are distinguished by a broken and frittered surface, and a contour fancifully varied, that give them an aspect which is neither Greek nor Gothic: they are more like many Hindu buildings which . . . are equally compositions of sculpture and architecture. . . . But to the preposterous conceits of Sir John Vanburgh neither religion nor rational meaning can be attached. . . . [In particular he delighted] in that approbrium of the art—*Rustication*. . . .

'The works [Lord Burlington] has left prove him to have been an architectural genius. . . . Let the Romans who corrupted the Greek, and the Italians who still further corrupted the Roman art, bear the weight of his professional sins. . . . The Chiswick villa, though an architectural gew-gaw . . . ranks among the least faulty compositions of a school in which error is sanctioned and systematically taught. . . . [After] Burlington [English] . . . architecture . . . just existed . . . and taste [became a matter of pattern books]. . . . It is no wonder that patrons were unable to distinguish the artist from the artisan, and that a general confusion of the terms architect, surveyor and builder actually prevailed for a long time. . . . Published materials [enabled] . . . the most ordinary man . . . to stumble upon designs of a superior quality . . . [James Gibbs's] St. Martin-in-the-Fields is probably a casualty of this kind [for] St. Mary-le-Strand is in everything the complete opposite. . . .

'[This situation was redeemed by] the discovery of the inestimable remains of ancient architecture. . . . Those who were not prepared to admire the Greek productions, beheld with delight and wonder those of the Romans. Their several orders were measured with infinite care from the original fragments; and their ornament copied as if perfection in architecture depended on their fidelity. . . . By degrees the Greek art was permitted to mingle with that of the Romans, and either through its own merits or the versatility of fashion, it ultimately acquired the ascendancy. . . . Though the passion for that style is often seen in a ridiculous excess, the general taste evinces great promise of improvement. . . . [But if] Greek orders are displayed exactly as Italian ones were before . . . there is no real difference between Italianised Roman and Grecianised Italian. . . . The parts are Greek, but the general forms and character of composition remain unchanged. . . . In fact, if *composition* be not reformed and purged of its Italian impurities, every new importation of the scraps and rakings of Greek remains, only exposes the art to dangers of the most serious nature. . . . Let . . . the *style of composition* . . . be restored to its original purity, and it matters little . . . what may be its decorations . . . or whether its orders be more or less exactly imitated. . . . In the choice fragments which have been spared, may be found the *soul* of Greek Art . . . [to] excite [not] *imitation*, but . . . emulation. . . . [Modern architects should] proceed as . . . their Greek masters would have done under similar circumstances. . . . [Their aim should be] the grandeur . . . which, being simple and unaffected, appears to grow naturally out of the composition. . . . [Now] it is natural that habit should dispose us to look with satisfaction on objects that we know to be useful . . . and hence it is an easy transition from the useful to the ornamental. It is perfectly allowable for an architect to avail himself of [this] predisposition in the minds of men. . . . [But] when those useful members of an edifice are introduced ornamentally . . . they should *appear* . . . to have a possible utility, and . . . be placed only in situations where they would seem natural and necessary. . . . Whether the idea of the simple primeval cottage as the origin of the Greek system, be true or false, it affords an explanation that carries with it irresistible conviction . . . [a] *standard* to be constantly referred to. . . . In fact there is no situation or office in which the *exterior works* of architecture can be applied, however ornamentally treated, where they should not appear to be objects of rational utility. . . .

[For example]

'*The Entablature* is one of the noblest features in architecture; . . [and when properly used, displays] the grandeur of simplicity and the simplicity of truth. . . . Had a Greek architect . . . been called upon to erect a building consisting of different storeys above each other, it cannot be imagined that he would have placed on the outside of its walls, on a level with each of these stages, a superficial imitation of the entablature . . . [otherwise] he must have been regarded not merely as an ignorant artificer, but as a person of deranged intellect. . . . [Yet we] see the architrave placed where no such frame could possibly be applied, according to its fixed office in the system; where it is intercepted by windows . . .; and where it abuts against a higher wall. . . . An architrave . . . when broken . . . is no longer an architrave . . . [and] the well-instructed eye . . . will not tolerate an affectation of *infirmity*. . . .

'*The Portico* [should] . . . appear to be either actually useful, or not evidently otherwise; and it is on this ground of *apparent utility* that it chiefly claims our respect: for whatever may be the grandeur of its form, it is too considerable a mass of masonry . . . to be set up only to please the eye. . . . There is no principle of taste more unquestionable than the impertinence of useless columns. . . . That the column is an object both *grand* and *beautiful* cannot be denied, but *utility* is its best praise . . . as a mechanical agent in the composition. . . . [Colonnades should] afford . . . shelter . . . [from] the sweeping torrent or scorching sun-beams. . . . [But instead they] have gradually shrunk into the walls behind them, until their architraves refuse shade even to the swallows that would fain build their nests below; . . . the columns . . . [leave] only their spectres on the surface . . . [as] pilasters which might have been applied . . . by the hand of the

painter. There is indeed something approaching to moral turpitude . . . in such flimsy daubings of superficial finery. . . . The imersion of columns into . . . walls [is an example] of depraved art, but a defect still more preposterous is the gradual shrinking of . . . [a portico] into the parts behind it, leaving only the faint traces of its general conformation, as if to mark the grave where it lies interred! . . . Pilasters [constitute] a show of strength as unnecessary as it is untrue. . . .

'*The Capital* of the Doric . . . is singularly beautiful and interesting from the elegant as well as energetic manner in which it connects the column with the entablature. . . . The Ionic capital, is more applicable to a lighter species of art; . . . [its] unintelligible trinkets . . . are not inelegant, but whether in the change from the Doric they have increased its beauty more than they have diminished its simplicity, is questionable. The decorations of the Corinthian capital are carried still further. Here . . . the form that should appear to be adapted to receive the incumbent weight is muffled and concealed with a kind of *bouquet*, masking the architrave with an affectation of support. This style . . . is unworthy of the Greek taste. It is . . . no justification of the practice to maintain that in applying a *bundle of leaves* . . . to the point of support, the pillar loses nothing of its strength. . . . [For] it is not . . . a question of *real* but of *apparent* strength. . . . In oriental buildings, elephants are often placed on the substructure in such a manner as to appear the supporters of lofty edifices; but the conception is preposterous, and of the same species of absurdity as placing the massive entablature on clusters of leaves. . . . [However] this capital being nevertheless of Greek origin, . . . [as regards] interior architecture . . . it may continue . . . to enrich the scenes of polished life. . . .

'*The Balustrade* . . . can rarely have the sanction of real or apparent utility. . . . If employed merely as decoration, it is a common and vulgar expedient . . . and . . . the solid parapet would . . . have an effect more in harmony with a purer style of composition. . . . It is most absurd to set up a powerful stone railing where the diagonal timbers of an elevated roof rise up immediately behind it, allowing no intermediary space, and consequently capable of affording no useful protection to any living creature, except the cats that sometimes choose these lofty regions for the scenes of their ferocious tenderness. . .

'*The Niche* . . . is a monstrous conceit. . . . Those shallow window-like recesses with which some artists enrich the desert spaces in their walls, or correct the disorder of their apertures, are less offensive . . . [but an empty niche is] a useless *hole in the wall* [which] merits a distinguished place on the list of ornamental absurdities. . . .

'*Rustication* . . . is an old and incorrigible imposter . . . a really and apparently useless deformity: being a positive imitation of that which is truly an imperfection . . . a kind of finishing that makes an unnecessary display of the mechanical process of execution. . . . How it should ever have been introduced into ornamented compositions is most extraordinary and a remarkable proof . . . of the fascination of habit. . . . [During the Renaissance rustication multiplied], visiting without remorse the architraves of doors and windows, and even the circular shafts of columns, on which it broke out in vast cubicular tumours, as if afflicted with some loathsome disease. . . .

'*The Steeple* which evidently has no accommodation for *bells* is a reproach to those who caused its erection. It is not sufficient that it exhibit the dial of a clock, with a contrivance to show which way the wind blows. . . . The *square tower* is . . . preferable for most occasions; and this may be of any height or proportion; but if, to please the softer sex or amateur critics, they must sometimes be *circular* . . . let the architect be careful that his towers appear not like huge piles of butter casks . . . with their hoops and staves tier above tier [as at Pisa] . . . or like [the steeple of St. Mary-le-Strand, which] with its gorgeous incrustations and successive stages of orders, is a meretricious bauble . . . a perfect architectural doll: well proportioned and agreeable in its naked figure, but dressed into deformity. . . .

'*Roofs and Chimneys* [should be] . . . as little offensive as possible; for which purpose the only way to deal with these obtrusive members is to *keep them down*. . . .

'*Greek Apertures* [that is] straddling . . . doors and windows . . . with slanting sides . . . [were originally] a very wise contrivance to prevent . . . walls from being weakened by perforation. But now that openings of all dimensions can safely be made without having recourse to this expedient . . . [they merely cut] a figure which no art can harmonize with rectangular shapes—the component materials of every modern work. . . . Their admirers are few, and confined to those who would rather that the art should appear preposterous in its ancient costume, with all its tags and singularities, than amiable and charming by any correction or omission whatever, though suggested in the spirit of love for the system, and made only in compliance with the altered habits and opinions of a world become older, and in some respects wiser, by the tug and tear of two or three thousand years. . . . Whoever should give doors and windows of this kind to a modern building, having no plea of necessity or usefulness . . . must have "no eyes," or . . . a very scurvy taste. Those who . . . follow the ancients in their very infirmities . . . carry their veneration much too far. . . .

'*The Caryatid* . . . is said . . . to mark the unextinguished hatred of . . . [the Greeks] for a people formerly their enemies, . . . thinking that by thus degrading their daughters in effigy, they should add to the humiliation of their victims. The story is . . . fanciful and impossible. . . . [Indeed] the practice . . . is probably one of those crimes in art which has no other claim to our indulgence than its antiquity. . . . [For] what art, what ingenuity, can reconcile the mind to the idea of placing a beautiful female in a situation to which the strength of a horse is unequal? . . . The figures which artists employ in this way . . . are now always represented so entirely at their ease that the spectator is in no danger from his sympathy for the sufferings of a fellow creature in distress. . . . But it is a monstrous incongruity to give *efficient* offices to ornamental details. . . . The tea-pot in the shape of a swan, although a more elegant form, is of the same barbarous taste as the well-known ale-pitcher in that of Toby Philpot. The hinder legs of goats converted into the supporters of a stool or tripod, is an ancient abomination; and to compose the feet of tables . . . of the *paws* of the lion, or of the eagle's *claws*, is a vice of the same quality. . . . Bundles of reeds as Roman fasces usurping the place of columns; marble Naiades with streaming urns, and sea-nymphs and sea-horses, on a fountain, all dissolving in liquid crystal; the heads of animals ranged on a cornice with open mouths prepared to eject the falling shower, these and a thousand other conceits are all either ancient or modern pollutions of art. . . .

'*The Nature of Beauty* is [a subject about which] false notions . . . [are a] danger to . . . architecture. . . . Changes and irregularities [of style] . . . are attributable to the prevalent opinion that the sense of beauty is not simply a perception of pleasure produced by agreeable forms, but an intellectual sense of that ideal perfection actually resident in the mind, which it is the high office of genius to embody and . . . to realise. . . . This . . . [concept of intrinsic beauty] is a phantom . . . we are doomed never to approach. . . . The doctrine of an *abstract smell* would certainly be quite as rational as [that of] *abstract beauty*, a *permanent quality* . . . [owing] nothing to opinion. . . . The truth is . . . that, as the solar beams give sensible existence to the wonders of nature, so the quality we had fondly believed to be the internal light of material forms, is in truth but the sunshine of the mind reflected upon them, without which they would be mute and unintelligible. . . . [This] sense of beauty was assuredly not intended to make us dissatisfied with what we know . . . [but] to attract us closely to the forms and circumstances actually around us . . . which we find useful and agreeable; to admire that ardently which gives us pleasure, and also to admire it long. This adhesive quality of the mind is miraculous as it is providential . . . for where change is eminently perilous, more is gained by systematic uniformity than is lost by foregoing possible amelioration. That which is defended from change cannot be destroyed; and therefore although the philosopher may smile at the bigotry of [our] admiration [for Greek architecture], . . . the art which is sustained by a superstition like this, which is not weakness, but true devotion, cannot decline. . . . Architecture is exposed to no perils so fearful as the hand of the *reformer*. . . . Keep it from those who would *improve* its beauties, and, in the work of its true admirers, it may long survive the destruction, which . . . threatens the venerable fragments of original art that still remain.'

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1 For a list of commissions which is practically complete see H. M. Colvin, *Biographical Dictionary of English Architects* (1954), pp. 545–9.

2 J. Mordaunt Crook: 'The Custom House Scandal,' *Architectural History* vi (1963), pp. 91–102; 'The Restoration of the Temple Church: ecclesiology and recrimination,' Ibid viii (1965), pp. 39–51; 'Sir Robert Smirke: a pioneer of concrete construction,' *Transactions of the Newcomen Society*, xxxviii (1965–6); 'Architect of the Rectangular: a re-assessment of Sir Robert Smirke,' *Country Life*, April 13, 1967.

3 RIBA *MS*. Box 2 (1), (6) and (7).

4 Six lectures by Sandby, RIBA *MS*, 72; *Lectures on Architecture by Sir John Soane* (ed. A. T. Bolton, 1929); Cockerell's lectures, *The Builder*, 1843, onwards.

5 W. Herrmann: *Laugier and Eighteenth Century French Theory* (1962), pp. 173 *et seq.*; E. Kaufmann: *Architecture in the Age of Reason* (1955), *passim*.

6 J. Summerson: *Heavenly Mansions* (1963 ed.), p. 215. For an incisive sketch of the whole problem see the same author's *Classical Language of Architecture* (1964).

POSTSCRIPT

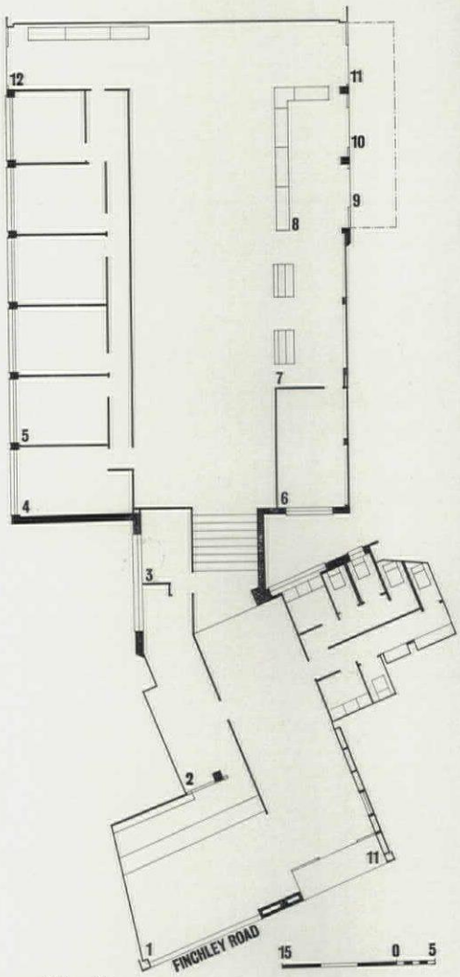
Smirke's centenary coincides with an appeal to save one of the buildings for which he is best remembered: St. Mary's, Bryanston Square, London. Built in 1823, *it was one of the churches sponsored by the Church Building Commission set up in* 1818 *to provide places of worship in heavily populated areas. Unlike many of those churches, St. Mary's is cleverly planned and superbly sited—the vista down Bryanston Square from Nash's Marble Arch to Smirke's familiar pepperpot steeple might well be described as Parisian. A letter giving details of plans to rescue the church from dry rot and to adapt its structure for parish functions was printed in* The Times *of* 18 *April*, 1967 *and signed by Mr. John Betjeman, Sir John Summerson and others. The sum required is* £25,000. *Donations and inquiries should be addressed to the Parish Secretary, St. Mary's Church Office, 7 Wyndham Place, W.*1.

Interior Design

Air Terminal, North London

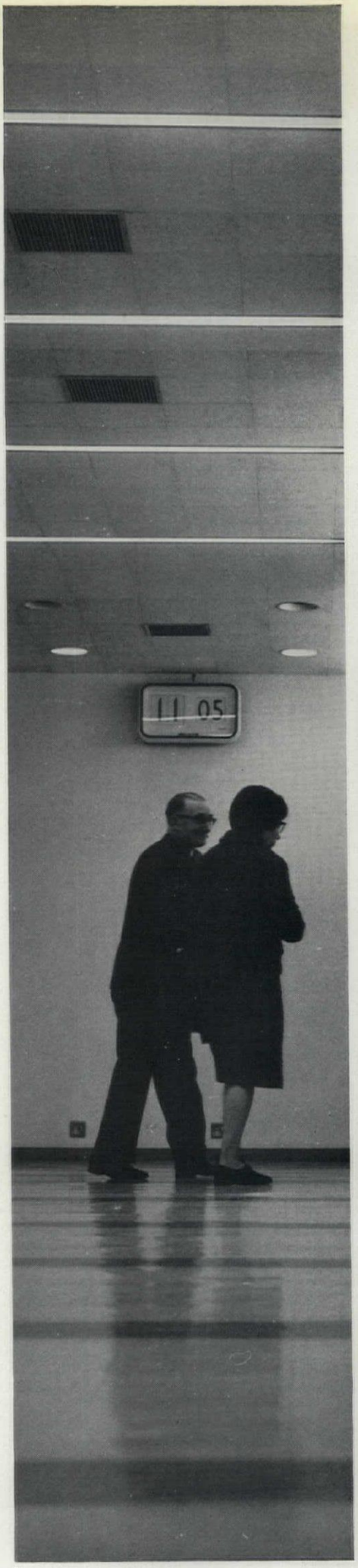
designers: Conran Design Group
director in charge: Rodney Fitch

photographs by John Maltby



ground floor plan

key
1. travel agency
2. reservations and administration
3. stock
4. managing director
5. offices
6. staff rest
7. check-in area
8. baggage area
9. baggage out
10. baggage in
11. passenger exit
12. passenger entrance



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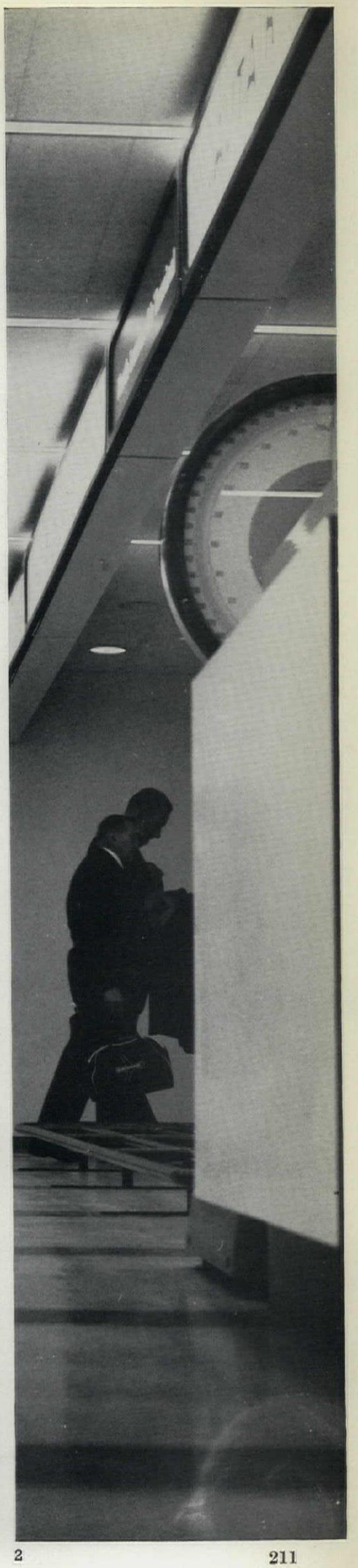
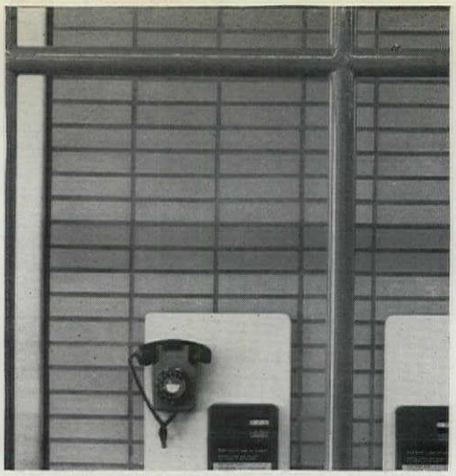
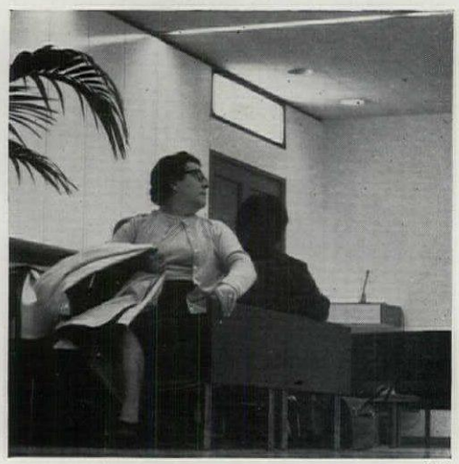


2

1 *and* 2, *passenger exit end of checking area.*





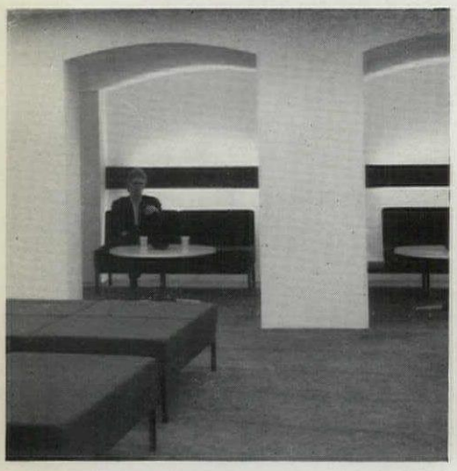
3,5

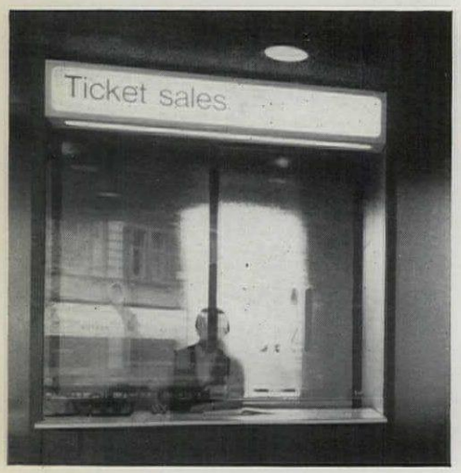
4,6

This terminal in Finchley Road for Autair International Airways serves passengers flying from Luton Airport.
The shop front is divided into a display window and an entrance area by a tile-faced structural column. The fascia is painted blue with white neonized plastic letters. Shop-front glazing members are painted bright red and the door handles are nylon-dipped white. At the front of the terminal is a travel department. The counter here is faced with red and beige plastic laminates, the walls have a textured finish and the floor is carpeted with a Conran design of orange and gold. The ceiling over the whole of the entrance area is a suspended acoustic fissured tile. In the terminal proper, a similar ceiling has been used with recessed ceiling slots at regular intervals containing fluorescent lights. Aluminium trim members are painted bright red. Behind the red and beige check-in counters, the wall is painted dark grey, doors have red frames and the terminal is a travel department. The lower sections are faced with dark grey plastic. Walls behind the seating are of polyurethane-painted block-board panels mounted to a fire-resistant framed wall. Behind this wall are the head offices of the airline company. The Hiami sofas by Conrans in the waiting area are upholstered in black aniline-dyed hide and have timber frames stained dark blue. Tables have white plastic laminate tops and blue lippings with underframes chromium-plated.

3, *shop front/display area.* 4, *detail, telephone booths behind structural column.* 5, *check-in counter.* 6, *waiting area.*

Air Terminal, North London





7,9

8,10

ID

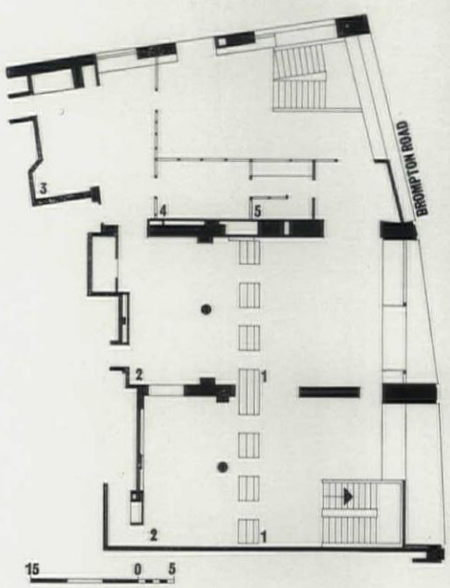
Air Terminal, West London

designers: Conran Design Group
director in charge: Rodney Fitch

photographs by John Maltby

7, *basement lounge.* 8, *detail of partitioning by ticket-sales counter,* 9. 10, *main entrance.*

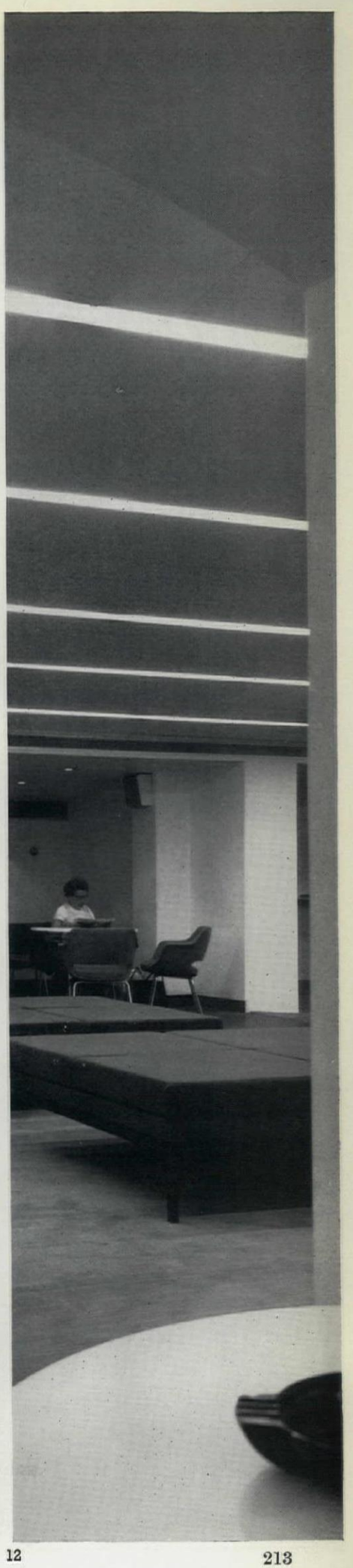
This new South Kensington terminal for Aer Lingus, constructed on the site of the original, is four times as large and occupies both ground floor and basement. Because the existing pilasters separating the three shop areas could not be altered, the separate fronts were unified by using common dimensions and materials, fascia panels being of white vitriolite set in dark grey metal frames, and the shop front of polished plate glass set in dark brown earthenware tiles laid to a brick pattern.
Inside the booking hall, where walls are rough-rendered and painted white, the floor is finished in a brown and grey hard plastic and the lowered ceiling is faced in dark brown cork. The raised ceiling is painted white. Fluorescent tubes suspended from this are contained by dark green stove-enamelled batten holders. The specially designed partitioning to the administrative offices is constructed from standard metal sections stove enamelled grey with infill panels of rough-cast glass. Counters are faced with white and dark grey laminated plastic.
Staircases to the basement lounge have solid oak treads and a dark green stained oak handrail. T-section mild-steel balusters are painted dark grey with white block-board infill panels.
The lounge carpeting is a Conran pattern specially manufactured in Ireland. Walls here are rough-rendered and painted white, while the acoustic tiled false ceiling contains continuous recess slots in which are housed fluorescent tubes.
Also in the basement are a snack bar and a licensed bar. Walls are tiled to a brick pattern with white rectangular glazed tiles, and counter fronts are faced with dark brown earthenware tiles.
All direction signs in the terminal were designed by Ken Hollick and conform to the Aer Lingus house style.



ground floor plan

key
1. check-in area
2. baggage area
3. administration
4. coupon control
5. ticket sales

11



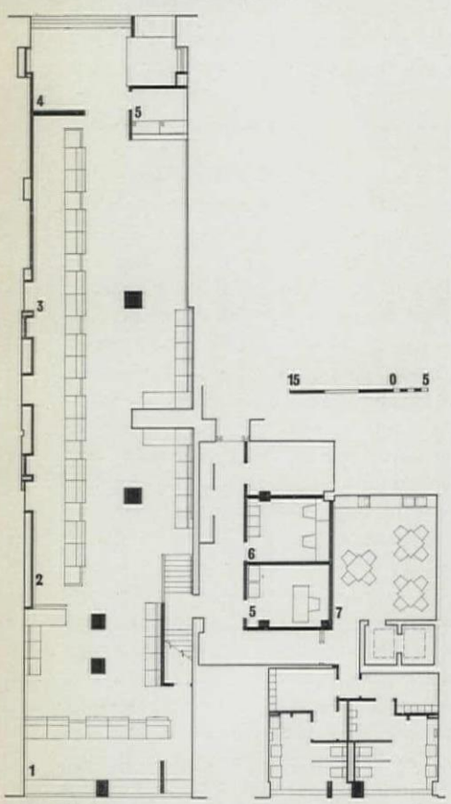
12

11, *check-in counter.* 12, *basement lounge.*

Airline offices, Glasgow

architects: Law and Dunbar-Nasmith
photograph by Henk Snoek

The airline company, BEA, formerly occupied only part of the premises, the front part being used for ticket sales, the rear offices. Before conversion, part of the adjoining premises was acquired to accommodate offices, staff mess room and lavatories. Floor level here was about 5 ft. higher. Four bulky columns and a large projecting chimney breast largely dictated the layout.
In the new design the office supervisor's office is on a mezzanine floor, giving him a perfect view from which he can act to clear bottlenecks where queues form at certain sales positions. Visually, the mezzanine reduces the extreme length of the interior and defines the separate space for International sales. Structurally, it makes use of two awkwardly placed columns. The two other sales positions are on either side of the chimney breast, and the ceiling is divided here into two panels to give a slight feeling of division. It is of pale grey sprayed asbestos. The chimney breast is rendered white, while full-height columns are finished with blue-grey slate. Carpeting is turquoise twisted pile.
After the design work had begun it was decided to introduce the new computer system of reservations, linking with the central installation at West London Air Terminal (see page 434, A R June 1967). The functional design of the new-type desks had been begun by DRU, the 'public' side was designed by the architects for the Glasgow office and has since, with minor modifications, been adopted as standard for all BEA offices.



ground floor plan

key
1. International sales
2. credit sales
3. domestic reservations
4. display area
5. cashiers
6. fares quotations
7. staff rest

13, *general view of domestic sales area.*

REPORTS AND INVENTIONS

Robert Melville

The entertainment value of the Picasso sculpture exhibition was very high, but only by rather old-fashioned standards. Nothing actually moved or made noises. There were no coloured lights. Nothing gave you the sort of sensation you get on the big dipper. Nothing was electronic or psychedelic, and audience-participation was positively discouraged. You weren't even allowed to *touch* the objects, let alone interfere with them. This was particularly unfair because Picasso himself interferes with all sorts of junk and then gets the results cast in bronze so that no one else can have a go. He seems to think that nothing he knocks together is expendable. He's supposed to have said about the saddle and handlebars he turned into a bull's head that maybe someone would come along sometime and use them for a bicycle, but what use is a bronze casting of a bull's head to someone making his own bike?

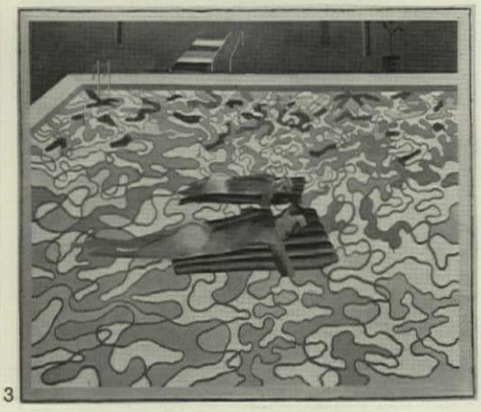
Nevertheless, as I said, by old-fashioned standards the show was entertaining—much more entertaining than the Marzotto Prize exhibition which preceded it at the Tate and which had the advantage of being able to call on twenty well-known European artists to contribute to the spectacle. The Marzotto had a theme: the impact of the urban scene on creative thought. Assemblage predominated, but there were a few free-standing objects which were presumably the things which the catalogue called 'sculpture-architecture.' One of them was a giant model of a book of matches leaning back on its folded-over cover, and the substitution of an oblong of brown paint for the strip of emery cloth was doubtless intended as a demonstration of the artist's creative approach to the object. A piece of jerry-building by Christo, a Bulgarian without a Christian name who lives in Paris and New York, was more or less in the same category, but it was far and away the best thing in the show. It's an engagingly matter-of-fact yet oddly disturbing life-size model of a back-street shop front, with orange painted woodwork, a blacked-out window and a sheet over the glass panel in the door, 1. It arouses and discourages curiosity. It has an air of doubtful respectability, of enigmatic furtiveness. Is it a meeting place for a cranky sect, or a clearing-house for hard-core pornography or does it offer a service of some kind—loans, say, or the laying on of hands or abortions? Mutely involved with the secret life of the poor, it's strangely satisfying in its unrewardingness.

The exhibition also included a few paintings

1

2

on canvas. The Parisian Alan Jacquet painted a nice imitation of a coarse-grained photograph of a picnic party imitating the poses in Manet's 'Le Déjeuner sur l'Herbe,' 2, and David Hockney contributed a new version of his report on a Californian swimming pool for males only, 3. In the earlier version, the effect of shining and slightly heaving water was obtained by a brilliant pastiche of *Art Nouveau* patterning, but Hockney seems to have been looking at Dubuffet since then and he's roughed-up the *Art Nouveau* curves in a slightly less brilliant pastiche of the wriggly stippling in Dubuffet's paintings of 'ustensiles.' Almost as if I might be unconsciously assuming some connection, it seems natural to



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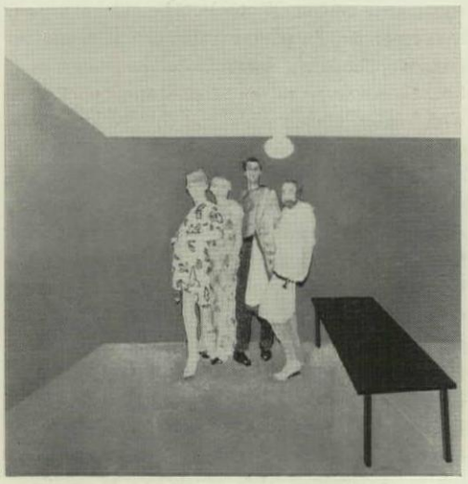
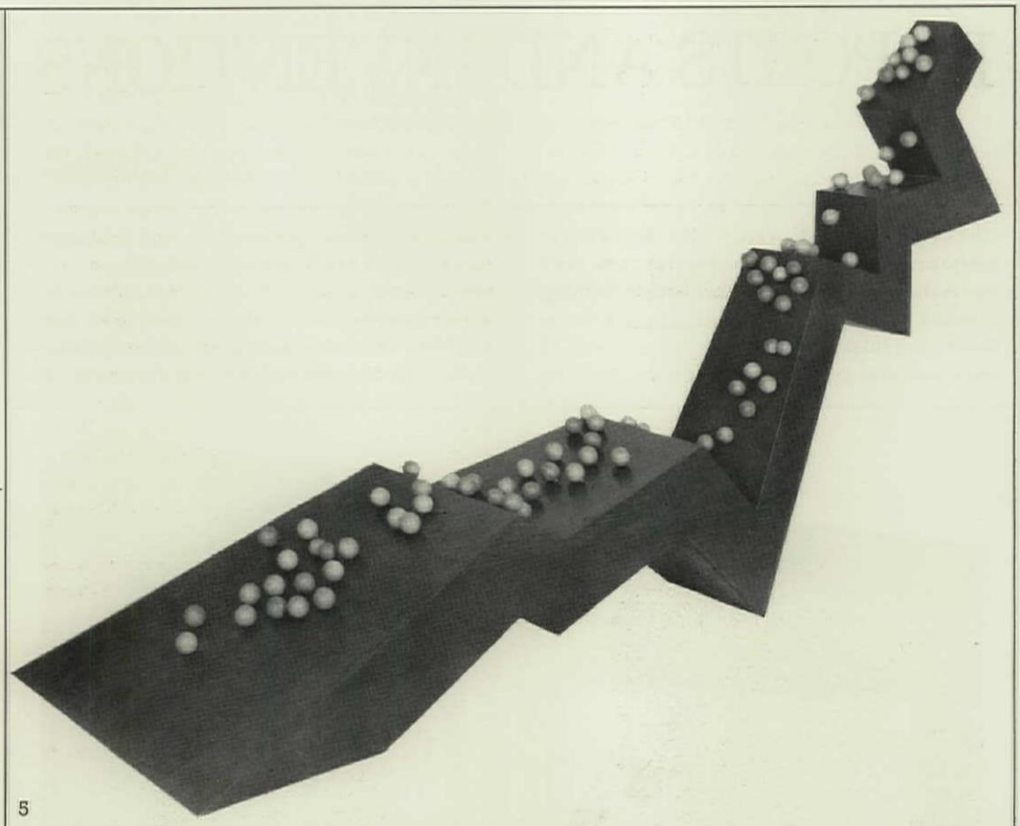


4

follow the Hockney with one of the group portraits of transvestites by Patrick Procktor which were an amusing feature of his recent exhibition at the Redfern Gallery and reported an aspect of urban civilization not covered in the Marzotto show, 4.

Pol Bury's new work at the Kasmin Gallery made perhaps the most distinguished show of kinetics that has been seen in London. Some of the objects were nice to look at quite apart from the activity of the little balls, cubes and



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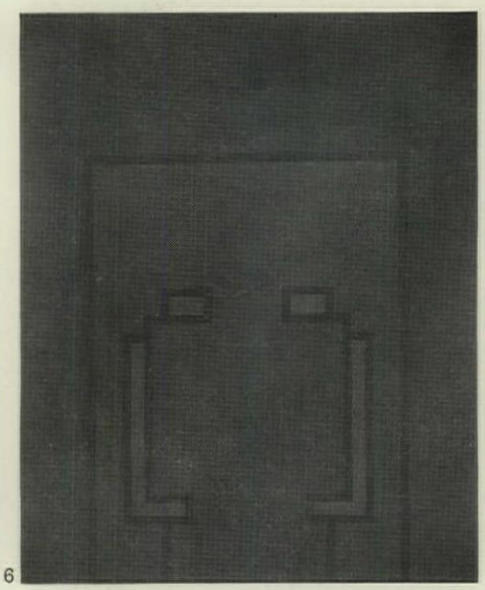


6

cylinders that infested their surfaces. The zig-zag object called 'Eighty-one Balls on Nine Planes,' is a good example, 5. (I haven't counted the balls, but I make the number of planes one more than in the title). It's pleasant to watch the balls climb up and down the inclines like drowsy insects, quietly defying gravity, and Bury's things would be useful additions to the furniture in waiting rooms.

The Bury show was followed at Kasmin's by Robyn Denny's recent paintings. Denny is one of our most seductive colourists and he achieves rich, sombre, rarified effects which bring to mind the mysterious gravity sometimes assumed by colours at the coming of twilight. But there's a negative side to his work. He has always kept a tight grip on his draughtsmanship, confining it to the menial task of mapping out the rectangles to be occupied by his colours, and although he is now breaking up some of the rectangles into smaller units to give them more animation and even a vague allusiveness, he hasn't really relaxed his grip and the results only exaggerate the disparity between his drawing and his painting. The half-tone photograph of one of these canvases, 6, looks poor because the tones in the painting are so closely related, but it illustrates the intrinsic poverty of the shapes. The effect of a mildly comic meeting between two identical personages is totally at odds with the loveliness of the colour and must surely be unintended.

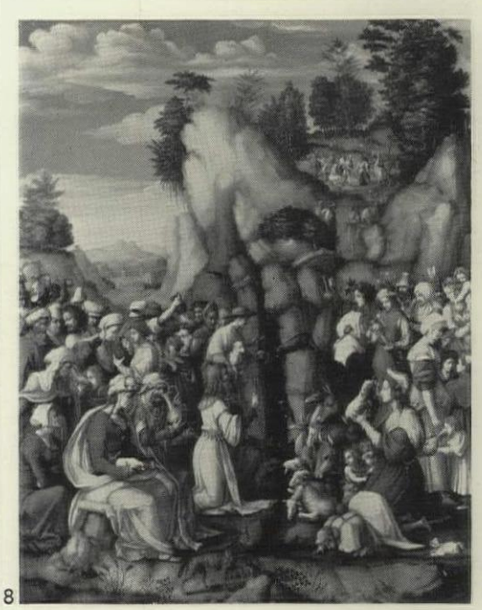
The sculptures by Roland Piché which were recently on view at Marlborough New London Gallery are more promising than anything since Philip King surprised us with his 'Genghis Khan.' Dominated by the lovely purplish brown of the skin of fresh ox liver, his coloured, polished fibreglass monuments to the internal organs of the body, 7, achieve at their best a sort of majestic, Christ-in-Glory tranquillity, and he appears to be well

on the way to a thorough assimilation of a weird mixture of influences, ranging from Moore to Dali.

The National Gallery of Scotland has recently acquired a delightful painting of 'Moses Striking the Rock,' 8, by the Florentine painter Bacchiacca, which was commissioned in 1525 by the Compagnia dell'Orcinolo, a fraternity of jug-makers or jug-vendors, and the painter has provided the Israelites with an astonishing collection of elegant jugs, presumably from the stocks of the fraternity. The Gallery's note on the painting points out that in the foreground 'a careless or miserly fellow who has neglected to provide himself with the fraternity's wares is grovelling on the ground to suck up water from a pool.' Bacchiacca, who is represented at Trafalgar Square by 'The History of Joseph' on two panels, was an early Mannerist, profoundly attracted by stylishness for its own sake, and the tall, slim seated woman in the foreground of the 'Moses' is a charming example of Mannerist figuration. In the little scene top right the Israelites are complaining to Moses about their lack of water and in the main scene below they are collecting the water gushing from a rock which has a deliciously unnatural, hand-carved look.

Having run out of alternative illustrations, I'm left with some photographs of Picasso sculptures but I'm reluctant to use them because I don't know where to place him as a sculptor. Seen *en masse*, the works made a grand spectacle, and the painted and folded metal cut-outs which he produced in astonishing quantities as one of his side-lines between 1960 and 1963 gave the show an air of immense gaiety and zest, 9, but I have a feeling that the large metamorphic bronzes, constructed out of oddments to represent human figures and animals, 10, will begin to look a bit heavy-handed and ponderous if we ever stop marvelling at the visual puns. Even the huge heads which he made in 1932, and which many people believe to be among the greatest sculptures of our time, strike me as being somewhat lumpish and inert, 11. There is no doubt that he has been a great innovator on the constructivist side of sculpture, and as Sir Roland Penrose says in the splendid catalogue he made for the Arts Council,

7



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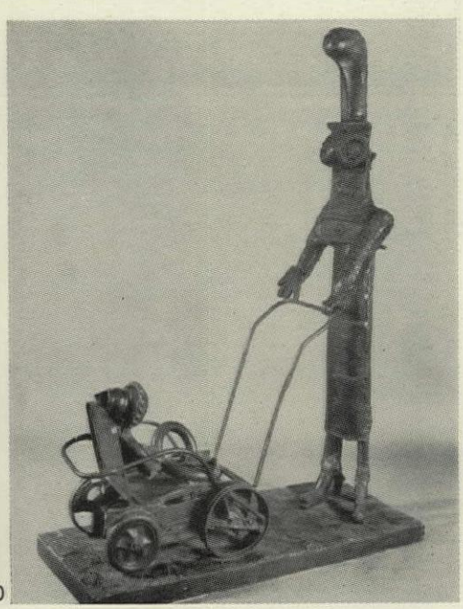

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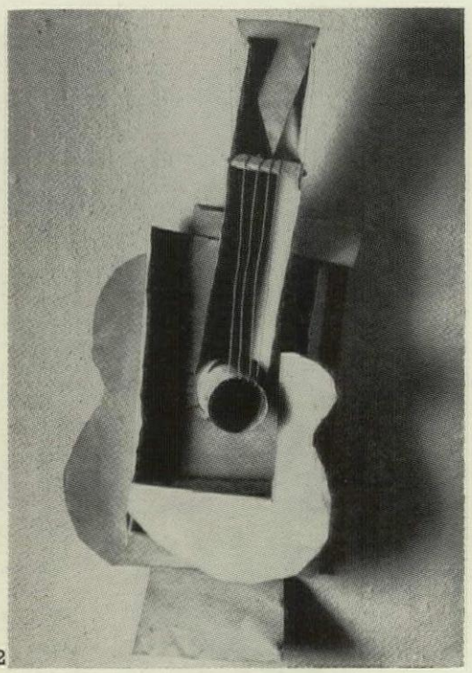
11



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works like this Cubist construction, 12, made in 1914, 'were the origin of all contemporary sculpture that is built rather than modelled,' but although I admire it very much, I admire even more the Cubist paintings from which it derives. It's in his great contribution to painting that his innate feeling for sculpture takes its noblest form.

ABBREVIATIONS

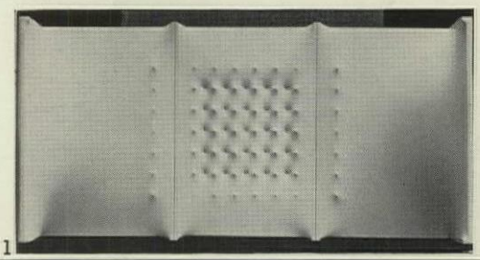
Enrico Castellani is a leader of the Italian section of the loose federation of artists which makes up the European optical and kinetic movement. These artists, however diverse, are united by a kind of mutual spatial anxiety and a determination to explore space and motion by exploiting every possible resource of light, touch, physical movement and even sound. Above all they are obsessed with motion—whether moving machinery, moving lights, motion of the spectator in relation to their paintings or, as in the case of Castellani, motion of the eye over the surface of the picture.

Although at present somewhat marginal to architecture, the movement parallels both the visual and kinesthetic researches of modern psychologists and the anxieties of modern architects, disturbed by the implications for human environment of the housing explosion of the next fifty years, and includes architects and ex-architects, among them Castellani himself.

Born in 1930 in a small town near Venice, Castellani worked in architects' offices in Brussels and Milan from 1949 until 1962, obtaining his degree in Architecture in 1956. Since 1956 he has lived in Milan. Castellani began to paint about 1950 and since 1952 has painted in an entirely abstract vein. His earliest abstract work was strongly influenced by Mark Tobey but he gradually became dissatisfied with the limitations of the painted image. He had always been fascinated by the possibilities of space and surface—indeed since about 1959 he has entitled all his paintings 'Superficie' or 'Surfaces'—and he became determined to replace the illusionistic tensions of the painted surface with a plastic and spatial tension achieved with the bare canvas. As a result he started to eliminate everything except the canvas, and about 1959 to explore the possibilities of the physical manipulation of the surface itself, with the object of modulating not only the canvas surface but also the space immediately adjacent to it. His first experiments were with parallel strips of cut canvas, bent in different ways and attached directly to the stretcher. This idea was continued with a series of paintings using striped canvas and finally discontinued in 1962 because they threatened to make too conscious a use of optical effects. He also began to explore problems of reflectance, using satin surfaces rippled in certain places by being drawn tight by threaded strings, and those of pure space by bending his canvases round corners, 1. His most fruitful, and later his most characteristic, researches were in the recession and projection forward of parts of the canvas with ordered lines of pins, 2, 3 and 4. Castellani's mature style dates from about 1962 when he began to combine the lessons of his various researches within the limits of a single picture or group of pictures, using effects of bending, reflectance and contrasts and rows of pins to enrich large areas of smooth unmodulated canvas, 2. He has pursued his objectives of manipulating both the canvas surface and the space immediately in front of it with great subtlety, sensitivity and increasing refinement, swinging the eye in, out and along as it moves across the surface of the painting. Recently he has begun to vary the intervals between his pins in a manner somewhat reminiscent of Vasarely, 3, and to use trapezoidal canvases and formal shapes, 4, while in his most recent work he has even allowed himself some vestiges almost of a new image, in the form of box-like drawing, 4, combined with the perspective effects of his trapezoidal patterns of pins.

Castellani's first one-man show at a major gallery was in 1963 at the Galleria dell'Ariete, now his principal dealer, and it was quickly followed by shows in Rome, Turin and New York. In 1963 he executed wall-size paintings commissioned as architectural decoration in the entrance hall of a Milan block of flats and in the flat of a Milanese industrialist.

JOHN HOPE



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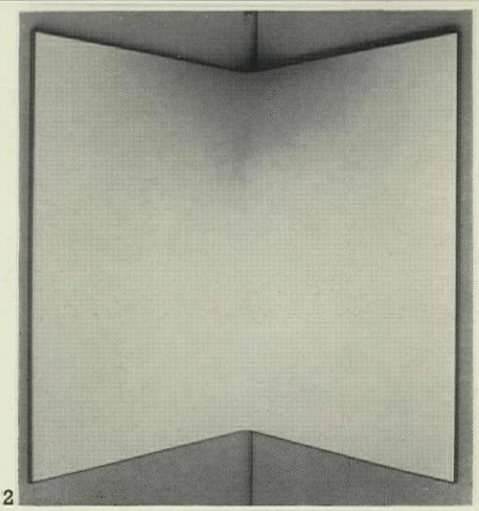

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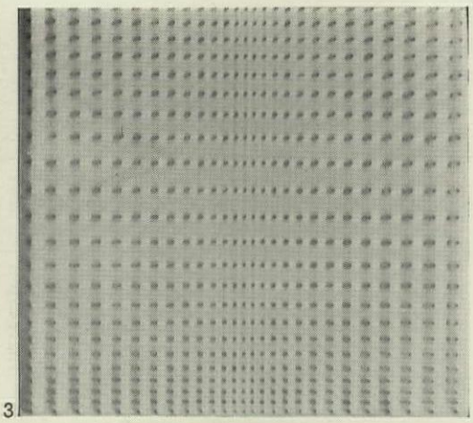

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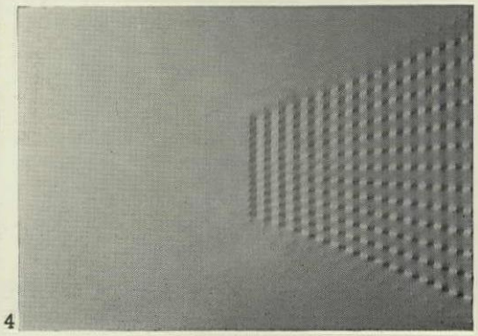

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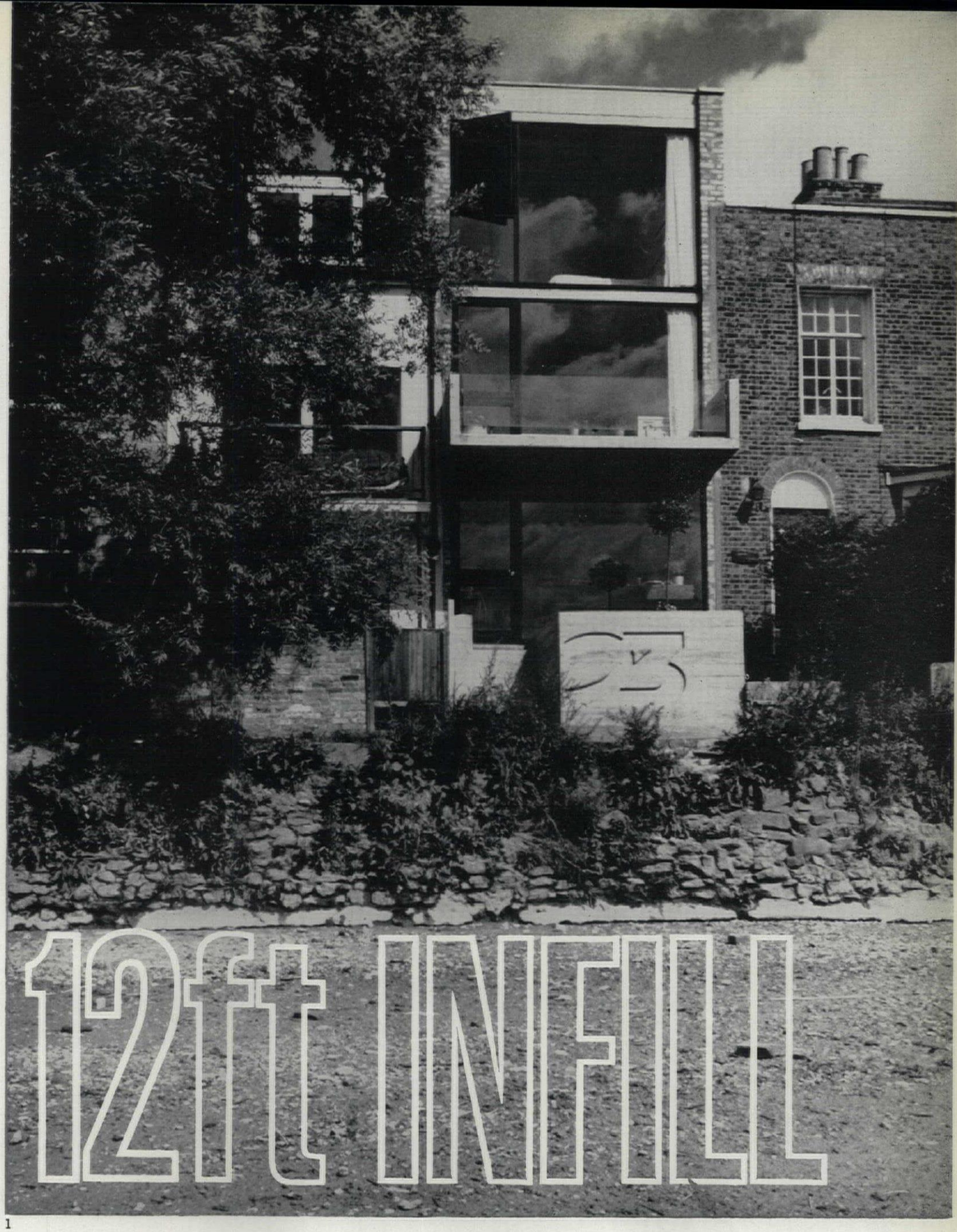
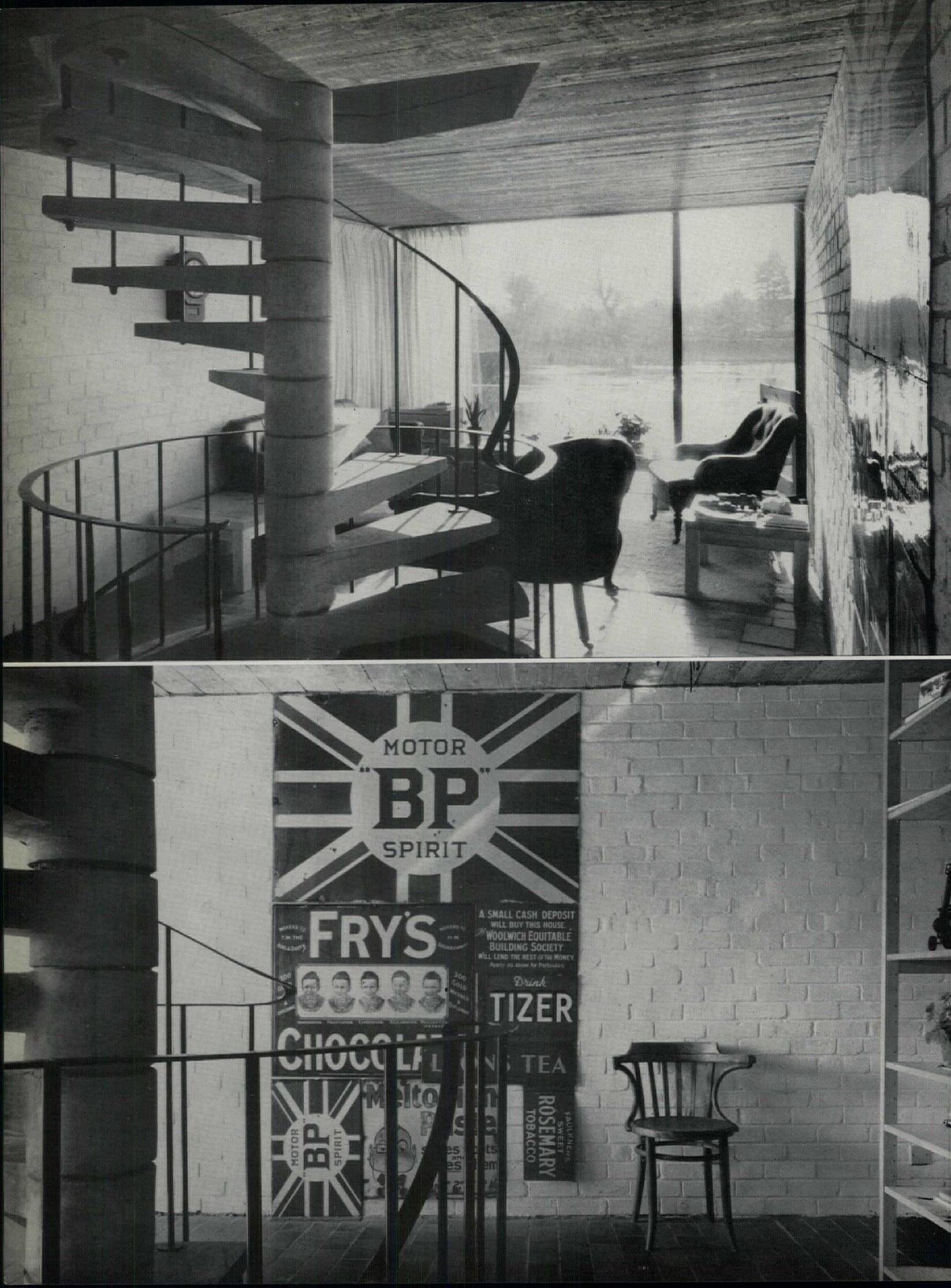
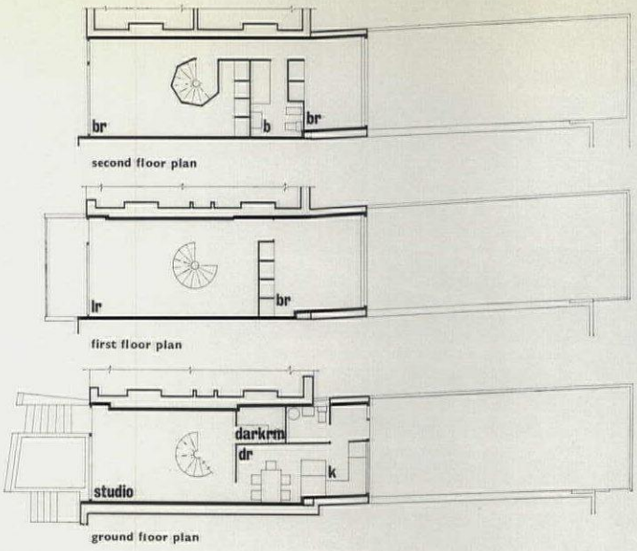


1

HOUSE, STRAND-ON-THE-GREEN, LONDON

architect **TIMOTHY RENDLE** | *photographs by the architect*


MOTOR
"BP"
SPIRIT
FRY'S
A SMALL CASH DEPOSIT
WILL BUY THIS HOUSE
WOOLWICH EQUITABLE
BUILDING SOCIETY
WILL LEND THE REST OF THE MONEY
Drink
TIZER
TEA
ROSEMARY
TOBACCO



4

This is a riverside house with a very narrow frontage—only about 12 ft.—built for an interior designer and trumpet player (Temperance Seven jazz band). It has the normal accommodation plus a studio and photographic darkroom. There were nine months of delay before planning consent was given because the town-planning authority tried to insist on a Georgian design. They did insist on the ground floor being raised 5 ft. because of high tides and banned a semi-basement for the same reason. The living-room is on the first-floor for the view and privacy. The house has brick party walls, roof and floors of reinforced concrete slabs (the latter incorporating under-floor heating) and timber window-frames. The cantilevered concrete balcony in front of the living-room window has a 1 in. thick plate-glass balustrade. The brown quarry-tile finish is continuous over all the floors so that the plywood partitions can be easily altered. Ceilings are board-finished.

For contractors, see page 244.

1 (page 219), house front seen from river bank. 4, shows a more oblique view at high tide. 2 and 3 (opposite), first-floor living-room, 2, showing view south over the Thames. In both pictures the concrete spiral staircase can be seen.

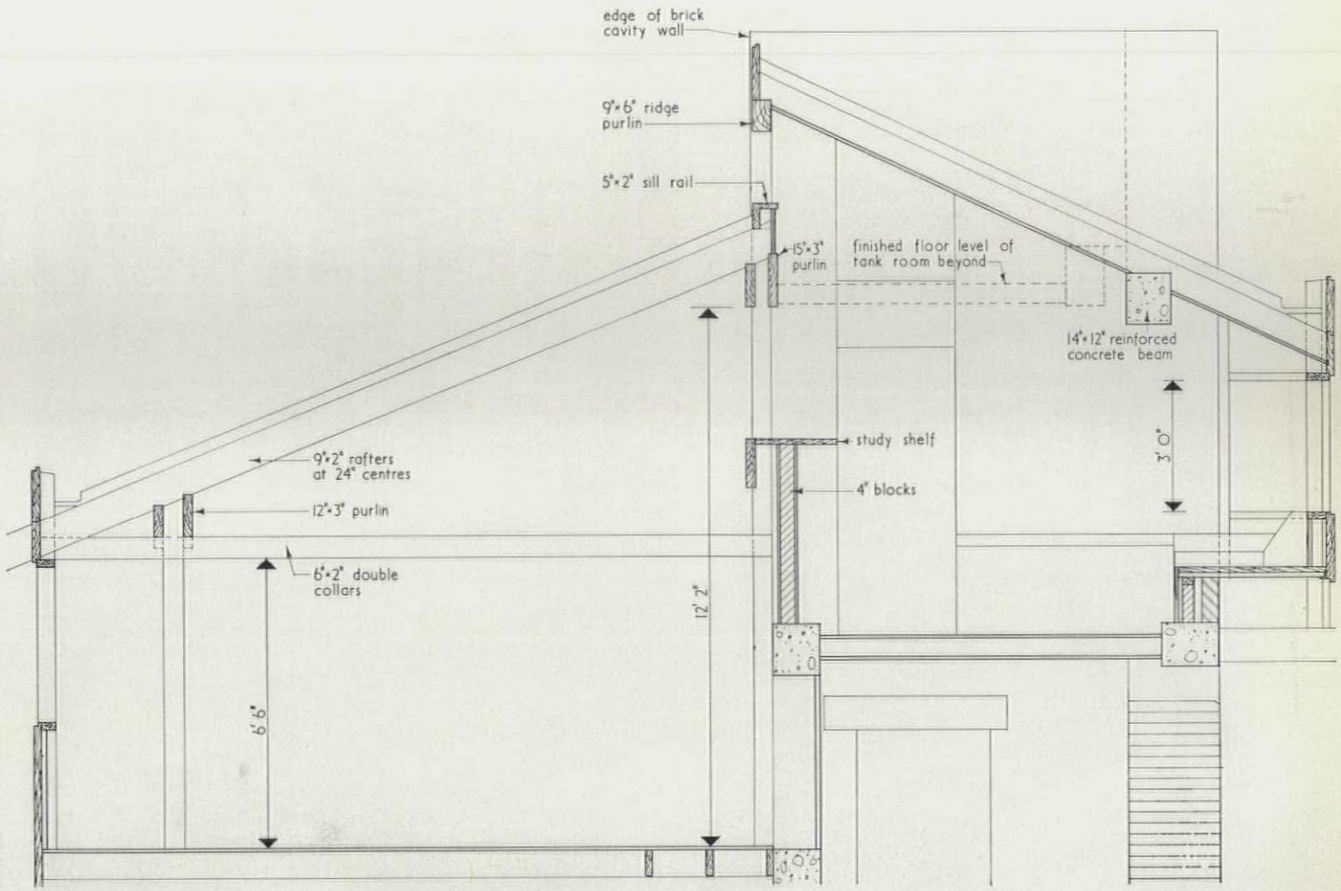
150ft EXTENSION

1

HOUSE, SHALFORD, ESSEX | *architects* **EDWARD SAMUEL AND PARTNERS** | *photographs by Stella Samuel*

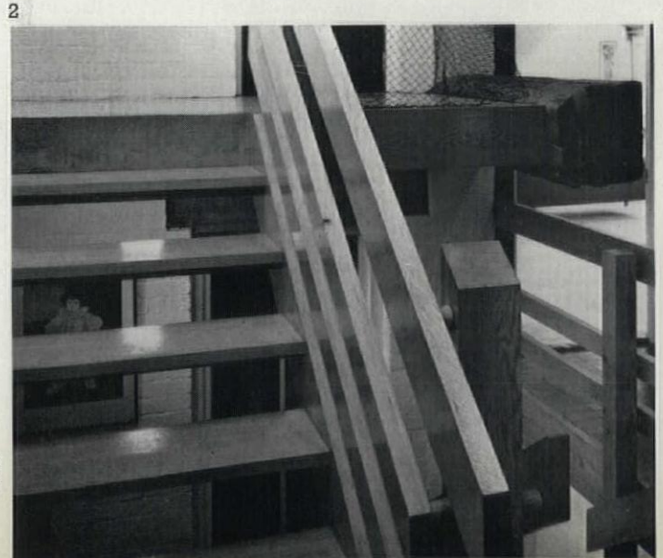
This house has been built—for a young couple with a growing family, and a grandmother—as an extension of the fourteenth-century walls of Shalford Hall, a house that had been many times altered and rebuilt during a period of at least a thousand years, and the last version of which was destroyed by a crashing aircraft. Town-planning consent was given on condition that the ancient walls were not altered and that the modern house could not be seen from the public road. Some of the original bricks and timber beams from the destroyed house have been re-used in the new one. It has a simple post, beam and cantilevered rafter structure to allow uninterrupted external walls and a similar cantilevered floor structure on posts and sleeper walls with a few solid concrete slabs at the lowest levels. External walls are cavity brickwork or laminated pine rails bolted to pine mullions. Roofs are low pitch covered with concrete tiles. Windows have double glazed fixed lights and single glazed sliding opening lights in aluminium. Central heating is by ducted warm air from an oil-fired boiler. Assistants, S. Kassam; N. Golding. Engineer, D. C. Vaughan. For contractors, see page 244.

1 (opposite), view of house from garden at the rear. 2, staircase detail. 3, children's room. This shows the post, beam and rafter structure.



cross-section

2



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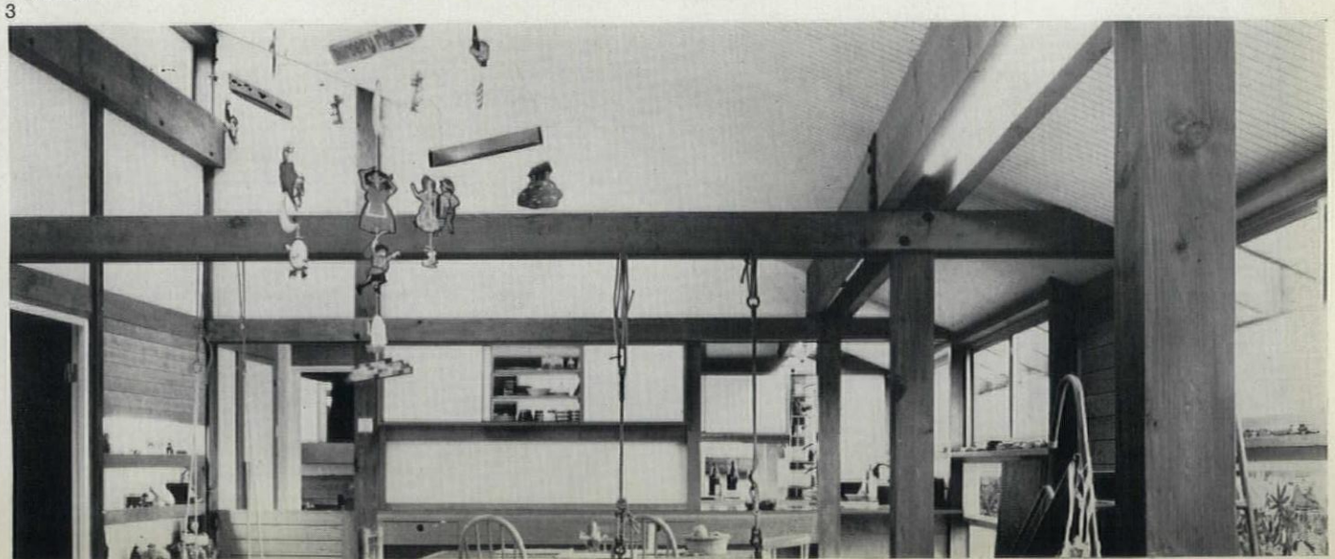
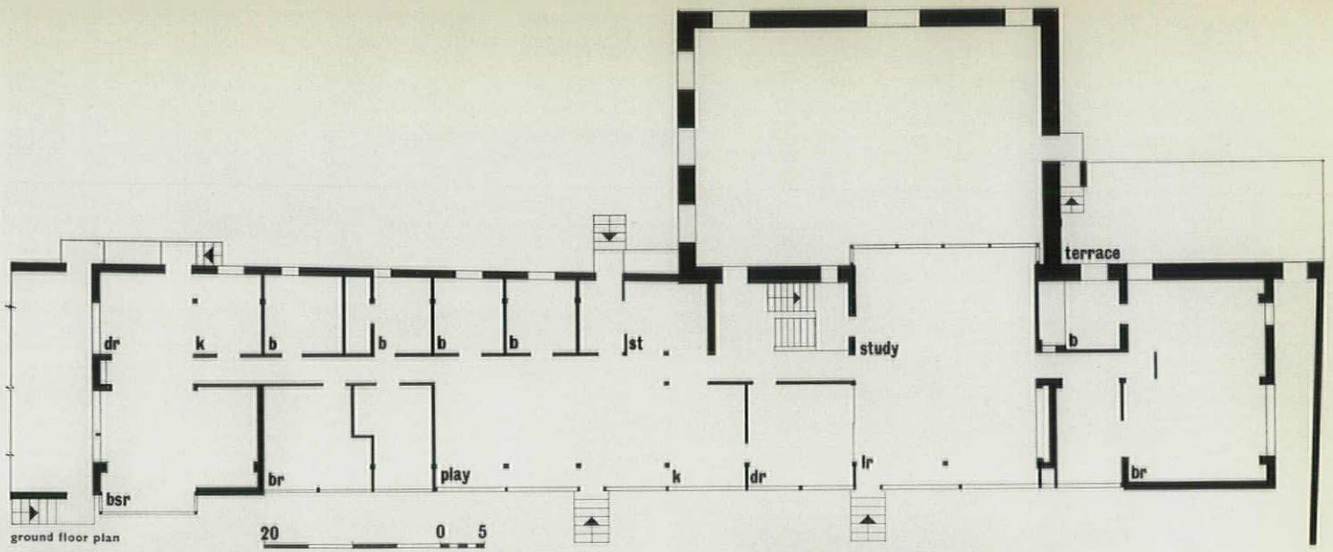


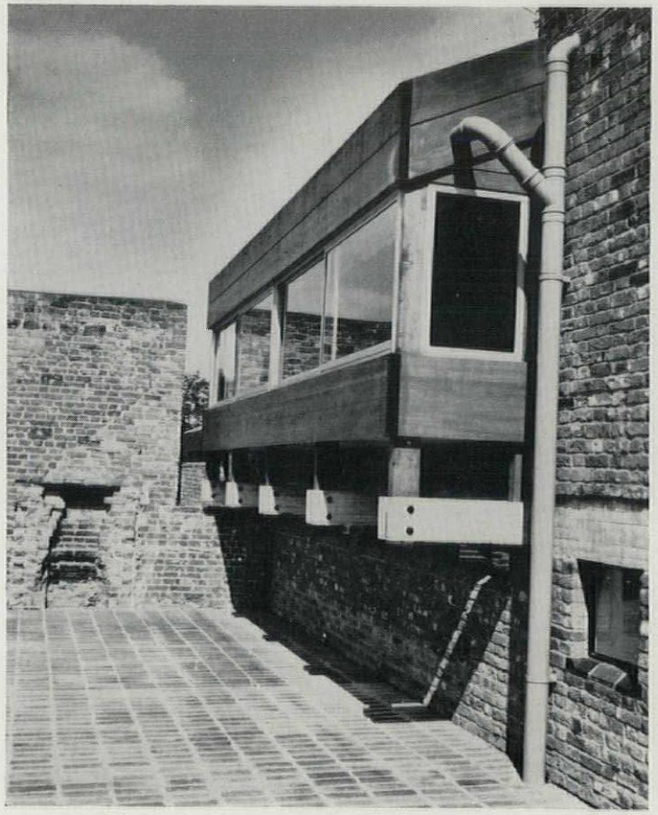
HOUSE, SHALFORD, ESSEX

4, 5 and 6, details of window bays and outside stair. All three also show how original bricks from the old hall (part of which is shown left, 4), have been used.



ground floor plan

4



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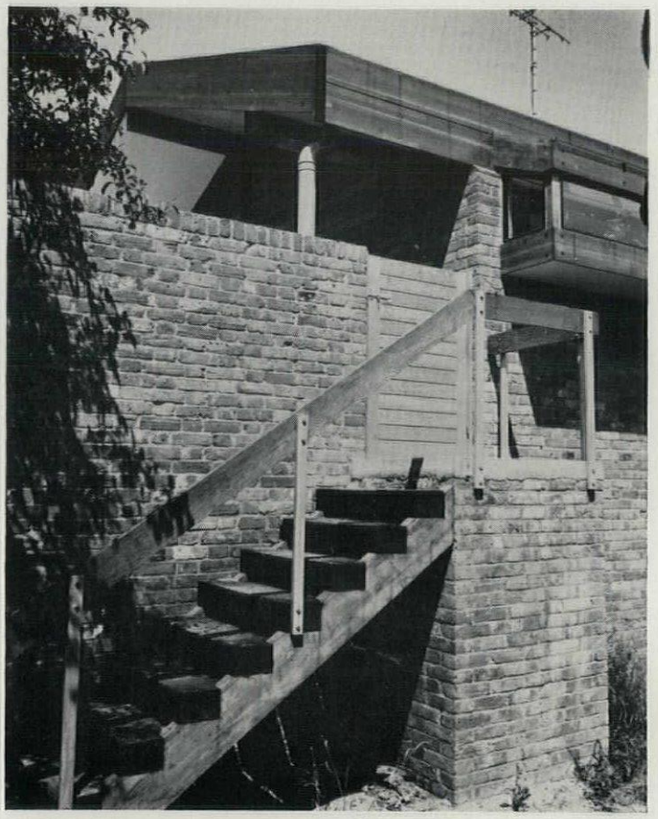

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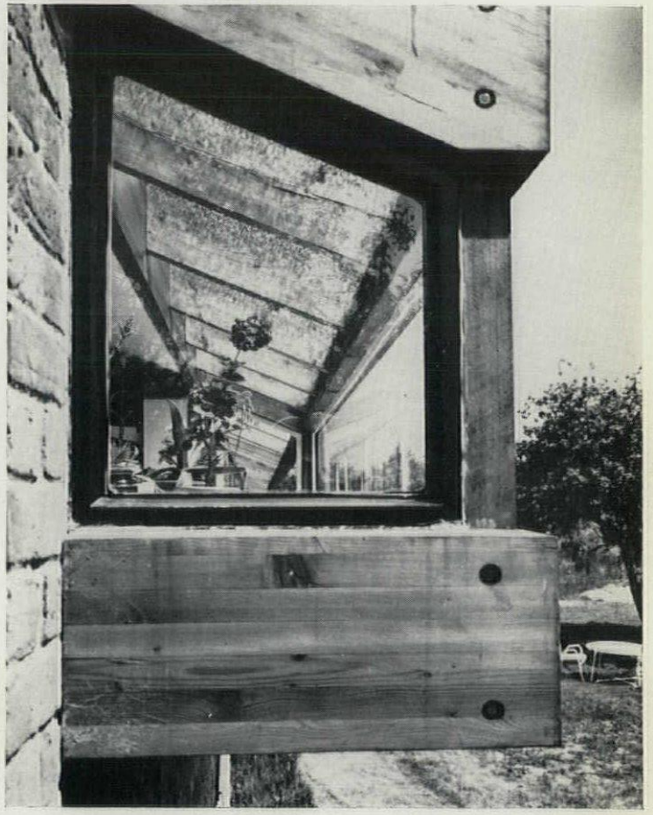
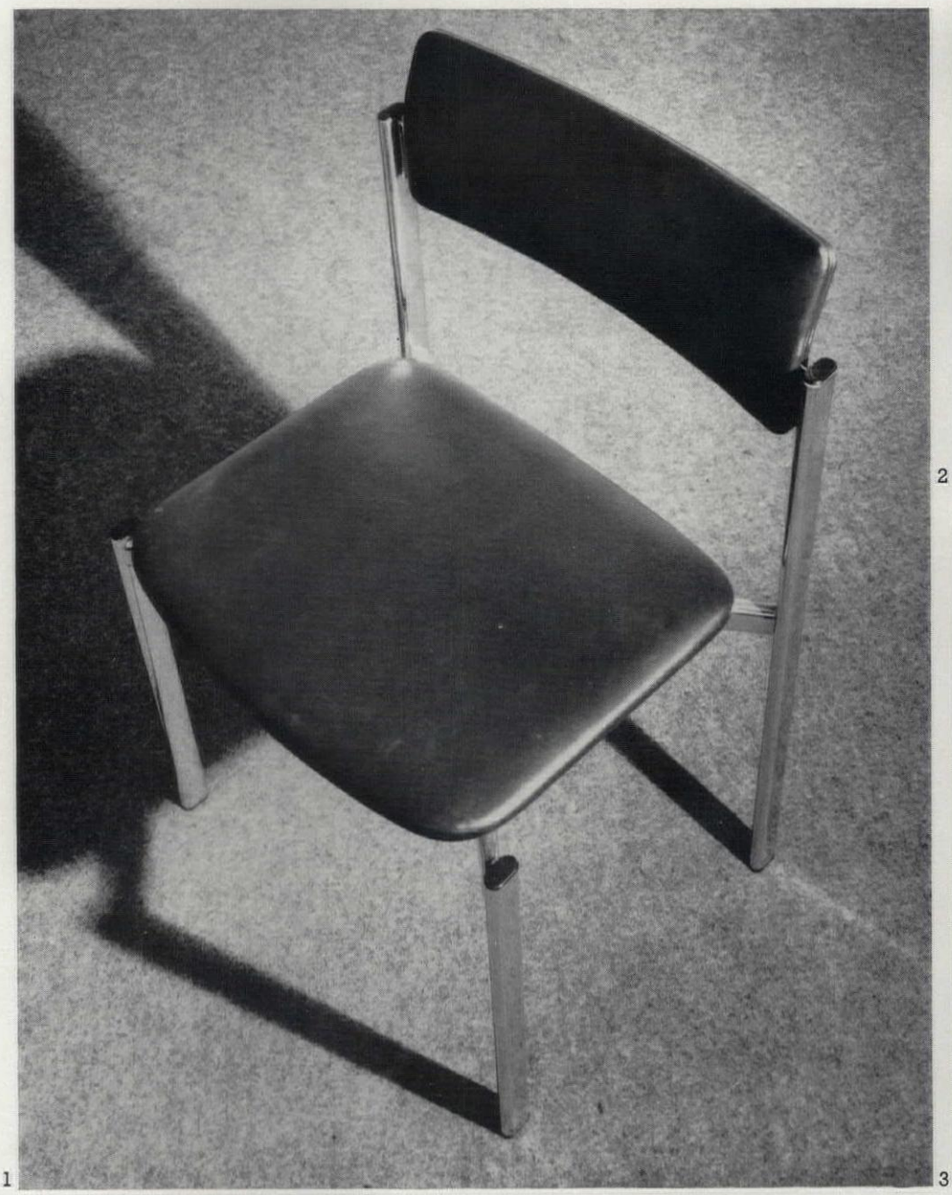


Design Review

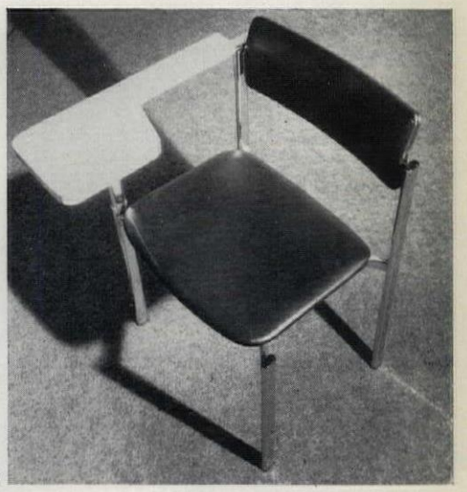
New products chosen and annotated
by Ronald Cuddon

DR

Specialized Seating



1



2

3

Where style is less important than function, serious contributions to design problems are often made. Specialized furniture is a case in point. The Kiki chairs, 1 and 2, are from Finland. They were designed by Ilmari Tapiovaara and are imported and marketed in this country by Race Furniture. Brilliantly conceived and superbly made, and developed for use in commercial, educational and other contract installations, they are an important addition to the architect's furniture vocabulary. They are but two units of the Kiki series, consisting of four chairs and two tables, combinations of which can be organized to satisfy different requirements. All the frames are of oval section steel tubing with polished chrome finish, and the seats and backs are upholstered and covered in grey or black vinyl. The chairs can be linked in rows by means of a coupling tube of the same section, and spring floor fastenings are available to stabilize runs of seating. The chair shown here can be stacked singly or in groups of three or four and a tablet writing arm with white plastic surface, 2, can be added or removed as required. It is secured by a telescopic device slotting into the leg assembly of the chair.

The Stork bar stool, 3, designed and manufactured by Race Furniture, has a welded steel frame stove-enamelled satin black, satin aluminium, light or graphite grey. The cruciform base bars are of polished steel, clear lacquered to prevent rusting. Black nylon discs are fitted to the feet. The footrest is of stainless steel. The swivel seat has a polyether and latex filling on a plywood base covered with expanded vinyl or woven fabric. The stool's height is 27in. with a seat diameter of approximately 14in. For a seat with so simple a function the design is complicated. The differentials in tube and rod diameters and the use of flat, shaped bars for the cruciform base, together with the varied finishes of the components, add to the visual confusion created by the incongruous relationships between the circular seat, footrest and cruciform base. It does not thus enjoy the design consistency of, for example, the Kiki chair. However, it is stable and comfortable, and the built-in footrest establishes an advantage over many other high bar-stools. We all know how the attractive prospect of food and drink

4

6

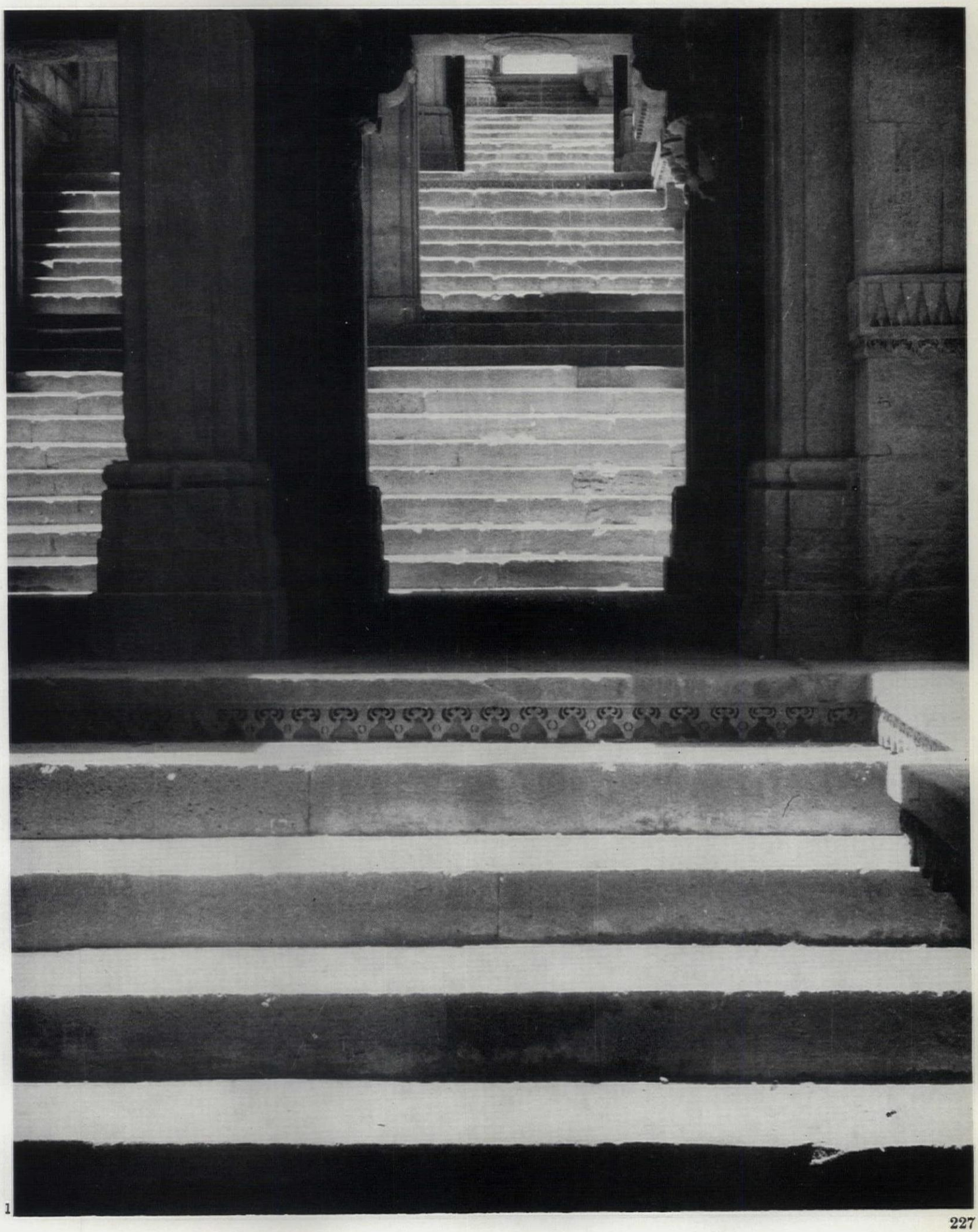
5

is diminished for those short in the leg by the need to scrape or pedal for a perch and for the long-legged who must half support their bodies on tip-toe, a fatiguing operation even for those in the most euphoric condition.
The bar seats, 4 and 5, are an extension of the use of the polypropylene shell chair designed by Robin Day and manufactured by Hille. The standard polypropylene shell and support column are attached to a circular black nylon-coated base, 4, fixed by screws to the floor. 5, with cruciform base on plastic glides, is a fully upholstered version.
In both examples the column and footrest are chromium plated and the seats have a self-returning mechanism. The semi-circular footrest is an optional extra, though an elegant synthesis is achieved between this component, the shell, column and base. The total product is highly satisfactory but it may be inconvenient at times to swing around on the stool leaving the footrest behind. The colour range of the standard shells is light grey, charcoal and flame but a light navy blue has recently been introduced. The overall height is 41½in., with a seat height of 29in., a width of 18in. and depth of 20½in.
The mantis-like office chair, 6, is Danish and imported by Intercraft. There are several similar chairs on the market all of excellent design, but this one is worthy of mention because of the skeletal economy of its form, its highly organized mechanical adaptability and competitive price. Very comfortable for most working positions the seat and back are adjustable, the seat swivels and the chair is made mobile by virtue of its flexible nylon castors. It is a product that has been developed over many years and minor improvements are still being made, but it has proved capable of withstanding exposure to the hardships of office use. The chromium or nickel plated steel base frame acts as a fulcrum for the total assembly, giving the chair its nicely articulated expression. The seat and backrest are upholstered in foam rubber and covered with a wool and rayon fabric in a range of colours, but washable plastic covers are available if required. The chair is obtainable with or without arms and there are variations for use in drawing offices, telephone exchanges and other special situations.

Product: Specialized seating.
Manufacturer: Race Furniture; Hille of London; Intercraft.

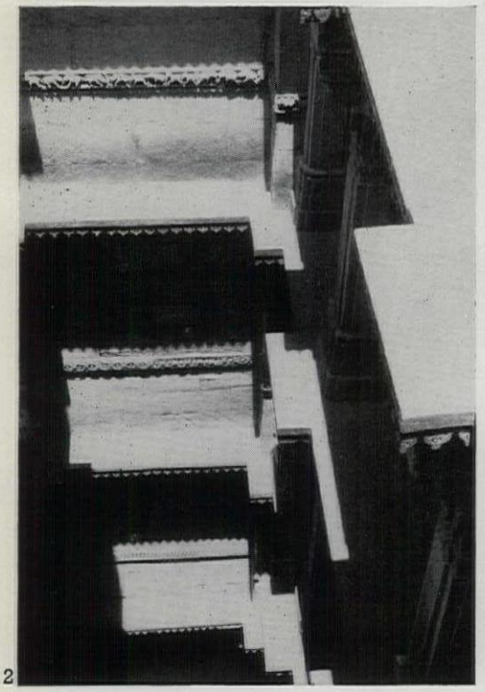
STEP-WELLS AT AHMEDABAD

Step-wells are not peculiar to any region of India, nor to any religion, but rather to a climate in which the summer heat is extreme and in which the level of water in the ground



1

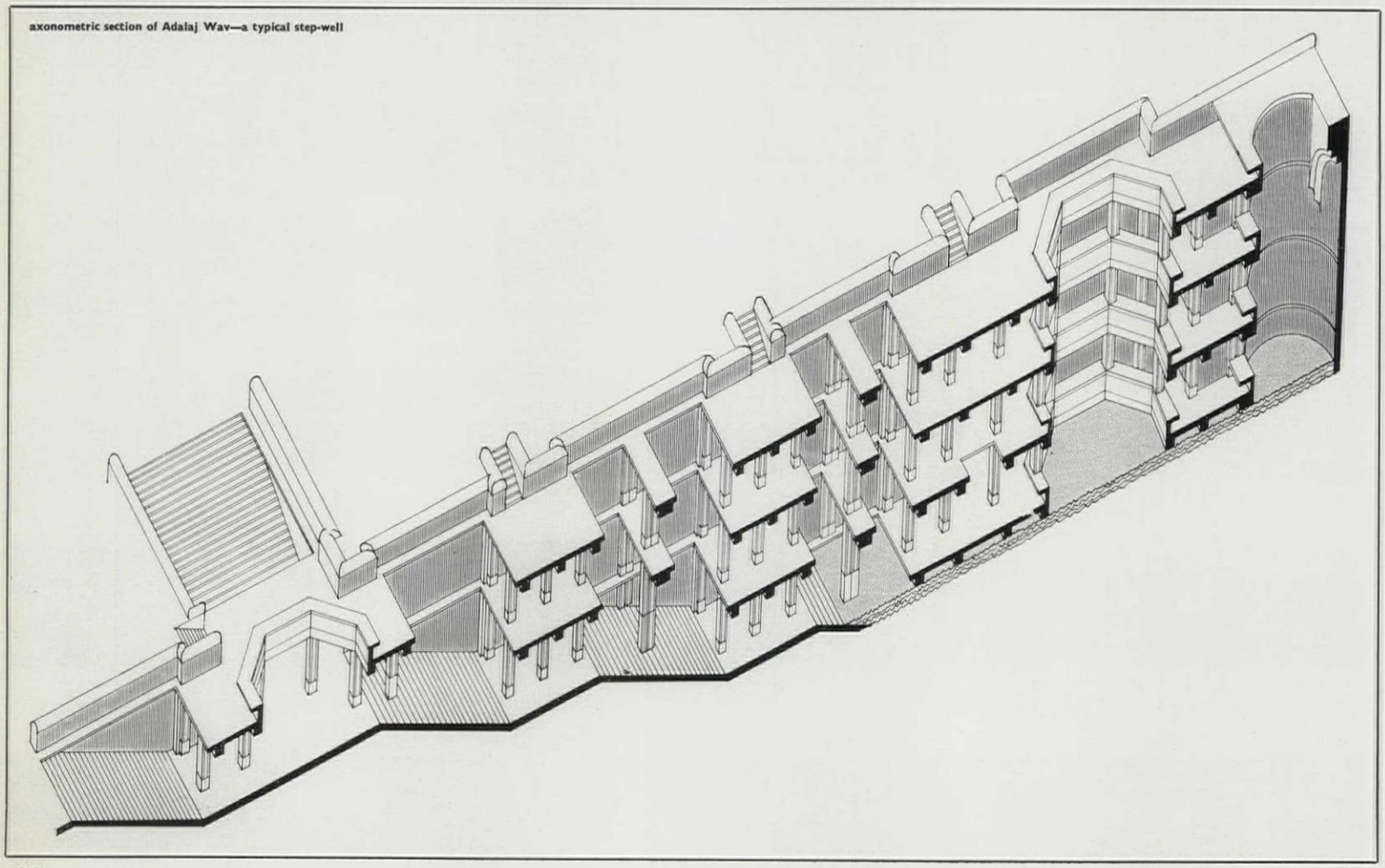
varies according to the season. Their structure consists of the usual shaft for hauling up water by bucket and a second octagonal shaft with a flight of steps leading down, beneath shade-giving galleries, to the water at whatever level it may be. Almost the whole construction is below ground and may be 50 ft. deep. The Archaeological Survey of India describes a step-well thus: 'A *Wav* or *Bauli* is a large structure, picturesque and stately as well as peculiar in design, but eminently suited to the



2

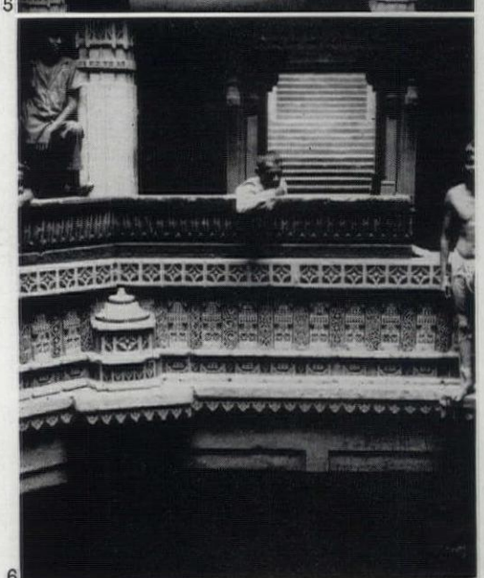
3

axonometric section of Adalaj Wav—a typical step-well



4

5



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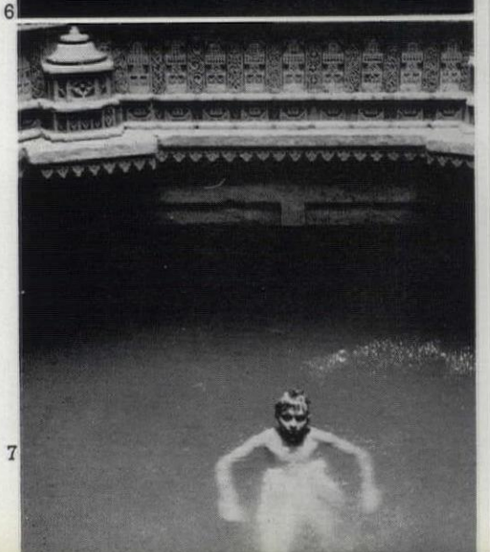

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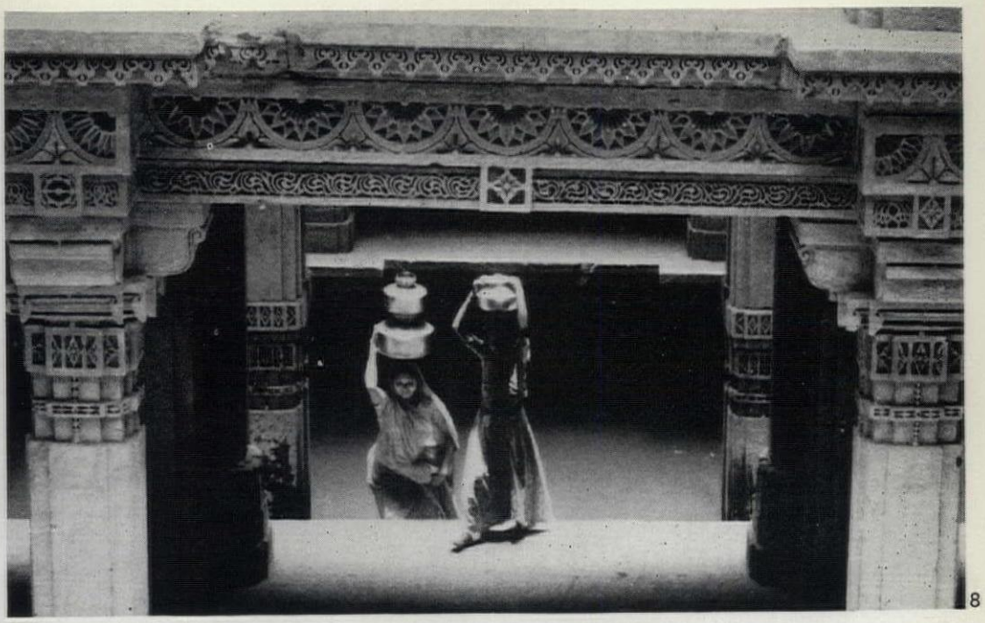
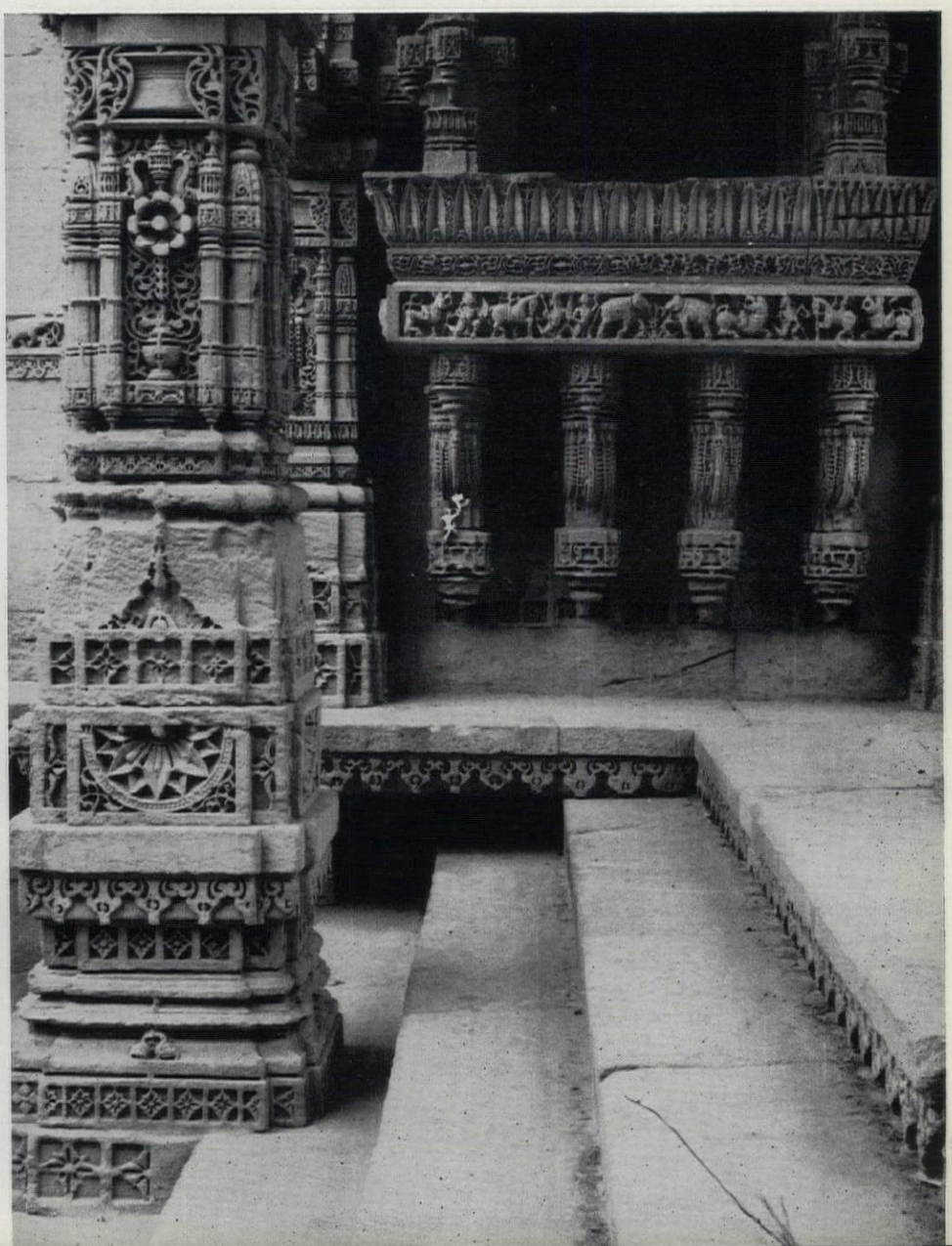


8

habits of the Hindus.' The habits referred to are those of sitting or sleeping in the coolness of these subterranean constructions.

The effect of these novel buildings is of long vistas and deep shade, 1 and 3, that alternates with strong light filtering down, through the galleries, to the steps below; also of the coolness of being below the earth and of having water nearby. The structure is very precise; the long rows of columns are accurately



9

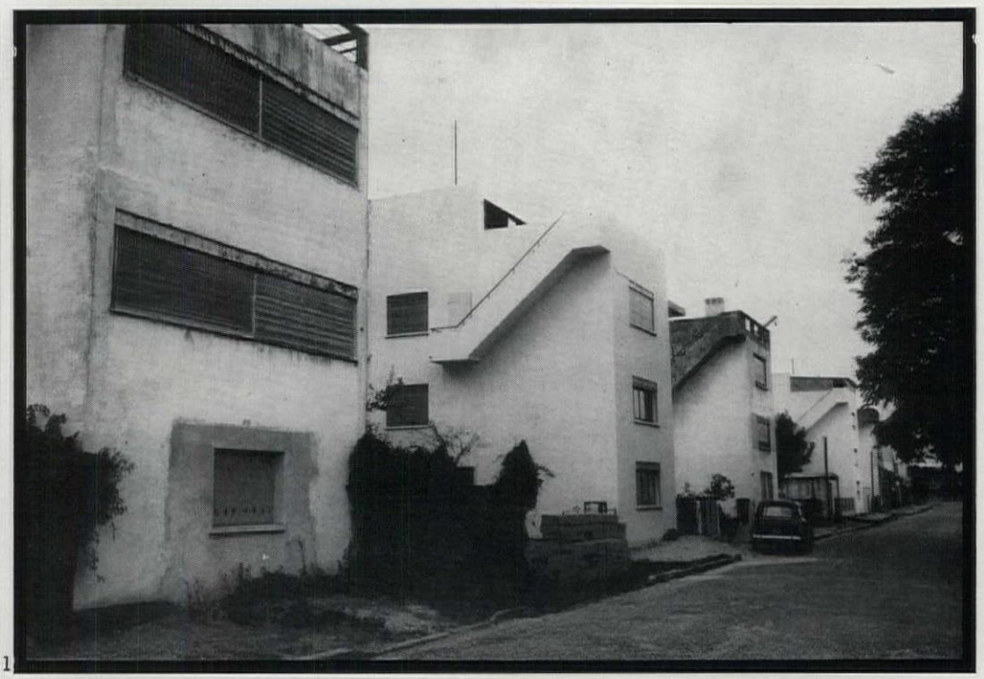
aligned and the horizontal ledges and mouldings continue through the length of the wells. The columns and mouldings, 2, are profiled so that the strong sunlight gives them strength and casts shadows that enhance the forms of the construction. All parts of the well are accessible by walking along the ledges at the sides, and there are continually changing vistas as one moves, 4-7, of the water below, the sky above, and the successive levels, each one ending at the cylindrical draw-well.

Gujarat State, of which Ahmedabad is the capital, has the finest step-wells in the country; namely the wells of Dada Harir in Ahmedabad and of Adalaj, a village just outside the city. Both were built in about 1500 and are of approximately the same size. The earliest well existing in the area is that of Mata Bhavani built at the end of the eleventh century and purely Hindu in type. The other two were built in a time of Muslim domination but show Hindu symbols. Adalaj Wav was actually built by a Hindu queen. There are numerous step-wells throughout the state but most were built of brick and have decayed. Those described are built of finely carved stone and have been well preserved.

Adalaj Wav, shown in these photographs, runs from north to south and has a peculiar three-way entrance, with balconies around the first gallery below ground level. There are three more levels below this and the total length of the well is 250 ft. There are spiral staircases leading down beside the octagonal shaft, and over one of the doors to these is a frieze carved with the sun, the moon, five planets and the ascending and descending nodes of the moon, possibly a remnant of sun worship. There are niches beneath the galleries containing abstract decoration similar to that in the Mosques in Ahmedabad; also figurative carvings and an inscription saying when the well was built and by whom. There are traces of intended or since-destroyed construction above ground level, but the only such construction to be seen now are the squat pylons at the beginning of each stair. The decoration consists of patterned lintols and friezes, 8, that break up the side walls, with particularly elaborate columns at the head of the main flight of steps, 9.

In Ahmedabad there was developed a system of construction in stone used mainly in building mosques and tombs, but also in these step-wells. The system ran through the structure, the decoration and even the dimensioning of these three building types. This system was developed to enable a large number of Muslim buildings to be erected quickly with Hindu labour, and proved very successful in that many very beautiful buildings were built between 1400 and 1550. The wells are some of the finest of these and are rather different to any other form of construction in that they provide a negative underground space which is then built in with an amazingly light structure, restoring the ground surface that had been removed. There is little above ground to indicate the size, the precision and the delicacy of the construction that lies below. R. W. HOWARD

CORB AT PESSAC



1

Le Corbusier's first large commission of about 50 homes, which were built at Pessac-Bordeaux in 1925*, seems to be in danger of demolition. Although the authorities obstructed their habitation for several years after they were built and some cracks caused by a bomb explosion nearby in the war have not been properly repaired, they are all lived in today. A large number of undistinguished flats have been built round about, and it appears that Corb's buildings, 1 and 2, may be demolished to make way for more of them. Recalling that at one time Villa Savoye at Poissy was in danger of being pulled down, is it not time that the Pessac group was likewise recognized as an historic monument, and so preserved? It already publicly displays his name, as the street-sign, 3, indicates. With some repairs and a long-needed coat of paint, most of them would look substantially as they did forty years ago. There have been fewer structural alterations to these than to some of his other early buildings. DAVID T. HICKS

* Le Corbusier and Pierre Jeanneret. *Ouevre Complète de* 1910–1929. W. Boesiger and O. Stonorov, 1946, pages 78–86.

3

2

Architects have already specified well over

15 MILLION SQ.FT. OF VITREOUS ENAMELLED STEEL

There is no doubt that vitreous enamelled steel is now widely accepted by architects as the ideal external cladding material—quite apart from its other numerous interior applications. Each year it is selected for more and more important projects. Some typical examples located in the Midlands and the Republic of Ireland are listed. If you would like a more comprehensive list, particularly of buildings in your own area in which vitreous enamelled steel plays an important functional and design role, please write to the VEDC for details. At the same time you will be sent technical information and other informative literature to A4 size, classified for SfB filing, which will ensure your reference files are completely up to date on this versatile, durable, colourful finish.

Dublin Airport, Finger Buildings, Dublin.

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Typical applications in two areas are listed. Other areas will be covered in future advertisements.

Republic of Ireland

Dublin Airport, Finger Buildings, Dublin.

Institute for Industrial Research and Standards, Ballymun Road, Dublin.

University College, Stillorgan Road, Dublin.

Guinness Research Laboratory, James Street, Dublin.

Ormond Printing Works, Ormond Quay, Dublin.

Ballyfermot Technical School, Dublin.

School of Horology, Dublin.

Primary School for Girls, Upper Kimmage, Dublin.

Irish Cider Factory & Perry Co., Clonmel, Tipperary.

Bank of Ireland, Cork.

Tower Hotel, Waterford.

Midlands

Franklin Barnes Ltd., Garden Centre, Commercial Street, Hereford.

UKAEA, Culham Laboratories, Oxford.

Alfred Bird Ltd., Factory, Banbury, Oxfordshire.

Dudley Road Hospital, Birmingham.

Birmingham University, Edgbaston, Birmingham 15.

Solihull Swimming Baths, Tudor Grange, Solihull, Warks.

Warwick University, Science and Library block, Gibbets Hill Road, Kenilworth, Warks.

Rover Car Co. Ltd., office block, Solihull, Warks.

Multi-Storey flats, Sutton Coldfield, Warks.

Warwick University, science and library block, Gibbets Hill Road, Kenilworth, Warks.

Coventry Railway Station, Warks.

New Tradition flats, Coventry, Warks.

Office Block, Phipps Brewery Co. Ltd., Northampton.

Office Block, Phipps Brewery Co. Ltd., Northampton.

Stewart & Lloyd Ltd., Northampton.

Office Block, Vaughan Way. Leicester.

Housing Scheme, Leicester Corporation, Dyart Street, & St. Matthews, Leicester.

Stafford College of Further Education, Tenter Bank, Stafford.

Henry Hope & Sons Ltd., office block, Smethwick, Staffs.

Office block, Stafford Street, Cheapside, Hanley, Staffs.

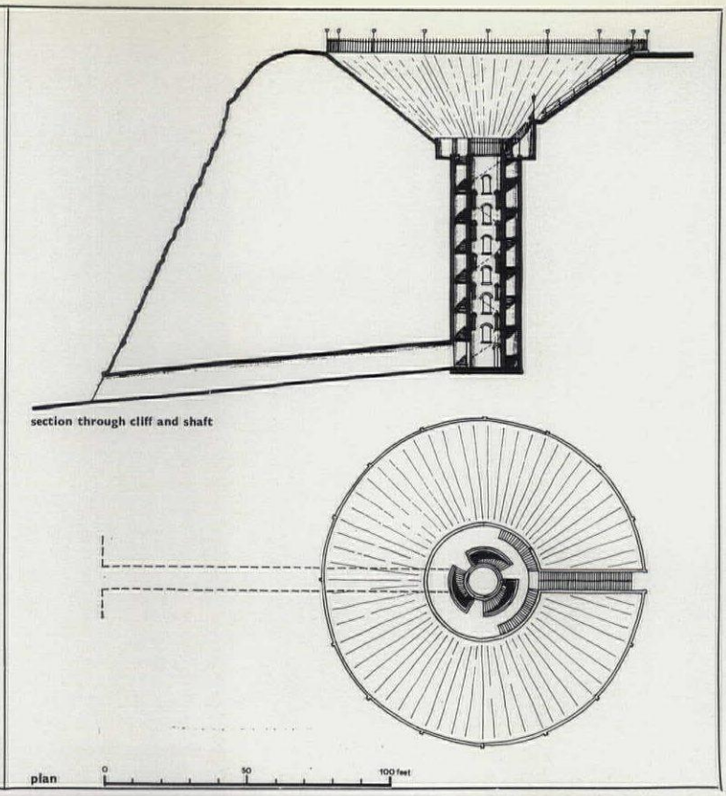
British Rail, Design and Research Centre, London Road, Derby.

Boots Pure Drug Co. Ltd., Station Road, Nottingham.

John Player & Sons Ltd., Branch No. 4 factory, Nottingham.

Bowling Alley and office block, Barkergate, Nottingham.

DOVER GRAND SHAFT



1, the steps at the top of the Grand Shaft (photograph taken in 1959; the barracks seen at the top have since been demolished).

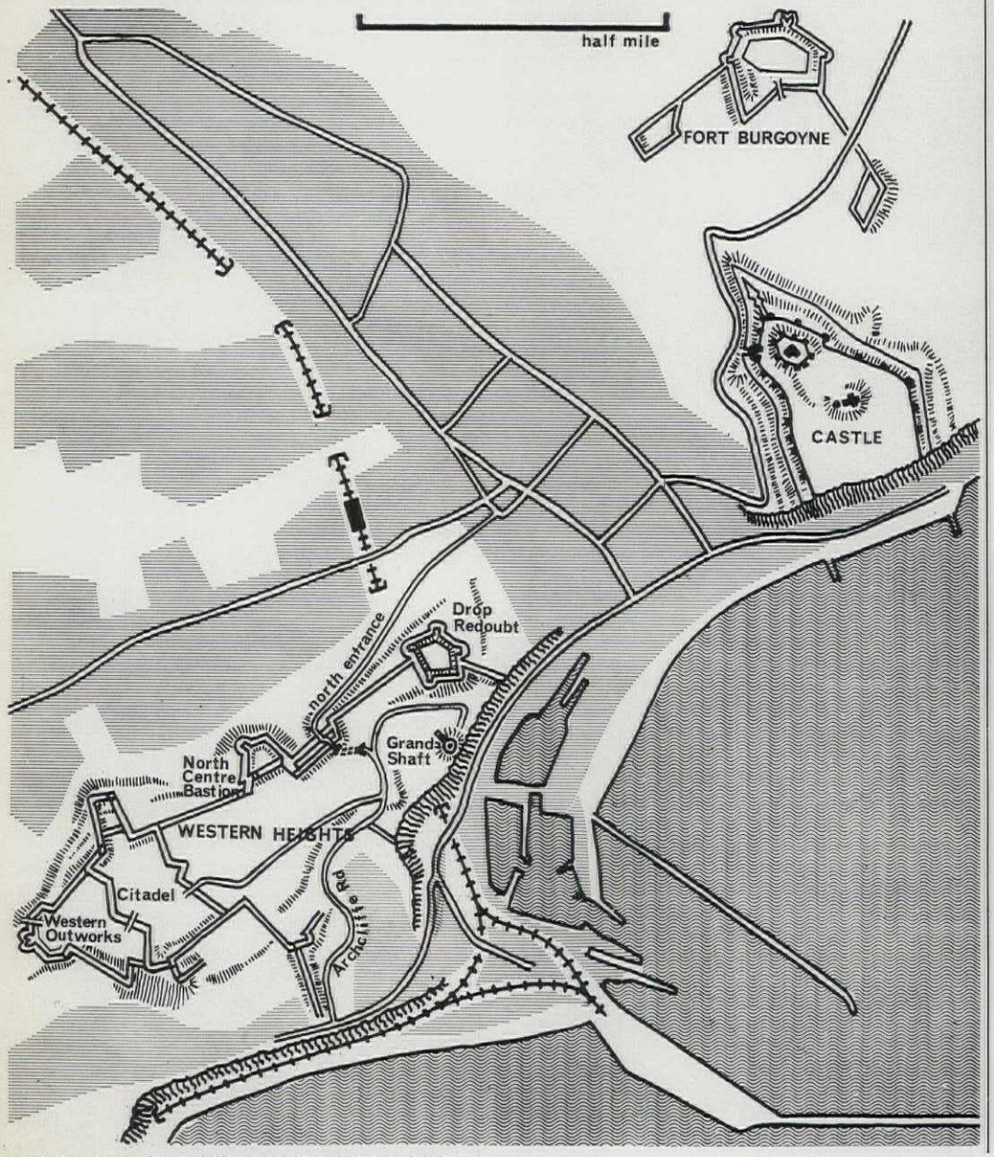
Hidden on the hilltop across the valley from Dover Castle lies the extraordinary complex of nineteenth-century fortifications that forms Western Heights, already described by John Peverley in the AR for March, 1959. Dover Borstal occupies the citadel at the far end, but the rest of the area is unused and unknown —a vast derelict labyrinth of earth and brick. It is a remarkable blend of landscape and architecture with magnificent views over the town and harbour, and the fortifications are an impressive monument of military engineering. The brickwork (the extent of which, in Cobbett's enraged estimate, would have built a cottage for every labourer in Kent and Sussex) is superb, with the most intricate details, and in the cavernous interiors there is a most sophisticated use of space and a sculptural simplicity of form.

To explore the Redoubt and the North Centre Bastion know-how and a strong torch are needed, because the few key points where one can scramble down or through the 20-ft. vertical faces of the 'lines' (dry moats) must be found. But a good impression can be gained less strenuously by approaching the area, as the French were expected to do, in Napoleon's day, from the landward side, encountering at the north entrance three cuttings, two bridges over the 'lines' and a 100-yard tunnel, curved at both ends to avoid a direct line of fire. Until recently there was an equally bizarre but more direct access from the town, by foot, via the 196 steps of the Grand Shaft. The Grand Shaft, completed in 1802, was built to connect the cliff-top barracks (now demolished) to the harbour. The basic structure consists of two concentric cylindrical shafts of brick, the outer against the chalk, the inner open as a light-well, between which three spiral staircases wind down independently like the threads of a screw. More elaborately contrived than the double staircase at Chambord, its ingenuity almost makes one agree with an 1829 account that 'such a union of elegance and convenience might have reflected credit even upon the genius of Sir Christopher Wren.'

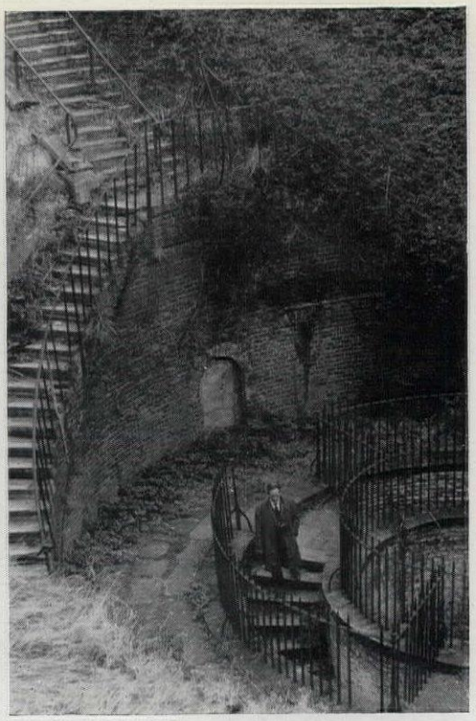
The fortifications and the Shaft have been scheduled as ancient monuments but nothing has been spent on their repair or upkeep for many years. The fortifications are strong enough to survive comparatively well, but the Shaft is deteriorating fast and has been

2

recently wired off by the Corporation. It seems merely a question of time before it has to be demolished. Western Heights used to be War Office property but the Ministry of Works hopes to take over the Northern Lines and the Drop Redoubt, and the Corporation has been



map of Dover showing layout of Western Heights and location of shaft



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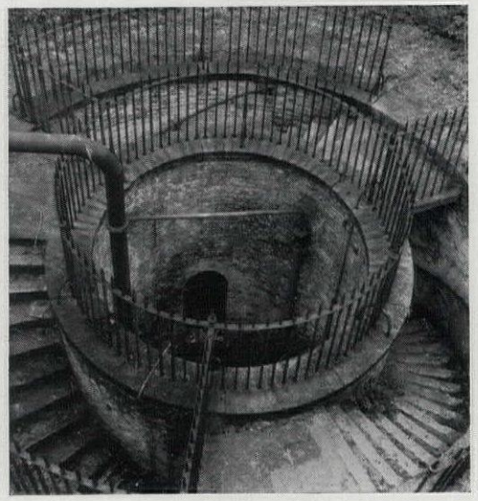

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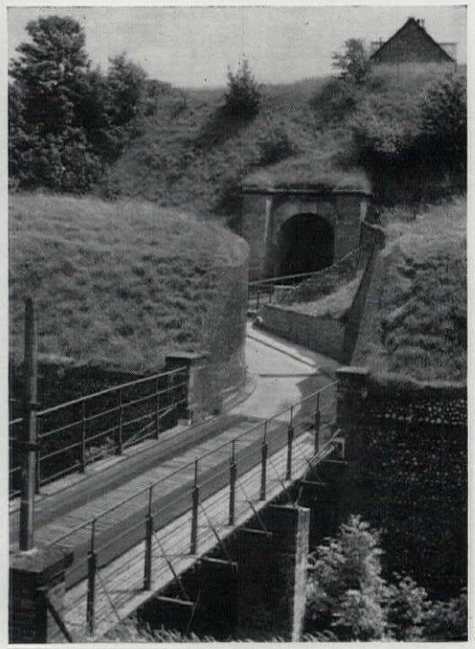
2, the approach to the top of the Grand Shaft from the barracks area (photograph taken in 1959). 3, 4, top of the Grand Shaft as it appears today. 5, the bridges over the 'lines' and tunnel entrance.



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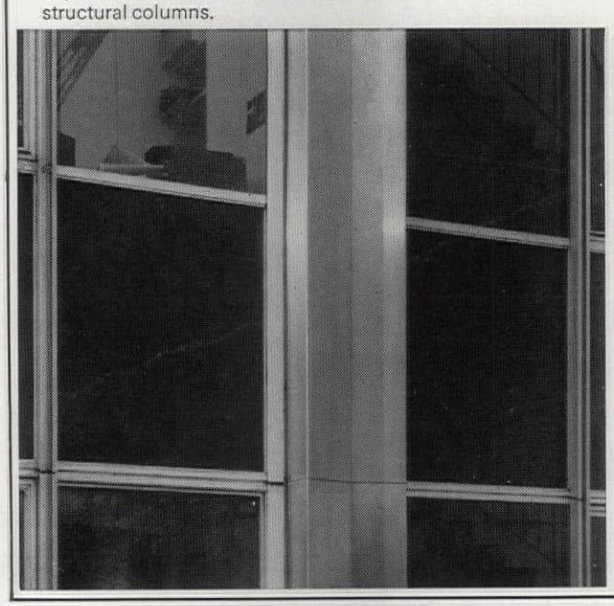
'M'-section column covers on Winchester House –in 'Silver Fox' stainless steel

The latest application for "Silver Fox" stainless steel can be seen on the recently completed Winchester House in the City of London, where it is used to clad the eight 20-storey high, two feet wide, structural columns on each of the main elevations above the podium.

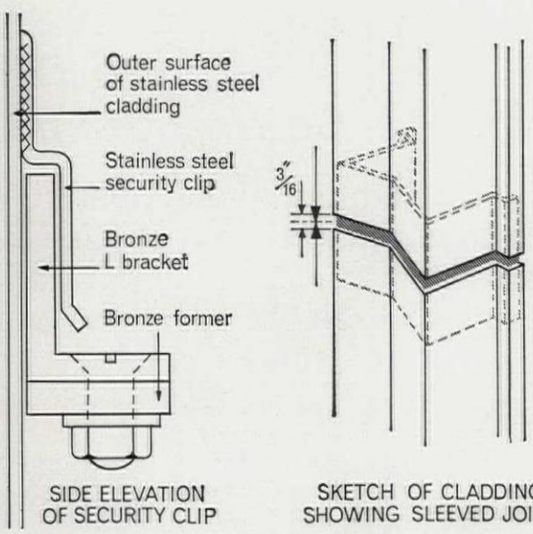
"Silver Fox" stainless steel enhances the aesthetic feeling of the building and provides the architect with a material of strength and durability, with minimum maintenance—a quick wash down will bring it up like new.

Winchester House, London. Owners: St. Martins Property Corporation Ltd. Architects: Gunton & Gunton. Contractors: Trollope & Colls Ltd. Stainless Steel fabrication: Culford Art Metal Ltd.

Manufactured as an inverted "M" section in 11′ 8″ storey-height lengths from a single 14G sheet, the dull-polished stainless steel covers produce differences in light reflection to provide a clean and slender appearance to the heavy structural columns.



The stainless steel covers are secured by connecting cleats, spot welded to bronze angles and tees, which are in turn bolted to the concrete columns.



SIDE ELEVATION OF SECURITY CLIP

SKETCH OF CLADDING SHOWING SLEEVED JOINTS

Further information on any aspects of "Silver Fox" stainless steel and its use will be supplied on request.

samuel fox & company limited

STOCKSBRIDGE · SHEFFIELD

The makers of "Silver Fox" stainless steel

A subsidiary of The **united steel** Companies Ltd

1967

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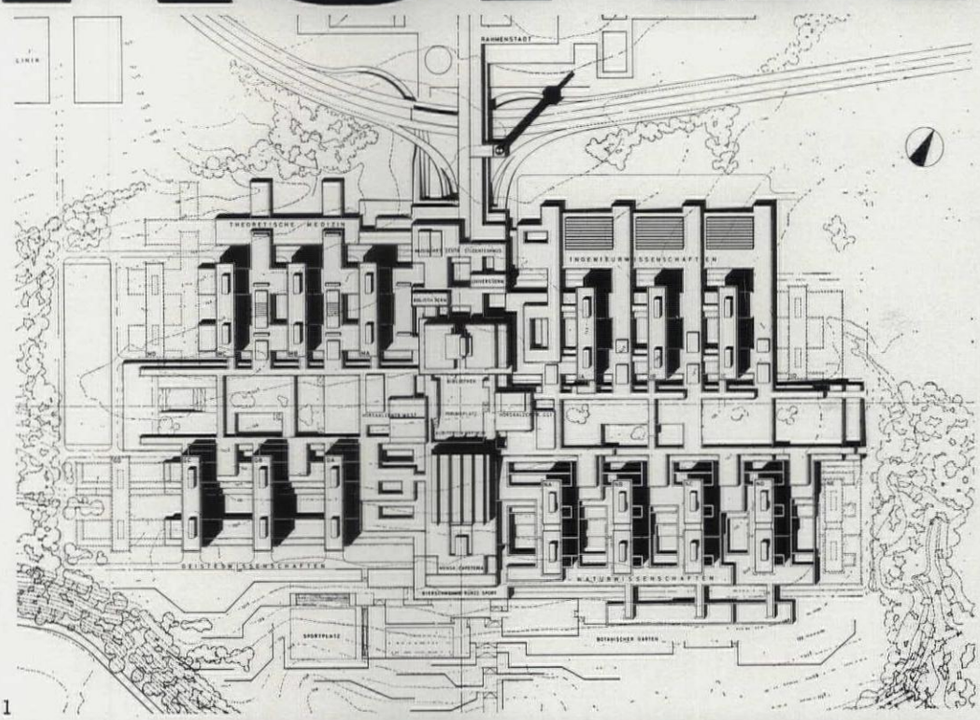
negotiating for a long time the purchase of the rest. The Corporation therefore will soon be responsible for the Shaft's condition; but one suspects that they would be only too pleased to be able to replace it with a lift to enhance the value of their property at the top. If this impression is unjust, it could easily be dispelled by a firm declaration of intent to repair the shaft, and by some immediate remedial work which included the reopening of at least one of the staircases as access.

The Grand Shaft is a most interesting monument, unique in design, which still has an important practical use as one of the focal and key access points of Western Heights. If it is allowed to fall in, Dover will have squandered one of its most valuable assets. It cannot afford to do so, especially since the Channel Tunnel may be about to take away its traditional role as a port of transit. Dover's future will then depend on people coming to it for its own sake, and Western Heights could well assume a new importance as one of the centres of this new resort activity.

LEWIS BRAITHWAITE

UNIVERSITY OF THE RUHR



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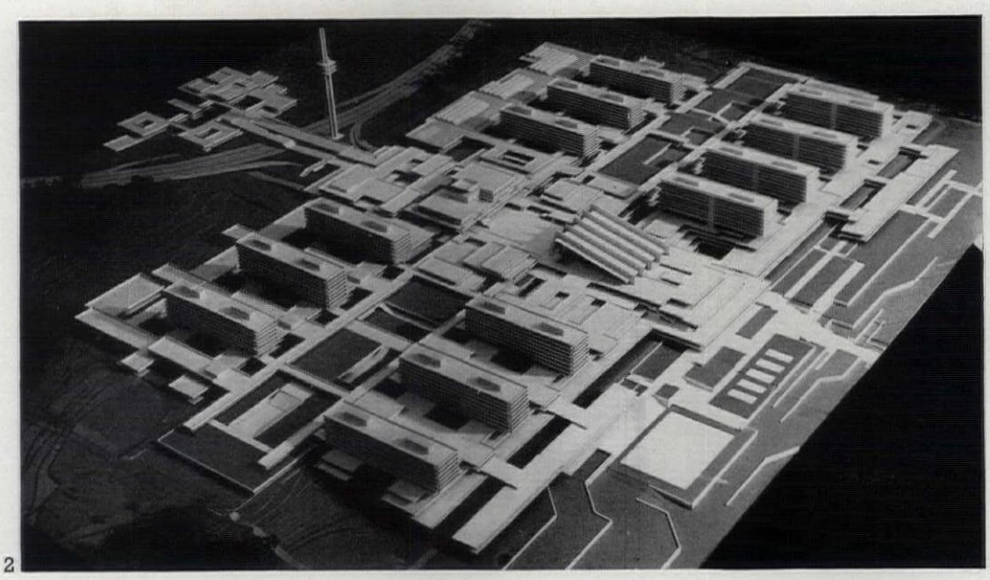

2

Germany has been late in starting new universities. When at Bochum, in June 1965, the new university was declared opened, England had already made a start on more than half a dozen. Yet it must have been as patent in Germany as in England that the enlarging of existing universities cannot go on for ever. Göttingen, a small town, had 2,700 students in 1926; nearly 20,000 in 1966. Departments are now run in such a way that a student may, during the whole of his course of studies, never be in close contact with the holder of the chair. Seminars with a hundred participants can hardly do seminar work. And so on. In these circumstances new universities were obviously the answer. But whereas the new universities in England are developed in their initial stages in annual growth figures of about 500, Bochum counted over 1,000 in the winter 1965–6 and 3,000 in the summer 1966. This difference of programme is reflected in architecture. Most of the new English universities (not all) have built in not too concentrated a way so that human scale and a sense of ease are secured. Not so at Bochum. Here Professor Hentrich, in 1961–2, designed something much more massive, even if the overwhelming uniformity which strikes one as one visits the site today will be much mitigated when the whole plan is carried out.

The site of the new university is 3 miles to the south-east of the town of Bochum. It covers 1,284 acres, but of these only 289 will be built over, and only 105 concentratedly. The student target is 10,000. It should take only to 1972 to reach it and complete all buildings. Faculties will be arts, science, engineering and medicine. A fast traffic road skirts the site on the north. North of this is the future residential area. South of the university will be playing fields, a large landscape area and, yet further south, a long lake. The area for teaching and research is oblong, about 1,650 ft. by 2,650 ft. On it, 1 and 2, will stand thirteen absolutely identical slabs about 380 ft. long and eight to nine storeys high, all parallel and all running north-south, which is the shorter axis of the rectangle. On the north half will be three plus three, on the south half three plus four. Between the gaps, on the north-south axis of the bridge over the fast-traffic road, between teaching and residential quarters, will be the Forum; i.e. the Auditorium Maximum for 2,000 students, the Mensa or canteen (already completed, 3), the library, the main lecture rooms—all pretty tightly packed in. They will be accessible from a

pedestrian deck and this deck, which does not yet exist, will be the distinguishing feature of the university. It is to lie above ground floor and first floor with plenty of oblong holes allowing views into the service areas, the parking space for 3,400 cars and the access roads below. Moreover the site falls to the south which will result in further changes of levels. Below the deck will be departments needing heavy machinery, research departments and of course deliveries. The high slabs are known, even officially, as stacks (*'der stapelbare Bereich'*).

Once the decks and the lower buildings are up, they will no doubt relieve the rigidity which strikes one hard as one looks at the site in its present state, 4. Even so the total character will be dominated by the relentless identity of the slabs; i.e. by a style derived from Mies's or Skidmore's, the style Professor Hentrich handled so brilliantly in the Dreischeibenhaus at Düsseldorf. Nothing of the drama and the arbitrariness of Churchill, of New Hall, of the future Norwich will be allowed.

The teaching blocks, 5, have all the same plans:

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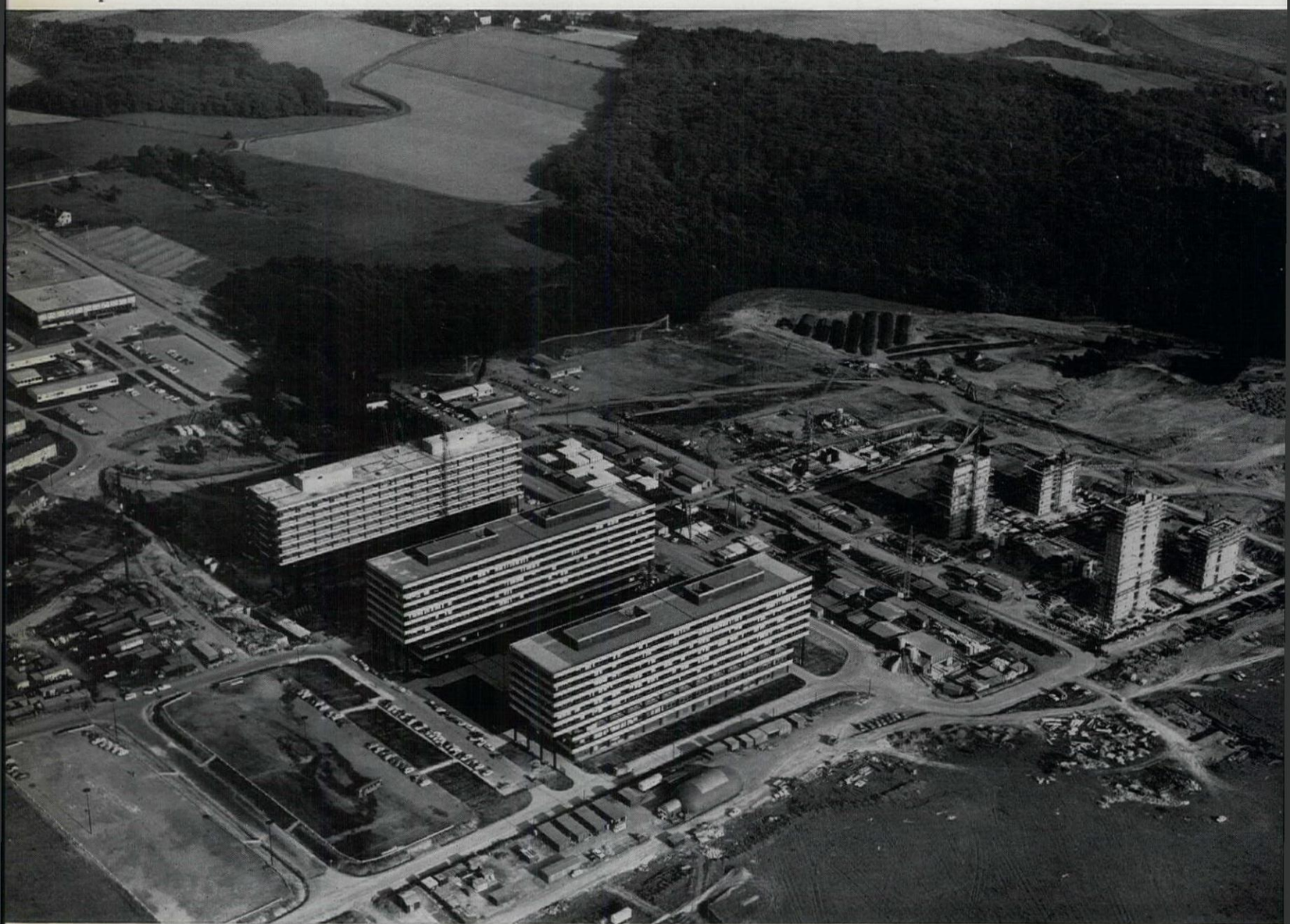
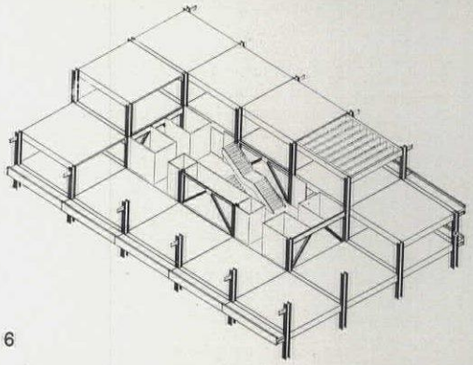


rooms along the west side, rooms along the east side, unbroken corridors the whole length, rooms in the middle. Construction of the



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slabs, 6, is of steel units with concrete floors to a module of 24½ ft. by 24½ ft. One such unit during building stands as a monument somewhere in the middle of the site. N.P.

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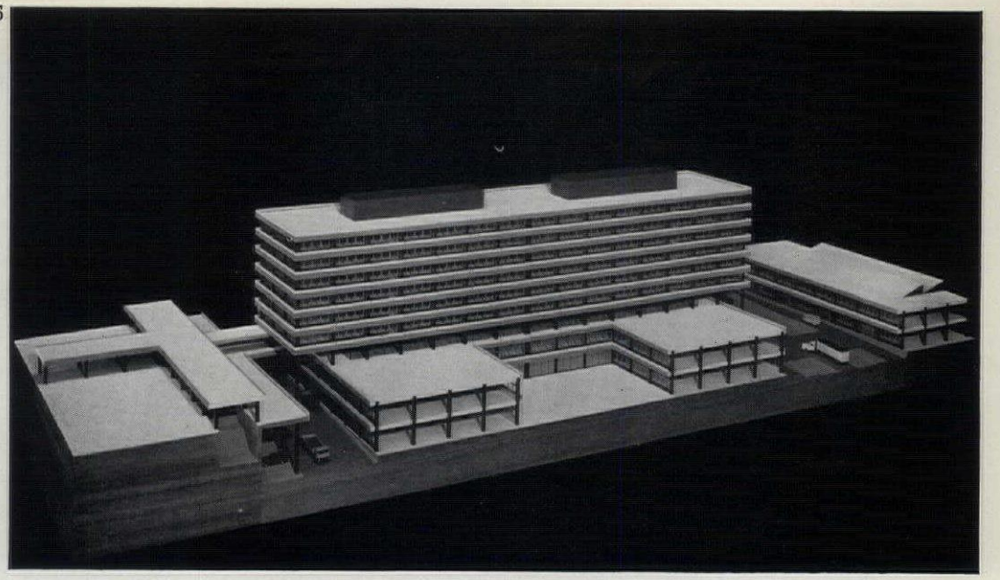


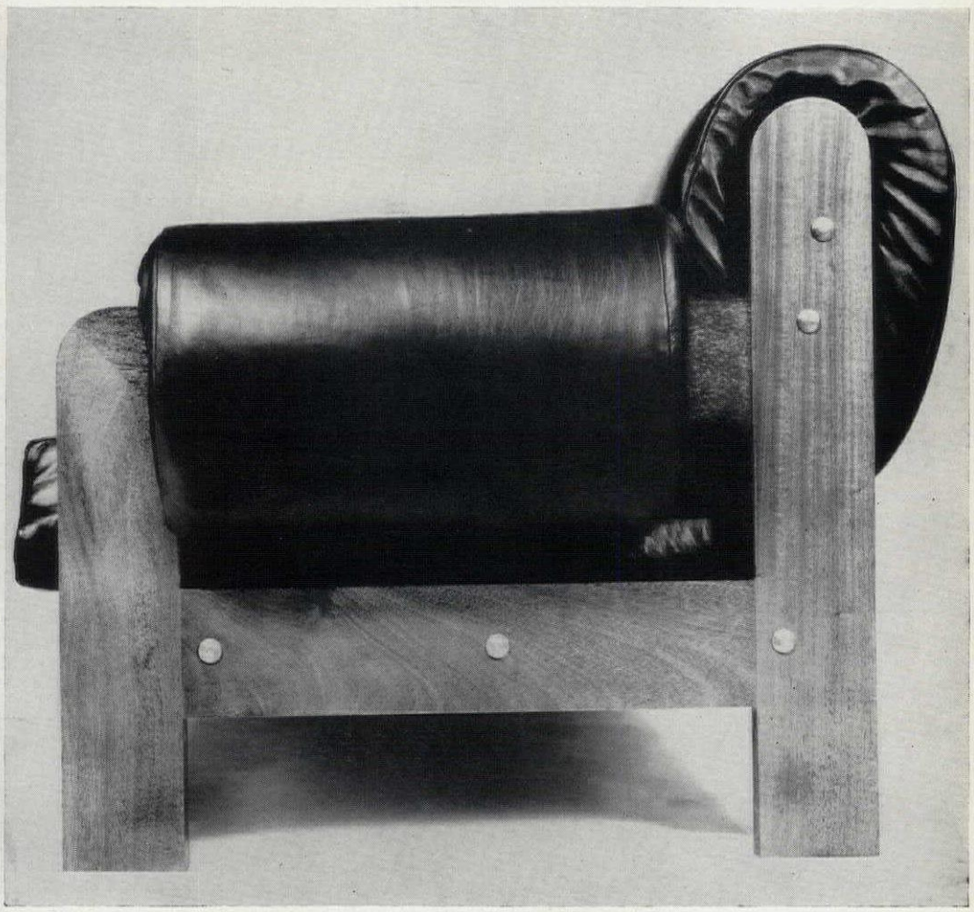
prototype

SOFA

This sofa, 1, the prototype of a piece of knock-down furniture which requires only a spanner in its 'knocking-up', was designed to a very unusual brief. The designer, Robin Moore Ede lives at the top of a tall London block in a flat reached via a narrow fire stair and a doorway 2 ft. 6 ins. wide. The individual pieces therefore had to be of the right dimensions to negotiate the stairway and door. Measuring a clear 6 ft. between arms, 2, the sofa frame is of mahogany, the cushions of foam rubber covered with dark brown leather. The cushions over the back and arms are zipped along their lengths and hold those on the seat in place by pressure. The bolts are standard brass coach fittings.

2

1



Sociological evidence on housing, 2 The home environment

This is the second of two articles in which John Raven collates English and American research on housing. In the first article (July 1967) he considered space in the home: this month he considers what people expect of their home environment and—even more important—what influence it exerts on them. This question, and particularly the part housing development could play in the reshaping of our towns, will be the subject of an AR special issue in November.

The appearance of the dwelling

The appearance of a dwelling will do a lot to sell it, but the extent to which people will sacrifice space for fittings and appearance varies greatly. Local authority tenants are inclined to say that appearance doesn't matter; it's the inside that counts. On the other hand the popularity of bungalows suggests that this is not the whole story. Bungalows have a characteristically 'soft' image which may well account for part of their popularity. We could with advantage study the reasons for the popularity of bungalows. If we knew where the desire for bungalows came from, and how it is made up, we might well find that we could make valuable suggestions for improving towns. When people say they want a *bungalow* what have they in mind? One may be sure that they do *not* picture a biscuit-box bungalow of the 1920's—which may well be the statistical norm. Instead the image is of a chalet-type detached bungalow with dormer windows in the roof, a large picture window, some stone cladding, *one* chimney pot, and a well stocked garden.

Let us look at this image in more detail. Firstly it is not the typical dwelling of the upper classes: taste is not simply 'filtering down.' The fact that the bungalow has an upstairs means that it is not convenience of living that is wanted: rather it *is* the external appearance. One now needs to take this image and find out what people associate with it: is it particularly homely? If so why? Is it soft? and so on. Unfortunately it is very difficult to get people to state *what* they like and dislike about houses: they simply know that they do, or do not, like them. Techniques (for example the Kelley reportory grid) are, however, now available for obtaining this information and could be put to use with a fair degree of confidence that they would work. If we could show that there were large groups of the population who wanted a dwelling with a 'soft' image and that this could be created in particular ways we would have made a very worthwhile advance. One would then go on to study the *range* of dwellings that would be required by any specifiable subpopulation—such as people living in renewal areas; prospective inhabitants of such areas and so on.

The appearance of the neighbourhood

Of equal importance to the appearance of the dwelling itself is the neighbourhood in which it is located. Paxton (1955) found that some people wanted the neighbourhood to appear solid and well established while others had directly the opposite requirement; and wanted it to look new and modern. Very little is known about the impressions created by neighbourhoods of different sorts, nor about the different groups of people who wish to live in neighbourhoods which give rise to different impressions. This is most noticeable in some of the new towns where the environment remains monotonous in spite of the attempt to create variety by using different cladding materials. In old towns variety has come about largely through hit and miss evolution and not through the application of established principles. Jacobs (1961) and Lynch (1960) have attempted to formalize some of the sources of this variety but their hunches remain to be tested.

The importance of having a cross section of types of neighbourhood in relatively close proximity has been emphasized by a number of writers. Willmott (1963) has pointed out that people who wish to rise socially need to be able to find housing near their old friends but in a 'better' district. Brennan (1948) has emphasized that people like to see good quality goods in shops even though they cannot afford them. The shops can only stock them if *some* of their customers can buy them. More generally a mixture of neighbourhoods designed to attract people of different sorts permits those who wish to change their way of life to become acquainted with the way of life of other groups.

Flats versus houses

Whether or not a dwelling should be set in a block of flats and whether it should be surrounded by a garden are aspects of the environment which have received more attention than its appearance. These two problems are intimately bound up with each other and with the problem of noise. While it is true that people who live in flats suffer more from noise disturbance than people who live in houses this is not the main complaint. More important is the restriction people feel on making noise themselves. This affects their whole pattern of leisure and makes for more sedentary hobbies such as television viewing. (On the other hand one study in Vienna showed that people were driven right out of their homes into the country at week ends—which might be viewed as a good thing).

Although concern with noise and the lack of gardens is important it is doubtful whether these entirely account for the widespread and deep-seated resistance to flats. There are probably more psychological factors which have yet to be adequately explored. One possibility is that people fear that the uniformity which is associated with the external appearance of flats will extend to their own personality: they will themselves be forced to become more alike; to conform. One informant expressed it as a fear of *regimentation*. Other grounds for objections to flats arise from the fact that owners of detached or semi detached houses feel (Rossi, 1955) that they have power to modify the dwelling if it does not entirely meet their needs: they can extend their houses into their gardens, pull down walls, make major modifications to the plumbing and so on. In fact these are just the things they *do* do (Paxton 1955). Owners of flats probably feel, and obviously are, much more restricted in these respects.

Gardens

Studies have shown that a high proportion of gardens are not cultivated, particularly if they belong to local authorities. Others have shown that the amount of cultivation depends on the quality of the soil (Randall, 1961). Others have argued that we cannot afford to waste agricultural land on gardens. Still others have argued that land is more productive as gardens than as agricultural land because of the intensive nature of the cultivation (Self, 1957). As yet no thorough study has been made of the following problems.

(*a*) What are gardens used for—including storage of coal, lumps of wood, etc.—in different districts, under different conditions?

(*b*) What do gardens *mean* to people—

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are they symbols of security, sources of 'something to do,' places where husband and wife can work *together*, sources of contact with nature, barriers to noise and neighbours? Are they associated mentally with ideas of the landed gentry and thus felt to be status enhancing? And so on.

(*c*) How would people *like* to use their gardens—for example as 'outdoor living rooms' and how is this frustrated—for example by the absence of suitable screening ?

(*d*) How does garden usage vary with *other* provisions such as alternative means of drying laundry, coal storage, communal workshops, public open space, supervised children's play areas, and so on ?

(*e*) Holding these external provisions constant how does use vary with garden size, screening, other leisure interests, quality of the soil and so on ?

Social status of the area

Turning now to more social aspects of the environment, the social status of an area surrounding a home is particularly important—especially to families with children. Rossi (1955) found that dissatisfaction with the social status of one's neighbourhood was a primary cause for moving house, coming second only to dissatisfaction with space within the dwelling. This result has been confirmed many times. Other researchers, e.g. Willmott (1963), have added to it the finding that people do not normally move in the hope that a better address will enhance their status; generally they have already moved upwards socially or else the social status of the area they have been living in has declined. The main way in which the social climate of an area impinges on the family appears to be through children's play. Parents are very sensitive about letting their children play with others who may encourage their own children to 'put on airs' or become 'rough.'

The social facilities in an area, such as community centres, also need to be mentioned. There appears to be a considerable demand for them but often they do not seem to be used if they are provided. Some are extremely successful, however, which suggests that there is a great deal to be learned about the conditions of siting, administration, and design which make such centres successful.

Several studies have shown that about a fifth of the population complains about being lonely. Two studies of old people at the Building Research Station showed that old people who complained of loneliness and boredom were also likely to make a lot of complaints about their dwellings. In fact there was a demonstrable tendency for those who complained about one thing to complain about other things. In one survey, which covered a wide range of building types, this could have been explained by saying that the people who complained a lot were in worse dwellings than those who did not complain. Such a hypothesis was not however tenable in another survey which found a correlation of .86 between whether a person was lonely and or/bored and the total number of complaints about the dwelling. We may interpret this as a general factor of sensitivity to defects in the environment. As such it finds considerable support in the work of Hare and Shaw (1965) and of McKennell (1963). The former found that people who made most complaints about their neighbourhoods also recorded most symptoms of physical and psychological illness. McKennell found that people who were most disturbed by aircraft noise were also more afraid of aircraft crashes, accidents on the road and so on.

The fact that some people are more sensitive than others to defects in their environment should not be interpreted to mean that they are 'simply grousers' (and therefore to be ignored). Often the defects that they complain of are real; other people who do not complain are grateful when they are put right. On the other hand people do not always direct their complaints at their basic problem. The difficulty this poses for research into the human environment is that, having once identified an apparent need and suggested a way in which it could be met, one must then go one stage further. One must try to find examples of facilities of the sort that one thinks are needed and see how they work in practice. Care needs to be taken to ensure that the test population is in fact similar to the population that seemed to need the facilities.

For old people the Building Research Station was able to show:

(*a*) That many appeared to be lonely and bored.

(*b*) That many said that they wanted a common room.

However it was also shown that lonely people's lives appeared to differ from the lives of non-lonely people in only one way. This was that the old people who were not lonely had more visits from relatives. It was not sufficient for the old people to go out to visit relatives, nor to be visited by friends. Because clubs would entail going out and also meeting friends rather than relatives, it seems unlikely that they would greatly help to reduce the incidence of loneliness. On the other hand clubs may help to reduce the intensity of loneliness in individual cases and are, in any case, often wanted by people who are not lonely. The necessary studies of the design and siting of clubs for those who do go remain to be done. Further research into ways of dealing with loneliness also needs to be undertaken. It is possible that the answer may be to site the dwellings for old people centrally so that they can be visited by relatives from all over the town.

Other neighbourhood provisions

Besides the appearance of the neighbourhood, the social status of its occupants, and the community facilities available, other local provisions are important. These include: shops, medical facilities, green open space, access to town centres and the countryside, schools, children's playgrounds, and so on.

People differ in the importance they attach to having various provisions nearby. Thus Chapman (1955) found from studies of both what people said they wanted, and from the factors that caused people to say that a location was inconvenient, that husbands were concerned to be near: 1, work; 2, cinema; 3, sports ground, pub and club. Housewives, on the other hand, wanted to be near 1, shops; 2, a place of worship; 3, cinema, parks and primary school. Foley (1950) found that the young and the old made the most use of local facilities and that socio-economic status was not related to their use. Brennan (1948) found that people working on the estate concerned made more use of local facilities than people working further afield. It is worth reproducing Chapman's table of standards to satisfy 90 per cent of British users. Satisfactory distances of course vary with the distances commonly travelled in the area.

Neighbourhood facility	*Walking distance (one way) from farthest dwelling*
Nursery school	¼ mile
Kindergarten	¼ to ½ mile
Elementary school	¼ to ½ mile
Playground	¼ to ½ mile
Park	¼ to ½ mile
Shopping centre	¼ to ½ mile
Indoor social, cultural and recreational centre	½ mile
Health centre	½ mile

While these results are very useful they refer basically to families with children. As Meyerson (1962) points out only 20 of the 50 years of adult life are normally spent in households of this type. Furthermore not all families share this pattern of values. One knows of families who live in flats in Kensington to whom the definition of children's play is reading. There is room for a great deal more research into the different orders of priority people attach to obtaining various features in the immediate environment. This can be expected to vary with the stage of the life cycle and the values of the family. It will need to take into account other features of the environment which are important to subsections of the population—such as proximity to cafes for teenagers, cultural facilities for intellectuals, 'areas of urban feeling' for architects, and so on. At first sight the problem of instilling order into a field like this is frighteningly large; but then so must the thought of instilling order into the vast number of apparently different chemical substances have been to a pre-Dalton chemist. If it can be successfully tackled it will result in a great advance for psychology and sociology, as well as for building practice.

Effects of environment on the individual

We will now turn to what are, perhaps, the topics which generate the most heat among town planners and policy makers. These are the supposed social effects of the environments in which people live. The sorts of questions we would like the answers to are: What effect does living in cramped housing have on friction within the family? What effect does living in a 'suburban desert' have on the social development of young people? What effect does living in a densely built up industrial area have on the delinquency rate among the inhabitants? And so on.

While we would like to know a lot more about these things we do know something. To this we now turn.

Layout and friendship

A large number of studies (e.g. Merton, 1947, Festinger, Schachter and Back, 1950, Whyte, 1955, Kuper, 1953) have been carried out which, taken together, show that if neighbourhoods are sufficiently socially homogeneous then the layout of estates markedly influences patterns of friendship. The layout of the estate is not the only determinant: friendships are markedly influenced by similarity of interest and such things, but, provided the occupants of an area are of fairly similar social standing, people who live at road junctions—and are thus more likely to meet other people—are more often cited as friends than people who live at dead ends. Similarly people are more likely to be friendly with their neighbours if their doors are placed in such a way that people easily meet. Over time people develop other friendships through work and leisure, and local friendships play a lesser role in the total pattern. With the arrival of children however, contacts with neighbours increase—perhaps for the first time. If the neighbours are of the same social status then contacts which are wanted are set up. These are markedly influenced by layout. If, on the other hand, the neighbours are of different social status then layouts which facilitate contact facilitate conflict.

Even when children are not present the social structure that develops within an area is markedly dependent on the social status of the residents and the differences between them. Whyte (1955) found high degrees of 'neighbouring' among young, high income, middle class, occupants of new housing developments in America. Guttman (1963) found that the pattern was not at all the same for residents in established suburbs. There were far fewer parties and neighbours did not descend on newcomers to help them move in. If the newcomer was a working class person moving into a middle class suburb he was likely to remain isolated for years, because the social skills he had learned were not appropriate to the new group. Middle class people either became involved in the community through contacts their children made or through voluntary associations. Voluntary associations were on the whole poorly attended, but their latent function was to enable newcomers to meet one or two like-minded people and through them to develop a friendship network. One of the mistakes of armchair sociology has in fact been to assume that the more urbanized an area the more dependent people are on formal organizations for making social contacts. Precisely the opposite is the case: the more urbanized the area the more friendships are made through friends and not through formal organizations (Greer and Kube, 1959). In general, however, people are chary of getting too friendly with neighbours. This is partly because people fear the neighbours may intrude into their privacy and partly because people rely a great deal on their neighbours for minor services. If one becomes too friendly one is liable to quarrel and these services would then cease. Maintaining a proper balance poses something of a headache for many people (Mitchell and Lupton, 1954).

There is one other finding which deserves to be mentioned before leaving this area. Many people have assumed that the less stable the population of an area the less likely the people in it are to enter into close personal ties with others. Rossi (1955) found that this generalization was untrue. Mobile areas are often of low social status. High status, high mobility areas do, however, exist and if these are compared with stable areas of low and high status it is found that a person's social status determines the *number* of friends he has. The higher his status the more likely he is to enter into personal ties with others whether these are rela-

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tives or other people. The mobility of the area determines whether these are local or not.

Social pathology

In America it has been well established that slums tend to be not only crime ridden but also extremely costly to the local authority through the need to provide police, public assistance and so on. Much of this money finds its way into the hands of those who own the slums, and these people find them extremely profitable (Rumney, 1951). In Britain the situation is slightly different: the highest rates of Juvenile Delinquency are found on the new housing estates (Manheim, 1948 and later workers).

This contradiction compels us to look for deeper causes. Rossi (1955) suggests that the mobility of the area may be important because the people living in highly mobile areas have fewer local social contacts. Jacobs (1962) suggests that crime flourishes where density is too low for potential law breakers to feel that someone might be watching. There are, however, numerous possible explanations of these differences. The point that needs to be made is that a correlation between housing density and crime does not in itself tell us much about what will happen if people concerned are rehoused. Several studies have shown that those who agree to be rehoused improve considerably in their cleanliness, etc. compared with a matched control group (e.g. Chapin, 1940). However the following table taken from Ferguson (1952) suggests that, in some circumstances at least, it does not lower the incidence of juvenile delinquency. The data were obtained from 1,349 Glasgow schoolboys aged between 8 and 18 years, and it should be noted that 85 per cent of the boys rehoused from the slums had lived in their LEA dwellings since they were 8 years old; some all their lives.

Type of district	*Percent of boys with at least one conviction*
Residential and good working class	6.9
Fair working class	9.1
Bad working class	14.2
Slum	22.3
Local authority slum clearance	21.8
Other local authority houses	6.8

Several studies have demonstrated a positive relationship between the affluence of a community and the incidence of crime, both within and between societies and over time within communities. One of the possible factors that may account for this is the associated increase in leisure.

There is no doubt that leisure does pose a serious problem for some subsections of the community—in particular young people on suburban housing estates. The longing for excitement that causes some young people to fill this time in delinquent ways has its roots in genetics, upbringing and family life (Stott, 1950, 1962); Glueck and Glueck, 1950) but it may well be possible to channel this energy into more worthwhile pursuits.

One of the most important problems facing us is in fact to make adequate provision for the leisure needs of various sections of the population. In America demand for outdoor recreation is rocketing (ORRRC, 1962). What is needed is adequate study of the sections of the population who have different leisure requirements—teenagers, people with cultural interests, people with home centred hobby interests, families with and without children, etc. The facilities themselves also need careful study to find out how they could be improved to suit the people who already use them even better. One wishes to know *who* uses the green belt, what for, how it could be improved for those who do use it, what would attract other people to use it, and so on. The success of bowling alleys in recent years suggest that there is a need for new and different facilities yet to be invented. People are often aware that their lives are not as satisfying as they might be but cannot specify exactly what they want. 'Watford is dead in the evenings; absolutely dead, . . . I'd like to go out but there's nowhere to go. . . . No; I don't know what they should do'; it's up to the researcher to think of possible solutions to such problems and then to carry out further studies to see whether his ideas are in fact correct and to discover any operational snags which may arise when trying to implement his suggestions.

Suburban blight

In intellectual-cosmopolitan circles considerable scorn has been vented on the 'suburban deserts.' They are accused of producing conformity; of breeding a cultureless race dependent on canned entertainment; of producing a seething competitiveness to keep up with the Jones's; of depriving children of contact with their fathers; of producing a passive society; and of producing a society which relies more and more on 'dehumanized' social contacts made through social institutions.

Before considering these oft-repeated criticisms one at a time I should say that I do appreciate that there are more sophisticated versions of them which will be left unscathed by what I have to say. On the other hand the views I have listed are sufficiently prevalent and sufficiently challenging, to merit serious attack.

Firstly: A land of commuters and dormitories.

It has been commonly assumed that most people move to the suburbs to become commuters. This, like so many of the assertions that are made, is an overgeneralization. Many people who move to the suburbs do so to be *nearer* their jobs. Either they have obtained a new job or the firms they work for have moved. On the other hand a disproportionate number of the well off and well educated suburban dwellers do commute (Abu-Lughod, 1960).

Secondly: Passivity.

It is found that suburban dwellers are, on average, *more* active than town dwellers; they have more informal contact with their friends and relatives and take more part in leisure activities and belong to, and take more part in, formal organizations. The perceptive reader will of course ask whether this is an *effect* of area of residence or a consequence of the sort of people who live there. When people of the same occupational class are compared it is, as might be expected, found that there is no difference; area of residence does NOT affect such things. (Mayntz, 1960; Greer and Kube, 1959).

Thirdly: Aculturalization.

It is true that suburban residents are less interested in culture than intellectual-cosmopolitans even with social class held constant. If, however, one considers *all* city-centre dwellers, more of the suburb-dwellers are interested in culture. On the other hand those who move from the city to the suburb are in general people who are already uninterested in culture. They move there because they *want* their gardens and their 'mundane' hobbies. (Gans, 1963).

Fourthly: Competitiveness.

Once again the accusation could mean a number of things. Suburban dwellers *are* keen to get on and be better than their fellows. On the other hand they do not normally compete on the trivial house-and-garden level that is commonly assumed: they compete through their jobs. They *enjoy* working on their home and garden; many moved to the suburbs in order to be able to engage in these hobbies. Pursuit of them is not an effect of suburban living, nor is it an effect of living in a house one cannot really afford or an effect of having to keep pace with the neighbours; it is a way of life that is actively strived for. (Gans, 1963).

Fifthly: Paternal Deprivation.

This is simply answered. In spite of increased journey times fathers spend *more* time with their families than they did before. This is partly achieved by pursuing home-centred hobbies rather than cultural-cosmopolitan ones.

Sixthly: Social Isolation.

There are in fact no differences in social isolation and mental health between old and new housing estates that are attributable to differences in amenities. (Hare and Shaw, 1965).

The fact that many of the stereotyped accusations are untrue does not mean that all is well in the suburbs. Many people are *not* well provided for there but, because neighbourhoods suited to their needs have not been defined, let alone built, they are forced to live there. Cosmopolitans live there in order to raise their children in an environment that they consider suitable for children—not for themselves. They are irritated by the lack of cultural facilities and complain. Teenagers live there and, if they come from groups that do not have homework to do, are bored. (If they can afford it they move into flats in town centres: Her Majesty's Government, 1962.) Working class people *are* short of money and find the house a restriction and a source of financial worry; they lack the social skills necessary to make friends with their middle class neighbours; they cannot afford cars and are more tied to the suburbs. Like the cosmopolitans they need neighbourhoods suited to their needs. Let us do the research necessary to decide upon the main groups of the population who have different needs.

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The Industry: New Products

Sanitary fittings

The Cornell University report* on bathrooms was in part sponsored by American-Standard, makers of sanitary fittings, and in this country Ideal Standard have produced some prototype fittings based largely, though not entirely, on the report's recommendations. 1 shows the new appliances, which include a washbasin, bath, low-level w.c. and a semi recessed wall mounting urinal. The basin consists of a wide bowl with wall mounted controls and an outward and upward spray. The bowl is large enough to wash hands and forearms without water dripping off one's elbows on to the floor and women can wash their hair without hitting their heads on the taps. The basin should be available by the time these notes appear. The bath embodies the somewhat involved shape recommended in the report for reclining, and when tested (clothed) on a timber mock-up it proved to be more comfortable than it looked. With an overall length of about 6 ft. with 22 in. high sides, it is possible to submerge oneself completely, which should be a welcome change from the current 5 ft. 6 in. and even 5ft. baths which make washing a business almost devoid of pleasure. Taps and water entry are at the centre of the outer side and there is a 7 in. ledge at the foot which makes it easy to get into the bath and can also be sat on to wash feet and legs.

The w.c. has a low level bowl only

*Reviewed in Skill, AR October 1966.

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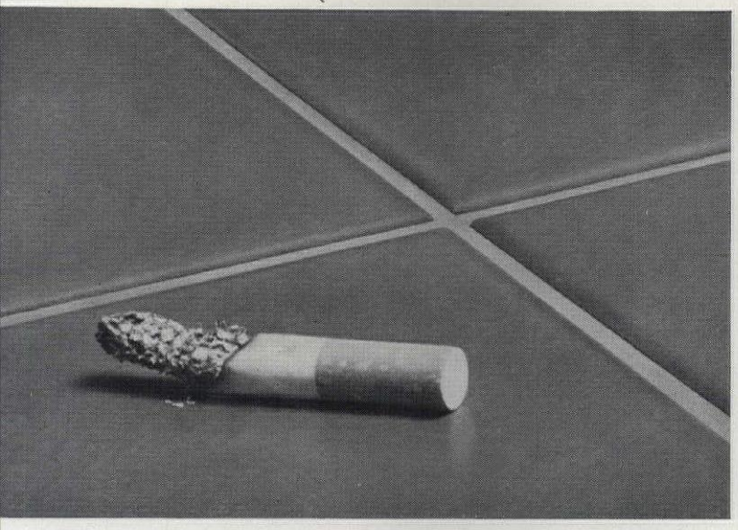
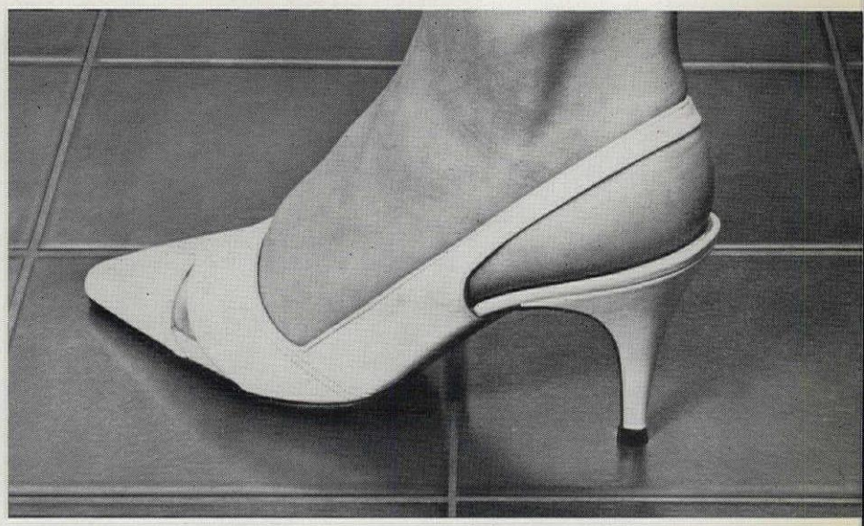
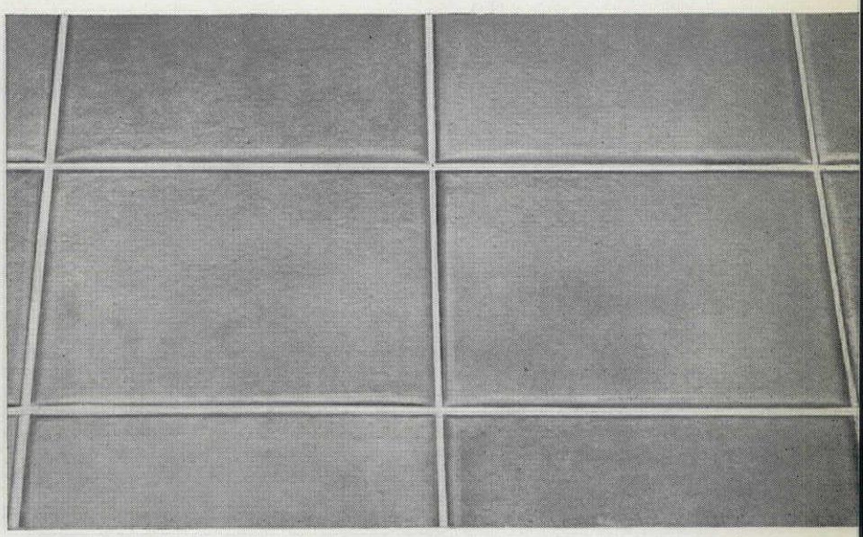
It's what British Ceramic Tiled Floors won't do that will save money





They won't stain or burn or dent



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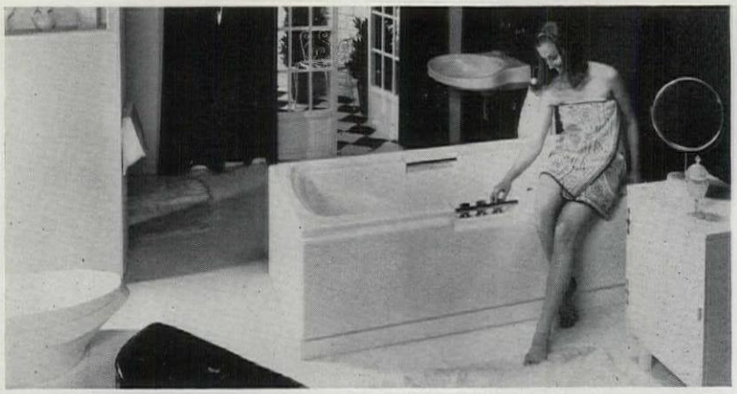

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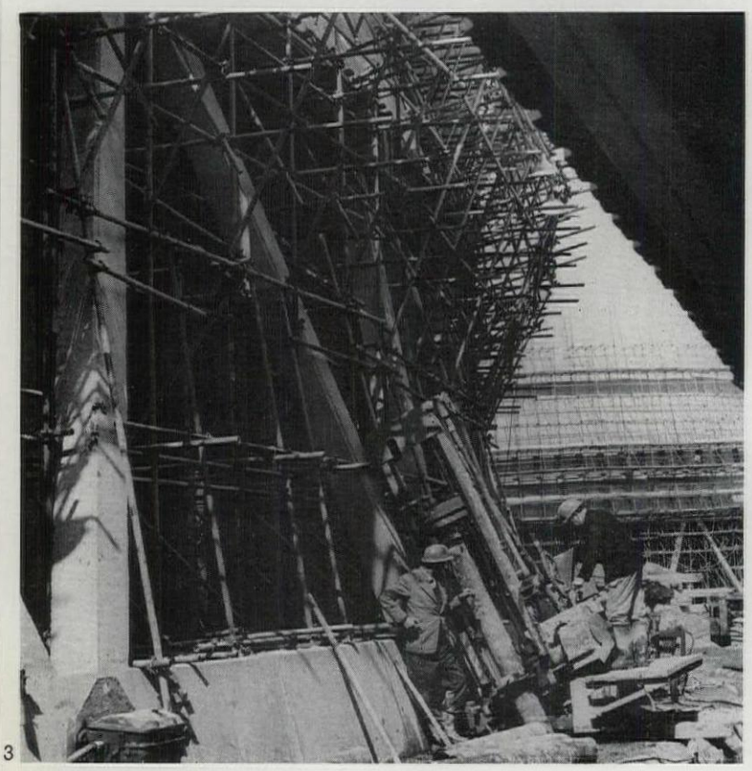

3

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9 in. above floor level giving a posture which is almost the equivalent of a squat plate. For use in conjunction with this is a wall urinal for semi-recessed mounting and a hinged lid, but work is in hand on a combined unit. Before announcing these designs Ideal Standard carried out a survey in this country and found that only 11 per cent regarded bathroom fittings as a first priority and that their ambitions involved little more than the purchase of a matching set. Since the report postulates increased bathroom space when areas in this country are being steadily reduced, it must have needed a good deal of courage to market these fittings. One can only admire an organization which helps with basic research and then follows the recommendations.
Ideal Standard Ltd., Ideal Works, Hull, Yorks.

Toughened glass doors

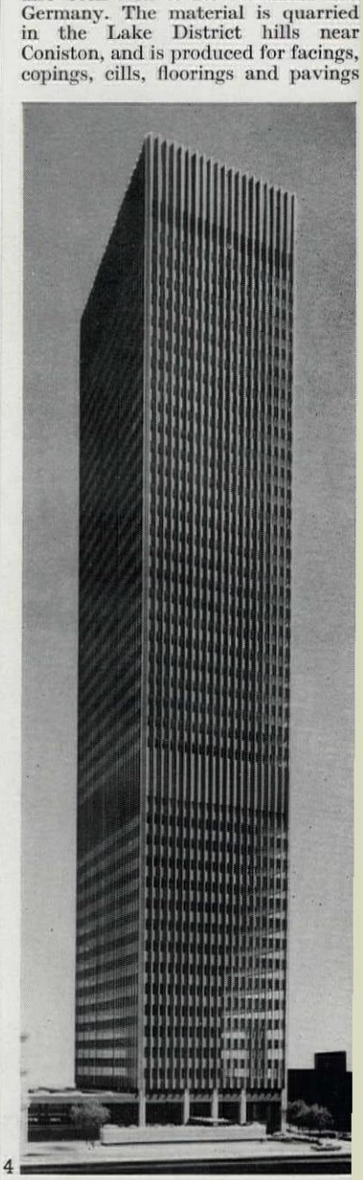
Blackfriars toughened glass doors and side panels offer wide scope in design for office and shop entrances, as they can provide full security and at the same time give extra display area. 2 shows an entrance to a Rank showroom where the doors have a rail along the foot and patch corner fittings to take the top pivots. The transom panel is braced by $\frac{3}{4}$ in. toughened glass fins suspended from metal brackets fixed at the head, the whole entrance, which is 13 ft. high, showing a minimum of metalwork. The No-Gap door is also a useful fitting as there is only a space of $\frac{1}{8}$ in. at the hinge side whether the door is open or closed, a circular section metal stile being fitted so that fingers, particularly of children, cannot be trapped. Clark-Eaton also make a wide range of sliding and folding doors, the former being available with automatic opening by pressure pads in the floor or photo electric cells.
James Clark & Eaton Ltd., The Glass Centre, Great Suffolk Street, London, SE1.

New piling system

Readers will no doubt recall the astonishing collapse of three cooling towers at Ferrybridge power station. While the three towers are being rebuilt the remaining five are being given an additional reinforced concrete skin. The tricky problem of supporting this skin with extra foundations has involved about forty groups of from four to eight piles round each tower, each group carrying a cap for the new skin supports. The Pali Radice piling system, evolved in Italy and now available in this country, was used. This system is based on special drilling equipment which can operate vertically or at an angle and will penetrate almost any material, including rock or reinforced concrete, to produce in situ reinforced concrete piles with a high frictional resistance. A tubular steel drill with a cutting edge is used, water being used to wash the drillings back to ground level. A reinforcement cage is fed into the drill casing and the concrete is added as the casing is withdrawn. At Ferrybridge, 3, the piles were raked at an angle of about 1 in 3.
Fondedile Foundations Ltd., 100 Park Lane, London W1.

Slate for building work

One does not often think about the export of heavy building materials across the Atlantic, but it is interesting to note that Broughton Moor slate—about 125,000 square feet of it—was used on the 600-ft. Canadian Bank of Commerce in Montreal, 4, designed by Peter Dickinson Associates. Supplies have also been sent to New Zealand and Germany. The material is quarried in the Lake District hills near Coniston, and is produced for facings, copings, cills, floorings and pavings



4

and fireplaces—and of course fo roofing. It is available in severa shades from pale to olive green an in an attractive blue-black colou quarried near Ambleside. Variou finishes are available from naturall riven, frame sawn and finely rubbe to a smooth sanded finish. Sills an window linings are available i lengths up to a maximum of 8ft. an the blue-black slabs can be made u to 8ft. × 3ft. 6in. or even larger.
The Broughton Moor Green Slat Quarries Ltd., Coniston, Lancs.

Carports and canopies

Moderector carports and canopies ar lightweight tubular steel construc tions carrying various grades of clea translucent or wire reinforced p.v.c sheet or even, if cost has to be kep to a minimum, asbestos cement. Th framework, with $1\frac{1}{2}$ in. vertical or V shaped, supports, 5, needs to be con creted in to a depth of about 14 in. but simple flange fittings can be use for fixing direct to an existing con crete hardstanding. The canopies ar freestanding or fixed to the house a

[continued on page 24

5

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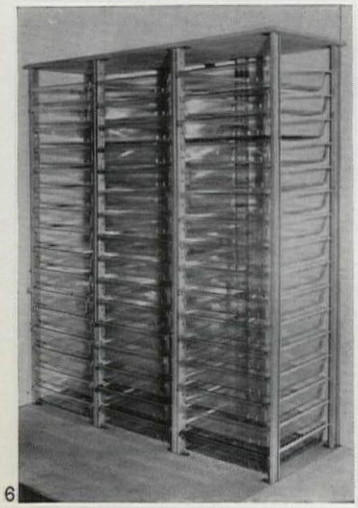
the end or along one side, and can also be fitted with side sheeting when required. The roof frame is a box made of 2in. by 4in. steel sections and can be set up with a fall to carry off rain; standard plastic guttering and downpipe can be easily fitted. The canopies start at 6ft. square and are made in a number of widths and lengths up to 36ft. by 10ft., all with a headroom of 6ft. 6in. Canopies can be set up side by side to cover even larger areas. There should be little difficulty with planning permissions, though some local authorities may insist on the use of wire reinforced sheet for fire reasons.
Moderector Ltd., The Green, Datchet, Bucks.

Storage equipment

The Gratnell storage system, 6, is based on a series of polystyrene trays, either glass clear or white, 3½ in. deep with rounded corners and an integral pull handle across the front edge. They can be used in various ways, built into wardrobes, used under draining boards or built up as vegetable racks, and they have also been used in hospitals, museums, laboratories and for shop storage and displays. The trays can be used in various ways, with supporting frames or with individual slides for side or top fixing, and there is also a range of uprights having slots at a spacing of 2 in. so that the trays can be adjusted to any required height. Wire baskets are also made, stove enamelled white and interchangeable with the trays, and there is a range of shelf brackets which slot into the uprights.
Gratnells Ltd., 31 *Queen Anne's Gate, London, SW*1.



6

Contractors

Cripps Building, St. John's College, Cambridge. *Architects:* Powell & Moya. *General contractor:* John Laing Construction Ltd. *Sub-contractors: Foundations:* McKinney Foundations Ltd. *Concrete frame:* John Laing Construction Ltd. *Steel reinforcement:* GKN Reinforcements Ltd. *Partition blocks:* Thermalite Ytong Ltd. *Hyload dampproof course:* Ruberoid Co. *Dampproof membrane:* Tretol Ltd. *Squash courts roof steel:* Skeleton Steel Co. *'Bricktor' reinforcement:* Johnson's Reinforced Concrete Engineering Co. *Floor tiles:* Leeds Fireclay Ltd. *Wall and floor tile laying:* Bryon & Co. *Artificial stone stair treads and skirtings:* The Cambridge Artificial Stone Co. *Wood block flooring:* J. A. Hewetson & Co. *Joinery:* John Laing Construction Ltd. *Sliding screens:* Veneercraft Ltd. *'Wykamol Plus' worm prevention:* Richardson & Starling Ltd. *Squash courts floors:* Vigers, Stevens & Adams Ltd. *Squash courts ceiling board:* The Tentest Co. *Painting:* J. H. Magor & Co. *Paint:* Hadfields (Merton) Ltd. *Plastering and screeding:* M. J. Shanley Ltd. *Granolithic flooring:* PB Industrial Flooring Ltd. *Flush doors:* Leaderflush (Doors) Ltd. *Linoleum:* Armstrong Cork Co. *'Bourne seal' floor seal:* Floor Treatments Ltd. *Paint for stair balustrades:* British Paints Ltd. *Ironmongery:* Metal Agencies Co. *Bolts in bronze doors:* The Wessex Guild Ltd. *Curtain track:* Silent Gliss Ltd.; Harrison (Birmingham) Brassfoundry Ltd. *Sliding door gear:* E. Hill Aldam & Co. *Bending curtain track:* Albion Iron & Wirework Co. *Floorsprings:* Alpha Architectural Ironmongery Ltd. *JCR foot rails:* A. E. Shaw Ltd. *Lock system:* Josiah Parkes & Sons. *Staircase balustrades:* A. E. Shaw Ltd. *Indicator boards, cupboard handles, piano hinges:* Pianoforte Supplies Ltd. *Cycle racks:* Alfred A. Odoni & Co.; Stelcon (Industrial Floors) Ltd. *'Eternit, worktops:* G. R. Speaker & Co. *'Quick' hinges and drawer slides:* S. Greenman Ltd. *'Ogro' ironmongery:* Group Sales Ltd. *'Fix' hinges:* Tomo Trading Co. *Main gate and railings:* Pianoforte Supplies Ltd. *Bronze letters:* Design Engraving Ltd. *Sump pump:* Sumo Pumps Ltd. *Window manufacturers:* Pianoforte Supplies Ltd. *Bronze suppliers:* McKechnie Brothers Ltd. *Glass manufacturers:* Pilkington Bros. *Glazing:* Aygee (Glass) Ltd. *Double glazing:* Multiglass Ltd. *Mastic:* Storry Witty & Co. *Window controls:* Arens Controls Ltd. *Workshop steel windows:* Smith Bros. (Tividale) Ltd. *JCR windows:* A. E. Shaw Ltd. *Electricial installation:* James Scott & Co. *Sub-station gear and supply:* Eastern Electricity Board. *Mechanical services:* William Freer Ltd. *Mechanical services to squash courts:* Kershaw Heating Ltd. *Oil tanks:* Borsari & Co. *Sanitary fittings:* Stitsons Sanitary Fittings Ltd. *Stainless steel sinks:* Stainless Steel Sink Co. *Plumbing and drainage:* William Freer Ltd. *Roof outlets:* Petalon. *'Mira' shower valves:* Walker Crosweller & Co. *Telephones:* Telephone Rentals Ltd. *Portland stonework:* The Stone Firms Ltd. *Leadwork:* William Freer Ltd. *Concrete edge beams:* John Laing Construction Ltd. *Precast concrete window frames:* W. & C. French Ltd. *Gritblasting:* Dustless Gritblasting Co. *'Clipstrip' on roof joints:* Secomastic Ltd. *JCR plastic rooflights:* Williaam J. Cox (Sales) Ltd. *Workshops patent glazing:* Mellowes & Co. *Asphalte and roof paving:* Limmer & Trinidad Co. *"Seelastik,' mastic:* Expandite Ltd. *Squash courts roof slating:* Tanner & Hall Ltd. *Masonry slots:* Harrison & Edgar Ltd. *Paint for gates and railings:* Griffith Bros & Co. *Main Bin Brook sluice gate:* Ham, Baker & Co. *Blue engineering bricks:* Aldridge Brixancole Ltd. *Basement gates:* Pianoforte Supplies Ltd. *Black concrete copings:* The Cambridge Artificial Stone Co. *Mooring rings and punt-rollers:* D. Mackay, Engineer. *Cast iron bollards:* Lion Foundry Co. *Gate to lake:* A. E. Shaw Ltd. *York stone:* Joseph Brooke & Sons. *Tree-felling:* East Anglian & Metropolitan Tree Surgery Co. *Granite setts:* F. J. Dangerfield & Co. *Cycle blocks:* Stelcom (Industrial Floors) Ltd. *Car park gravel:* George Webb. *Tyrolean render:* John Laing Construction Ltd. *Gate hinges:* A. E. Shaw Ltd. *Fire pots:* The Cambridge Artificial Stone Co. *Signwriting:* Swainland & Son. *Bronze letters:* Design Engraving Ltd. *Gyp room clothes driers:* Anodised Products Ltd. *Towel rails:* Metlex Industries Ltd. SQUASH COURTS: *Special plaster:* British Gypsum Ltd. *Teak oil:* G.S. Export & Import Ltd. *Patent glazing:* Mellowes & Co. *Timber flooring:* Vigers, Stephens & Adams Ltd. *'Bourne Gleem' floor seal:* Floor Treatments Ltd. *Tentest 'Tenline' insulation board:* The Tentest Co. *Non-slip nosings:* Safety Tread Ltd. *Special exterior doorhandles:* Pianoforte Supplies Ltd. *Black concrete cills and copings:* The Cambridge Artificial Stone Co. *Welsh slate roofing:* Tanner & Hall Ltd. *Structural steelwork:* Skeleton Steel Co. WORKSHOPS: *Panga-panga woodblock flooring:* J. A. Hewetson & Co. *Standard metal windows:* Smith Bros. (Tividale) Ltd. *Electrical work:* James Scott & Co. *Heating and plumbing:* Kershaw Heating Ltd. *Drainage:* William Freer Ltd. *Patent glazing:* Mellowes & Co.

Concert Hall, Snape, Suffolk. *Architects:* Arup Associates. *General contractor:* Wm. C. Reade of Aldeburgh Ltd. *Sub-contractors: Roof and slating:* Wm. Brown & Co. (Ipswich) Ltd. *Electrical:* Wm. Steward & Co. *Heating and ventilating:* Norris Warming Co. *Waterproofing:* Sealers (London) Ltd. *Hardwood and cork flooring:* Hollis Bros. *Kitchen equipment:* The Caterers Mart. *Stage steelwork:* Robert Stevenson (Structural) Ltd. *Steel staircase:* S. W. Farmer & Son. *Screw jack for stage:* Equipment & Engineering Co. *Roof slates:* Turners Asbestos Cement Co. *Ironmongery:* G. & S. Allgood Ltd. *Fire fighting equipment:* Dunford Fire Protection services Ltd. *Opera lighting and controls:* Strand Electric & Engineering Co. *Sound reinforcement:* Sound Systems Ltd. *Auditorium seating and restaurant tables:* Wrinch & Sons.

Air Terminal, West London. *Designers:* Conran Design Group. *General contractor:* A. A. Knight. *Sub-contractors: Shop front:* Barnes Shopfitters. *Lighting:* Rotaflex; Courteney Pope.

House, Shalford, Essex. *Architects:* Edward Samuel and Partners. *General contractor:* Tanner & Wicks. *Sub-contractors: Windows:* Crittalls Manufacturing Co. *Internal doors and frames:* Swedoor. *Door furniture:* G. & S. Allgood Ltd. *Cupboard folding doors:* Lenscrete Ltd. *Roof tiles:* Marley Tile Co. *Cork floors:* Wicander-

House, Strand-on-the-Green, London. *Architect:* Timothy Rendle. *Sub-contractors: Insulation:* Jablo Group Sales. *Water tank:* Sussex Cistern. *Electric fittings:* Wandsworth Electrical Manufacturing Co. *Floor tiles:* Ruobon. *Wood preservative:* Solignum. *Sanitary fittings:* Boldings; Shanks. *Stainless steel sink:* Harold Moore Maid. *Bells:* Freidland. *Door furniture:* Union Rondo; Yannedis. *Plastic butts:* James Collins (Birmingham) Ltd. *Spiral staircase:* Truscon. *Handrail:* H. & C. Davis. *Sealants:* 3M. *Roofer:* Standard Flat Roofing Co. *R.C. spacers:* Plasclip Ltd.

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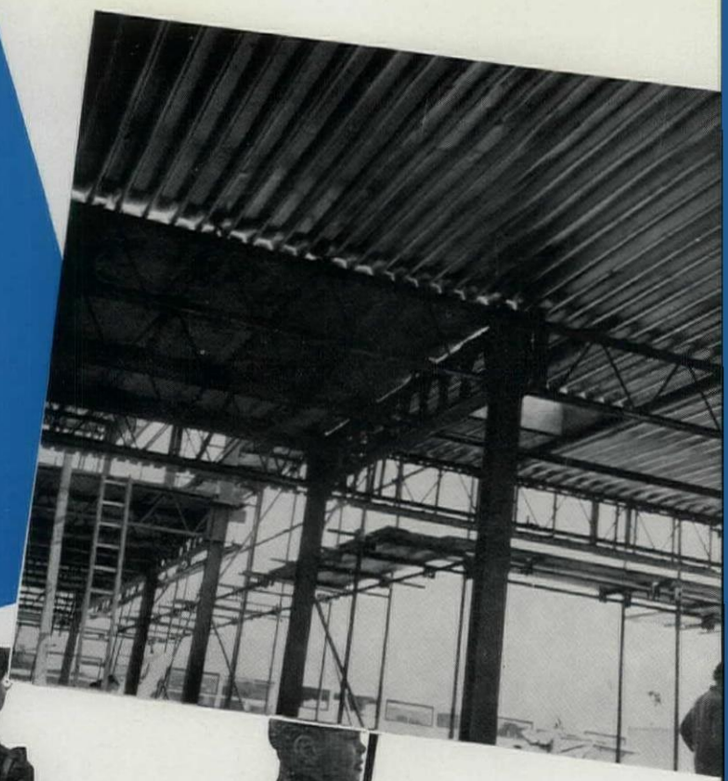

* The South Eastern Architects Collaboration, the major members being the Architects Departments of the County Council's of Hertfordshire, Kent, Essex, and the Ministry of Public Building and Works and the Department of Education and Science.

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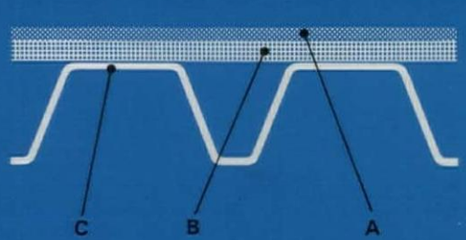

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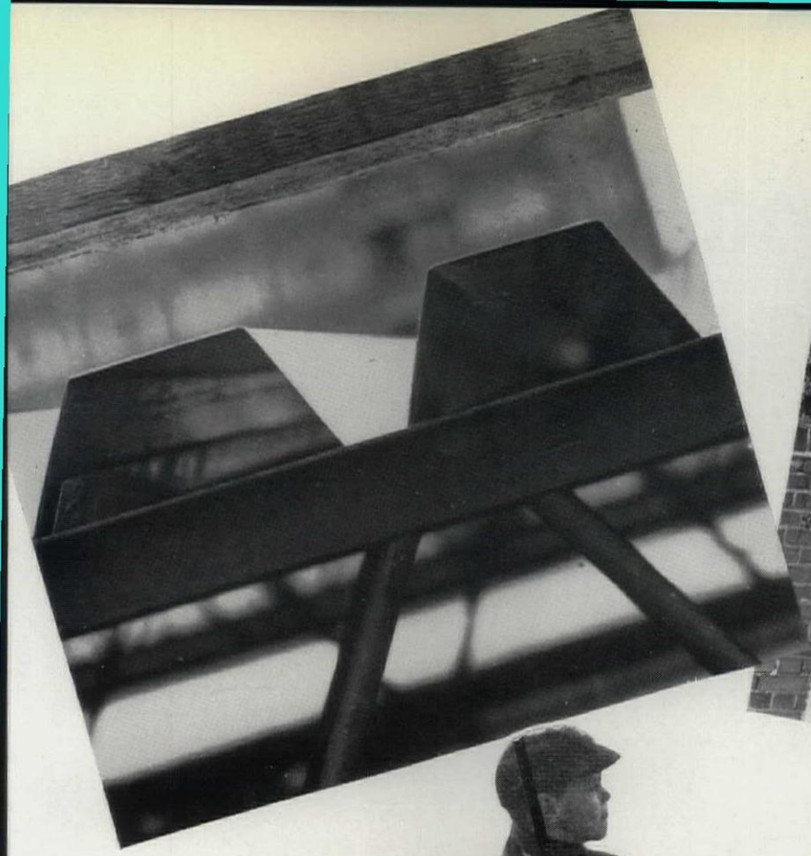

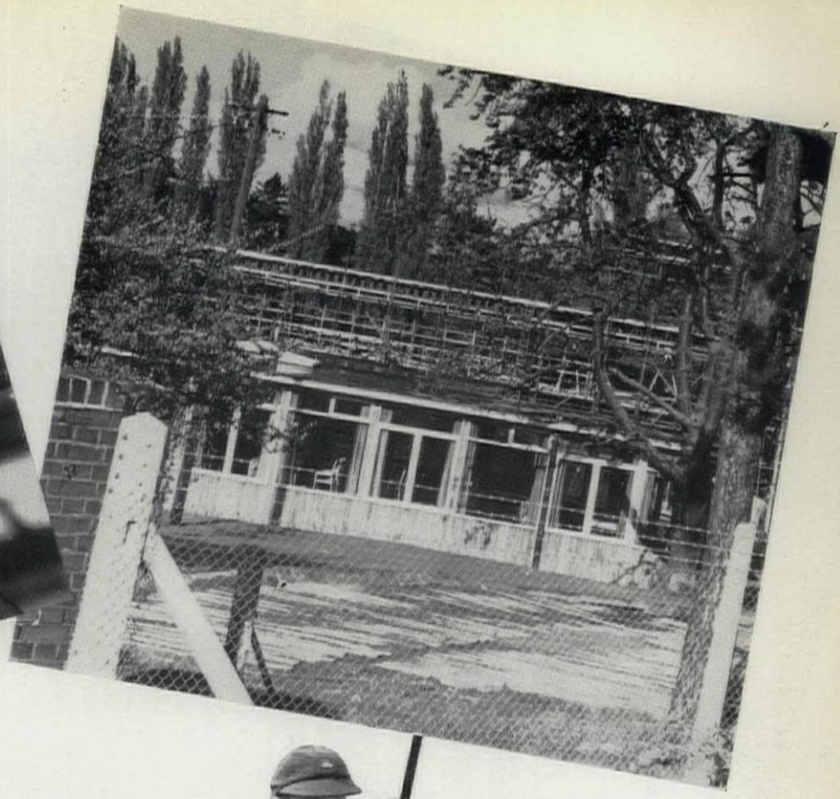

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STOP PRESS

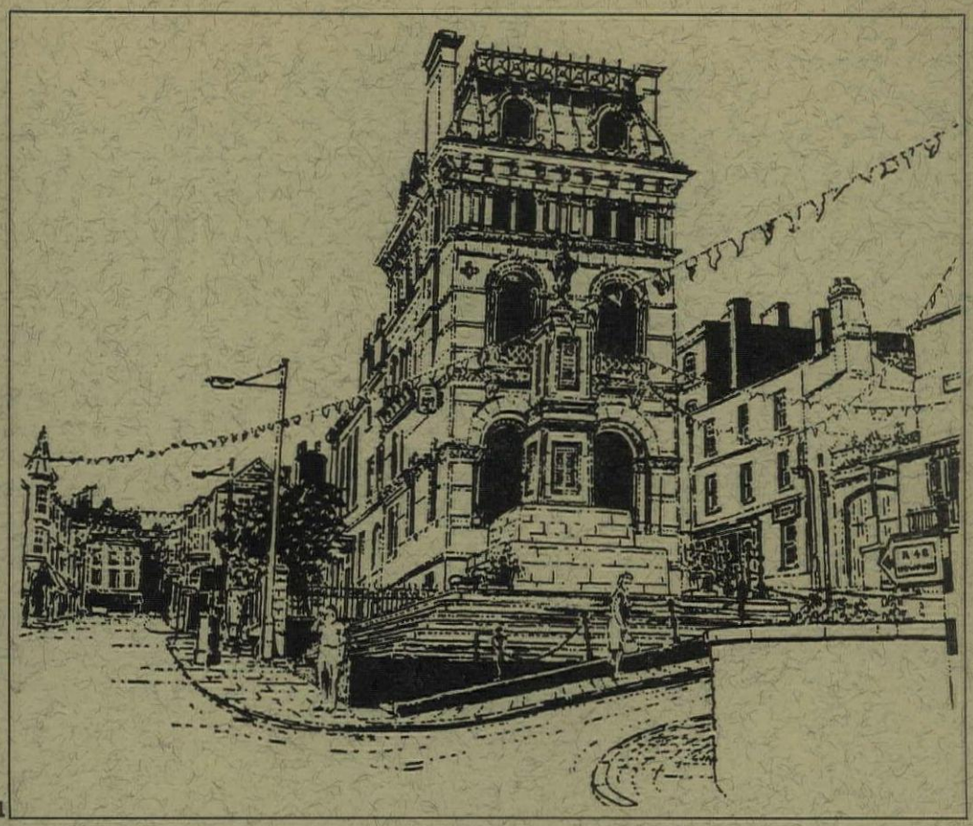
A monthly anthology from all over Britain of townscape problems, outrages and opportunities, compiled by Ian Nairn, with drawings by G. J. Nason.

S.O.S.

CHEPSTOW, MON
And very urgent too; the grandiose mid-Victorian Barclays Bank which dominates the Market Place, 1, is about to be replaced by something much smaller. It seems to be in good condition —indeed, it has been cleaned in the last few years—and as a signature for the town centre it is indispensable: Chepstow is the market-place-with-the-big-bank. Is it too late for second thoughts?

CARLUKE, LANARKS
Lowland Scotland's own miniature Gaudi, in the shape of a cinema entrance and

2



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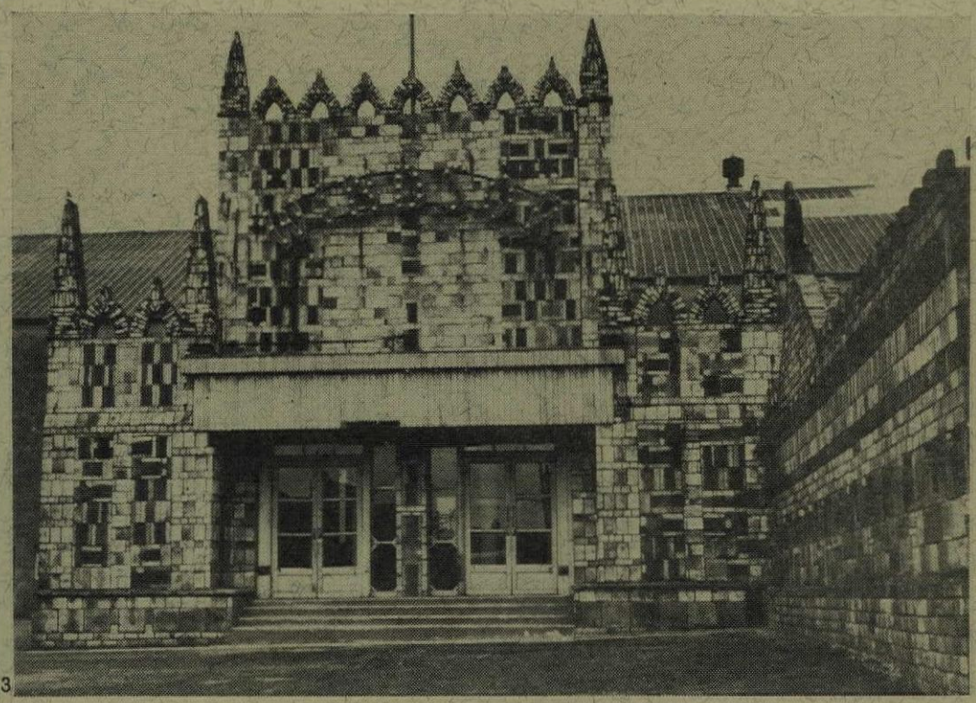


3

facade, 2 and 3. The building has recently closed and action will be needed very quickly. Follies like this are all too easy to remove.

OUTRAGE

SARRATT, HERTS
A new parish hall, 4, a miserable addition to one of the very best villages near London: a wide green lined with cottages that have—so far—managed to avoid any hint of Metroland, even though it is midway between Watford and Chesham.

BARNHAM JUNCTION, SUSSEX
Architecture as she is still spoke in the backwoods, 5. The environment with

4

5

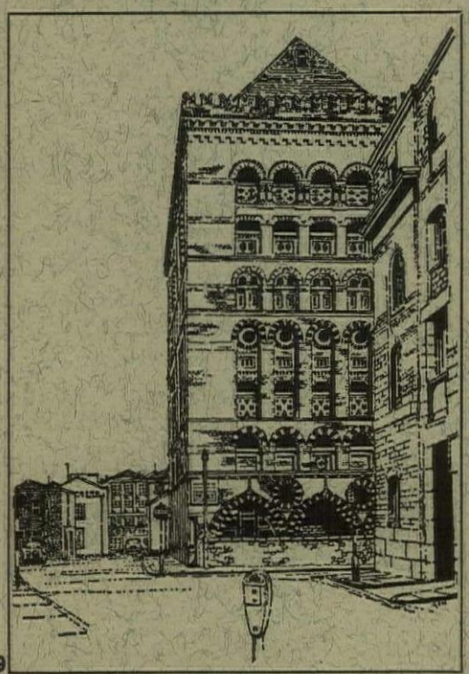
which this design is supposed to be conforming is a main-road collection of cottages of all dates and sizes, predominantly Victorian.

FRIMLEY, SURREY
Village-centre, new style, 6, all converted since 1950 from what was originally an unexciting but genuine village street. I know; I grew up here, and now feel no urge to revisit my childhood haunts.

MIDHURST, SUSSEX
The visitors' entrance to Cowdray Park, where eighteenth-century gates on the axis of the ruins have been replaced by a supremely inept piece of municipal trim, 7. Surely no other country in Western Europe would have so little respect for its historic buildings and so little self-respect in its new designs.

CREDIT

CHIPPERFIELD, HERTS
An unpretentious but elegant conversion from barn to bus-shelter, 8, in which the old building gains through imaginative re-use. Something like this might possibly have been the right solution at Midhurst.



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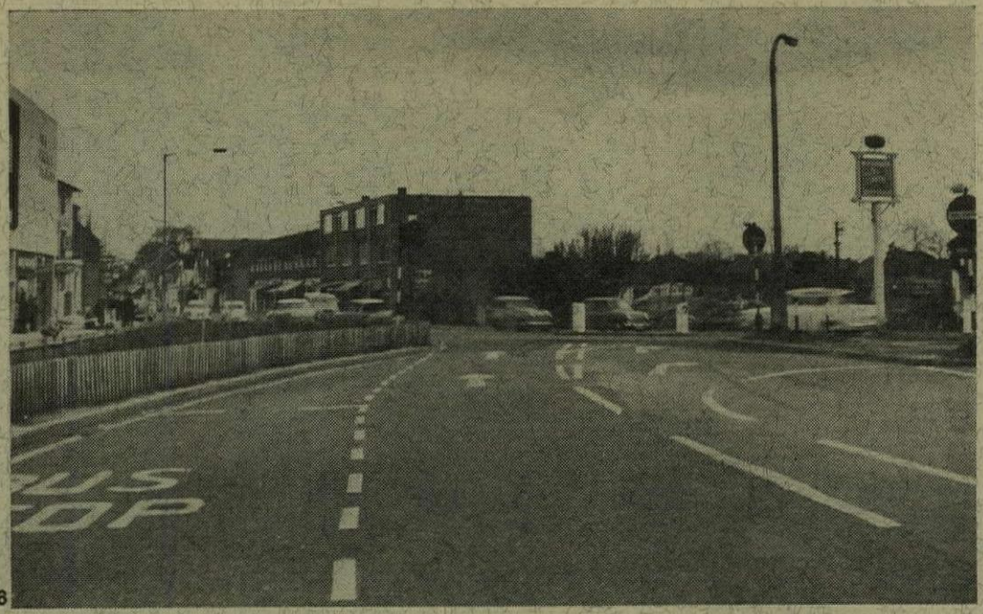
BRISTOL
The corporation have succeeded in finding a tenant for the warehouse on Welsh Back, 9 (see Stop Press, February 1967). It will become an Acker Bilk licensed jazz club, a splendid change of use which should suit this hairy monster of a building very well.

OPPORTUNITY

LEIGHTON BUZZARD, BEDS
A good eighteenth century house in the market place, 10. Everything seems fine until you take a closer look at the empty rooms and broken window above the modishly styled Eastern Electricity. Surely, in a town which is near-suburban, in a county which has a big immigrant brickworks population, there is an opportunity to convert into flats.



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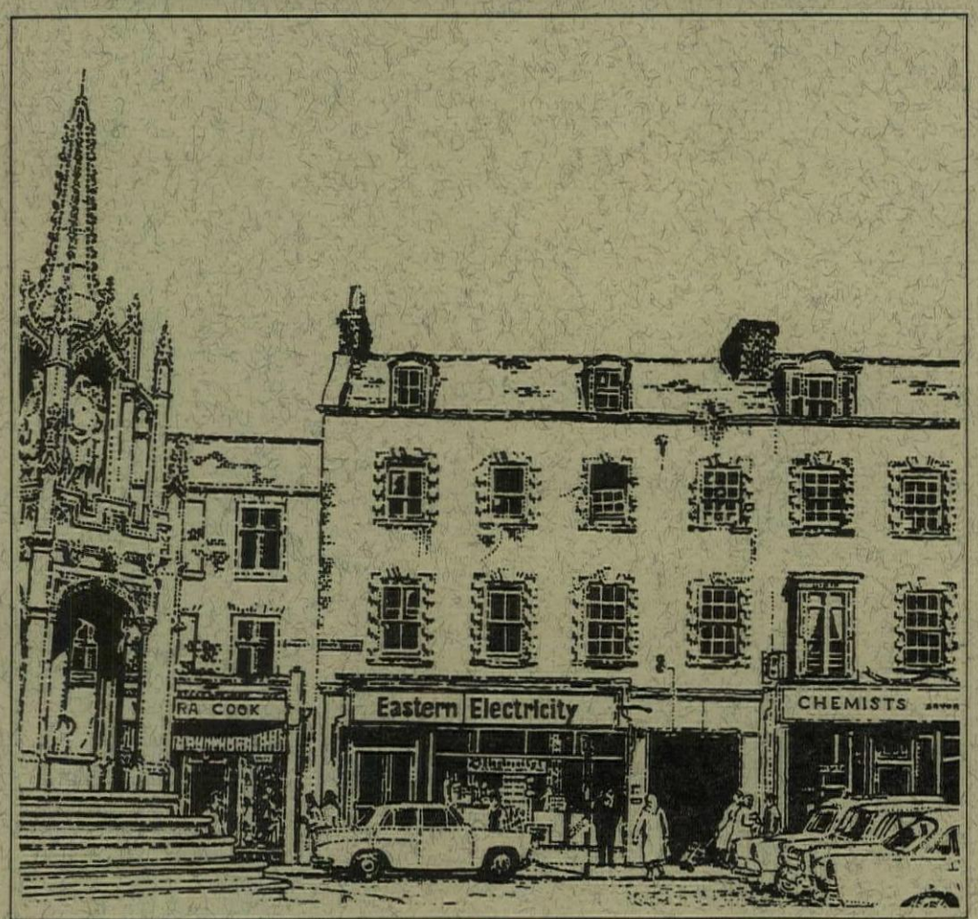

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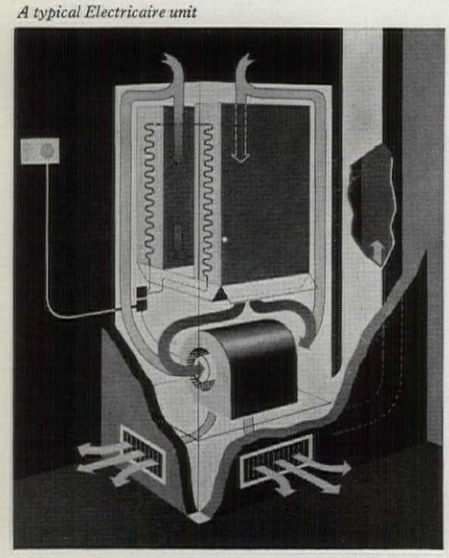

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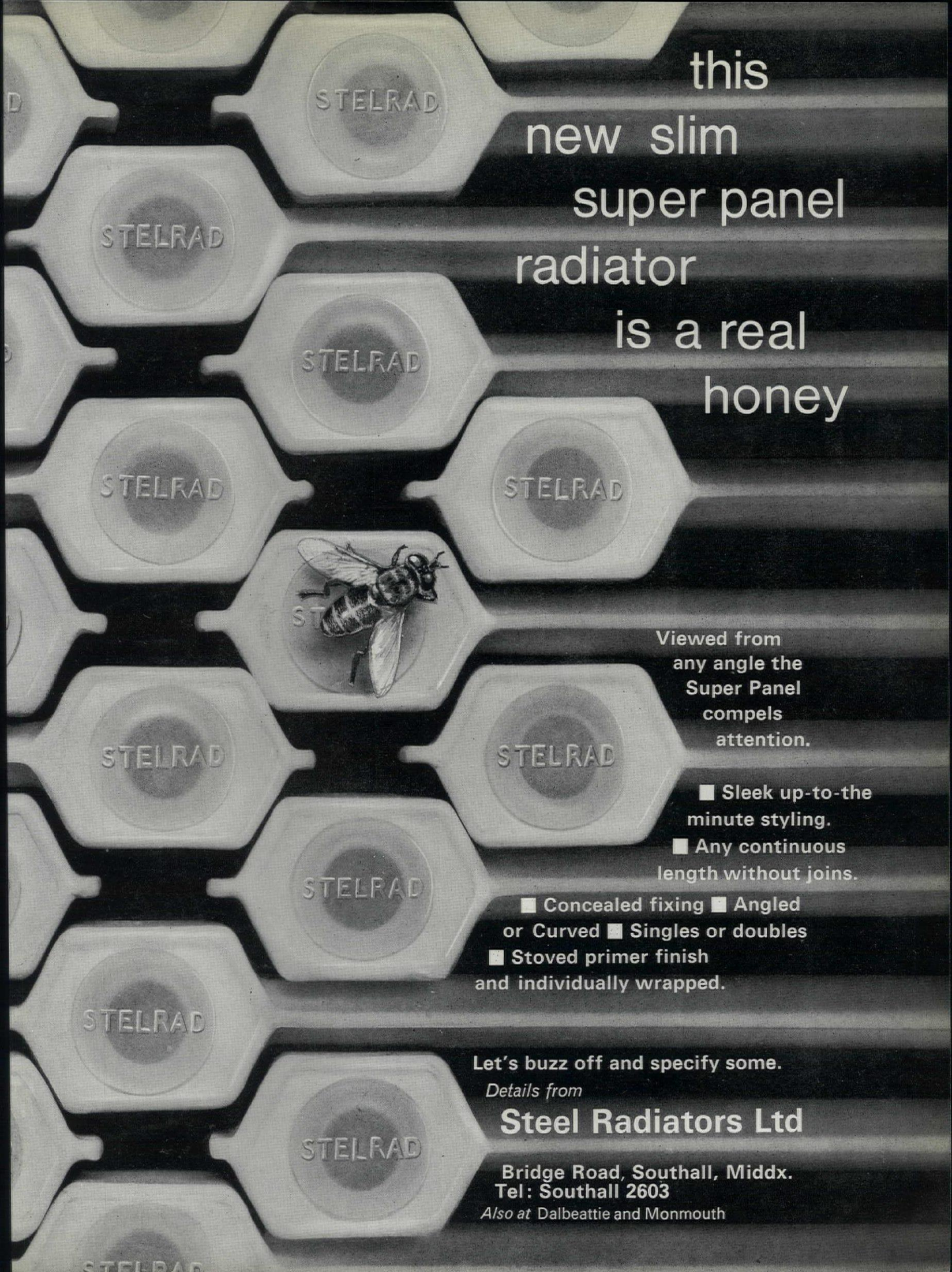
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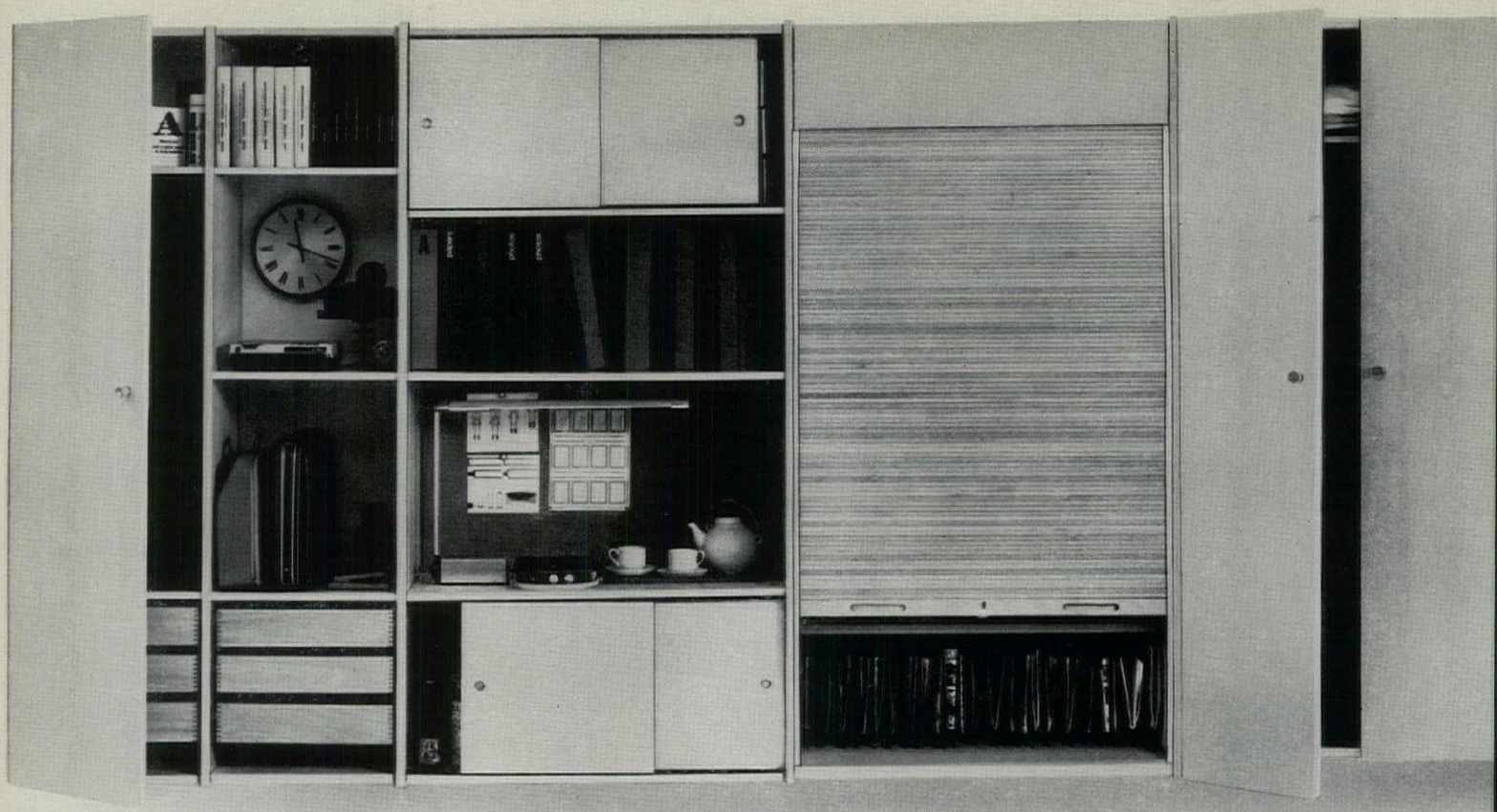

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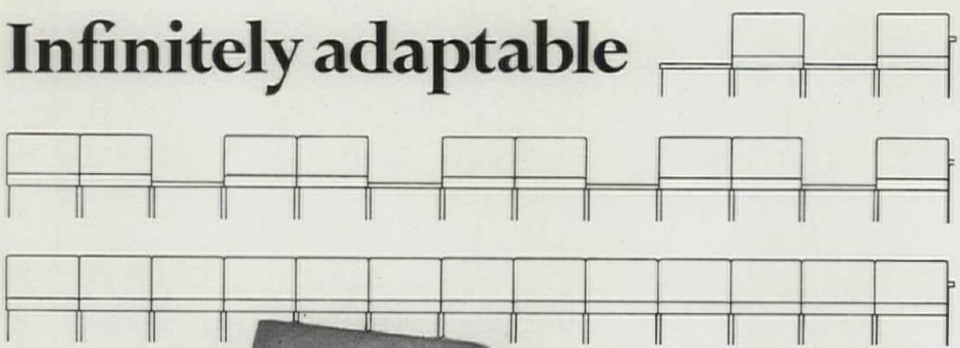

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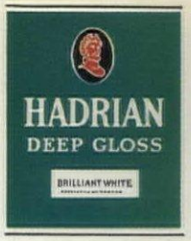

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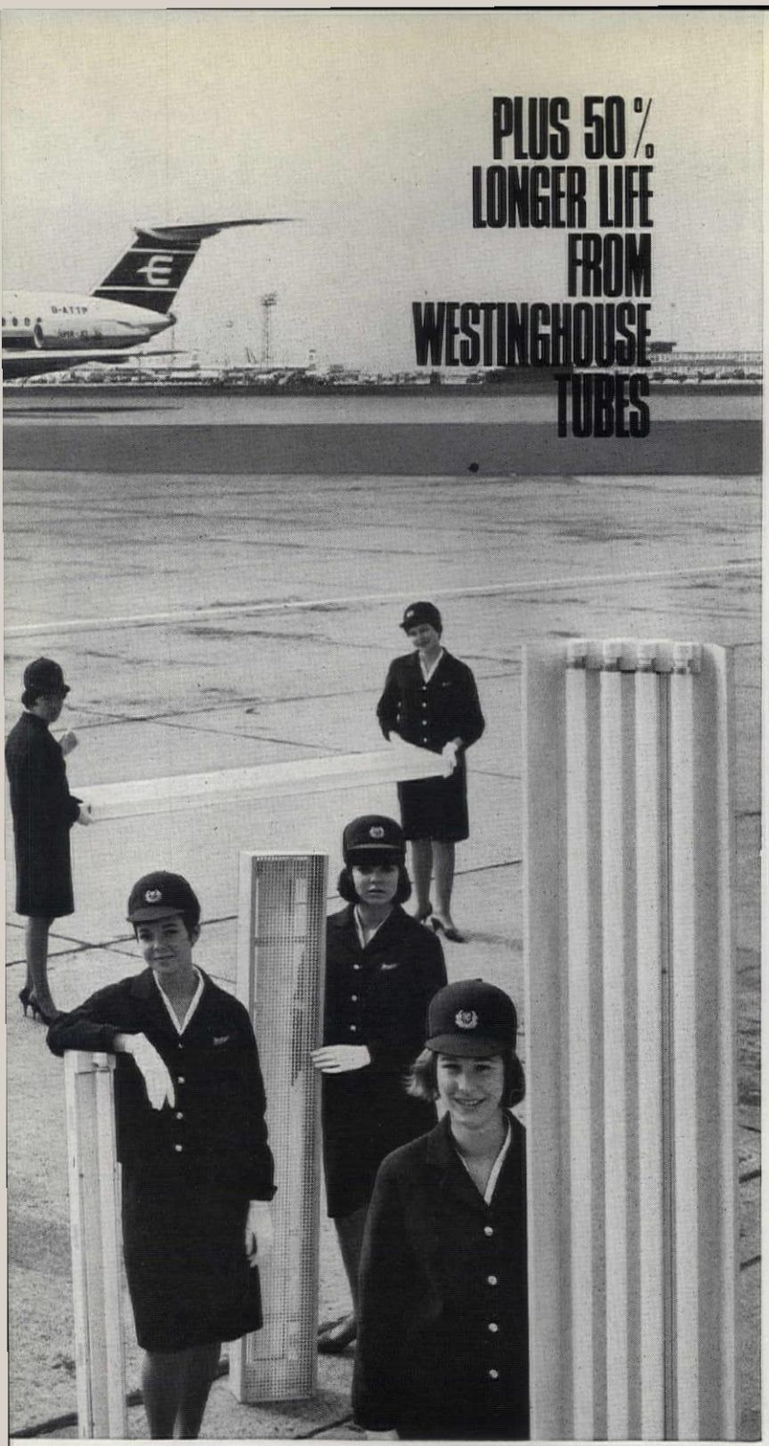

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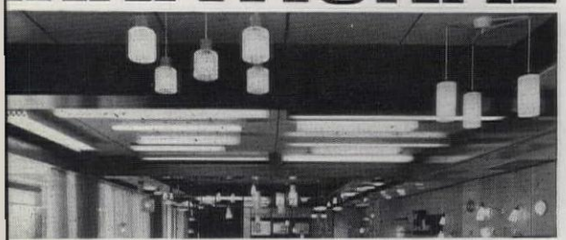

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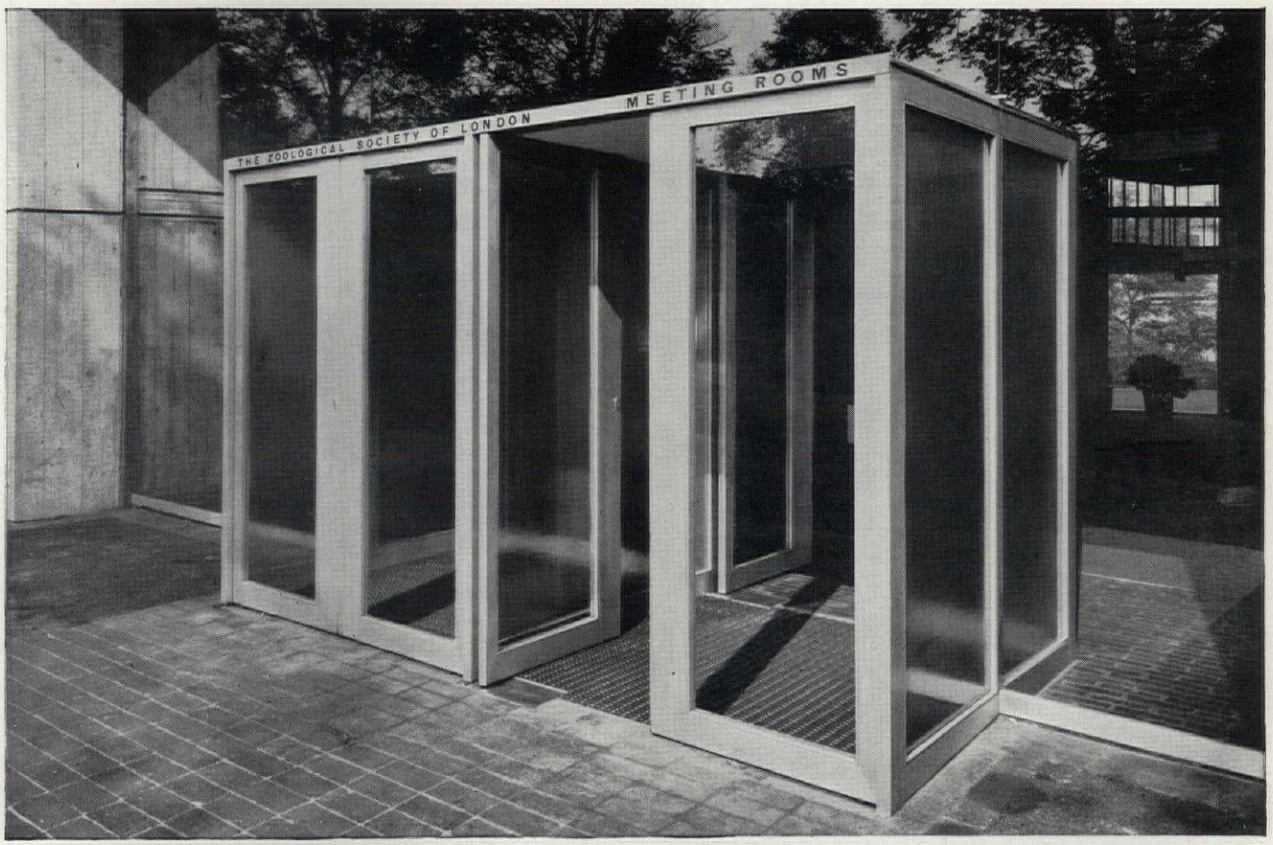

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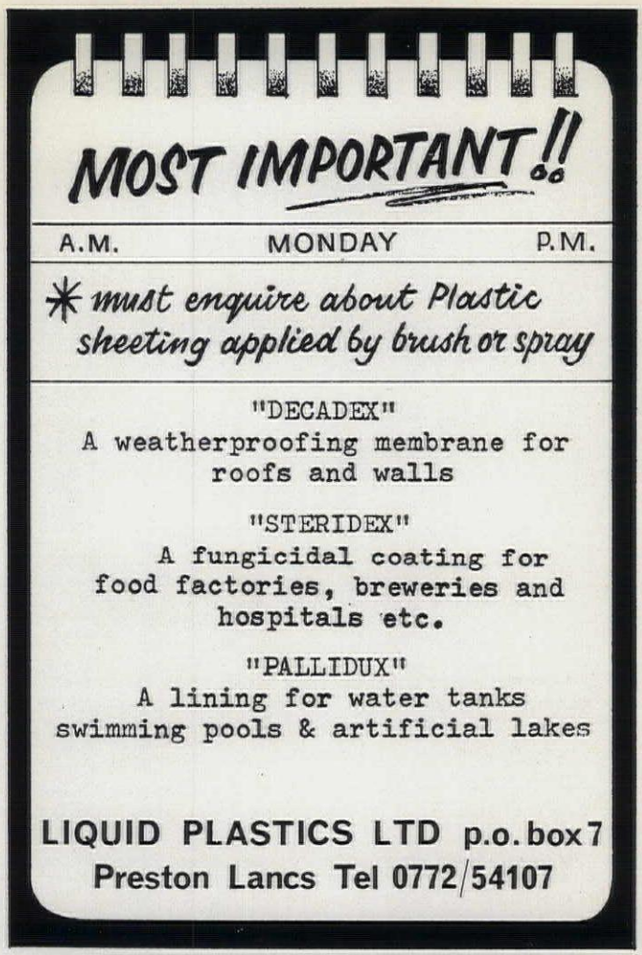

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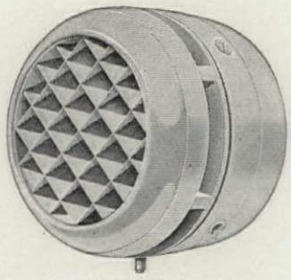

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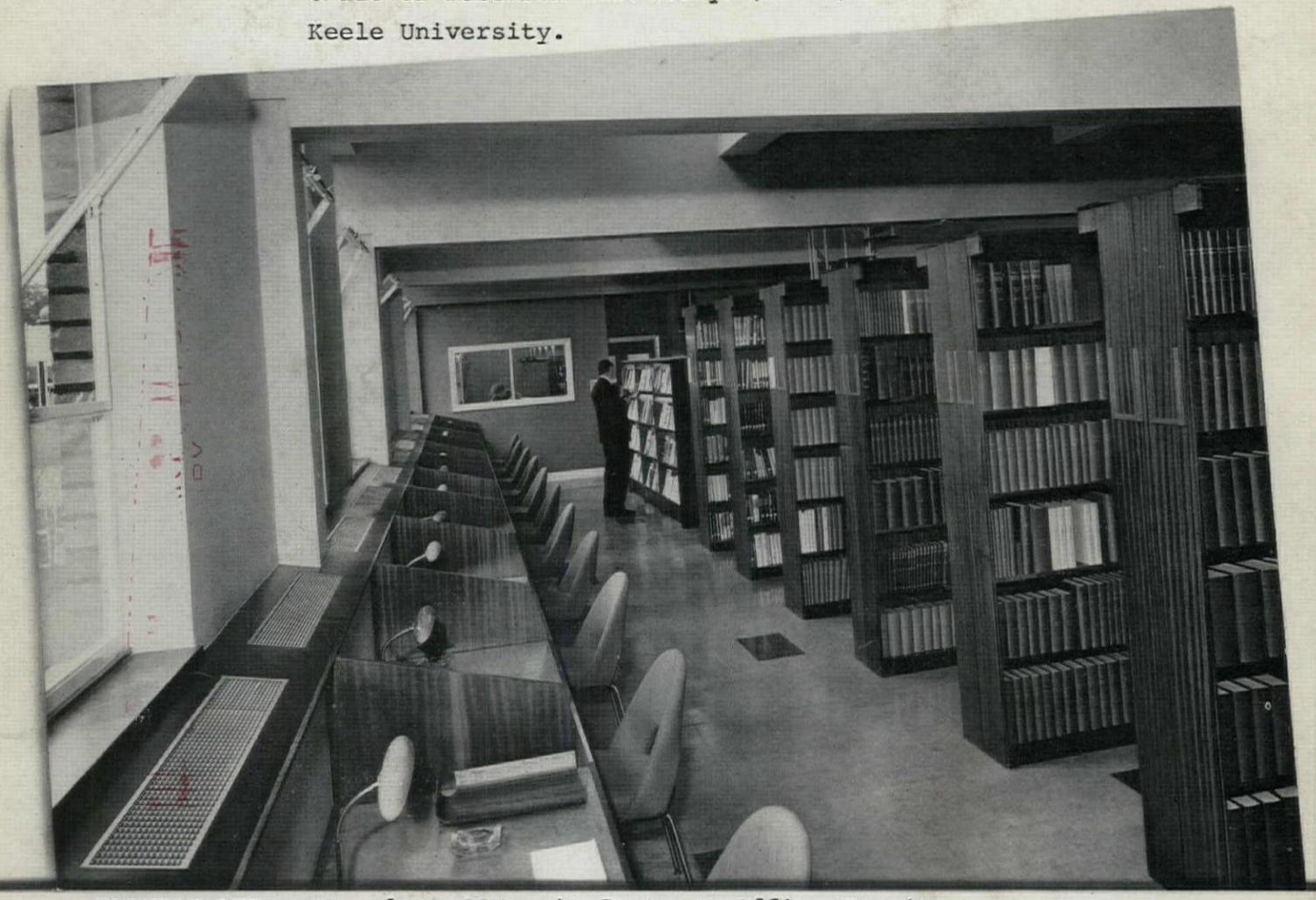

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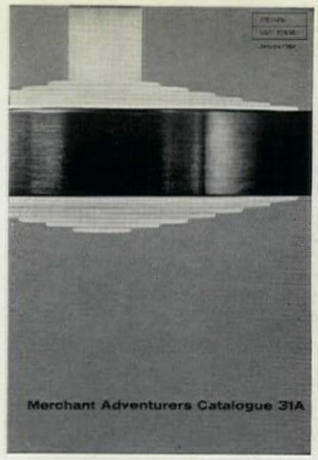

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