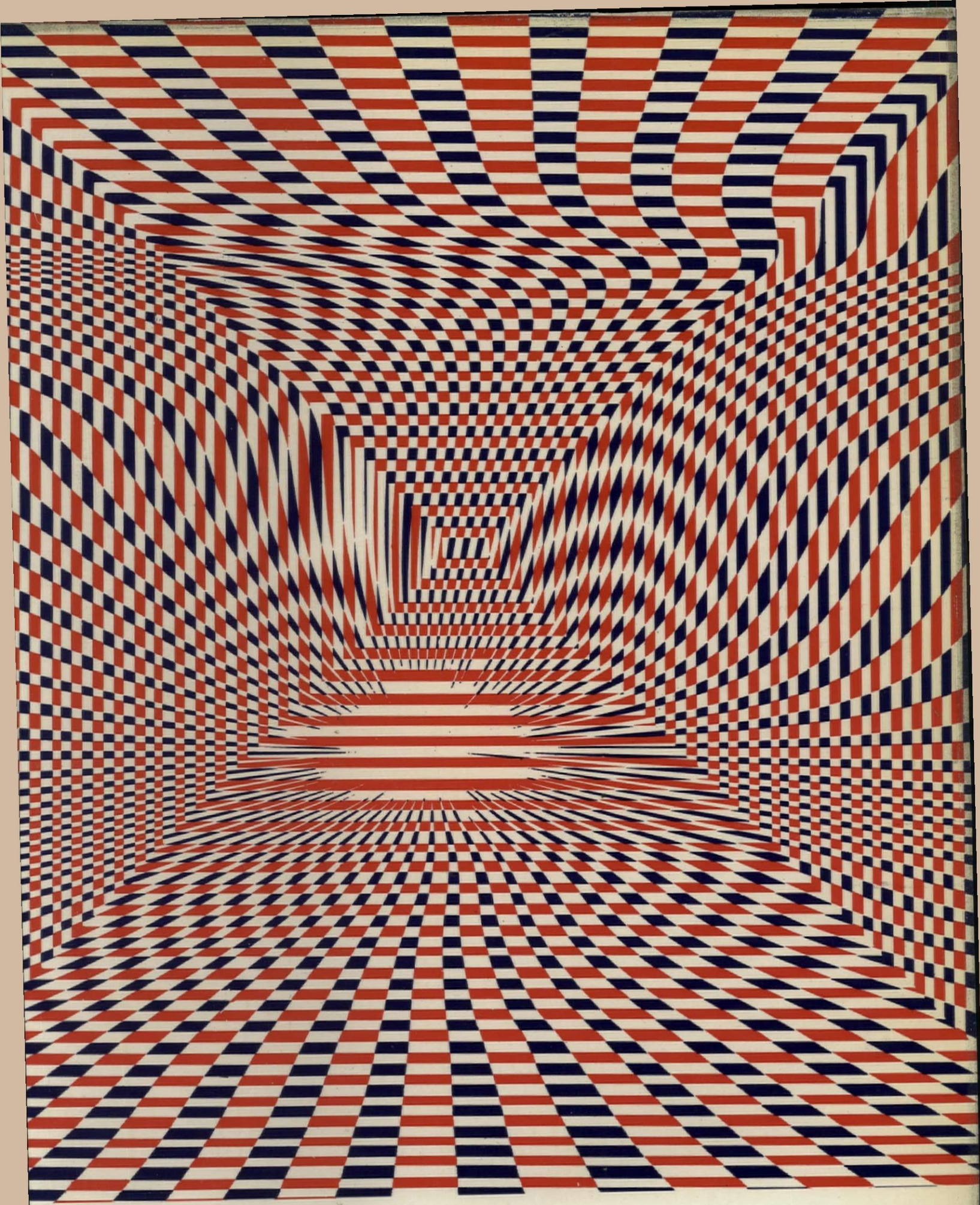
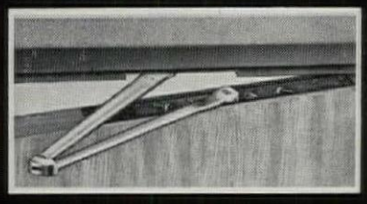


TURAL REVIEW VOLUME CXXXVIII NUMBER 826 DECEMBER 1965 FIVE SHILLINGS

concealed within the rotunda

THE BRITON 500



The Rotunda building designed by James A. Roberts, A.R.I.B.A., is part of the City Centre of Birmingham redevelopment plan. As good design and appearance of fittings was a first consideration, the interior doors throughout the building were fitted with the Briton 500 concealed overhead door closer. The closer which measures only 13" long x 1⅜" wide x 2⅝" deep, is mortised within the thickness of the doors leaving only the slim arms showing (see small illustration). It is suitable for interior single action doors weighing up to 112 lbs. and is provided with a hold open device which may be brought into action if required.
The Briton 500 which was supplied for the Rotunda by Parker Winder & Achurch & Co. Ltd., is one of a fine range of door closers and other Architectural fittings manufactured by:
WILLIAM NEWMAN & SONS LTD.,
Hospital Street, Birmingham.

NEWMANS

The Rotunda Building:
Developer: Property & General Investments Ltd.
Structural Engineers: Charles Weiss & Partners.
General Contractor: George Wimpey & Co. Ltd.

CASE

In modern housing developments, there's an open-and-shut case for window frames with advanced design features like those on the right. That's why more and more architects are specifying aluminium windows.

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Aluminium windows keep their first high standards of efficient performance as long as the building lasts: thanks to precision engineering and up-to-date design, made possible by economic extrusion methods.

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They never need painting for protection. And maintenance is only a matter of washing: less time, less cost than with other materials.

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And there's a comprehensive range of stock sizes: vertical and horizontal sliders, casement and pivot. Result? Quick delivery and the most competitive prices.

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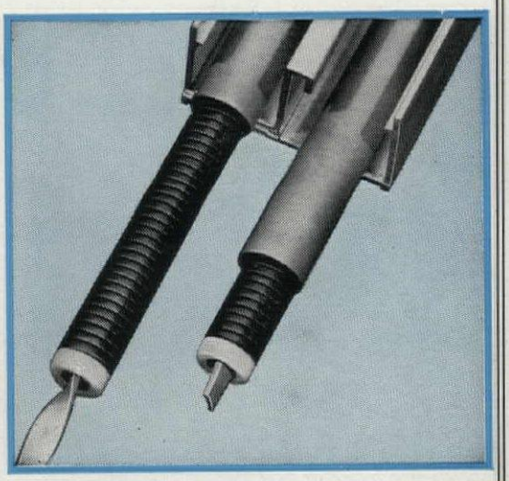
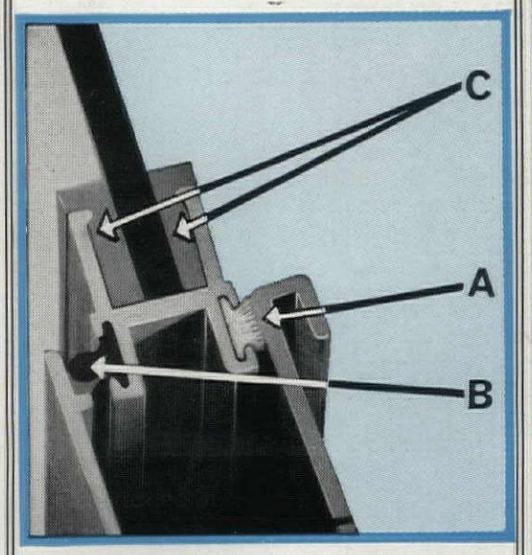
Alcan ingot is used by leading suppliers to the aluminium window manufacturers

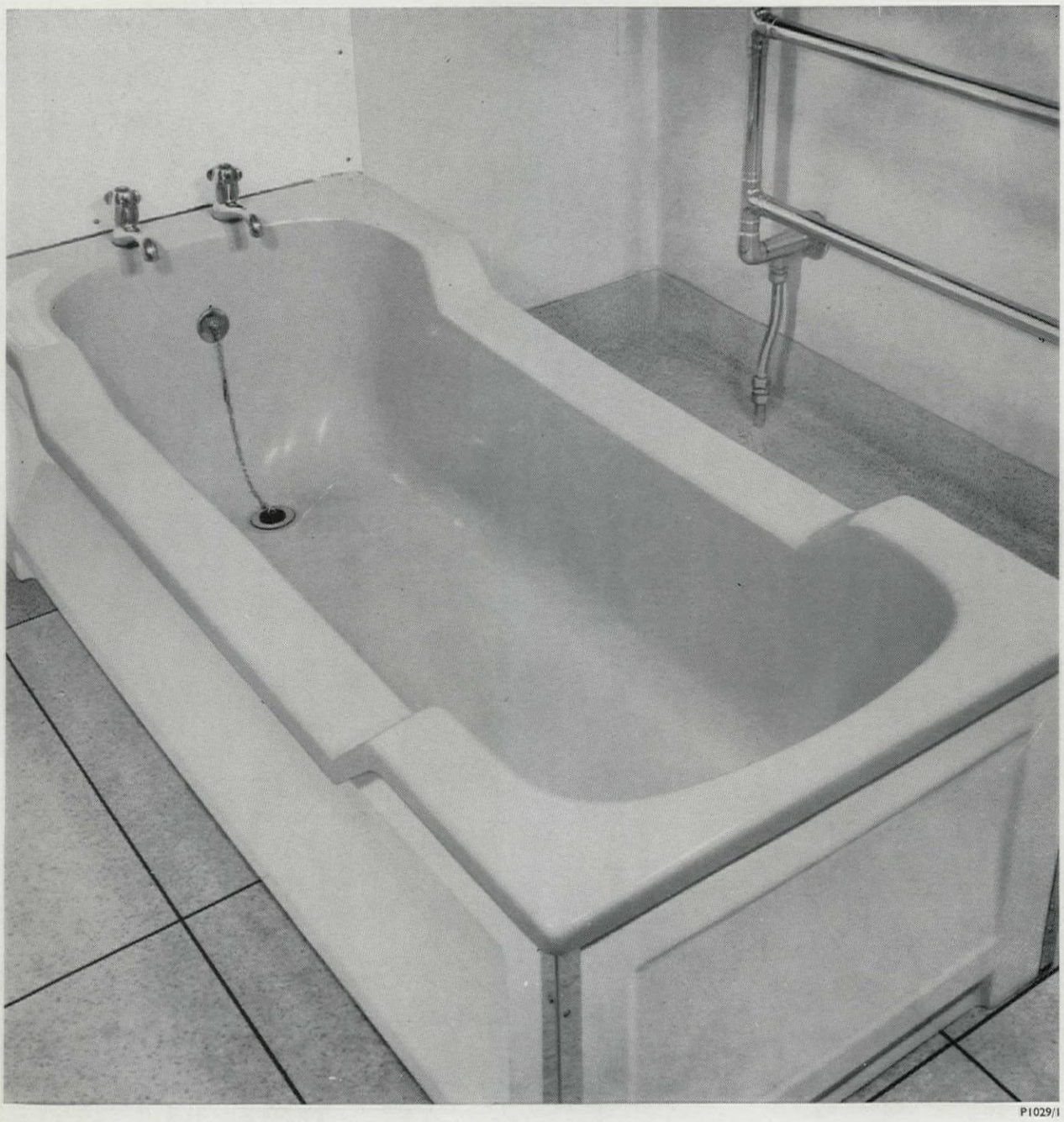
FOR THE DESIGNING EYE



The "Unique" coiled-spring balance has for many years proved ideal for vertical sliding aluminium frames. Variable-pitch spiral actuating rods equalize at all degrees of opening.



Silicone-treated wool-pile weatherstripping (A), fully integrated with extruded frame, prevents heat loss, gives complete protection from draughts, and ensures a life-long sliding surface. Also shown in this picture: built-in PVC glides (B), and Neoprene glazing gaskets (C).



P1029/1

This bath has been used 20,000 times in 4 years

You'd never know it to look at it.

The bath is made from 'Perspex' ICI acrylic sheet. It belongs to the Royal Victoria Infirmary, Newcastle-upon-Tyne and has been used in the Dermatology Department for 4 years. The hospital estimates about 20,000 times. (This is equivalent to 25 years' use in an average home.)

This means the bath has been cleaned 20,000 times. It has also been subjected to all sorts of chemicals.

For a luxurious, durable bath specify one made from 'Perspex'.

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'PERSPEX'

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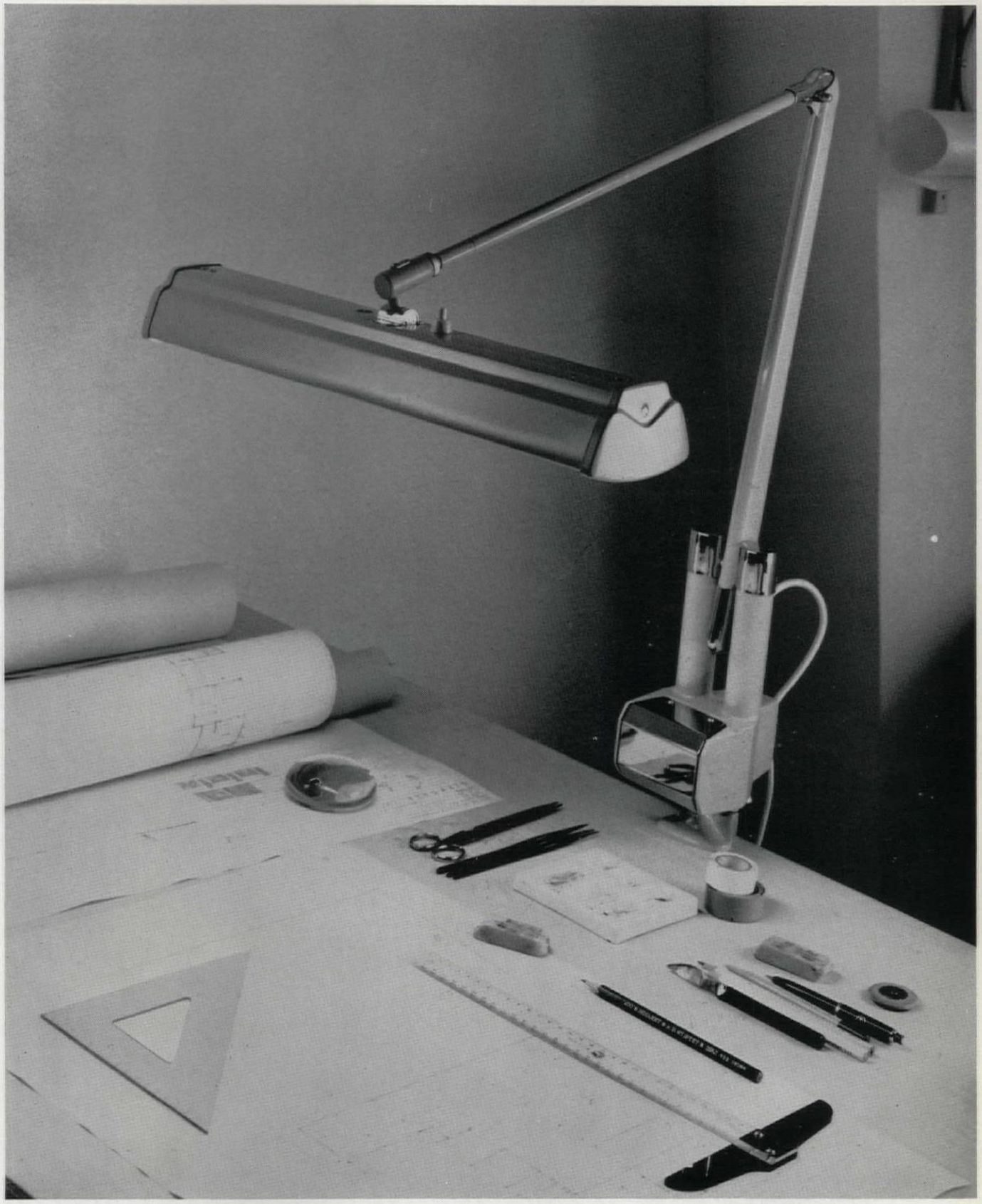

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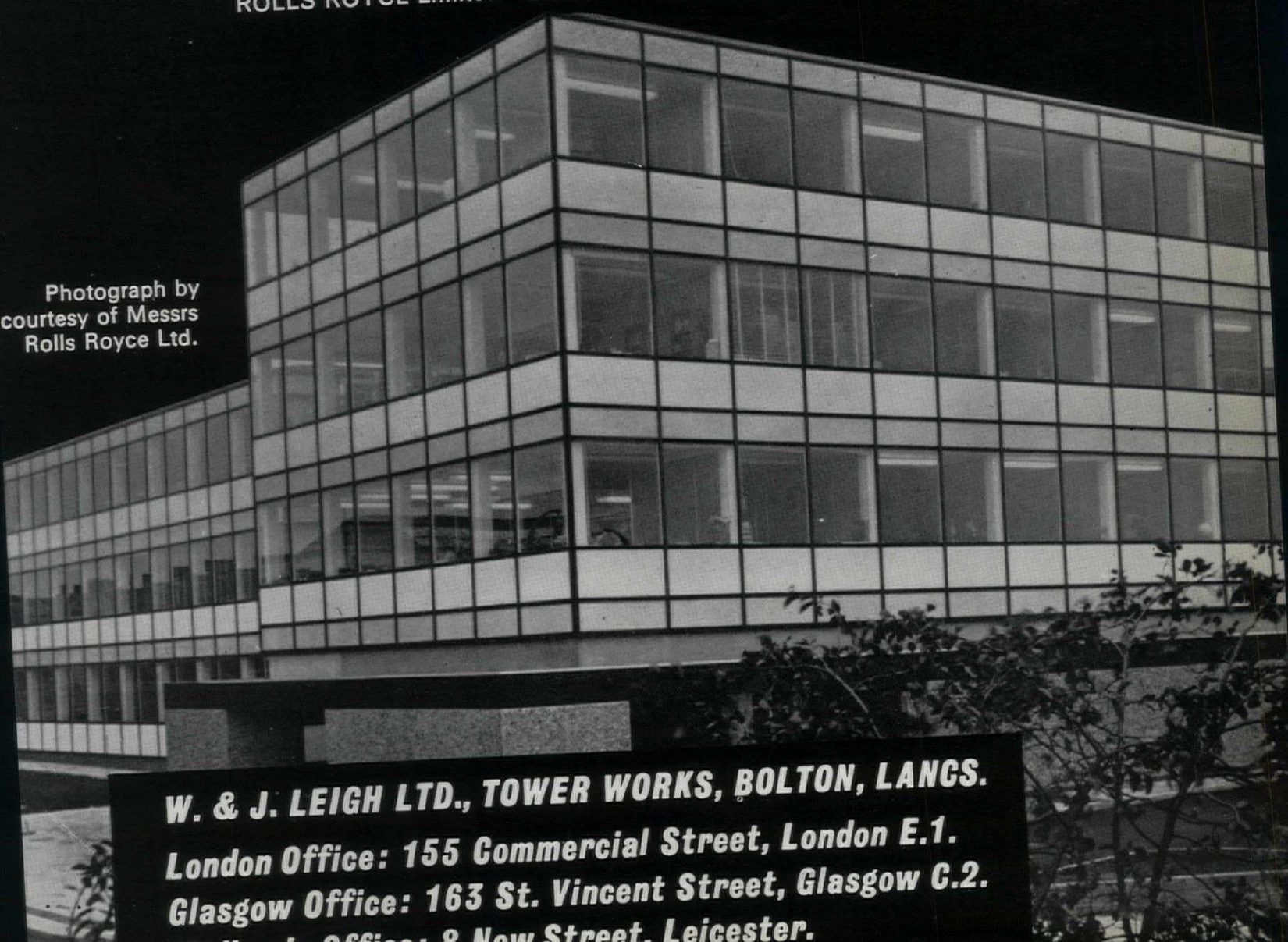

Photograph by courtesy of Messrs Rolls Royce Ltd.

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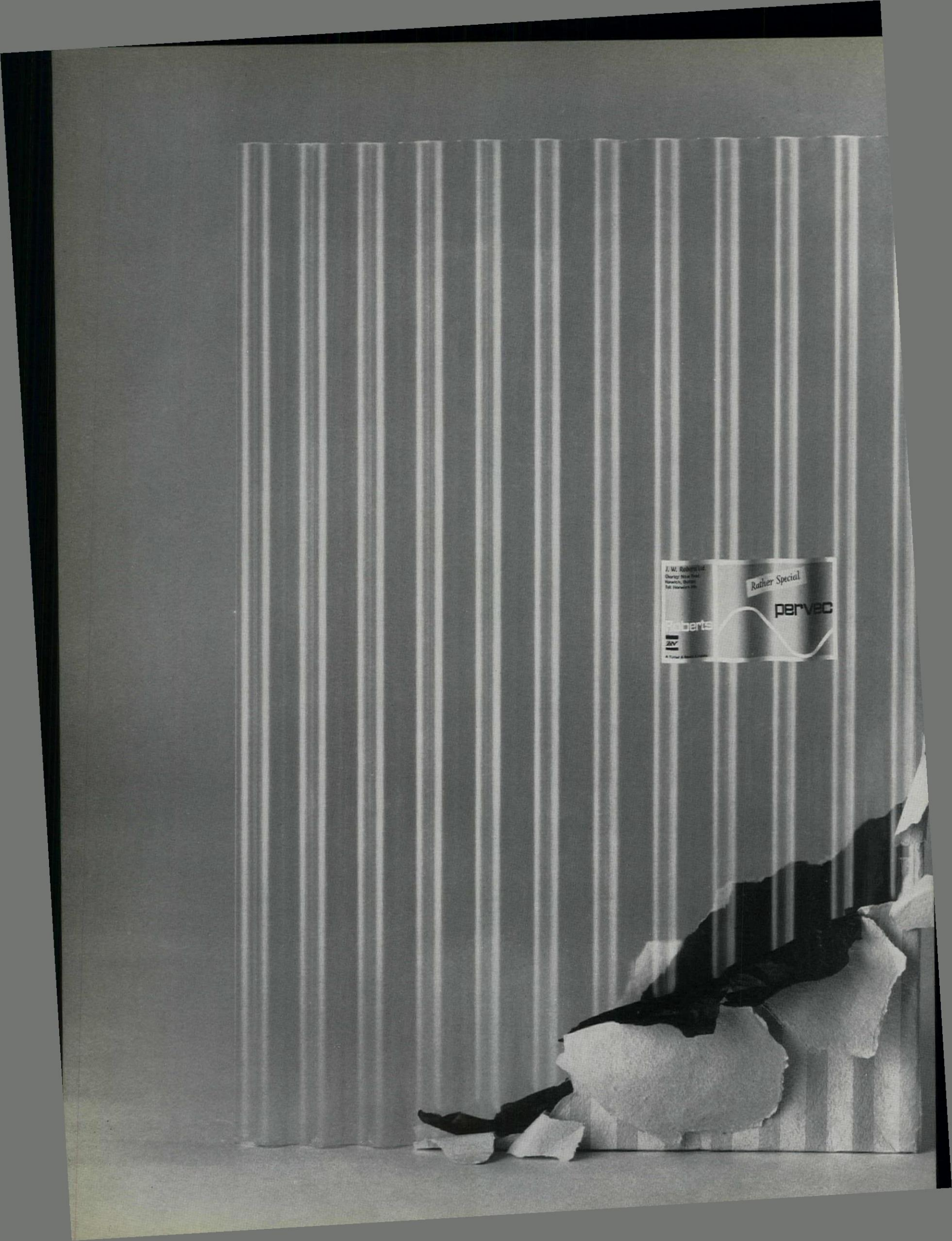
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Rather Special

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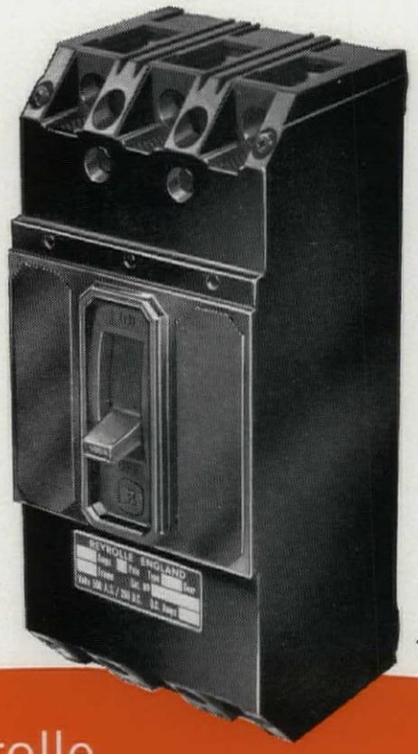
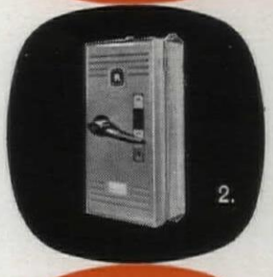


1.

Reyrolle Moulded-case Circuit-breakers



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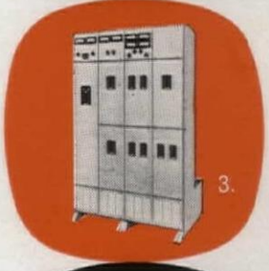

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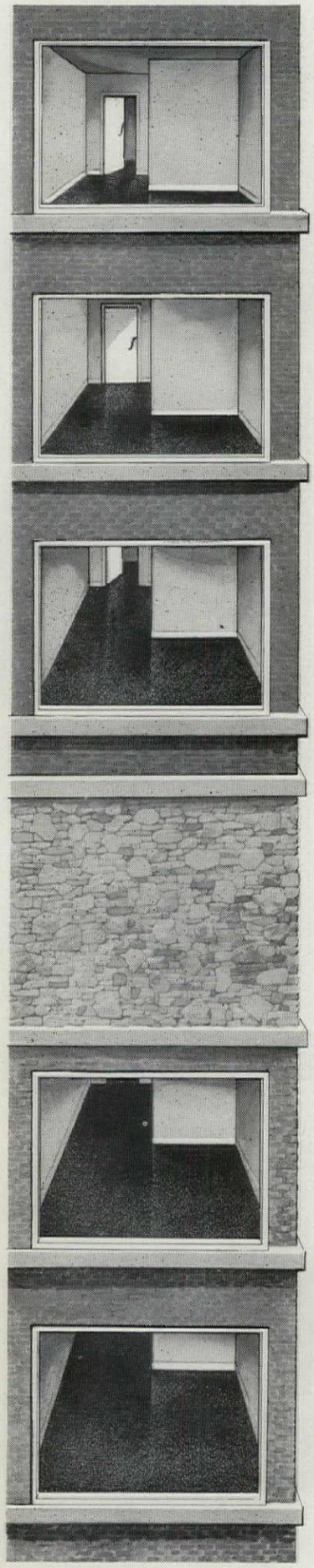

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Rossella's built-in underfelt gives a carpet-like feel underfoot.

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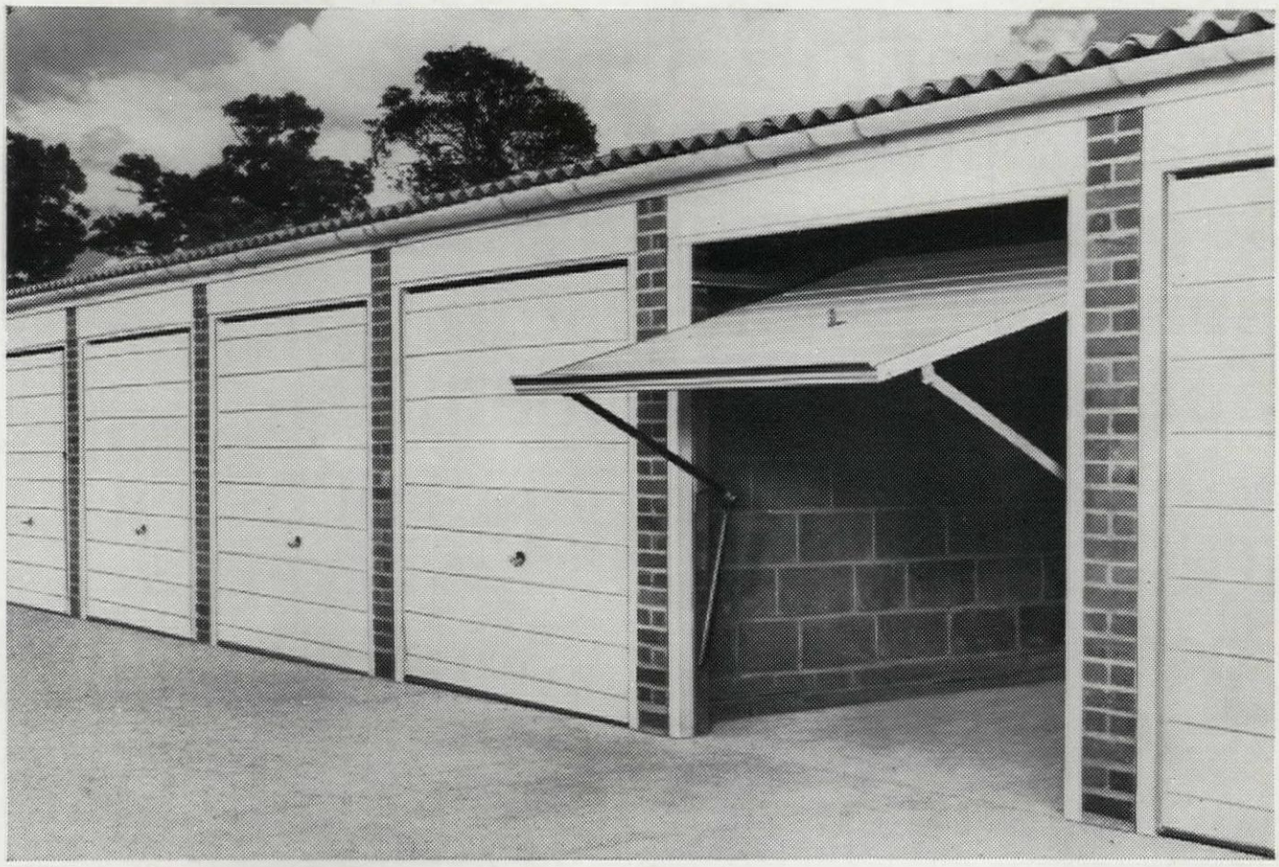

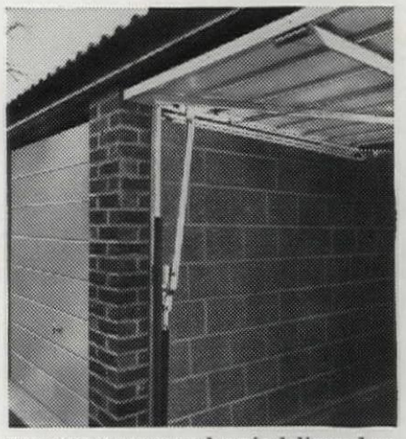

THE CARDALE garage door is delivered on site as one unit, which can be installed in 15 minutes. The metal frame can be fixed directly to brick or metal or to the normal wooden door-posts. And the Cardale door has a strength-to-weight ratio previously thought impossible! (Slide-away door by Cardale Doors Limited: Dragonzin galvanised steel by The Steel Company of Wales.)

Cardale Doors Ltd. were the first to make garage doors to be delivered completely factory assembled with integral track. For this easily installed door with its one piece galvanized steel frame, Cardale decided to use Dragonzin. (This is the name of tight-coated galvanised sheet steel produced by The Steel Company of Wales.)
Why Dragonzin? Cardale say it's because Dragonzin gives the best possible protection against corrosion to a surface which is exposed to all kinds of weather.

DRAGONZIN

for the best possible protection against corrosion

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* *Du Pont registered trademark.*

Standard size: 8 ft x 4 ft. Smaller sizes available.
Thicknesses: $\frac{3}{16}$ in., $\frac{1}{4}$ in., $\frac{3}{8}$ in. and $\frac{1}{2}$ in.
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Factory bonding ensures permanent integration of film to a non-combustible asbestos-cement base.

Ten attractive pastel colours, (plus white), computer controlled for precise colour matching.

Fading resisted 3 to 4 times longer than best quality paints.

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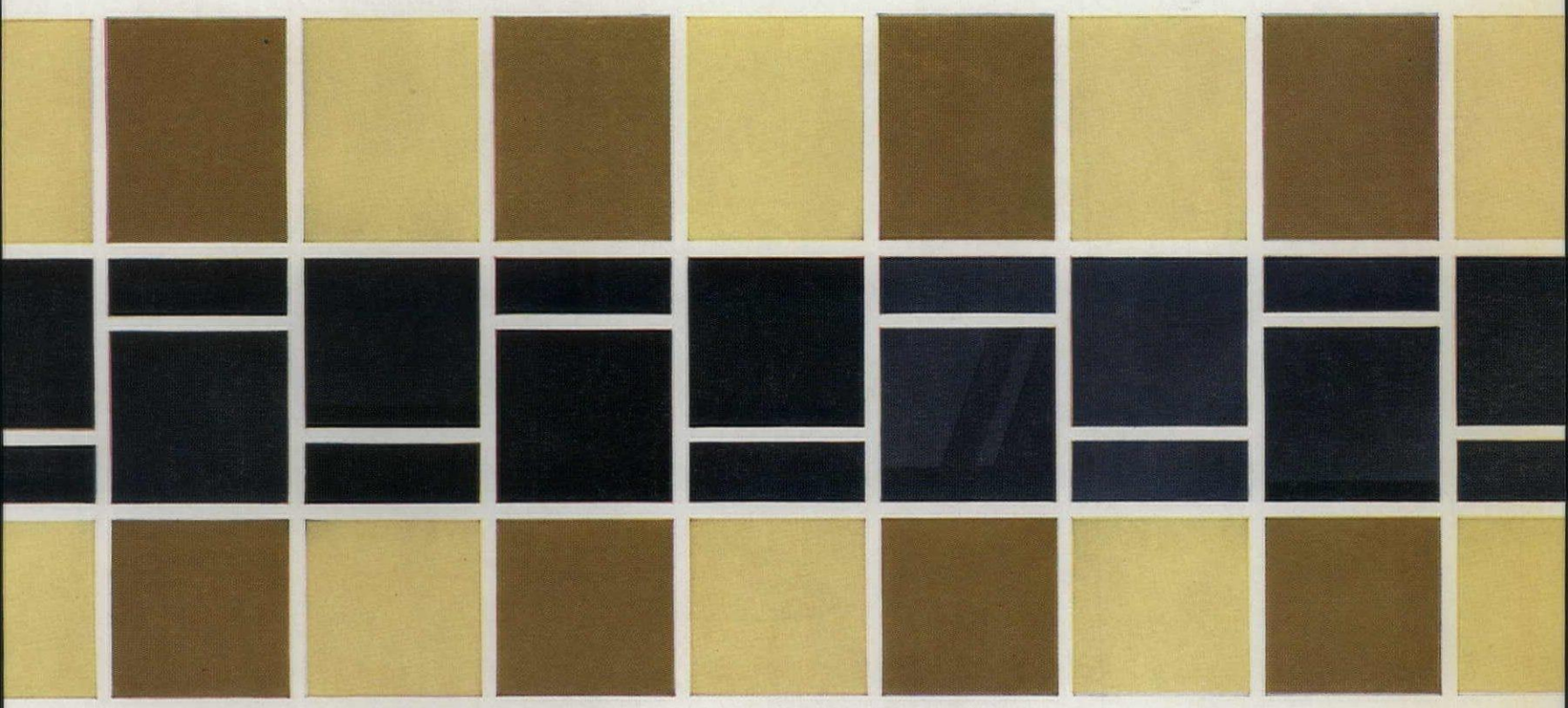

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BARBOUR INDEX FILE No: 85

Banquette seating by Rolls Upholstery Ltd., N.W.4.

LYONS CHOOSE LIONELLA

In the Trident Restaurant bar at Lyons' Strand Corner House, London, the use of deep red **LIONELLA** for seating has resulted in an extremely attractive furnishing scheme. For the adjoining Grill & Cheese Restaurant mustard **LIONELLA** has been used with fine effect. **LIONELLA** is a top-grade expanded vinyl on a knitted base fabric, designed specifically for contract work. It combines warmth and softness with durability and practicability. Its special shape-retaining, flexible back takes corners and contours smoothly, easily. With its dirt-resistant finish, **LIONELLA** keeps its good looks with a minimum of maintenance.

Lyons have now chosen **LIONELLA** *olive green for their new Hook, Line & Sinker Fish Restaurant in Baker Street.*

LIONELLA

Interested in **LIONELLA?** *Please contact* **NAIRN-WILLIAMSON LIMITED** *Coated Fabrics Division · Lancaster · Tel: 65222*

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In the modern kitchen, fittings have to be attractive as well as practical.

BBC Fittings combine fine design and precision engineering to produce the ideal fittings for the modern kitchen. BBC kitchen fittings are designed to look good and work perfectly.

Perhaps that is why they are the most wanted kitchen fittings on the market today.

Now there is a complete range of kitchen fittings to choose from— a variety of mixers, including the Deck 'Biflo'*, the V 'Biflo' and many more.

Write today for the latest BBC literature and let Barking bring the kitchen fittings of the future to your kitchen now.

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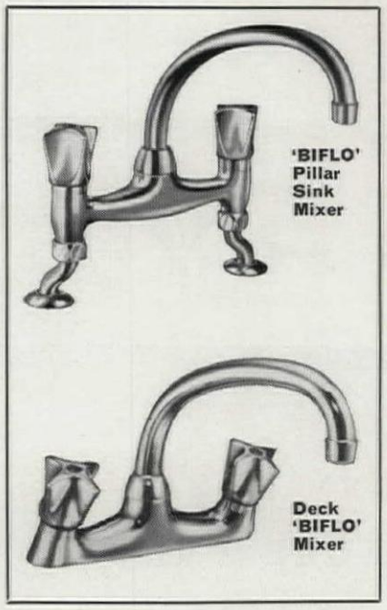

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'A Town Called Alcan'

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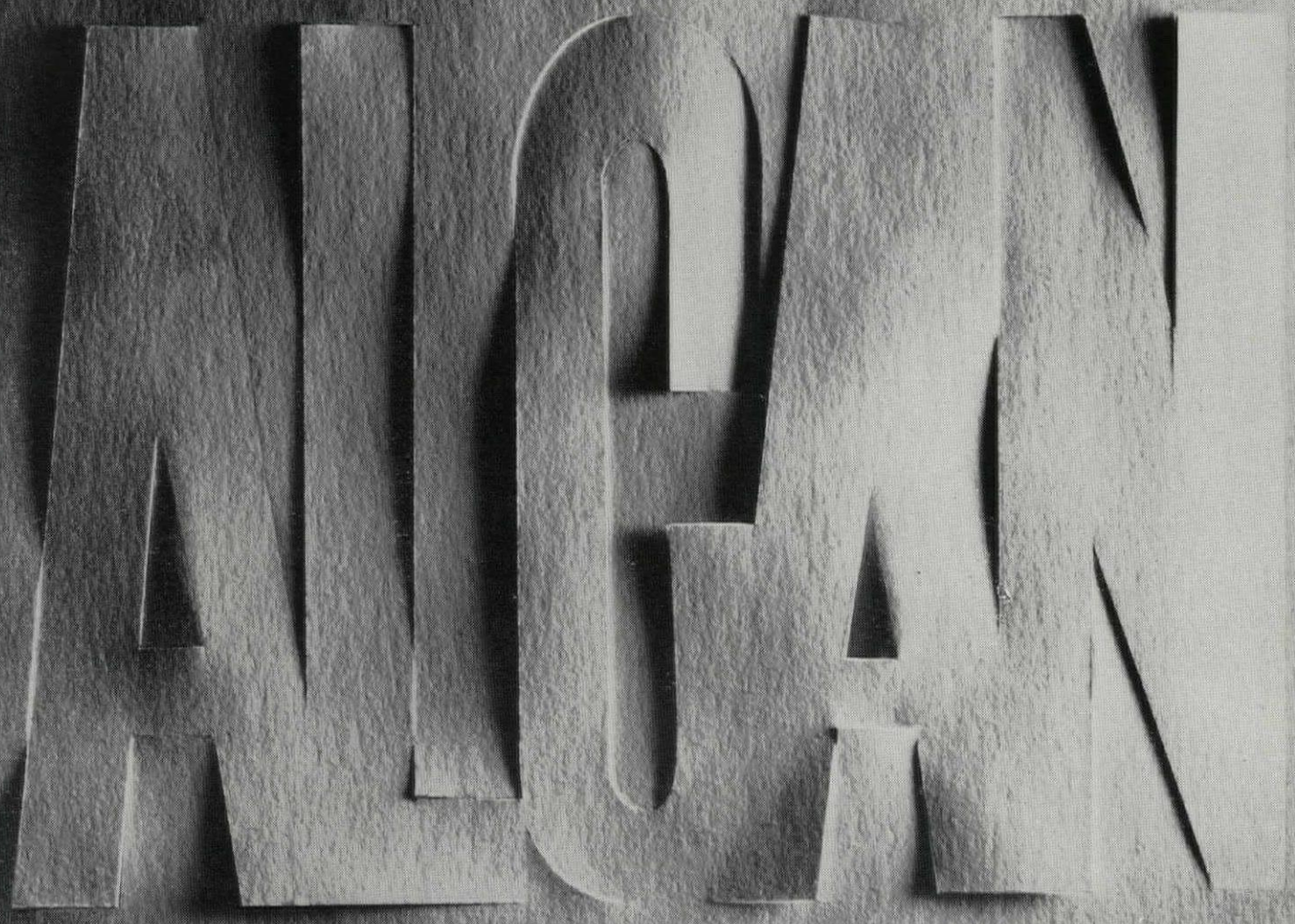


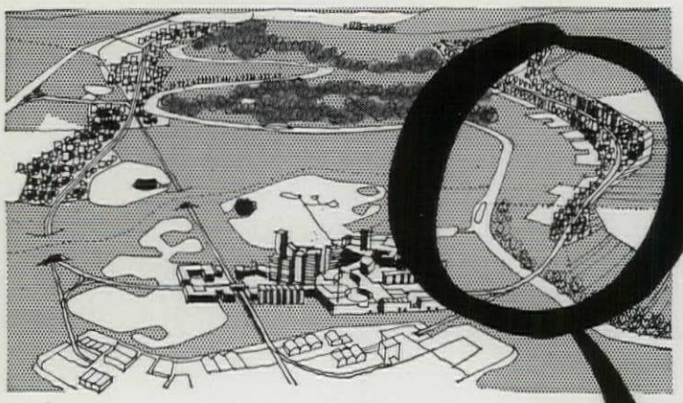
THE SCANNER: ONE

This is the first of a new series of Alcan broadsheets. 'The Scanner' represents a further and logical development of studies begun in 1964 which featured Gordon Cullen's original concept of the Circuit Linear Town. The business of Alcan Industries is not, of course, town planning. It is the production and sale of aluminium in semi-fabricated forms. In previous broadsheets we suggested practical applications for aluminium of special interest to architect and builder. The intention, in our new series, is to continue to do this, and to demonstrate the strength of Alcan's claim to serve the architect and the building industry. Our aim, however, is not to confine ourselves merely to building and aspects of service. It is to present a platform for new ideas relevant to the whole question of the planned environment, bearing in mind the effect of new building techniques on social and physical phenomena. We have, therefore, invited Gordon Cullen to extend his earlier studies under the title 'A Town Called Alcan,' and he now outlines and introduces his theme.

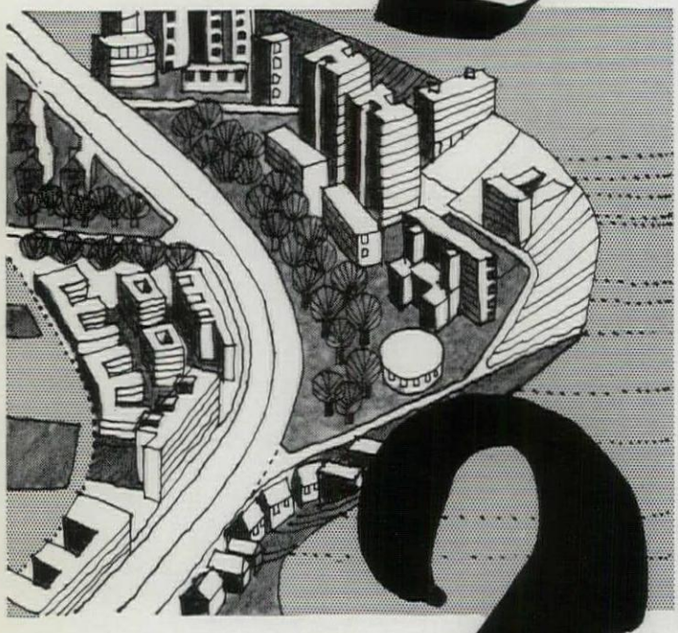
Architectural Consultants:
ALUN JONES, WARD AND PARTNERS

ALCAN

'A Town Called Alcan'–*The Scanner* (continued)



The Circuit Linear Town was concerned with the balance between town and country in the context of the fluid society created by the mass ownership of cars.



We now come to study the actual fabric of the town itself, which, up to now, has been left vague. What are the forces concerned in shaping its roads, paths and buildings?

The first exercise in our planning studies dealt with the balance between building and landscape in the context of the mobile and fluid society created by the mass ownership of cars. Thus was evolved the concept of the Circuit Linear Town.

The second exercise attempted to show the adaptability of this concept by applying it to actual sites in Britain. These varied from the open but industrially vulnerable countryside of Solway, through the disintegrating landscape of the South East at Solent and the conurbation of South Lancashire, to the built-up areas of Inner London.

This third exercise is concerned with the actual fabric of the town itself. Up to now the substance of the towns has necessarily been left vague in order to focus attention on the main structure. In sketches and plans the towns have been shown conventionally (in accord with current practice) but now we intend to examine and question the conventions.

There is general recognition that the field of environmental studies is of great importance—but it appears to be less a field than a marsh of unrelated facts, hypotheses and opinions. Those approaching the problem with the intention of finding workable solutions are bogged down in the preliminary task of self-orientation, in putting themselves in touch with the relevant framework. This is laborious and time-wasting. What is needed is a map of the field. We call this map The Scanner.

The Scanner

This will consist of a chart on which are plotted:

1. HUMAN FACTORS—the consideration of family, work, and leisure.
2. PHYSICAL FACTORS—the consideration of landscape, townscape and building.

By breaking down general considerations into particular qualities, and subsequently expanding these by the listing of inferences, a working check list can be provided. In this way it is hoped to create a sense of wholeness in design which is the chief casualty in the present situation.

Since all enquiries are conducted from a particu-

'A Town Called Alcan'–*The Scanner* (continued)

lar standpoint, we begin by making ours plain. The warmth of life lies in the ability to make contact with the relevant environment: the lungs–air; the eyes–light; the heart–communion; and the spirit–truth.

The environment in which we live has the capability of unlocking some of these correspondences and since it is largely man-made there is a responsibility to search for ways to do this. Apart from the purely utilitarian aspects of employment there appear to be three principal kinds of experience or environments into which people can merge.

1. Social intercourse, or the communion with other people singly or in groups. This includes consideration of the family, vocational groups and problems of loneliness, both of the individual and of families (i.e., concealed loneliness of whole communities).

2. Zests, or the realization of impulses and appetites. This is the emerging world created by increased leisure. It takes various forms, from pep pills, riding fast and noisy motor cycles, to sailing the Atlantic alone and ultimately to spiritual contemplation. Self-fulfilment.

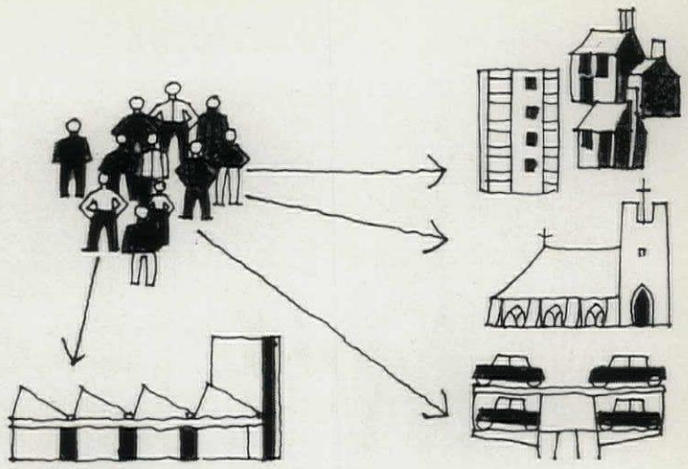
3. The physical environment as seen by the eye. The deliberate arrangement of the various parts can produce a sensuous experience, a feeling of identity with the Place. This we call the visual structure of the environment.

Although these experiences are rooted in history, and the shape of our towns and villages bear witness to their operation, yet today the scientific revolution has the effect of altering the traditional solutions and we are forced to make a reassessment in the light of change.

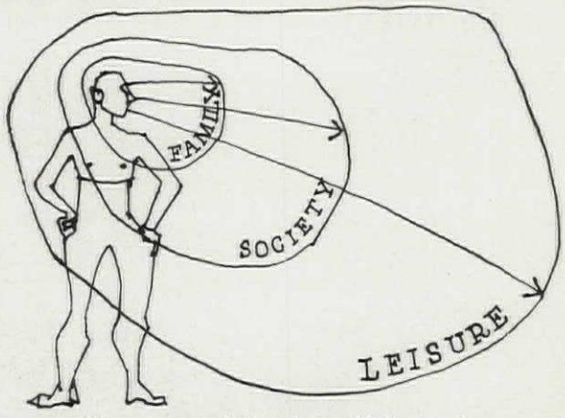
Social intercourse

Due to greatly increased fluidity of personal transport there is a breakdown of local communities with the consequence that people have more acquaintances and fewer real friends. The reliability of trusted friendships gives way to casual acquaintance.

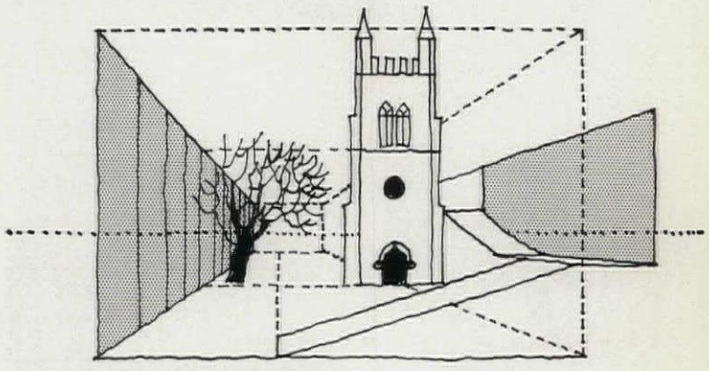
Several forces are at work which result in the decay



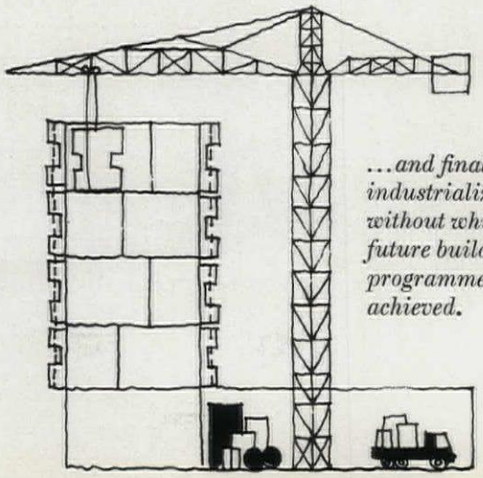
It is a fairly easy matter to determine the amount and variety of accommodation necessary for a given number of people.



To arrange this accommodation into a living environment, however, means that we must understand the behaviour of people, their family and work associations, and problems of leisure . . .

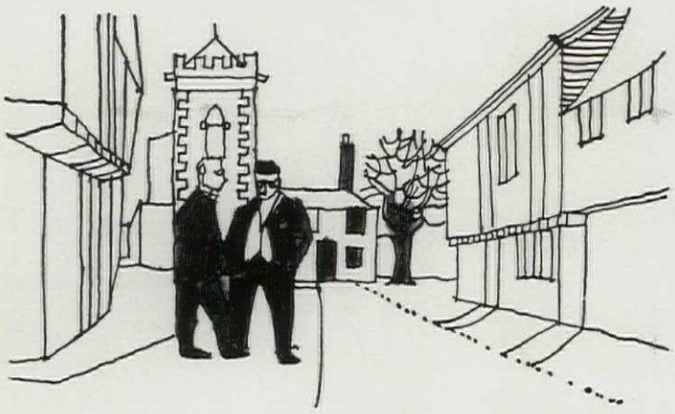


. . . the shape of the environment, the laws of perspective and the production of drama out of the relationships of buildings, trees, levels and sky . . .

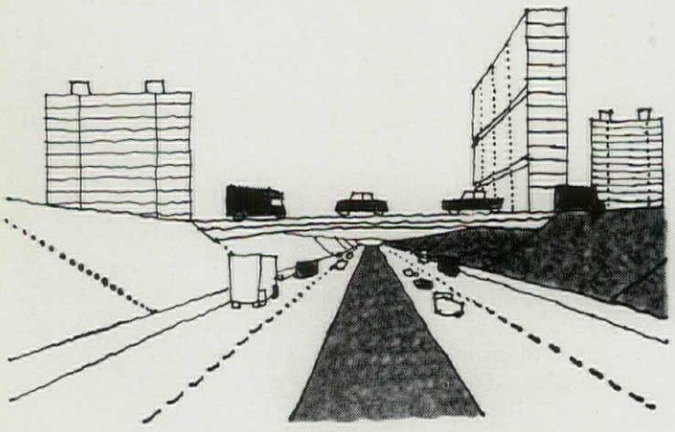


. . . and finally, the pattern of industrialized building without which the future building programme cannot be achieved.

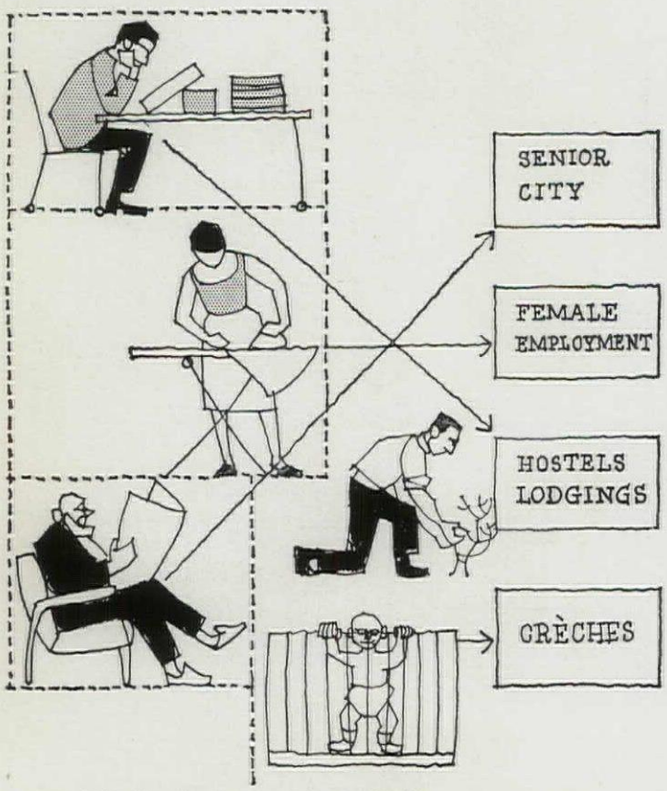
'A Town Called Alcan'–*The Scanner* (continued)



Yet nothing is simple. There is no dusty textbook to pick off the shelf. All is in flux and we have to create our own framework in human relations. Old community friendships are yielding to...



...increasing numbers of casual acquaintanceships brought about by greater mobility...



...and the family structure is gradually separating out into horizontal age-group layers.

of the family structure. Instead of a self-renewing, permanent axis which members leave but return to frequently, we are seeing a much greater segregation of the age groups. Small children go to crèches. The young, as well as being naturally rebellious, go to hostels and lodgings. Married women go out to work, forming social loyalties there, whilst the old are separated out into 'Senior Cities.' This is convenient for everybody, but since communication and instruction between different age groups is a vital quality it may be that convenience is obtained at a high price which we shall be asked to pay later.

Zests

The inner and personal urges which in the past have been largely inhibited through the necessity of drudgery are now in the process of being released. As the machine takes over the labour, so the human being is released—the shortening working week, holidays with pay. Naturally enough this raises the problem of leisure, since there is little tradition of employing oneself. At the moment, what a man does after work is his own business. He is thrown back on his own resources and may feel 'lost,' just as a man over 65 is left stranded and isolated in a hurrying world.

Ultimately, this leisure will be absorbed in the fulfilment of the personality, but people will need help in achieving this. Existing outlets match the level of intelligence of the person and range from selfish hedonism to altruism; but in all of them there is the principal sense of beyondness, of getting 'out there,' *and it is probable that the cultivation of this sense of wonder will flourish into a new renaissance.*

The physical environment

Concerning the visual impact of the environment on the person, the traditional pattern is changing in such a way as to alter the very basis or possibility of merging into the environment. Observation of old villages and towns suggests that the tight development of housing (narrow streets and compress-

'A Town Called Alcan'–*The Scanner* (continued)

ed dwellings) has a psychological as well as a functional or climatic basis. It is possible that people felt a certain uneasiness in the face of nature, an inquietude which was resolved by the proclamation of man's domain.

It is in such circumstances that the sculptural, geometric qualities of towns are most fully realized. All the qualities that aid correspondence—scale, serial vision, enclosure—are fully realized in the compact town.

Now, however, the psychological climate has altered and if uneasiness is felt it is felt in the claustrophobia of great cities. There is a danger that before long these cities will expand haphazardly as their inhabitants grow wealthier and more mobile, and a new pattern of living will emerge. It will be neither rural settlement nor compact town, but a vast city area held together only by its lines of communication.

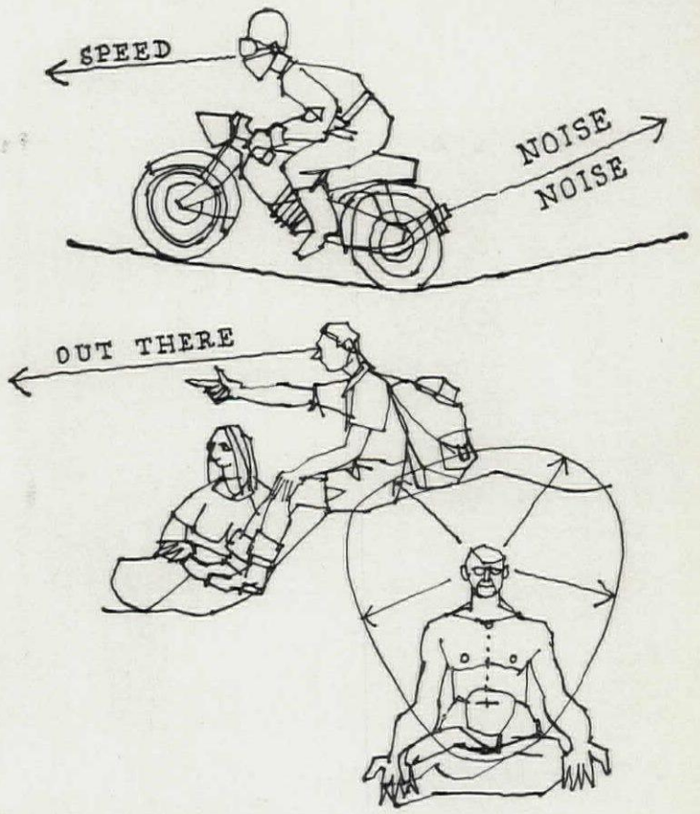
Fragmentation threatens not only housing but shopping. It is likely that big cities will consist largely of administrative and amenity accommodation and will virtually cease to be residential. Most active shopping will take place in decentralized residential areas. Private gardens will be rare, public lawn and flower beds being provided by the community. Mere tidiness will become more important than beauty.

Here is an alarming picture indeed, the flood waters surging and sweeping away all trace of past values—out of hand, unstoppable and of increasing velocity. A desolate scene.

Were this situation to be realized in traditional forms of construction it would still be a revolutionary state of affairs but we have to consider the added complexity of the industrialization of building.

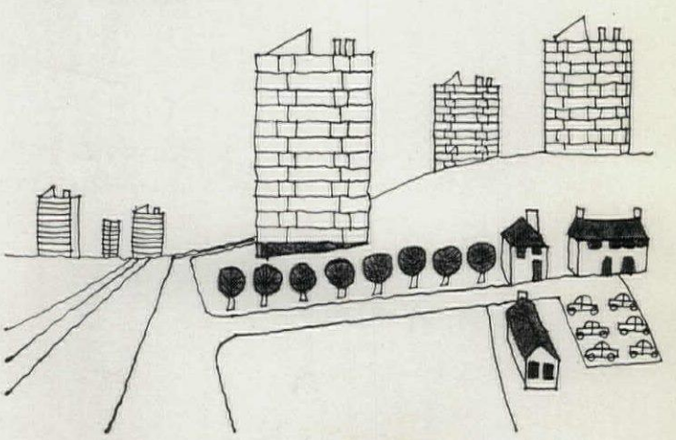
By the end of this century the world will need ten times as many dwellings as are now standing. Clearly this cannot be achieved by traditional methods, hence the industrialization of building, the prefabrication of components, and so on.

There is a history to industrialization. The brick, for instance, is factory-made but small enough to be held in a man's hand. The human being was the tool and he was expert and adaptable.



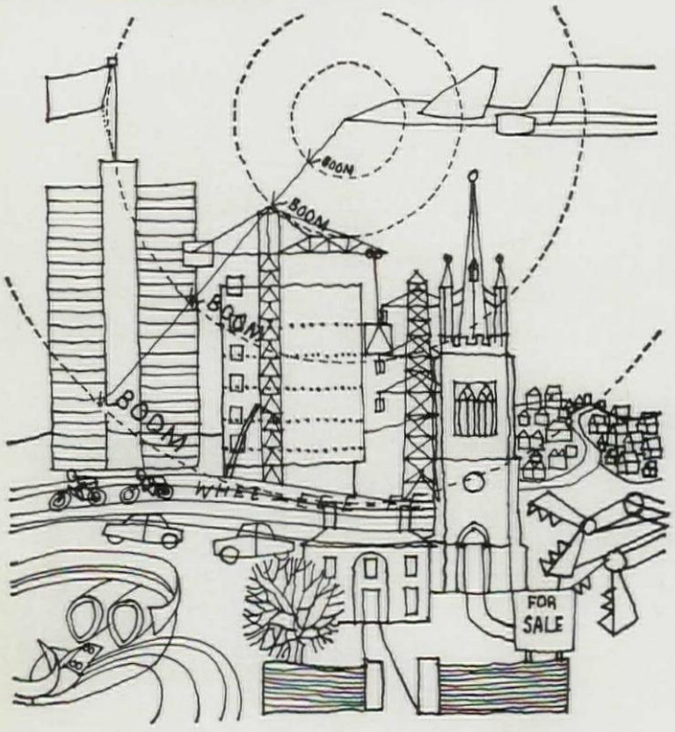
Increasing industrialization creates more and more spare time... the problem of leisure. The true function of leisure is self-fulfilment, yet this is tied to the education and sophistication of the person...

...the greatest glories of urbanity were achieved before the motor-car...

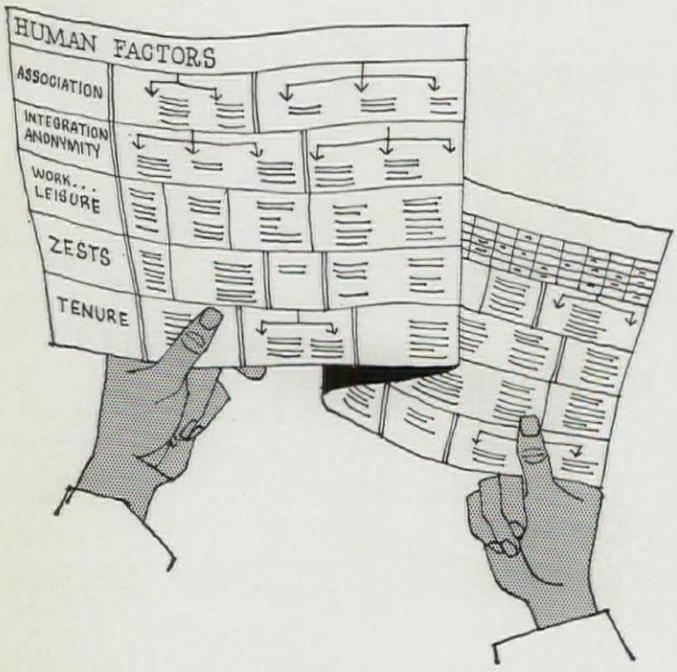


...and before prophylactic by-laws had split open the fabric of the city.

'A Town Called Alcan'–*The Scanner* (continued)



The general picture is one of chaos, a disintegrating society living neither in town nor country and housed to the discipline of a blind machine. Yet locked away in this confusion lies the new world.



We have devised an ecological chart, the Scanner, in which human and physical factors are set out and interrelated.

Today we are seeing prefabricated components which are room-high and of such weight that only a crane can handle them. The resulting buildings are crude because they have to be designed to suit the limited mechanical operations of a crane.

We thus have a total picture of bewildering flux, a disintegrating society living neither in town nor country and housed to the discipline of a blind machine. All this is geared to such a pace that there is little time for reflection and considered design. Suddenly progress has taken on the guise of chaos. Locked away in this confusion lies the new world. But how to get at it?

1. Human values, however imponderable or delicate, must be defined and stated in so far as this is possible. These values should dictate the pattern of industrialized building (not the other way round).
2. These values should also dictate the drafting of by-laws relating to, for example, daylighting, building and three-dimensional zoning.
3. Where present Systems fail, new tools must be provided to reach a solution.

The aim of the Scanner is to analyse and define as wide an area of the social and physical field as possible and, by setting out the important parameters and their implications, to provide a map of the field. Thus a continuous sense of awareness and wholeness is induced into the design process.

Our next broadsheet will consist of the Scanner —necessarily in outline form, but in sufficient detail to open the way for its applications in solving problems.

Subsequently, particular building and planning problems will be resolved, using both the Scanner and the discipline of industrialized building. This will be done in two ways, the first using existing Systems and the second suggesting new techniques or possibilities of industrialized building for the better solution of human and social problems.

Reprints of this broadsheet are now available. Write to Alcan Industries Ltd., Banbury, Oxon.

ALCAN

Sfb Hd4

How Alcan work for you

Alcan broadsheets are but one expression of the two-way traffic in ideas which is an integral part of our business. As suppliers of aluminium in all its forms, we are deeply interested in the problems facing architects and builders. We like to hear of these problems because we know that we are well equipped to help in solving them. Our own team of building specialists is backed by the experience of Alcan companies all over the world and by the facilities of Aluminium Laboratories Limited, Europe's leading aluminium research organization. In addition to supplying you with aluminium, we can give you objective advice on how aluminium can do the best job for you.

Which form of aluminium?

The different methods by which aluminium is processed determine not only its shape but also its physical properties, such as strength, durability, and resistance to corrosion. The wide range of alloys available introduces further variation.

Rolled into sheet, aluminium is a familiar material for panelling and otherwise filling voids. But it can also be flanged, bent, or pressed, to give it structural strength, to form enclosures, or to facilitate jointing. In corrugated or troughed form, aluminium sheet is a maintenance-free, reflective cladding material, and Alcan offers specially attractive forms such as the secret-fix Snaprib. Curved troughed sheet is used in self-supporting barrel vaults to roof reservoirs and industrial buildings.

Alcan sheet can be supplied pre-painted, pyluminized, or embossed, and can be welded or soldered. In its fully soft form, Alcan sheet is the most economical fully-supported roofing and flashing metal. Aluminium foil is a complete vapour barrier and is also used for reflective insulation.

A very different form is the aluminium casting, light and tough. The casting process makes possible the production of quite large building elements in one piece, eliminating much joining. The element is still light enough to be handled readily.

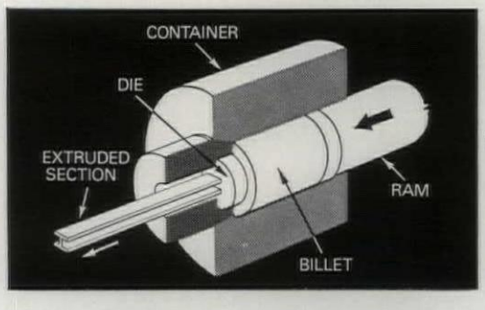
One manufacturing process is unique, among structural materials, to aluminium—extrusion. This versatile process offers a special challenge to the architect, and close collaboration here between designer and manufacturer is particularly rewarding.

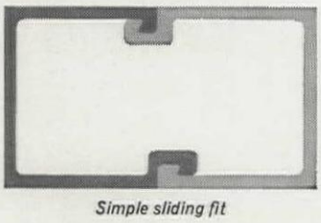
Alcan have 37 years' experience of extrusion processing. This experience is at your service.

What is an extrusion and what can it do?

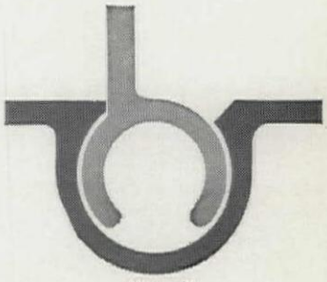
An extrusion is made by forcing a billet of the metal, heated to a plastic state, through a shaped die from which it emerges in long lengths of constant cross-section. In principle, there is no restriction on the cross-sectional shape, so the first characteristic of the process is its unlimited scope for ingenious design.

From pure aluminium to heat-treatable strong alloys a wide range of mechanical and other properties is available to the user of extrusions. In size, sections range from a fraction of an inch up to a maximum dimension of 16 inches. Hollow sections are readily produced, as are 'extended surface' or finned sections for heat transfer purposes. In structural sections, refinements such as bulbs to stabilize flanges can be readily incorporated.

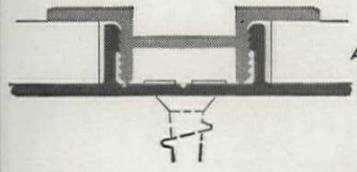




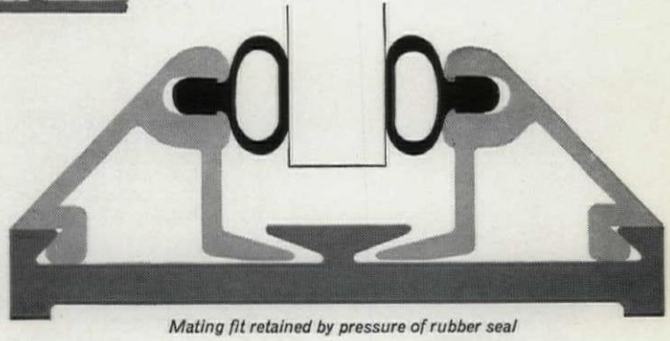
Simple sliding fit



Hinge fit

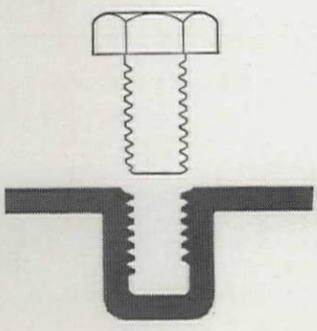


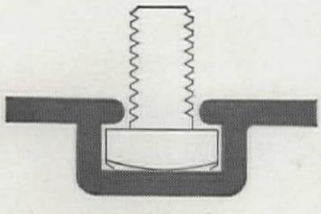
Adjustable snap fit



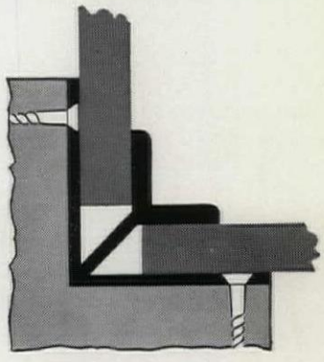
Mating fit retained by pressure of rubber seal

Because the metal can be disposed exactly where it is needed, extrusion makes possible sections that are not only highly efficient but economical in weight and cost. A section can readily be produced that will fulfil several different functions simultaneously, functions that would otherwise require several different elements. Assembly costs can often be dramatically reduced as a result. Pairs or groups of sections can be designed to mate with considerable accuracy, and can provide a number of different types of neat and efficient joint, often eliminating the need for welds and fasteners.





Features can be incorporated to take mechanical fasteners



Typical partition section

How Alcan work for you *(continued)*

Design of sections

Any design of section is theoretically possible; in practice the observation of certain principles will make extrusion easier and cheaper. The most important of them are as follows:

(a) Very thin details should be avoided; 0.04 in. is a practical minimum. On larger sections, a rough working rule is that thickness should not be less than 4 per cent of the width.

(b) Large variations in thickness should be avoided wherever possible; where they cannot, fillets will make extrusion easier. (Fig. 1)

(c) Solid shapes are easier to make than hollows, so unnecessary voids or deep slots should not be introduced. (Fig. 2)

(d) Radii on corners, even as small as $\frac{1}{64}$ in. will make extrusion easier and die-life longer.

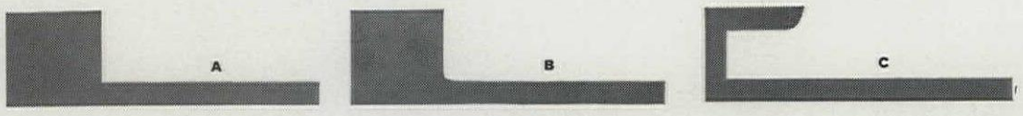


Fig. 1: B is better than A; C is better still and uses less metal

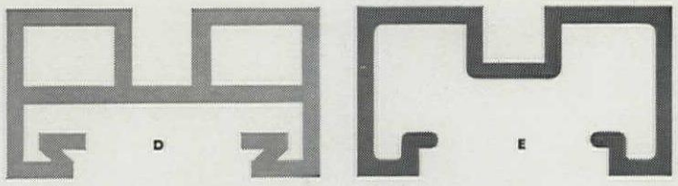


Fig. 2: By changing design from D to E, hollows are avoided and metal saved

(e) Symmetrical shapes are less prone to distortion than asymmetrical ones.

(f) Exposed surfaces on which a good finish is required should be pointed out to the extruder, who will give them special attention.

(g) The cost of a die, though dependent on complexity, is relatively small when spread over an order. This often makes it economic to design a new shape for a particular job. There are, however, over 20,000 Alcan dies already in existence, and the use of one of these may save time and money.

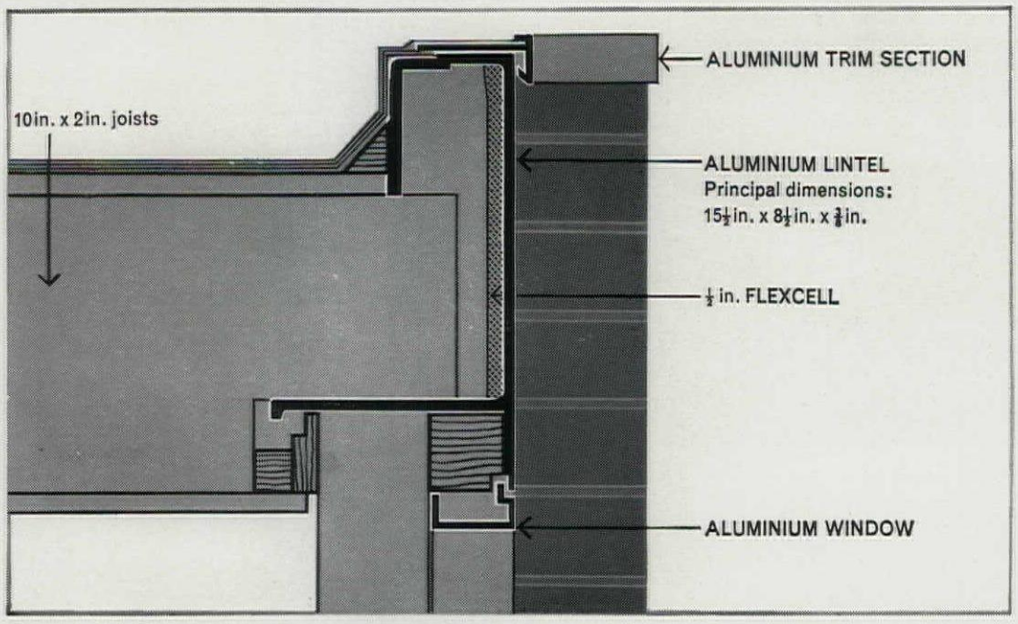
The foregoing pointers are not intended to inhibit design, but rather to save the user time and money. Generally, the higher the ratio of perimeter to cross-sectional area the higher the cost per pound.

What may seem complex to the designer is not necessarily so to the extruder. It is therefore well worth while to consult Alcan at the earliest possible stage in design.

One extrusion does five jobs

A good example of the intelligent use of the extrusion process is provided by the large lintel section that Alcan produced in collaboration with the design team for a rationalized form of construction developed by Northamptonshire County Council (County Architect: Mr. A. N. Harris, F.R.I.B.A.).

This 15½ in. deep section, which only Alcan had the equipment to produce, takes the place of several traditional elements. It acts as lintel, supporting roof timbers or floor joists, and as a self-finished fascia, with recess for a venetian-blind box. It also provides housings for the head member of the window below and, with a floor over, for the cill member of window or infill panel. The exposed face is leak-proof and maintenance-free. Lengths up to 30 ft. can readily be handled on site.



A 15½-in. deep section designed to serve as combined lintel and fascia

PUBLICATIONS

Further information on extrusions is given in a number of Alcan publications available to architects and designers. Please apply on your letterhead to Alcan Industries Ltd., Banbury, Oxon.

'Alcan extruded sections' — sizes, manufacturing limits and tolerances, with details of several thousands of the sections for which dies exist.

'Sections — selected range' — architectural sections held by Alcan's authorized stockists.

'Fascia sections' — for spandrels and shop fronts.

'Handrail sections' — for exterior and interior handrails.

'Ceiling sections' — used in some proprietary ceiling systems.

'Structural sections' — dimensions and properties.

AUTHORIZED STOCKISTS

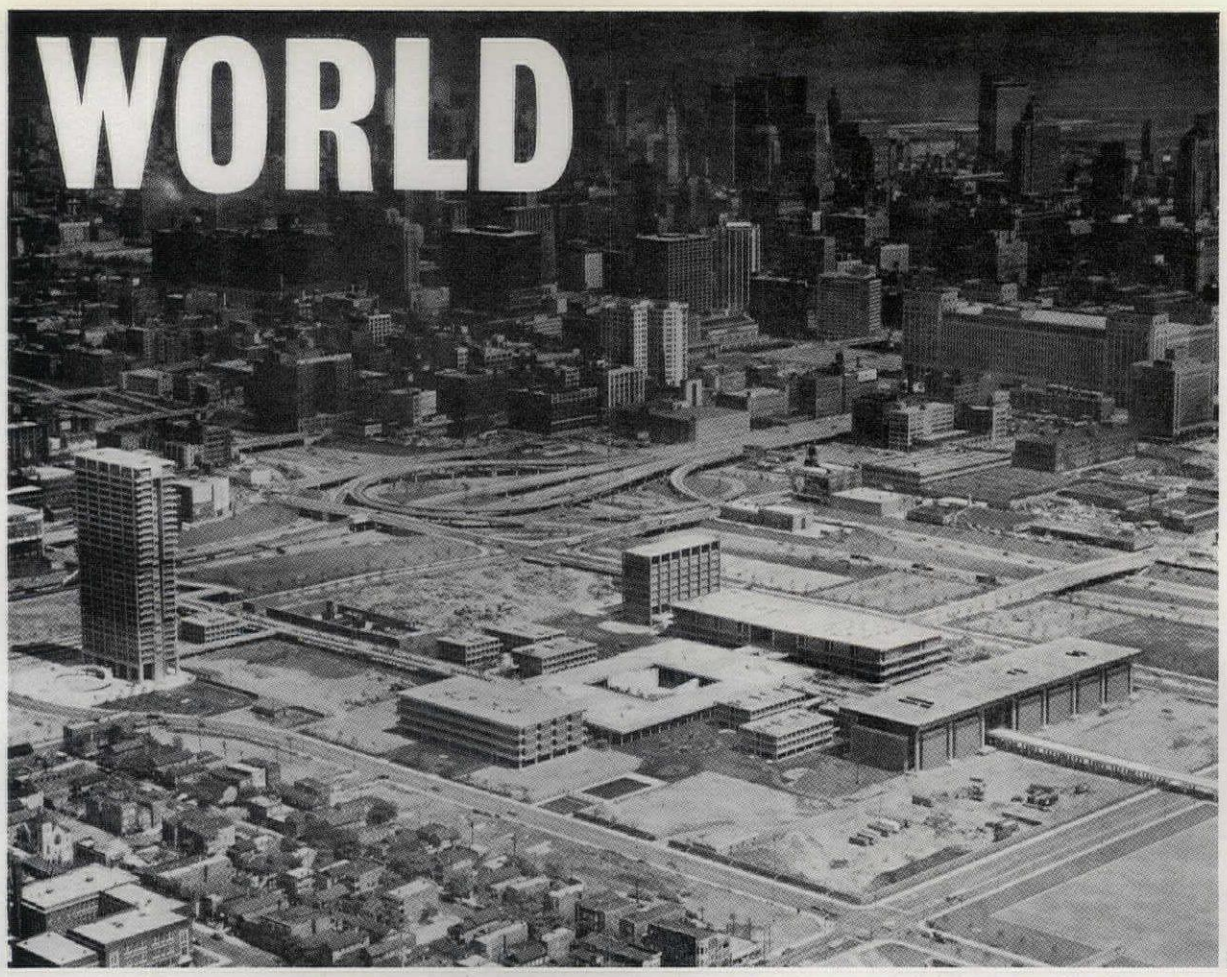
A number of architectural and other commonly used sections, as well as sheet, are held in stock by Alcan's authorized stockists, Aston-Stedall Aluminium Warehouses Ltd. and Aluminium Goods Ltd.

ALCAN

ALCAN INDUSTRIES LIMITED

Supplying Britain's builders with more than aluminium

WORLD



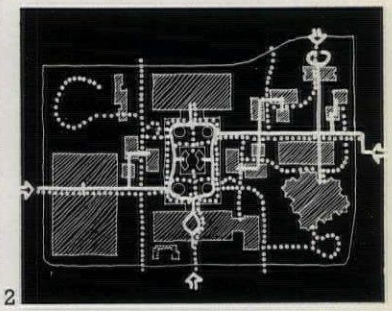
1

CIVIC UNIVERSITY

The Chicago Circle campus of the University of Illinois, 1, designed by Walter Netsch, of Skidmore, Owings and Merrill, is the first new university which is not merely urban in philosophy, as so many in Britain now are, but is thoroughly urban in setting. The first phase occupies 40 out of 106 acres of slum clearance, with the dense towers of the Loop behind. Two years' building has provided space for 9,000 students and 1,100 staff, and in four years there will be 20,000 students and 3,000 post-graduates.

Circulation is all-pedestrian, on two levels, 2 (cars are left at the perimeter): majestically straight 'pedestrian expressways' tying the university together at first-floor level, 1, and more intimate enclosed spaces with curving garden paths at ground level, 3. The hub is a giant plaza over the lecture centre, 4, in which the 21 clustered halls are focused on an open-air amphitheatre, 6, seating 1,000.

Buildings are arranged by function



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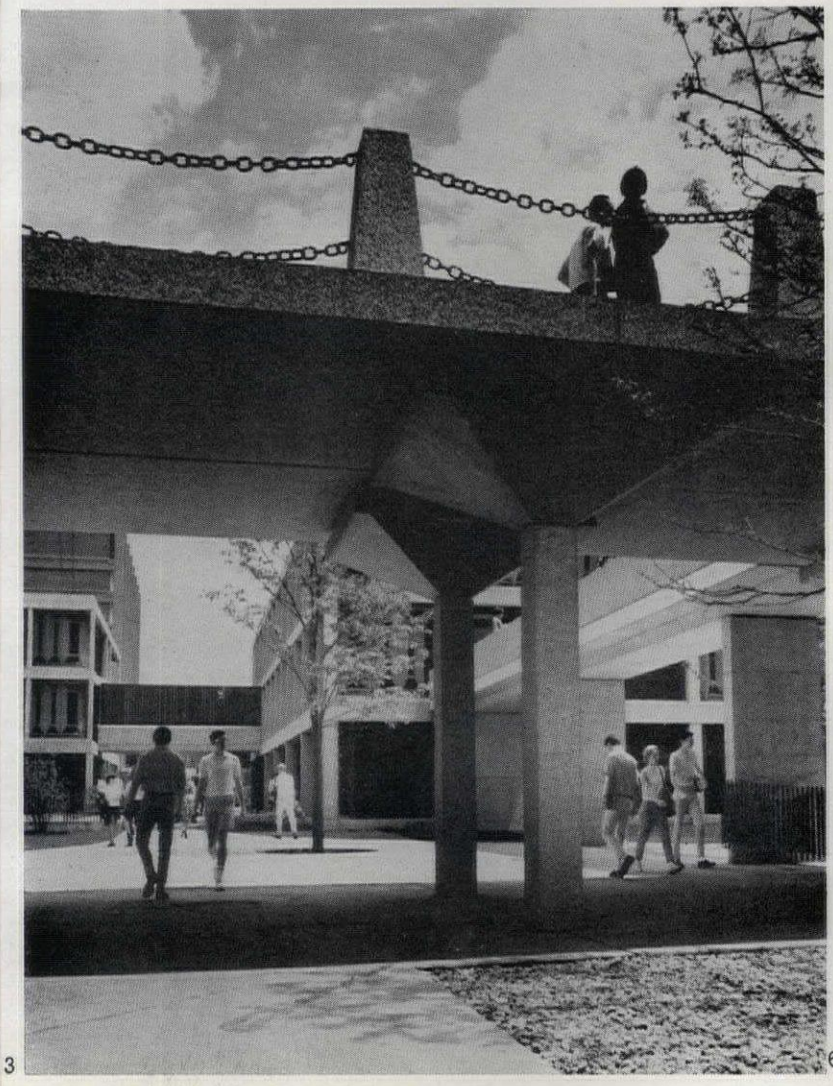

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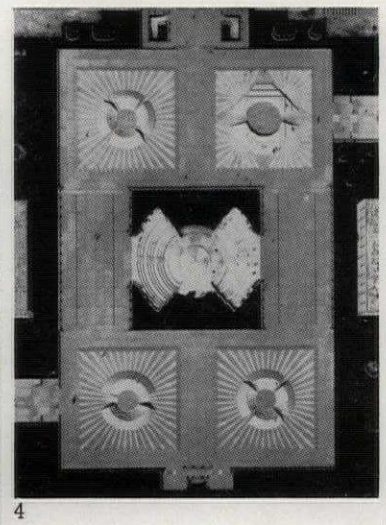
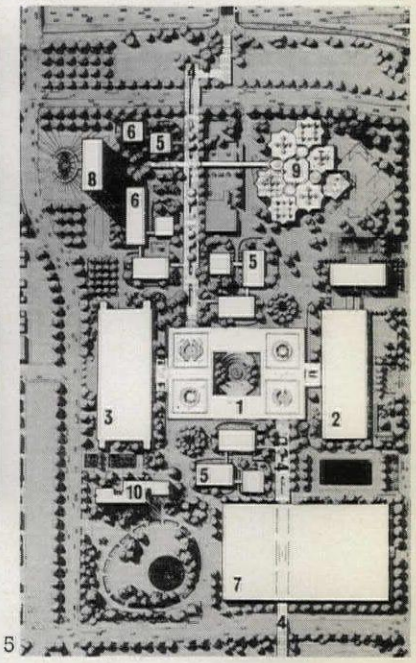


4

key
1, lecture centre
2, students' union
3, library
4, elevated walkways
5, classrooms
6, future classrooms
7, engineering and science laboratories
8, university hall
9, future architecture and art
10, future engineering and science offices



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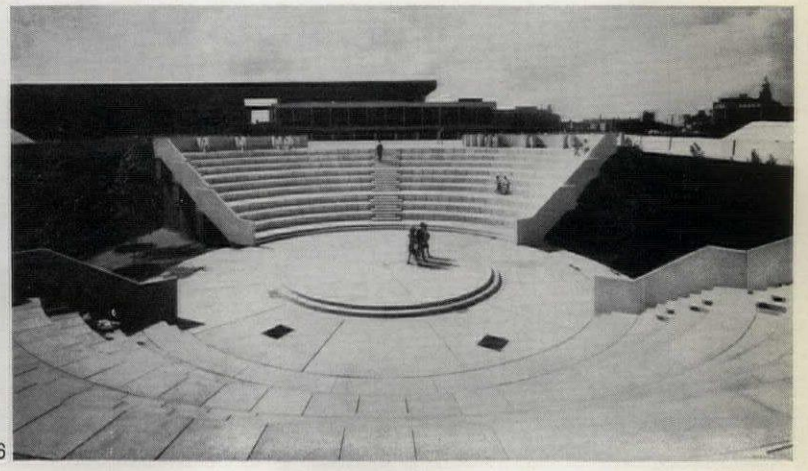

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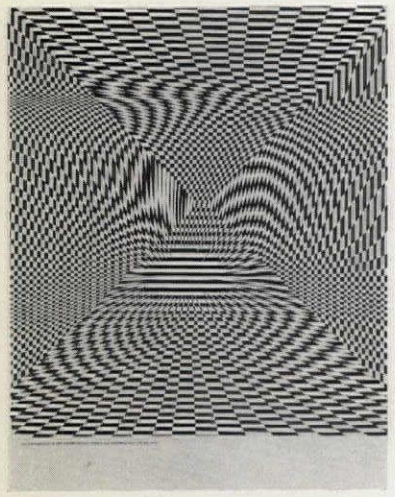
acknowledgments

WORLD, pages 391–394: 1–13, 18, 19, 32, *Architectural Forum*; 16, 17, *Design* (India); 20–23, *Progressive Architecture*; 25, K. Kotikova. VIEWS AND REVIEWS, Pages 395–398: 1, Henk Snoek; 2, CoI; 3, 4, Edgar Hyman; 8, Library of Congress; 6, Harry Sowden; 9, Galwey Arphot. DOCTORS' SURGERY, CLAPHAM, LONDON, pages 403–405: Henk Snoek. HOUSE AT STANMORE, MIDDLESEX, pages 406–407: Galwey Arphot. UNIVERSITY OF YORK, pages 408–420: Galwey Arphot. A WALK IN SPACE, pages 421–425: 1–15, Browne Arphot. INTERIOR DESIGN, pages 431–434: Ben Schnall. ELECTRICAL ENGINEERING BUILDING, LIVERPOOL UNIVERSITY, pages 438–443: Galwey Arphot. DESIGN REVIEW, page 444: Galwey Arphot. GALLERY, pages 445–448: Treasures from the Museums, 1–5, Toomey Arphot; 6, Studio 57; 7, Kerry Dundas; 8, Marlborough Fine Art; Light and Water, 1, Toomey Arphot; 2, Felicia Cronin; 3, Bob Clark. MISCELLANY, pages 451–458: Waterworks in Los Angeles, Penelope Reed; Expanding Universities, W. v. Poswik; Brasilia: The Embassies, Guy Playfair. SKILL, pages 460–464: 1, BRS. STOP PRESS, pages 465–466: 2–8, Nairn Arphot.



In **this month's cover** *the AR pays its respects to the current fashion for Op Art. The design, by the Italian experimental photographer, Vincenzo Ragazzini, demonstrates the architectural significance that Op Art can achieve with its sense of spatial depth and perspective. Ragazzini, it may be noted, was at one time an architectural student in Rome. He recently held an exhibition of his photographs in Rome and is planning one for London where he at present works.*

THE ARCHITECTURAL REVIEW

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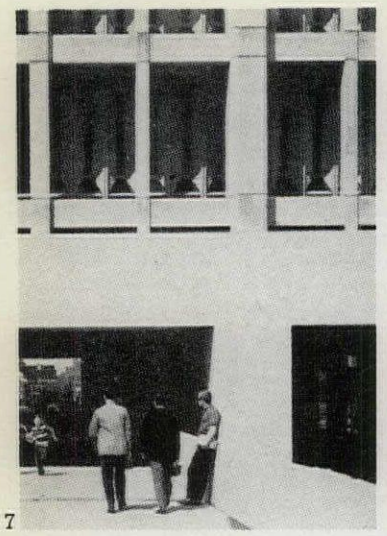
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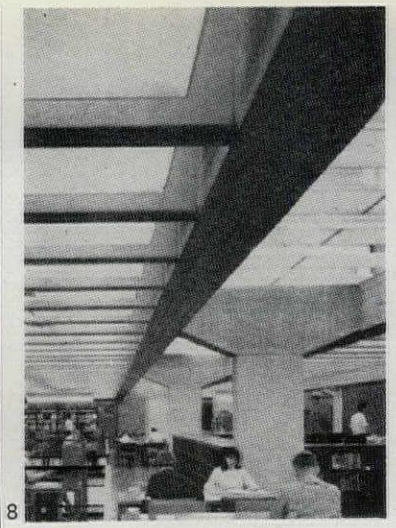
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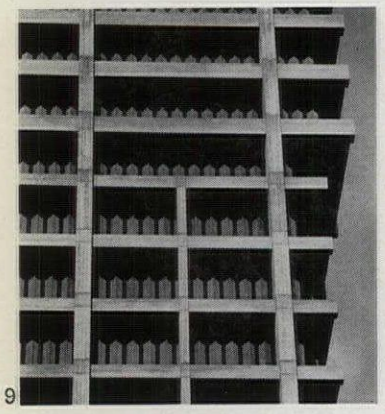
FUNCTIONAL HIERARCHY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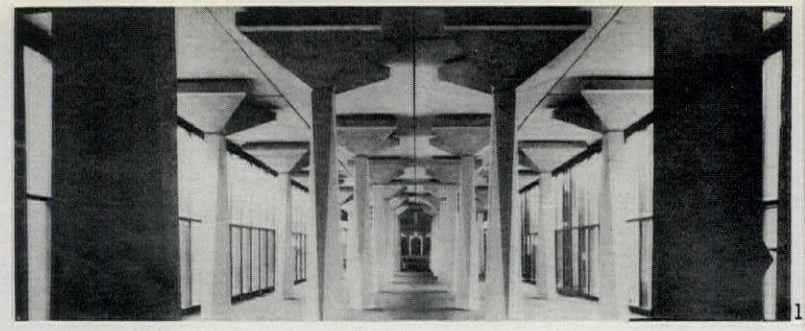
and not by discipline—classrooms with classrooms and labs with labs. All faculty offices are in the single tower of University Hall, left in 1 (AR World, September), so the dons walk vast distances, whereas the students have their union and library at the centre of traffic. The whole scheme is perhaps the most thorough and successful attempt there has been to replace the civic order of former eras, based on a social hierarchy, with a new functional order.

Netsch has allowed freedom in form, within six basic rules: that the concrete frame should have the minimum of steel reinforcement, 9, expressing different loads by different thicknesses; that materials should be indestructible: granite, hard-surfaced brick, textured concrete; that each building type should have its own modular scale, 7; that ducts and lighting should be integrated with an exposed roof structure, 8, eliminating hung ceilings; that the fenestration, 9, should be opaque enough to avoid blinds; and that proportions should wherever possible be on the Golden Section.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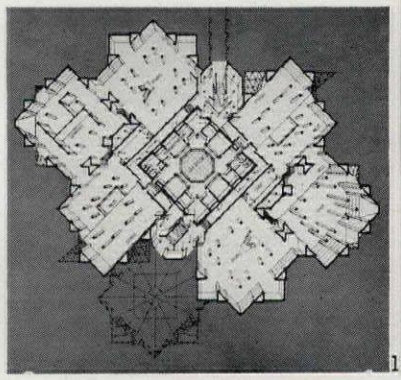
The walkways are, surprisingly, of structural granite slabs, 3, with the bottom surfaces left rough—this proved cheaper than granite as a concrete finish. Unfortunately, official caution at this novel use of an ancient material has led to a veritable forest of columns, particularly in the lecture centre foyers, 11. The same columns, enlarged to 60 ft. and turned 45 degrees, define the giant 75 ft. by 112 ft. bays of the engineering and science laboratories, 10, which form the southern gateway to the campus—the facing bricks are of the same type but double the size of those elsewhere.

Netsch wants his next university to be 'more a single system, not a group of objects,' and his next building at Chicago, for Architecture and Art, suggests the prototype for such a system. At a focal point north of centre (see site plan, 4), it breaks all his rules: in its star-shaped plan of interlocking 80 ft. and 88 ft. squares, 12, in its disguise of brickwork, 13, above all in its functional unity, in that it has its own offices and library.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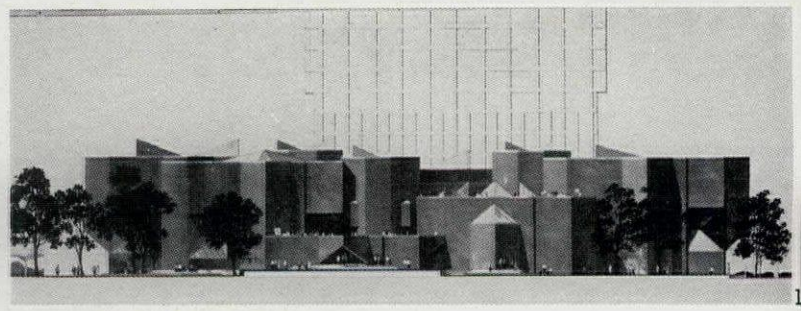
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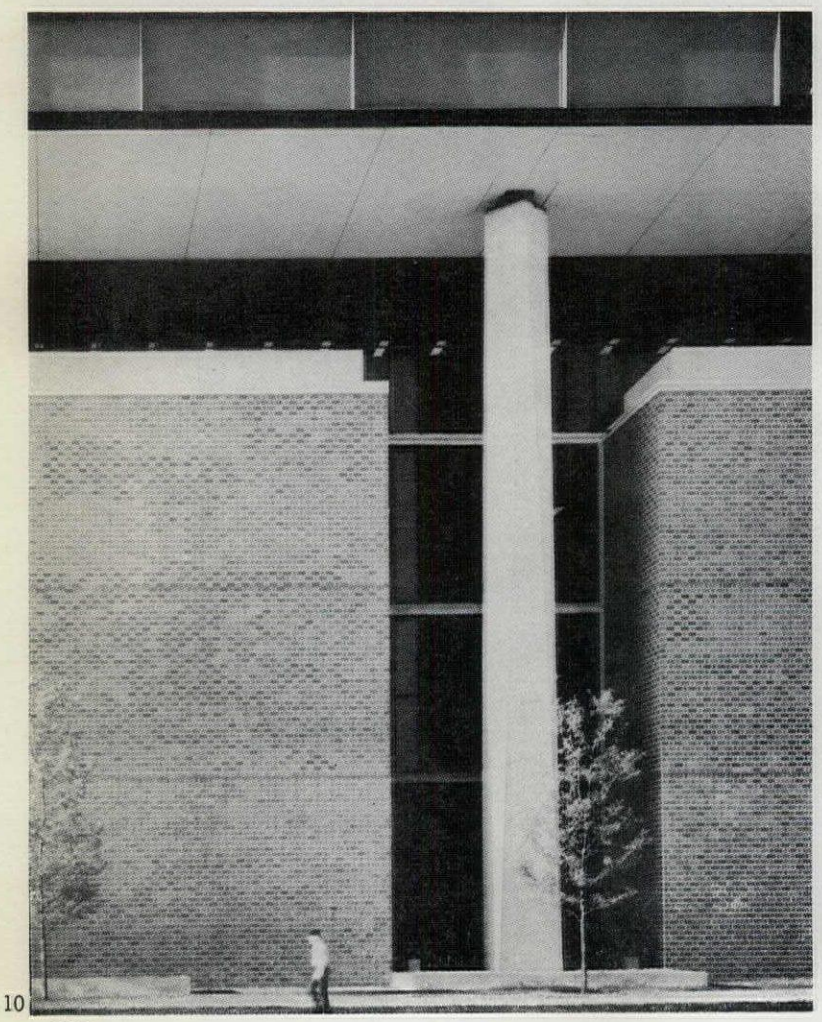
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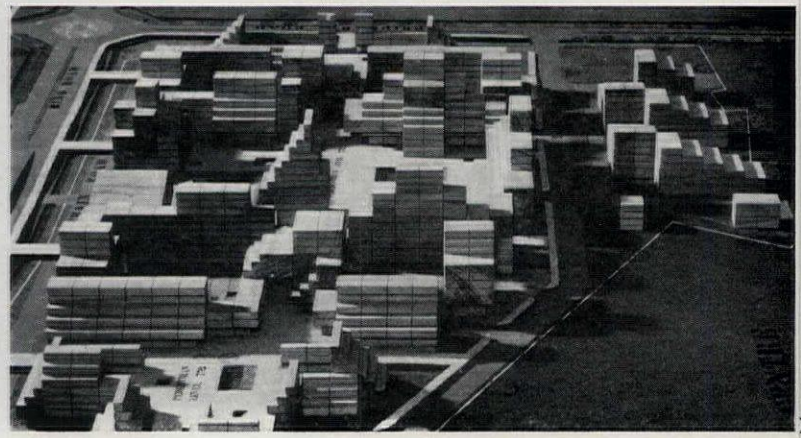
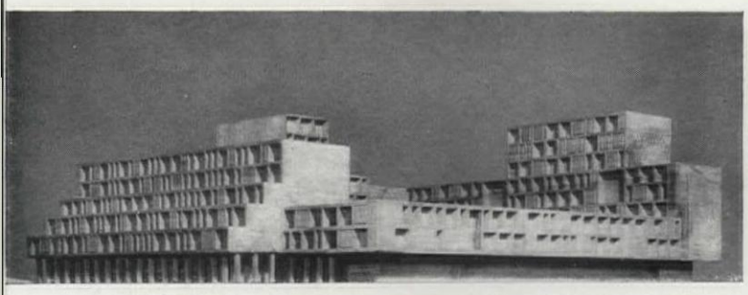
INDIAN ENCLOSURES

There has been a highly satisfactory result to the largest architectural competition ever held in India, for the 35-acre Ramakrishnapuram shopping centre, situated on Delhi's ring road and serving a population of nearly 300,000. It will contain 300 shops, 140,000 sq. ft. of offices, cinema, museum, art gallery, open-air theatre, parking for 1,000 cars and 200,000 sq. ft. of flatted factories. The winning scheme, 14, is by Raj Rewal and Kuldip Singh, two thirty-year-old teachers at the Delhi School of Planning and Architecture. Their layout reflects their English training: vertical segregation of pedestrians and cars, high density low-rise blocks with the consistent use of a stepped section, and the creation of a continuous sequence of pedestrian spaces brought to life by mixing uses.

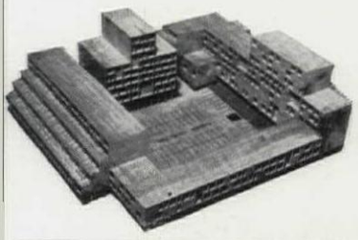
Two things, however, distinguish this Indian plan. The facade treatment,

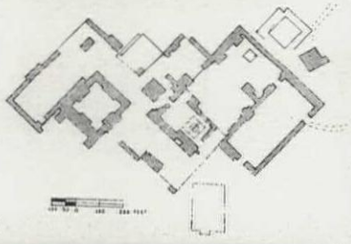


DELHI SHOPPING CENTRE



15, is flexible, based on two different sizes of unit which can be arranged to fit individual requirements; this is a response to the need to sell the centre in small individual plots after the Government has carried out the building work. Secondly, the detailed manner of enclosing spaces (16 shows one of four service courts) is based by the architects not so much on Western precedent as on Indian examples, such as the Moghul city of Fatehpur Sikri, 17, with its careful balance between variety and continuity.





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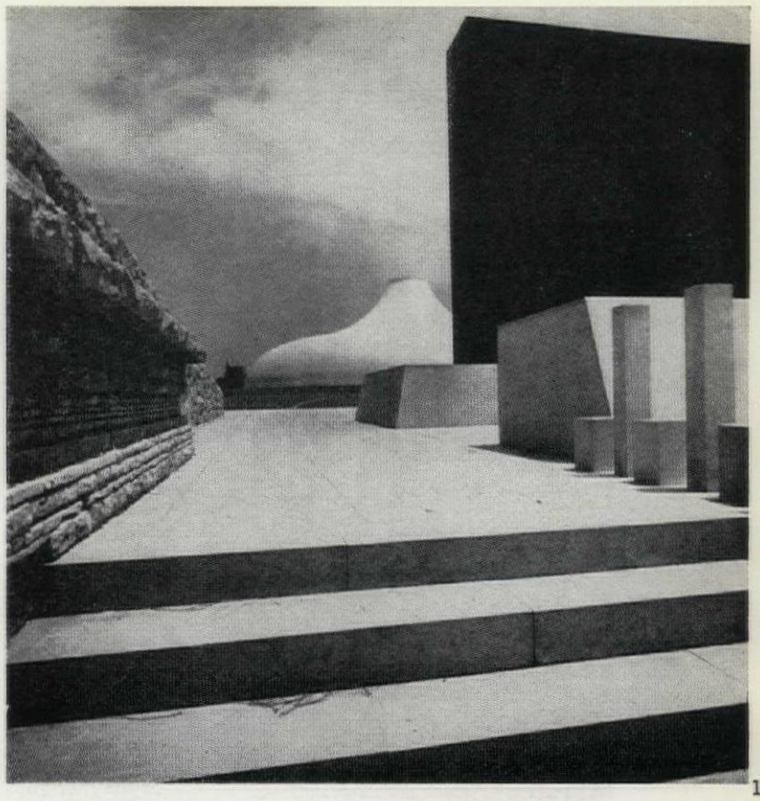

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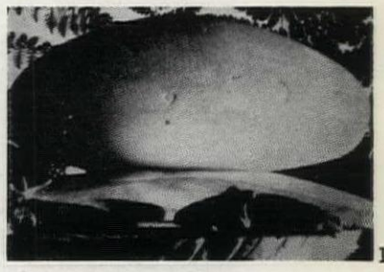
SCROLLS WITHIN SCROLLS

Frederick Kiesler's philosophy of Correalism was born in the *De Stijl* movement over 40 years ago, and, being anti-functionalist, he has now re-emerged as a fashionable mystic. The major work of his Indian summer is the Shrine of the Book and the Sanctuary of the Dead Sea Scrolls at Jerusalem (partner, Armand Bartos). 'The Shrine,' he says, 'is an experience in *ideological architecture* (his italics) annihilating the 50-year-old pseudo-functional architecture which took its cue from the technological advancement of science . . .'

On its hillside site next to the disappointingly subfusc pavilions of the National Museums, Kiesler's shrine has a rare opportunity to impress its own mysterious townscape on the visitor, 18. He has always cherished the idea of infinity, as in the Eighth Street Cinema of 1928 or the Endless House of 1953, 19. The white-tiled double paraboloid of the shrine itself, 20, rises from a pool, curiously ambiguous in scale, part giant, part jewel (there are 276,000 individual tiles). Approach to its interior is made below deck level, 21, along a low and brooding corridor, 23. From the far end steps lead dramatically up, 22, to the main exhibit of the Isaiah Scroll, set beneath the infinitely disappearing scroll-like concrete dome. Local materials are used everywhere, including much rock-faced masonry.



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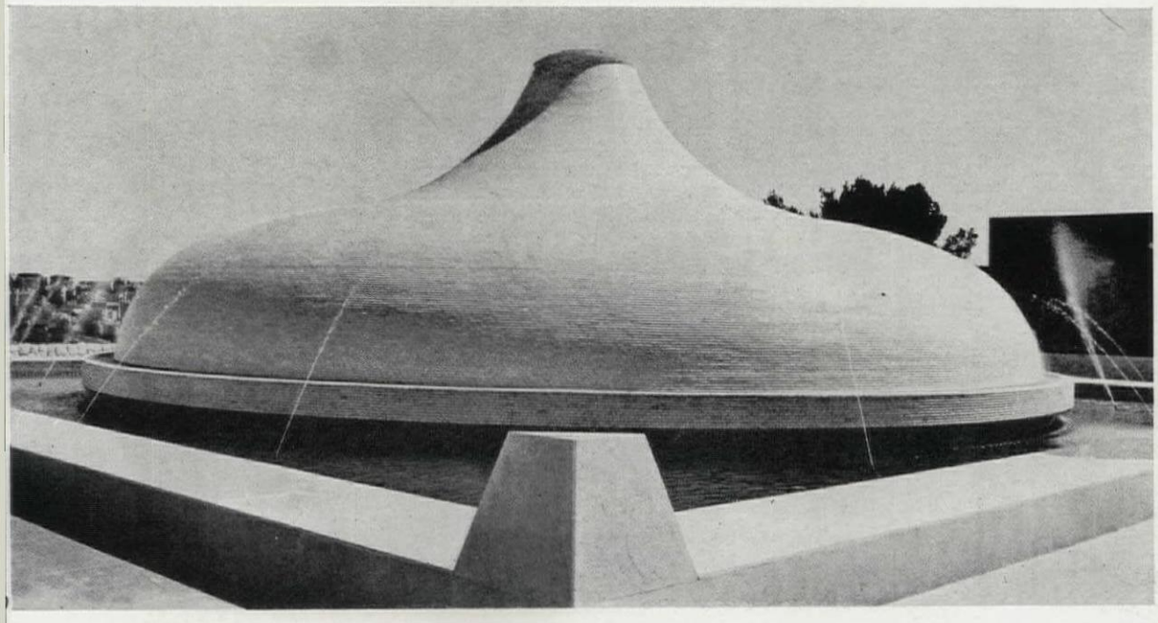

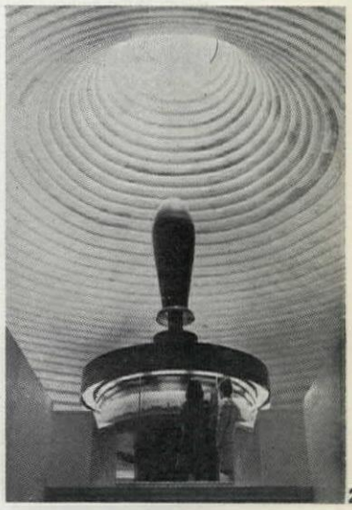

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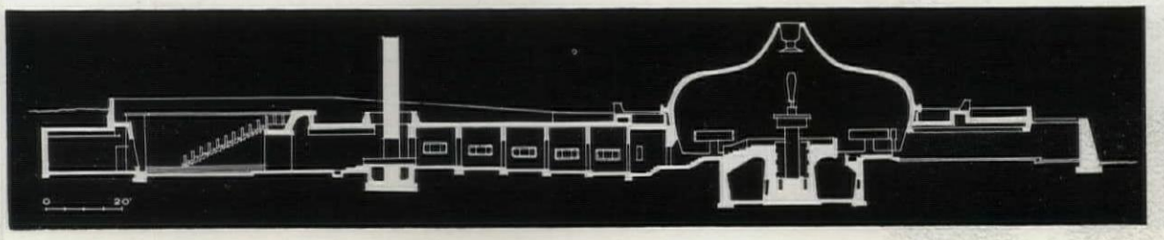

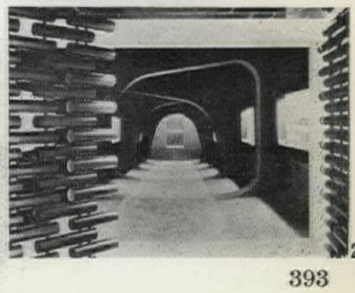

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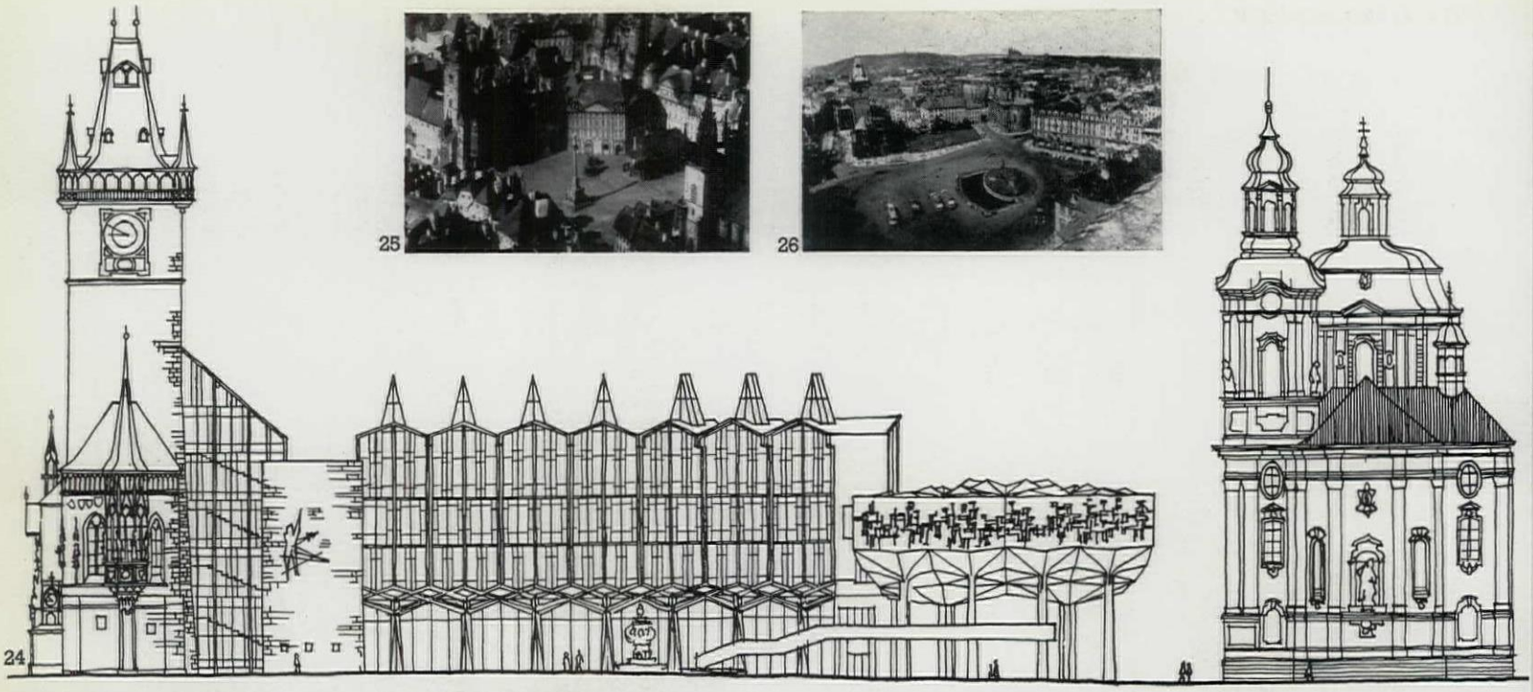

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26

PRAGUE RESURGENT

In the 1963 first stage of the competition for the Old Town Square of Prague, the design by M. Pavlik and V. Vohlidal, 24, which was one of the six first prize-winners, seems to have been a landmark in Eastern European architecture which largely escaped Western notice. The principal new building, the town hall, will be sandwiched between the surviving Late Gothic tower and Dientzenhofer's Baroque church of St. Nicholas. Originally the square was tightly enclosed and irregular, 25. Later developments badly damaged it, 26: Nobile's outsize Gothic town hall of 1838 (destroyed in 1945), the 'comprehensive' rebuilding of the north side in *c.* 1900 (right in 26), the demolition of the palazzo in front of St. Nicholas's, the wide new road cut in from the south-east, the pretentious sculptural group in honour of Hus. There have been five fruitless competitions for a new town hall since 1901.

In 1963 the other prize-winners followed orthodox post-Stalinist modernism (stripped classical further stripped), 27. Even the more radical runners-up, such as K. Kouba and J. Matyás, 28, showed a crushing insensitivity to human scale and failed to reclaim convincing spaces and textures. Pavlik's and Vohlidal's general scheme, 29, can be faulted on points of detail, such as the crude lean-to link to the tower, but it does recapture some of the lost qualities—for example, the oblique glimpses for which Dientzenhofer designed his church. Without any fussy historicism, its consistent concrete structure develops similar themes to the one authentically Czech modern style—the short-lived cubist movement of 1911–14 (see Hofman, AR World, May, 1965). Whether this design will be selected after the second stage (results imminent) we shall see.

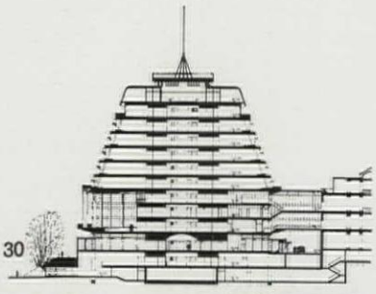
27

28

29

BIG DRUM

Sir Basil Spence's synthesis of traditional glamour with modern technique will probably excite the usual mixed responses (popular admiration, expert infuriation) when exported to the Montreal Expo (see page 395) and to the parliamentary precinct of Wellington, New Zealand. Wellington's new 'hub,' 31, is to be tacked on to the half completed Parliament Buildings of 1911–18. The section, 30, distinguishes clearly the granite-faced plinth, the bridge link acting also as a *porte-cochère*, the three main reception floors continuing the 1911 cornice line, the six diminishing floors of ministerial suites with closely set precast mullions, and the copper clad crown of the cabinet suite. Undeniably impressive as a symbolically busy beehive, the design leaves in doubt how redevelopment of the 1911 building might relate to it.



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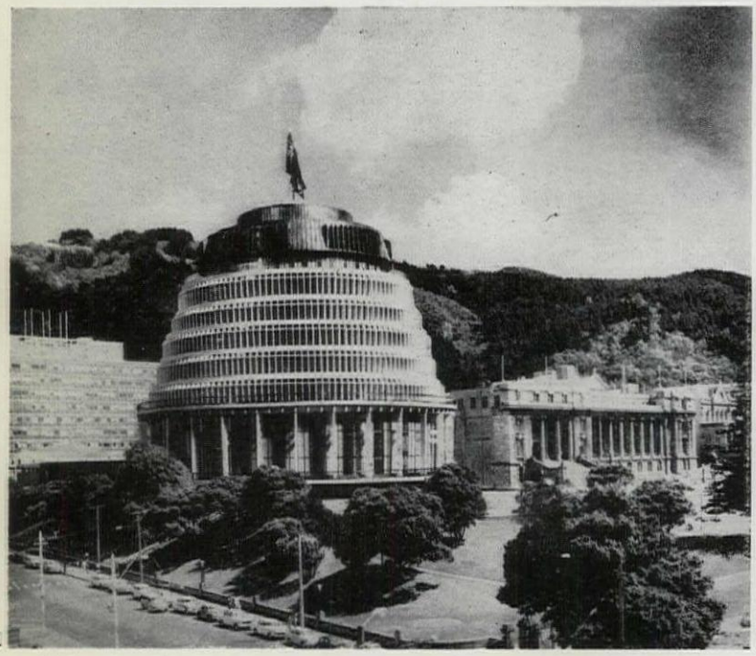

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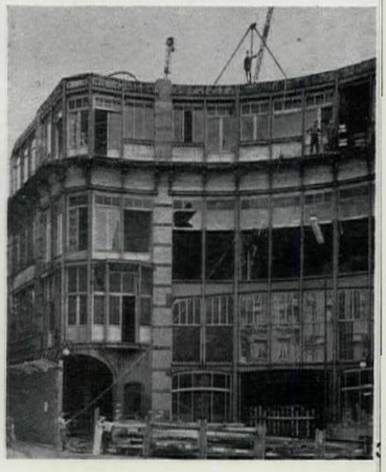
EXIT HORTA

Victor Horta's masterpiece, the Maison du Peuple (socialist headquarters) of 1896 in Brussels, has been destroyed for roadworks, 32, in spite of international protests. Whatever schemes for salvaging parts there may be, no one can recover the freely flowing site, which formed a quarter of an oval *place*. It is not as if the centre of Brussels is burgeoning with good new architecture in compensation—the Common Market headquarters is a diluted revivalist disgrace and the sole triumph, the Banque Lambert, is by foreigners SOM.



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VIEWS AND REVIEWS

marginalia

MONTREAL '67

Preparations for the World Exhibition at Montreal (April to October, 1967) are now well under way and the design for the British pavilion, by Sir Basil Spence, has been made public together with the names of the designers who will be responsible for the five sections of the interior.

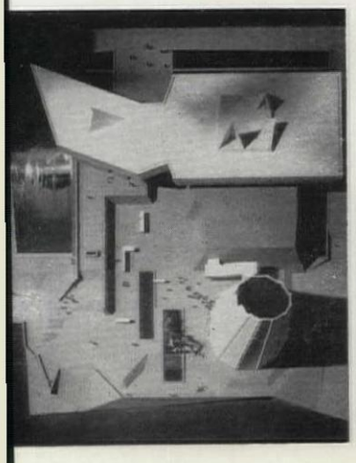
The building — shown in model form below—is planned round a paved courtyard, which extends in the form of terraces and steps to the edge of a lake. It is an abruptly modelled sequence of halls and galleries, with walls rising out of pools of water to emphasize the water-side character of the pavilion—as well as the maritime history of the nation it represents—terminating in a conical tower 200 ft. high. It will be all white externally—faced with asbestos, wood-wool and concrete blocks — and windowless, since the whole interior will be artificially lit and air-conditioned.

The five sections are designed to be visited in sequence and are entered from the courtyard, which is reached from one of the main avenues of the exhibition by crossing a bridge over one of the pools and then passing under a wing of the building. The general theme of the interior displays is 'The Challenge of Change', and the five main sections will deal with different aspects of this theme. They are (with their designers): historical section, occupying the base of the tower (Sean Kenny); British achievements, in the upper part of the tower, reached by escalator (Beverley Pick); modern Britain, across a bridge from the tower (James Gardner); British industry (Theo Crosby); and Britain's response to the challenge of world problems (Mario Armengol).

F. H. K. Henrion will be responsible for graphics and typography throughout the pavilion. The site architect will be John Bland (of the Montreal firm of Bland, Lemoyne and Edwards), head of the architecture department at McGill University.

The co-ordinating architect for the exhibition, which is sited on a group of islands in the St. Lawrence seaway, is Edouard Fiset. So far 59 countries have stated their intention to participate. Alongside the site of the British pavilion is that of the French—exactly the same size and also fronting on to the lake. Its architects are Jean Faugeron and André de Mot. Nearby will be the Canadian Federal Government pavilion.

1, 2, model of the British pavilion for the Montreal '67 World Exhibition. See note above.



2

EXTENDING THE TATE

Although final approval for the scheme to extend the Tate Gallery has not yet been given, and although the scheme itself has not yet been worked out in full architectural detail, enough has now been made known to provide a picture of the main lines of the project. Its designers are Llewelyn-Davies, Weeks and Partners, who were commissioned by the Ministry of Public Building and Works to undertake a 'feasibility study' of the possible ways of providing the additional space the gallery urgently needs. Their recommendations are embodied in a report that has already been approved in principle by the trustees and is being studied by the various authorities concerned.

Its somewhat unexpected recommendation is that the extension should be built across the front of the existing building, between it and Millbank and the river, which would involve demolishing the steps and portico and would obscure the view of the present building from this direction. It is an undistinguished piece of late Victorian classical (Sidney R. J. Smith, 1897) and the general opinion seems to be that its disappearance would be no great loss to London; the architects make out a strong case for siting the extension here rather than on the vacant plot at the back.

Its chief purpose is to provide gallery space for the temporary exhibitions which now occupy space that properly belongs to the permanent collection, and if these new galleries were added at the back, they could only be reached through the present galleries, whereas it is desirable that they should have separate access, giving them their own identity and permitting, if need be, independent hours of opening. A second entrance for this purpose at the back would create security and administrative problems and in any case it is thought that a public building of this standing should have its entrance at the front. Moreover, to enter it from the side or front would also create difficult traffic problems.

The new galleries have been planned in a three-storey building running the full width of the Millbank front with an access road within the present forecourt. The building will also contain a greatly enlarged entrance hall, a lecture theatre and a restaurant with views over the river.

ROYAL DESIGN

If Windsor Castle does not yet seem an obvious place for good modern design, a start has been made with two exhibition areas designed by Alan Irvine in the neo-Tudor vaulted area known as the Undercroft, part of Sir Jeffry Wyatville's reconstruction in 1825. Commissioned first to lay out a collection of the royal dolls, 3, in the area next to Lutyens's Dolls' House, Irvine went on to design in an adjacent space a much larger permanent exhibition of the Royal Collection of Master Drawings.

3

3, exhibition of royal dolls at Windsor Castle and, 4, the display for the Royal Collection of Master Drawings. See note 'Royal Design.

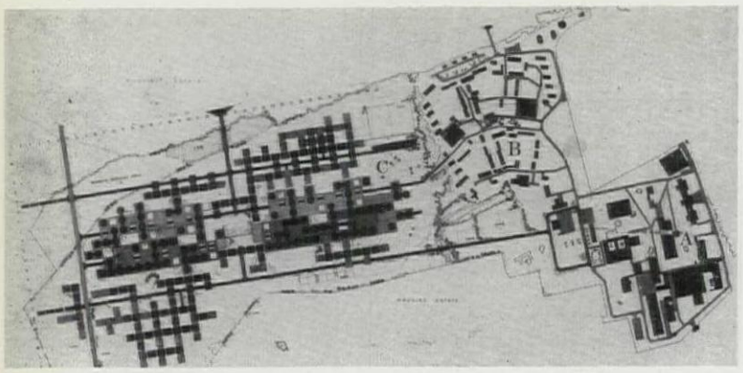
4

Great care has been taken to preserve the architectural character of Wyatville's spaces, 4, the drawings being mounted on wall panels or on back-to-back panels between the columns. Lighting is partly by pressed glass spot-lamps hidden between the ribs of the vaulting and partly by specially designed lamps.

About 65 drawings can be seen at a time, and their frequent exchange for others in the collection is made possible by hingeing the glazed bronze frames within the panels veneered in black bean. The glass is placed only $\frac{1}{8}$ in. from the drawing, so that close examination is possible. Examples on show at present are by Leonardo, Michelangelo, Holbein, Claude and Paul Sandby (his views of the Castle). Alan Irvine is a Royal Designer for Industry; it is an encouraging trend in official patronage that he should now be also a royal designer for royalty.

COVENT GARDEN'S FUTURE

Even though there is no sign yet that the site of Covent Garden market—when the vegetable and flower market have moved away, which they are expected to have done by 1972—will get the imaginative treatment proposed by Kenneth Browne in AR, March, 1964, at least it is not to be handed for



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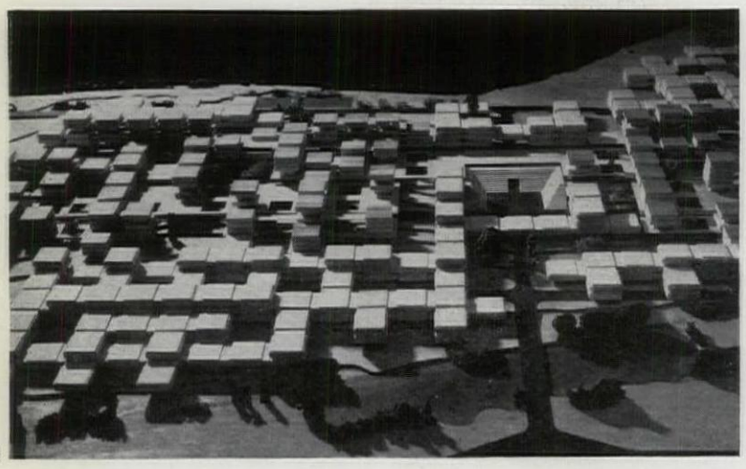
The latest, and one of the last, of the present generation of new university plans is that by Arup Associates for Loughborough University of Technology (as the existing CAT is shortly to become). The need for unpredictable growth and flexibility of departmental arrangement has been thoroughly thought out. From the two existing teaching and residential areas (A and B on plan, 5) a linear core (C) of communal and residential buildings will run westward, with the teaching buildings stretching outwards from it in many directions—a development of the Lancaster University idea (AR July, 1964). The new buildings, with a northern entrance drive, 6, will be constructed within a 50 ft. master grid, corresponding to the span of each structural unit in the teaching areas. There are lesser grids for detailed planning, services and structure, forming a tartan of related but not coincident grid lines. The residential and communal buildings, while relating to the overall pattern, will be much more free in detail. The diagrammatic model and plan show one possible layout for 5,000 students (there are 1,500 at present); eventually there will be 10,000 to 20,000.



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exploitation to the developers. The Greater London Council has announced the formation of a consortium of three authorities to replan it comprehensively: the GLC itself, Westminster city council and Camden borough council. A professional and technical team is being formed, led by R. M. Rookwood, one of the GLC's senior planning officers, which will work full-time on the project for at least three years under the control of the planning officers of the three authorities.

It is intended to get the area officially designated as an area of comprehensive development. It appears, however, from the announcement that the consortium is not necessarily to carry out the rebuilding, since it refers to applications for development being referred to the planning team for their observations. It is to be hoped that any commercial participation will be strictly controlled in London's interest, and will only be allowed subject to a three-dimensional master plan.

The announcement refers to a big increase in the resident population of the area ('possibly in new forms of the traditional London square') and to increased recreational and cultural activities.

NEW YORK VICTORIAN

The recognition of the need for Victorian preservation is recent in this country. It is even more recent in the United States, where legislation for the preservation of buildings is more fragmentary than here (see the note by Mr. Anthony Dale in the September AR). However, the City of New York has this year introduced a law creating a Landmarks Preservation Commission with six architects among its eleven members. The commission can designate landmarks and historic districts which thereafter are subject to architectural controls, referring (very strangely) to exteriors only. The provisions of the law contain a safeguard against 'demolition by neglect' and in cases of hardship make tax remission or even tax exemption possible. The law was drafted with a view to nineteenth-century buildings more than the older ones, which are less in danger.

Two recent instances of preservation, one in the City, the other in the State, of New York are especially gratifying. The former is the preservation, restoration and conversion to a branch library, of the Jefferson Market Courthouse by F. C. Withers & Calvert Vaux, 7, built in 1875–76 in a jolly, entirely asymmetrical 'Second Pointed'; the latter is Lyndhurst, at Tarrytown on the upper Hudson, A. J. Davis's grandest Gothic mansion, 8, built in 1838–41, and enormously enlarged by him for George Merritt in 1864–65.

Jay Gould moved there in 1878 and bought the estate in 1880. In 1964 his youngest daughter, Anna, Duchess of Talleyrand-Perigord, bequeathed it to the American National Trust. Since then it has been restored and opened as a museum. Much of the furniture designed by Davis for Merritt still survives. In the superbly landscaped grounds is a greenhouse, 400 ft. long, which has yet to be restored; it was also built by Davis for Merritt and was rebuilt in 1881 after a fire. The March-April number of *Historic Preservation*, the journal of the National Trust (vol. XVII), is entirely dedicated to Lyndhurst, with many excellent illustrations of c. 1870 from the Merritt family collection.

correspondence

POLES IN COMPETITION

To the Editors.

SIRS: In the World section of your September issue, under the title 'Distinct Containers' you state: 'The first international competition for some time to produce a genuinely exciting idea (instead of boxes fitted together by Polish architects) was that for the Kursaal in San Sebastian'.

It is true that 'for some time' Polish architects have scored an impressive number of some 35 prizes in international competitions all over the world: Venice, Madrid, the former Belgian Congo, Tunisia, San Francisco, Dublin, etc., to mention only a few of the first and second prizes. Juries in these competitions were composed of prominent architects of the respective countries and representative of the International Union of Architects, as a rule men of international repute. If your statement on the boxes fitted together is to be taken seriously, it would be a very sad testimony not only for thousands of competitors of practically all nationalities but also for those prominent people who were appointed to select the best projects and who awarded the prizes. The simple conclusion would be that the standard of international architecture has sunk very low indeed in our days—or else that you did not take the trouble of getting acquainted with those projects you are criticizing so severely and forming an impartial and well considered opinion on the subject.

By the way—I do not know Mr. Jan Lubicz-Nycz, the designer of the scheme which in your opinion is the 'first exciting for some time,' but his name sounds unmistakably Polish.

Yours, etc.,

S. PIOTROWSKI

University of Aleppo.

The particular competitions we had in mind were those for University College, Dublin, Madrid Opera House and Tronchetto Island at Venice. There is no doubt that Polish architects have had an extraordinary success in international competitions recently, but study of the designs suggests that this is because they have hit upon the safe norm on which international juries find it easy to compromise. In the case of Madrid there was probably a conscious fear of choosing another Sydney.

As regards Prof. Piotrowski's last paragraph, he evidently missed the intentional self-mockery in our selection of Jan Lubicz-Nycz (Britain) as the competitor who was poles apart from the others. *The Editors.*

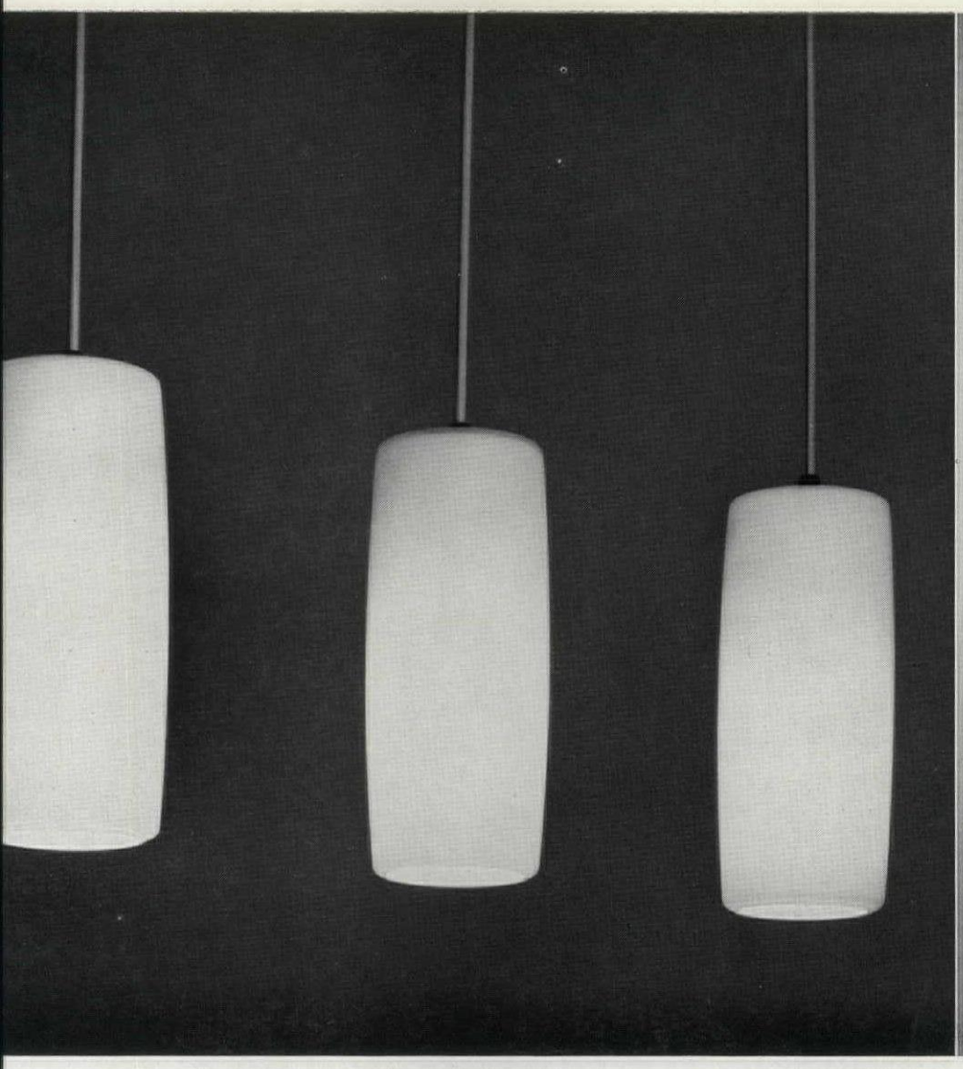
COUNTERPOINT IN SHEFFIELD

SIRS: Whilst normally an admirer of the efforts of your outrage bureau to maintain architectural values, I feel that your appeal (AR, August) for the remains of the Scala cinema to be incorporated in the plan for the development of the university precinct at Sheffield is, to put it mildly, misguided. The facade shown in your

7, the Jefferson Market Courthouse, New York, and, 8, Lyndhurst, Tarrytown, NY State. See note 'New York Victorian.'

7

8



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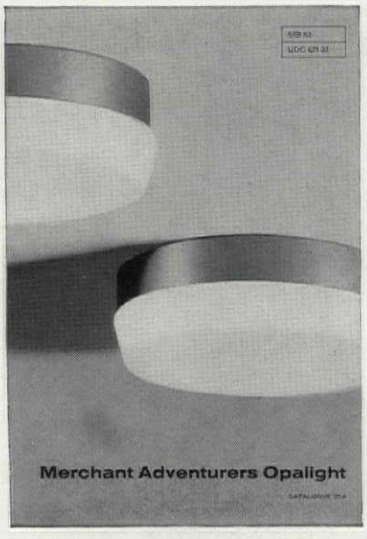

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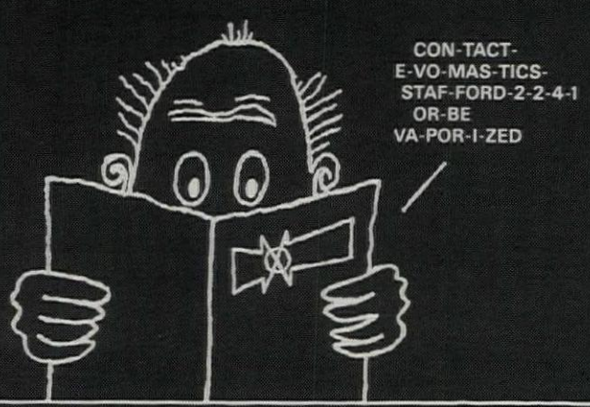


*Science, yes. Fiction, no.

**Aren't you glad you learned to read?

photograph is virtually all that re-
nains, the rear of the old entrance
oyer is enclosed by an asbestos sheet
creen, and the general condition of
he building can only be described as
n eyesore.

Even were it complete, the mongrel
letail and poor scale of the design
vould not enable it to fulfil the role
f counterpoint which your corres-
ondent advocates. This question of
roviding counterpoint to modern
vork is of course extremely valid, but
nly a short distance from the Scala
s the fine red brick pile of the existing
ivic university building, with qualities
hat admirably provide the element of
ounterpoint, and this the architects to
he university are using precisely for
his purpose.

Yours, etc.,

K. H. MURTA

Department of Architecture,
University of Sheffield.

OUTRAGE IN HYDE PARK

To the Editors.

IRS: It is distressing to see trees of
eaven dying in Hyde Park. I refer to
he group of four ailanthus on the
orthern side of the restaurant by the
ridge across the Serpentine. These
rees were reaching the glory of their
naturity and their death will leave an
bvious gap in the planting of the
ark. It appears that their death is
lue to the construction of the res-
aurant car-park; in some cases levels
ave been raised and the tarmac has
een laid too close to their trunks.
his is the more unfortunate because
here is plenty of room for car-parking
paces to be dispersed neatly under the
rees without damage or prejudice.

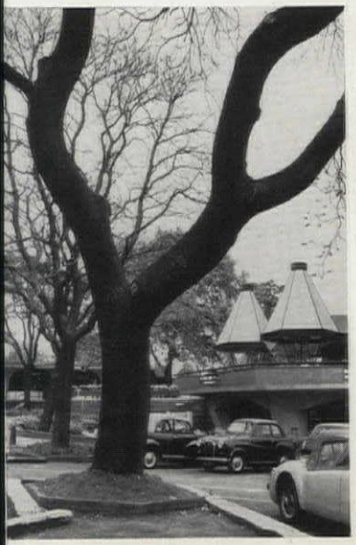
One would have hoped that the
essons of the Park Lane widening,
vhen a number of trees suffered un-
ecessarily, would have been learned
y the authorities by now. But why
lo we have to have motorcars rushing
hrough the Park at all? It's hell to
ry and cross the road into the Park
nd into Kensington Gardens now.

Yours, etc.,

BODFAN GRUFFYDD

London, W1

. the dying ailanthus trees by the Serpentine estaurant in Hyde Park (see letter from Mr. Bodfan Gruffydd, who attributes the damage to he asphalt for the car-park being laid too close o them). They have already lost their leaves hile the other trees in the park, when this hotograph was taken, were still in full leaf.



book reviews

THE SIZE OF IT

ARCHITECTURAL SCALE. *By Heath Licklider. London: The Architectural Press.* 30*s.*

The whole business of aesthetic theory in architecture is far more complicated than the theorists—throughout history—have ever dared to admit. Except in the narrowest sense—as for example that a rectangle of a certain proportion, whether a meadow or a postage stamp, is pleasanter than a rectangle of a different proportion—there are very few real principles or rules. Aesthetics are subjective, not objective. The Parthenon may be beautiful, but not all the measuring and analysis in the world prevent it from appearing more beautiful to the fanatical philhellene than to the Dagenham housewife on a package tour. The Victorian romantic, gazing rapturously upon a mouldering Plantagenet tomb, will — almost literally—see something that, say, Wren never saw. And even an enlightened observer will look a little closer at a high rise building in Chicago if he knows that Sullivan had a hand in it, than he would if he had left his guidebook in the car. Electric pylons can be beautiful—in the abstract—but that does not mean that we want them on the South Downs since, at least to subjective natures, they then *become* ugly because they are the right thing in the wrong place . . . although their actual form is unchanged.

There lies the danger of any and, indeed, of all the books on theory—from Vitruvius on. Even Vitruvius can be wrong: an archaic and badly proportioned Doric order, on a promontory at Agrigentum, gives us the deep poetry of primevalism; becomes beautiful not by reason of geometry but by reason of situation . . . and a dozen other subtle things. This poetry inherent in architectural beauty is undeniably real; it is a reality that neither Vitruvius, nor Alberti, nor Palladio, nor any of their successors have been willing to face. The reason is simple. That sort of fact, save in Freudian terms, is irrational and therefore incapable of analysis. Any book on aesthetic theory, therefore, must be read subject to this all-important caveat . . . it can be only half the story. Mr. Heath Licklider's book is no exception.

One must not, however, blame Mr. Licklider for not writing the sort of book that he never intended to write. What he has done—even if, in some form or other, it has been done again and again—he has done admirably. One might disagree, perhaps, with his title as being too narrow. The aesthetic ingredients of an architectural totality—scale, harmony, proportion, composition—are each different from the other, each capable of precise definition; and Mr. Licklider deals with more than one of them, though all under the heading of Scale. Proportion, for example, is the relationship between two parts—say, the two sides of a rectangle—and is independent of scale. The 'unresolved duality' can exist whether in the design of a vase or a palace—and, again, is quite independent of scale. Scale is a specific thing; it is not size; it is the size a thing looks, and whether it looks the size it is. A cottage door and the Arc de Triomphe are the same proportion; they are a different size; they both have scale because one looks as small as it is, the other as big as it is. They are correct, which is not to say that, subjectively, we need love them.

However, one need not quarrel with the author of this book because of his use of words, except that he perpetuates a confusion which one finds so often in the student, and it is presumably for the student that he is writing. His analyses and his sketches could hardly be better. There are scores of sketches which, every time, make the author's point. His main object is to discover the real relationship between the lines we draw on paper and the building we eventually walk through. This is to ask a lot, and even if it involves so much more than scale, we may still say that Mr. Licklider has succeeded. And that, with such an elusive subject, is a very considerable achievement.

R. FURNEAUX JORDAN

GAY GUIDE

LINCOLNSHIRE: A SHELL GUIDE. *By Henry Thorold and Jack Yates. Faber & Faber.* 15*s.*

If, two years ago, I had been asked to name the English county most in need of a good guide, I should have replied without hesitation: Lincolnshire. Today, happily, the situation is very different. The fine, large *Buildings of England*, volume by Dr. Pevsner and Mr. John Harris, has been followed by an excellent *Shell Guide*.

There is ample room for both. The *Penguin* book is, of course, far more detailed in its architectural descriptions, a big, full Burgundy which includes many buildings unnoticed by the authors of the *Shell Guide*. The latter by comparison is champagne, sparkling, gay, easy to read, yet with much skill in the blending. Architecture is still the chief, but by no means the only, concern. 'Grimsby looks towards the sea and seems not to influence the rest of the shire unless it be by its evening paper.' Louth, two photographs show us, has superb early nineteenth-century street nameplates, which are 'in danger of tasteless replacement.'

Mr. Thorold and Mr. Yates are both Lincolnshire men who know and cherish their uncharming but splendidly characterful county. Their photographs are often beautiful technically and chosen with imagination and wit. (No one should miss those ten cheeky cowls at Grimsby on page 70.) Some are of very unfamiliar buildings: who, for instance, has heard of the lovely mid-Georgian *Petit Trianon* ('the Shatoo') at Gate Buston on the Trent, south of Gainsborough? This seems to derive from Ebberston Lodge (now Hall), Colin Campbell's precious miniature in Yorkshire.

Too recent even for Dr. Pevsner and Mr. Harris is the sad recording of the dynamiting, in 1965, of Bayons Manor, Tealby, a building which, in 1960, Mr. Girouard found 'more beautiful and more romantic than many genuine castles.' But 'the forlorn dismal railway station' at Bourne referred to on page 38 vanished a couple of years ago.

I have one grumble. Some of the illustrations are nowhere near the descriptions of them, and there are no plate references. If in future *Shell Guides* these could be inserted, users would be grateful.

ALEC CLIFTON-TAYLOR

AMERICAN AFFINITY

LANDSCAPE ARTIST IN AMERICA: THE LIFE AND WORK OF JENS JENSEN. *By Leonard K. Eaton. University of Chicago Press, Chicago and London,* 1964. $10.

Interest in the history of nineteenth and early twentieth century landscape design in the United States increases: studies are under way on Andrew Jackson Downing and Frederick Law Olmsted, Sen., and only recently Mr. Roy Lubove has written the introduction to a reprint of H. W. S. Cleveland's *Landscape Architecture as Applied to the Wants of the West* (*University of Pittsburgh Press, Pittsburgh,* 1965. $2.95). Mr. Leonard Eaton's study of Jens Jensen (1860-1951) fits clearly into this pattern.

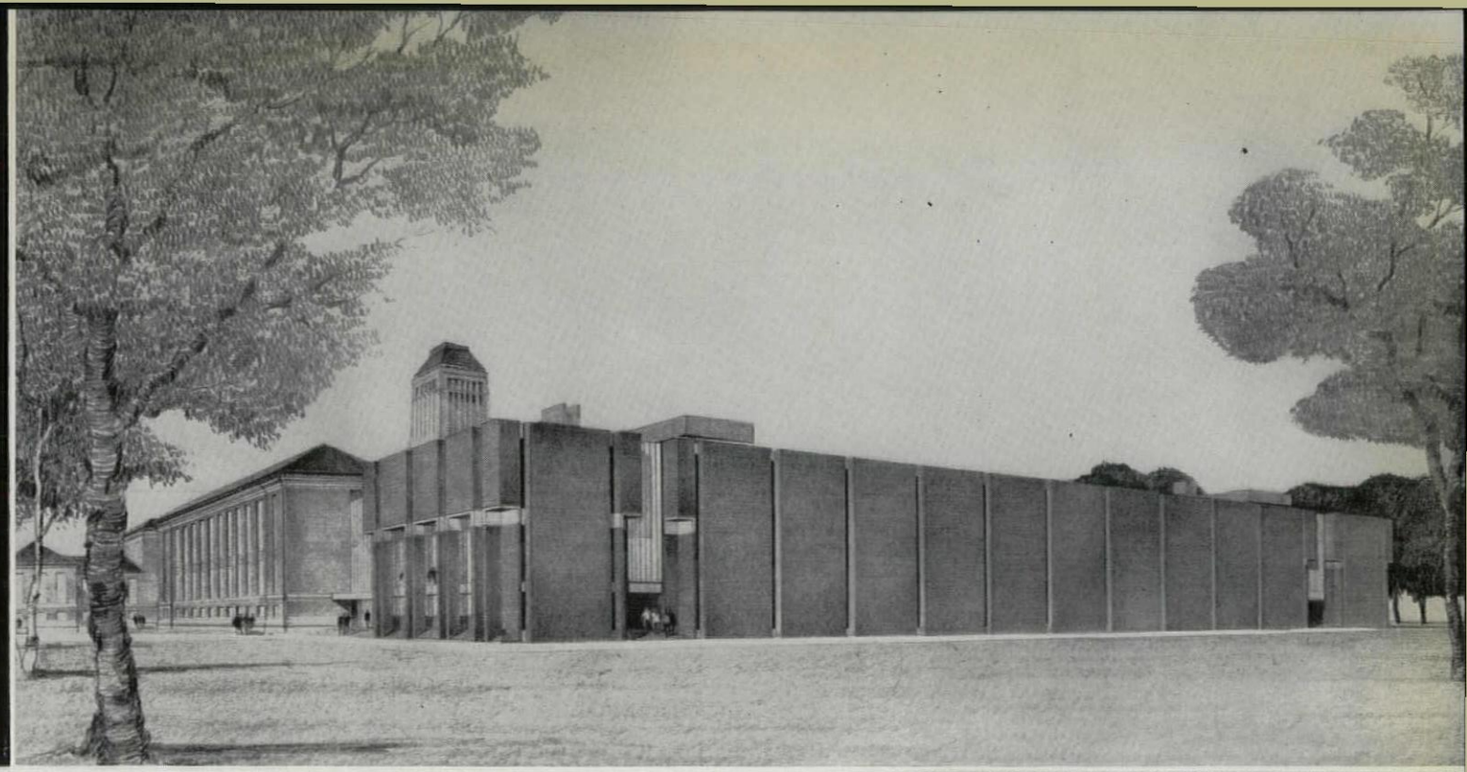
Born a Dane, Jensen went to the United States at the age of twenty-four and found in the Midwest a countryside reminiscent of the land around his father's farm in Schleswig. He felt at once an innate affinity with the prairie country. But it was in the city, in Chicago, that he began his career. The time he spent with the West Side Park System there coincided with the civic renaissance after the 1893 Columbia Exposition, with the Burnham Plan of 1909 (to which Jensen contributed), and of course with the last works of Sullivan and the first of Wright. Moving later into private practice, Jensen enjoyed the patronage of such clients as Henry and Edsel Ford, Ogden Armour, Julius Rosenwald, Samuel Insull and Herman Paepcke.

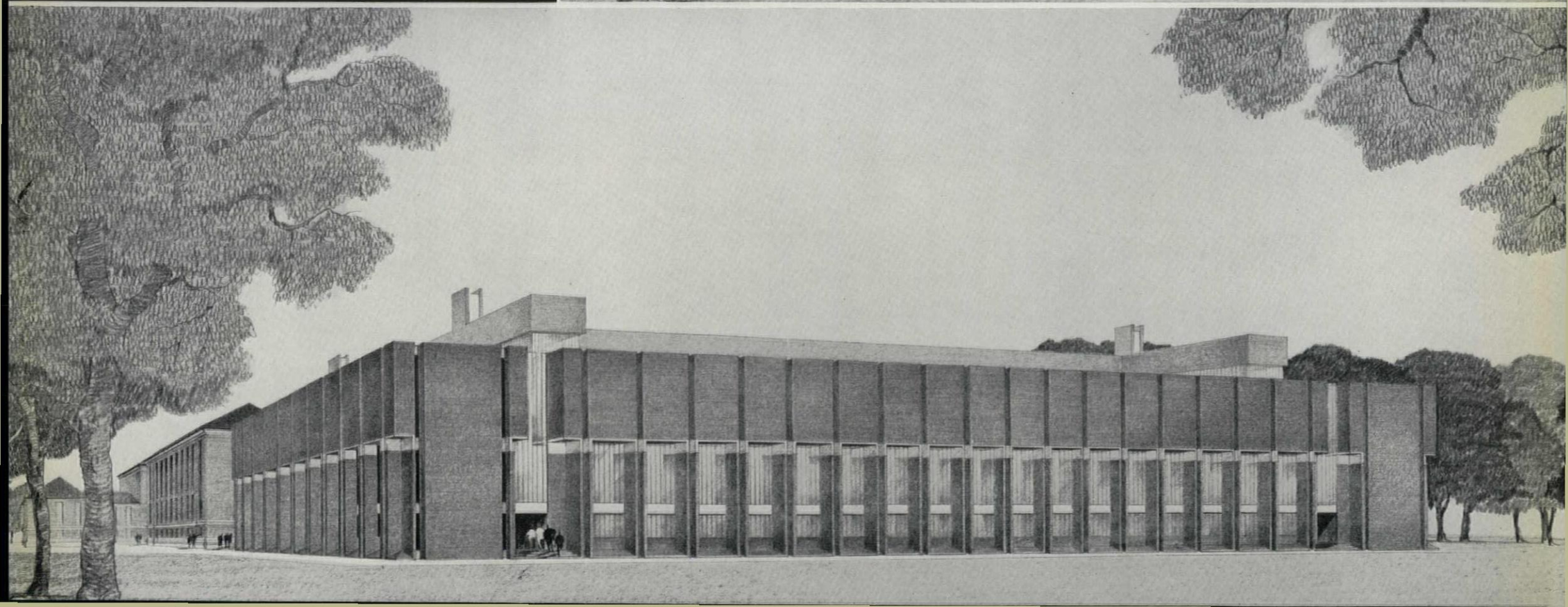
Jensen fought hard for conservation. In due course, however, he became increasingly distressed by the growing urban plight around him. Ultimately, in 1935, as the tentacles of Chicago reached out, he founded The Clearing (a sort of Taliesin) at Ellison Bay, Wisconsin. Here he could indulge his own brand of pantheism: for nature was, to him, religious. 'The real worth of the landscaper,' he wrote in his book *The Clearing*, 'lies in his ability to give to humanity the blessings of nature's spiritual values as they are interpreted in his art.' Interpretation meant to Jensen a search for the intrinsic qualities of a garden or park, and a fervent adherence to indigenous planting. He was, to use Wright's words, a 'nature poet' and, like Wright, he maintained an independence of mind and spirit, a crusading zeal and a dogged faith in his own artistic rightness.

Mr. Eaton, who is a Professor of Architecture at the University of Michigan, is nothing if not an admirer of Jensen, and he tells his tale with considerable grace. It is a grace which is enhanced by lyrical photographs, mostly by Robert Fine. Even so the book has its disappointments: it shows none of Jensen's original drawings; it has few plans and no index. There is an admirable 'Bibliographical Essay,' but otherwise little documentation. Nonetheless we should be grateful to Mr. Eaton for shedding new light on one of America's distinguished adopted sons.

PETER WILLIS

Among the well-known urban landmarks in an antique style that have recently had extensions designed for them in a contrasting modern style are the Tate Gallery—see note on page 395—and Cambridge University Library. But whereas the new building for the Tate (not yet designed in any architectural detail) has been planned across the front of the present building, the new building for Cambridge, illustrated here, is to be added on at the rear—that is, on the west side, furthest away from the Backs. It will be built in two stages: the first (top picture) will contain book shelving in closed stacks for the storage of rare books, allowing the space they now occupy in the present library to be given to open-access shelving, and four new reading rooms; the second stage (lower picture), which will transform the new building into a hollow square, will provide still more shelving, reading rooms and workshop space. The architects (Gollins, Melvin, Ward and Partners) have designed a plain brick-panelled extension that will be a foil to Sir Giles Scott's somewhat overmonumental composition of 1934, but with vertical slit windows that echo to some extent the latter's façade treatment. This preview of an important future building can also serve as a trailer to next month's (January) issue of the AR which will, as usual, be wholly devoted to a preview of projects now on British architects' drawing-boards.





Richard Llewelyn-Davies

EKISTICS

THE FUTURE PATTERN OF HUMAN SETTLEMENTS

This year, in July, the World Society for Ekistics was founded at a meeting in Athens, attended by people from many disciplines and eighteen countries. In August an important conference on urban studies took place in Cambridge, sponsored by the British Government and the Ford Foundation. In August, also, the French Government published the first report on the future of the Paris Region, which is expected to grow to fourteen million inhabitants and to extend to the Channel coast by the end of this century. In September, the establishment of a new Cabinet post concerned with urban development was announced in the United States. These developments show a dramatic change in world attitudes. In the following article Lord Llewelyn-Davies discusses the impact of this surge of interest in Ekistics—a word (from the Greek root oikos*) coined by Constantine Doxiadis, director of the Athens Technological Institute, to describe the science of human settlements. By his work and writings, and as host to the Delos Symposia which gave rise to the new World Society, Doxiadis has played a leading part in making this science a matter of world-wide concern.*

In sharp contrast to the problems of health, education and employment, the problems of the built environment until not very long ago aroused little public interest and planning was not a topic of any political significance. This has now changed dramatically. The reasons are well known: first, the explosive increase in population; second, the impact of the motor car, and third, the vast areas of run-down and slum building in many countries[1].

Public concern leads to a demand for action, and action must be based on knowledge. Regrettably, serious scientific knowledge about the problem of human settlements is very scanty. We now recognize that the problems are highly complex and that they cannot be studied by any one academic discipline or any one profession. We shall make no progress unless we can organize collaborative work amongst geographers, economists, sociologists, architects and engineers, as well as professional planners. These studies have to begin by an analytic study of existing settlements. These are the only source of data, and it is only from a firm base of fact that we can safely predict anything about the future. Predicting the future is always difficult and risky, and the predictions may be wrong. The further ahead we make them, the less likely they are to be right, but without some predictions we cannot act at all. The tools at our disposal for analyzing the present have been recently described by Peter Cowan in the *New Scientist*[2]. Our means are inadequate but we have got something to start with. Sociologists have evolved many ways of describing the life of people in cities and are beginning to try to trace out the effect of various kinds of environment on the people who live within them[3, 4]. Geographers have, in the past, rather neglected urban problems, with the exception of a few famous pioneers such as Walter Christaller and R. E. Dickinson, but in recent years they have turned vigorously towards the study of cities[5, 6]. Recently, engineers have developed a new expertise in the calculation of transportation demand and the relation between transportation and land use. The economists are the last comers, although their contribution is of critical importance.

The great bulk of scientific work in the analysis of these various aspects of human settlements has so far been carried out in the United States, where many university centres have been at work, particularly the Chicago School of Social Science, which worked vigorously in this area as long ago as the 1920s. But now research is beginning in many countries all over the world. Great Britain's contribution has come from a different angle; it has been based more on social action than on scientific study. The Garden City movement in Great Britain established an approach which has had great influence all over the world and which was still a dominant force immediately after the war, when the present system of planning control was established and the first wave of new towns was

planned and built. Over the last twenty years a dozen new towns have been built, and development plans prepared and operated for many existing cities. This experience has helped Britain to develop a fairly consistent approach to planning and it has also enabled us to experiment with various methods of social action for the creation of new towns and the development of existing ones. But the theoretical basis on which we have worked is now challenged by the new problems of dynamic growth and change, and by the new and deeper theoretical understanding of human settlements which can be built on the various scientific studies described above.

We in Britain, therefore, face a serious challenge, and we also have a unique opportunity. What we have to do is to bring our traditional Utopian and pragmatic approach, with its lore, convention and experience, into confrontation with the new ways of thinking—based on scientific observation and analysis. If we can do so, we can make a great stride forward and, probably, may be able not only to deal with our own problems, but once again have something of value to offer to the other nations of the world. But to do so, we have to take vigorous action now, and time is short.

First, we must get into much closer contact with others throughout the world who are working on problems of human settlements. While the circumstances of geography and past historic development differ tremendously from country to country, in every great city in the world the problems of the future have much in common. We need a more continuous interchange of ideas and experience on a world-wide basis. We also need to make it easier for active workers to travel, and to work for varying periods in countries other than their own. Today, while it is fairly easy for very senior people to visit around the world, it is often impossible for younger workers to do so, though the world would benefit most from an international interchange of ideas and experience between them. People grappling with the same problems in San Francisco, London, Paris, Lima and Lagos can all learn from one another.

Second, we need to promote multi-disciplinary groups both for study and for action. It has been pointed out recently that the conquest of space is now proceeding at such a rate that there is no real distinction between research and action. In some fields research is no longer a slow academic business carried out by men in universities remote from life, nor is action something which can proceed at its own pace more or less independently of research and development. The two must run together. In scale and urgency, the problems of human settlements are comparable with the conquest of space, and we shall need to bring research and action together in much the same way. This can be fostered by research contracts made by Government with research centres in universities and other institutions. The Research Advisory Group to the Minister of Housing and Local Government is believed to be proposing such a programme.

Are there any indications as to where research is going to lead us or what forms of action we are likely to undertake? Some outlines are already apparent, and a movement towards a new way of thinking about the development of human settlements can be discerned. There are striking similarities from country to country in the modes of thought of individuals and groups who have been working independently of one another. The most general and most important of the new concepts is the acceptance of growth and change as a basic feature in the life of human settlements. Few would question today that cities should be planned to accept change, to absorb a growing population and expanded employment. But this, in fact, is a revolutionary idea. Most previous concepts of the city involved the assumption that there was an optimum size and that growth beyond its size should be forcibly restrained. The full implications of the overthrow of this vital element in traditional planning have not yet been faced or worked out. This can be seen by looking at many current planning proposals. Some of the plans for new towns, and most of the development plans for existing city centres, are still conceived in the old pattern. They show fixed zones for the city centre, the industrial area and the residential areas, and a transport system tailored to this fixed distribution of land use. Such plans implicitly accept fixed size; they cannot absorb substantial growth or change.

It is one thing to accept that growth and change are inevitable and that we should plan to meet them, quite another to know how to do so. The growth of cities cannot be described simply in terms of increased population or increased employment. To plan for it we have to understand the forces which bring it about and the restraints and constrictions which channel it into various directions, good or bad. One important aspect is the influence of the existing town fabric—the buildings, transportation and service networks. At any point in time every city is a huge mass of existing physical plant, in various stages of obsolescence and to varying degrees adaptable to new purposes. An effective architectural and economic description of the fabric of a city, and the analysis of how it changes, is a vital element in any attempt to plan. While some new cities will be built in the next twenty years in virgin country, the vast majority of people will be living in and around historic and existing centres, and the big problem lies here.

Another concept of general significance concerns the diffusion of central functions. Buchanan[7] has shown how disastrous the impact of the motor car could be on historic and highly centralized settlements in England, and the problems of most European and some American cities will be similar. In Italy, where the existing centres often consist of a continuous mass of historically valuable building, a deliberate policy of decentralization is now being put into action[8]. There could be lessons for our historic city centres here. In the United States the same topic is under urgent study[9]. In England we are just beginning to give thought to it, and here again it is much easier to recognize that we need to diffuse employment, shopping and cultural activities more widely, than to find a satisfactory way of bringing this about.

The clue may be to take a closer look at some of the functions and institutions which go to make up urban life. A university, a research centre, or a great business has its own pattern of growth and change. It may need to grow if it is not to die, it may need to move, or it may need to stay where it is. For example, the location of hospitals can be considered as a topic in itself.

How can we contrive the anatomy and physiology of our towns in such a way that while some medical services remain central, and are free to grow on their historic sites, others are leapfrogged outwards into the new built-up areas on the outskirts? Such a topic needs to be studied from the medico-social point of view as well as from the point of view of town planning[10, 11, 12]. A similar approach can be made to the location of cultural institutions, government centres, business centres and industry. One result of such studies could conceivably be a reversal of our current pattern of land values, which forces housing further and further towards the periphery of cities.

A third field for new thinking is linked to the question of decentralization, and concerns the theoretical basis for the planning of transport networks. Most existing networks are radial; that is to say, they consist of roads leading into centres of cities, tied together at various distances from the centre by circumferential links such as the ring roads or ring railways. It is becoming clear that transport networks of this kind induce greater and greater concentration in the centre, force up central land values and tend to extrude housing to the perimeter. This radial network pattern grows up fairly naturally with the historic growth of a city. It was heavily reinforced by the building of the railways in the late nineteenth and early twentieth centuries[12]. By its nature a railway system tends to run in towards a terminal discharge point at the city centre. It is not possible to plan a railway with a diffused or gridiron network, as a road system can be planned. As so many of our great cities were largely built up in the period immediately following the construction of the railways, urban form has been strongly influenced, if not dictated, by the necessary logic of railway planning. Until recently, most of the techniques in transport engineering involved calculating the transport requirements from an existing, or an arbitrarily fixed, future pattern of land use. If we look today at many of the proposals for new roads in cities all over the world it is apparent that they follow very much the same lines as the railways.

If they are so built, they will freeze the anatomy of our towns into a pattern which sprang up in the railway age. Thoughts are now therefore turning to a more general look at transport patterns. We might well pose the question: what sort of transport networks will most easily facilitate growth and change and the movement outward of central functions from time to time as this becomes desirable? If these become the criteria for road patterns, we shall probably see the development of gridiron networks with more or less uniform capacity over the area served[13].

In a mixed economy, as existing in most countries, social action to solve the problems of human settlements can take place in two different ways: by massive, dramatic intervention at a particular time, or by setting up a general legislative and economic framework within which market forces will operate to give satisfactory development. Planners think generally in terms of the former mode of action; economists and politicians of the latter. Both are equally important and both must be pursued if we are to get anywhere near our goals. Dramatic intervention takes place when a major new transport network is built, when an urban renewal project is undertaken, or when massive new housing developments are made by national or local government. These interventions used to be, and still sometimes are, undertaken to solve local problems, without much regard to their effect—for good or ill—on future development over wider areas. Now they can be seen in a fuller context, and we must find the way to use them as pump-priming actions, to stimulate development in directions established by planning, extending forward in time and to wider areas—the region or the nation. So conceived, these interventions can give a push in the right direction, but the effect of the push will be temporary and feeble unless the general planning and economic structure is such as to promote the right development.

We should look at our economic, social and political structure as it affects planning with the following criteria in mind: does it facilitate the necessary shifts in land use which are bound to accompany expansion in population, increased use of the motor car and higher standard of living? Does it lead to a really flexible, fluid way of planning, one in which the people who live in the town can participate, permitting them to change their environment over the years according to their experience as they live in it? Very many of our existing policies would not survive these tests. We may have to rethink many aspects of our planning legislation, our land laws and our fiscal and economic policy.

Finally, perhaps the most important thing is to recognize the change of scale needed in our thought. The single town or city—even the metropolis—is now too small a concept to be useful. We have to think in terms of regions if we are to plan for twenty years ahead, and in still larger areas in planning for the end of the century. There is nothing impossible about this, so long as we face it, as has been shown by Doxiadis, by Jean Gottman in his study of the United States Eastern Seaboard, and most recently by Paul Delouvrier in the Paris Study. One consequence of looking at the picture in this way will be that the future of the countryside will no longer be regarded as something separate from the future of cities. We shall need to plan for the country and the city as one integrated operation. Human needs extend equally over both.

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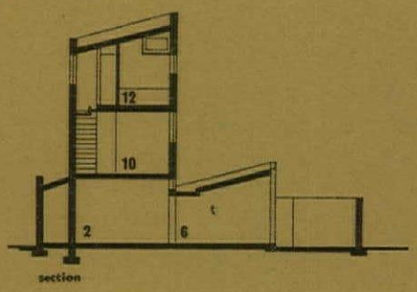
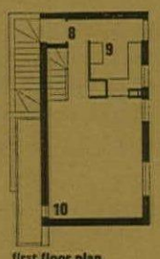
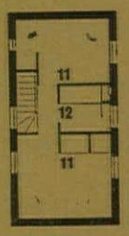


section

DOCTORS' SURGERY, CLAPHAM, LONDON

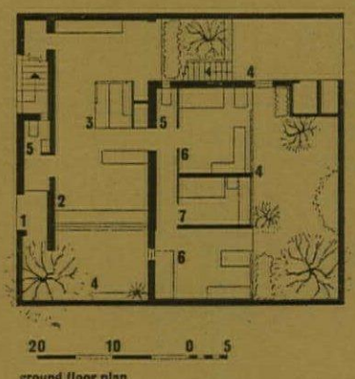


first floor plan



second floor plan

key
1. surgery entrance
2. waiting
3. reception
4. court
5. w.c
6. surgery
7. examination
8. entrance hall of maisonette
9. kitchen
10. living room
11. bedroom
12. bathroom

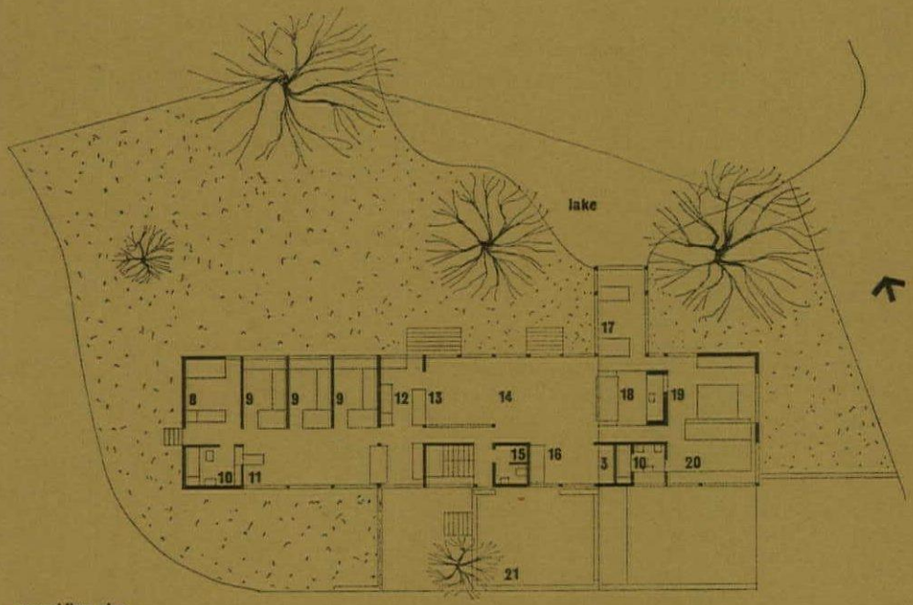


ground floor plan

This is a two-doctor surgery (Drs. B. and M. Pollak) together with a waiting area for 40 patients, with reception, examination room, consulting rooms and lavatories; also residential accommodation for a caretaker or a third doctor. The site—previously derelict—is between Clapham and Brixton at the junction of three streets. The best views (south-west and north-west) are oblique ones up and down Hetherington Road where breaks in the building frontage revealed groups of trees—the remains of the nursery gardens that occupied much of this area at the turn of the century. The aim of the design was to create an inward-looking atmosphere that at the same time counteracted the small size of the spaces, to provide the doctors with a relaxing working environment and to introduce maximum sunlight for doctors and patients. By placing the two-bedroom maisonette above the ground-floor surgery, it was possible to develop the small remaining area of the site as open courts that could be visually combined with the interior spaces. The roof of the single-storey portion slopes to a low headroom to allow sun to reach the waiting room at all times of the day. The roofline of the higher portion is related to the adjoining Victorian terraces, and trees have been planted to strengthen the corner visually and to define the spaces within the street framework. The maisonette and the surgery have been planned so that they could, if required, be converted into two dwellings. Construction consists of second-hand stock brickwork with timber floors and roofs, the latter covered with concrete slates. The timber windows are double glazed. Courts are brick paved, with ground-cover and trees. Heating is from gas-fired boilers, with ducted warm air to the surgery and maisonette.
Job architect, M. Burgess. Quantity surveyors, G. A. Hanscomb Partnership.

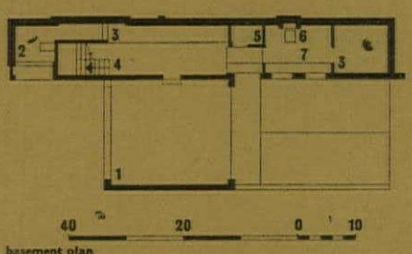
HOUSE AT STANMORE, MIDDLESEX

(*illustrated on pages* 406 *and* 407)



ground floor plan

key
1. garage
2. domestic boiler
3. store
4. entrance hall
5. garden store
6. heating boiler
7. wash
8. maid
9. children's bedroom
10. bathroom
11. playroom
12. kitchen
13. dining
14. living
15. cloaks
16. sun porch
17. study
18. sitting
19. master bedroom
20. dressing
21. terrace



basement plan

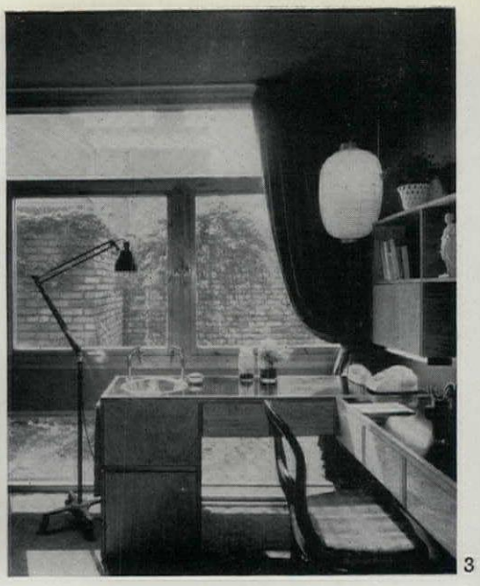
The client, Mr. E. Shenton, required an open-plan house with a self-contained section for three children and help; also a large space, capable of subdivision, for entertainment, with the kitchen acting as the hub of the house. The site, in the grounds of a Georgian house at Aylmer Drive, Stanmore, adjoins a small lake. Though not large, it contained several well grown trees and was landscaped together with the adjoining site. An early decision was made to design a single-storey house (although this meant building over a large part of the site) in order to blend it with the background of trees. A double garage, the roof of which forms a terrace, was excavated, and the problem of a north-facing view over the lake was solved by introducing sunshine at high level into the centre of the house. The house was designed as a sophisticated log cabin, floating above ground and water, and anchored by its brick base. The prefabricated structure consists of laminated beams and rails bolted to posts supported by concrete posts and beams. All external timbers are treated with dark brown preservative. Lighting is concealed within the structure. There are separate gas fired boilers for hot water and central heating. The latter is by thermostatically controlled grilled tubes and by coils embedded in the floors.

1 DOCTORS' SURGERY, CLAPHAM, LONDON

architects **DARBOURNE AND DARKE**

photographs by Henk Snoek

1, the Linom Road elevation, with the surgery entrance on the right and the maisonette entrance left.



2, the waiting area. 3, one of the surgeries, with a view of the courtyard garden.
4, the Hetherington Road elevation, with the single-storey surgeries on the right.

DOCTORS' SURGERY, CLAPHAM, LONDON

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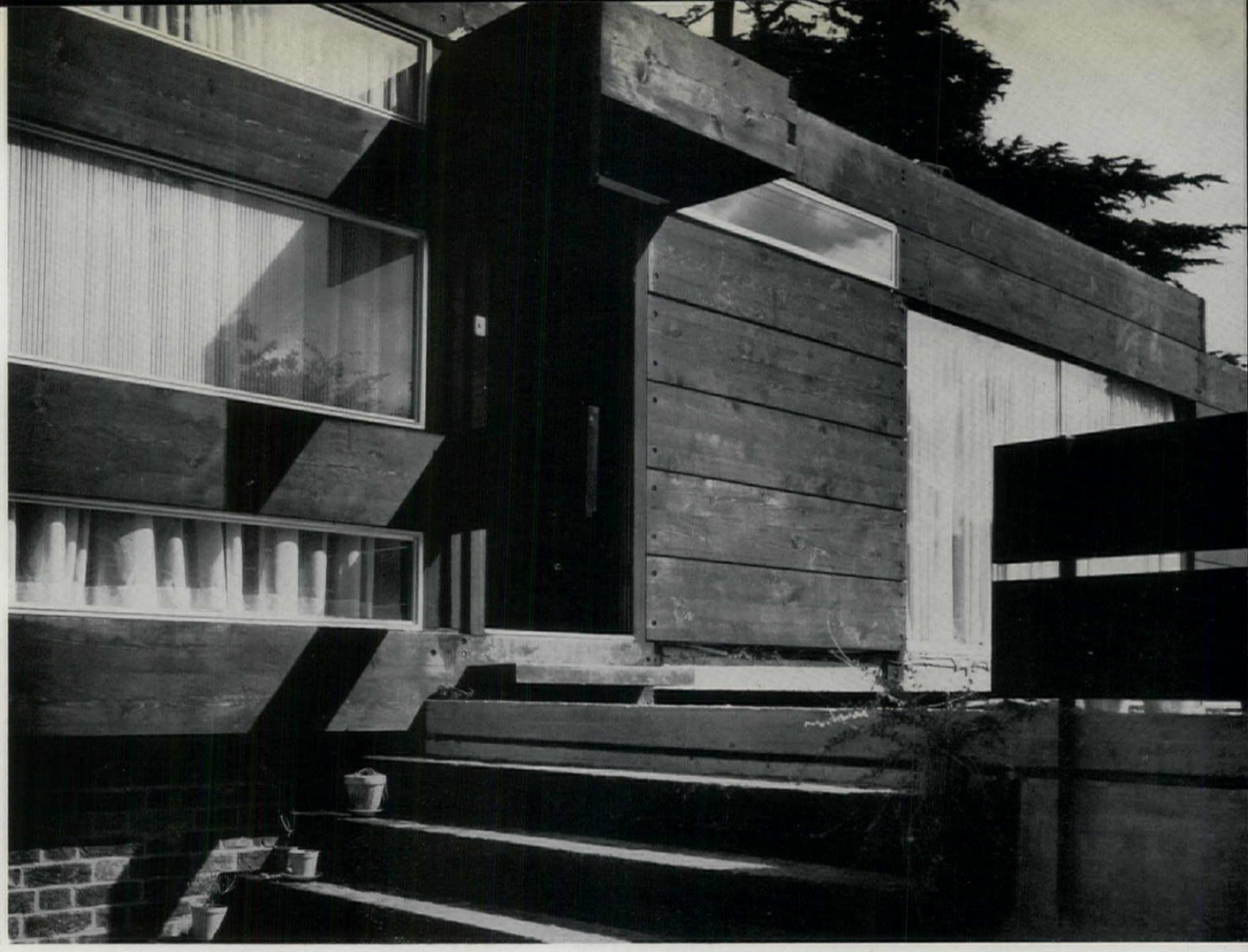
7

5, the courtyard garden at the south-east corner, with steps up to the maisonette. 6, the surgery seen from the corner of Linom Road and Hetherington Road. 7, the Ashmere Grove elevation.



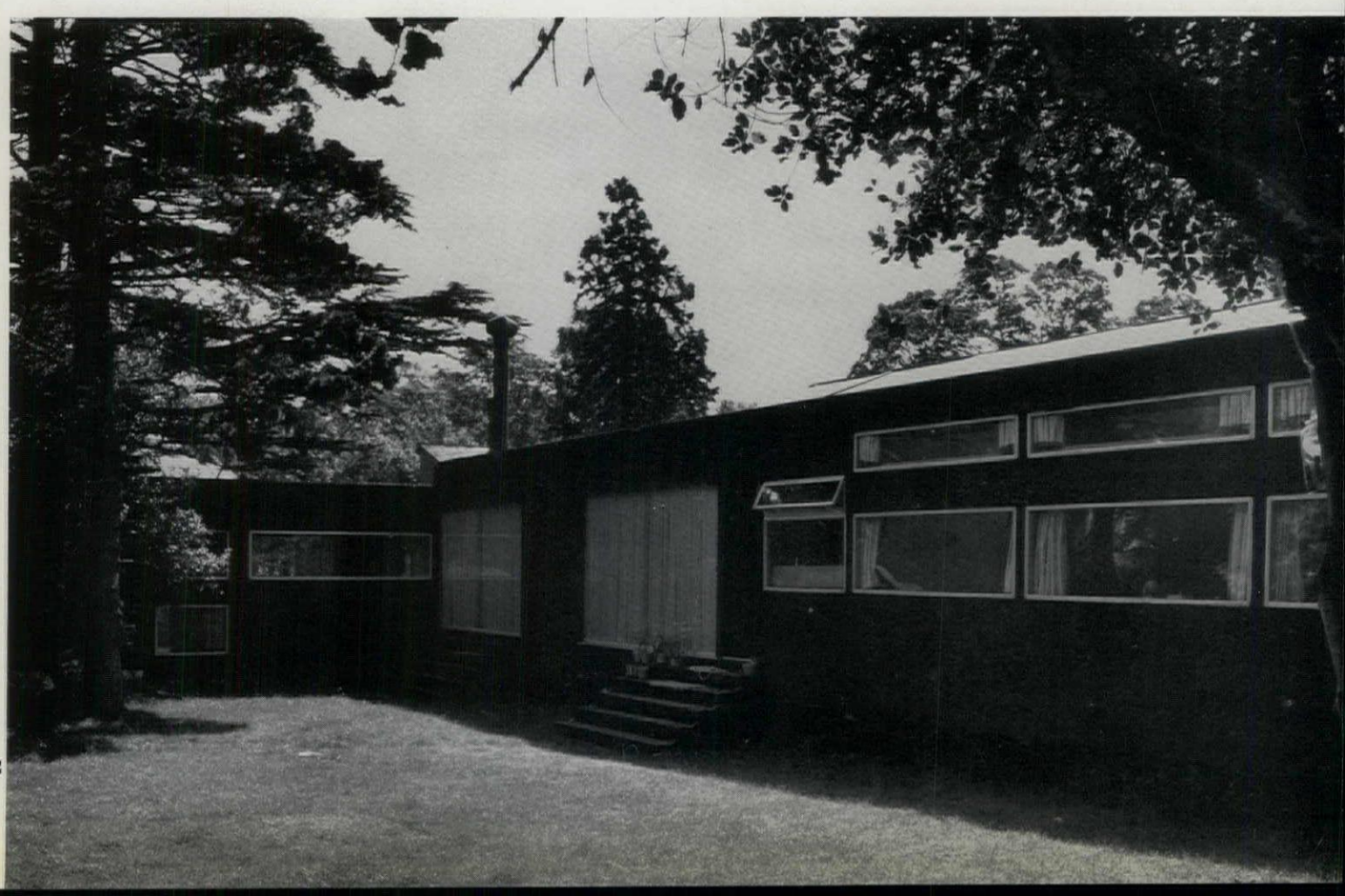
1

1, the entrance terrace on the south side. 2, from the north (see plan on page 402).

2 HOUSE AT STANMORE, MIDDLESEX

photographs by H de Burgh Galwey

architects **EDWARD SAMUEL AND PARTNERS**



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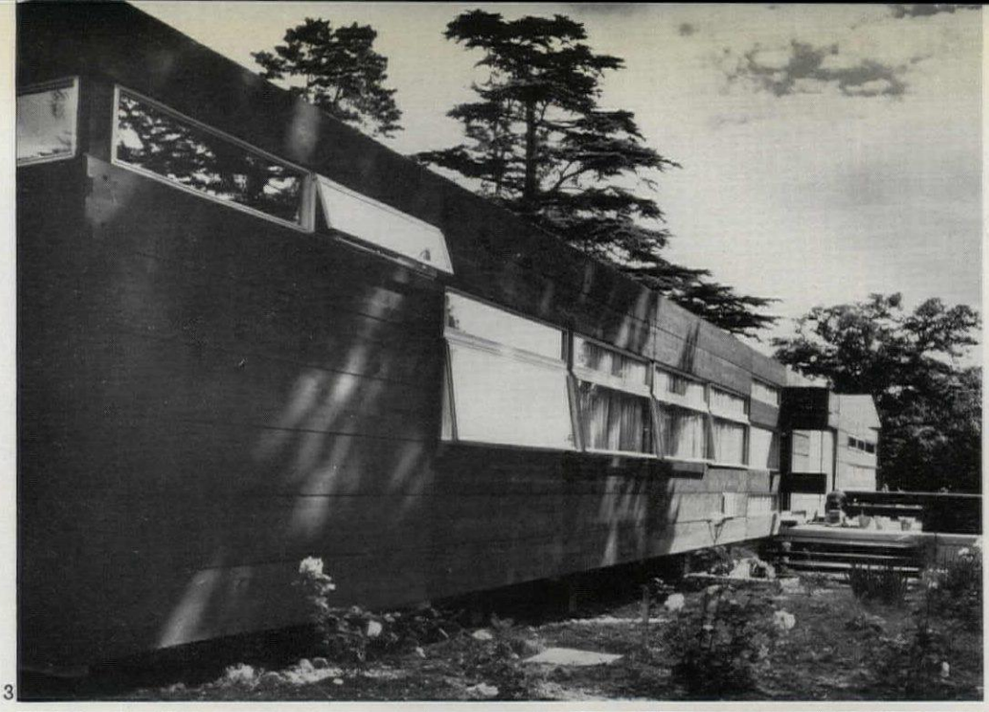

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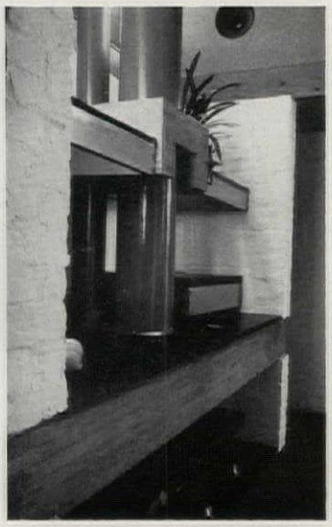

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4

8

3, looking along the south side. 4, the dining area, looking towards the kitchen. 5, the south-east corner, with the garage on the left. 6, the house seen from the lake on the north side. 7, the fireplace in the sitting area. 8, the living area, with the lower-level sitting area beyond.

5

York University, the subject of the article on this page and of the photographs that follow it, uses an industrialized building system with wall-cladding of precast concrete slabs. On the facing page, a corner of one of the colleges, together with one of the covered ways that link the various buildings and the lake that winds among them.

criticism

Michael Brawne

Architects: Robert Matthew, Johnson-Marshall & Partners

University of York: first and second phases

To say that York is the first of the new British universities is not, I hope, in any way to make presumptious claims or to be derogatory to Sussex. It is only to suggest, possibly at the risk of an excessive shorthand, that a different design approach was at work at York and that the now completed phase must be judged against the thesis of that approach.

Sir Basil Spence's Sussex University—red brick and concrete vaults embedded among the Sussex Downs—starts with the premise of designing buildings within a landscape, perhaps somewhat specialized buildings, but still solving the normal architectural problem of creating a place—not neglecting atmosphere and emotional overtones—within a given locality. The approach has every historical precedent and still continues to create remarkable results; Alvar Aalto's astonishing red brick and copper masses at the new Technical University at Otaniemi outside Helsinki are probably its most recent university example.

The aims of York are different. They centre not around the particular but the general. This is as true of the analysis which produced the report on the development plan as of the detailing of the joint between the cladding panels. It is also, of course, an approach with ample historical precedent and if it can be characterized by a perhaps again excessive shorthand, might be labelled French Rationalist, even though the visible results at York bear no resemblance to the style of that school. The architects of York set out, I believe, to document and if possible to solve the intellectual problems of university planning. Their design must, therefore, be looked at not only as the solution of a particular problem in a known place but as a possible prototype of an approach to university design in general.

Robert Matthew, Johnson-Marshall & Partners' first important achievement at York University was the production of the development plan in 1962. The plan set out to show how the new university might grow to 3,000 students in its first ten years, basing its growth rate on the then available pre-Robbins statistics. The figures were analyzed and tabulated so that a possible programme in terms of buildings, finance and man-power could be devised. The academic assumptions of a modified college system were also described, and from this basis certain planning principles, and eventually a development plan, were formulated. This (page 411) showed a number of nodes on the 180-acre site, grouped closely within a circle whose radius represented five minutes' walking distance. Eight of these nodes were colleges, the remainder special buildings such as the library, sports centre, or central hall. Each college was to contain both living and teaching accommodation. A pedestrian path system of covered ways connected the nodes to each other.

In 1961, when the plan was being prepared, there was little in the way of comparable work which had much relevance. Certainly none of the university planning studies now being done in Germany and the USA had been started and the Scandinavian notions on student residence had not yet had any impact. Only the development plan for Leeds University, by Chamberlin, Powell and Bon, published in 1960 and dealing with the expansion of an existing university, tackled problems in any way similar. These two development plans, in addition to serving their own universities, also established a level of comprehensive analysis which undoubtedly influenced the planners of the subsequent new universities, several of whom have publicly acknowledged their debt.

The York plan proposed the growth of the university in a number of phases. The first of these consisted of site preparation and the conversion of an existing country house, Heslington Hall, on the edge of the university site, and of a group of historic buildings, the King's Manor, in the centre of the town. These conversions and additions were designed by Fielden and Mawson and established an almost historically hallowed Oxbridge environment for the first students who arrived in October, 1963.

The second phase consisted of the building of two colleges, a laboratory block and the central boiler house. On its completion the university could teach 1,000 students, 300 of these living in College, the remainder in lodgings. It is this stage, officially opened by the Queen on October 22, which has just been finished and which is discussed and illustrated here.

The three main buildings of this phase—Derwent College, Langwith College and the David Brown Laboratories—are on the corner of the site nearest to Heslington Hall, and form a connected building group. The element which links them and provides a spatial continuity between them is a covered walkway which at one point becomes a covered bridge to cross the road from York. In so far as buildings can be likened to electric gadgetry, each part of a college or laboratory plugs in to this covered way, and in a sense does so literally since the roof and duct space below the paving slabs contain the main service runs. Unfortunately the covered path system, which in the development plan had seemed a potentially structuring element of the organization has, as built, neither the clarity nor visual strength to fulfil this role.

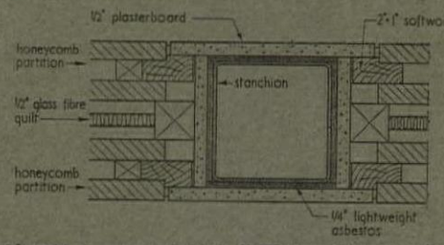
The lack of clarity is of course inherent in any design approach in which spaces are made by the simple addition of elements in the hope that the small-scale, almost random configuration will produce picturesque results. It is an approach dependent on chance and happy accident, and as such curiously different from that of the development plan. It is the opposite of locking space, structure and form to create a comprehensible order. And yet it is precisely the discovery of a structural element capable of organizing a wide variety of building types throughout the growth of a university that constitutes one of the critical and most difficult problems.

The development plan seemed to suggest that a strongly built form, coincident with the main routes of pedestrian movement, would provide this element. What is now visible on the ground does not fulfil that expectation.

This same lack of graspable organization is evident within the buildings; in the relation of study bedrooms to their communal pantry spaces, of teaching rooms to communal college space, of departmental teaching rooms to communal teaching areas. It could be argued that such a clarification of the built form would be undesirable; that all the building should provide is a neutral background to the activities of its occupants, and the architects of York University would probably take up such a position. Yet if architecture is to enlarge its users' vision of a possible way of life, if it is to give more than the currently imaginable, then that position opts out of architecture.

The buildings now finished around Heslington Hall can also be viewed not so much as the first instalment of a new university, as perhaps the first sizable example of a complete environment built up from small prefabricated elements. Residential, communal and work spaces are all represented in what might be thought of as the beginnings of a small town. The architects believed that because of the speed of construction required to meet the programme set by the development plan, and in view of the amount of labour available in York, it would be essential to use a form of system building. Only in this way would it be possible to ensure completion on time and thus have them ready for occupation in October of this year. The system chosen was CLASP. Other architects responsible for the five subsequent new universities among the first seven, operating on presumably similar tight programmes, chose different methods of construction. The same architects faced with a very similar problem at the proposed University of Bath again decided on joining CLASP. Whether this choice was based on a satisfactory experience at York or emotional bias it would be difficult to decide.

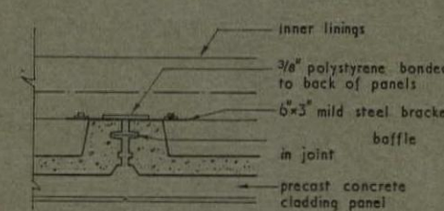
The CLASP system had originally been developed by the Nottinghamshire county architects for school buildings to be erected by medium-size contractors on ground liable to mining subsidence. It consisted of a lightweight steel frame, timber floors, floor-to-ceiling plasterboard panels as partitions and a number of possible external cladding materials on a timber sub-frame. Although CLASP is now used in a large number of other situations, the legacy of these two criteria still to some extent remains, in spite of the fact that the system has undergone several modifications since its inception in 1957. It was modified again for use at York in order to give it fire-resistant external walls and internal partitions and ceilings with a sound transmission loss of 45 decibels, (*a*). The external cladding now consists of precast concrete panels hung on the steel frame. The panels



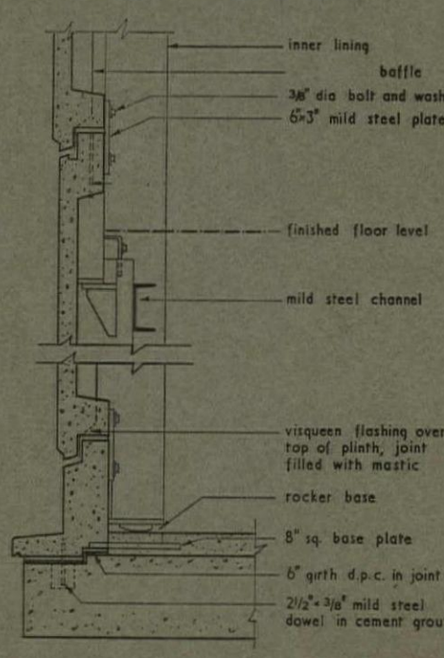
(a) partitioning system used with the CLASP system to reduce sound transmission by using a double layer of plaster faced boards.

have an ingenious dry joint between them which follows the recommendations of the Building Research Station on the jointing of concrete cladding, (*b*).

Phase II was indeed finished on time, and students were able to move into completed and furnished buildings on the first day of term. To achieve this the general contractor put up £2¼ million worth of building in just under eighteen months. This is a formidable achievement, but not one which future users will take into account in their assessment of the place. They will ask different questions and judge on the visible evidence; they will be less interested in how it was made than what it is that they see and use. They are also likely to ask whether what they see is due to the use of system building in general, to that system in particular or to the use of that system by the architects. There are some clues available in the part now completed. These are also questions which must be asked now, before large parts of our



(b) plan (above) and section through external walls showing the jointing of the precast concrete cladding panels using a polythene baffle.



environment are built using the methods of York; questions which in the last resort should not be determined by building or design expediency but by what is most desirable from the point of view of present and future users. It ought to be remembered in this context that our expectations of what the built world around us is to be are continually and justifiably rising, and that our undoubted increasing affluence makes it possible to meet these expectations. We should be doing a grievious disservice if decisions are now taken—decisions which will affect what is seen and used for the next fifty years—on the basis of the fact that certain systems happen to be available and that these exert, through their apparent technical neatness, a certain romantic fascination.

As one walks from Derwent to Langwith College there is a noticeable change in the manipulation of space, particularly of the internal space which markedly affects one's reactions to the two buildings. The difference is deliberate, and due to the policy of having different job-architects for each college. It is a policy which is being continued in the next phase, again in order to achieve buildings with a measure of individuality. The system certainly allows recognizable characteristics to develop. It may impose limitations on those characteristics, but so would the accepted traditional systems of brick and timber or balloon frame. Such limitations on the possible range of expression are peculiar to every vernacular, and it is as a potential vernacular that, the architects suggest, the completed portion of York should be looked at.

The essentials of a vernacular are its ability to fit a large number of possible situations and to create at each of these some recognizable and worthwhile place; in other words, within the vernacular the visual content of the elements must be sufficient for place-making. It is here that York seems not entirely convincing; as one moves around and through the colleges and the laboratory building one feels that it is the place which is making the buildings, not the buildings the place. One wonders what these internal or external spaces would be without the undulating site, the new lake, Heslington Hall, the glimpse of fountains, a Henry Moore or a brick gazebo beyond the lawn. This is not to say that trees, grass, water and sculpture are not the proper complement of most buildings, but only to question whether these particular buildings would create a satisfactory environment without such elements, whether they would in fact be an acceptable vernacular in less favourable and probably more usual situations. On present, admittedly inadequate, evidence the answer is very much in doubt.

One of the donors to the university's appeal fund, on being shown round one of the colleges, recently remarked: 'How

very Swedish.' She was, it so happens, referring to the colour of the furniture, but it was a remark capable of wider interpretation. York, like so much of Sweden's architecture, has a curious blandness which may be just acceptable among the pines and rocks of the Stockholm suburbs but does not, as one knows from bitter experience, bear transplanting to less spectacular surroundings. One fears that the same may be true of these concrete-clad CLASP forms.

The evidence available in the autumn of 1965 is inadequate because not only have these buildings only just been occupied, and it has thus been impossible to see them in use, but the environment is still visually incomplete. What is still missing are the nodes between the colleges, the special buildings such as the library and the central hall. These have now been designed and the library is at present under construction. For both technical and visual reasons these will not be in CLASP but in whatever form of construction is most appropriate to each. The library, for instance, in order to deal with the heavy floor loadings, is being built with a precast concrete frame structure. The central hall, which contains a very large auditorium, will have a concrete structure capable of dealing with large spans. There will then be a visual hierarchy of building forms in which the repetitive residential and teaching accommodation will be a neutral backdrop of system building to the unique special structures at critical positions within the university. This will drastically change the situation and is intended to do so.

A valid critical assessment must therefore await the completion of the next phase; it cannot be made until there is a typical cross-section of the whole university. Until such time it is only possible to go on clues, to have hunches and forebodings.

Development plan of the new University of York. The buildings already completed and illustrated on these pages are shown in black. They consist of the first two colleges and, linked to them by a bridge across a motor-road, the first block of laboratories: also, adjoining the laboratories, a boiler house. Heslington Hall, the previously existing mansion which is now the university's administrative headquarters, is south of Derwent College, linked to it by a covered way. On the plan other buildings now under construction or shortly to begin are shown in outline, and the sites of later buildings are shown diagrammatically. They include additional colleges either side of the artificial lake which reaches to the walls of the present buildings.

UNIVERSITY OF YORK: FIRST AND SECOND PHASES

photographs by H de Burgh Galwey

architects **ROBERT MATTHEW, JOHNSON-MARSHALL AND PARTNERS**

The first two colleges of the new University of York are now complete and occupied, and these two buildings, together with the first block of science laboratories and the central boiler house, are the subject of the illustrations on these pages. They constitute Phase II of the programme, Phase I having been limited to site preparation, roads and services. Further buildings—the beginning of Phase III—are already under construction. With the completion of the buildings illustrated, the university can accommodate 1,000 students, approximately a third of whom live in. When the building programme is complete in 1972 there will be 3,000 students.

The present students are taking Arts as well as Science subjects, the teaching accommodation, apart from the laboratories, being planned as part of the residential colleges. The college system, with living, working and leisure space (including library, dining hall and common-rooms) for 400 undergraduates, graduates and academic staff in each self-contained building, forms the basic educational conception on which the university is being developed. The colleges, the laboratory buildings and the other special buildings (still to be completed) like the university library and the central hall, are disposed about the landscape but connected by a system of covered pedestrian ways, kept clear of traffic routes. These pedestrian ways intersect the various buildings to provide meeting places between people pursuing different patterns of activity. The landscape is a well matured one, based on that of the grounds of Heslington Hall. The layout is related to the existing mansion, which is used as the university's administrative centre. It is about one and a half miles from the centre of York.

The nucleus of each college is made up of the hall and kitchen, the common spaces, the library and the teaching accommodation. The halls are multi-purpose and no distinction is made between the eating arrangements for staff and students. There are also sandwich and drinks bars, which are sited close to the sequence of common spaces that link the different parts of the college nucleus together. The teaching accommodation consists of lecture and seminar sooms used by staff anad students from all colleges and available outside teaching hours, and groups of rooms for the sole use of particular departments. Every member of the academic staff has an office designed to serve also as a tutorial room. Some of these are in the college nucleus and others are distributed among the residential areas.

The latter lead off the central walkway that runs through the nucleus. They are arranged in three separate blocks in each college, each block accommodating 50 undergraduates plus a proportion of graduates and staff. Each block is allocated either to men or to women or is divided vertically with men and women living in opposite halves. The basic element in the block is the group of study bedrooms for five people served by one staircase and sharing showers, baths, lavatories and a pantry. Staff flats and larger rooms for graduates are placed at the end of the blocks. As well as the vertical stair access there is horizontal access between groups of rooms running through the pantries, aimed at widening contacts as well as providing fire escapes. The ground floors of each block contain laundries, locker rooms and trunk rooms. Some of the study bedrooms are designed for sharing between two or three people with various arrangements of bed alcove and shared study space.

The photographs on the following pages show both colleges, but floor-plans of only one (Langwith) are given since the accommodation and the planning principle are similar though the detailed arrangement differs.

The first science building has been flexibly planned so that it can initially be shared by three departments, but eventually, when other science buildings are complete, be used only by one. Each laboratory unit is divided across the middle into graduate and undergraduate areas but the circulation routes are planned to avoid isolating research from teaching. The laboratories are top lit with roof lights facing north and no partitions are structural. Services are run in a 4ft. underfloor space, which is also used as a plenum chamber. Within the laboratories the services are concentrated into turrets, leaving benches as simple worktops and allowing them to be rearranged as need arises.

In order to save construction time, both colleges and science blocks employ the CLASP system of building with standardized prefabricated parts, but with certain modifications to extend the system's performance to suit the needs of university buildings, which are in some ways more complex and stringent than those of the schools for which the system was originally evolved. The changes chiefly affect the external walls (to increase fire resistance) and the internal partitions and ceilings (to improve sound insulation in the residential buildings). The external walls are composed of precast concrete slabs with a specially designed joint—see diagram on page 410. The modifications to the CLASP system were tested in prototype form during the design stage and the use of the system enabled the whole of Phase II, about £2¼m. in value, to be constructed in eighteen months.

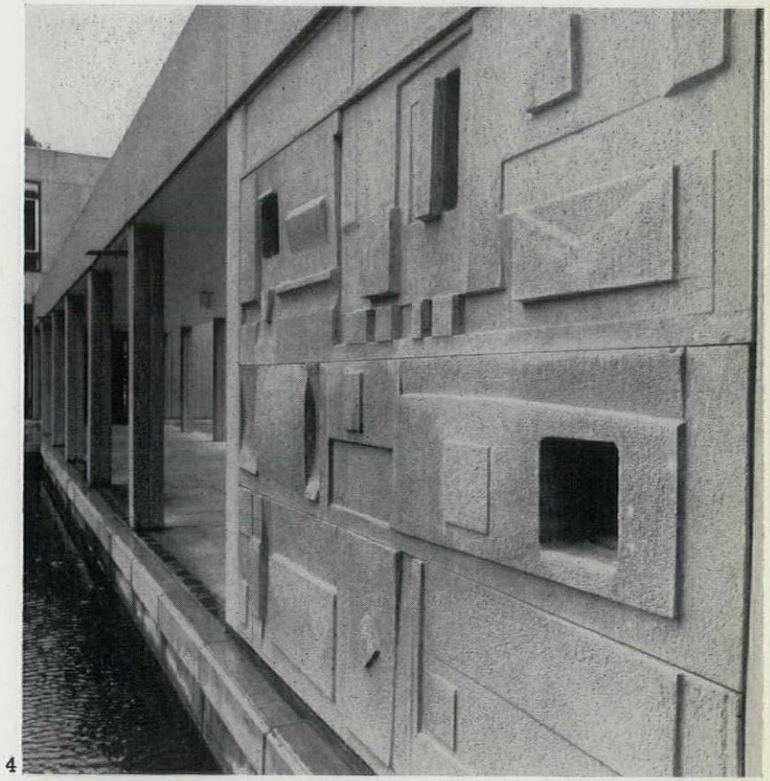
Partners in charge, Stirrat Johnson-Marshall and Andrew Derbyshire. Site architect, Colin Beck. Senior architects in charge of various aspects of the job: CLASP development, David Parkes (assisted by Ken Claxton, Jurg Weber, Ralph Baldwin, Terry Standley and Martin White); colleges, Alan Crawshaw (assisted by Wallace Russell, Rubert Alcock, David Hughes, Peter Lacey, Ross Porter, Alan Robinson and Wendy Dudley); laboratories and boiler house, Jack Speight (assisted by Ray Honey, John Pickwick, Adrian Sansom and Geoff Burton); site development, Tudor Owen (assisted by Dick Howard, David Rendle and Alfred Hoffmann); furniture and industrial design, Michael Pullee and Ben Fether (assisted by David Spencer, Arthur Branthwaite, Andrew Hewson, Sally Richardson and Archie Meares). Concrete panels by Fred Millett. Landscape adviser, Frank Clark. Structural engineers, Scott and Wilson, Kirkpatrick and Partners. Mechanical engineers, L. J. Fowler. Electrical engineers, Powell-Duffryn Technical Services. Quantity surveyors, Franklin and Andrews.

1, the south end of Langwith College, seen from the lake. On the right is part of

CLASP UNIVERSITY

2

3



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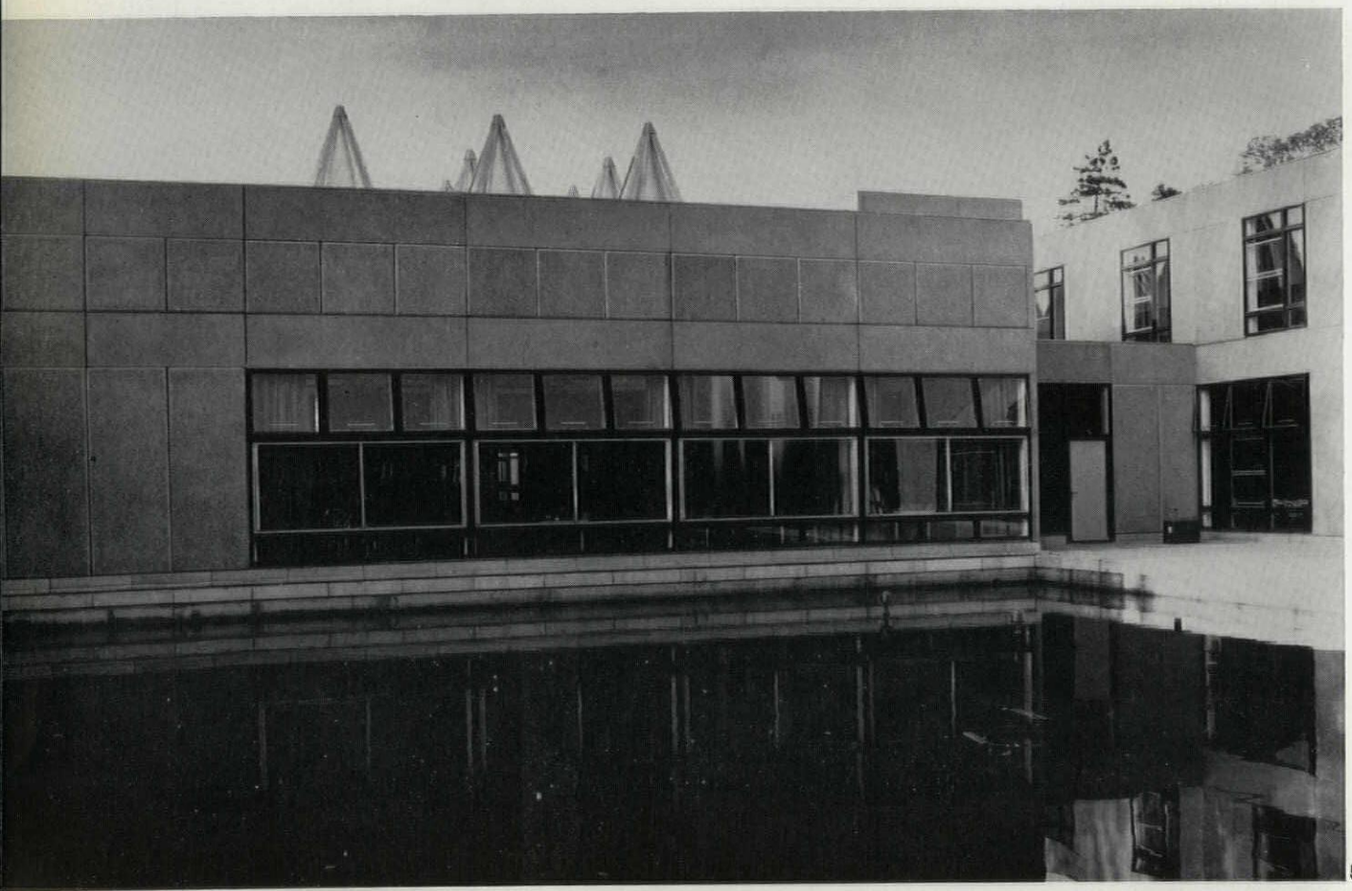
2, looking across the lake towards Derwent College. A corner of Heslington Hall (the mansion in the grounds of which the university is built) can be seen to the right of the college; it is also seen in 3, through one of the covered ways linking the different buildings of the university. 4, sculptured concrete panel by William Mitchell, at the end of the covered way shown in 3 alongside.

5, the hall of Derwent College seen across the internal pool. 6, 7, two of the covered ways linking the college buildings; at the end of 6 is another concrete panel by William Mitchell.



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6

7

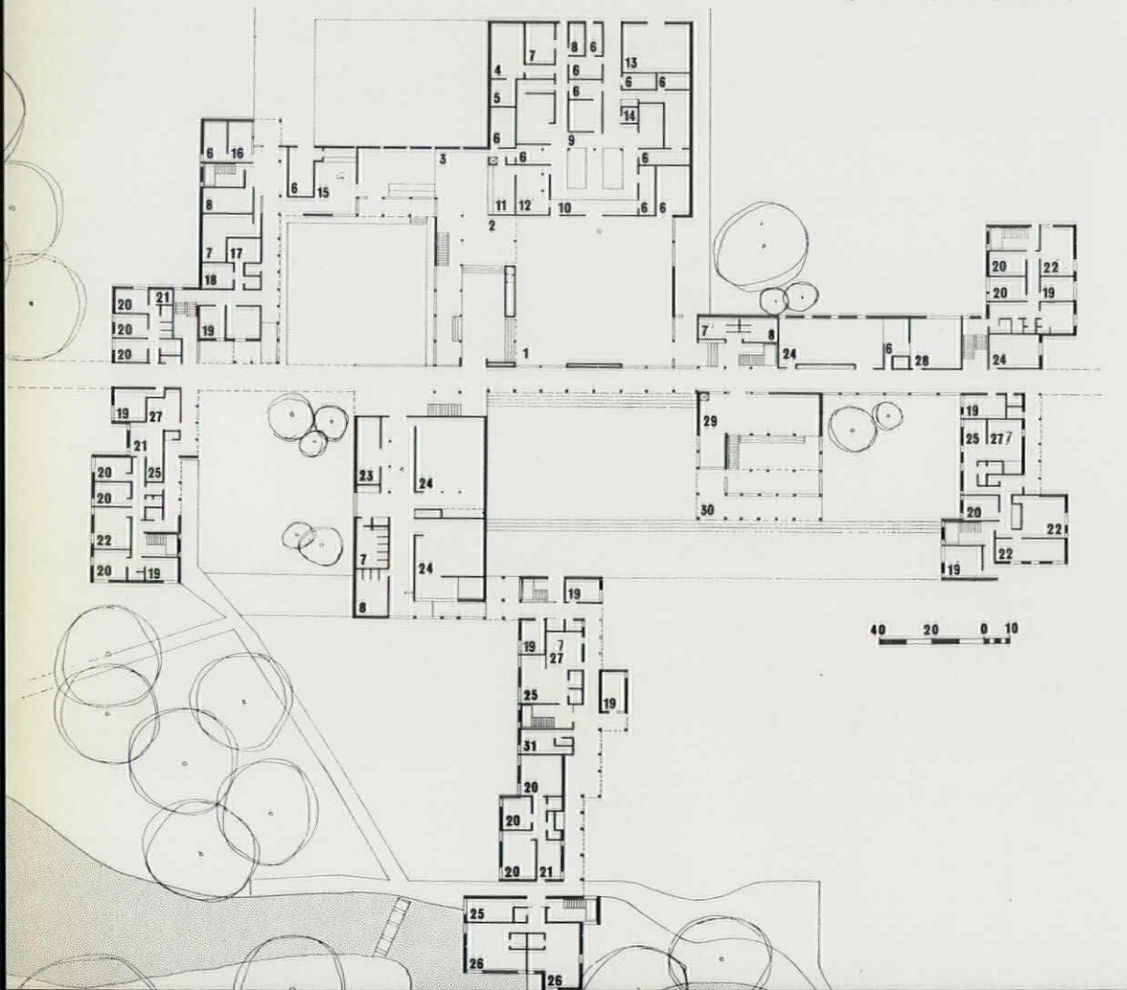
UNIVERSITY OF YORK: FIRST AND SECOND PHASES

8, a corner of the reading room block of Langwith College.

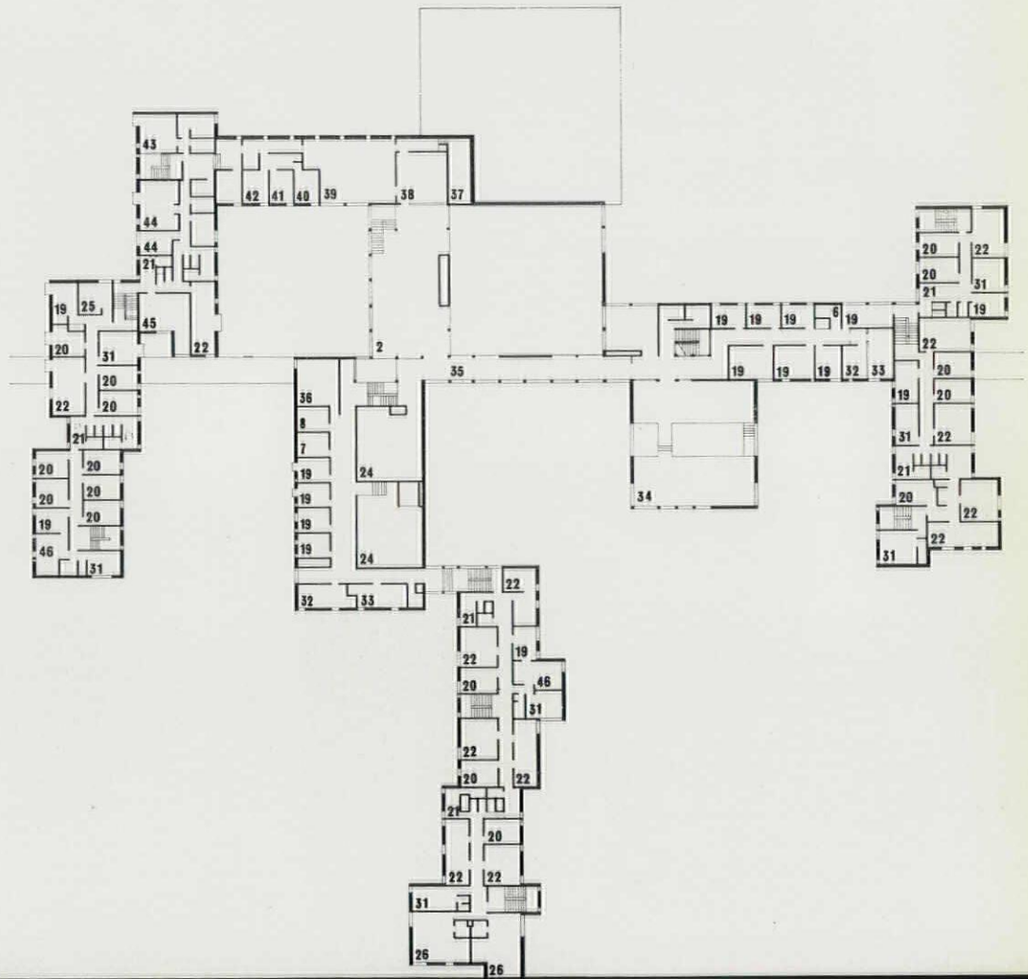
UNIVERSITY OF YORK: FIRST AND SECOND PHASES

key
1, hall
2 junior common room
3, snack bar
4, staff dining
5, locker room
6, store
7, women's w.c.
8, men's w.c.
9, kitchen
10, 11, servery
12, wash-up
13, sub-station
14, office
15, bar
16, porter
17, changing room
18, linen
19, tutorial room/staff office
20, study-bedroom
21, pantry
22, double study-bedroom
23, calorifier
24, lecture room
25, laundry
26, married academic staff
27, locker room
29, reading room
30, terrace
31, graduate
32, secretary
33, professor
34, reading room upper level
35, gallery
36, subject library
37, plant
38, quiet room
39, senior common room
40, bursar
41, college office
42, housekeeper
43, housekeeper's flat
44, sick bay
45, triple study-bedroom
46, academic staff
47, housekeeper
48, cook
49, exhibition space

ground floor plan, Langwith College



first floor plan



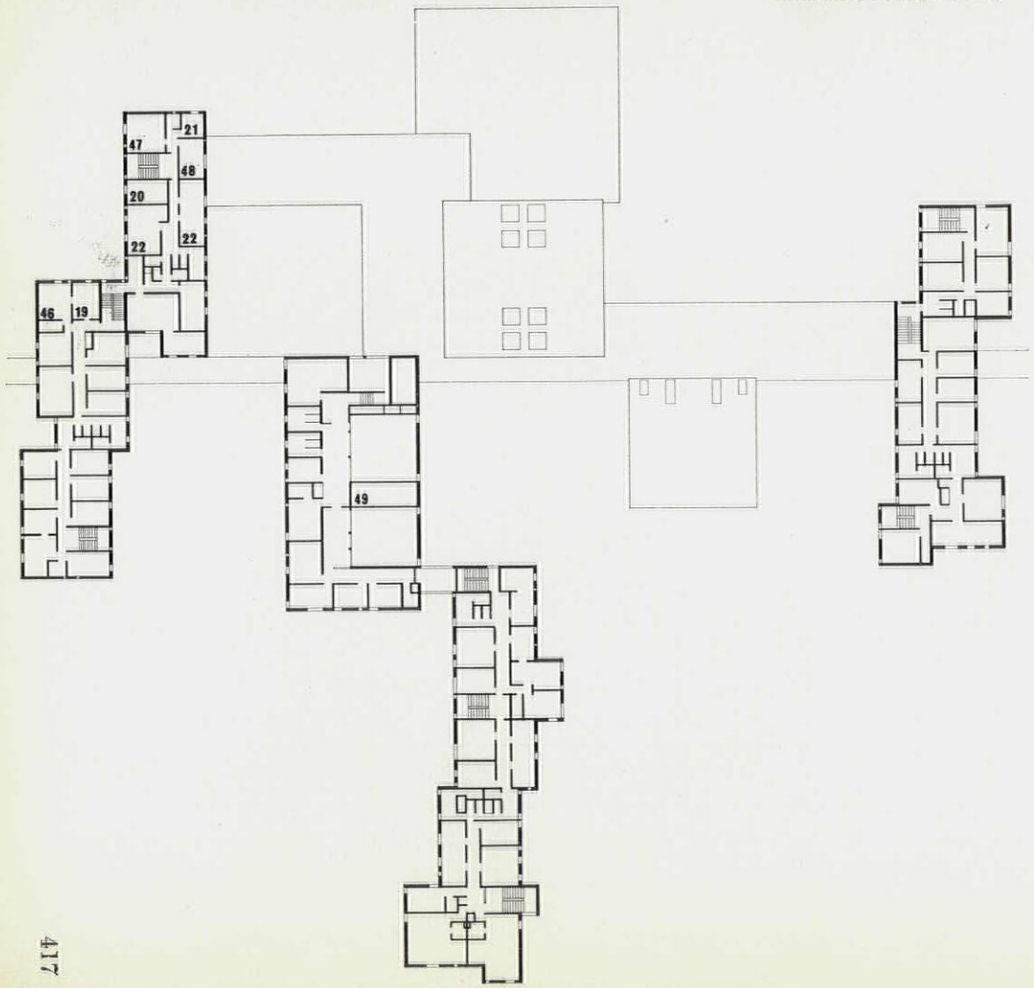
9, the upper-level reading rooms of Langwith College. 10, part of the ground floor concourse through Derwent College, with the foyer on the right. 11, looking from the foyer of Derwent College towards the concourse, with the junior common room beyond.

9

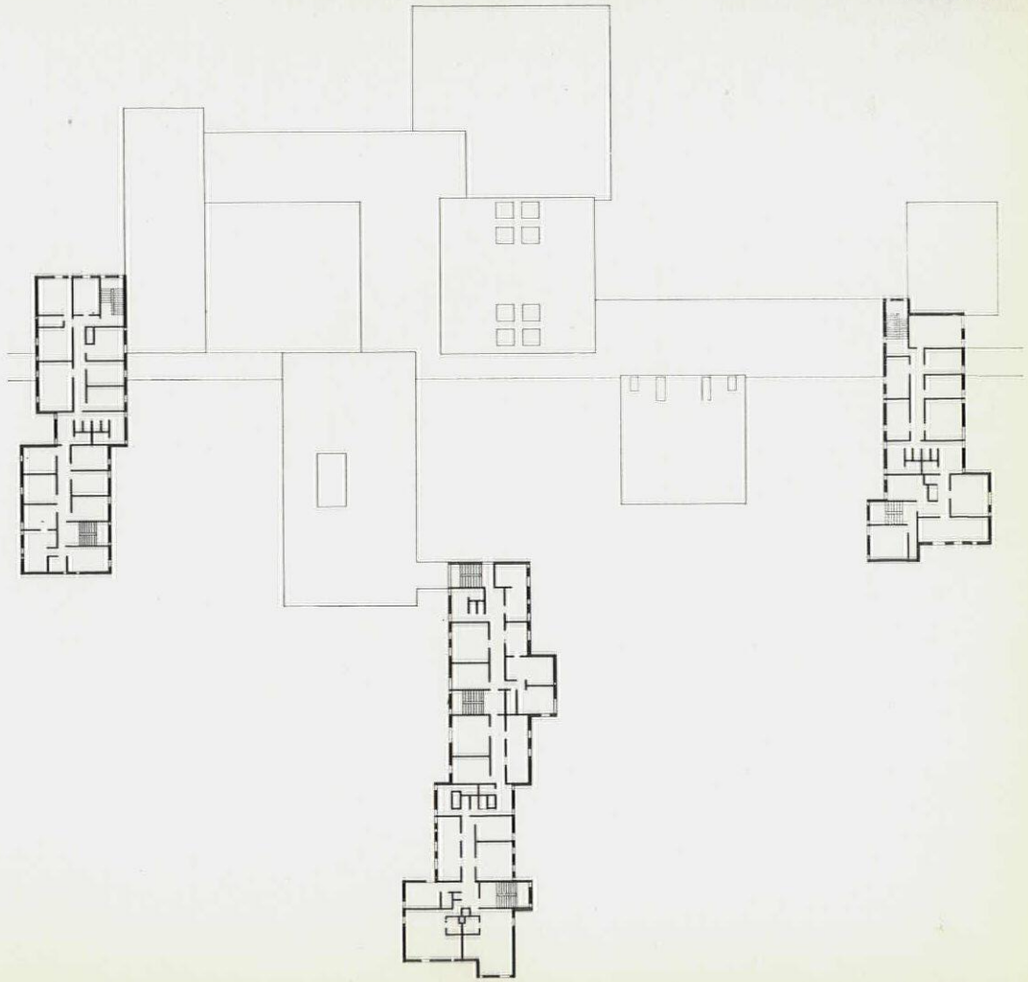
10

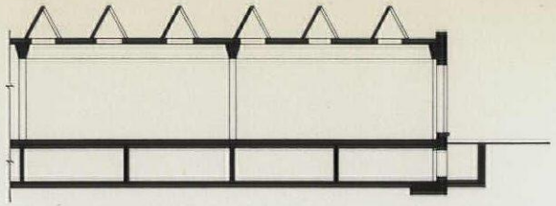
11

second floor plan, Langwith College



third floor plan

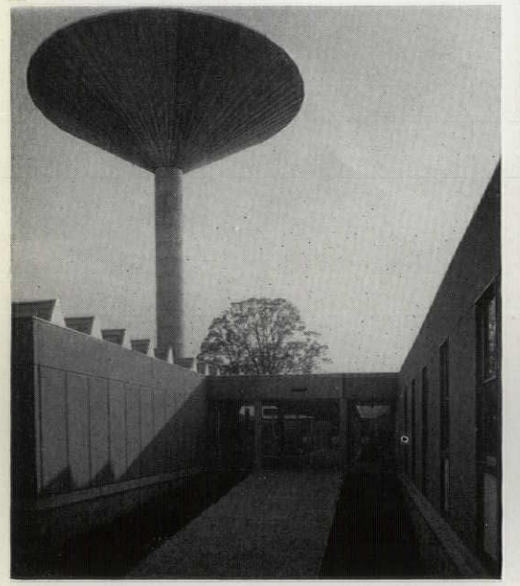




part section through laboratory block C (shown to four times the scale of the plans on the facing page): the service runs are in the undercroft below the timber floor.

12, the David Brown Laboratories seen from the north-west with block C in the foreground, the boiler house stack on the left and the water tower on the right.

13



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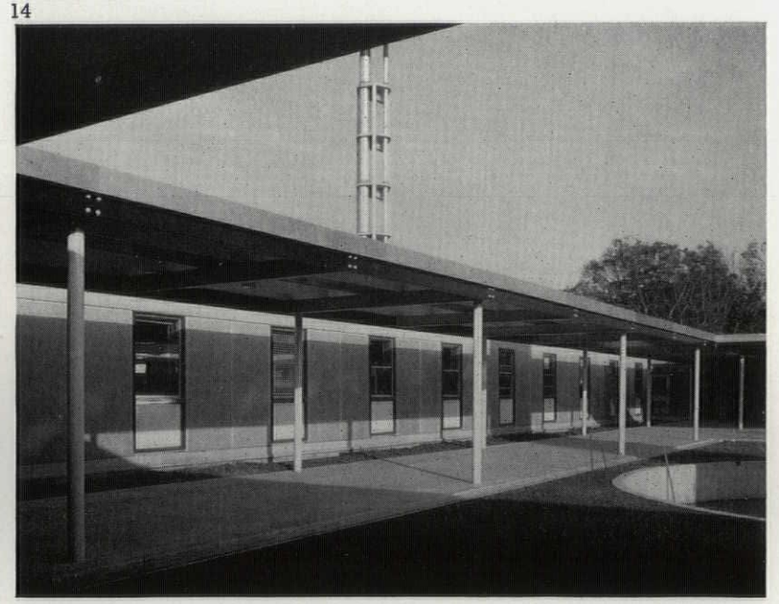
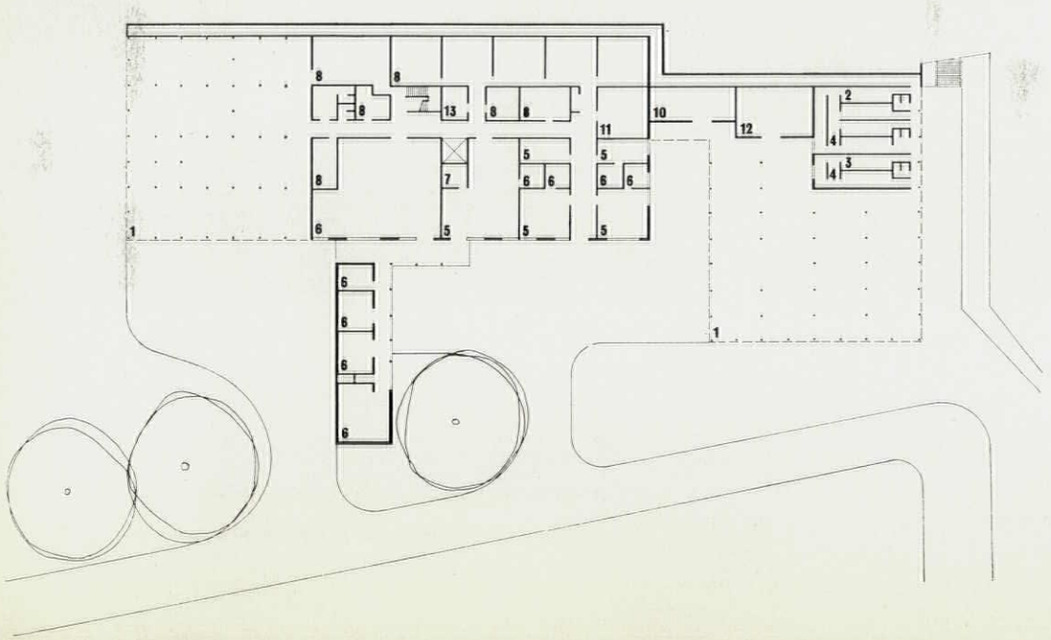
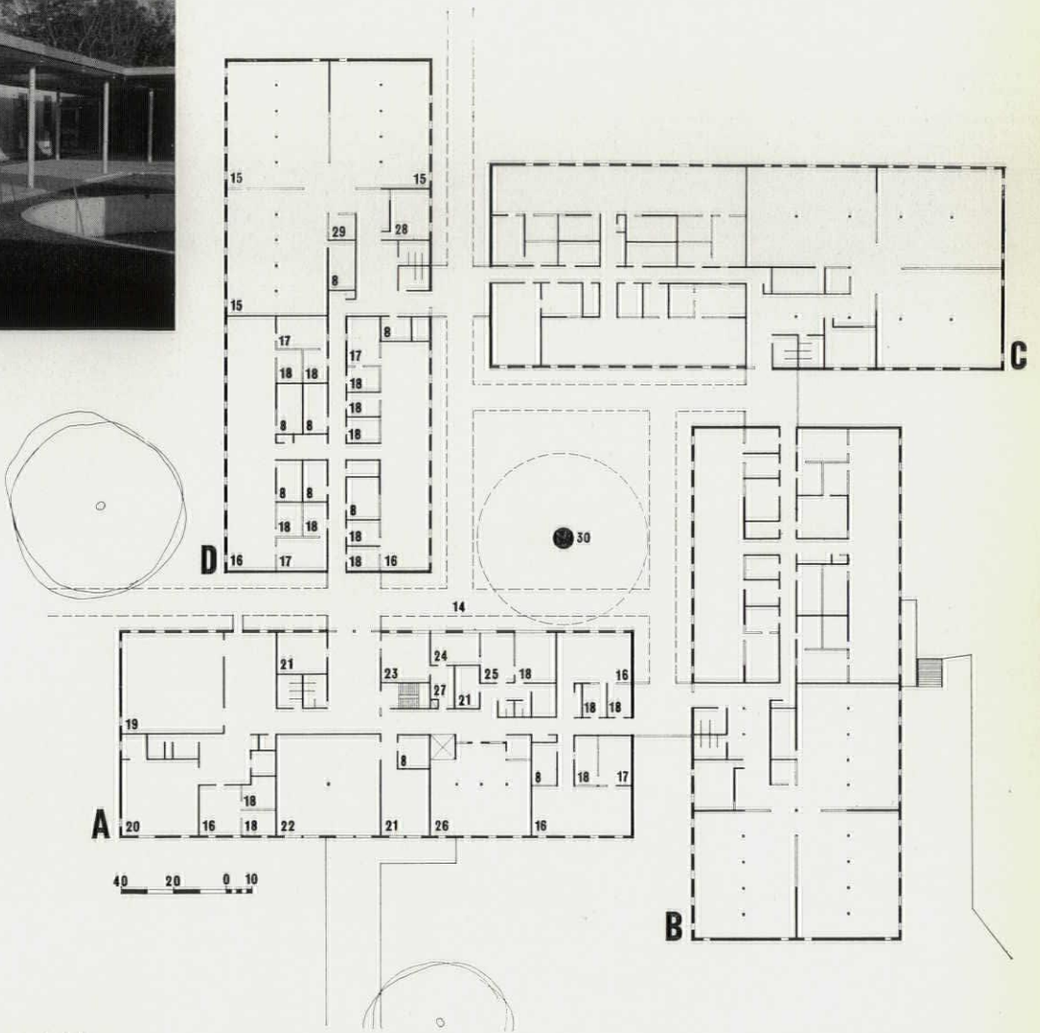


13, the approach to the laboratories from the west. 14, block B seen from the central court.



lower level plan of laboratories



upper level plan

key

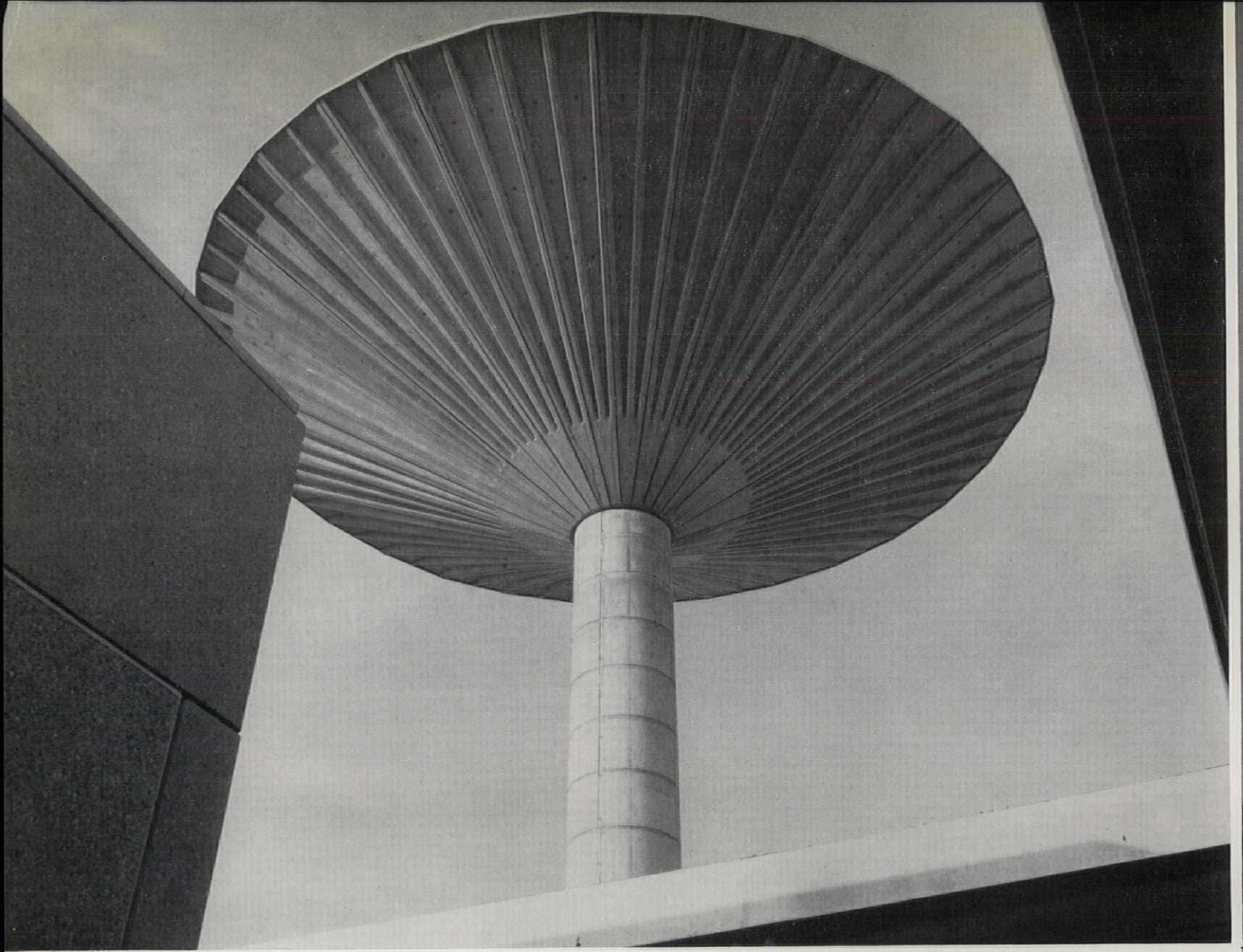
A, administration and lecture theatre
B, chemistry
C, biology
D, physics

1, parking
2, men's cloakroom
3, women's cloakroom
4, showers
5, workshop
6, store
7, office

8, ancillary
10, calorifier
11, technicians' rest room
12, transformer
14, covered way
15, undergraduate laboratory
16, graduate laboratory

17, staff laboratory
18, tutorial room/staff office
19, lecture theatre
20, lecture room
21, seminar
22, library
23, typists

24, administration
25, secretary
26, dispense store
27, reception
28, preparation
29, demonstration
30, water tower



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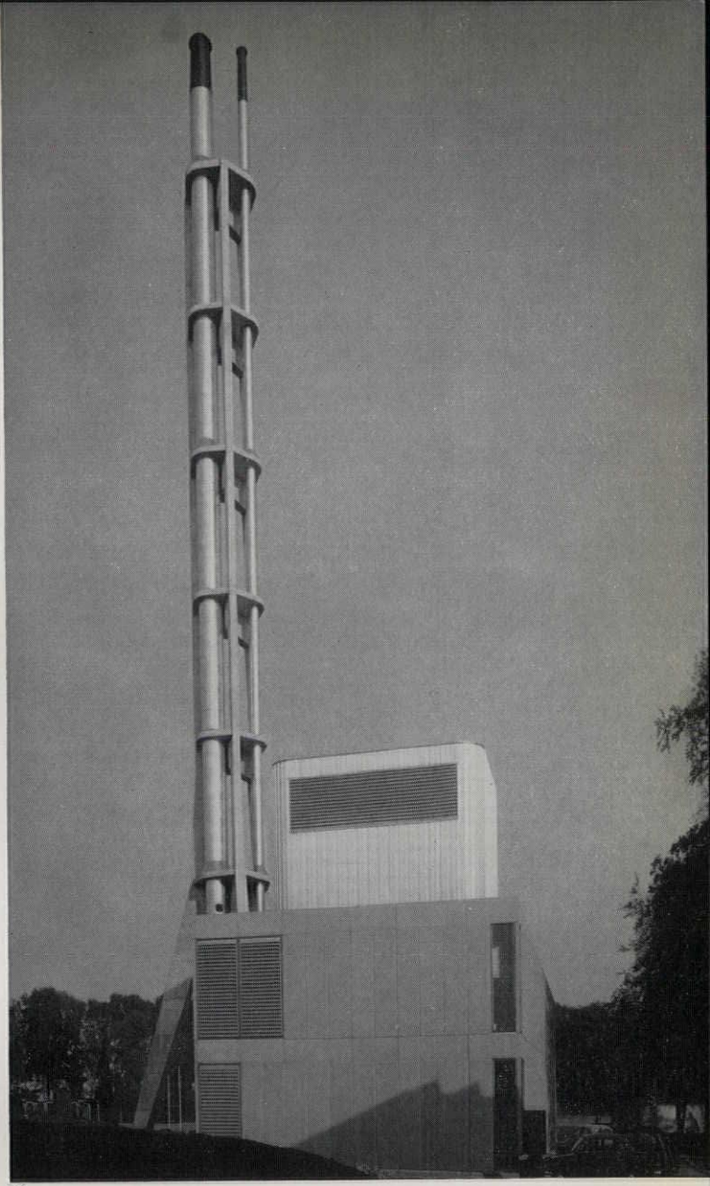
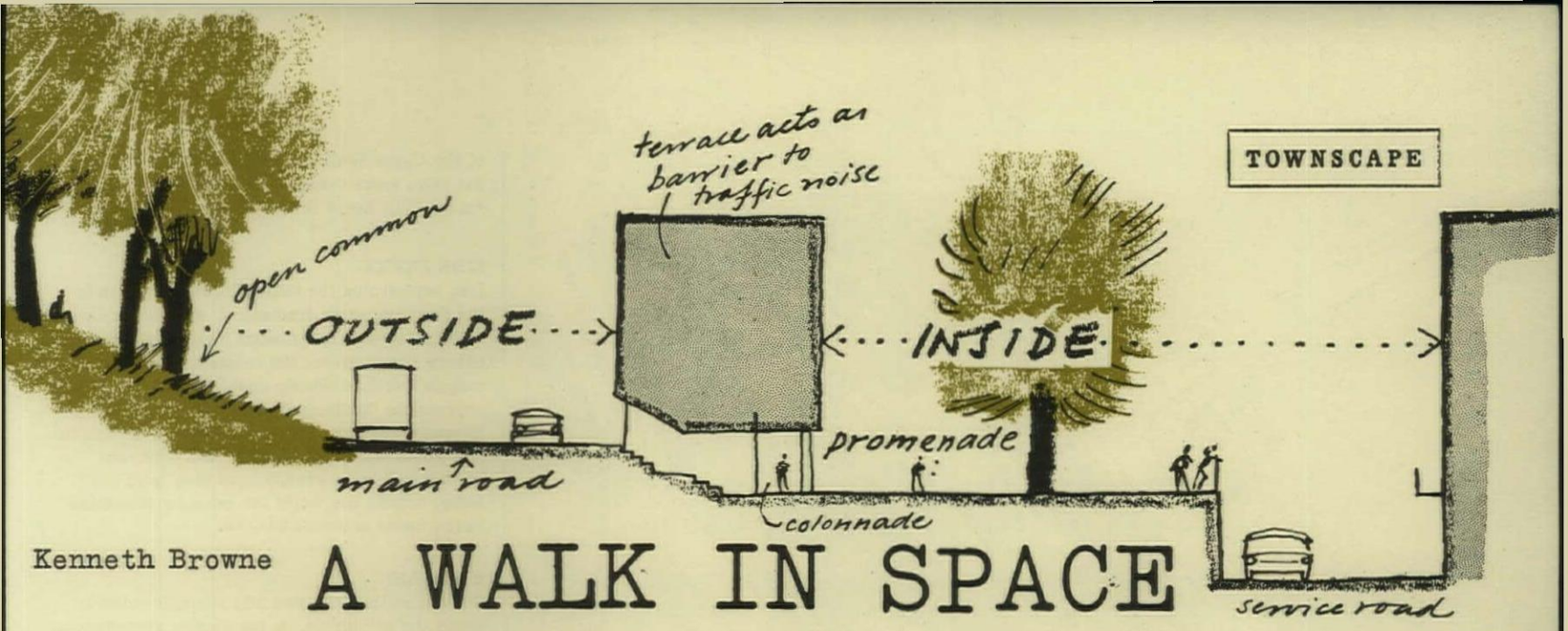


16

15, looking up underneath the water tower in the laboratory court. 16, the boiler house and its stack.

UNIVERSITY OF YORK: FIRST AND SECOND PHASES



Kenneth Browne

A WALK IN SPACE

A STUDY OF THE PANTILES AT TUNBRIDGE WELLS AND THE OPPORTUNITIES PRESENTED BY REDEVELOPMENT PROPOSALS

Mention of the Pantiles at Tunbridge Wells is likely to conjure up a picture of toasted tea cakes and mushy, sentimentalized travel posters.

This is a pity, for if you can forget the olde worlde trimmings it is still full of lessons for the urban designer of today. And these lessons need to be understood on the spot if the proposed large scale redevelopment at the south-west end of the street is to enhance, not spoil, the existing environment (see page 424). A shopping precinct that really works and is immensely popular cannot just be shrugged off as a pretty bit of nonsense: and to dismiss it as a series of fortunate accidents is a bit too easy. In fact, it developed gradually from three basic things, the medicinal spring, the raised bank on which to promenade (later paved with dished 'pantiles') and the shops, coffee houses and hotels to cater for the visitors. But the point is that everything that has happened here has taken into account the lie of the land and the way people are made (not rectilinear as so many designers seem to think) and the size and sort of spaces they feel right in. So the whole place fits, like a good suit.

Too often today we produce squared up plans which are efficient on paper, but which on the ground turn out either too aggressive or just plain boring.

The plan here, *A*, may look indecisive as a plan but it works splendidly when you walk round it, and that is what matters. Though small in area it is full of subtleties, a townscape primer in miniature.

But vague impressions (like all those references to St. Mark's Square) are really useless—it needs a closer look if anything is to be learned (and needs to be measured up too—a worthwhile student exercise this—not to produce careful elevations but in order to understand the relationship of spaces to heights of buildings).

Today the Pantiles consists of a tree-shaded parade a little over 200 yards long flanked by terraces of buildings on two levels, the upper being colonnaded for its full length. Immediately adjacent is the large open expanse of Tunbridge Wells Common. The main townscape points are:

SPACE

The enclosed space is roughly banana shaped (dictated by the parade freely following the contours of the site) with a centre spine of buildings for half its length. The variety achieved within this space is traced in the sequence which follows.

DEFINITION

Satisfyingly clear cut, this is a self-contained, enclosed little world. Very urban, no grass and all hard surfaces in direct, sharp contrast to the 'wild,' green common which comes right up to its outside wall. (The section is shown above.) But this contrast must be guarded. Already it has been compromised by a pompous lump of building (appropriately painted blush pink) which now squats on the common just opposite the Pantiles. This, a shelter and public lavatory, with 'Gentlemen' in lettering 8 ft. long, should never have been allowed and should be removed. The directional swing of the road bordering the Pantiles expresses traffic movement. Inside, only a few feet away but traffic-free, you have the choice of either walking (the promenade) or wandering (squares and alleys off it).

LEVELS

As the section shows, the steep slope of the common continues across the line of the Pantiles. This has been skilfully used to produce dramatic effect and conceal traffic.

ENTRY

The precinct can be entered at either end or by penetrating the wall of shops by tunnels from the outside world of the London road. The hole-in-the-wall effect, plus a drop in level, dramatizes the change-over from outside to inside. The entrance at the north end is effective, a constricted approach stopping the internal space from leaking out, but at the south end the termination is completely unresolved: the promenade just peters out. Here is an opportunity. Facing the end is a vacant site (ringed on plan *A*) and an estate agent's board reads 'The Old Pump Room site for redevelopment. Planning permission granted for 70,000 ft. of offices and 12 shops with ample car parking.' What happens here can either wreck or complete the Pantiles. Which is it to be? In order to appreciate what should happen it is necessary to look at the existing street in some detail and in sequence, and get the feel of it.

ENTRANCE

The entrance from the north end opposite the Church of King Charles the Martyr is by a narrow passageway tapering to only 15 ft. wide, *1*.

SQUARE ONE

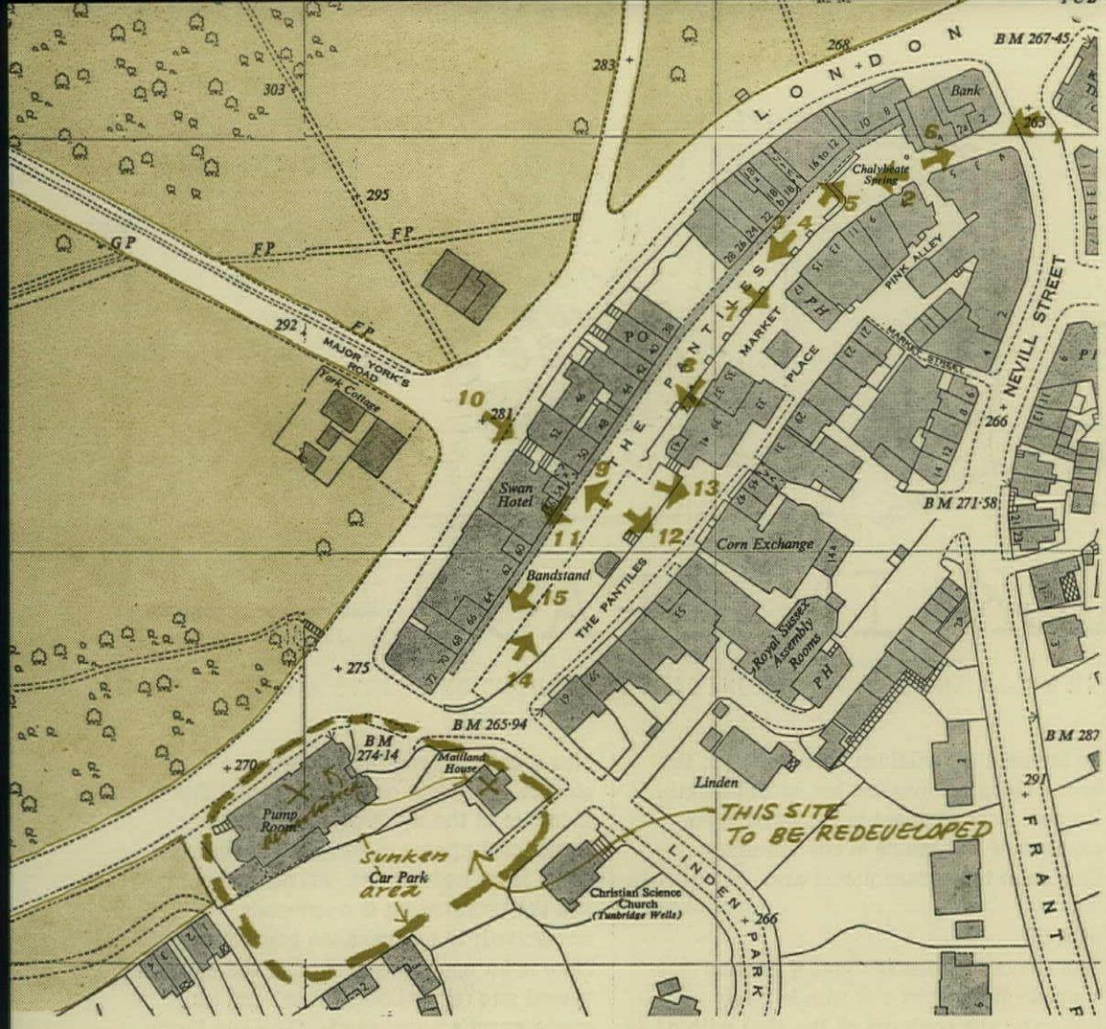
This opens out into a small square (Bath Square), *2*, in front of the bath house, the shape defined by an angle of steps leading to the Upper Walk.

CHOICE OF LEVEL

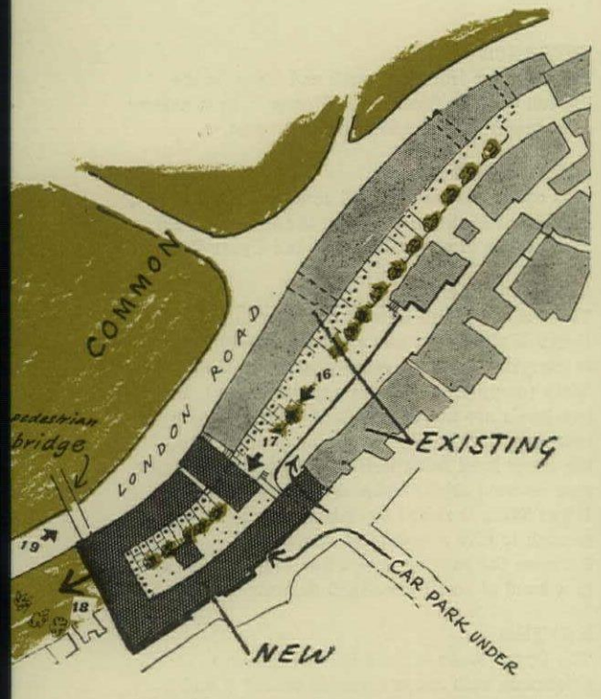
There is the choice here of climbing to the Upper Walk (broad and averaging 25-30 ft. wide) or carrying on at the same level along the Lower Walk (narrow, 12 ft. wide approximately). The two levels are not only defined by steps and a retaining wall but by change in floor surface, the lower level being dull red brick and the upper grey coursed ashlar slabs. And though the Upper Walk is raised by only five steps it is enough to give a feeling of importance. Between the two levels is a line of lime trees set in a band of small embedded stones.

RHYTHM

The Upper Walk is lined by a continuous colonnade with shops set back behind it and occasional passageways through. *3*. Above, the terraced facades vary enormously but it does not matter. The colonnade carries it all and ties the composition together as it marches out of sight. The real colonnade, *4*, is echoed by the colonnade of tree trunks which runs parallel to it.



Plan A: *the Pantiles showing the site which is to be redeveloped. Numbered arrows indicate the viewpoints of photographs and sketches. (Based upon the Ordnance Survey Map with the sanction of the Controller of HM Stationery Office. Crown copyright reserved.)*



Plan B: *the author's suggestion for completing the southern end of the Pantiles.*

LONG STOP
Looking back into the square, ***5***, you see that the bath house building closes the north end of the vista along the Upper Walk, the exit being to one side and itself stopped by the exclamation mark of the church turret, ***6***. In this way space is conserved. Turning and looking along the Upper Walk, the gentle curve in conjunction with the line of trees serves to hide the other end, again keeping the space in and creating suspense.

SQUARE TWO
On the Lower Walk the narrow way suddenly opens out into another small square, invisible from the first, ***7***. This, the old Fish Market, is just about a perfect space. Again, the square is defined on three sides by buildings and on the fourth by change of level (the retaining wall of the Upper Walk). Only about 2 ft. 6 in. but it's enough to do the trick aided by the trees. Here is the most perfectly placed pub you could wish for, the non-directional space inviting relaxation and tables spilling out on to the brick paving of the square. To sit out makes sense here for it is orientated to get any sun there is. The centre of the space is occupied by a single-storey building which means that though the square is so small you never see it all at once and people appear unexpectedly. The relationship of height of buildings to contained space seems just about right; three-storey buildings to square 60 ft. across. (By contrast most modern squares seem too large so that you are uncomfortably exposed in them.) Opposite is a gap in the buildings of the Upper Walk and a garden has been made with seats and dahlias. This breaks the enclosure and is surely a mistake, though luckily the colonnade continues across the entrance.

RAMP
Continuing, the Lower Walk gradually ramps up, past the old musicians' gallery, to join the Upper Walk just where the centre spine of buildings ends and the Upper Walk broadens out, ***8***. Where this happens, it is worth noting that the paving of the Upper Walk carries on at the same width, the extra space being casually surfaced with gravel. This keeps the story clear.

SIDE ENTRY
Just here occurs the most effective entrance to the Pantiles; entry dramatized, ***9***. Piercing the colonnaded wall is a sudden flight of steps and an oblong slot of green; the common. Inside and outside worlds suddenly meet. Note that the appropriate 'landscape' shape of the slot does not interrupt the flow of the colonnade as an upright slot would do. If you come in this way you literally fall in by gravity, and seen from the noisy, outside car world the peaceful pedestrian haven inside is irresistible, ***10***.

BIRDCAGE
Coming in this way you find yourself suddenly inside the colonnade, its perspective stretching off to either side, ***11***, in a space giving protection from above but only partial enclosure—a netted space. (Width of colonnade averages 8 ft. 6 in.) To either side the distance is screened by the apparent closing up of the columns and the curve of the street.

CONFRONTATION
Straight ahead the facing wall of buildings stops the eye dead with a huge coat of arms, ***12***, above the doorway of the Assembly Rooms. Escaping, the eye travels upwards and is again held by a delicate statue of Ceres outlined against the sky, ***13***.

CONFIDENCE TRICK
But what is this? Instead of the paving running up to the opposite buildings there is a rail . . . and beyond that a sunken road.
The cross-view, ***14***, shows what has happened. (Notice how the balcony rail of the right-hand building repeats the rail of the walk opposite.) This is a really brilliant use of the site. Vehicle, pedestrian segregation made to look inevitable. (In theory all that is required to complete the story is a bridge across to link up with first floor opposite.)

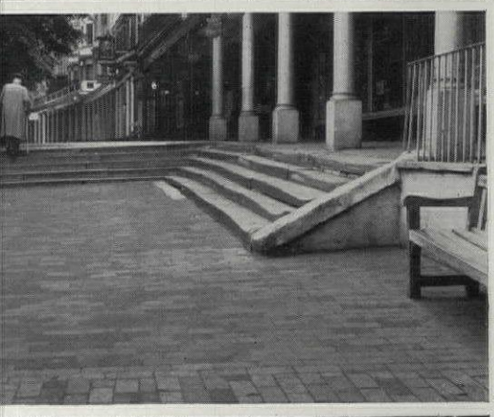
MISSING END
Finally, at the south end of the walk everything tails away. (And from old maps seems always to have done so.) A road crosses at an angle—opposite is a large vacant site, ***15***.

Separated from the Pantiles by the north end of Linden Park Road (see plan ***A***), part of this site is just above the level of the main (London) road; the rest and larger part (now a car park) is well below. At the south-west end of the site the ground falls away suddenly to well treed open space. Across the main road is the common.

ADJACENT CHARACTER
At present the Upper Walk reads as a continuous wall of building, with diversity given by what happens above the colonnade. The simple rhythm of columns gives unity and the varying facades above give a vertical counterpoint. The Colonnade is more or less even but, above, the windows hardly ever range through from one

[*continued on page* 425

1



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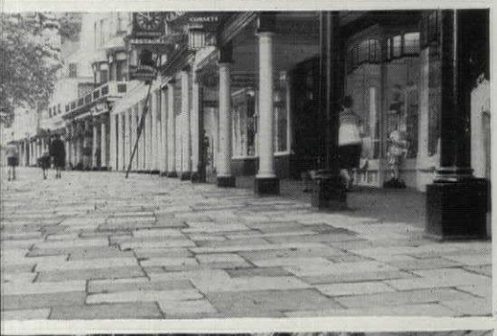

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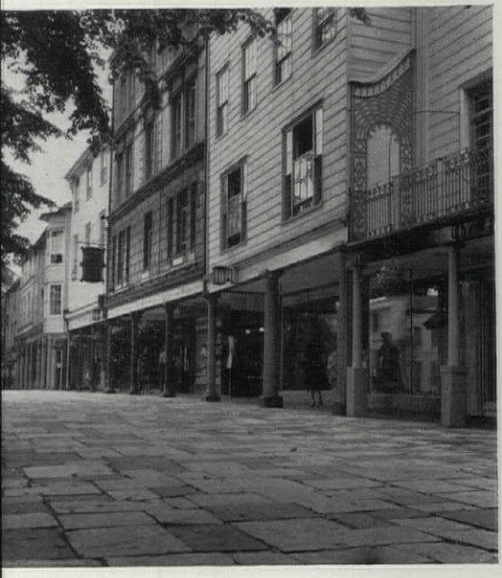

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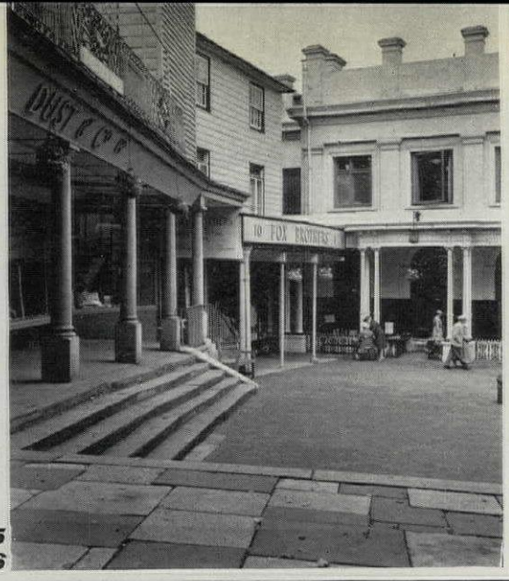

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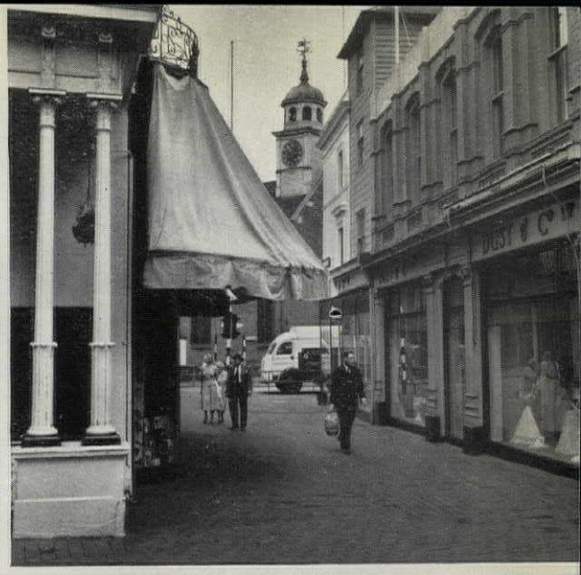

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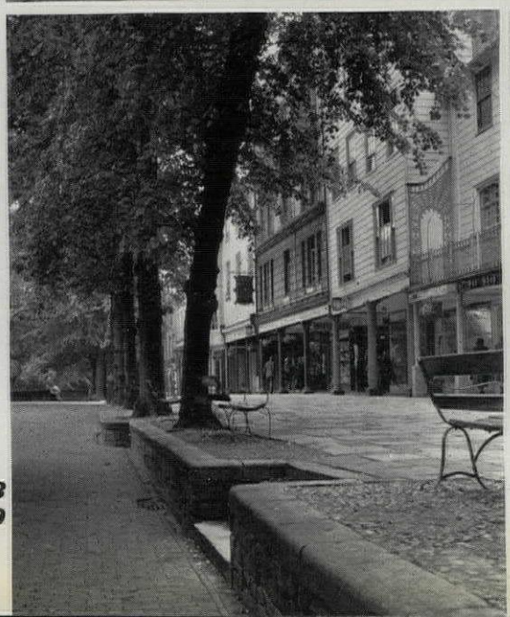

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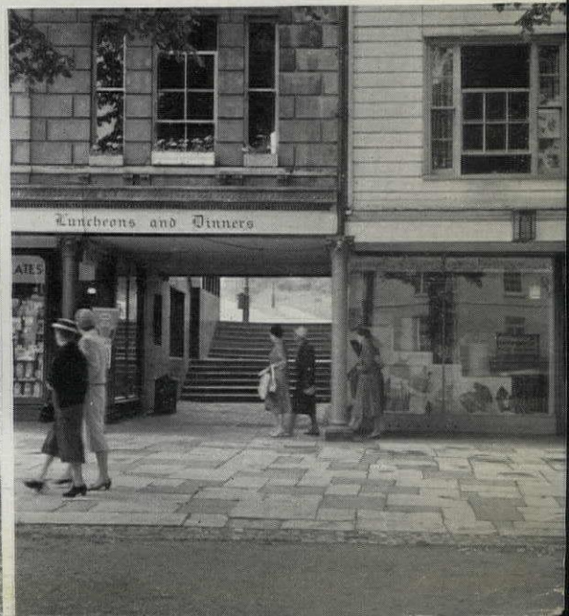


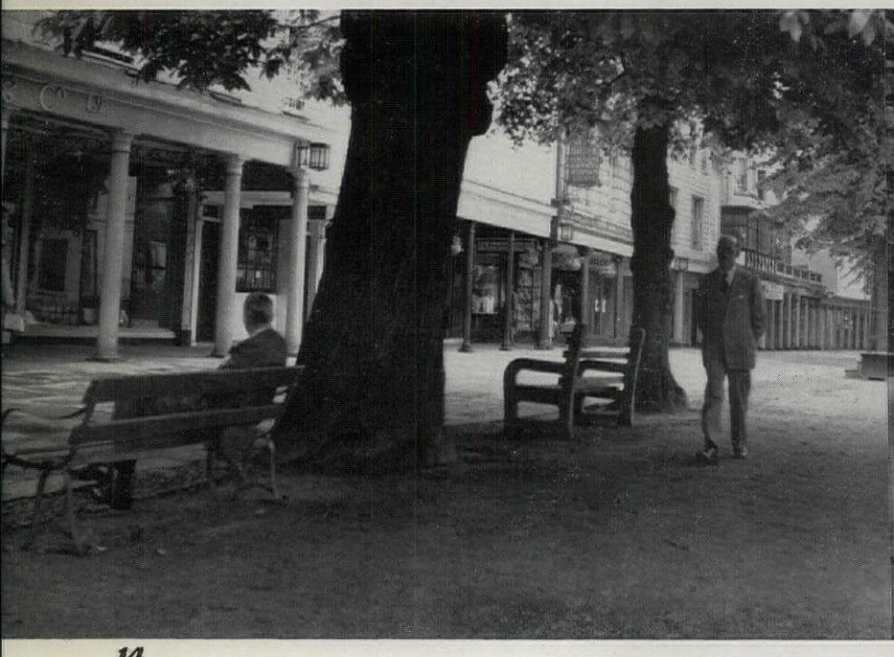
Pedestrian sequence: Constricted entrance, 1, to small square, 2. Five steps up is the colonnaded Upper Walk, 3, 4. Looking back into the square, 5, the entrance to one side, 6, is ended by church cupola. Then, 7, a second square in front of a pub. Ramp, 8, between Lower and Upper Walks. 9, bolt hole to outside world.

10

12

13

11



14

Coming in from the outside world, 10, *you arrive inside a colonnade stretching away to either side,* 11. *Ahead is an unbroken wall of buildings and two eye-catchers; a coat-of-arms,* 12, *and a skylined statue,* 13. *The section is explained by* 14; *colonnade on left, sunken service road on right. The south end of the promenade tails off indecisively,* 15. *Directly ahead is a vacant site. One way of providing a satisfactory end is shown on the opposite page.*

15

Transition 16

continued from page 422]

building to the next, the way people are approximately the same but not in detail. At this end the buildings are two or three stories high above the colonnade, the materials varying considerably: weather boarding, wood imitating stone coursing, tile hanging. To add a large new building here is a tricky problem. It must not be too high or too heavy or it will unbalance the whole place; so the question of scale and materials is important.

Some things seem certain (see plan ***B***);

i. The *Upper Walk* should continue on to the vacant site, also the colonnade and shops.

ii. *Traffic* must not interrupt this so the top of Linden Park Road must be closed (this looks quite feasible).

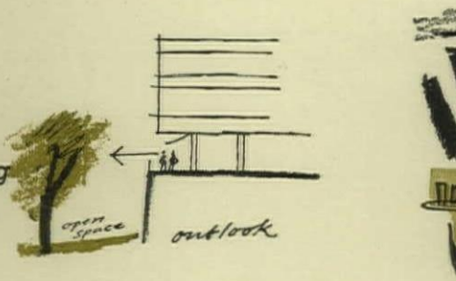
iii. Then it would be possible to effect the *transition* from old to new by a return wall of colonnaded shops, ***16***, under which the Upper Walk and colonnade would continue.

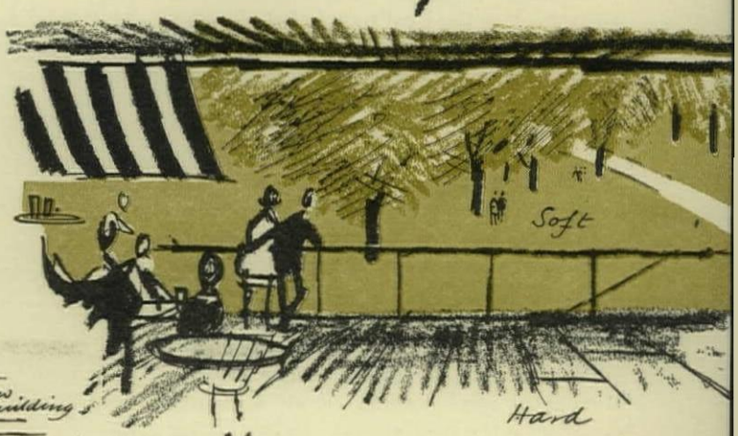
iv. Even as the Pantiles started with a *square* it could then end in a containing space, or spaces. The line of trees would continue to echo the colonnade, ***17***.

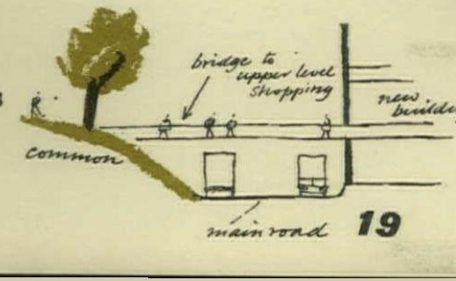
v. Beneath this level extensive *car parking* on several levels would fit in snugly (entered probably from the lowest point of Linden Park Road).

vi. At the south-west the Pantiles should end sharply in a *terrace* overlooking the open ground beyond (kept 'wild'), ***18***. From here it would be easy to bridge across the traffic to the steeply rising common (section ***19***). A clean break.

Underpass 17







19

Clean Break 18

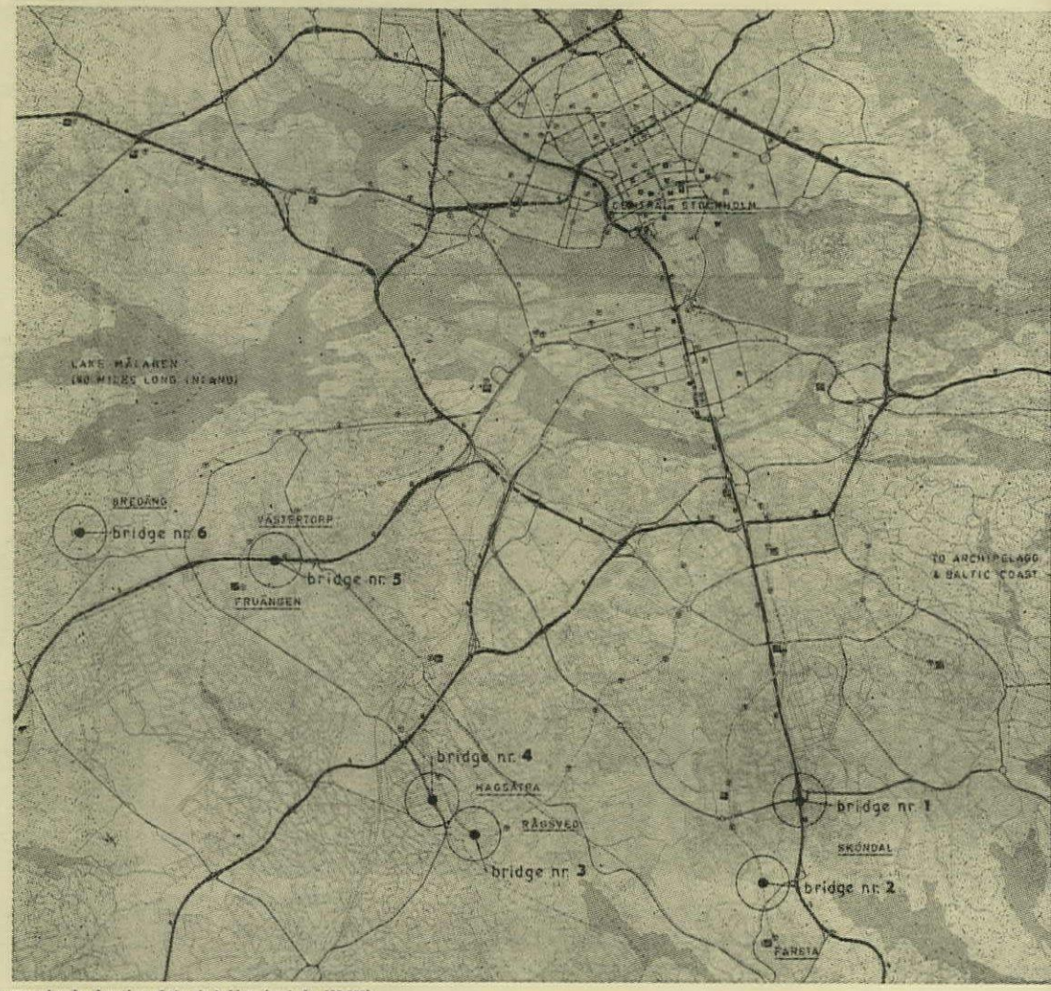
Cyril Morrow

SUBURBAN BRIDGES IN STOCKHOLM

The traffic arteries plan for Stockholm, prepared by the Department for City Planning and Building Control (and shown in diagrammatic form on this page), provides a carefully planned circulatory system linking the new satellite townships and residential areas of Vällingby, Hässelby, Farsta, Hagsätra, Ragsved, Bredäng and so on with the business heart of Stockholm and, by intercommunication, with the principal highways leading out into Sweden. To comprehend the extent of the work involved in constructing these communication routes (shortly to be complemented by the new major north-south bridges and highway artery known as Essingeleden), together with their servicing bridges, viaducts and tunnels, as well as their landscaping, account must be taken of the peculiar nature of the Stockholm landscape, which is best observed from an aircraft flying several thousand feet up on a clear summer day or, alternatively, in the depth of winter, when the forests and lakes are cloaked in deep snow and ice.

The landscape in Stockholm has been designed by nature, it would seem, specifically for the benefit of the bridge engineer. It is a vast wilderness of rock, lake and forest, through which heaving, contoured terrain, myriads of highways and bridges have to be blasted and tunnelled and interconnected to serve these new satellite communities, which have themselves been literally carved out of the raw forest surrounding the city. In this setting the bridge and highway engineers have achieved a good balance between the demands of structural technique and of environmental planning, and the machinery for overall co-ordination, from initial master town-plan right down to the local completion of works, has been organized with typical Swedish thoroughness. The fact that a major part of the land in the Stockholm area is directly owned by the city, through the instrument of the *Fastighetskontor* (Stockholm City House and Land Property Office), facilitates local planning co-ordination in a way which is probably unique. There is a long-standing tradition by which overall landscape planning and design has full priority, and as a result it has been a comparatively simple matter to achieve a spontaneous understanding of good design and what it involves throughout the various local authority departments concerned, an understanding which over the years has become an instinct in the case of all departments of public works. Each department is subject to the advice, on aesthetic matters, of the Parks Section of *Stockholms Stads Gatukontor* (Stockholm City Streets and Public Works Department) which, together with the *Stadsbyggnadskontor* (Department of City Planning and Building Control), is largely responsible for design and environmental control, watched over abstractly by the *Skonhetsradet* (Council for the Protection of Cultural and Natural Values in the City of Stockholm).

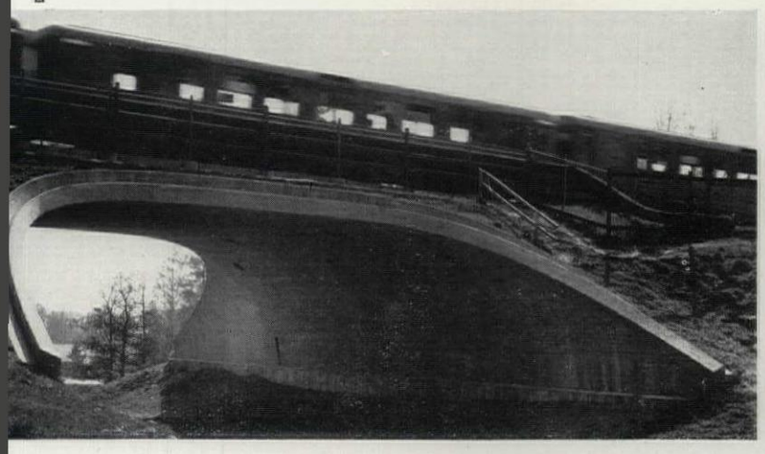
The Stockholm bridges, all to the south of the city, that have been chosen for illustration on the next two pages are with the exception of the footbridge over Huddingevägen seen in the background of 4, which is in steel with a concrete slab deck, constructed in reinforced concrete, the material preferred at the present time because of its comparative cheapness and its efficiency from the structural, maintenance and sound-transmission point of view. The Construction Section of *Stockholms Stads Gatukontor*, who were responsible for the design of the bridges illustrated, pay particular concern to immaculate finish. The standard of finish is probably the highest in its class in the country and reaches right down from the drawing board to the site *timmerman* or carpenter, whose responsibility it is to finally plane the 1 in. thick by 4 in. wide tongued and grooved timber formwork and, as a member of the construction team, to bring out, to an appropriately subtle degree, the imprint of the wood grain on the finished concrete surface—a familiar enough technique but one particularly well suited to this work because of the way the fine distinct texture is both related to the textured grain of the all-abundant Swedish rock and is sympathetic to its complementary forest environment.



map showing location of the six bridges (scale 1 : 100,000)

1

2



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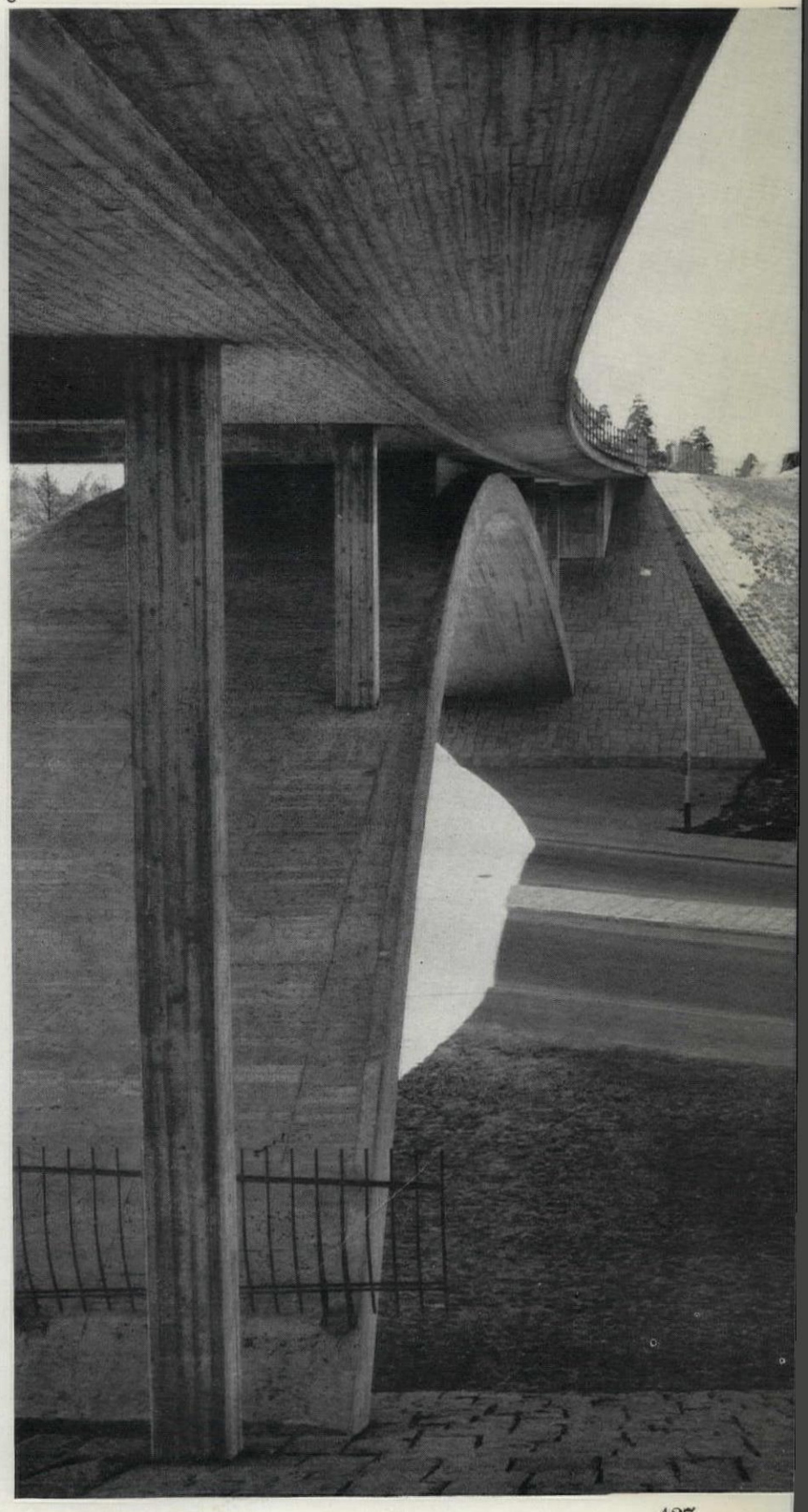


1 **Bridge over Nynäsvägen, connecting Orbyleden eastwards, at highway junction south of Stockholm on main road from Stockholm to Nynashamn (on the Baltic coast). Completed 1962.**

A continuous reinforced concrete bridge, bearing on three series of triple double-curved columns (ends and sides), with foundations resting on natural rock.

Total length	246 ft.
Width of deck	78 ft. 8 in.
Central spans	55 ft. 3 in. c/c
End spans	49 ft. 2 in.
Free height	14 ft. 9 in.

This immaculate structure, intercepting as it does a flat valley to the south of Stockholm, as the focal point to a gyroscopic interplay of north-south, east-west motorways, demonstrates well the skill of the engineers of the *Stockholms Stads Gatukontor* in casting their concrete to a finished precision, showing admirable smoothness and definition of line. The curved columns rising upwards to receive the superstructure deck give the impression of a natural feature in the landscape, through which, and over which, traffic passes without any conscious interruption. The inclines to the abutments, at 1 : 2, are laid in granite paving-stone, defining the change of material towards the grass embankments, which in early summer are coloured a blazing dandelion gold.

2 **Pedestrian and cyclist tunnel beneath Tunnelbana (Underground railway) embankment at Farsta, south of Stockholm. Completed 1961.**

A reinforced concrete elliptical shell structure, with abutments resting on natural rock, at varied levels, on three plinths to each side.

Span	46 ft.
Length at extremities	73 ft.
Thickness of shell	1 ft. 4 in.
Free height	6 ft. 2 in.

This tunnel, 'a causeway over a day-lighted cave,' provides access from a residential area at Sköndal and an intermediate park at the foot of a valley, sweeping upwards towards the railway embankment, to the shopping centre of the new town of Farsta. It accentuates in its elliptical form both the dynamic, mobile thrust of the railway, and the continuity of the rocky, undulating landscape, through which fast electric trains pass. The pipeline and wooden fencing are only temporary: the base of the tunnel will be laid with concrete paving slabs later, connecting to a tarmac or gravel roadway.

3 **Tunnelbana (Underground railway) viaduct over Ragsvedsvägeb, south-west of Stockholm. Completed 1960.**

A single-ribbed reinforced concrete arch bridge, with abutments carried down to natural rock, with granite paving-stone facing to incline of embankment.

Total length	289 ft.
Span	186 ft.
Width of deck	27 ft. 9 in.
Width of arch at apex	18 ft.
Width of arch at incline face	21 ft. 9 in.
Thickness of arch at apex	2 ft. 6 in.
Free height	14 ft.

The airy spandrel effect achieved by the use of post and beam framing for the cantilevered deck accentuates the visual dynamic of this viaduct, in contrast to the alternative effect which would have resulted by the use of transverse slab-walls, for example. Placed at the extremity of a natural valley, containing part of the new housing and shopping area of Ragsved, it helps to frame a woodland view lying beyond. The curvature of the railway deck is followed by the inner curved edge of the arch (the span of which curves inwardly towards its apex on both side-edges), the deck sweeping round and outwards from the hillside, as if to accentuate the opening of the valley, barely touching the crown of the arch. The one weak point in this design, which is slightly Maillartian in its conception, may be the rather clumsy and conventionally abrupt interruption of the paved incline to the embankment by the tangential abutments to the railway deck.

SUBURBAN BRIDGES IN STOCKHOLM

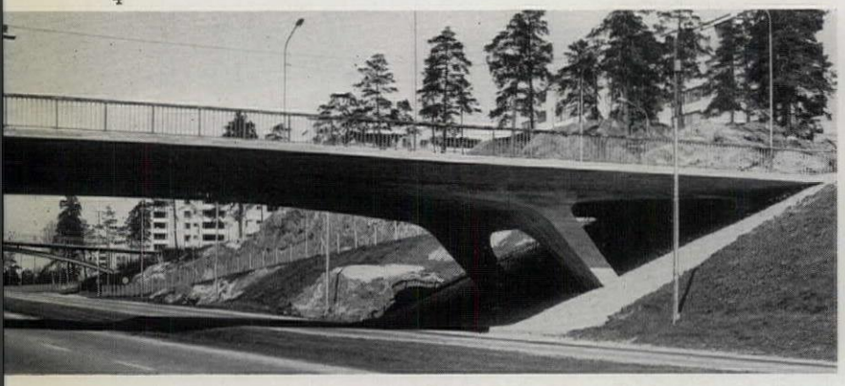
4 Bridge over Huddingevägen at Olshammarsgatan, south-west of Stockholm. Completed 1960.

A prestressed concrete strut-frame bridge, with ends formed as triangles, with plinths resting on natural rock.

Total length	165 ft. 6 in.
Width of deck	47 ft. 3 in.
Span	89 ft.
Free height	11 ft. 3 in.

The strut-frames of this bridge, fusing arch into road deck, rise to meet as it were in a symmetrical embrace at some hypothetical centre. The plane of the granite paving-stone incline over infill to the abutments, and laid at 1 : 2, accelerates by tangential suggestion the aerodynamic spatial thrust of the overhead roadway. The chief functional consideration of this vehicle bridge (and its accompanying light-steel arched footbridge situated further along the highway) has been one of creating maximum vision for drivers, combined with the need for an organic continuity as between the residential areas of Ormkärr and Hagsätra which are intersected by the highway. For these reasons the circulation of vehicles and pedestrians has been kept separate, and yet is complementary, the heavier vehicle bridge being in contrast to the lighter airy footbridge.

4



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5 Pedestrian and cyclist bridge over Södertäljevägen, between Fruängen and Västertorp. Completed 1964.

A reinforced concrete, cantilevered ramp and spiral-ramp bridge with abutment and foundations resting on natural rock.

Length of central spans	53 ft. 9 in.
Length of end spans	44 ft.
Radius of spiral, deck centre	19 ft. 8 in.
Width of deck	10 ft.
Free height	14 ft.

This bridge connects pedestrian traffic between the residential areas of Fruängen and Västertorp across the busy double-laned motorway, one of the principal south-going highways leading from Stockholm. The sturdy, organic sweep of the spiral rampway, rising with sudden curvature from the floor of the surrounding forest, ensures continuity between the residential areas on either side of the highway, which might otherwise, if joined by a more rigid structure, have become separate entities.

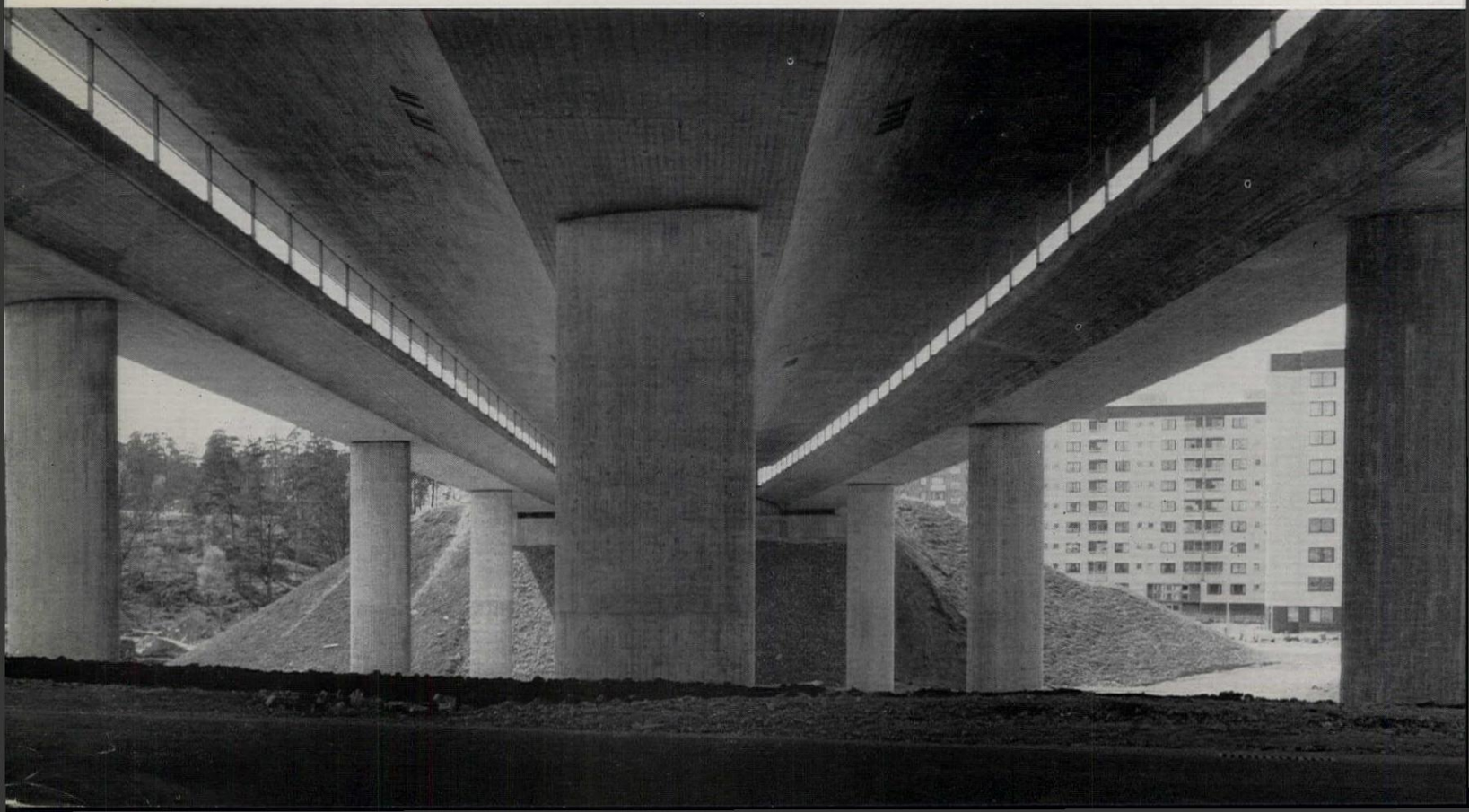
6 Tunnelbana (Underground railway) viaduct at Bredängs Centrum (Bredäng New Town Centre), south-west of Stockholm. Completed in 1964.

A continuous slab of prestressed concrete on pendular columns, with reinforced concrete hinge at the head and foot of columns. Maximum movement for the pendular columns ±35 mm. Columns partially bearing on plinths resting on natural rock, partially on concrete piles extending down to rock, abutments resting on plinths also on natural rock.

Total length: north track	571 ft.
south track	500 ft.
platform deck	316 ft.
Maximum span, column c/c	66 ft.
Width of track decks	16 ft. 7 in.
Width of platform deck	46 ft.
Free height (over roadway)	14 ft.

This striking underground railway viaduct, comprising three separated units, a north-bound and a south-bound cantilevered track-deck, and centrally positioned cantilevered platform deck (elevated and slightly protruding over the track-decks) dissects the residential section of the new town of Bredäng through its shopping centre. At the same time (through an extended embankment at its west extremity) obscuring the view from the housing area towards a flat valley in which will be situated garages, car-parks, etc. The viaduct has been skilfully positioned across this valley in the form of a continuous slab composed of three sweeping planes. This viaduct continues forward for about another 190 feet, and contains in this remaining length a large ticket hall, constructed in concrete, the texture of which (as with the bridge) reveals the fine grain of the wood formwork.

6



T R Collick

The Patronage of Robert Benson: 1675-1731

William Benson is well known as an active Whig and amateur architect who supplanted Sir Christopher Wren as Surveyor of the Works in 1718. Sir John Summerson has said that the Palladian movement was initiated by Campbell, Dubois and Benson, and of these three perhaps Benson was the most important. A relative of William Benson also prominent in architectural circles at that time was Robert Benson, Lord Bingley, a Tory politician and office holder under Queen Anne. He appears at an early stage in the careers of Thomas Archer, James Gibbs and John Wood the Elder, he advised at Cannons and Wentworth and his name was linked with the rebuilding of Whitehall Palace. In this article, which throws some new light on the relation of patron to architect and on the early eighteenth-century problem of amateurism versus professionalism in architecture, Mr. Collick traces the patronage of Robert Benson during the early years of the eighteenth century.

The first volume of *Vitruvius Britannicus*, published by Colen Campbell in 1715, contains two engravings of a charming villa which had been built at Wilbery by the dilettante William Benson in 1710. The design was based on a drawing by Inigo Jones and is considered to be the earliest evidence of an Inigo Jones revival.

Before the first volume was completed Campbell had assembled enough material to advertise a second volume which duly appeared two years later. Included in this second folio is a double page engraving of a country house of unusual design which Campbell indicates was also finished in 1710. The house in question is Bramham Park, Yorkshire, the seat of Lord Bingley who, before his elevation to the peerage on July 21, 1713, was plain Robert Benson Esquire.

A family connection can be traced between Lord Bingley and William Benson, but their precise relationship is difficult to establish because both Lord Bingley and the father of William Benson were guilty of preparing spurious pedigrees to substantiate their claims to arms. The family was undoubtedly Scandinavian in origin and had drifted west from Whitby. The name was originally Björnsen, son of the bear, which animal supports the coat of arms of Baron Bingley on the baroque gate piers of Bramham.

We have therefore two relatives, William and Robert Benson, both with their roots in the West Riding of Yorkshire, who influenced the complete range of taste from Baroque to Palladian in the early eighteenth century. It is accepted that the house at Wilbery, Wiltshire, marks the beginning of the Palladian movement. From Bramham it is possible to trace a parallel influence which affects the work of James Gibbs and John Wood the Elder.

Robert Benson, older than William by some seven years, was born at the Red Hall, Wrenthorpe, near Wakefield, in the spring of 1675. His father, also named Robert, was at that time a favourite of Thomas Osborne, the Lord High Treasurer of England, better known as the Earl of Danby and later Duke of Leeds. Of Danby Macaulay wrote 'He was not a man whose character, if tried by any high standard of morality, would appear to merit approbation. He was greedy of wealth and honours, corrupt himself, and a corrupter of others.' By all accounts his character was matched by that of his assistant. In 1646 Benson had owned a number of small properties around Leeds, the most valuable being one in Mumpits Lane which brought him £20 per annum. After the Restoration he set out to acquire lands and property, and over the next few years occur a succession of purchases, foreclosures and evictions. He bought the Red Hall from the Lowden family in 1666, and shortly afterwards married Dorothy, daughter of Tobias Jenkins of Grimston, a woman considerably younger than himself.

The memoirs of Sir John Reresby, Baronet of Thryberg in the West Riding, contain a number of references to the elder Benson who was considered by Sir John to be the most formidable man of business of his time. In the memoirs is an account of Benson's death in July, 1676, and an alternative version is found in the Birch MSS: 'It is suggested that he was poisoned by envious courtiers who had a mind of his profitable place as sub-treasurer which it is said might have improved to £10,000 per annum.' Allowing for exaggeration it is obvious that Benson had come a long way in thirty years; contemporary estimates of his income fall between £1,500 and £3,000 a year which would place him amongst the wealthiest men in the country.

The death of her husband left Dorothy a young widow with a small family of three children and a good estate. No details of Robert's education are known except for a statement by Thomas Wentworth, Lord Raby, that 'He had travelled in Italy where he had the good fortune to strike up a friendship with Lord Dartmouth.' He seems to have been an amiable, and perhaps ardent, young man. 'He has lived very handsomely in the country without being a drinker though very gallant among the ladies.'

We have more information after he entered public life in 1700, when he was appointed Deputy Lieutenant of the West Riding of Yorkshire. That year saw the marriage of his elder sister to Sir John Wodehouse of Kimberley Park in June, followed a month later by the marriage of his friend William Legge, 2nd Earl of Dartmouth, to Anne, daughter of Heneage Finch. In the general election of 1702 Benson succeeded Sir Thomas Hanmer as MP for Thetford; he was now a firm follower of the Nottingham-Finch connection and a prospective son-in-law of Heneage Finch. On December 21, 1703, Robert Benson married Lady Elizabeth Finch at St. Giles in the Fields, and on February 4, 1705, their only child, Harriet, was baptised at St. Margaret's, Westminster.

It was apparently after his mother's death in 1696 that Benson was granted an extensive area of Bramham moor. At that time William Talman was employed at Kiveton Park, near Sheffield, by Thomas Osborne, and in the RIBA library there are some undated plans by Talman for Kimberley Park, the seat of Benson's brother-in-law. It is reasonable to assume that Benson came into contact with this architect and perhaps had the opportunity to examine the collection of drawings which Talman was assembling.

In spite of the date given by Campbell, it is probable that the first drafts for Bramham Park were drawn up about the turn of the century. The architect is not known for certain but it seems most likely that Benson himself was responsible with some assistance from Thomas Archer. Some details at Bramham are reminiscent of Chatsworth and Heythrop, and there is in the gardens a terminal with the inverted volutes which Archer so often used. On the other hand, Professor Pevsner has pointed out that it is not likely that Archer would have done without a giant order on so magnificent a building.

Robert Benson's bank account preserved at Hoare's Bank indicates an early association with Archer. Two payments are recorded on April 8, 1699, and May 7, 1700, totalling almost £875. This would seem to indicate that Benson was Archer's first client, as his earliest authenticated design hitherto has been the north wing at Chatsworth which was finished in 1707. The payments may have been made for work at Bramham, but the figure seems too high for supplying the design only and there is no reason why Benson should have paid for several years' supervision in advance. Indeed Benson's reputation is such that it is certain he administered the contract himself. The account therefore is of doubtful value as evidence and it is always possible that the payments were made for other than architectural services.

The design is composed of Baroque and neo-Palladian elements drawn from a number of sources. The basis of the plan is superficially similar to Wilbery, but this must be expected when both were evolved from the standard country house being built after the Civil War of which Belton, Lincolnshire, has been selected as the archetype. The nucleus, the hall and saloon with the rooms on either side at Wilbery, has been extended at Bramham and wings have been brought forward from the entrance front. The wings are linked to small service pavilions by means of open Tuscan colonnades. It is the exploitation of mass that makes Bramham Park unique. The restrained treatment throughout made the design acceptable to Palladian taste and Campbell notes with approval that the stone entrance hall is an exact cube of thirty feet.

There is one other significant feature of the design; the use of two identical staircases to maintain symmetry even at the expense of a grand ascent. A comparison between this plan and the designs in *A Book of Architecture*, published by James Gibbs in 1728, establishes that Bramham could have been the prototype for the majority of houses planned by Gibbs. At Ditchley, his most famous house, the plan seems to be almost an exact copy.

Could Gibbs have been involved at an early stage at Bramham?

He was in Rome from October, 1703, until the end of 1708 or early 1709, when he left Fontano's studio to return to England. During the latter part of this period, 'he frequently visited the British nobility and gentry who came there to see the Antiquities, some of whom employed him to make drawings for them, and were of service to him when he returned to England' (Soane MSS Life of Gibbs). The earliest date for a plan by Gibbs would seem to be about 1707 and as, according to the Wentworth Papers, the house was still being built in 1709, it is just possible that drawings could have been obtained from Gibbs in Italy by Benson. What is more likely however is that Gibbs, who copied with catholic impartiality, knew the Bramham plan and used it as a basis for his own designs.

Due to the experience he was gaining at Bramham, Benson was called in to advise the Wentworths at Stainborough where Lord Raby, absent at the Court of Prussia, was having a large house built to the design of Jean de Bodt. The correspondence is often quoted and adds nothing to our account except to underline Benson's growing reputation in architectural matters. It ends with an effusive letter to Lord Strafford from James, 2nd Earl of Bute, who writes 'Your Lordship is pleased to be so merry with your humble servant as to prefer my low taste in architecture to the consummated experience of Bingley and the rising merit of Bathhurst, etc." (c. 1715).

Benson's association with Gibbs continues now for several years. We are unable to present a continuous account from the fragments of correspondence which survive; some episodes are known, others must be deduced. In the early summer of 1710 we find Benson with Charles Boyle, 4th Earl of Orrery, and the Duke of Argyll in Marlborough's camp before Douai where he is acting as unofficial observer for Robert Harley. Harley, Argyll and Benson became the patrons of James Gibbs who had already obtained the friendship and protection of the Earl of Mar. Argyll, the life-long friend of Benson, was also the patron of Colen Campbell. The further we inquire into this maze of patronage the more confused the account becomes, but it is apparent that during the last years of Queen Anne and the beginning of the reign of George I it is not possible to divide patrons into Whigs and Tories in tidy groups of Palladian and Baroque taste.

When in August, 1710, the Lord Treasurer Sidney, 1st Earl of Godolphin, was dismissed, the Treasury was put in commission with Benson as one of the commissioners. A rearrangement of the cabinet took place the following summer and Harley, then Lord Oxford, filled his own vacancy at the Exchequer with Robert Benson. Two years later Benson became Lord Bingley, taking his title from the lands and manor of Gawthorpe Hall, Bingley, which his father had bought in 1668.

There was then a pause, and whilst he awaited a fresh appointment the new Lord Bingley withdrew to the country. Passing through Yorkshire on his way to Scotland in September, 1713, the Earl of Mar found him 'pulling down the other half of his new house.' Before leaving London, Bingley had provided Gibbs with a letter recommending his appointment to the post of Surveyor under the new churches act. The Earl of Mar had obtained Oxford's support and after some delay and opposition the post went to Gibbs.

About this time there was another scheme afoot in which Gibbs may have been involved. On September 24, 1713, Erasmus Lewis, Secretary to Lord Dartmouth, writes in a newsletter to the Earl from Whitehall, 'Your Lordship will see the honour done to Lord Bingley's skill in architecture, for the Dutch Gazettes say he is to have the care of seeing Whitehall rebuilt.' To this tantalizing reference nothing definite can be added. A set of drawings, unsigned and undated but in the Gibbs manner, for a new royal palace survives in the RIBA Library. A scheme of this nature would have suited the circumstances in which Gibbs found himself on his arrival in London. We know of his book of architecture projected at this time in order to show 'by demonstrations that I know something of what I learned whilst I was abroad.' The amateur Lord Bingley and the professional Gibbs could perhaps have collaborated on a grand scheme during a comparatively quiet period of their lives.

The ensuing months were to be disturbed for both men. Lord Bingley was prevented from taking up his post as Ambassador Extraordinary to the Court of Spain by the Queen's death and the resultant change of government. One of Gibbs's patrons, Lord Oxford, was committed to the Tower and, following the half-hearted rising of 1715, the Earl of Mar became an exile at the Jacobite Court in Avignon. Gibbs fortunately could still rely upon the Duke of Argyll and Lord Bingley and may have worked on the stable block at Bramham at this time.

In the year 1716 Gibbs was employed by James Brydges, 1st Duke of Chandos, at Cannons. Brydges had started the house in 1713, employing William Talman and John James as the architects; Vanbrugh had been asked for advice, and was in correspondence with Brydges during 1715. Gibbs worked for Brydges for at least three years and towards the end of this period the following letter was written which reveals the extent of his reliance on Lord Bingley.

Duke of Chandos to Lord Bingley. 3rd September, 1719.

'I am under great obligations to your Lordship for the obliging concern you are pleased to express for my success in what I am doing at Canons. Mr. Gibbs was certainly very much in the right to apply himself to your Lordship, whose judgement he knows very well, I have the greatest opinion of, and to whose good taste I shall always readily submit my own: accordingly I have agreed to alter the design I had formed and instead of breaking the entablature, I propose to carry it straight and make it project over the middle part of the house where the pillars are. These too (instead of making them semi-columns) I intend to make almost entire columns; but for the rusticated pilaster, I have never heard of any place where such a design hath been executed, and I confess I cannot bring myself to like it from the view I have had of it on paper; I should think it more proper for a situation near a river than such a one as mine is.'

It would be easy to put a false value on this isolated letter, but at the very least the explanation is that Gibbs, faint-hearted when faced with a difficult client, obtained from Bingley moral and artistic support. Here our knowledge of their association ends, but they remained friends and when Gibbs died in 1754 we find one of his Marylebone houses occupied by the vain and elderly Dowager Lady Bingley.

In 1718 William Benson was briefly installed in the Surveyorship in place of Wren. The story has been related many times. It does not seem that he was really interested in that particular post but, urgently in need of money, took it 'until he should accept of some other office or place.' He was sensitive, but without talent, and eventually was to suffer from what now would be called a nervous breakdown.

Between 1718 and 1720 the Duke of Chandos had dealings with William Benson and during this period both Chandos and Lord Bingley bought stone for building from William's brother Benjamin. After the consultation about the south front at Cannons the Duke had come to rely more and more upon Lord Bingley's knowledge of building. Both took sites in Cavendish Square and there Chandos, with the assistance of John Price, proceeded to plan a house of vast proportions occupying the whole of the north side. Lord Bingley's building, known later as Harcourt House, was built between 1722 and 1727 on the west side. The design was by Thomas Archer but the building seems to have been modified during erection by Edward Wilcox, the carpenter and Surveyor General of His Majesty's Woods.

In appearance this house is very similar to the earlier Roehampton House, and also Monmouth House, but for their cleft pediments a balustrade has been substituted to conform to the Palladian fashion. That Bingley could have built this house is hardly credible; from the biography of James Brydges it would seem that he took over the building after it had been started by another. Whilst working for Lord Bingley Wilcox was also employed by the Duke of Chandos, who later engaged Edward Shepard on Bingley's recommendation.

Some time during 1722 Lord Bingley employed a young surveyor named John Wood, who at this time was only eighteen, either at Bramham Park or Cavendish Square. Between 1722 and 1724 Wood was paid £336 6s. by Lord Bingley. We know from a surviving letter written by Chandos that Bingley 'educated' John Wood, and from Wood's own account that he was at Bramham in 1724. It was whilst he was in Yorkshire in the summer of 1725 that he obtained a plan of Bath and, during his leisure hours, made designs for the north-east and north-west sections of the town. He must have been engaged in a minor capacity on the gardens at Bramham where we know work continued until 1727. When Wood was there the layout had been completed except for the canals and cascades.

Lord Bingley employed John Wood up to at least 1727, and at the same time he was working for Chandos in Cavendish Square, and at Bath. From the correspondence of the Duke it seems that behind Wood's Palladian facades were concealed unsound construction and poor workmanship.

The support and encouragement which he gave to this uneducated young man is the last we know of Lord Bingley's patronage. An interesting feature of the architectural world at this time is the preponderance of Yorkshiremen. As well as the Bensons and Lord Bingley, there were Thomas Ripley, William Kent and, most famous of all, Lord Burlington. Unfortunately the tradition that John Wood was a Yorkshireman can no longer be accepted, but it is certain that the Forum, Circus and proposed Gymnasium of Bath were first conceived in the library and baroque gardens at Bramham Park.

Of Lord Bingley's buildings very little now remains, Harcourt House was demolished in 1903 and the Red Hall is a neglected ruin. Bramham Park was gutted by fire in 1828 and, after standing a ruin for years, was restored at the beginning of this century. The greatest loss of all, however, occurred recently when gales virtually destroyed the gardens of Bramham which had formed perhaps the best surviving Baroque layout in the country.

photographs by Ben Schnall

architects: Gordon Bowyer and Partners in association with Keith Townend; executive architects: Ira Kessler and Associates

Hairdressing Salon, New York

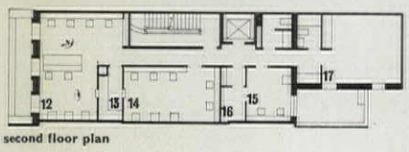
1, *reception desk and display recess*

2, entrance lobby with tempered glass screens and black anodized metalwork. The entrance to the flats is through the flush door in the veneered screen on right. 3, external view at night.

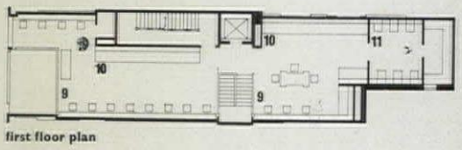
This hairdressing salon (the New York branch of Charles of the Ritz—Vidal Sassoon) occupies the lower three floors of a building (previously a restaurant) in Madison Avenue with self-contained flats on the two remaining floors. The client required the main salon to be one large space where as many activities as possible could take place. There was insufficient space for this to be situated at street level as reception, waiting and counter area had to be provided there adjacent to the entrance. Accordingly it was planned at first floor level and this it occupies completely except for a small dispensary at the rear. In order to make the salon visible from below, part of the floor was cut away at the front to form an open well and the main window carried up through two floors. Provision has been made for a boutique to be added on the ground floor and storage and display fixtures have been provided.

Externally the front is clad in natural cleft slate, dark grey in colour, which is carried through into the interior. To emphasize the continuity of the slate inside and outside, the black anodized aluminium metalwork is kept back 18in. from the side wall. The panel above the entrance is in white marble with incised and filled lettering and the soffit over the entrance and lobby is finished with white mosaic.

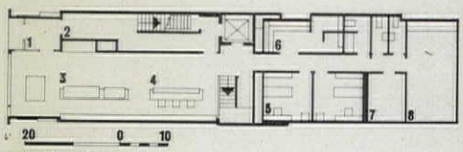
On the first floor the plaster ceiling, which is suspended to conceal the projecting beams and air ducts, is coved over the styling stations and drops down to the level of the top of the mirrors. To suppress the hairdryers visually as far as possible their metalwork is enamelled black and they are seen against walls covered with dark brown hessian. 2 Seating is covered with black vinyl.



second floor plan



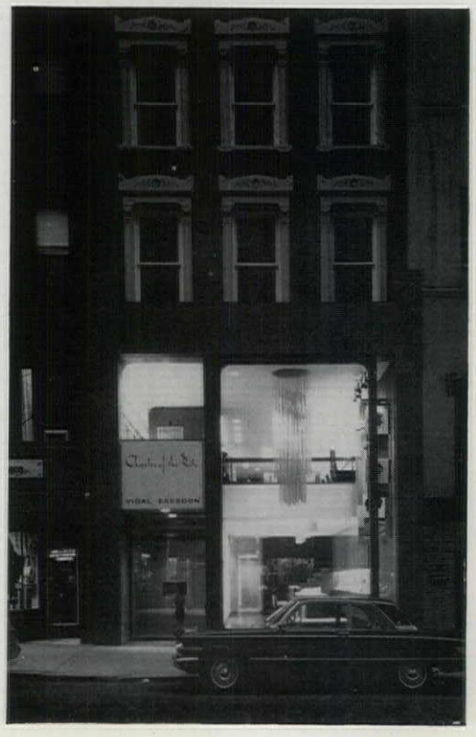
first floor plan



ground floor plan

key

1, main lobby
2, entrance lobby of flats
3, boutique
4, reception
5, facial treatment
6, cloaks and changing
7, office
8, staff lounge
9, styling
10, dryers
11, shampoo basins
12, tinting
13, dispensary
14, perming
15, private room
16, wigs
17, reception lounge



Hairdressing Salon, New York

4

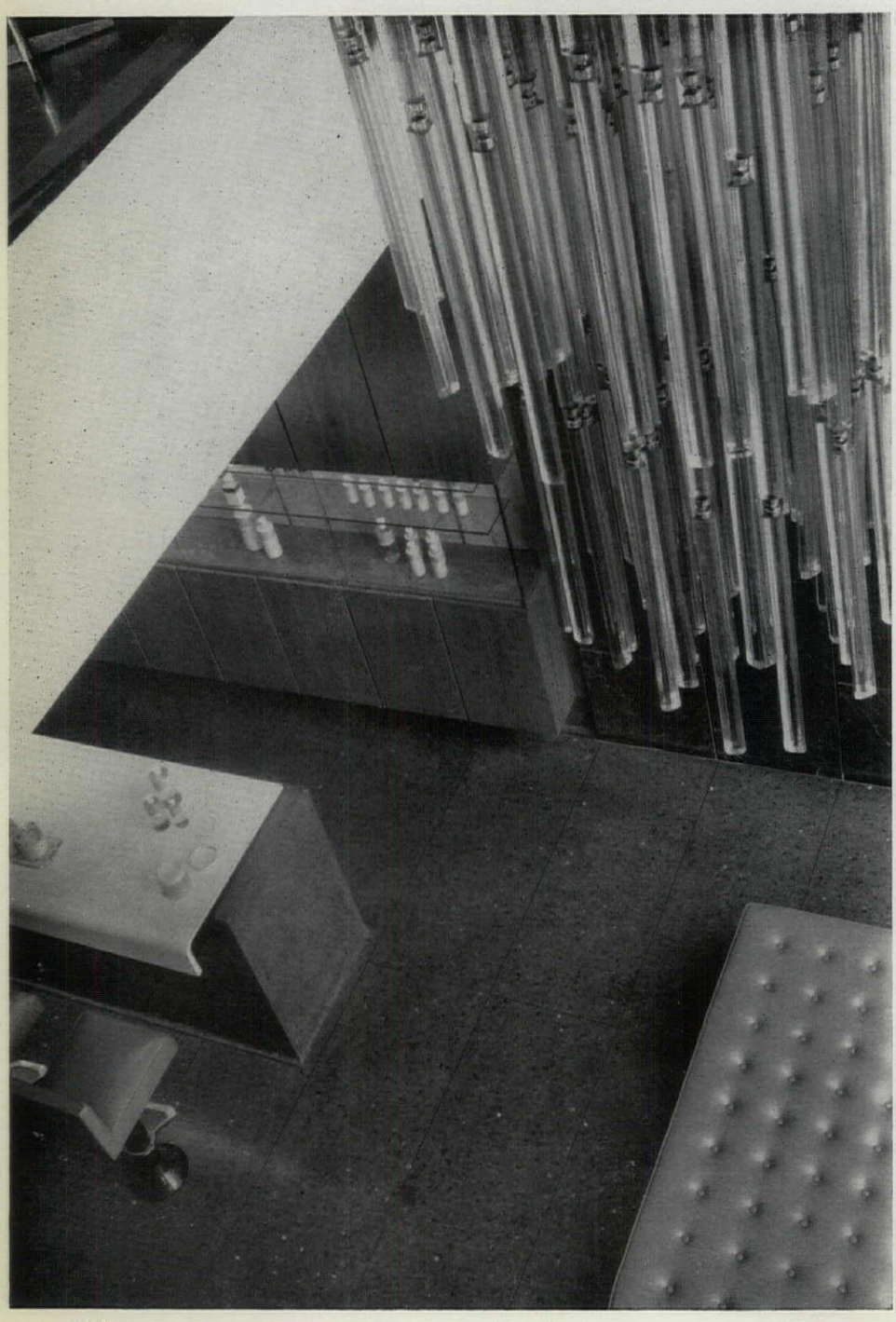
5

4 and 5, the ground floor. 4, the beauty counter and reception desk. Dark grey terazzo finish to the floor is carried up the fronts and ends of the fittings and the tops are covered with white plastic laminated on pre-formed ply. Walls are veneered with fruit cherry, doors and frames being of the same wood. 5, view from the half landing looking towards the entrance. 6, first floor; styling chairs on left, dryers on right.

6

7

7, night view on first floor looking towards the main window. 8, the ground/first floor well and decorative feature of tinted Venetian glass which is illuminated by a concealed floodlight.



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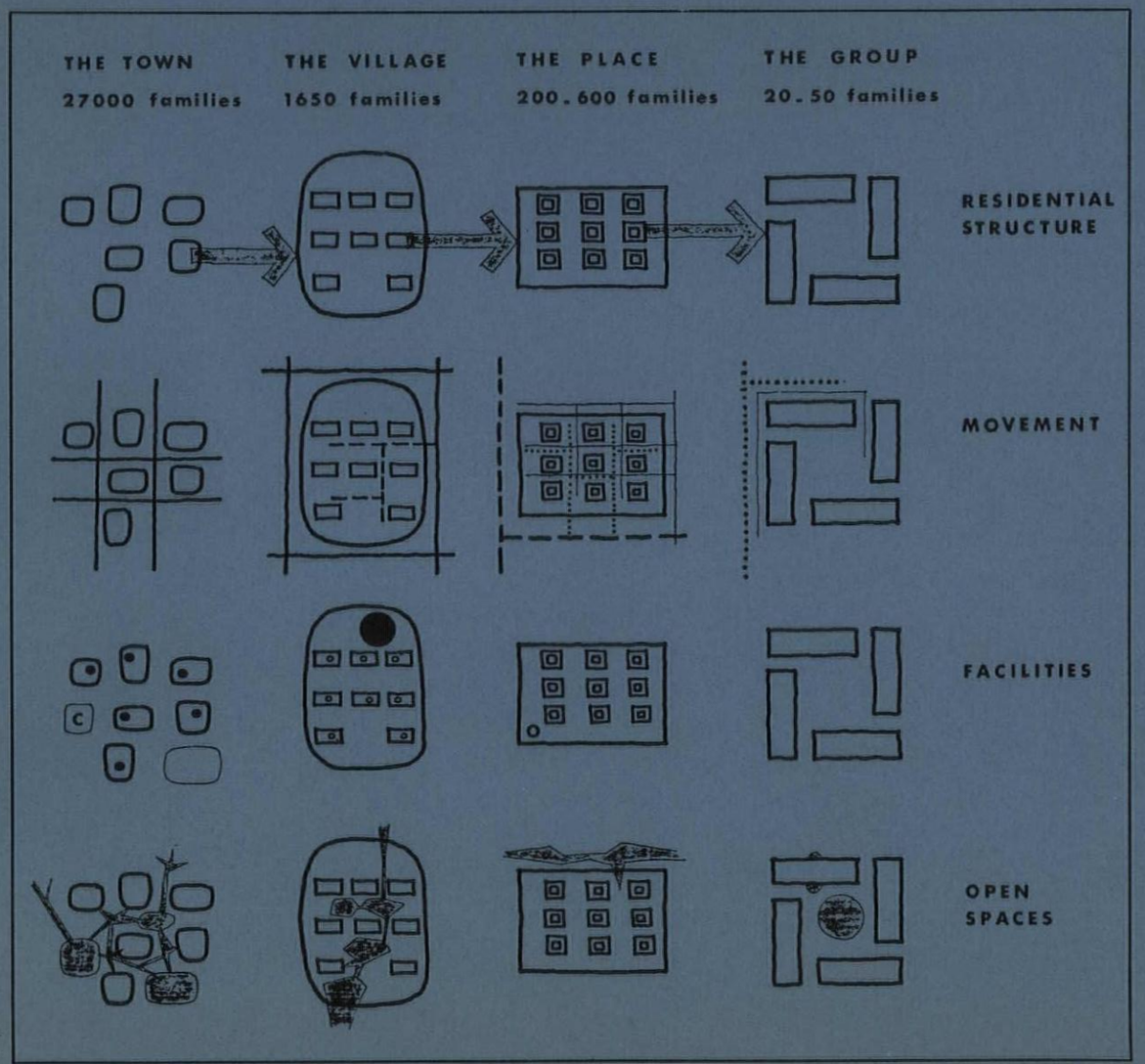
Hairdressing Salon, New York

Planned for Change

Preview: Washington New Town

1



One of the latest series of British new towns, previewed on these pages, is to be at Washington, County Durham, the home of the ancestors of George Washington, the first American President. The plans are being developed by Llewelyn-Davies, Weeks and Partners on principles that represent a departure from those followed in the earlier new towns, especially in relation to the idea of planning for the acceptance of change rather than in accordance with a pattern fixed by its designers in advance. This idea is referred to in an article by Lord Llewelyn-Davies on page 399-401 of this issue. Whereas previous new town plans have shown sharply defined, separate locations for residential areas, industrial areas and the town centre, at Washington these functions are diffused, so that if required

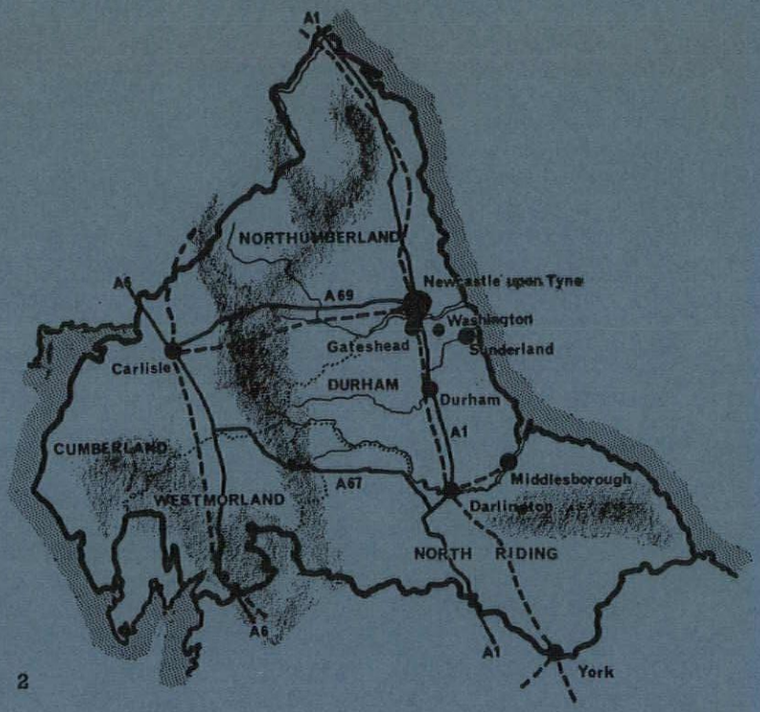
1, the final designed population of Washington new town is to be about eighty thousand people but the town may grow beyond this size. This diagram shows the way the town is built up from the individual dwellings to the town of twenty-seven thousand families: the residential structure; methods of moving about the town; the provision of supporting facilities and the open space related to each of the physical and social groupings.

The town is divided by the road network into a grid approximately half a mile square. There are no through routes within the squares, only service roads and pedestrian ways. Each square can accommodate a group of dwellings for about four to five thousand people, which is termed a 'village.' Each 'village' has a group of local services sufficient to meet the day-to-day needs of its population and within five minutes walk of the houses. Within the 'village' are a number of housing groups of various kinds serving between two hundred and six hundred families each of which has its own nursery school, local shop, etc. These 'places' comprise a number of smaller groups of housing which are the smallest units of the town and vary in size from twenty to fifty families. Within 'villages' most of the houses are served by road access, but in addition there is a system of footpaths which serves every part of the village and connects to the inter-'village' walkway system. All the houses have private gardens and many share in addition a completely enclosed communal garden. There is a main shopping centre in the town which is intended also to serve parts of the region. Other town facilities are distributed amongst the 'villages.' Each 'village' therefore has its own characteristics induced not only by the topography but also by the particular town facilities located there. Existing industry in the new town already occupies large areas; some future industry will be separately zoned but wherever possible it will be located alongside 'villages.'

2, map of north-east England showing the main lines of north-south communication, east through Durham and Newcastle and west through Carlisle. There are two links to the west, one direct from Newcastle to Carlisle and the other from Scotch Corner, south of Darlington. The dotted lines show the railways selected for development.

3, the site of Washington new town is surrounded by existing built-up areas from which it is separated by narrow green belts. Twenty thousand people already live on the site and the planned population is eighty thousand. The new town is bound to be part of a Tyne/Wear city region; over a million people live and work within a few miles of it.

4, the land-use pattern is arranged to prevent serious concentrations of traffic or large tidal flows. The road lay-out is on a grid approximately half a mile square. Within the squares is a combination of dwelling units and other facilities, diffused throughout the town. The road net is connected to the new motorways flanking the town on the west but also at a lower level to the local roads connecting the site to neighbouring settlements.



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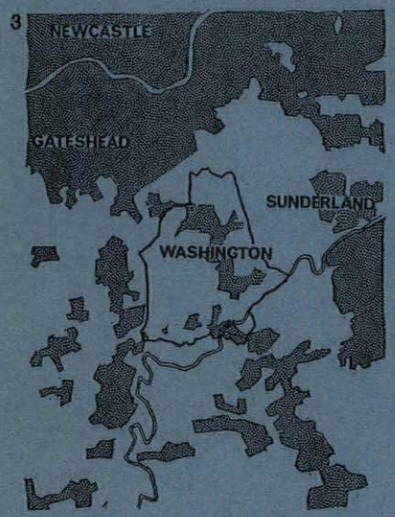

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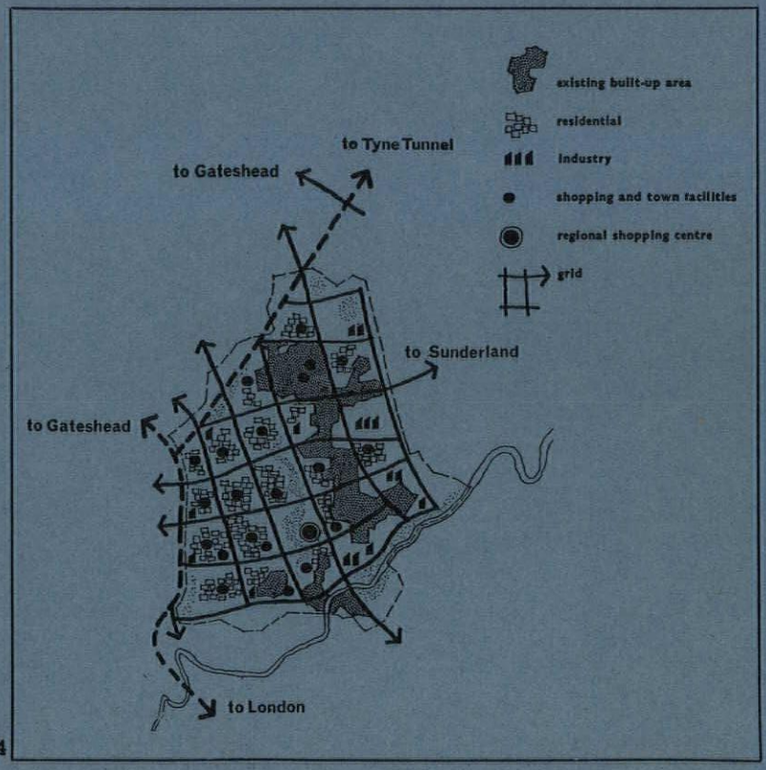

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they can change their location during the life of the town without disrupting its structure. This looser, more changeable pattern of land use gives rise to a radically different form of transport planning. In the earlier new towns the road network was designed to meet the needs of a fixed and final distribution of land use. This resulted in strongly hierarchical road patterns, with complex, high-capacity roads and junctions, building up towards the town centre—patterns inevitably tailored to fit the town plan. Any radical change in land use at once throws the road system out of gear, and causes violent disruption of the town structure. Radical changes in land use are however inevitable in practice, and most new towns have already experienced them, some at the planning stage and some during and after construction. Traditional designs are too inflexible to accept these changes easily.

At Washington the road system is a grid, designed to carry fairly uniform traffic loads at all points. Preliminary studies suggest that such a system, allied with a diffused pattern of land use, can solve traffic problems with startling simplicity and economy. The size of the grid is a critical point. At Washington it is roughly half a mile square, as this size appears to suit functional and social criteria. Within each half-mile square unit there are no through traffic routes; only service roads and pedestrian ways. Each can accommodate a residential group of about 1,600 families (4,000 to 5,000 people), plus one or two additional sites for industry or social functions. Each unit is termed a 'village.' Each village has a group of local services: nursery schools, primary schools, local shops, etc., sufficient to meet the day-to-day needs of the population, within five minutes walk of the houses. Each village is different and reflects local topography and existing settlements. For example in one the local centre is based on an old, existing village; in another it is sited in relation to a stream or valley. Most villages will include an element of town function: a secondary school, a sports centre, a timber-yard or some other activity serving the town as a whole. Thus each village will have an identity. of its own but will also form part of the whole town.

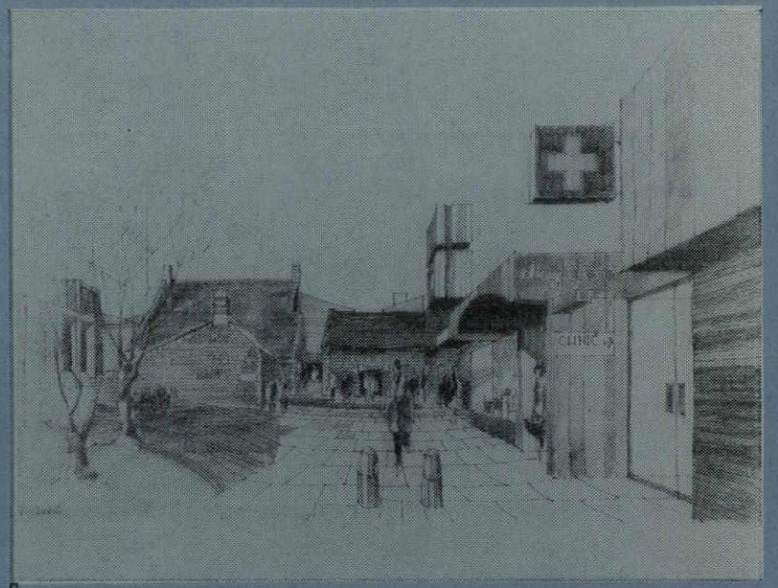
A few of the units bounded by the road-grid will be non-residential. One or two units will be devoted to very large industrial enterprises. One will be largely devoted to the administrative centre offices—town-hall, courts, etc.—placed around the historic village of Washington and the manor-house. Another will contain a sub-regional shopping centre planned to serve a population extending beyond the bounds of the new town and linked to the trunk road system connecting Washington to surrounding towns and cities.

It has been possible to balance residential use and employment over the town so as to prevent any serious concentration of traffic at particular points in the network, and to prevent tidal flow, with its

Planned for Change

Preview: Washington New Town

5, 6, 'village' centres. These centres contain six or eight shops as well as some facility serving the whole town. Wherever possible existing buildings will be utilized. As the 'villages' are small most people will walk to the shops, but the centres are also accessible by car from the main town road network.



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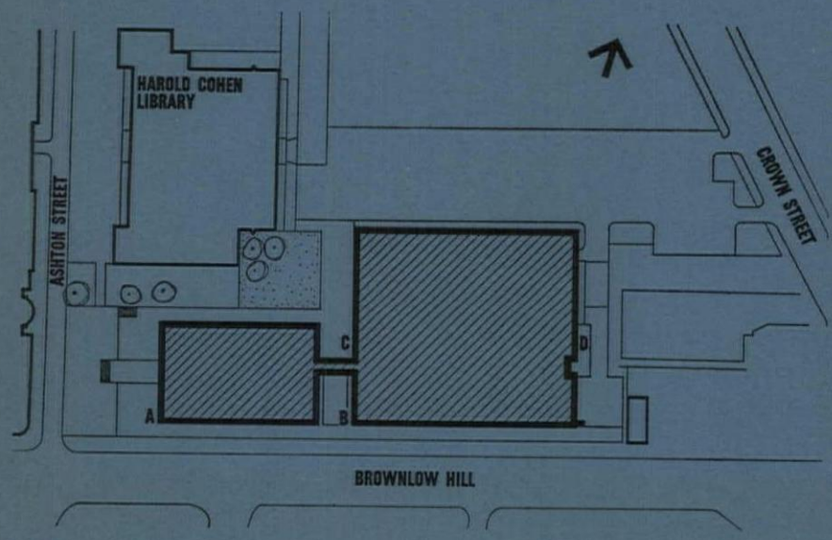
6

attendant uneconomical road design. Future urban development could take place within a code controlling land use in relation to traffic generation, but permitting far more freedom for growth and change than does traditional land use zoning. Journeys within each village, including children's journeys to primary school, will be on foot. It will be possible to walk through the whole town by pedestrian ways, crossing over or under the grid roads, but most journeys from residences to work, to recreation, to the sub-regional shopping centre and to higher education institutions will be by car or bus. While in the early days of the town car ownership will be low, the road design will accommodate full use of cars by the whole population in the future. The road network can be extended, with more sophisticated junctions, as traffic expands.

No other town site is so close to large centres of urban population as Washington, which is six miles south-east of the centre of Gateshead and six miles west of the centre of Sunderland, being separated from these built-up areas by narrow strips of green belt. Over a million people are living and working within a few miles of the site, and these centres of population are on three sides. One of the objects of siting a new town here, as given in the Government's 1963 White Paper on the development of the north-east region, is 'to stimulate faster progress in raising the scale and quality of the region's urban development generally.' Its position gives it considerable potential in this respect since it completes a horse-shoe of settlements extending from Whitley Bay through Newcastle and Gateshead to Sunderland. The plan accepts that Washington will be part of a Tyne-Wear city region, and that the new town should be positively connected not only to the national road network joining the cities but also to existing local roads giving access to adjacent towns and villages.

The planned population for Washington called for in the White Paper is 80,000, and there are 20,000 people already living on the site. The site slopes from the north-west gently down to the south-east to the valley of the river Wear, which is tidal, and Sylvia Crowe has proposed that the Wear valley be developed as a park and scenic area. She has also proposed a programme of shelter belts and planting, and the rehabilitation of areas occupied by industrial waste.

Architect-planners, Llewelyn-Davies, Weeks & Partners. Landscape and recreation, Sylvia Crowe & Associates. Transport, Freeman, Fox, Wilbur Smith & Associates. Development economics, Nathaniel Lichfield & Associates. Social geography, Prof. Emrys Jones.



site plan

key
A, seven-storey block
B, four-storey block
C, two-storey area
D, single-storey area

ELECTRICAL ENGINEERING BUILDING LIVERPOOL UNIVERSITY

architects **YORKE, ROSENBERG AND MARDALL**

photographs by H de Burgh Galwey

1 (opposite), the bridges between the seven-storey block, right, and the workshop blocks.

The building forms part of the development programme of the university for which the master plan was prepared by Professor Myles Wright. The Electrical and Electronics Department had been established in the university for some time, so that a precise and detailed brief could be made available for its new building. The department's activities require four kinds of accommodation: administration and staff; teaching (undergraduate); research (staff and postgraduate), and technical services. The needs of the first two are closely linked, and they share a seven-storey block (block A on the site plan) containing entrance, assembly hall, library, teaching laboratories, staff rooms and administrative offices. This block has been sited so as to provide a strong termination to Bedford Road North, leading up to the site.

The irregular shape of the site imposed restrictions on building height elsewhere, and this and the technical requirements of the various types of research laboratory determined the laboratory and service-area layout. Spaces of varying heights were needed (10 ft. to 30 ft.), the work in certain laboratories produced loud noises, other laboratories needed the proximity of generators and all required complex forms of electrical supply. The technical workshops, where experimental equipment is made, had to have easy access to the laboratories, and to economise cost it was decided to set a limit, for the circulation and ancillary areas, of 25 per cent of the whole.

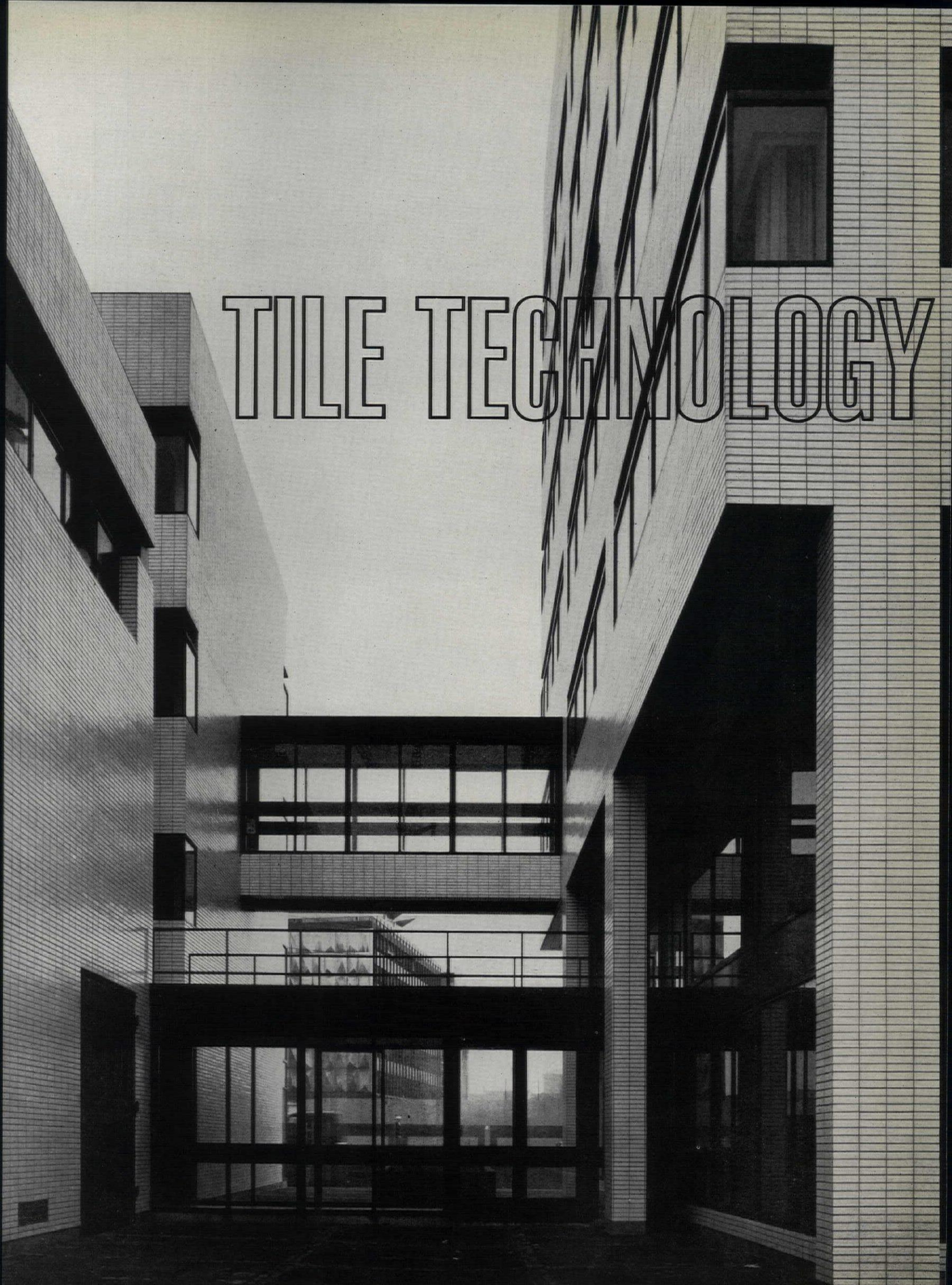
The resultant layout consists of one long four-storey block (B on the site plan), linked to the teaching and administrative blocks by bridges at ground and second floor levels, with extensions in the form of a two-storey area (C) and a single-storey area (D) accommodating the laboratories requiring greater height.

A ceramic tile facing material was decided on at an early stage, and the length of this—9¾ in. including one joint—set the module for the plan and structure. The buildings have an in-situ reinforced concrete frame. Floor slabs in block A are of hollow pot construction, but elsewhere, where there are considerable runs of uniform clear span, floor construction is precast beam and slab. Walls are faced with 9¾ in. by 2½ in. white ceramic tiles, laid horizonally, overall dimensions being such that no tile needed to be cut. Windows are purpose-made pressed metal sections, galvanised and painted, with reinforced mullions in the larger areas. The assembly hall has a fibrous plaster suspended ceiling and timber details in afrormosia. It is fully air-conditioned. The laboratories have specially designed fittings on a 3 ft. module with interchangeable slide-in storage cupboards. These are in afrormosia. Work tops are teak. Block A is heated by hot water convectors under the perimeter cills and the other blocks by conventional radiators with fan convectors in circulation areas and high-ceiling laboratories.

Specialised services to the research laboratories, apart from various forms of electrical supply, include cooling water, oxygen, town gas and compressed air.

The building committee allocated, from a special fund, a small sum for works of art. Rather than spend it on one large mural or piece of sculpture, it was decided to buy pictures to hang in the two galleries flanking the ground-floor lecture theatre and in the committee room, and lithographs and silk-screen prints for the professors' and lecturers' rooms, common-rooms, etc.

Structural engineers, Clarke Nicholls and Marcel.
Services consultants, R. W. Gregory and Partners.
Quantity surveyors, Ernest R. Babbs and Sons.



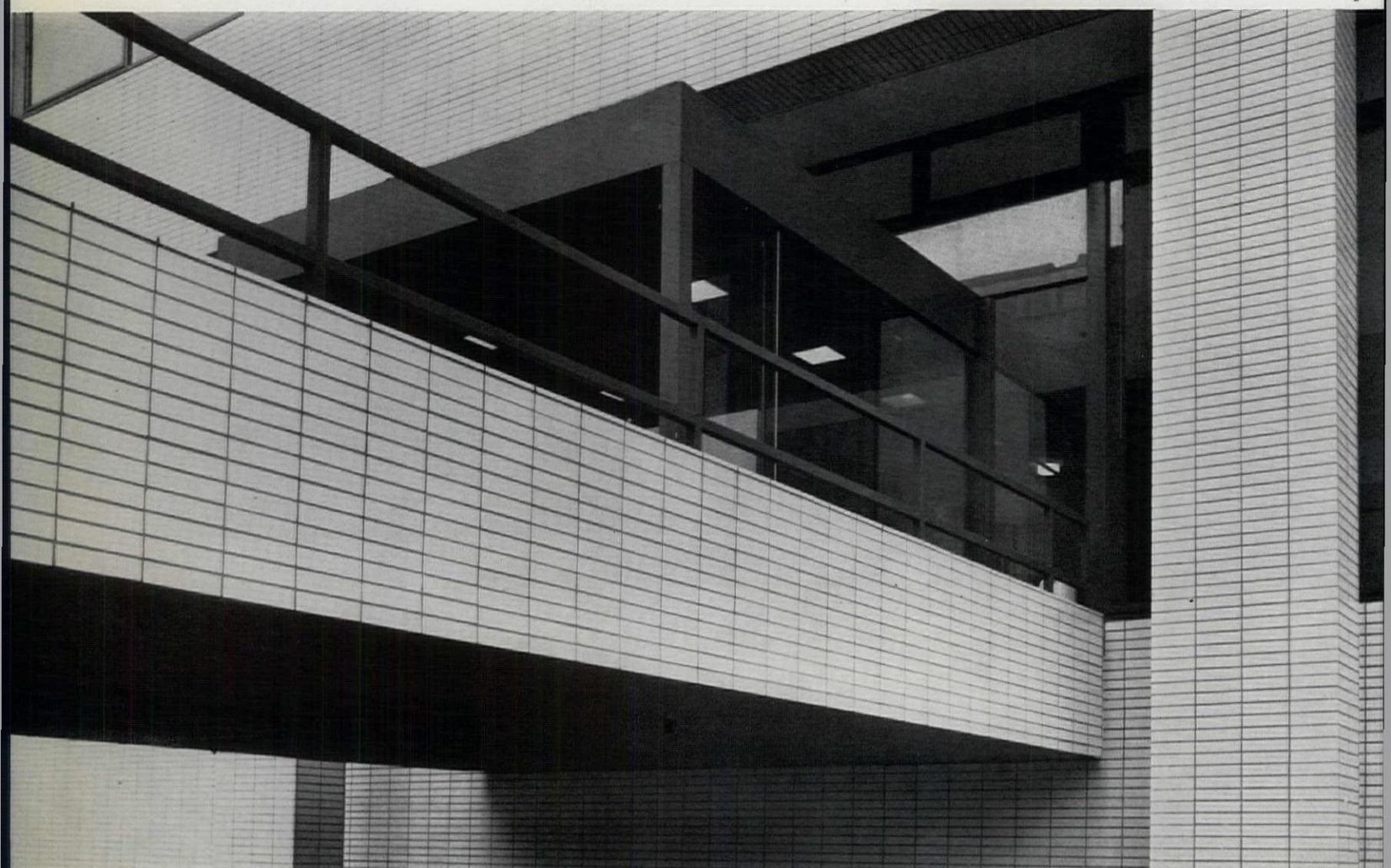
TILE TECHNOLOGY

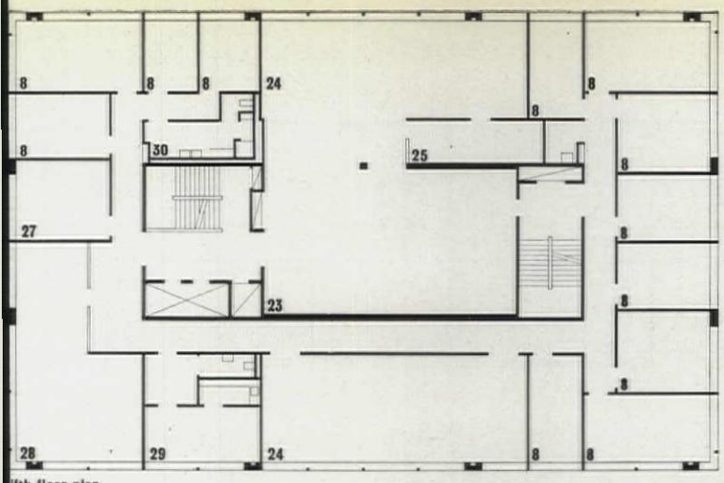
2

3

2, looking north-east along Brownlow Hill with the seven-storey administration and teaching block on the left. 3, the west end of the seven-storey block, showing the entrance bridge at first floor level. 4, detail of one of the bridges between the two main blocks; the 9¾ in. by 2½ in. white ceramic facing tiles provide the basic module for the whole building.

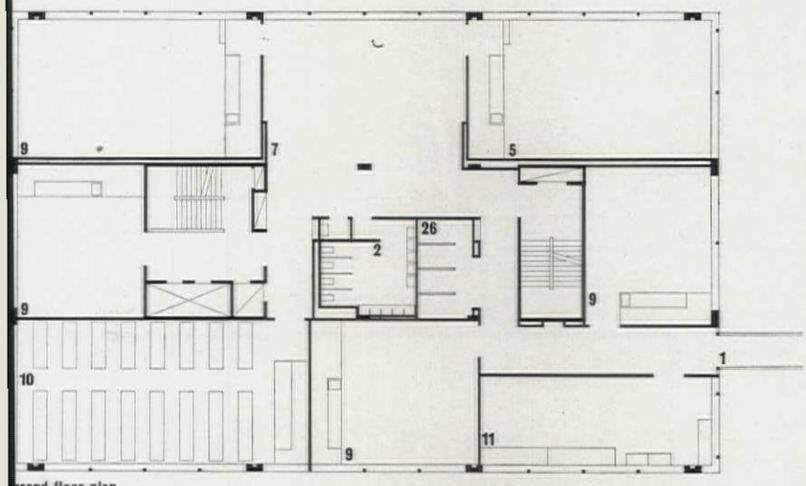
4



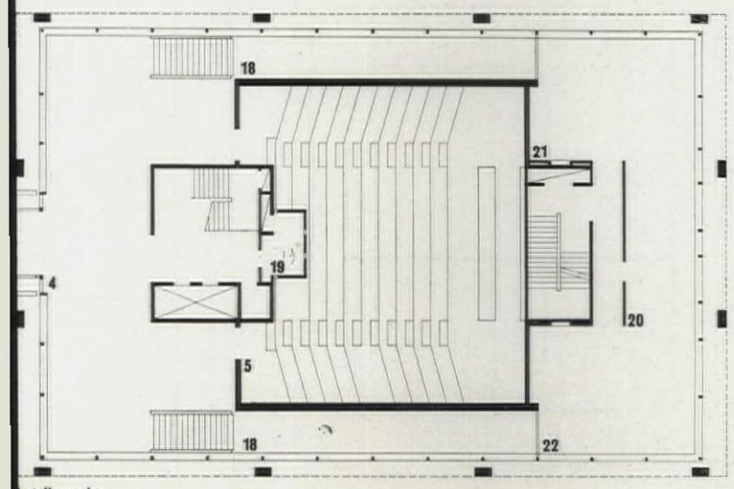


ifth floor plan

hird floor plan



econd floor plan



irst floor plan

5

6

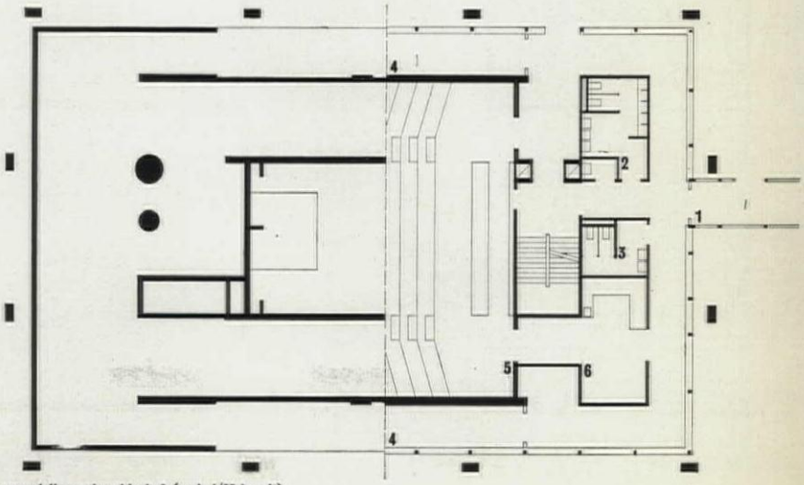
7

8

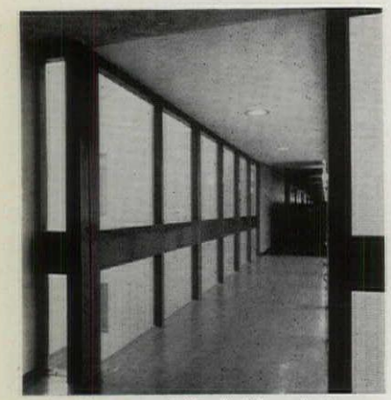
Interiors of the seven-storey block (A): 5, the entrance foyer. 6, part of the foyer in front of the lecture theatre and the gallery which runs alongside it. The pictures displayed here and elsewhere in the building were chosen by Eugene Rosenberg and include large paintings by Robyn Denny, Henry Mundy, Paul Feiler and Bernard Cohen, and prints by Paolozzi, Pasmore, Hockney, Bridget Riley, Tilson and Kitaj. 7, the research seminar, which overlooks the gallery. 8, the library on the fifth floor.

key, block A

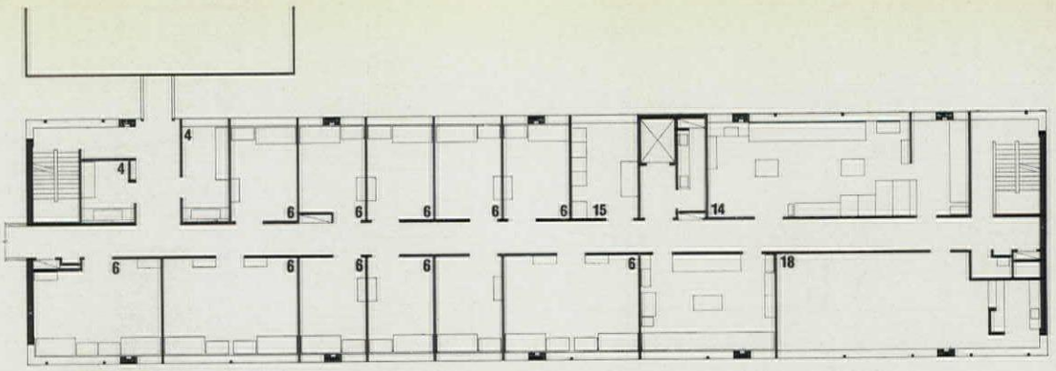
1, links to blocks B and C
2, men's w.c.
3, women's w.c.
4, foyer
5, lecture theatre
6, preparation
7, lobby
8, lecturer
9, classroom
10, drawing office
11, research
12, general laboratory
13, supervisor
14, technician
15, lockers
16, clean-up
17, battery
18, gallery
19, projection room
20, tuition
21, post graduate tutorial
22, research seminar
23, library
24, reading room
25, librarian
26, cloaks
27, technical staff
28, filing and stationery
29, women's rest room
30, male staff w.c.



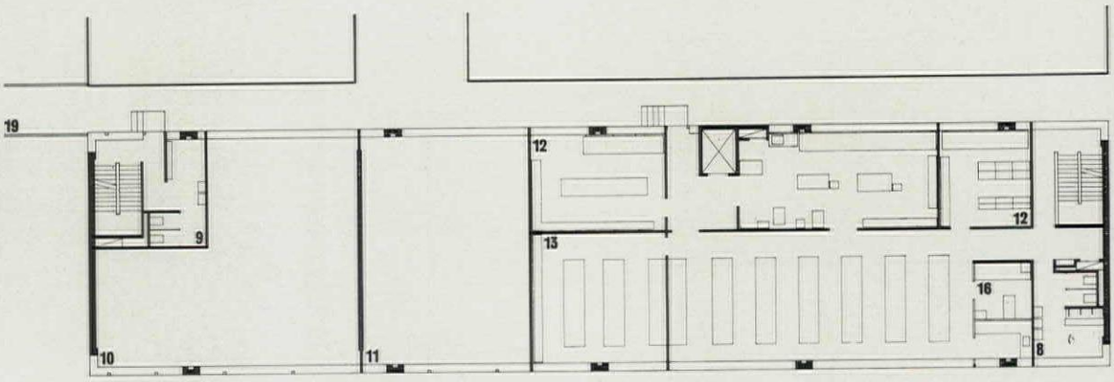
ground floor plan, block A (scale 1/32 in : ft)



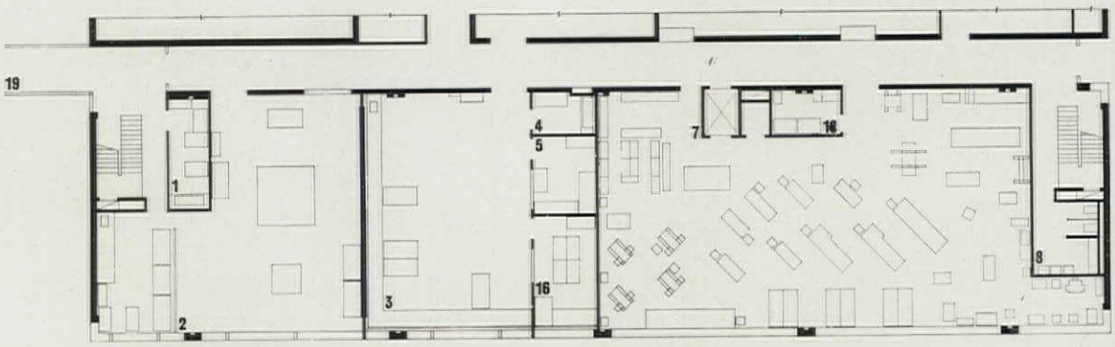
9, inside one of the bridges between the two main blocks.



second floor plan



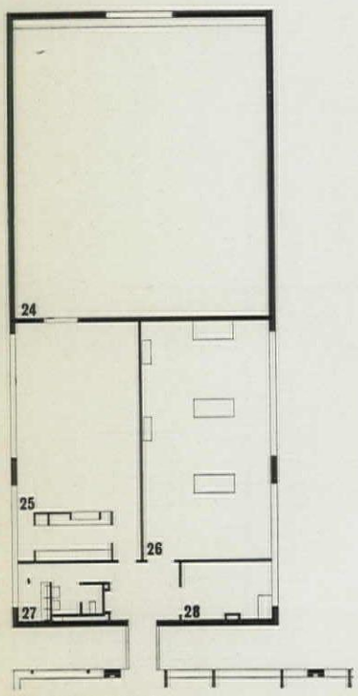
first floor plan



ground floor plan, block B (scale 1/32 in. : 1 ft.)

key, block B

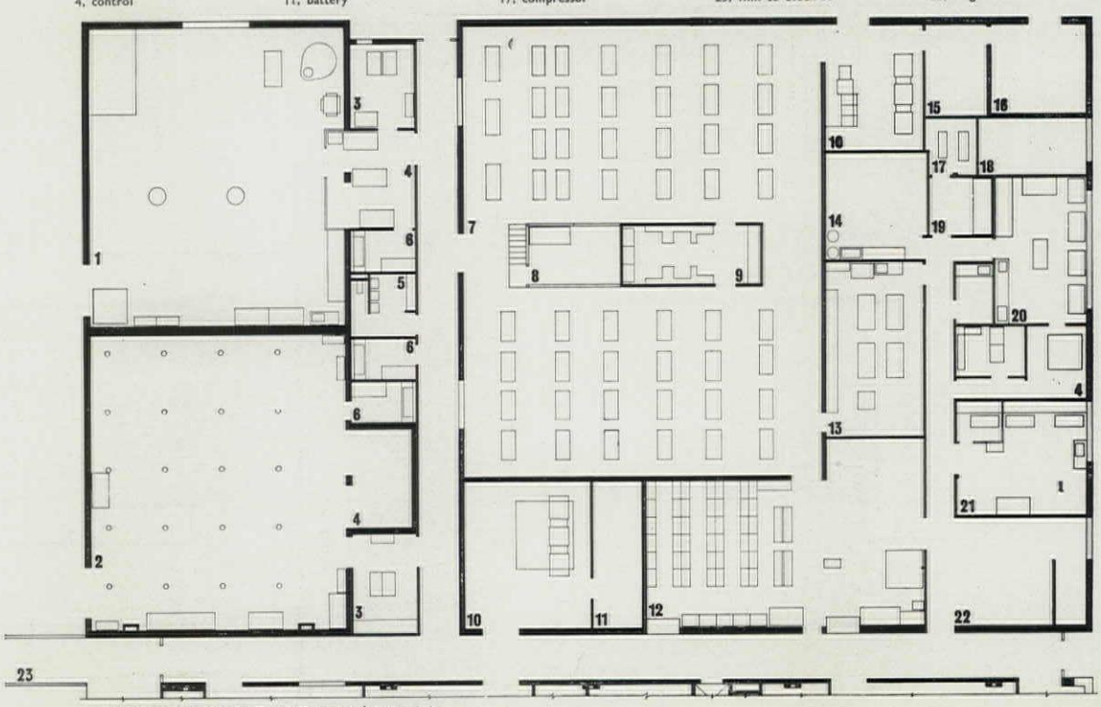
1. microphotometer
2. high voltage d.c. research
3. arc research
4. dark room
5. control
6. research
7. machine tool and sheet metal workshop
8. men's w.c.
9. women's w.c.
10. upper part, high voltage d.c. research
11. upper part, arc research
12. apparatus store
13. electronic workshop
14. glass workshop
15. students' glass workshop
16. office
18. technical staff common room
19. link to block A



first floor plan, block C

key, blocks C and D

1. high voltage research
2. high current research
3. office
4. control
5. men's w.c.
6. dark room
7. machinery laboratory
8. supervisor
9. store
10. generator
11. battery
12. machinery and general store
13. machinery research
14. laboratory battery
15. switch room
16. sub-station
17. compressor
18. garage
19. paint spray
20. research
21. welding and brazing
22. lifting tackle and packing
23. link to block A
24. upper part, high voltage research
25. research students' common room
26. research
27. men's w.c.
28. single research



ground floor plan, blocks C and D (scale 1/32 in. : 1 ft.

10

10, looking west along Brownlow Hill with the four-storey block in the foreground and the seven-storey block beyond. 11, from the north, with the one- and two-storey workshop blocks in the foreground.

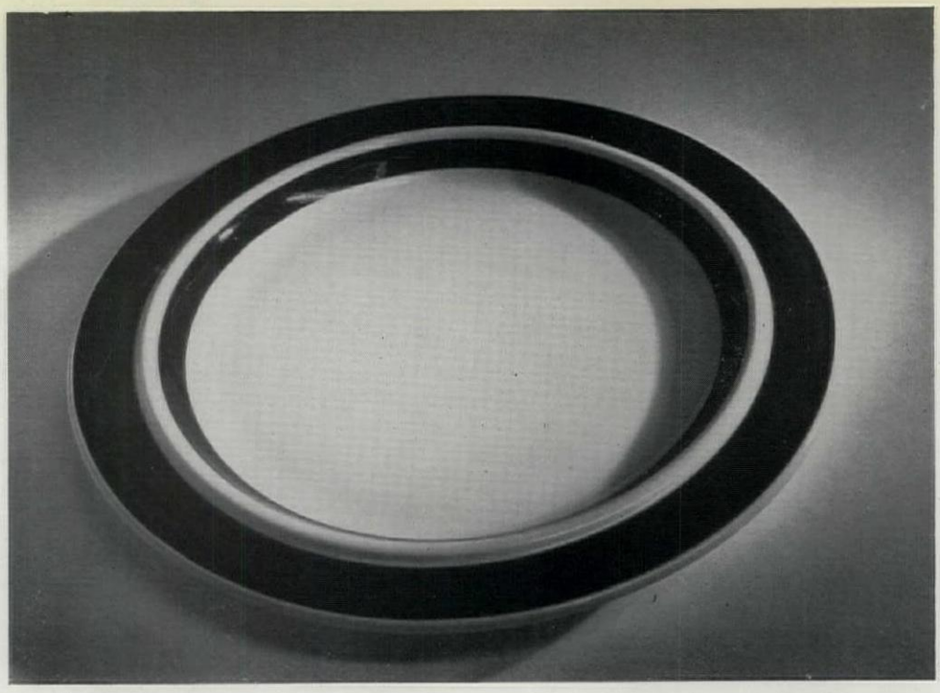
11

DR

Design Review

New products chosen and annotated by Ronald Cuddon

Tableware



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3

4

The dinner plate, 1, produced by the Finnish ceramic manufacturer Arabia forms part of a dinner set imported by Danasco; the plates can be bought separately. This is an excellent example of a simple product of good appearance fulfilling its purpose exactly. It has the traditional flat flanged rim section, but incorporates an upstand dividing flange from the dished portion of the plate, making a clear distinction between food to be eaten and rejected whilst providing a protected ledge or dam for mustard, salt etc. The fashionable coupe-shaped plates and dessert bowls are most impractical for those eaters who still demand bones in their meat and stones in their fruit and who have no wish to observe rejected morsels and condiments slowly but inexorably descending into the body of the plate. Perhaps the coupe shape is simply in advance of its time, and the food we eat may yet come to be so rationalized and processed by the manufacturers that a bowl will suffice to contain our daily artificial hash.

Another point is that it is debateable whether dishes and plates intended to hold food or liquid should be decorated in that part where the food is placed. In the Arabia plate decoration is restricted to two simple bands on the flange, in either a particularly good dark blue or brown. Some may consider that the white body lacks intensity, but it could also be argued that the heaviness and textural quality of the glaze gives the plate its strong earthy character and that it would be wrong to expect the lustre and purity of fine porcelain. The only definite criticism I would make is that the plates do not stack in a positive and satisfactory manner.

This defect is markedly absent in the Palapeli stacking dishes, 2 and 3, also produced by Arabia and imported by Danasco. Here the white ground has body and the clear blue bands combine with it to give a sparkling, wholesome kitchen quality. The dishes can be stacked in tiers, the inclination of the sides, ranging from a small deep bowl to a large shallow platter, giving a range of possibilities in use yet taking up the minimum of space. Food can be stored inside each dish and will be protected by the one above when in the stacking position.

Just as good food looks well against a white surface, so water and wine look and taste best from clear crystal glass. The purity of one and the subtle colours of the other are preserved by the transparency of glass and enhanced by the impact of light on glass and liquid. If any change or development has taken place in the design of drinking glasses it is that the numerous shapes for different wines and spirits are tending to disappear and are being replaced by the universal glass, identical in shape but varied in size. These glasses, 4, designed by Timothy Rendle for Whitefriars Glass Works, are made in three sizes: 6¼in., 5¼in. and 4¼in. high and 2⅞in., 2½in. and 2⅛in. in diameter. The largest holds a half pint. Made of lead crystal, they were designed for the contract market and are of robust and chunky appearance, reflecting the tough and constant usage for which they are intended.

Product: Arabia plate, Arabia stacking dishes, Drinking glasses.

Manufacturers: Arabia, Whitefriars Glass Works Ltd.

TREASURES FROM THE MUSEUMS

Robert Melville

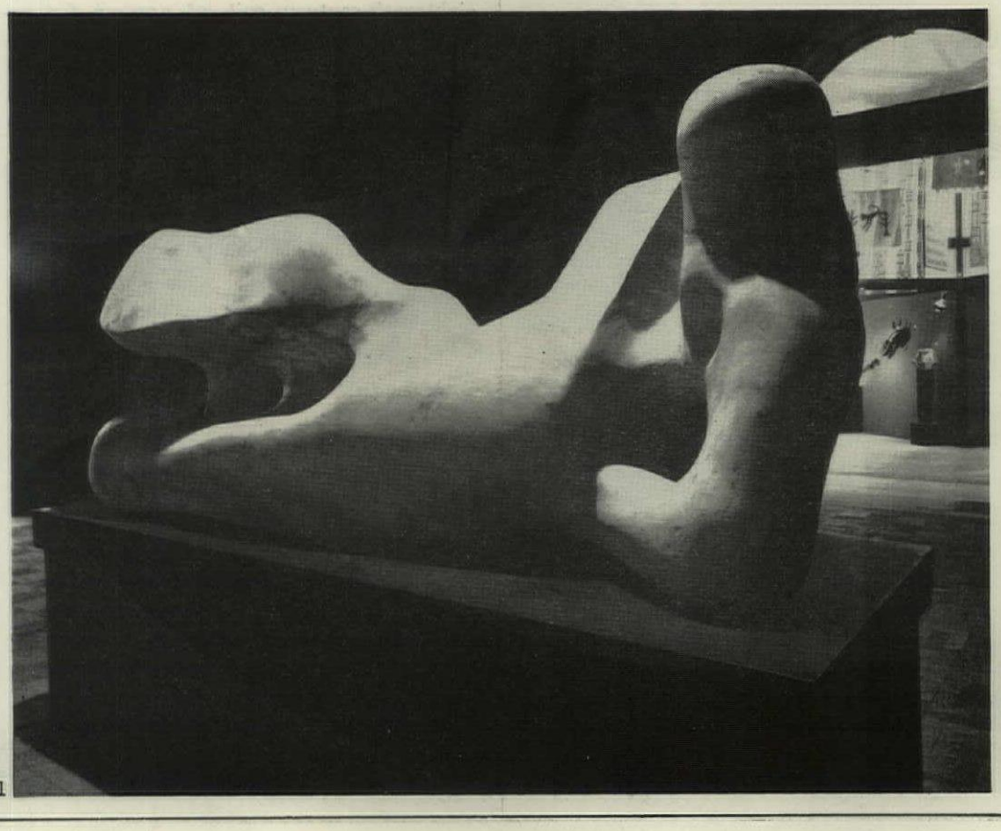
A statement in the catalogue explained why none of the foreign acquisitions of Canadian and Australian galleries was included in the *Treasures from the Commonwealth* exhibition, held at the Royal Academy during the recent Festival. It seems that the selection committee decided to 'exclude everything that was not produced in the country in which it now is,' but so many of the things produced in other countries were from British museums and galleries that one could only conclude that part of the explanation was missing and that the committee must have intended to add—'apart from African, North American, Indian, Australian and Oceanic treasures in English collections, acquired for the most part when the countries of the Commonwealth were colonies.'

All the members of the committee were English and the exhibition was in fact an English evaluation of some aspects of the arts and crafts of the Commonwealth, determined in large measure by what has become a refined and civilized appreciation of the spoils of Empire. Many of the contemporary Commonwealth paintings were also from English collections, and in view of the emphasis upon our own acquisitiveness, it was perhaps unfair to Australia and Canada not to show some of the works by contemporary foreign masters acquired by their museums. Such acquisitions are of immense cultural importance to them, and their inclusion would have reduced the somewhat provincial atmosphere conveyed by the examples of their own contemporary work.

If each country had made its own selection, it is possible that the impact of the tribal objects would have been less powerful. As it was, we had the pleasure of seeing, in unfamiliar settings, marvellous and familiar things like the British Museum's polychrome wood 'Thunder Bird' from Vancouver Island and its two Benin leopards in ivory and copper, and Brighton's winged fish from New Ireland, with its fabulous interior carving. But along with a hundred other examples of dead and dying tribal cultures they had so much vitality and creative force that their presence made the art of advanced peoples look tired and gone. The only twentieth-century object that stood up to them was Henry Moore's large reclining figure in elm wood, 1. It was a brilliant stroke to represent the art of the 'mother country' by this solitary work, not only because it's a masterpiece but because it's a kind of masterpiece that would never have been created if the British Museum had been less rich in the trophies of colonization. An image of primordial woman, it was placed in the middle of the sculpture hall at Burlington House, at what one felt to be the very centre of the exhibition, and ironically enough the tribal objects looked like her progeny, home again after colonizing the world.

There were many other things besides paintings and sculpture in the exhibition: musical instruments and silverware, and some delightful curiosities, ranging from a feeding-bottle, dug up in Cyprus, that hasn't been used for three or four thousand years, to a suit of armour last worn by an elephant at the battle of Plessy. The task of displaying this huge miscellany was given to Peter Rice, who is more used to designing for the theatre, and he made a very good job of it. He treated the walls and ceilings of the galleries as a protection from the weather and constructed a sort of trellis-work treasure-house with enclaves, 2. The rooms which he darkened, giving each object its own dramatic pool of light, were particularly effective.

The white object standing under the matting



1

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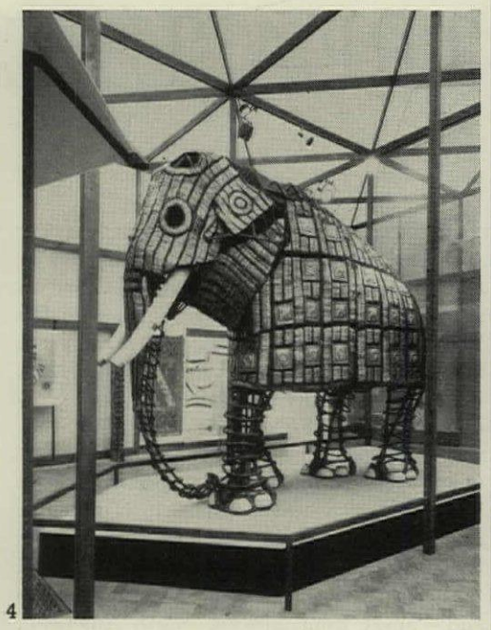
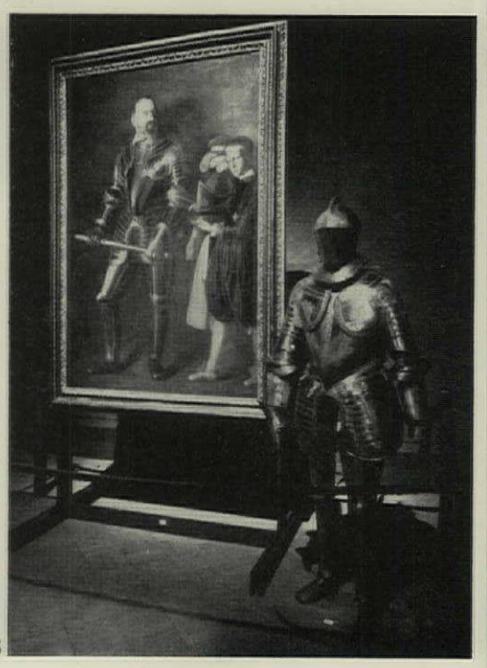
3



4

canopy in one of the darkened galleries, 3, is a brilliant technical achievement and curiously modern-looking in form, a bit like a Bauhaus prototype for a lavatory and rather reminiscent of several of the plastic sculptures by the young English artists who recently exhibited at Whitechapel—some of whom, by the way, have just scored a big success at the 4th Paris Biennale. Actually the object is a stool, carved out of quartz by an Ife craftsman, probably in the thirteenth century.

The most astonishing object of all was the eighteenth-century suit of armour for an elephant, in the Indian section, 4. It came from the Tower of London Armouries, but I hadn't seen it before, and for one wild moment



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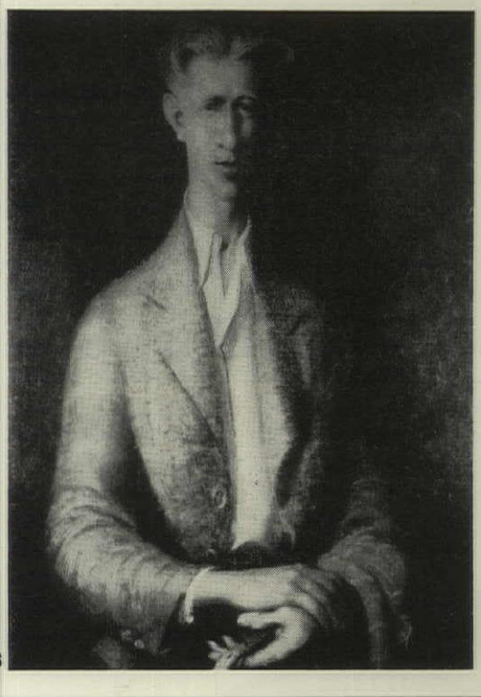
SfB (21) Fg2
Barbour Index

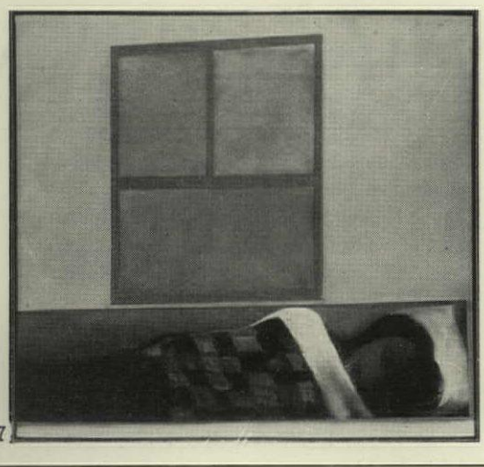
I thought that some young Indian had managed to break away from the wretched synthesis of Hindu traditional and European modern which dogs the art of contemporary India, and had somehow contrived to make a Pop Art construction even more arresting than Oldenberg's giant hamburger.

A faintly absurd but oddly charming two-piece tableau was given a place of honour in the sculpture hall, 5. One of the 'pieces' was a



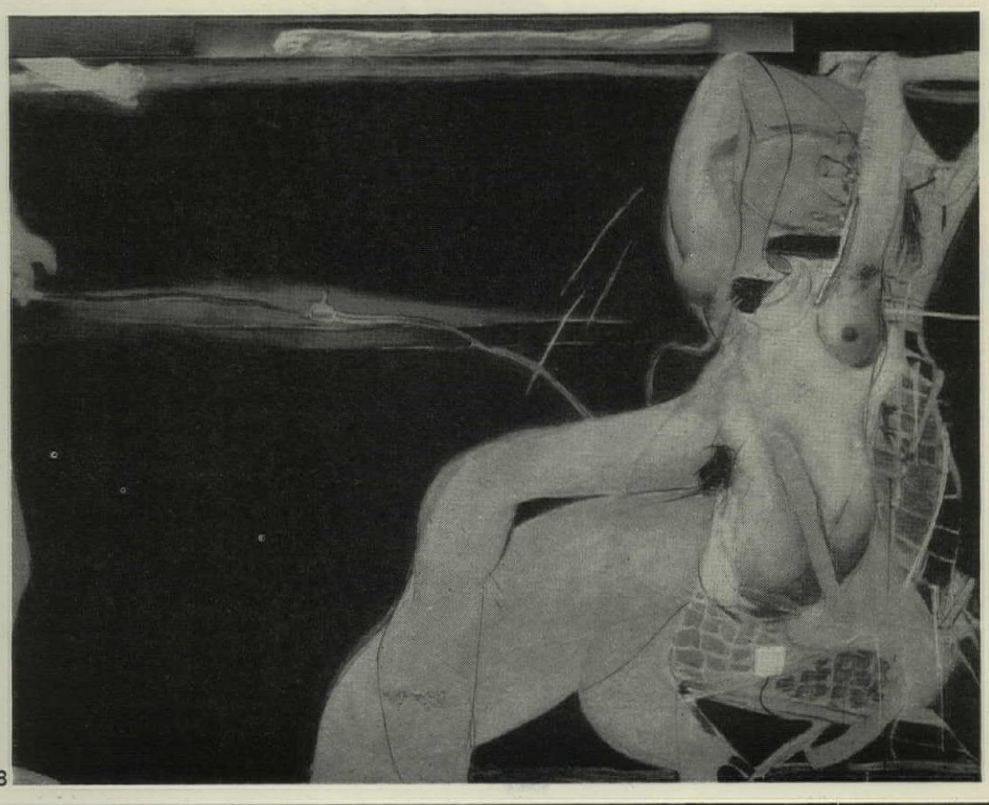
portrait by Caravaggio of the Grand Master of the Order of Knights Hospitallers who helped the painter to get to Malta after a brawl in Rome and made him a member of the Order. (Caravaggio was later expelled from the Order for brawling in Malta.) Beside the picture stood the suit of armour (late sixteenth-century North Italian) in which the Grand Master is depicted. The portrait is not a particularly interesting Caravaggio, but the determination of the committee to bring picture and armour together—they borrowed the one from the Louvre and the other from the Magesterial Palace in Valletta—made a rather touching tribute to a great European master in the unexpected context of a Commonwealth exhibition.

Exhibitions of Australian painters were much in evidence during the Festival. The Quantas Gallery arranged a small retrospective of the paintings of William Dobell, the first to be arranged here although many Australians consider him to be their foremost painter. It was devoted mainly to his portraits, in which he seems to me to be too intent upon searching the human face for a revelation of character. 'The Strapper,' 6, is a first-rate



7

example of his work and probably a brilliant likeness, but to my way of thinking Dobell has come to unwarrantably clear decisions about the face. It's a kind of pinning down of a man that smacks of interference. Charles Blackman, a much younger man—37 years of age—has been holding his second London one-man show at Zwemmer's. He has a genuinely poetic attitude to young girls, expressed in a shadowy figuration 7, and I find his figures much more interesting than his attempts to put them into stripey, brightly coloured, hard-edge abstracts. He rather naively rationalizes the stripes as wallpaper, window-frames, ladder-back chairs and sides of telephone kiosks, but their bright, even flatness is not convincing and only provides his romantically conceived girls with a half-hearted, crudely modernistic environment. Brett Whiteley, the youngest of these three Australians, recently held a fascinating show at the Marlborough New London. In some of his most successful paintings he shares with David Hockney a flair for turning large empty spaces in the middle of his canvases into fields of tension. He can do it simply with the long, thin necks of two giraffes, where the huge space which separates them is somehow filled with animal awareness, or he can do it with the long gas pipe which connected the murderer Christie with his victims, as in the large painting called 'Christie and Hectorina McLennan,' 8, where Christie is partly visible at the left-hand edge. It was somewhat surprising to find a young painter taking the revolting crimes of Christie as a theme for a series of paintings, but Whiteley's treatment of them gives them an erotic charm which is perhaps even more surprising. He probably intended them to strike a rather deeper note. They are primarily studies in anatomical disruption, and it seems likely that Whiteley was attempting to imbue his female nudes with the more violent aspects of the case—convulsion, strangulation and orgasm—but one would have to be a Goya or a Francis Bacon to succeed in such an enterprise. Whiteley's draughtsmanship is sometimes almost perversely weak and his flesh colours far too luscious, but between them they create dizzy little areas of femininity that are not at all dependent upon the happenings at 10 Rillington Place.



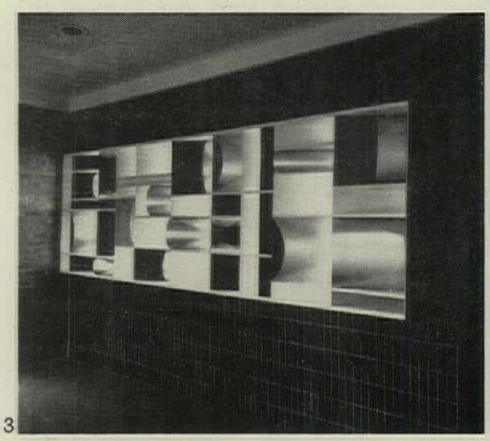
8

1

LIGHT AND WATER

Commissioned by Wates and forming part of the landscaping for their flats in Addison Road, Kensington, the waterfall-fountain, 1 and 2, was designed by Brian Milne. Its components of concrete and galvanized steel mesh were made off site by Modular Concrete and consist of bowls and curved slabs cantilevered out from a central column. Water spouting from the top overflows from one bowl to another into the pool below, and lights immersed in the bowls illuminate the falling water at night.

In the entrance hall of the main block of flats, there is a 12 ft. by 4 ft. relief, 3, also designed by Brian Milne, which acts both as decoration and light source. Made of plastic-faced wood and aluminium it is built up of vertical louvres with horizontal divisions and curved shapes, the whole thing forming a series of angled pigeon-holes. Fluorescent tubes behind provide the lighting.



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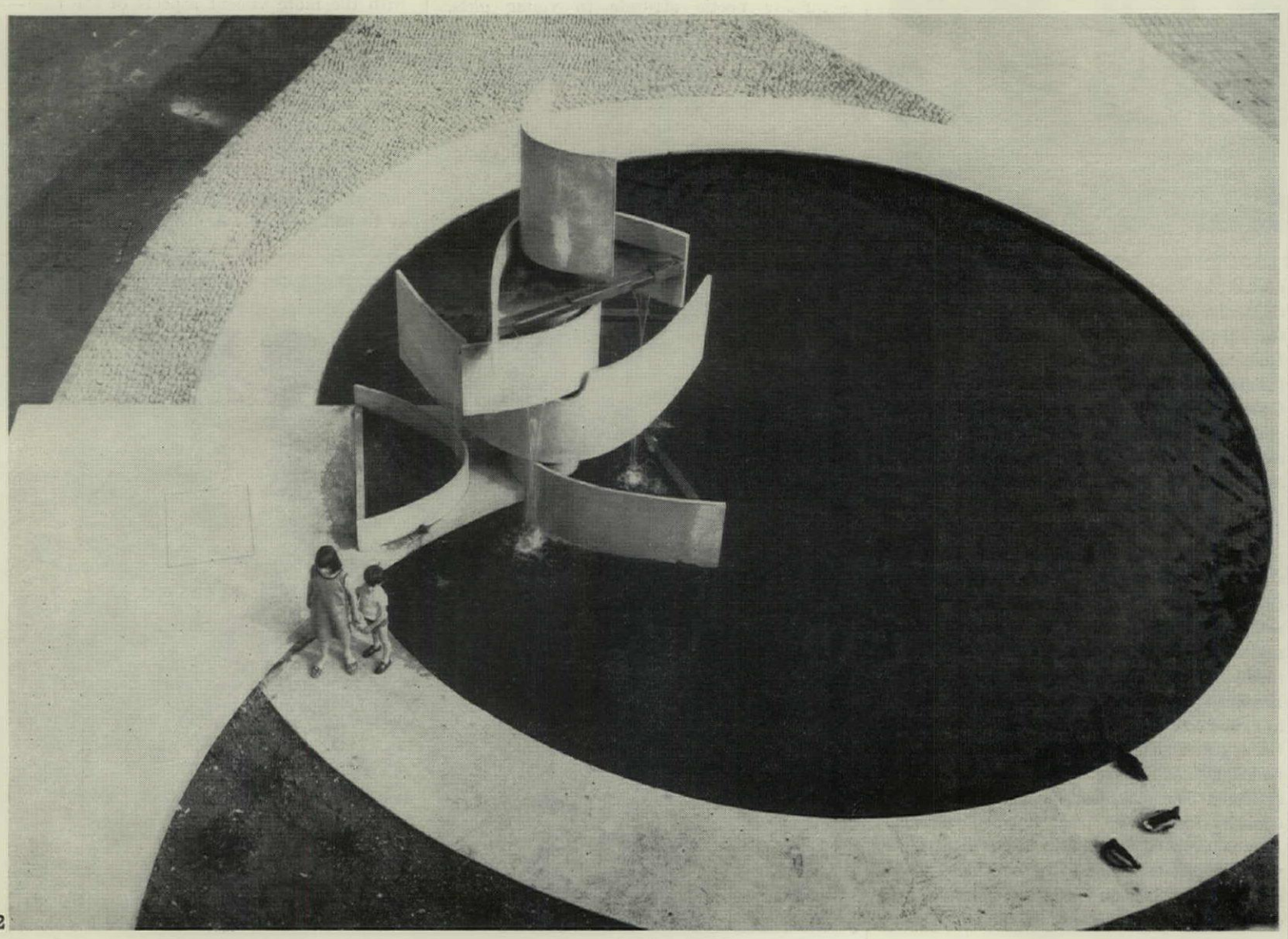

2

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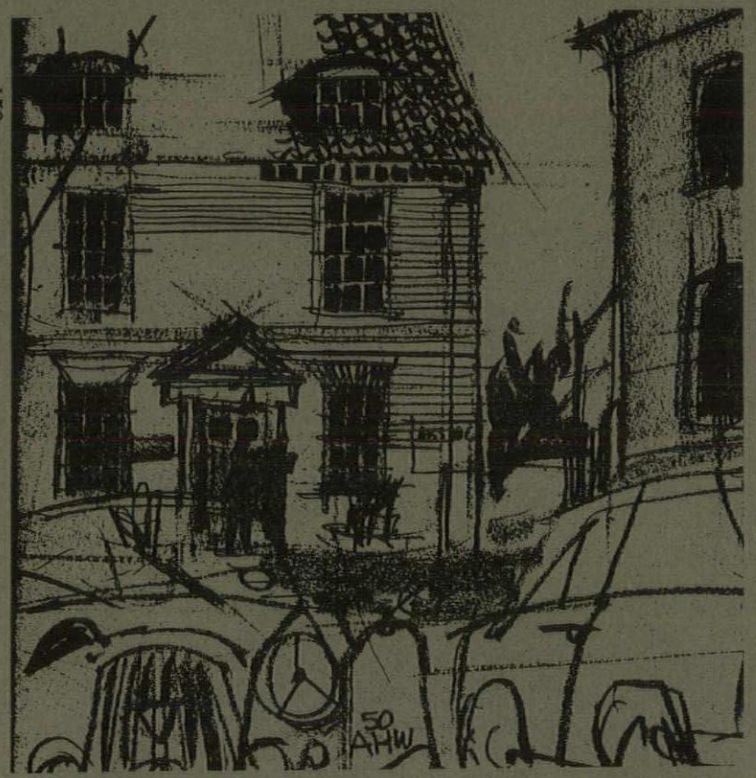
contemporary draughtsmen: *Brian Haworth*

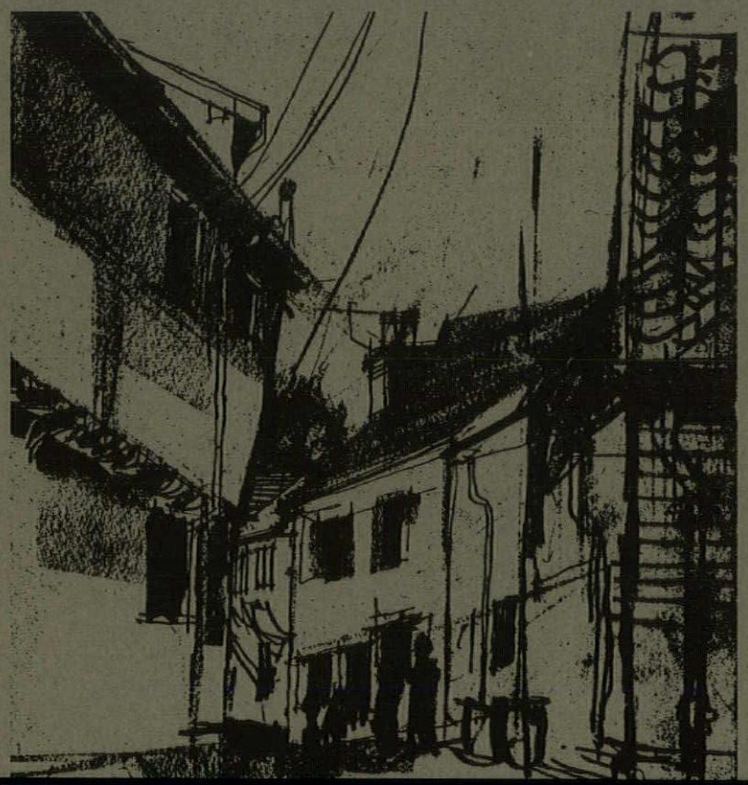
13

Brian Haworth, born in 1941, studied at Farnham School of Art and Kingston School of Architecture. He is now working with James Gowan, at the same time preparing his final design thesis; a scheme for the House of Commons' extension. Although his interest in architecture extends to photography and journalism, he says that it is the sculptural aspect that appeals to him most.

Above and right: two streets in Diss, Norfolk



Above and below: two more views of Diss. Right: Castle Howard, Yorkshire.



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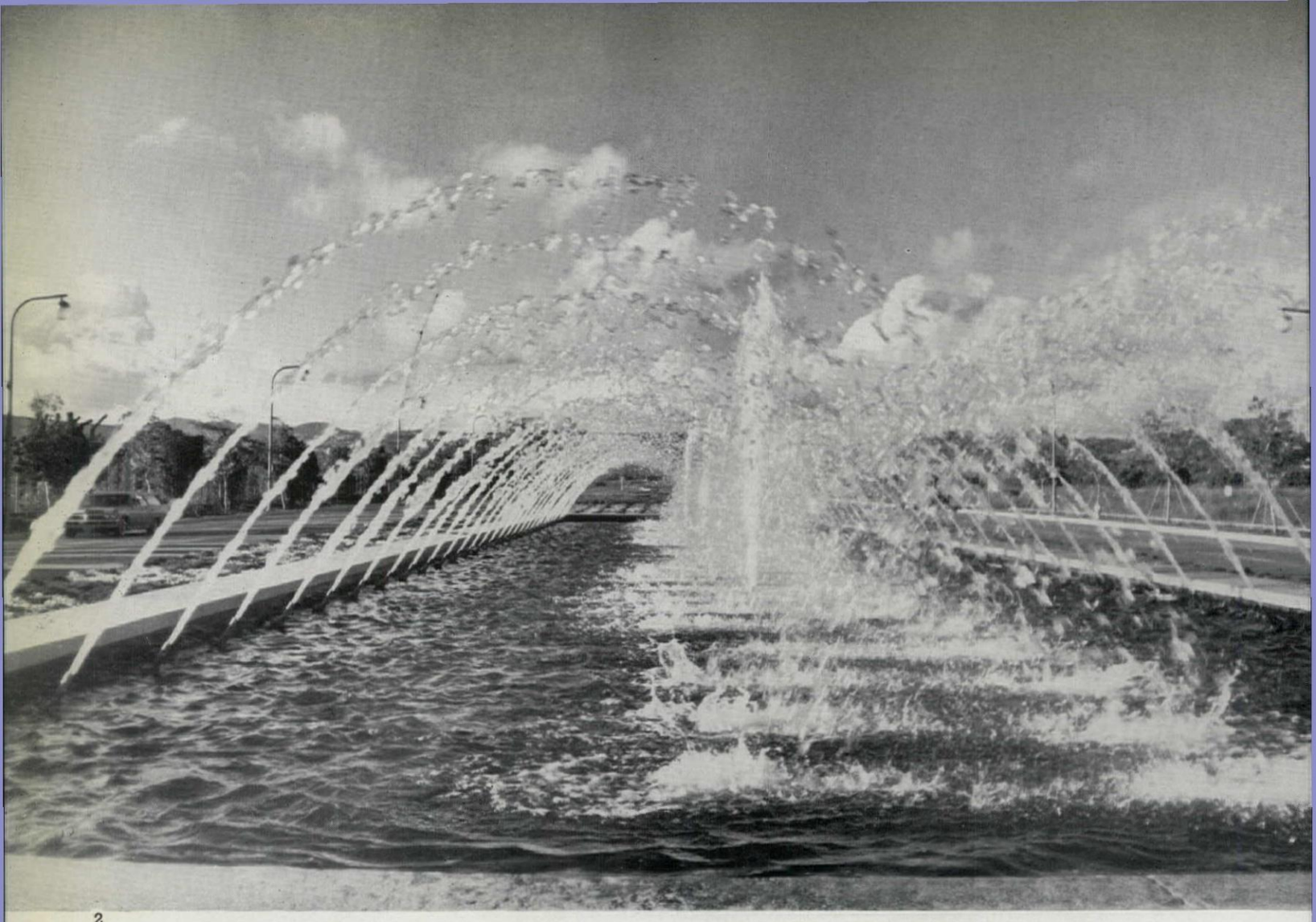
WATERWORKS IN LOS ANGELES

A Venice that failed and a city hardly begun, both photographed by Penelope Reed. In the 1920s a grandiose project was conceived to build a new Venice in a district of Los Angeles, only a few hundred yards inland from the Pacific. Canals were dug, bridges built and water laid on—but the project was soon abandoned and the area has become a slum. The photograph, 1, below shows the 'Grand Canal' marked on a rotten post and the dreamed-of palaces become wooden huts forlornly reflected in the stagnant waters.

Not far away, in Beverly Hills, is the site of another grandiose project, whose fate

1



2

lies still in the future. The 20th Century Fox film company have sold the acres of ground on which they used to build their outdoor sets, and a new city—Century City—is to be built there. When this photograph, 2, was taken earlier this year two tall buildings had been completed at one end of a two-mile long road; otherwise there was nothing but these fountains playing in isolated splendour.

history

AFTER HAWKSMOOR— NASH

Mr. R. Stanley-Morgan, who wrote in last month's AR about an unknown letter by Nicholas Hawksmoor that had come into his possession, has also acquired an unknown letter by John Nash, which is printed below with Mr. Stanley-Morgan's notes. It is not referred to by either Summerson or Davis. It was written in 1830 to Sir William Knighton and of it Sir John Summerson says, 'It is almost ludicrously in character. The phraseology, which so elegantly twines itself round the absolutely shameless self-interest, could come from nobody but Nash. I know several other letters on totally different subjects but on exactly this pattern.'

Nash at 78 was battling against time and the King's failing health to complete Buckingham Palace for his promised date of August 12th, although Parliament, suspicious of the King's extravagancies, had forbidden Nash to put any work into execution without Treasury sanction. This is the text of the letter:

My dear Sir William[1]

My letters this morning have filled me with despair—I had a strong presentiment when I parted from him at Windsor that I should never see him more but it arose from fears of myself I trust should my dear King not recover (though I will still cling to hope) that the friendship which has begun between us and which I may say was planted by our dear Master may continue and it is from the fear that you may not duly appreciate the sincerity of this wish that it is with some reluctance that I venture to task your friendship on a subject which I own engrosses much—very much my thoughts—but as you know that the spark of ambition which has been lighted up in me did not originate with me but was first struck and kindled by the warmth of H.M. kindness and was the spontaneous intention of our gracious sovereign and fanned and cherished by yourself[2] I will hope that in distinguishing between the groveling feeling of selfishness and a desire to raise to a flame the spark kindled by my dear Sovereign & which has become essential to my welfare seeing that H.M. empowered me to communicate His gracious purpose to Mr. Edwards[3] of including him—you well know

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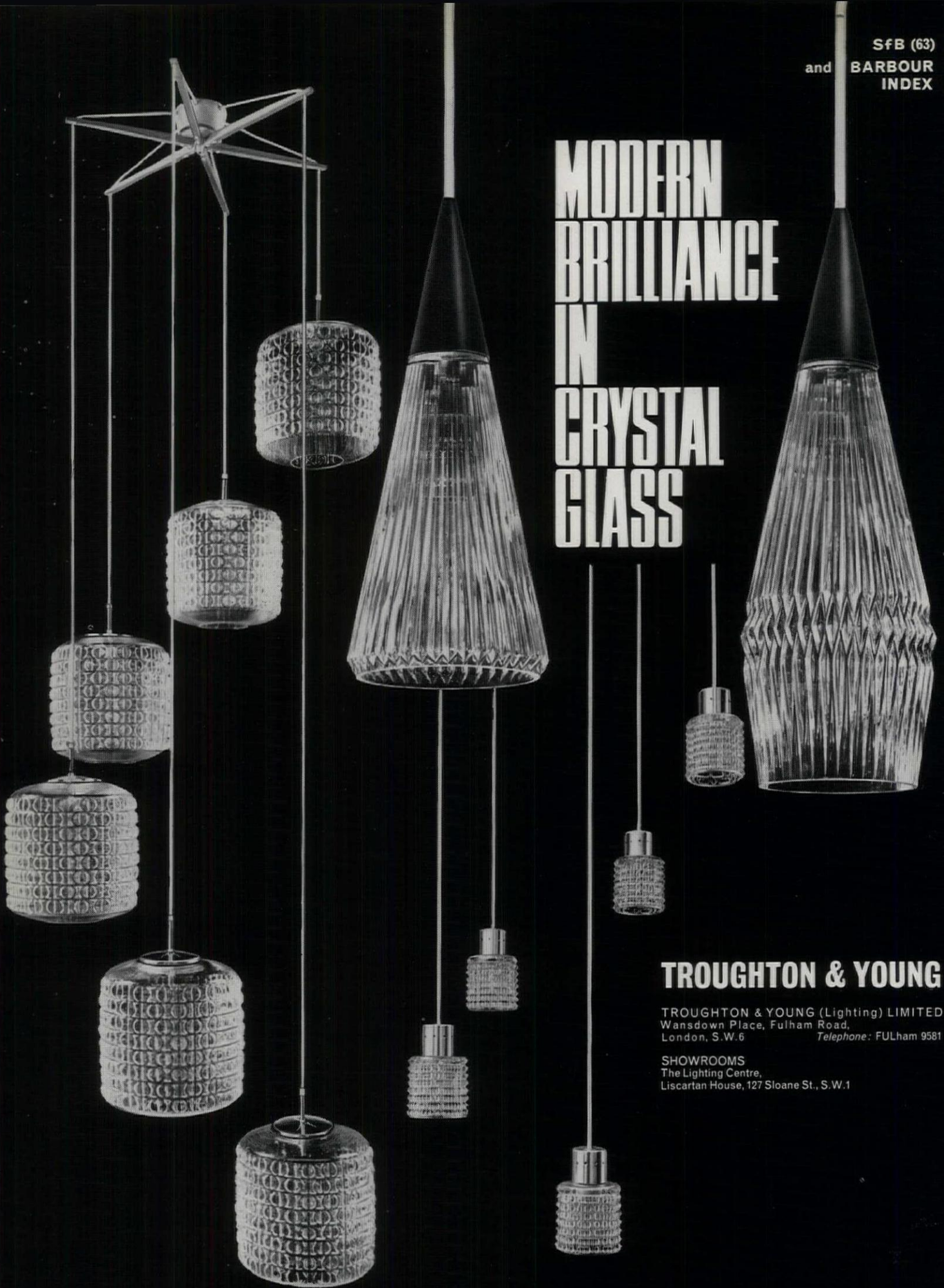
SfB (63)
and BARBOUR INDEX



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what were my sentiments on the subject of honours which must have ended with my life but when those honours were to be extended to my only relative a new scheme of life presented itself and I viewed myself as the founder of a family with honours that it became my duty to endeavour to perpetuate & my whole scheme of life as regarded the few years I have to live became changed— Now My Dear Sir you and you alone may prevent this spark from being extinguished how this is to be done I leave to your friendship—that you wish it and will accomplish it if in your power I am certain and your good opinion of me will not I am sure appreciate this letter to my disadvantage

I shall be in town on Saturday afternoon at 9 o'clock & Mr. Pennethorne[4] will call to ask at what hour that Evening or Sunday Morning you will indulge me with a conference

ever My dear Sir
Most gratefully and Most
faithfully yours

Thursday aftn.[5] J. Nash

I am quite giddy.[6]

Notes

1. Sir William Knighton (1776–1836) combined the duties of the King's personal physician and Keeper of the Privy Purse.
2. This 'ambition' alludes to the King's notion of awarding a baronetcy to Nash as a counter-move to the Parliamentary Commission's criticism of the architect's conduct, which the King regarded as a personal affront.
3. John Edwards (Vaughan) 1772–1833, who stated before the Commission that he was Nash's cousin. He and Nash shared the double house Nos. 14–16 Regent Street. 'The Edwards relationship remains a problem. He is always called simply "a relative" but nothing among any of the Nash papers gives a clue to what the relationship was. It has always struck me as odd that George IV should accept him as heir to the baronetcy he was going to give Nash—and doubtless would have given, had not the Duke of Wellington put his foot down.' (Summerson).
4. Sir James Pennethorne, 1801–1871. The 'adopted' son of Mrs. Nash and Nash's successor in practice.
5. The date of this letter is probably May 27th, 1830, three days after the statement in Parliament which led to the special arrangements for the Royal Sign Manual. This was one of the few public 'leaks' telling of the deterioration in the King's condition. Nash is evidently writing from East Cowes.
6. This refers to a recurrence of Nash's stroke or 'rush of blood to the head' first occasioned as he said by standing on the marble pavement of St. Paul's during the funeral of Sir Thomas Lawrence in January 1830. There is a marked deterioration in the handwriting of the last paragraph of the letter.

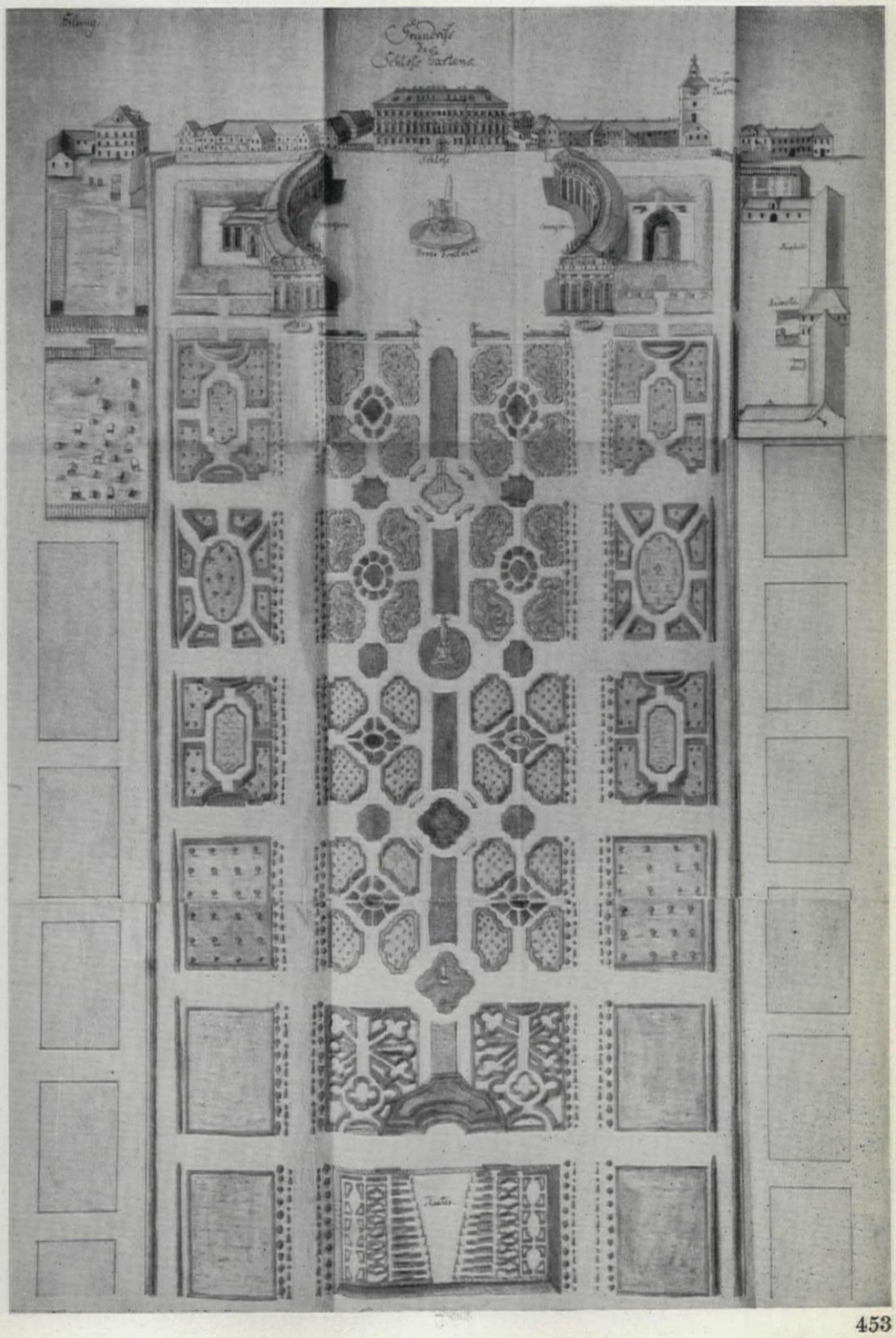
town design

EXPANDING UNIVERSITIES

Germany shows the way

In spite of the splendid élan and brave optimism of our new universities, critics continue to bewail the lack of real radicalism in their academic and physical planning. The shadows of Oxbridge—tutorial teaching . . . collegiate or hostel life . . . high tables and gaudy hoods—still fall (if lightly) across the lawns and lakes of Brighton, Canterbury and York, and no outrageously unexpected decisions

1, Erlangen palace and its park, which is now part of the University.



2

3

4

seem to have been taken anywhere in the choice of university sites. Indeed, out of the first eight to be approved, only one—Guildford—has not been sited in the equivalent of a suburban park. Architects and sociologists may grind their teeth and axes at the opportunities missed here, but it is difficult to see what else could have been done. To expand an existing university within a city's limits can be a frustrating and expensive business as the universities of Leeds, Manchester and Belfast can testify, and it would have been irresponsible to submit a new university to similar restrictions. Sensible therefore, as it may have been, it seems just one other example of our fondness for permanence, our reluctance to break the pattern that we love. By European or American standards indeed our whole approach seems to the experimentally minded timid and nostalgic.

So it may seem to our eyes, but not entirely so to foreign observers. In Germany, for instance, although academic traditions and systems are so different as to be not comparable with our own, the physical problems

5

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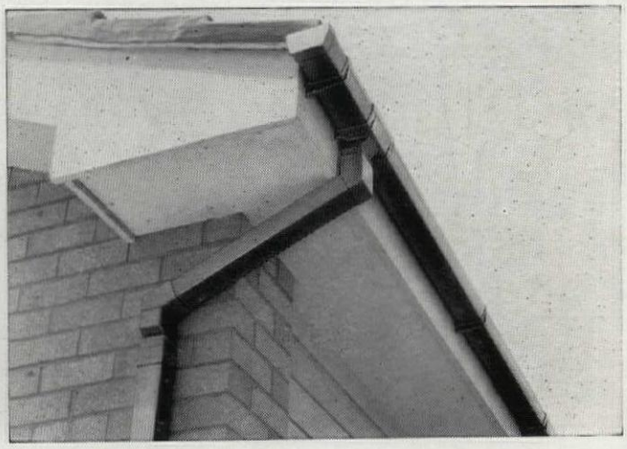

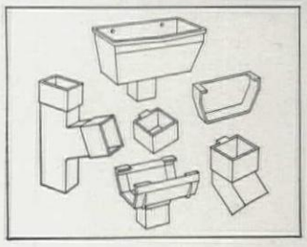

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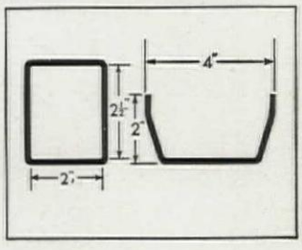

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seem not dissimilar, and German planners are studying recent British examples with an interest that at times approaches envy. The respect is mutual; plans for the new university complexes at Bochum, Berlin and Rothenburg have been widely acclaimed here. Less well-known perhaps is the fast expanding university of Erlangen —a few miles from Nuremberg. There, thanks to the skill and imagination—past and present—of a few far-sighted individuals, an almost perfect solution seems to have been found. The ingredients, a perfectly preserved and formally planned little seventeenth-century town, complete with palace, opera house and tiny park, alongside a vast industrial organization, are admittedly unusual, but they have been perfectly exploited to the combined benefit, visual and functional, of industrialist, citizen and student alike.

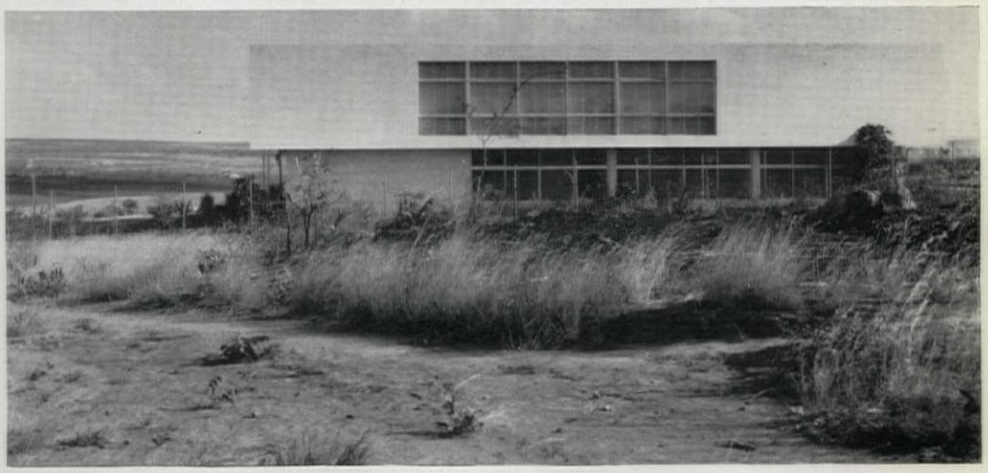
How was it done? First a glimpse at the history book: Erlangen consists of three towns—Old Town, a crumpled little medieval parcel of streets and houses; the seventeenth-century New Town lying eastwards across the river, and eastwards again a newer town, the vast Siemens landscape of twentieth-century skyscrapers and factories. New Town remains virtually as it was planned for French Hugenots (in 1686–93) by J. M. Richter—a formal but dignified and demure little grid of paved streets and standardised two-storey houses, steep-roofed, colour washed and classically fenestrated. Three-storey houses are placed at key points and of the three asymmetically sited squares two are dominated by fine churches, the third by the tiny palace of the Margravine (1701–4), 1. Behind this lies the little park, with its fountains and orangery, 2. Alongside it stands the miniature opera-house discreetly stuccoed without, white, gold and scarlet within. This little city is the home of the University —founded in 1743, and now expanded to contain 9,000 students. The Rector and administration can be found in the Palace. Beneath the gesticulating statuary on the parapets, 3, are offices, seminar rooms and libraries. Only a huge pair of doors and a clot of bicycles piled against the rusticated stonework separate the students from the clamour of the market place, 4. Beyond and through the paved and vaulted hall lies the park, now in effect the university campus, 5. Faculty buildings of varying age and architectural quality toe a perimeter line, while higher and more recent blocks, scientific and medical, 6, keep a decent deadpan distance to the east and provide a suitably scaled link with the industrial landscape beyond. As a university environment, it could hardly be faulted —complete, elegant, practicable. Café-life at the lecture room door; housewives arguing over cabbages beneath the Registrar's window; lawns, water and steps for visual delight; pedestrians everywhere in command.

It is not, of course, all as easy as it looks. The car-parking problem has yet to be studied, let alone solved. Hundreds of students commute daily to Erlangen by train as though to an office. Most of them perhaps, in the traditional German way, feel personally uncommitted to the University as an identifiable society, and since the war have become even more suspicious of authority and paternalism. They thus regard attempts to achieve a sense of community as artificial, and view group-living with wardens as a typically English device to prolong adolescence. The academics, on the other hand, are not so sure of the value of this footloose attitude and are openly envious of the comparatively generous staff-student ratio found in this country and of our tutorial system. The debate continues, the buildings go up, the numbers grow. Erlangen remains so far unspoiled, perfectly in scale, infinitely, it seems, adaptable, unselfconsciously self-contained and a model for our next experiment.

HUGH CASSON

architecture

BRASILIA:



1

THE EMBASSIES

While many countries are showing reluctance to get their permanent embassies off the ground in the area of Brasilia set aside in the master-plan for this purpose, two have now been completed: those of Yugoslavia and Czechoslovakia. There are also three embassies under construction: for Japan, Belgium and Iran. The US Embassy is operating in premises eventually intended for use as its Consulate. France and Britain have temporary buildings on their future sites, Italy has one

not yet in use, and Germany, Canada, Portugal and Poland are operating from apartment-offices.

Hopes of the embassy area becoming another *Interbau* are still high. Yugoslavia's building, 1, the first to be completed, is a somewhat cautious structure though neatly finished and well in keeping with the Brasilia style. Czechoslovakia's project (by Filsak, Srámek, Louda and Bubenicek) shows good use of its gently sloping site, with nice contrast between the elongated ambassador's residence and the stockily upright Chancery (left and right respectively in 2). The Czech compound also contains a house for embassy staff and a recreation area, with swimming pool.

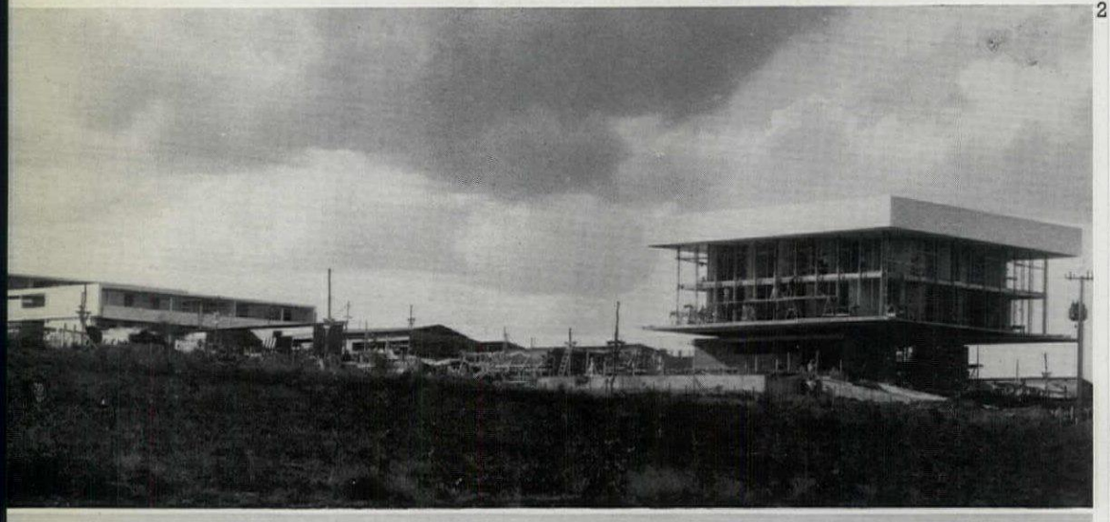
Poland is holding a competition for its design, which has attracted seventy entries. Israel is holding a contest among Brazilian architects—a happy gesture towards Brazil's many Jewish refugees—and Henrique Mindlin is at work on projects for Australia and Holland. Hans Scharoun is to design Germany's building. The appointment of Alison and Peter Smithson to design the British Embassy was announced last year and an eagerly awaited project is that of Le Corbusier, for France. His scheme is described, by one of the privileged few to have seen it, as a 'seven-storey roof garden,' which will inevitaby dominate the area.

The original conditions for embassy compounds laid down that only 40 per cent of the site could be constructed on, and that the height limit should be three storeys. Provision was not originally made for staff housing, though the Czechs managed to get this rule waived and have probably set a sensible precedent.

Brazil's own Ministry of Foreign Affairs is well under way and should be ready by the end of 1966. A strikingly simple and dignified design by Oscar Niemeyer, Milton Ramos and Olavo Redig, it is shown in model form in 3. It is to have a water-garden by Burle Marx, sculpture by Bruno Giorgi and tapestry by Athos Bulcão. Features include a ramp up which officials will drive to their first-floor offices, and a lake for the Ministry's famous swans.

Brasilia will only come fully to life when the entire diplomatic corps finally takes the plunge (or is pushed) and moves up from Rio. Main drawbacks to the great move are lack of housing for employees and a general reluctance among Brazil's old-guard diplomats to leave the pleasures of the coast for the relative rigours of the interior. But there is no turning back now, and indications are that the move will take place in 1967, though much depends on the policy of Brazil's next government, which should be in office by then.

GUY PLAYFAIR



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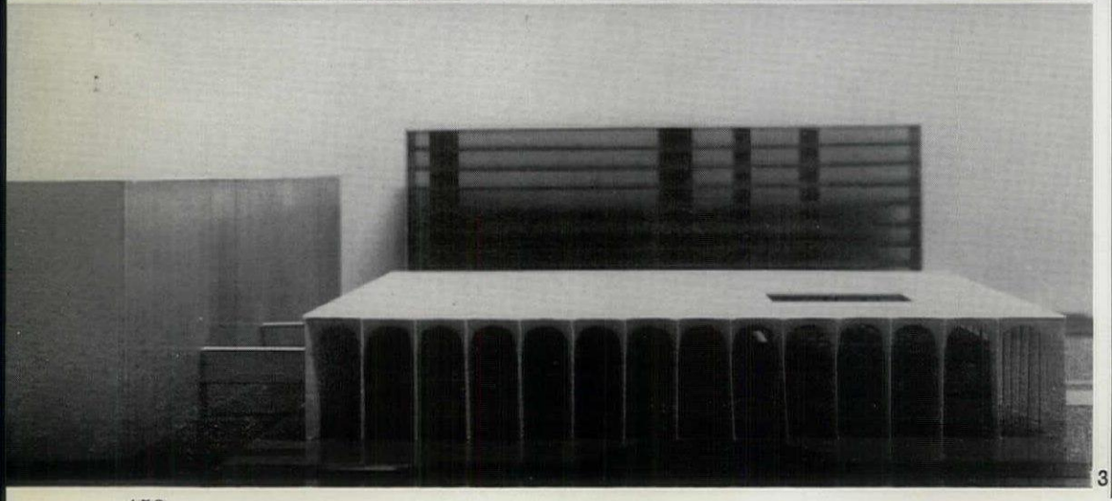

3

interior

BAILLIE SCOTT'S WALDBUHL

1

Ranked equally in Europe with Mackintosh and Voysey as a master of the English 'free style,' Mackay Hugh Baillie Scott (1865–1945), the centenary of whose birth falls this year, remains maddeningly elusive on his home ground. His origins were provincial: prep school at Worthing*, course in estate management at Cirencester Agricultural College, articles with Col. C. E. Davis, the city architect of Bath, practice in the crucial years 1890–1903 in the Isle of Man, and thereafter until 1914 in a small manor house at Bedford. To see his best work, apart from Waterlow Court at Hampstead Garden Suburb, one has to visit Crowborough or Wantage or Windermere—or the Continent. From his 1898 invitation to decorate a room in the Darmstadt palace of Grand-Duke Ernst-Ludwig of Hesse, there flowed commissions from Italy, Switzerland, Poland and America, and, most romantically of all, from Rumania, where he built for Queen Marie a house in the treetops called 'Le Nid.' Then he declined rapidly into 'Hathaway Tudor' of a painful sort. Modern critics can accept the sterile aftermath of Mackintosh or Voysey, but Baillie Scott's inter-war fecundity is not forgiven, particularly when his book of *Houses and Gardens* (1906) is compared with his equivalent book of 1933.

Moreover, instead of imposing an easily recognizable outward aesthetic, as Mackintosh and Voysey still did, he made his houses sprout entirely from the inside, blossoming freely and often shapelessly without. His vital influence, comparable with Wright's, was his rediscovery of the hall as the central living-dining-sitting-circulating space of the modern house;

* Where a school fellow was the Chief Scout, Robert Baden-Powell, the very un-Baillie-Scottish interior of whose home was illustrated in AR, November, 1964.

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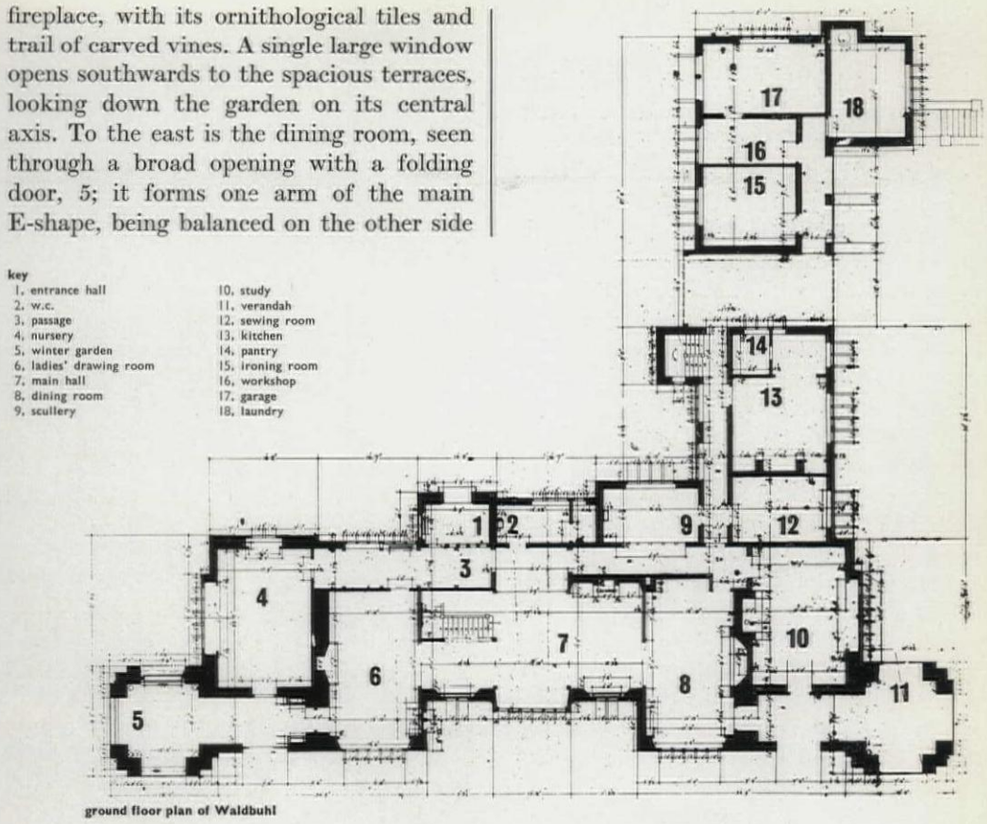
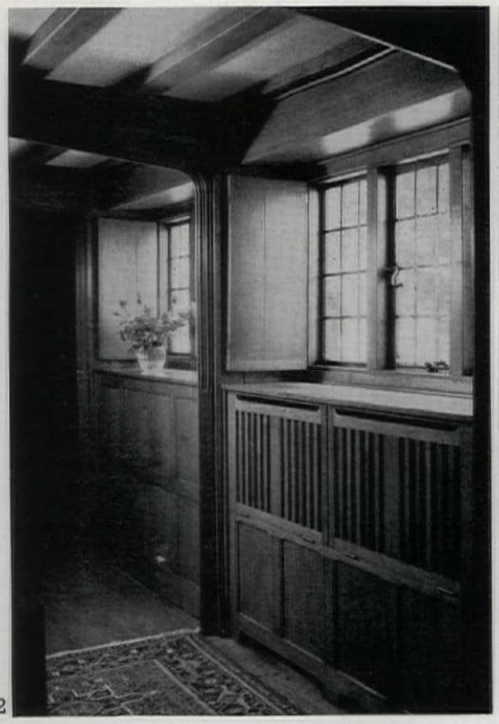
and, whilst Wright was not published in Europe until 1911, Baillie Scott's plans were known to Loos and the Behrens circle as early as 1905 in Muthesius and 1906 in his own book. Like Voysey, he was principally published in *The Studio**.

The house called Waldbühl, illustrated here (1 shows the exterior), was erected in 1909–11 for the Bühler family near Uzwil in Switzerland†. Immaculately cared for, it now has the maturity of texture and planting which Baillie Scott intended. The client had business connections with Britain which influenced him against the symmetry of bourgeois houses on the Continent. Waldbühl is a timber structure, 2, and here there is an emphatic difference between Wright and Baillie Scott, between the relatively recent tradition of the American pioneer's farmhouse, and the long-standing English tradition of manor houses and cottages. To Baillie Scott half-timber was not a style but a way of building. (It was this very unselfconsciousness that led him into his later absurdities.) The exterior of Waldbühl is superficially a rather tame mixture of early Lutyens (cf. Orchards, 1899) with the traditionally E-shaped, half-timbered manor house of the Midlands—the herbaceous-cum-formal garden is also entirely in the Lutyens-Jekyll canon.

Baillie Scott's distinctive genius, however, becomes apparent when the central living spaces are seen in sequence. First, there is the simple forecourt, enclosed on the east by the long service range, which suggests (as does Orchards) that some of the distinctively 'English' effects of this period were achieved partly by incorporating the extra scale of the Norman-French *manoir*. To the south stands the stone-faced main entrance, its door sporting scrolly hinges (the continuing legacy of G. E. Street). Through the door there is no monumental axis, but instead a gradual and extremely subtle increase of space and light by devious ways into the centre of the house. A tiny lobby leads into the main cross-corridor, which at once sets the rhythm of transverse oak arches, in the view right to the nursery door, or back to the forecourt over window sills with radiators, 2. A few steps left, the corridor opens fully on its south side into the main hall with the central staircase, 3, which in turn leads to the upper corridor between the bedrooms. There is a fine contrast of scale between the low, horizontally windowed corridor-hall and the high, vertically windowed main hall. Then the view back, 4, reveals that the next, closed-in, section of the corridor backs on to the family fireplace, with its ornithological tiles and trail of carved vines. A single large window opens southwards to the spacious terraces, looking down the garden on its central axis. To the east is the dining room, seen through a broad opening with a folding door, 5; it forms one arm of the main E-shape, being balanced on the other side



ground floor plan of Waldbuhl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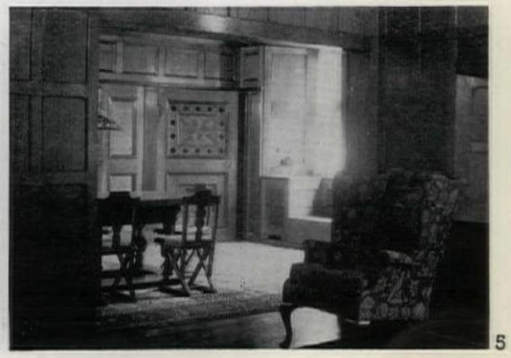
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* His 'ideal suburban house' had appeared there in January 1895, and when built by a reader as Bexton Croft, Cheshire, was his first work outside the Isle of Man

† Invaluable help in the preparation of this article was given by the present owner, Dr. Rolf Bühler, and by Prof. Peter Meyer, who first published the house in *Werk* in 1937.

by the ladies' drawing room (entrance in background of 3). As outer wings to the central vessel, there are the specialized rooms: study and verandah on the east, nursery and winter garden on the west.

Inheriting the traditional great hall from Norman Shaw at Adcote and Philip Webb at Clouds, Baillie Scott reduced its scale in his houses to that of man, both sitting and standing, with nothing outsize remaining at close quarters. Rectangular rooms are punctured with recesses which are enclosed by settles, fires have all-embracing inglenooks, screens are put up and perforated, windows always have window-seats. Waldbühl lacks the spatial extremism of Baillie Scott's earlier Blackwell, Windermere, or Winscombe, Crowborough (in its original state); its sober wood-and-plaster is a retreat from their bright greens, oranges and purples; but equally it avoids the folksiness and silly nursery games*. The Bühler resources were spent instead on splendid craftsmanship, from the Jacobethan fantasy of the dining room sideboard and ceiling to the dainty plasterwork of the ladies' drawing room, 6, where the ceiling and deep frieze are carefully scaled so as to give the best impression from a sitting position.

The furniture and decoration throughout show the architect's superb sense of natural materials. Perhaps the finest single object is the desk in the study, 8, with its chequer-work of knobs and wood-grains, lit by a Tiffany-glass lamp (another is over the dining room table, extreme left in 5). The standard chair design with high side wings is equally at home in the richly panelled corridors, and in the stark simplicity (Baillie Scott's Waterlow Court style) of the marble-floored winter garden, 7. The inlaid rosette motif is repeated on the secretaire in the drawing room, 9, a particularly fine piece. In the parents' bedroom there is a rippling tiled fireplace and another delicate plaster ceiling ornamented with flying birds; and in the 'cherry-wood bedroom' there is a chunky metal lamp, 10, with four minuscule dragons.

Baillie Scott made no fetish of natural materials, however, when frivolity required surface glitter: the nursery panelling, 11, has an entirely painted framework. In fact much of the furniture, especially the secretaire and chairs, has the feeling of ornament applied only skin deep to what are basically twentieth-century shapes. Whereas the architectural treatment of Waldbühl is fully integrated and has a maturity seemingly unaffected by revolutions, the furniture contrasts pattern with shape, foreshadowing the coming elimination of all ornament.

NICHOLAS TAYLOR

* What Professor Pevsner has described to me as Baillie Scott's 'seven dwarfs' quality.

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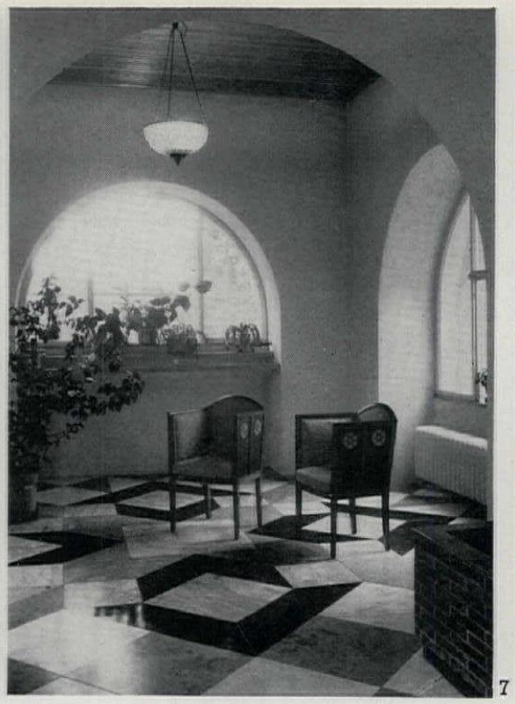

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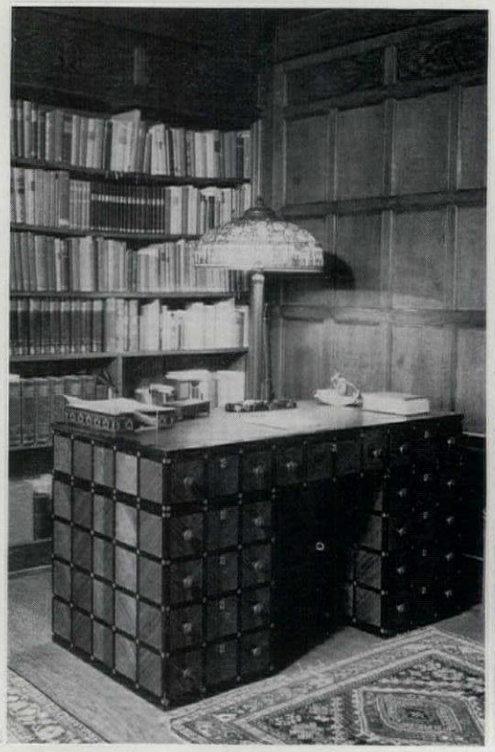

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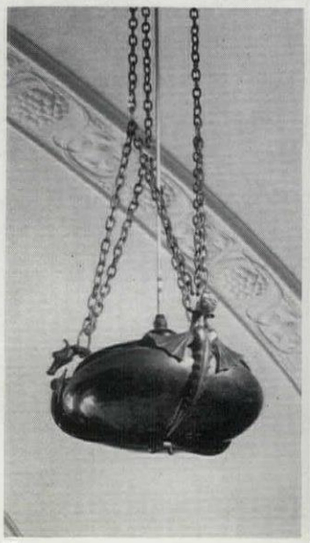

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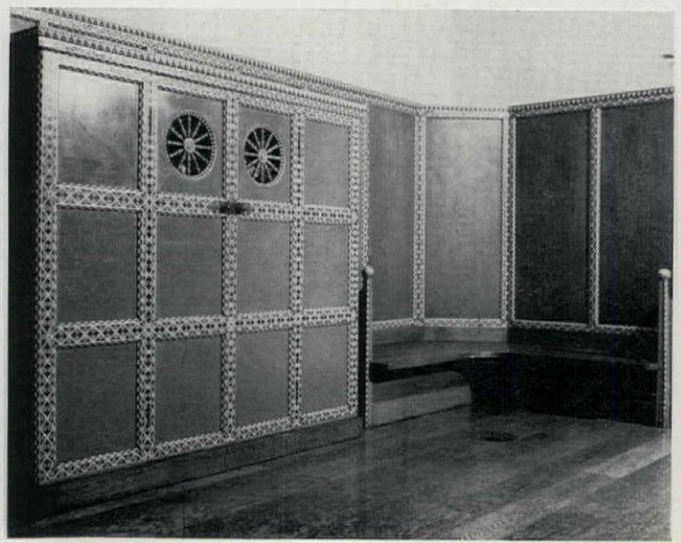

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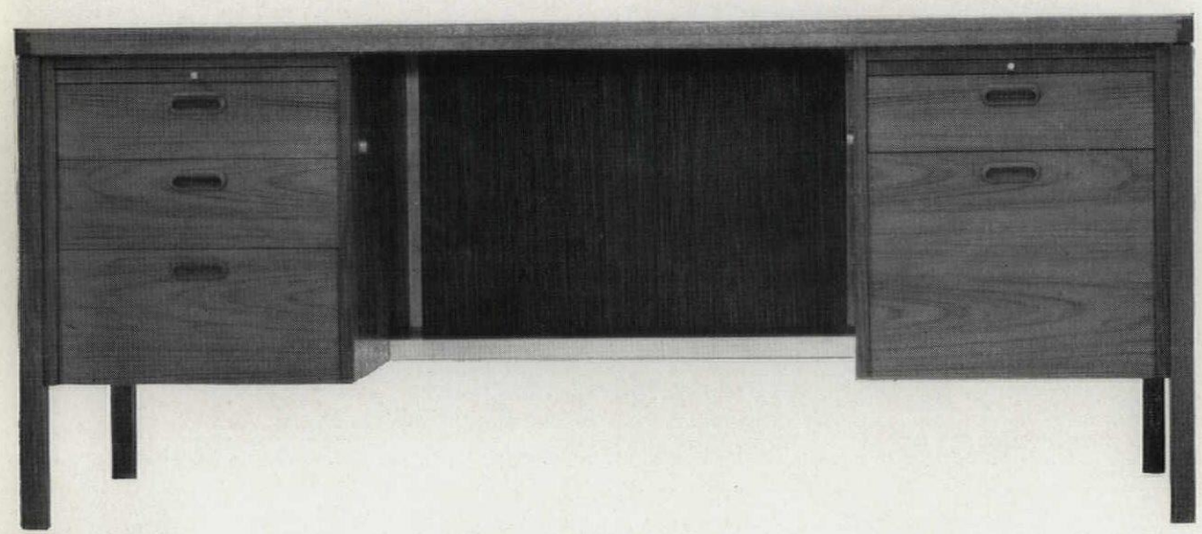

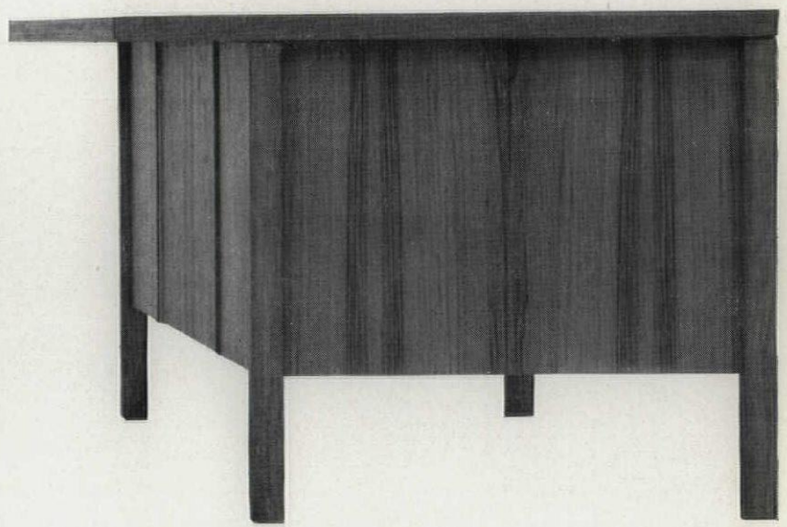

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Service Core Design for Industrialized Housing

Though much thought has been given to the design of industrialized structures and claddings for housing systems, notably less has been given to providing industrialized servicing. Yet the services often represent 15 to 20 per cent of the total cost of the dwelling. In this article A. F. E. Wise, of the Building Research Station, describes factors bearing on this problem which recent research here and abroad have shown to be important. The article is based on a paper given to the Institution of Public Health Engineers and is published by permission of the Director of Building Research.

The service core and its functions

The main services in a house are required in the bathroom and kitchen. Location of these two rooms close together may enable one pipe to serve appliances in both rooms, for example, sanitary appliances may discharge to a common stack. Extension of this principle leads to the use of a central duct containing several services, and it is the basis for the modern concept of the service core.

In a flat, the bathroom is often placed internally so as to release external wall for living areas that require windows. The bathroom without windows then requires ventilation by a duct system. The kitchen is commonly placed next to the bathroom and is served by the same service duct. The heating unit is often placed in the kitchen and may require a flue. Alternatively, heating mains from a central plant may be placed in the service duct and enter the flat in the kitchen, where connection is made to a radiator system. There is thus a concentration of equipment and services in the kitchen-bathroom area — including ductwork, heating equipment or pipes, hot and cold water supply pipes, soil and waste drainage pipes and perhaps, a flue—which represents a major part of the cost of the services for a flat. A complete terrace or block of flats includes several tiers of bathrooms and kitchens, which may be adjacent or well separated on plan, each of which incorporates a range of equipment and services.

In Britain an extract system is provided with the object of removing smells and steam. The rest of the flat is naturally ventilated by openable windows which, in the past, have not been weatherstripped and hence have allowed significant and sometimes excessive air change even when shut. In these circumstances, the extract ventilation system provided for the internal bathroom normally makes no contribution to the ventilation of the flat as a whole.

A different trend is apparent in some countries abroad. In Sweden, for example, windows normally seal well when shut and hence the cross-ventilation that occurs naturally is much reduced. A separate fresh air inlet is provided, often incorporated in the side of one window with the object of replacing air extracted centrally by the mechanical ventilation system.

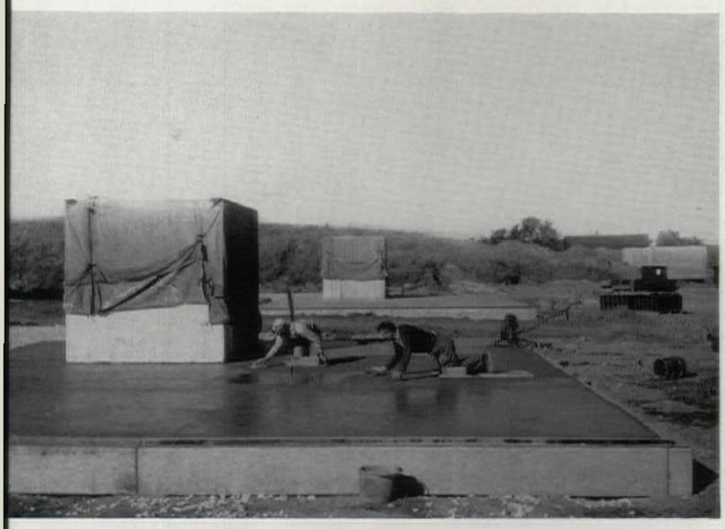
A more sophisticated method now being introduced with tall housing blocks eliminates the fresh air inlet on the external wall and relies on a mechanical system to provide the living room with a controlled supply of fresh air that can be slightly warmed in cold weather. The system consists of a fan with heater battery on the roof and vertical supply ducting in the service cores; horizontal ducts formed within the floor ceiling panels supply air to the living rooms. The intention of the system is to provide a positive difference in pressure between the living rooms and the kitchen-bathroom areas where air is extracted, and also a positive difference in pressures between the living rooms and the outside air to reduce infiltration. Similar developments are taking place in France, where the adoption of methods and regulations for the ventilation of dwellings on the lines of those in Sweden is expected[18]. The performance of such systems depends on factors that include the use made of openable windows, th degree of sealing achieved when the are shut, and wind effects. The nevertheless offer, assuming goo design, the chance of somewhat bett control over ventilation and th associated heat loss than is possib with windows that leak excessively In these circumstances the role the extract ventilation system in th internal areas is extended, and th service core not only provides solution for pipe layout but also ac as a source of heat and ventilatio for the flat as a whole. As windov in this country become better seale more attention will be needed t ventilation requirements, and seems likely that greater use wi be made of systems of mechanic ventilation based on the service core Discussion has so far centred o service cores that extend verticall through the building. Taking broader view, it may also be practi able to house several services in duc running horizontally below terrace of houses, and also to make greate use of underground service ducts i urban layouts, as is currently bein done abroad.

Methods of prefabrication

Parallel with the development prefabrication applied to wall, ceilin and floor panels has been an intere in the prefabrication of the kitche bathroom area with its concentratio of equipment and services. In trad tional building, the services for th area are installed by a series tradesmen working in succession i a small space in the building und construction. It is attractive i principle to concentrate into a factor or workshop specialized and ex pensive equipment to perform thes site jobs under conditions of ma production. This approach offe scope for accelerating site pr cedures for the services which necessary with increasing speeds erection of the structure.

Complete kitchen-bathroom units— so-called heart units—represent a extreme of fabrication which ha received considerable publicity i this country. This concept is not ne as Buckminster Fuller was workin on the development of units intende for mass production more than thirt years ago. Various units have bee developed since then and Bendixso has described some designs. Suc constructions are also in productio abroad, in Russia and Scandinavi for example. Near Malmo a factor makes a heart unit intended f bungalows; this consists of a concret slab supporting bathroom and ki chen equipment and also an oil-fire boiler. The total weight is abou 8 tons and a crane is, therefor required for lifting.

This unit is placed in position on th site and the rest of the house bui round it. Construction is so organize that the plumbers are on site for short time only at an early stag when they connect the unit to mai water and drainage and to flo heating coils. They are not neede after the stage shown in 1. Thes heart units are reported to represe 15 to 20 per cent of the finished co of the bungalow. It is important t realize that this factory produc only about 2,000 units each yea for shipment both inside and outsi Sweden. This quantity represents small proportion of the requiremen of Swedish housing as a whol Reliance in general is placed o simpler methods of prefabrication.



eart units in Swedish bungalow production.

veral comments have been made ently in this country on the use heart units, and also on core units which the central service duct d pipe-work are prefabricated but appliances are added on site. nbling[2] has pointed out that the pe of factory-made kitchens and throoms developed in Britain for efabricated houses some 15 to 20 ars ago would today cost some per cent more than conventional thods. Schryver[3] has said that his m (which has produced multi-rey flats by a large panel system the last five years) looked at the ssibilities of setting up a factory producing complete concrete throoms but abandoned the idea favour of a limited degree of efabrication of piping. Cost was e reason for this choice, linked th the problems of handling the avy units produced and of planning itations. With the simple tech-ques eventually chosen the plumber d mate were able to keep up with e speed of erection of one floor per ek, provided all the plumbing mponents and appliances were ted in one load by the main crane. mpbell[3] has also said that cost was e main reason for the abandonment a recent proposal to use factory-ade three-storey steel framed core cts (without appliances) for bac-back flats in a multi-storey deve-pment of the Greater London uncil.

me relevant information was ob-ined in an investigation of the nstruction of 412 houses of four pes made a few years ago by the ilding Research Station[4]. One mparison made was between tradi-nal and prefabricated plumbing, e latter involving factory-made pper stacks and branches and the e of a light steel frame to support orage cistern, cylinder and water ping. It was concluded that the efabricated plumbing systems led a significant saving in site labour t cost more, on account of the ditional design and drawing work quired and the expense of the steel me forming the basis of the core it. The frame was, of course, ditional to the normal components traditional building. This latter st is avoided if the components n be attached to a part of the ilding structure as shown recently, r example by Rudd[5] who used an -shaped concrete panel.

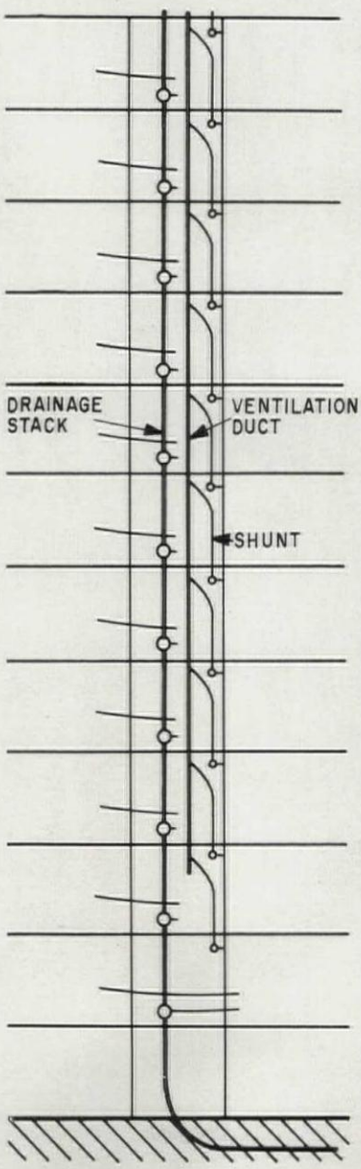
Whilst the more advanced types of heart and core unit are therefore attractive in principle, considerations of cost, handling difficulties and planning limitations restrict their use at present. Long production runs are needed if factory production is to be viable, but these are likely to restrict the variations possible and hence limit planning. Much research remains to be done on the effects of varying type plans on service requirements and costs, both for high and low-rise building. Such work may lead to the identification of a range of components and assemblies that could profitably be made on a factory scale for a range of plans for use in an open system of building. For the present, various types of simple core unit are in use or under development, including precast concrete service panels and ducts, foamed polyurethan panels to enclose pipework and, abroad, vacuum-formed plastic sheets with indentations that form pipes when the sheets are glued together[1]. Apart from these methods, prefabrication of pipework which has long been the practice with large-scale building continues to develop as described, for example, by Rudd[5], and greater emphasis is being laid on the rationalization and pre-planning of services in relation to the building system; work done in this field abroad has been described (e.g. [16, 17]). Comments on some aspects of the design of individual services, service panels and ducts follow.

Space for services in the core

Space required for services is governed by factors which include the sizes of pipes and ducts needed to convey water, waste and air, fixing requirements, the need for access during the life of the building and fire precautions. The extract ventilation ducting required for internal bathrooms and the drainage stack, shown in 2, play a major part in determining the size of central service duct needed. One of the first steps in design is to determine the size of ventilation duct to be accommodated on the top floor of the building. This part of the ventilation ducting has to be large enough to convey quietly the flow from all the bathrooms at lower levels, as may be seen from 2. Once this duct has been sized it is possible to decide on the size of service space required to accommodate it and the pipework involved. A space of this size is then normally used on each floor.

As an example, consider a service tier in a twelve-storey block of flats, shown diagrammatically in 2. As discussed elsewhere[6], the ventilation duct for the internal bathrooms is sized using the following formula: $A = 2.4 \frac{N.Q}{V}$, where A is the cross-sectional area of ventilation duct in sq. in., N is the number of bathrooms served, Q is the extract rate for one bathroom in cubic ft./hr., and V is the air speed in the duct in ft./min.

The values of Q, V and an allowance for leakage have to be selected in order to apply this formula, and these have been discussed[6]. A value of Q=1,500 cubic ft./hr. is commonly used for a bathroom (with a w.c.) of 300–350 cubic ft. volume. From published data on limits of speed to control noise, a value of V=900 ft./min. appears reasonable for smooth surfaces, whilst an allowance for leakage of 20 per cent has been suggested[6] for preformed duct systems with adequate joints. On this basis, the maximum area required in a smooth ventilation duct for a twelve-storey building is 58 sq. in.;

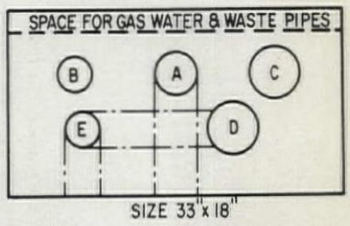


2, diagram showing largest services to be accommodated in service duct for bathrooms and kitchens.

a duct of about this area—for example, 10 in. by 6 in.—must be provided at the top floor. The duct extends down the building and may at lower levels be smaller in area since the air flow is less; or the area may remain constant if this is more convenient for prefabrication.

Instead of one duct being used, it is also possible to use separate ducts, the total cross-sectional area of which is not less than about 58 sq. in. Suppose, for example, it is intended to install p.v.c. piping, which has been used for this purpose in the London area[13]. Pipes and fittings of 6 in. nominal diameter are readily available and two 6 in. pipes give a total cross-sectional area of nearly 58 sq. in. which is adequate for the purpose. In this case, one pipe would be used to serve the top six floors, the other to serve the lower six floors. Both would, of course, appear in the service duct for the upper six floors. The service duct has also to accommodate in each storey one branch duct (either horizontal or in the form of a shunt flue) leading from the bathroom on that floor, together with the drainage stack, and perhaps smaller pipes for rainwater, water and gas. With a twelve-storey building the stack for the single-stack drainage system may be 5 in. diameter[7]. Consideration of all of these requirements for one twelve-storey building examined recently led, after study of the dimensions and various arrangements of the components, to the layout shown in 3 in which the service space is just over 4 sq. ft. in area.

The size of service duct required varies with the height of the building. With eighteen storeys, for example, the cross-sectional area of the ventilation duct required at the top of the building, based on the foregoing data, is about 86 sq. in.; a 6 in. drainage stack is required[7, 14]. Nearly 5 sq. ft.



A. 5in. Dia. Soil and Waste Stack.
B. 4in. Dia. Rainwater Stack.
C. 6in. Dia. Ventilation Duct Serving Lower Six Flats.
D. 6in. Dia. Ventilation Duct Serving Upper Six Flats.
E. 4in. Dia. Ventilation Shunt.

3, example of a service space needed in 12-storey flats.

of service space is needed when the design is carried out as described above. With low-rise developments, smaller pipes and ducts are permissible and it may be possible to use natural ventilation for the internal bathroom[8]. Examination of the space requirements for services are, therefore, needed at an early stage in building design, especially if the system of construction is to be used for various heights of building and components are to be standardized. Experience shows that too little space is often provided in the initial design by the architect.

The foregoing notes indicate a basis for making a preliminary assessment

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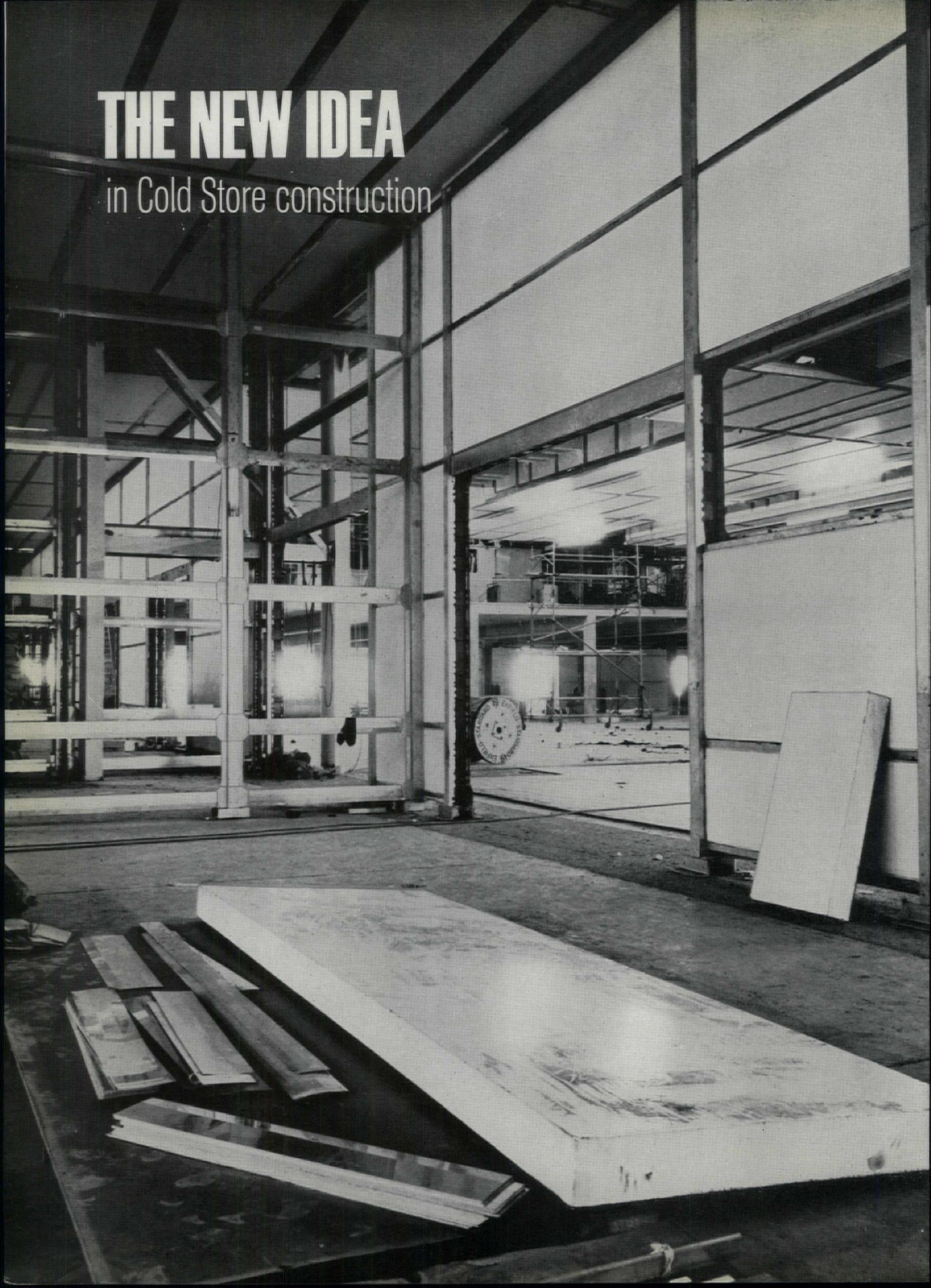

Moveable walls–made possible by

'STYROCELL' EXPANDABLE POLYSTYRENE

The new 1¾ million cu. ft. Cold Store at Basingstoke, built for food retailers J. Sainsbury Ltd., departs radically from traditional construction.

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For more detailed information on versatile 'Styrocell' in building applications, write to Plastics Advisory Service, Shell Chemical Company Limited, Plastics & Rubbers Division, Shell Centre, Downstream Building, London, SE1.

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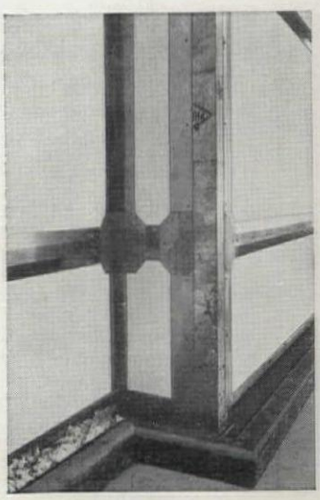

B

A The moveable interior walls are built up from a framework of box-section members, manufactured by Byalex Co. Ltd., Swanley, Kent. These are filled with 'Vencel' laminated panels made from Shell 'Styrocell' by Venesta Manufacturing Ltd., Erith, Kent.

B If damaged, repairs can be made cheaply and quickly to the insulated fabric. Refrigeration efficiency is maintained and interference with day-to-day business is minimised.

Consulting Engineers: Kenchington, Little & Partners.
Architects: Scott, Brownrigg and Turner.
Main Contractors: Richard Costain Ltd.
Erectors of insulated structure: Jacksons Insulations Ltd.

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of the sizes of the largest ducts and pipes, which will give an indication of the order of size duct likely to be required. This should be followed at an early stage by a detailed examination of the problems of fitting in the components, some aspects of which have been described elsewhere[15]. It should be mentioned that of several duct sizes recommended in '*Dimensions and components for housing*'[9], not all are suitable for tall buildings with extract ventilation.

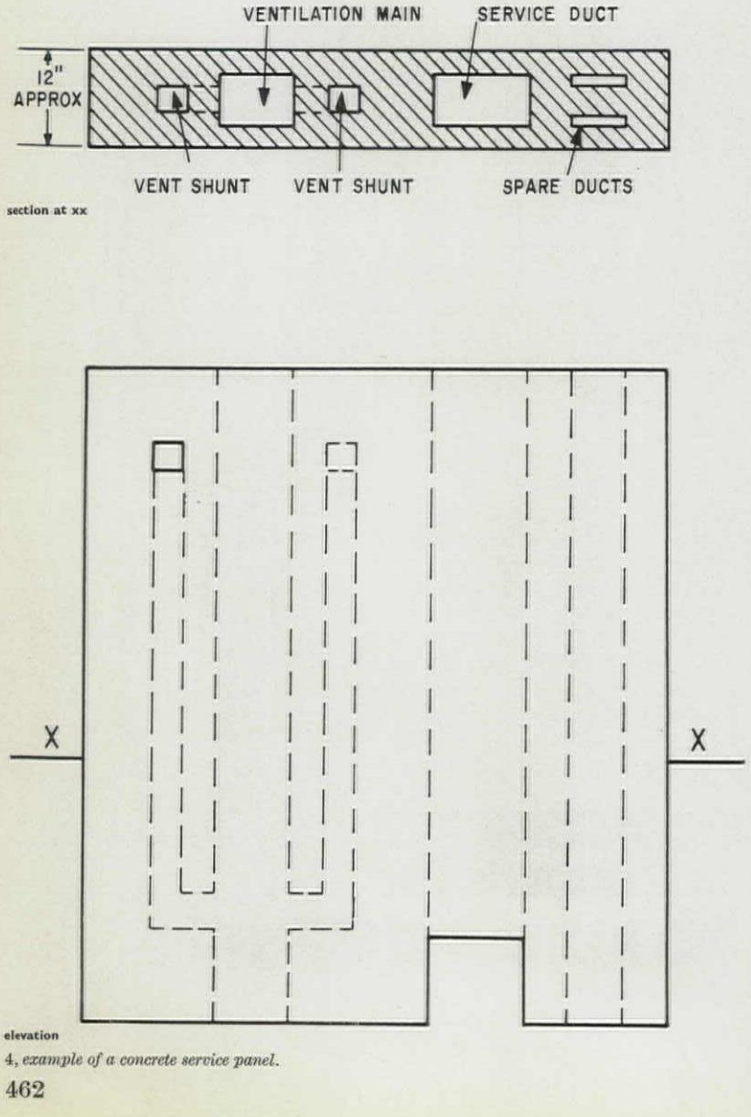
Concrete service panels

With systems of building by concrete panels it is sometimes attractive to use, to house the required central services, a suitably designed panel that is part of the building system. A Swedish example is shown in 4. Such a panel is prefabricated using, to form the channels, steel tube inserts which are withdrawn after curing. Steel inserts are used for long life, although plastics inserts have been tried. This panel includes a main vertical extract duct, vertical branches, a space to take soil, water and heating pipes after erection of the panel, and spare channels to save material and permit additional ventilation if needed. Openings are knocked in the latter as required. The inlets of the ventilation branches contain galvanized sockets, about 4 in. square, cast in the concrete to receive the control grilles. During erection, steel sleeves are inserted into the tops of the holes in the panel and concrete is poured in almost to a level with the top of the floor. After curing the sleeves are removed and a thin layer of fine mortar is spread to act as a bed for the next panel.

Air leakage, noise transmission and fire precautions are three aspects that have received attention in the design of the ventilation ducting in this panel. Excessive leakage into concrete duct systems has been found a problem both in Sweden[10] and in Britain[6]. An attempt has been made to reduce leakage with the design of panel shown in 4. Instead of each ventilation branch passing vertically upwards to join the main duct, as with a normal shunt system, each branch leads downwards into the main, thus avoiding a joint in the branch length which might leak. With this method, the branch is several feet long and retains two bends, which helps to reduce noise transmission between floors. From a fire point of view, avoidance of the passage of smoke between floors is important and the arrangement in 4 has been considered adequate by the fire authorities in Stockholm.

It has the additional merit of avoiding problems on the top floor of the building where installation of the shunt commonly used in British practice sometimes presents difficulty. It is also noteworthy that, unlike British practice, branches from bathroom and kitchen are permitted to discharge into the same main duct. As far as ventilation is concerned, therefore, the design represents a compromise between several conflicting factors. The extent of air leakage likely with this arrangement is not known; the data in the next section for concrete ducts having one joint per storey suggest that, even without a joint in the shunt, leakage is likely to be considerably greater than the maximum now recommended in Sweden.

Referring again to 4, the service duct provided for the soil, water and heating pipes does not permit ready access for maintenance or replacement. An alternative, involving little extra first cost, would be to provide a recess instead of an enclosed channel to receive such pipes, the recess being covered by a panel.



4, *example of a concrete service panel.*

Leakage into ventilation ducts

The ventilation of an internal bathroom may be impaired if, owing to faulty construction, air can leak into the extract duct from other parts of the flat. Concern at the inadequate ventilation of bathrooms and kitchens led several years ago in Sweden and Denmark, to investigations in various housing blocks[10]. Concrete ducts were among those studied and these gave widely varying leakage depending on the construction. The results were presented in terms of leakage rate per unit area of internal surface of the duct, and for a range of values of the pressure difference between inside and outside the duct. With a pressure difference of about 0.4 in. of water below atmospheric within the duct, the leakage rate varied from a mean of about 30 cubic ft./hr./sq. ft. (with precast units of storey height) to 3 cubic ft./hr./sq. ft. (with continuous ducts cast using climbing shuttering). The former figure amounts to about 500 cubic ft./hr. in one storey if the duct is 8 in. by 6 in. in cross-sectional area, a value to be compared with the extract rate of 1,500 cubic ft./hr. required for one bathroom.

British experience on this problem, including both user comments and design matters, has been described briefly elsewhere[6], and it was noted that leaks have occurred at the joint between concrete duct and floor slab and between metal branches and concrete duct in buildings in this country. The following notes summarize the findings in a recent Building Research Station study before occupation in an eleven-storey block of flats built of precast concrete. This block contains six vertical ventilation ducts in precast concrete; three fans on the roof each serve a pair of vertical ducts. In a test on one pair of ducts, the grilles were sealed and the obvious gaps at points in the short lengths of ducting on the roof were also sealed. The extract fan was then run normally, and a flow into the fan box of about 25,000 cubic ft./hr. was obtained, the suction in the box then being only just below atmospheric. This indicated large leakage holes. It was found that each extract grille in the bathrooms was joined to the concrete duct by a plasterboard duct. Joints had not been properly made good and openings of up to 12 in. by 3 in. in cross-section could be seen. In normal use, air from the kitchen or lounge was extracted through these openings, reducing the amount withdrawn from the bathroom.

In further tests the rates of extract from the bathrooms given in Table 1 were obtained under normal conditions in a selection of flats throughout the block. Low values are indicated in some, the result of leakage; the negative values indicate air pass from the ducts into the bathroom the opposite of what is require and were caused by wind effects, results of inadequate design ap from the leakage problem. The figu given may be compared with recommended values of 1,500 cu ft./hr. for a bathroom with w.c. a 750 cubic ft./hr. for a bathro without w.c.

Table 1

Rates of extract from interna bathrooms in a block of flats (i cubic ft./hr.)

Floor	Flat	Bath-room without w.c.	Bath room with w.c.
Ground	2	2,200	
	3	1,750	
	4	2,500	
First	8		840
	9	960	
	11		780
Second	13	2,000	
	14		360
	15	2,500	
	17		780
Third	20		480
	23		900
Seventh	43	1,500	
	44		60
	46	−60	
	47		720
Ninth	51	−900	
	52	2,500	
Tenth	51	−540	
	58	1,200	
	59		1,200

In a description of experience in t installation of concrete Se and U d flues in industrialized housing, Atk and White[11] describe a storey-hei unit with simple spigot and soc joint caulked using asbestos ro They emphasize the importance good supervision, and quote a l leakage rate obtained in a test wit pressure differential of 6 in. wa gauge.

The Swedish work also showed c siderable leakage into some ducts asbestos cement and of sheet me and there is now an increasing use spiral-wound steel ducting in Swe in order to improve performan This Swedish work led to the inc sion of the following paragra (British units are used in this extra in the 1960 recommendations building construction[12]:

For ducts up to 5.4 sq. ft. in cro sectional area: maximum leakage be 3.3 cubic ft./hr./sq. ft. of inter surface of duct.

For ducts greater than 5.4 sq. in area: maximum leakage to 5 cubic ft./hr./sq. ft. of internal s face of duct. Private corresponde on this subject indicates that perience since 1960 has confirmed t need for a recommendation of t kind whilst suggesting some rela tion of the leakage requirements.

Conclusion

Discussion has centred on a few the technical matters that arise the design of services for industriali housing. Attention is especially dra to the need for care in t

[continued on page 4

skill

continued from page 462]

design and installation of mechanical ventilation systems, use of which is likely to increase with the increasing use of internal rooms and the desire for a greater control of environment in houses and flats. Experience of leakage of air through joints in concrete ducting suggests that design based on this material should be avoided in future for the ventilation of internal rooms. Space for services also requires attention, especially for tall blocks where considerable amounts of ductwork and piping have to be accommodated. The importance of allowing for access to pipework needs emphasis. It is fair to conclude that problems of maintenance and the need for access deserve greater study than they have received so far. Research is needed in this field, to obtain a better definition of requirements and to throw light on economic aspects.

The problems arising from varying regulations and requirements are outside the scope of the present paper. To list a few from experience, they include variations in local water regulations (storage and break tank capacity, overflow requirements, testing and approval), variations in drainage requirements (a few local authorities do not permit single-stack drainage and some prohibit the discharge of rainwater into soil stacks), variations in requirements for fresh air inlets, and variations in fire regulations (duct design and materials). Greater uniformity in regulation and in interpretation is needed to assist the development of service-core and heart-unit methods.

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Contractors etc

Doctors' Surgery, Clapham, London. *Architects:* Darbourne & Darke. *General contractor:* E. Gostling. *Sub-contractors: Trees:* Landscape Trees (Camberley). *Shrubs and ground cover:* Rassells (Kensington).

House at Stanmore, Middlesex. *Architects:* Edward Samuel and Partners. *General contractor:* E. P. Dixon & Co. *Sub-contractors: Structural timber and laminated beams:* William Brown & Co. *Heating and plumbing:* J. Jeffreys & Co. *Electrical installation:* Elraes Ltd. *'Plasinex' roof finish:* Ambactus Ltd. *Windows:* Quicktho Engineering Ltd. *Sliding doors:* Leyland & Sons. *Radio-controlled garage door:* Bolton Gate Co. *Precast slabs:* Concrete (Southern) Ltd. *Terrazzo and mosaic:* Brockwell Mosaic Ltd. *Turf laying:* Marcel de Smet. *Built-in furniture:* Storefits Ltd.

University of York (Phase 2). *Architects:* Robert Matthew, Johnson-Marshall & Partners. *General contractor:* F. Shepherd & Son. *Sub-contractors: Structural steel work:* Brockhouse Steel Structures Ltd. *Concrete cladding panels:* Evans Bros. (Concrete) Ltd. *Beams and cladding frames:* Shepherd Woodwork Ltd. *Metal rooflights:* John Williams of Cardiff Ltd. *Photographs:* Pickard of Leeds Ltd. *Aluminium windows:* Aluminium Building Components Ltd. *Aluminium capping and rooflights cladding:* Reliance Sheet Metal Works. *Metal windows:* Henry Hope & Sons. *Window and door frames, external doors and timber rooflights:* Newsum Timber Engineers Ltd. *Aluminium flushing:* Humber Electrical Engineering Co. *Concrete floor units:* H. J. Baldwin & Co. *Vitreous enamel panels:* Edward Curran Engineering Ltd. *Kitchen fittings:* Jayanbee Joinery Ltd. *Internal doors and frames to housing:* The Rothervale Manufacturing Co. *Bridge bearing packs:* Andre Rubber Co. *Ironmongery:* Smith Widdowson & Eadum Ltd. *Plasterboard panels:* British Plaster & Boards Ltd. *Prestressed concrete planks:* Concrete (Northern) Ltd. *Ironmongery to housing:* Hardy Holgate Ltd. *P.v.c. extrusions:* David Mosley & Son. *Louvred vents:* Greenwood & Airvac Ventilating Co. *Internal doors:* John Sadd & Sons. *Aluminium grilles:* Air Distribution Equipment Ltd. *Steel fencing:* William Bain & Co. *Kitchen equipment:* Benham & Sons. *Refuse chutes and duct covers:* Broads Manufacturing Co. *Study bedroom units:* Swan, Hunter & Wigham Richardson Ltd. *Sanitary fittings:* Buxton, Dawson (Midlands) Ltd., Northern Builders Merchants Ltd. *Stainless steel sinks:* W. & G. Sissons Ltd. *Roof outlets:* Wade International Ltd. *Laboratory turrets:* Andrews-Weatherfoil Ltd. *P.v.c. rainwater pipes:* Burn Bros. (London) Ltd. *W.c. cubicles:* Venesta Manufacturing Ltd. *Fire extinguishers:* Minimax Ltd. *Curtain track:* Oversea Buyers Ltd. *Glass chalk boards:* Westland Engineers Ltd. *Bicycle holders:* Le Bas Tube Co. *Precast concrete paving units:* S. Marsall & Sons. *Projection screens:* Rank Audio Visual. *Telephone booths:* Burgess Products Co. *Concrete rafters and purlins:* Concrete Services Ltd. *Cloakroom fittings:* Ameliga Ltd. *Duct covers:* Aluminium Alloy Fabrications Ltd. *Laboratory sinks:* Eastwood Ltd. *Steel fencing:* W. Dowson Ltd. *Laboratory furniture:* Burlington (Laboratory Furniture) Ltd. *Shelving brackets:* Fox Bros. *Sump pumps:* Industrial Pumps Ltd. *Electrical installation and engineering services:* Shepherd Engineering Services Ltd. *Boiler house, bridge and covered way steel:* Joseph Parks & Son. *Site office extension:* Stephenson Developments Ltd. *Snowtop paving:* Stuarts Granolithic Co. *Engineering services:* Andrews Weatherfoil Ltd. *Glass drainage:* QVF Ltd. *Boiler house louvres:* Colt Ventilation & Heating. *Vertical sliding windows:* Alumin Building Components *Water tower and chimney:* Yorkshire Hennebique Contracting Co. *Seeding:* F. G. Mitchinson. *Garages to housing:* Paralite Structures Ltd. *Floor tiles to housing:* Limmer & Trinidad Lake Asphalt Co. (North-Western) Ltd. *Doors to primary sub-station:* Curfew Doors and Shutters Ltd. *Suspended ceilings* William Proctor & Son. *Tree felling:* Beeching of Ash Ltd., Jas. Pigott. *University signs:* Sharpe & Powell Signs. *Packaged sub-station equipment:* George Ellison Ltd. *Lifts:* Herbert Morris Ltd. *Cladding to rooflights:* Reliance Sheet Metal Works. *Floor finishes:* R. M. Douglas Asphalt & Paving Ltd. *Ploughing and manuring:* T. Pearcy & Sons. *Surveys:* Precise Surveys Ltd. *Laboratory furniture:* Burlington (Laboratory Furniture) Ltd. *Felt roofing:* William Briggs & Sons. *Tree planting:* R. V. Roger Ltd., Singdale Forest Nursery. *Glazing to rooflights:* Trevor Naberro & Sons. *Floor finishes:* Rowan & Bodlin Ltd. *Kitchen equipment:* Eclipse Copper of York Ltd. *Shelving:* Norwood Steel Equipment Ltd. *Fixed seating:* Race Contracts Ltd. *Roller shutters:* J. Taylor (Syston) Ltd. *Venetian blinds:* Venetian Vogue Ltd. *Acid resisting lining:* Dunlop. *Traffic signs:* Frances Traffic Signs Ltd. *Greenhouse:* V. & N. Hartley Ltd. *Fume extraction equipment:* Thomas C. Wilde (Machinery) Ltd. *Planting:* Bryce Lyons Ltd. *Hand operated lifts:* George Johnson Ltd. *Supply to sub-station:* North Eastern Electricity Board. *Plastic paint:* R. A. Brand & Co. *Floor finishes:* The Harefield Rubber Co. *Sliding folding doors:* Esavian Ltd. *Woodblock flooring:* J. A. Hewetson & Co. *Laboratory furniture:* Swan Hunter & Wigham Richardson Ltd. *Rubber floorings:* Pirelli Ltd. *Aluminium cleaning:* F. E. Beaumont Ltd. *Aluminium roofing:* Manchester Slate Co.

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OUTRAGE

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An example of the decay of the town's yards; this is the main car park made out of one of them, 1. Townscape medals all round.

COCKERHAM, LANCASHIRE
A pleasant village near Lancaster ruined by over fussy design—particularly the horrible wavy-weatherboard gables, 2. OK as a fantasy in a fantasy world; pretty sickening in the real one.

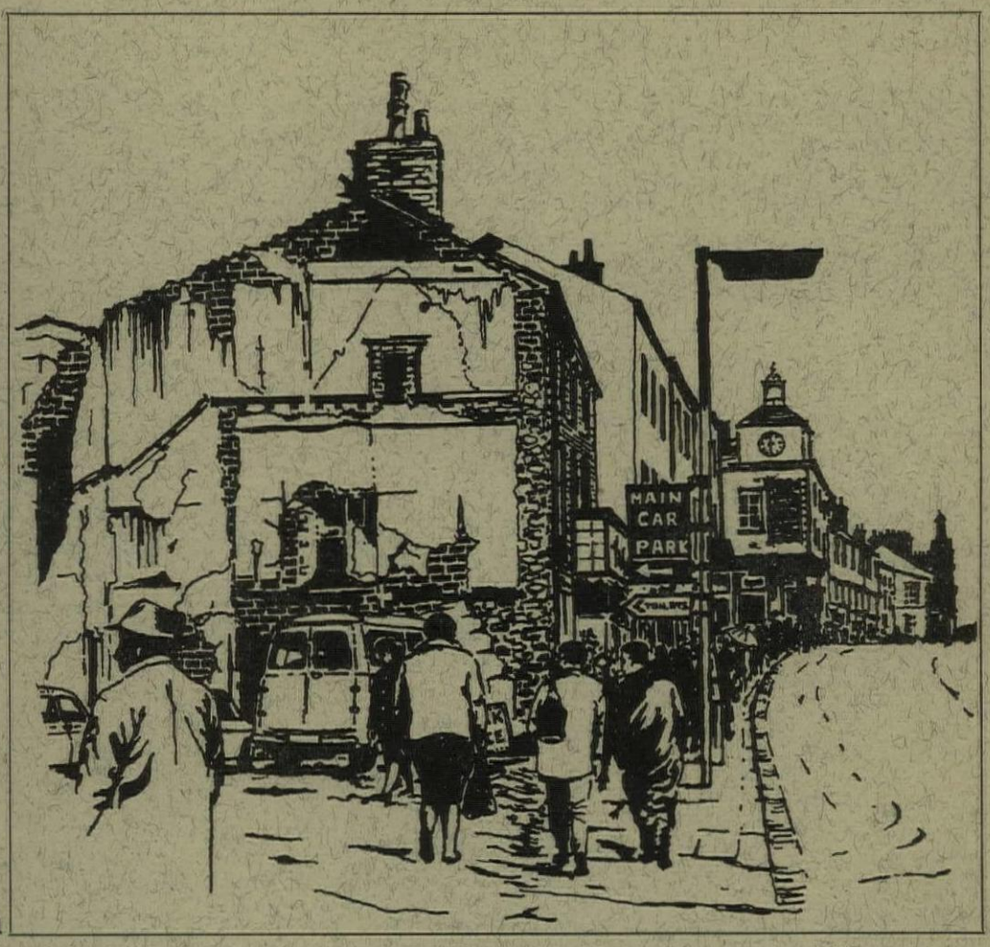
CHIPPING CAMPDEN
Modern Cotswold architecture as she is spoke, complete with useless hood-moulds, 3. Olde-Wolde.

MELTHAM, NEAR HUDDERSFIELD
New housing, 4, on a site well up into the Pennines, which can be seen in the background. Although this is the industrial West Riding, the landscape is as good as in the Peak District. The local development control obviously isn't.

CREDIT

EDZELL, NEAR FORFAR, SCOTLAND
An exception to the rule that clutter ruins character. Here, 5, on the village shop, there are so many signs that they

5



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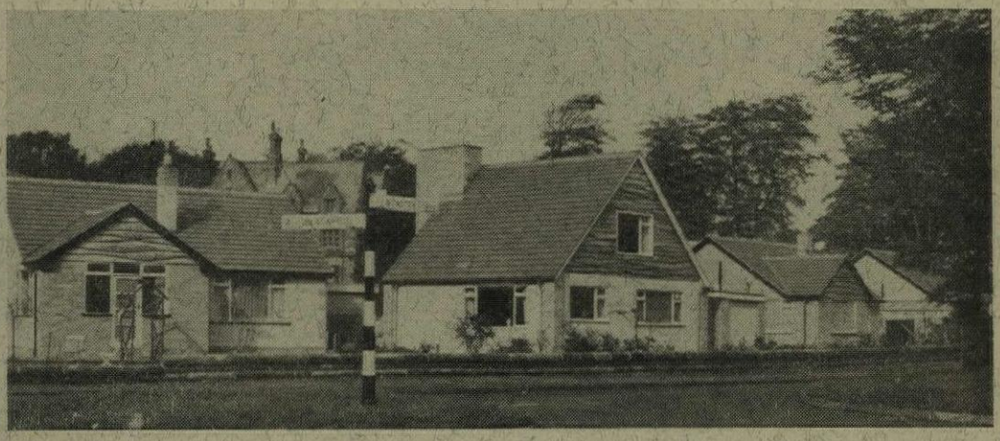

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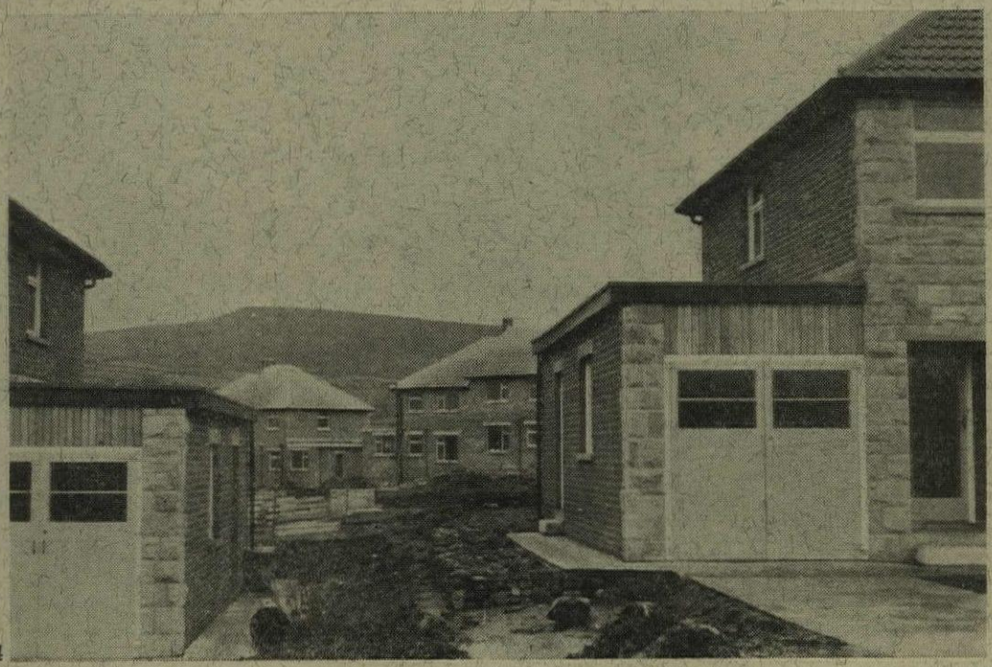


4

set up a character of their own—a single point of bright colours in a sober stone street.

KILLINGWORTH NEW TOWN, NORTHUMBERLAND
Graphic and effective three-dimensional sign, 6, on the local Gas Board's new headquarters.

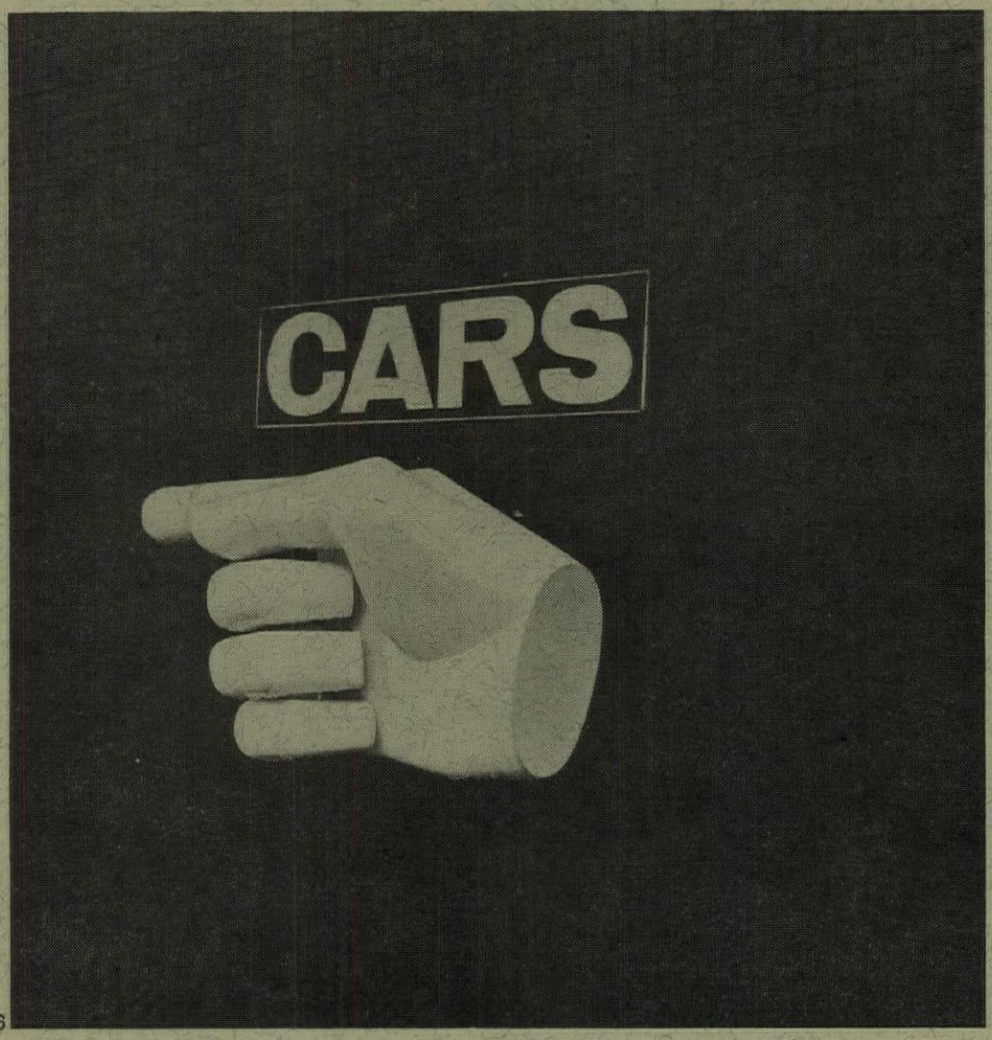
CAUTION

POST OFFICE TOWERS
The GPO towers are not all as amusing as the one in Tottenham Court Road.

Here are two more of them in the open country on tops of hills: one at Stokenchurch, in the Chilterns, 7, the other on Cannock Chase, near Stafford, 8.

OPPORTUNITY

TYNEMOUTH, NORTHUMBERLAND
A cleared site opposite the entrance to the priory, at the end of the noble main street, 9. It should be put to a worthier use than this; flats on stilts would still give car parking space and provide some good views of the sea, too.



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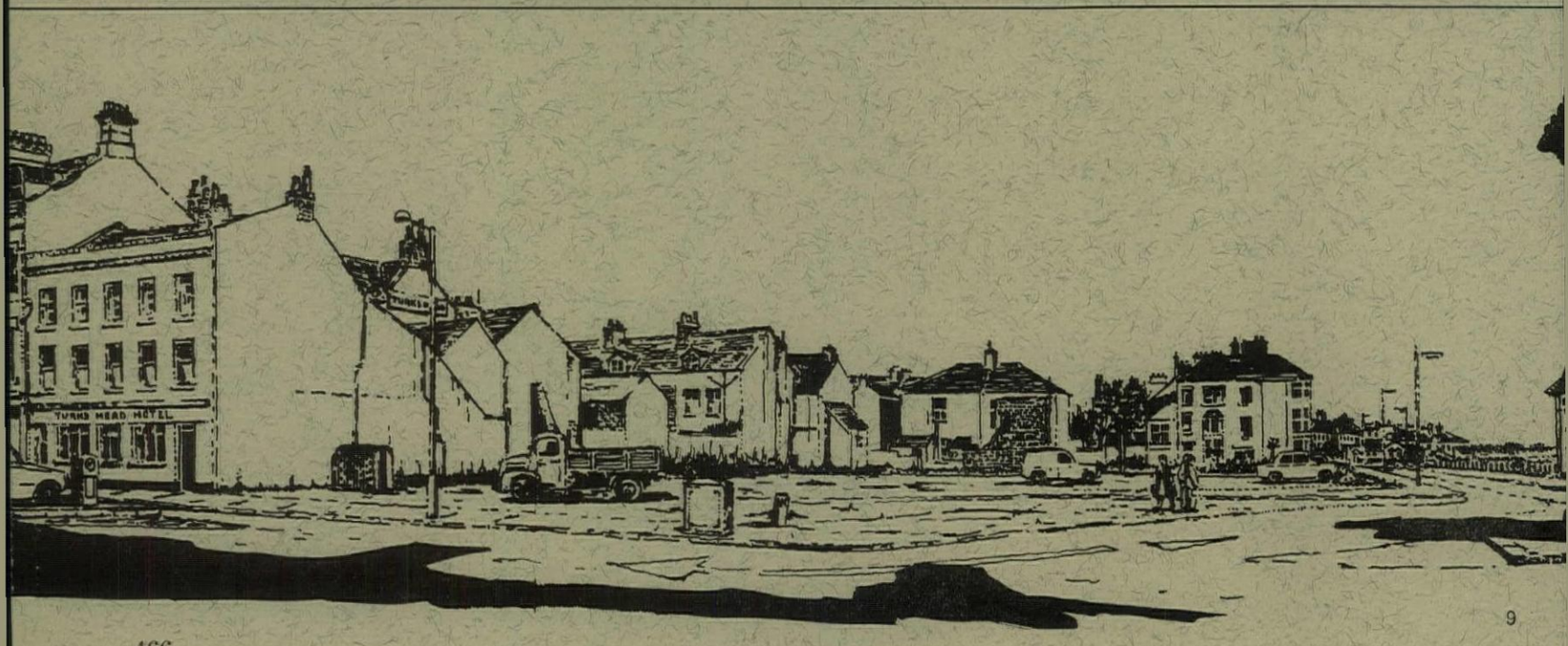

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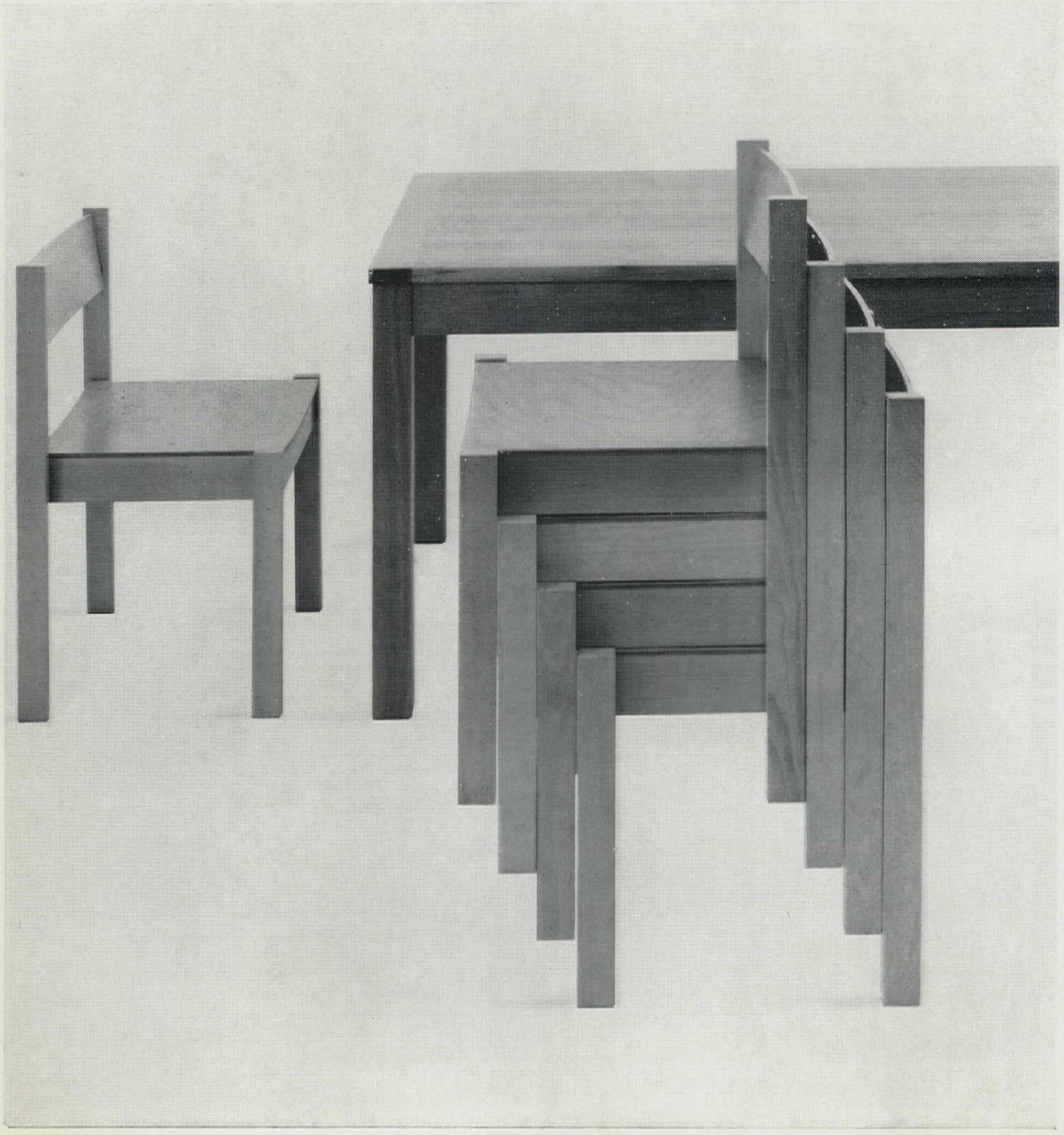

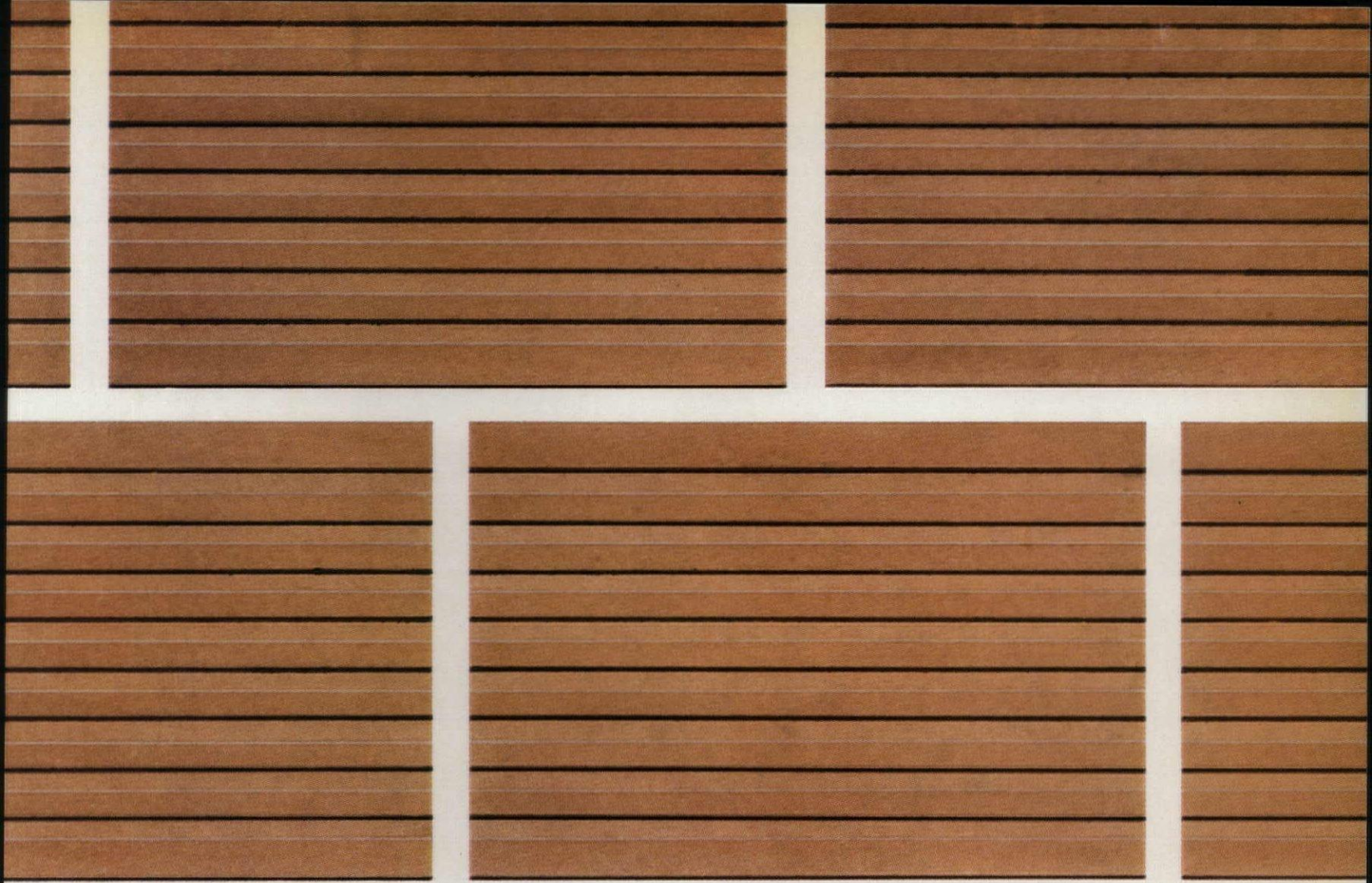

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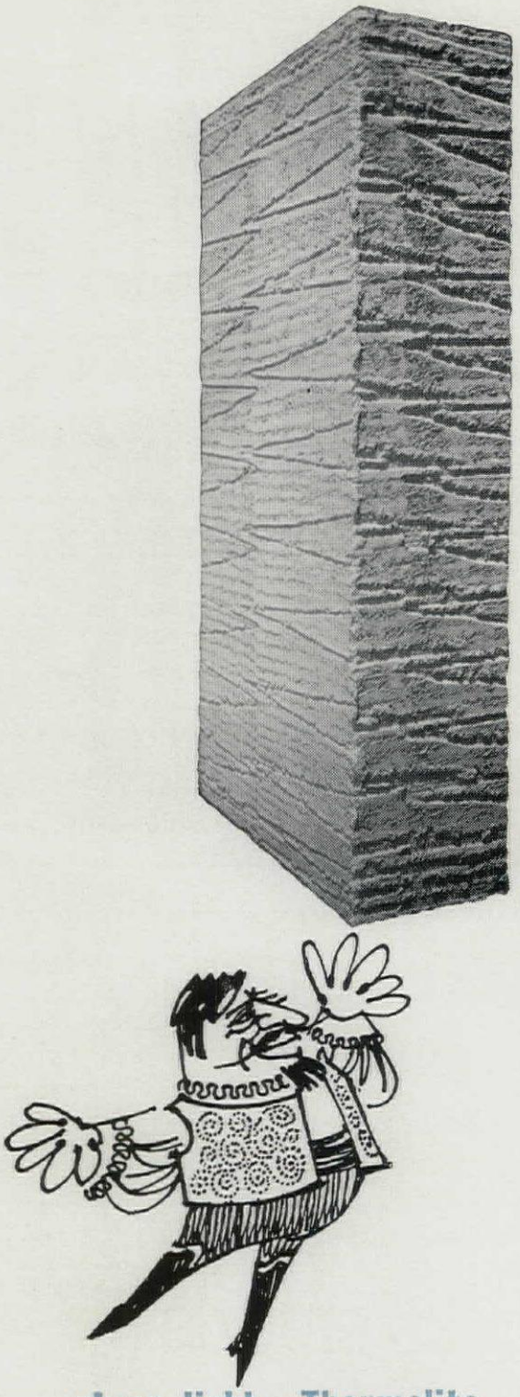

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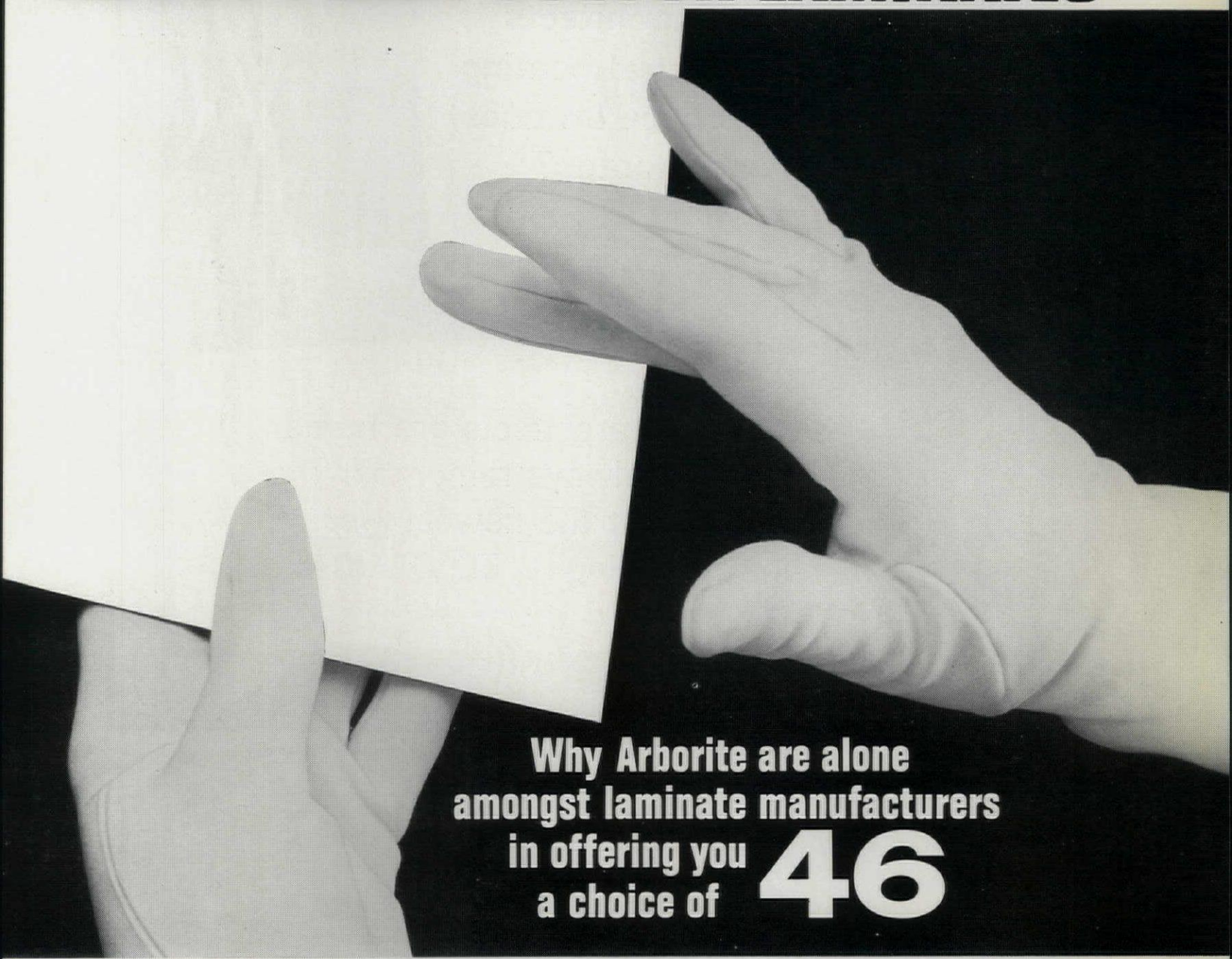

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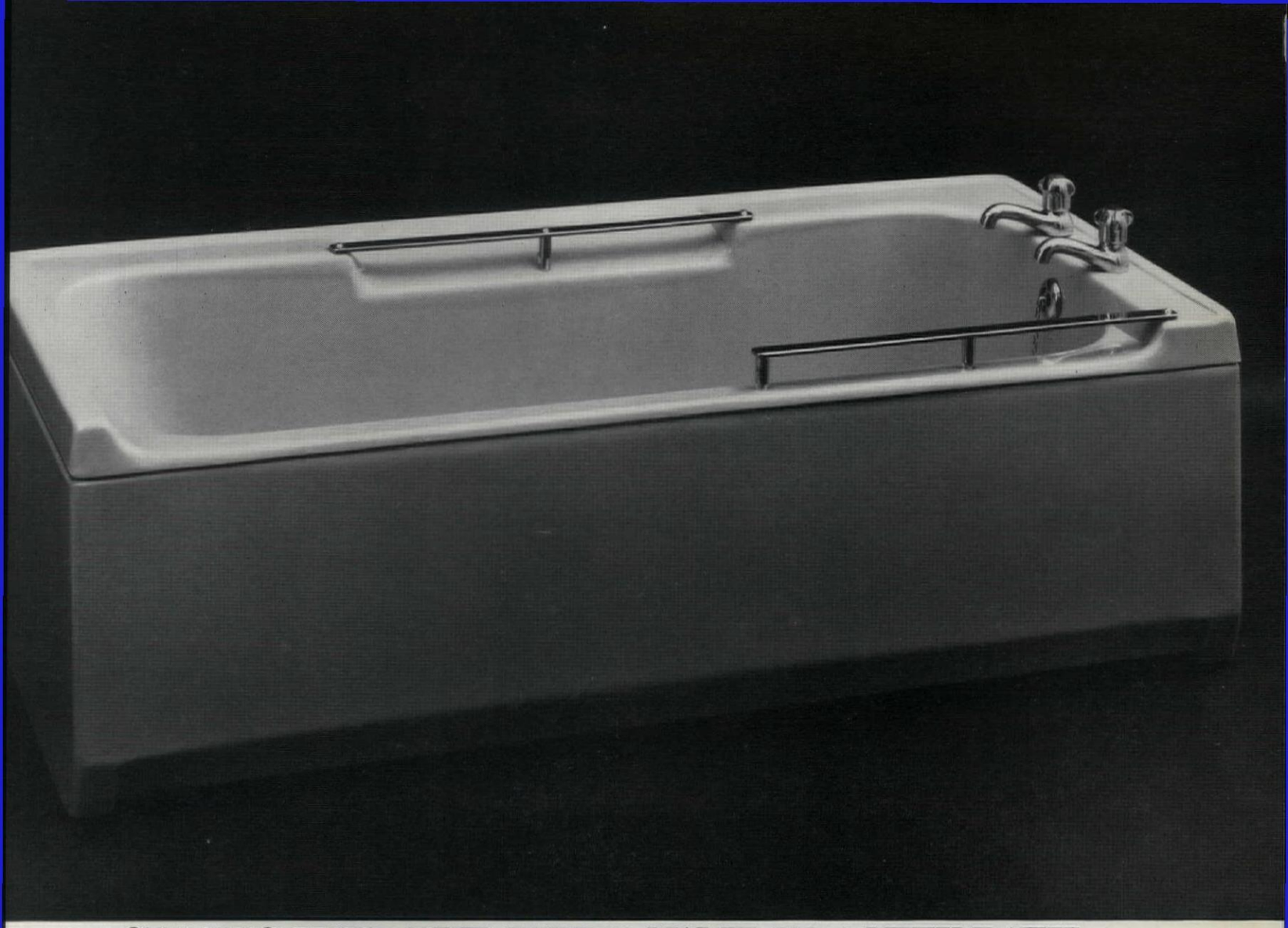

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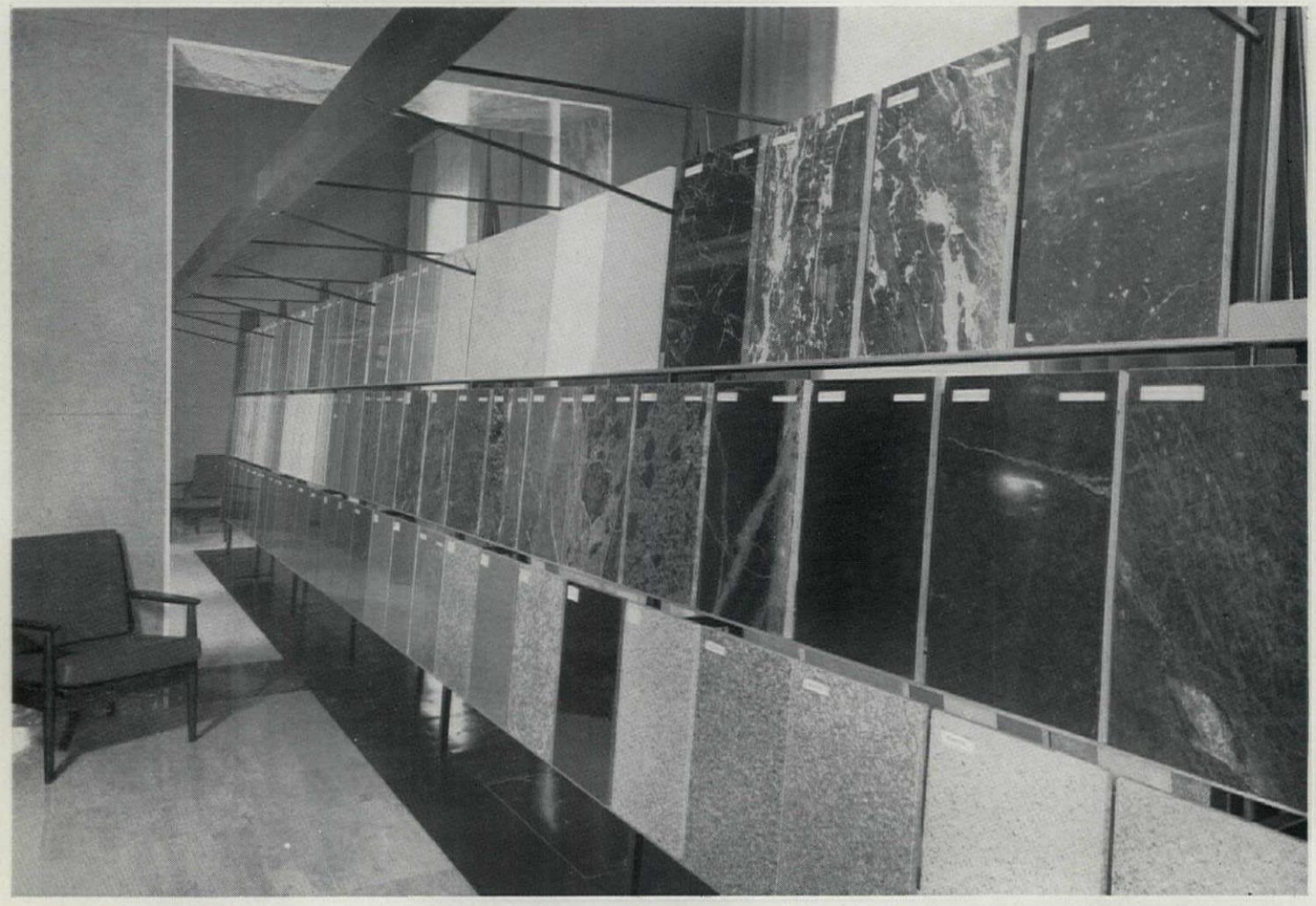
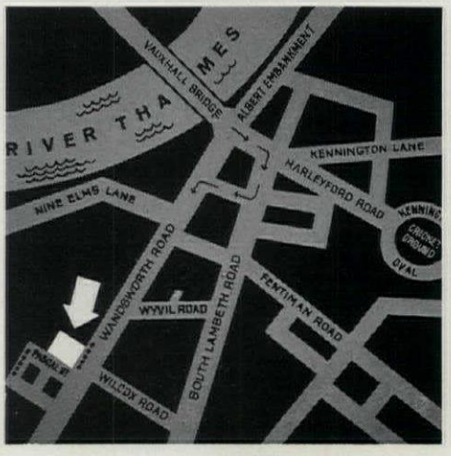


The new Information Centre at Wandsworth Road is planned to serve the designer in all matters related to natural stones from selection to employment for exterior cladding and interior decoration. Natural stones are possessed of great potential. They may be employed according to characteristics and colouring in both large and small scale. Natural stones are the most permanent of all building materials, moreover they are simple to maintain, and the techniques of fixing are completely at one with current building practices. Within the Centre some 200 varieties of stone, marble, granite and slate are displayed in samples measuring 1′ 9″ x 1′ 3″, and to complete the study a representative selection of those materials which have affinity are available: fabrics, leather, timber, brick, paint, carpeting, metal and vinyls. The Information Centre is situated within the Works at 78 Wandsworth Road, London S.W.8., where complete services, including technical data on employment and fixing, are freely available between 9.00 a.m and 5.00 p.m. each weekday. Prior appointment may be made if desired by telephone to Macaulay 1262. Parking is convenient.



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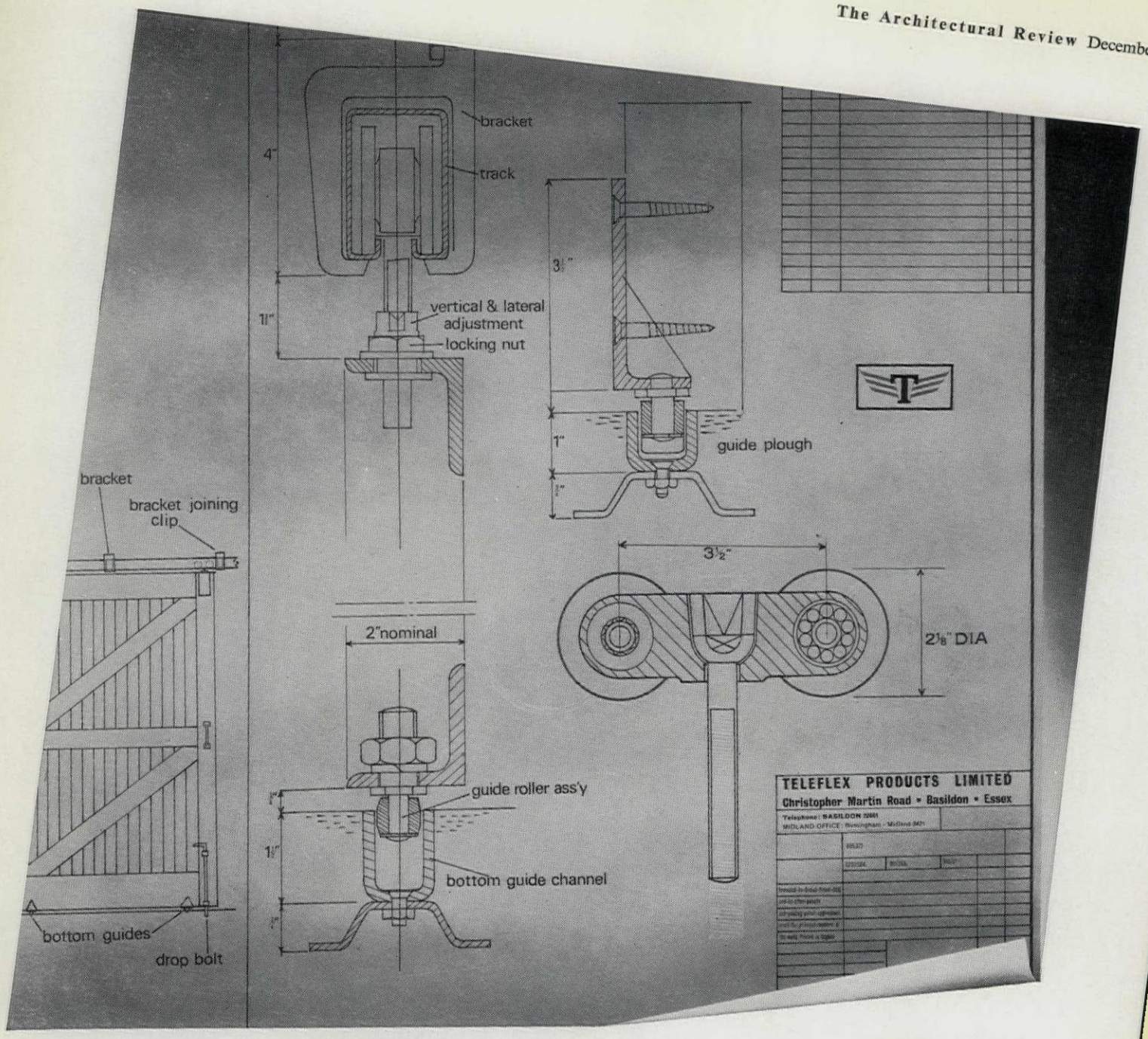

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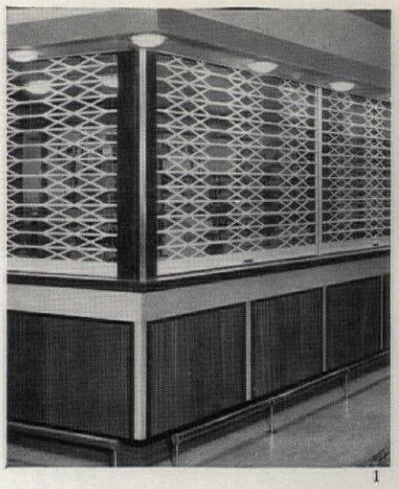

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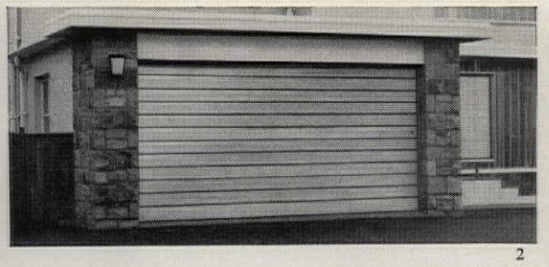

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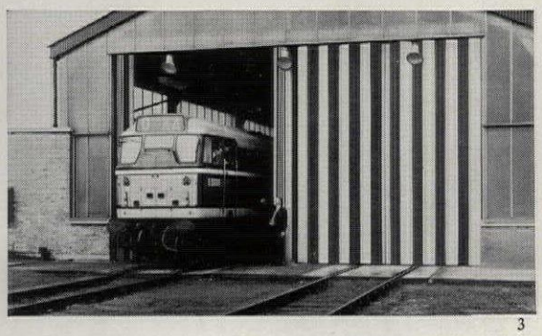

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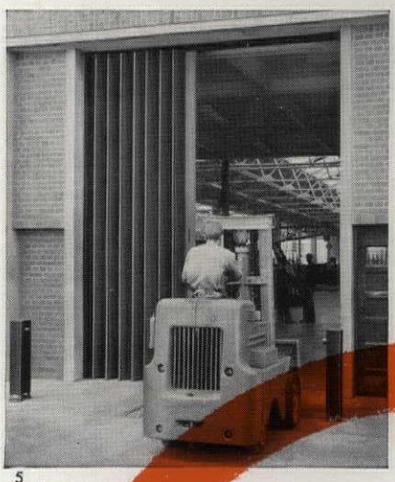

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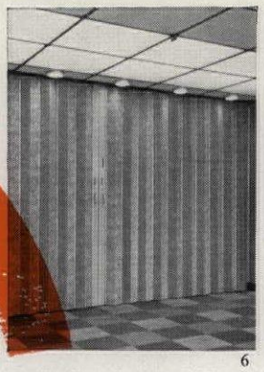

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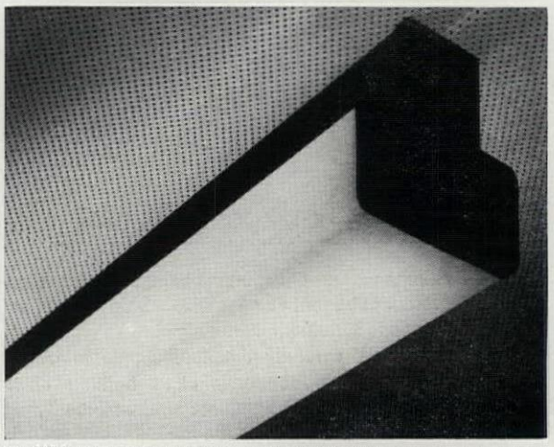

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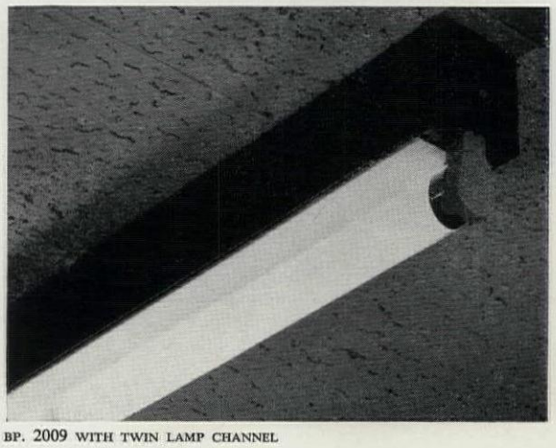

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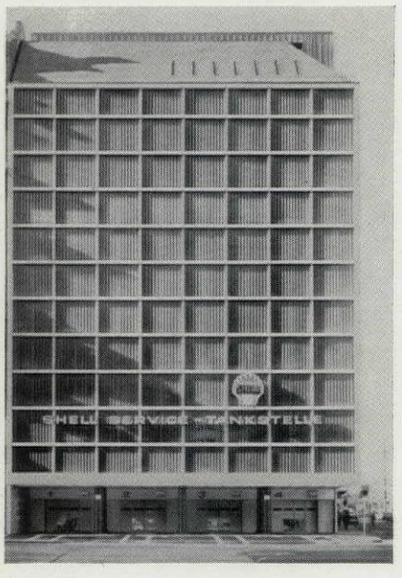

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