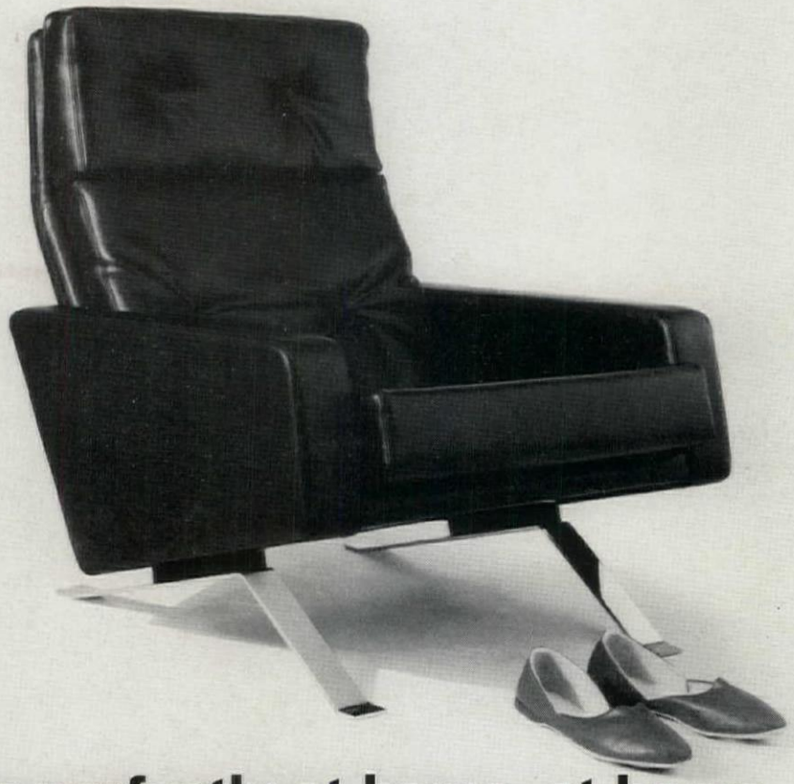
THE ARCHITECTURAL REVIEW VOLUME CXLI NUMBER 843 MAY 1967 FIVE SHILLINGS

Leo works very well at work...



is perfectly at home, at home

In fact Leo has the sort of strong but well mannered personality which people everywhere find attractive and relaxing. Designed by Robin Day, it is the latest addition to the Hille range of easy chairs and one of several in the range which have proved equally successful in working and domestic environments.

Generous proportions, soft latex cushions and the reclining angle make this an extremely comfortable chair. It is available on a five pronged swivel base or on a shaped metal support (both bright chrome plated). The upholstery is leather, pvc or fabric and the chair is knock down in construction for easy transportation. The Leo chair can be seen at our showrooms: London: 41 Albemarle St. London, W.1. Tel: Hyde Park 9576-9 Watford: 132 St. Albans Rd., Watford, Herts. Telephone Watford 42241 / Birmingham: 24 Albert Street, Birmingham 4. Telephone Midland 7378/Edinburgh: 25a South West Thistle Street Lane, Edinburgh 2. Telephone Caledonian 6234/Manchester: 50 Sackville Street, Manchester 1. Phone. Central 6929

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Full details of our Fireproof Door range including Fireproof Steel Plate Doors are given in leaflet
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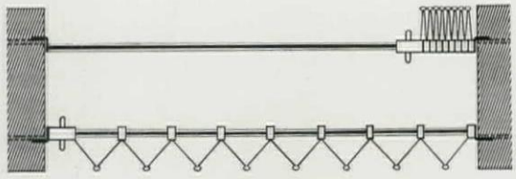

This arrangement of Bolton Fireproof Shutter Doors provides 4 hours fire resistance.

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When the Rugby Club and 455 supporters drop in after the match they expect a soft touch down.

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The highly developed skills of modern medicine have every facility for their expression in the fine new Middlesex hospital building. Modern lighting techniques have been employed to give exactly the right amount and quality of light required in each department. In the case of the consulting room illustrated above the flexible S.L.R. B.P. Series has been used, a combination of the B.P. 2009 and B.P. 2154 giving a perfect balance.

The full range of S.L.R. fluorescent and tungsten fittings is List No. 55 and our special Hospital fittings list which will be sent on request to Dept. AR 12.

Our technical staff is always available to advise on lighting problems and to design special fittings to meet special needs.

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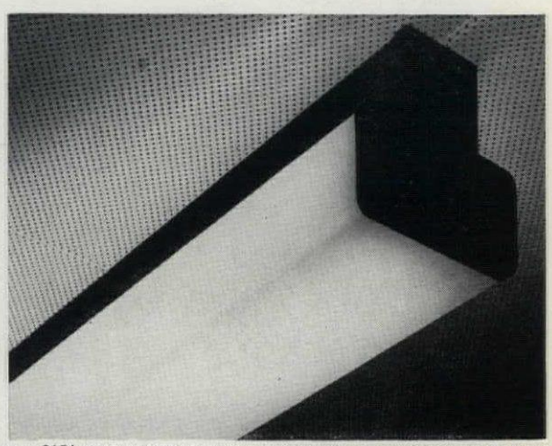
ARCHITECTS, T. P. BENNETT & SON



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new ways with aluminium windows- new **scope** for architects

New ways with double hung windows.
The Grafton Autosash from Archital has taken a window of the past and made it a window of the future. Every drawback has been eliminated, including operating gear. Its countergeared panes make possible true fingertip operation from the bottom cill without the use of poles or cords. And, in addition, the hinged night ventilator is opened automatically by the bottom pane without leaving any opening at the bottom of the window.

New approach to night ventilation.
Another Archital first – controlled ventilation at night *without* loss of security. The Solavent can be fitted to the Solent Range of Archital windows as an integral head member. The ventilation flap, fitted with magnetic Vinyl pads for positive closure, is proof against the weather when closed.

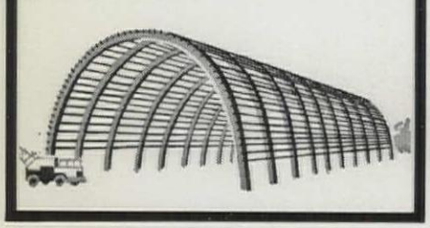
New draughtproof rolling window.
No risk of water penetration through blowback with this Archital cill member – the Dover Rolling Window incorporates a special double-chambered section. This sees to it that all water drains off where it should, outside!

Colours, too!
For clients who want all the advantages of aluminium windows – plus lasting colour – you can now specify the acrylic finished window. The specially developed I.C.I. acrylic based paints are stoved onto pretreated sections. This ensures a permanent bond between the metal and the coloured paint film.

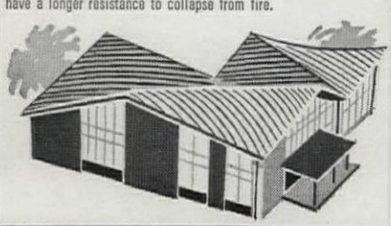
TA4761

Laminated timber beams in 206-ft diameter sports hall at Newcastle-upon-Tyne Lightfoot Centre. Architects: Williamson, Faulkner Brown & Partners. Structural Engineers: Cooper, Higgins & Partners.

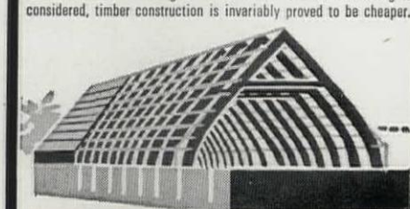
Strength and versatility Wood is stronger pound for pound than any other structural material and permits foundations of low mass. Timber is the ideal material for temporary or permanent, small or large buildings.



Scope and safety The range of design systems is so wide that almost any combination of architectural style and functional requirement can be met economically. Timber-framed structures have a longer resistance to collapse from fire.



Speed and economy Timber structures can be produced in shorter time than those of other materials and are easier and quicker to erect. Its naturally-attractive appearance normally obviates internal cladding. When the total cost of a building is considered, timber construction is invariably proved to be cheaper.



The wide world of Timber Engineering brings so many advantages

Timber today means engineering versatility. With a strength/weight ratio higher than any other building material, it provides precision, speed and economy for every type of construction from factories and bridges to houses and small industrial buildings which can be erected in days or hours.
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The Amusement Arcade, Morecambe Pier. Architects—Middleton, Son & Widdup.

Fascia Rib adds a splash of local colour in all weathers

(with no visible means of support)*

When you need an aluminium cladding that has to hang around in the sea air, washed by salt spray, dried by knife-edged wind, you need a really tough cladding. If you also want to add a splash of colour you'd think the job even harder. That's if you don't know about Fascia Rib.

Fascia Rib is built to battle the elements—without looking heavy. Formed from Duralcote colour coated aluminium, Fascia Rib can be fixed vertically or horizontally—according to need. *The panels are interlocking. Except on flashings. No fixings are visible to mar the overall cladding effect.

You can get lengths of up to 16′ 6″ on an 8″ wide panel—the slimline ribs being only 1⅛″ wide. All Fascia Rib is maintenance free, and comes in Off White, Fawn Grey, Dove Grey, Charcoal and Blue.

Fascia Rib is made by James Booth Aluminium Ltd.

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James Booth Aluminium Ltd.

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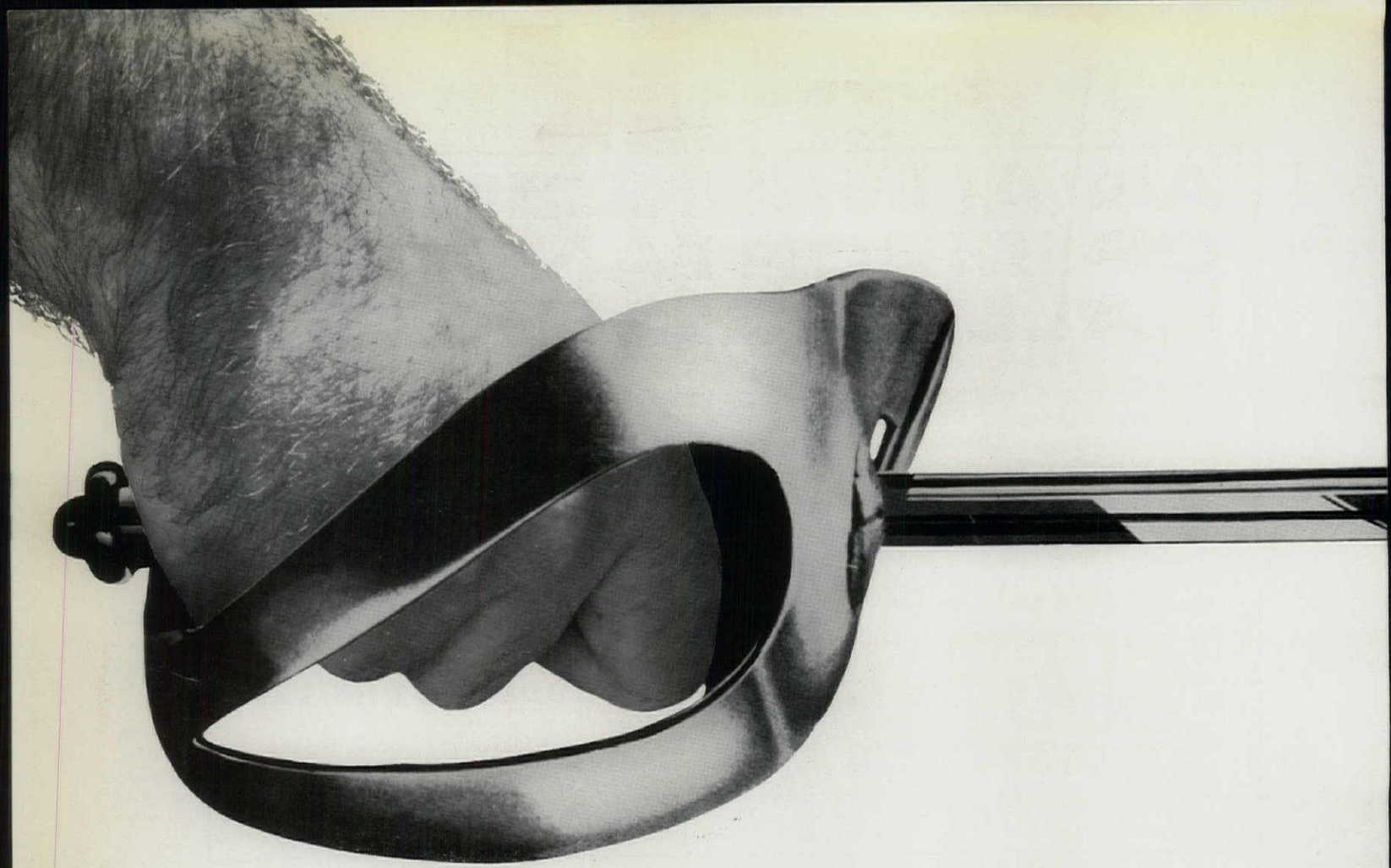

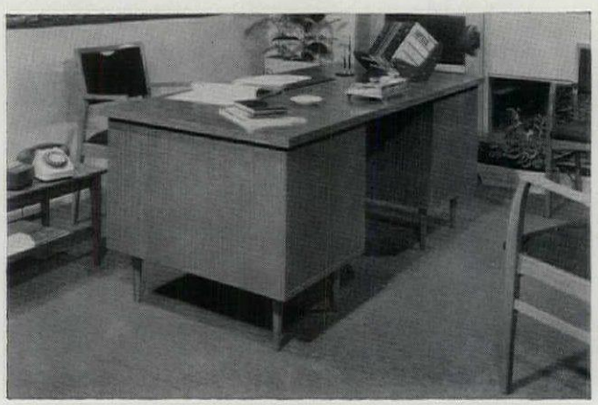

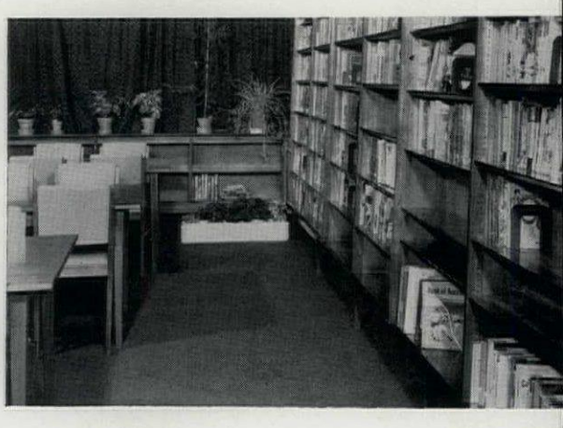

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Non-woven carpet surfaced with BRI NYLON to wear and wear and wear...

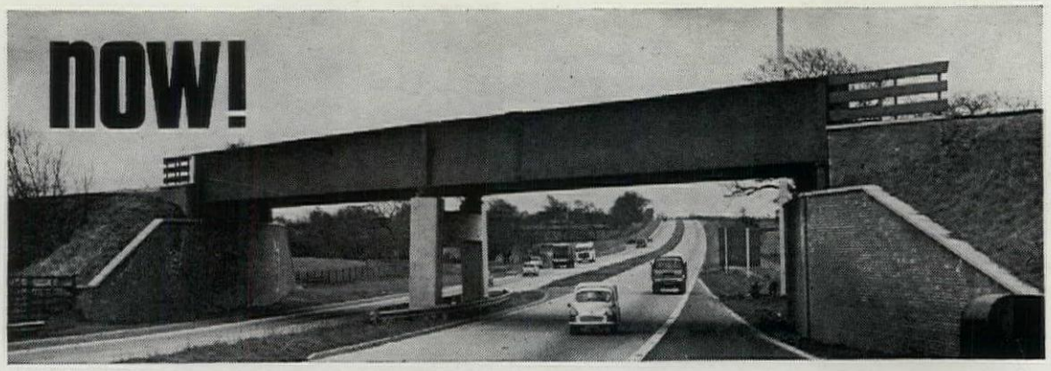
"Iron Duke" non-woven carpet presents to the world a front of 100% horizontally laid BRI-NYLON fibre. This surface is needled to a felt base, and is bonded with a special resin. The result is a combination of toughness and luxury not present in any other floorcovering.

For all areas where hard durable flooring has hitherto been specified, yet where luxury, comfort, quiet and warmth are also desirable, "Iron Duke", this dignified and superbly practical carpet, is specially constructed, and is suitable for use anywhere indoors or out.

Offices, libraries, schools, universities, technical colleges, shops, halls, hotels, hostels and restaurants, are ideal contract situations for installing "Iron Duke".

For housing schemes and flats — "Iron Duke" is an excellent surface for use as a built-in flooring for most rooms.

- *About half the cost of conventional heavy duty carpeting.*
- *Can be laid on unfinished surfaces, cutting the cost of floor construction.*
- *Stain resistant, minimising costly maintenance and cleaning.*
- *Needs neither binding nor stitching, and underfelt is not essential.*
- *Far outwears top quality conventional carpeting.*
- *Eliminates floor impact noise at source and absorbs airborne noise.*
- *Thermal insulation properties relieve coldness at floor level.*
- *Available in 8 attractive colours and in 12' (366 cms.) widths or in free lay tile form 18" x 18" (457 mms.).*



Evomastics develop VERTILAST REGD.

the same composition would not flow from a vertical test joint at 212deg F.

Vertilast has been used extensively in London's new Victoria underground railway line to seal the joints between the cast-iron segments of the tunnel. One of the most dramatic applications, highlighting the sealant's speed and convenience, was its use by British Rail in the installation of a prefabricated concrete railway bridge spanning the main A46 road at Widmerpool, Notts.

This overnight operation involved the removal of an existing bridge and its replacement by the new structure in a tightly-timed six-hour schedule. The new bridge was rolled into position, jacked up and levelled ready for re-tracking. The time allowed for sealing the 1¼ x 1¼in. joints in precast concrete units of boot lintel section, each about 4ft deep and 3ft wide, was just 30 minutes.

Vertilast was gunned into the joints and the job finished with time to spare. The use of the bituminous putty type of sealant was ruled out on this project, since it would have needed several hours to apply.

Extract from "Municipal Engineering"

and reduce a day's work to a half hour!

Time is money. In building bridges for example; *time* makes a big percentage of total cost. *Time* spent on a thousand and one small but labour wasting problems. Such as the everyday process of warming up old fashioned bituminous putty—rolling it—and applying it by hand.

Until yesterday there was no alternative.

Now there's Vertilast. A remarkable new formulation from Evomastics.

Cold applied gun-grade rubber bitumen. You apply it with a gun. And you apply it cold. Which means that when the heat's on, there's no heat. No messing around. No *time* wasted by having to heat up water to heat up bitumen and then apply it laboriously by hand.

Just load cold cartridge of Vertilast in an Evomastics gun and go to work. Seven tenths of *time* saved. It's new—it's good. And there's nothing else like it. Call us up and tell us that you want some information; by return.

In our opinion—that's an order.

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EVOMASTICS

Marshall have maximised freight elevator efficiency

SfB (66)
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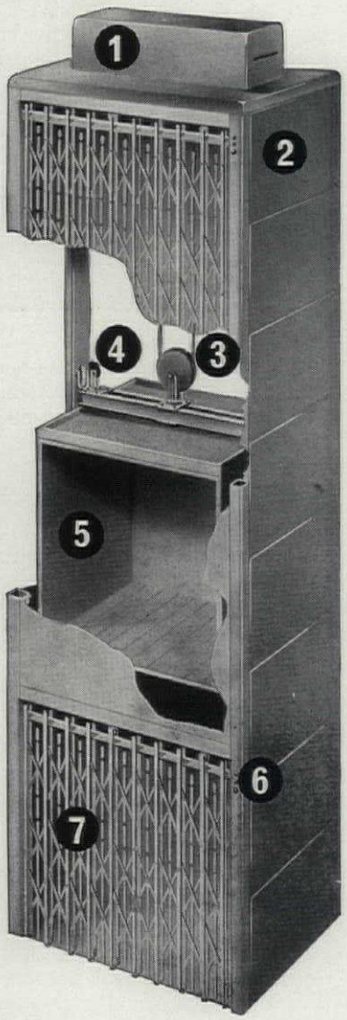
The Marshall Freight Elevator provides an efficient way to move goods from one floor to another. It is a self-contained prefabricated unit with a built-in power unit, so that it can be placed wherever it is required either inside or outside a building, with heights to serve any number of levels. It can be free-standing or built into an existing shaft. The Marshall Freight elevator is designed and built to give maximum trouble-free service with minimum maintenance.

floor to floor movement of goods



These seven Marshall design features add up to a built in bonus of complete reliability

1. the power unit
Normally sited on top of the shaft, it can, if necessary, be located elsewhere to suit special circumstances. An electro-magnetic brake is incorporated ensuring, in the event of current failure, that the carriage stops immediatley. The electric switch gear is mounted beside the power unit. A cover is fitted when used outside.

2. the enclosure
Of four-sided smooth, preformed flanged sheet metal cladding, providing a clean, neat finish with rounded corners and adding to the structural strength of the finished installation.

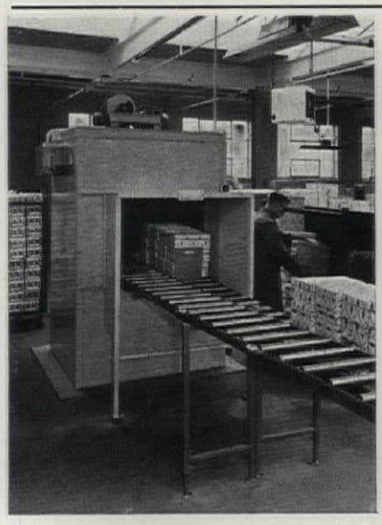
3. the wire cable
A special grade of wire cable is provided with a safety factor of approximately 10:1 with the diameter varying according to load capacity of hoist.

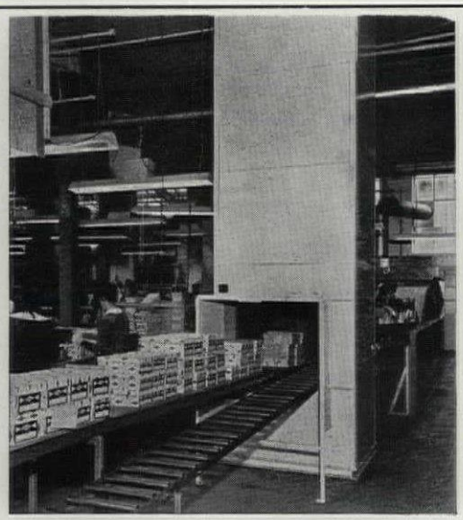
4. the guide wheels
Eight polyurethane wheels are used to provide minimum friction, long wear and silent travel.

5. the carriage
Robust steel frame covered with sheet steel. Floor is of wood or aluminium chequer plate to suit goods.

6. the controls
Movement of the carriage is controlled by "Send" and "Call" buttons on each floor with Emergency Stop button if required, and automatic alignment of levels is ensured by limit switches. Gates are electro-mechanically interlocked for safety.

7. the gates
Marshall Freight Elevators are supplied either with the mid-bar picket or the shutter type of gate.





The installation shown in the photographs was taken at the Footshape Works of W. Barratt & Son, this installation utilises both a feed and return track.

marshall

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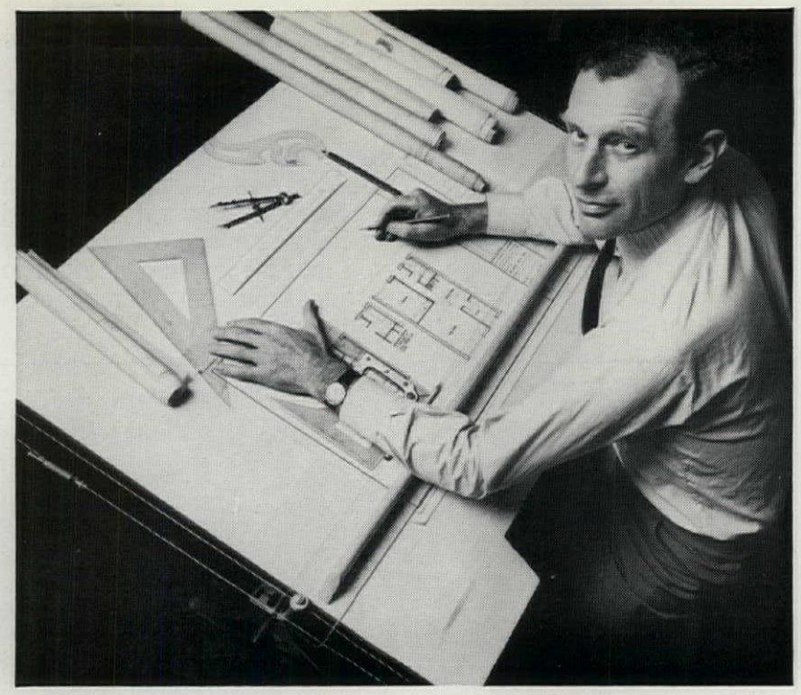

Me? Specify Vent-Axia?

Why would my clients need anything like that?

Just because the air all of us breathe needs changing regularly. Stale, impure air should be removed for comfortable, healthy living. And for efficient easy working. Good ventilation is *vital* and need not be costly. Specify Vent-Axia Unit Ventilation for offices, factories, pubs, restaurants—in fact everywhere an efficient controlled ventilation system is required.

What about the problems? Draughts, for instance?

No problem.
With Vent-Axia, you have a choice of automatic or hand-operated shutter to take care of back-draught.

How about keeping the fans clean?

There again, your clients won't have to worry. Our units are so well designed they can be taken down from indoors for cleaning in a matter of seconds-without the use of tools.

Excellent, but is there a Vent-Axia to suit every need?

Certainly there is. Vent-Axia gives your clients unit ventilation tailored to their precise needs. We offer a range of sizes (6″, 7½″, 9″ and 12″ units) in window, wall and roof models. A Vent-Axia fan is controlled through a simple on-off switch; or a reversible three-speed switch that boosts performance—at the touch of a button, it will extract stale air or introduce fresh.

Sounds fine. And the price?

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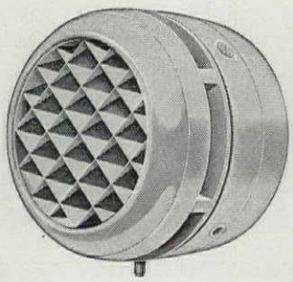
You can't specify better.



For better air conditions

Vent-Axia

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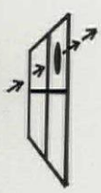

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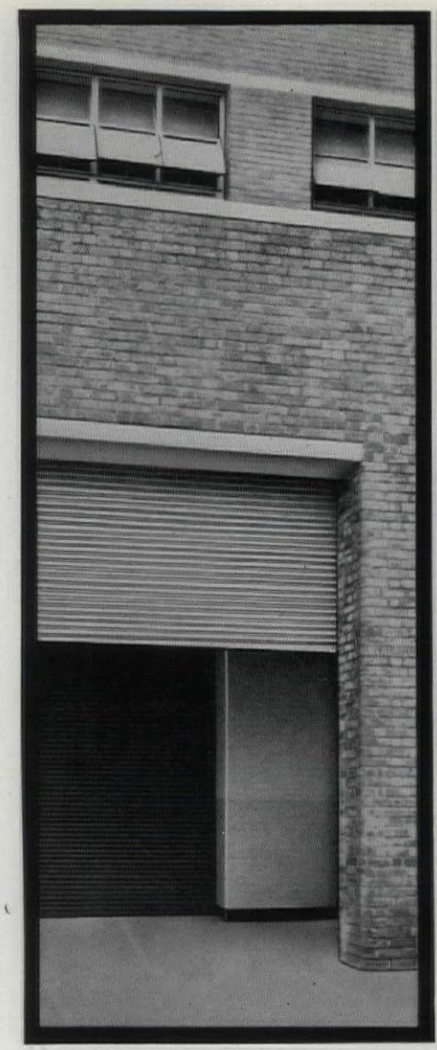

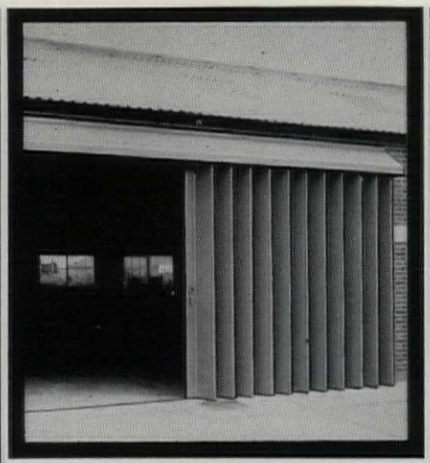

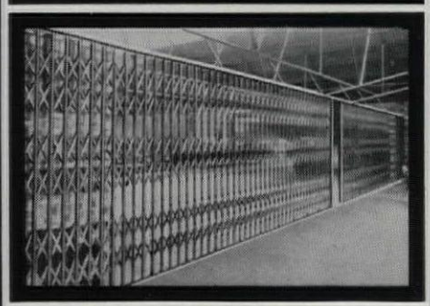

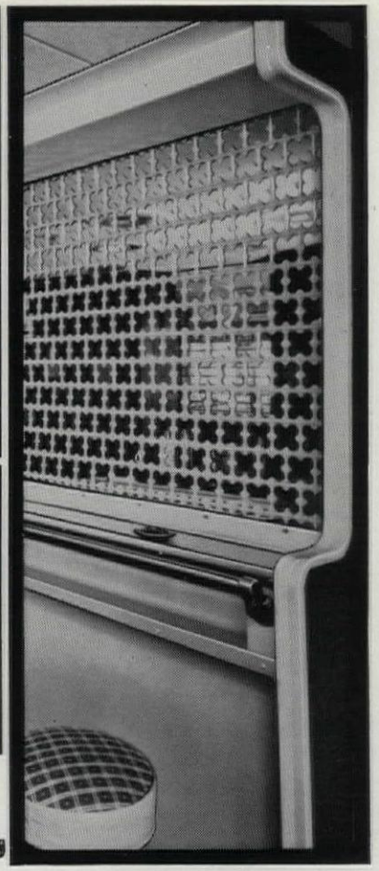

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Kinnear shutters, doors, gates and grilles have been protecting premises of all kinds, from large factories to tobacco kiosks, for nearly fifty years. Every closure is individually built to meet customers' specific needs.

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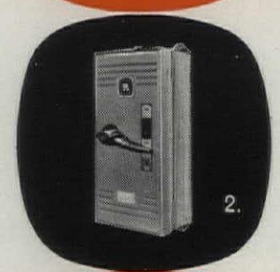

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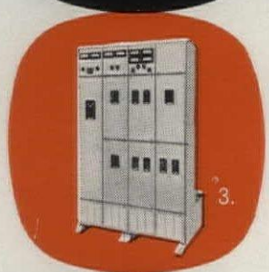

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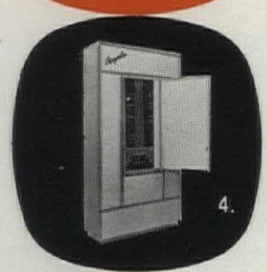

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A.C. at EXPO

The French author, Antoine de Saint-Exupéry, wrote, "To be a man is to feel that through one's own contribution, one helps to build the world". From this extract the theme of EXPO '67, "Man and his World", was taken. Very much a part of this World is Asbestos-Cement, one of the foremost materials for every conceivable type of building construction. The British Pavilion at EXPO '67, shown here nearing completion, incorporates Asbestos-Cement materials for the entire vertical surfaces of t structures which comprise exhibition halls in t blocks, dominated by a 200 ft tower. TURNA Asbestos-Cement Cladding Tiles, supplied by Turne Asbestos Cement Co. Ltd., form a single-skin cla ding to the main blocks; the tower has a verti cladding of double-skin construction supplied Atlas Asbestos Co. Ltd. of Montreal, another Turr & Newall Company. The inner membrane consi

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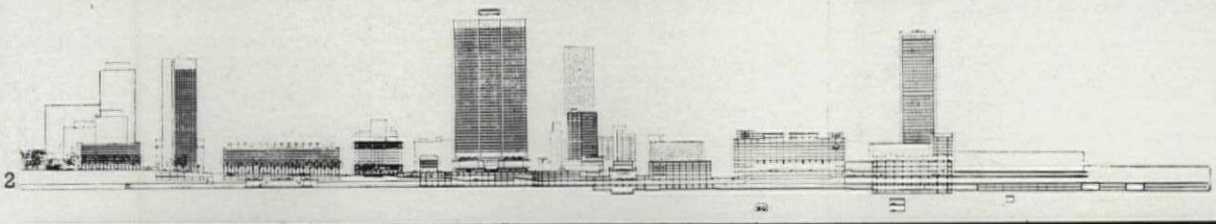
EXPO CITY

While architect-visitors to Montreal this month will flutter from petal to petal on the Expo islands of Saint-Louis and Sainte-Hélène, background in 1, those who care more profoundly for our future environment may well do better to burrow themselves into the proud French city's more permanent downtown. Here, in the area shown outlined in white, there has recently developed, relatively unsung, a most formidable network for multi-level living, 2 and 3 (see the special Expo issue of the AR next August and last September's Forum). The outward and visible signs are the familiar clumps of skyscrapers: some gimmicky, such as D'Astous and Pothier's recently completed Hotel Château Champlain, 4, the latest of CPR's giants (for their history, see the article on page 364); others internationally respectable, such as I. M. Pei's Place Ville Marie (AR World, November 1961) and the Nervi-Moretti Stock Exchange (AR, June 1966). Nervi is flattered by the design of the circular Tour Laurier, 6, by Craig, Zeidler and Strong (echoing his Australia Square scheme with Seidler at Sydney), and Pei by that of John B. Parkin Associates' elegantly precast offices, 5, now nearing completion next to the hotel (to make Place Canada).

It was in fact Pei who started it all—



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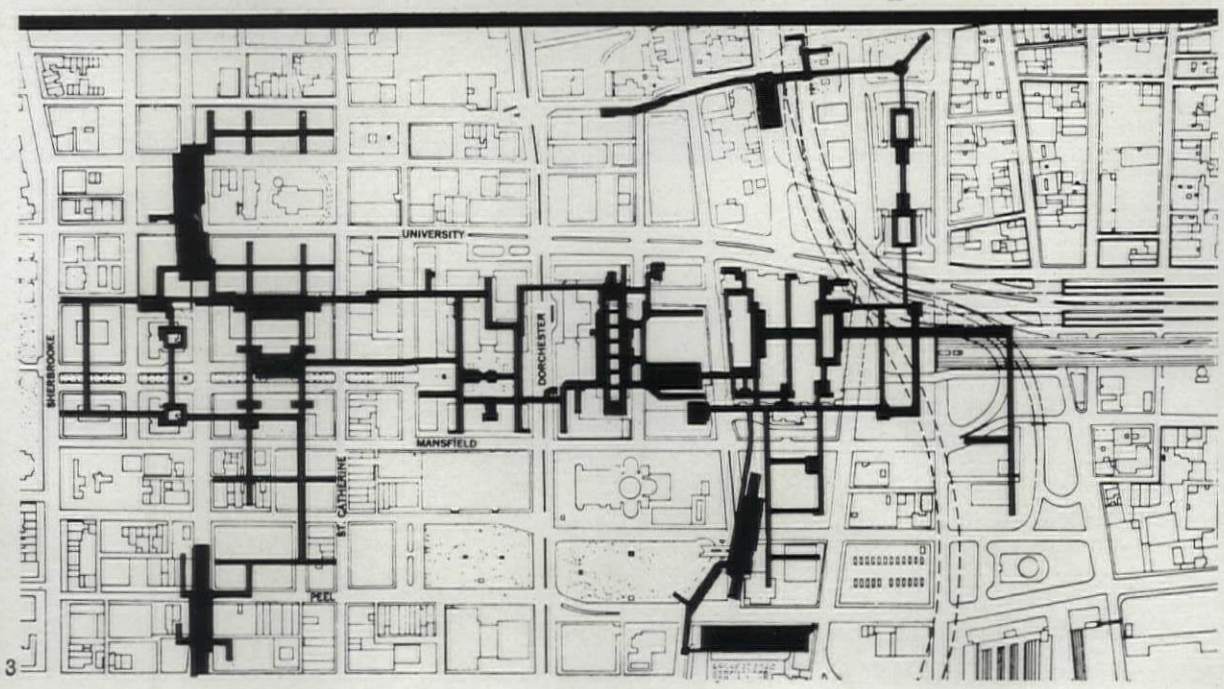

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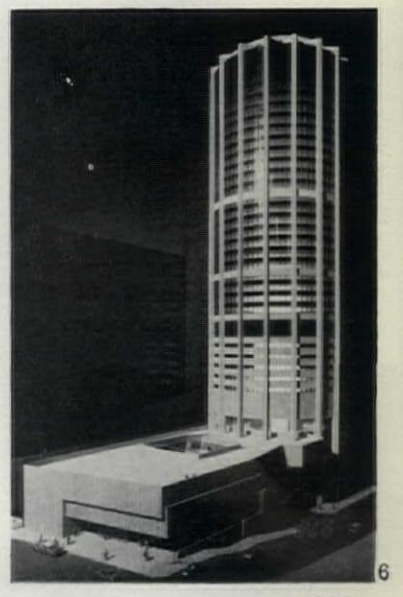
5

or rather, his erstwhile developer, Bill Zeckendorf of Webb and Knapp (who sadly crashed in 1964). Zeckendorf was brought in by the Canadian National Railways to develop their airspace (over tracks and terminus) which lay temptingly in the path of the south-westward movement of the city centre—originally a narrow business belt along the waterfront, but now a compact area between the quayside and Mount Royal itself (bottom left in 1). Pei's planner, Vincent Ponte, has been retained by other developers and has been able to design a multilevel core with a covered pedestrian network, 3,



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This month's cover *by Edwin Johnston shows part of the shipbreaking yard at Inverkeithing—a spectacular necropolis of galloping obsolescence. Our making of more and more things new has as its corollary our consecration of more and more graveyards—'Graveyard of Ships' being the title of Johnston's article on pp.* 386-388.

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MAY 1967

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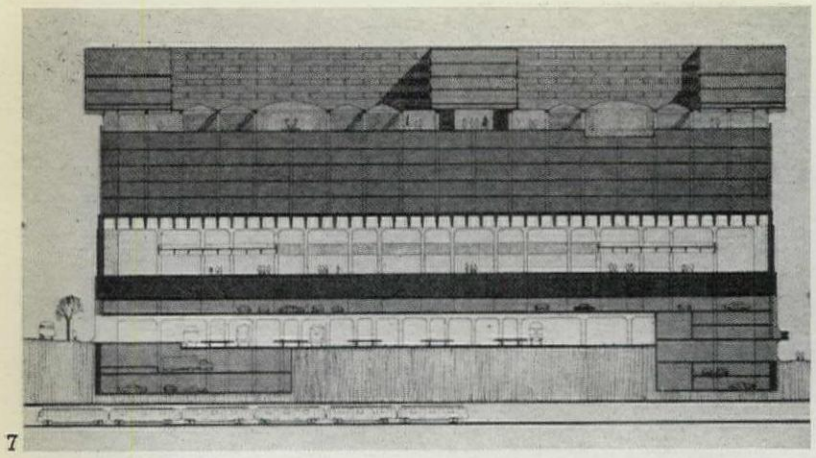
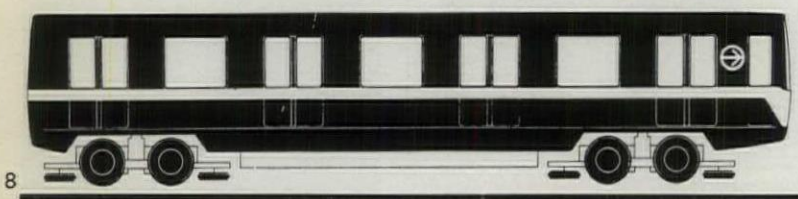


7

EXPO CITY

six times as great as that of the Rockefeller Center. The slope of the ground, 150–200 ft. from Mount Royal to the St. Lawrence, has been used to provide a complete system of traffic segregation and (more important in a cold climate) environmental control. Perhaps the most interesting scheme of all, to be finished this year, is the Place Bonaventure (left in 4), designed by Affleck, Desbarats, Dimakopoulos, Lebensold and Sise (ARCOP for short). This dense fifteen-storey courtyard development—proving in practice some of the low-rise theories of Martin's Whitehall Plan—provides, 7 (from top to bottom), hotel, market, exhibition hall, shopping concourse and car park. Beneath it all, with a spacious mezzanine concourse halfway down the escalators, runs Montreal's brand-new publicly developed underground railway, with its elegant cars, 8, designed by Jacques Guillon.



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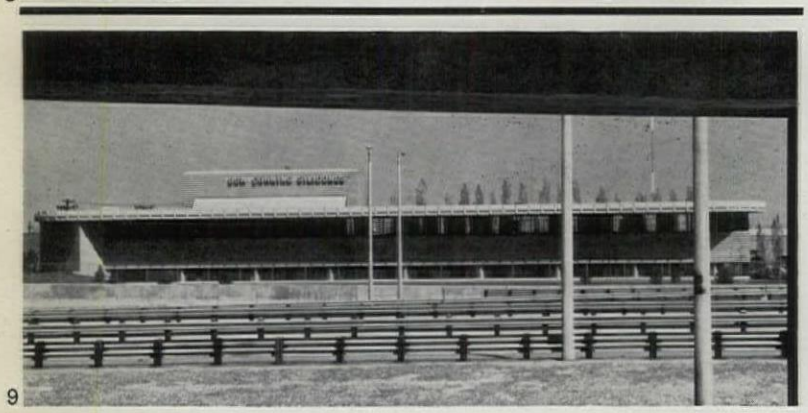
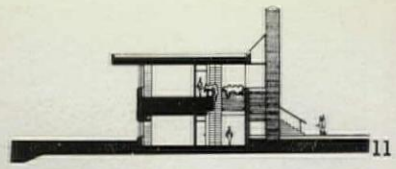


9

CORNING

The more typical traffic situation of urbanized Canada is one of characteristically North American openness-with-junkheaps. On such a site, immediately next to the elevated Trans-Canada Highway in Ontario, 9, lies the new office block of Dow Corning Silicones, an elegant piece of post-Wrightian 'traffic architecture' by Fairfield and Dubois. Neatly handled in section, 11, with Dubois' usual emphasis on open galleries for circulation, the ribbed concrete block work of the exterior, 10, cleverly advertises, like a hoarding beside the highway, the effectiveness of the firm's own silicone masonry water repellents. The clash between the image of a fast machine age and the economically conservative notion of the tailor-made office block is healed by prairie corn.

10



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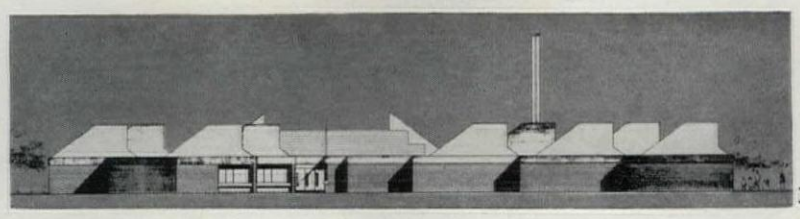

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BELLMERE AND GUELPH

Important jobs for John Andrews have followed fast upon the linear explosion of his Scarborough College near Toronto (AR, October 1966) and the pretty prefabrication of his 'African village' for the Expo (AR World, August 1966). The work of this young Australian-born architect, whose finalist scheme for Toronto City Hall in 1960 led to his working for Viljo Revell and for Parkin on the winning design, shows the overwhelming influence of Louis Kahn on a generation now just receiving major commissions. Bellmere elementary school, 12, just down the road from Scarborough College, is a typical illustration of the master's way with repetitive toplit spaces, 13 (compare it with the GLC's school for the handicapped in AR, Preview 1967). In Andrews's plans for student housing at the new University of Guelph in south-western Ontario, 14, the diagrid of circulation is reminiscent of Kahn's college buildings for Bryn Mawr and Ahmedabad (AR World, March and November 1966). It combines clusters of student rooms, 15, in each pair of wings to form a 'house' of 144 students with its own toplit communal block, 16. Sectional arrangement is varied beneath a uniform height of six storeys, with a pedestrian street at second floor level which leads to an ingeniously planned vertical interchange, 17, at each joint of the grid. The individual rooms are distinguished by being lit and entered from the corners; but whether so many of the

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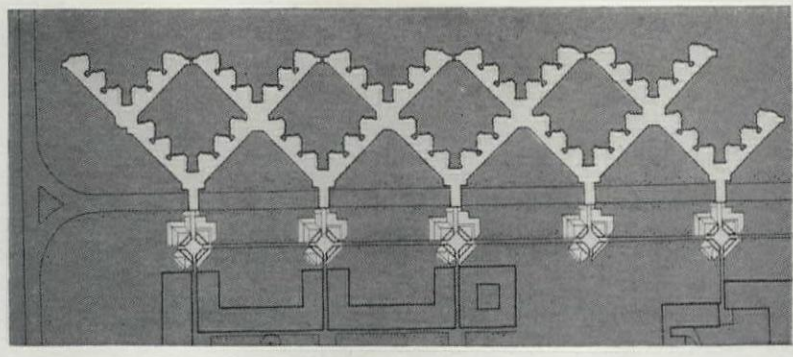

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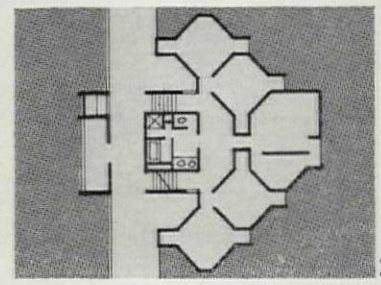

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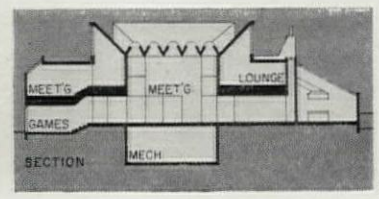

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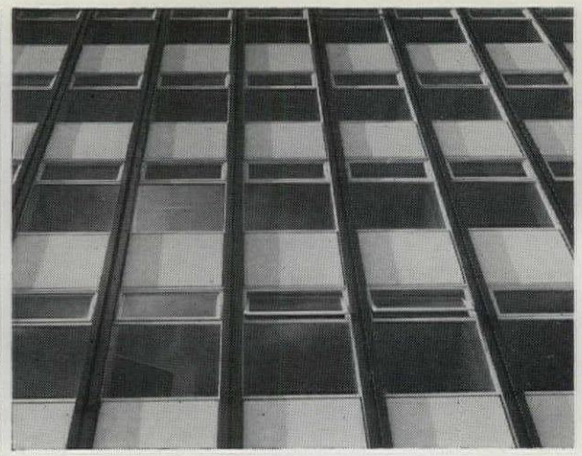

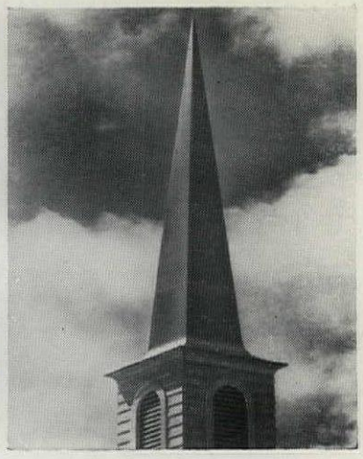

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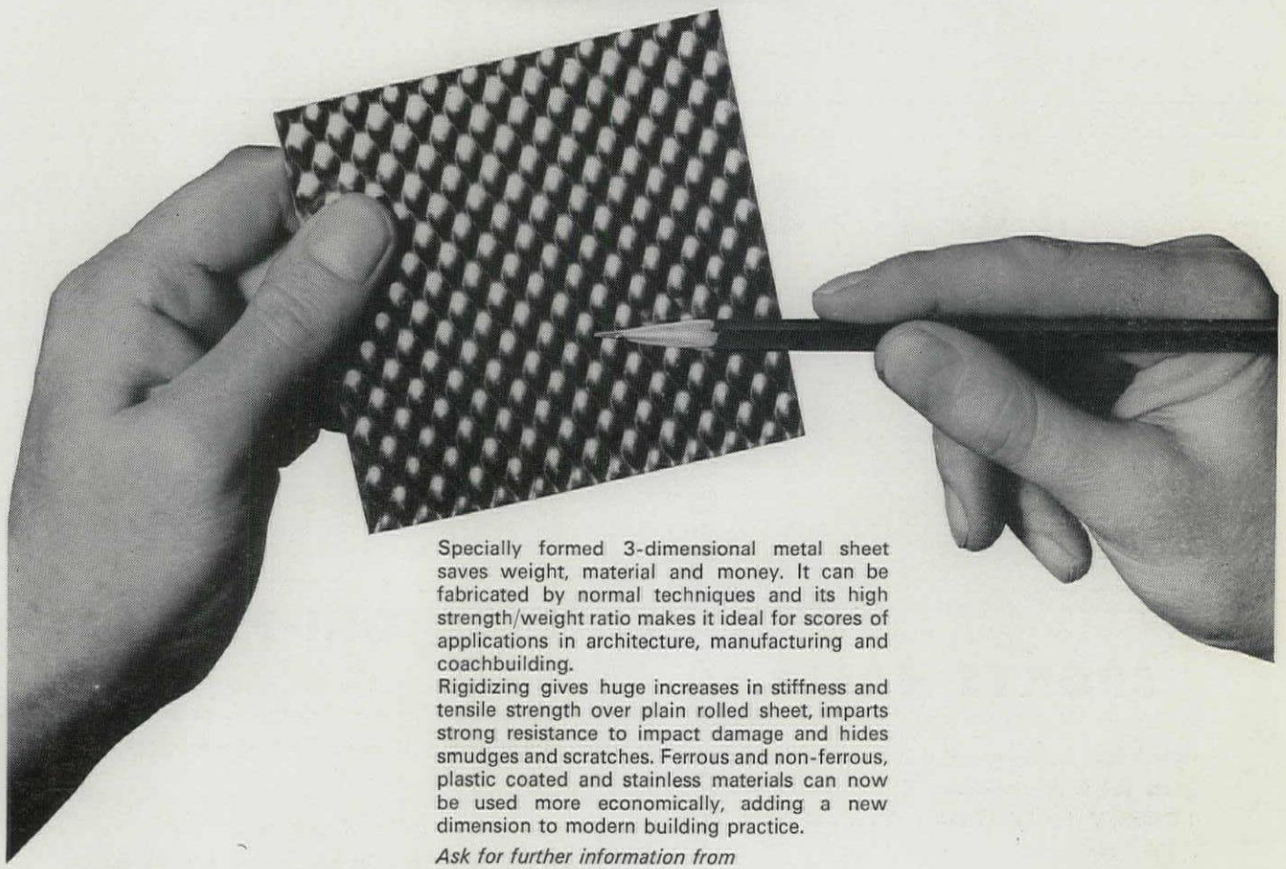

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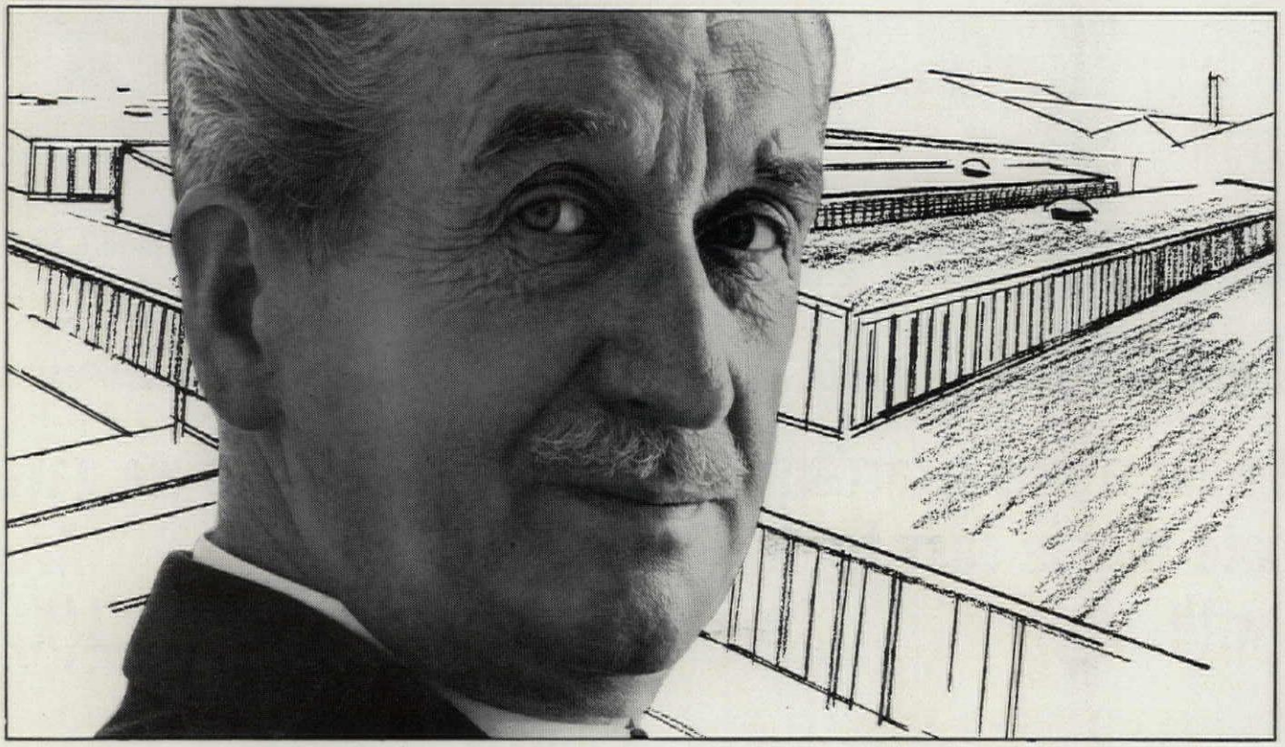

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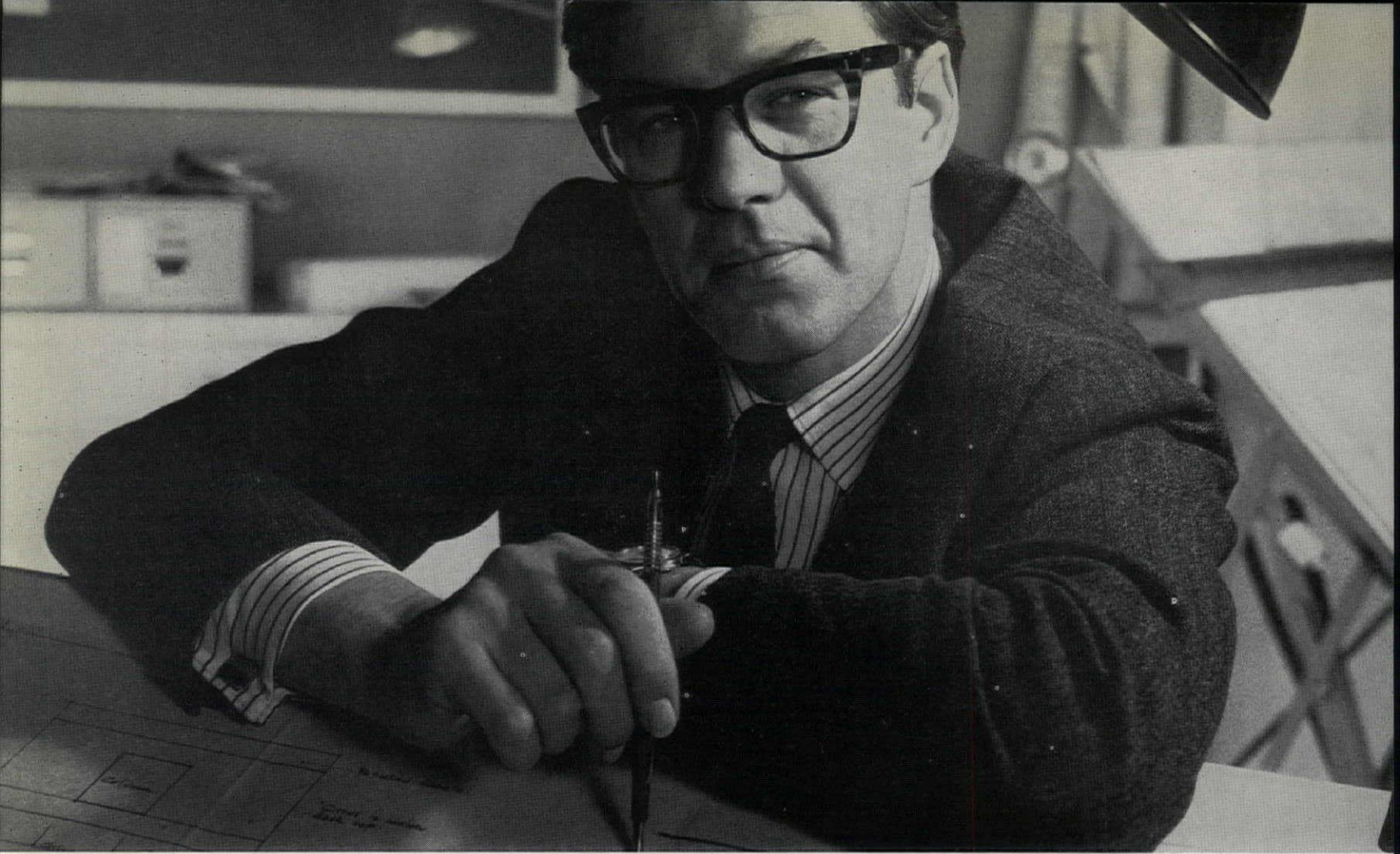

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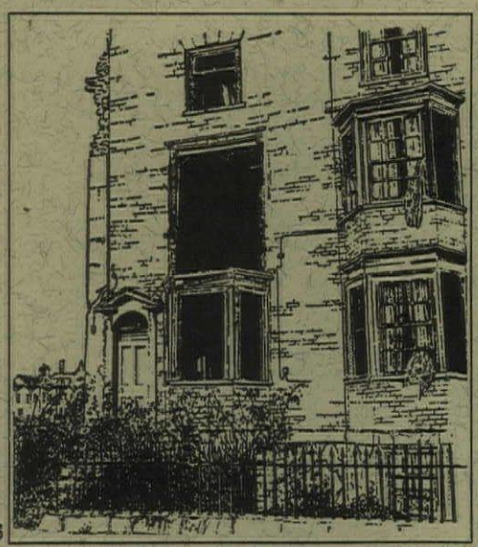
(16 January, 1967) said 'it is essentially contemporary in design and execution, but it manages to avoid the rather severe functional lines that typify so many other post-war commercial buildings. There is, in fact, a hint of eighteenth century elegance about the classical architrave of the Bond Street entrance and the creamy Portland stone of the upper storeys.' The architects are Green, Lloyd and Son who certainly know how to do better; the Westminster Bank should too.

BRISTOL

A bit more of the eighteenth-century heritage on the way out, 5, 6, as so-called slum clearance on the top of Kingsdown. Meanwhile, the first stage of the



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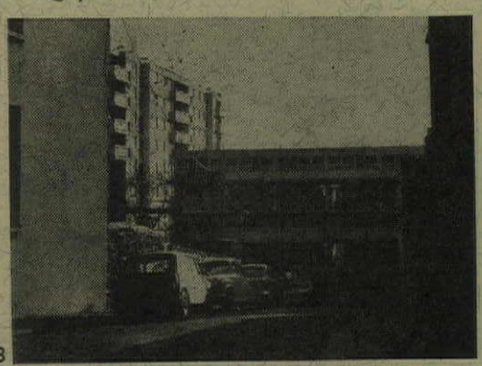
6

Council's rebuilding shows how the amazing scoop views across the whole city, 7, which the original layout preserved are being blocked by surly stodge, 8.



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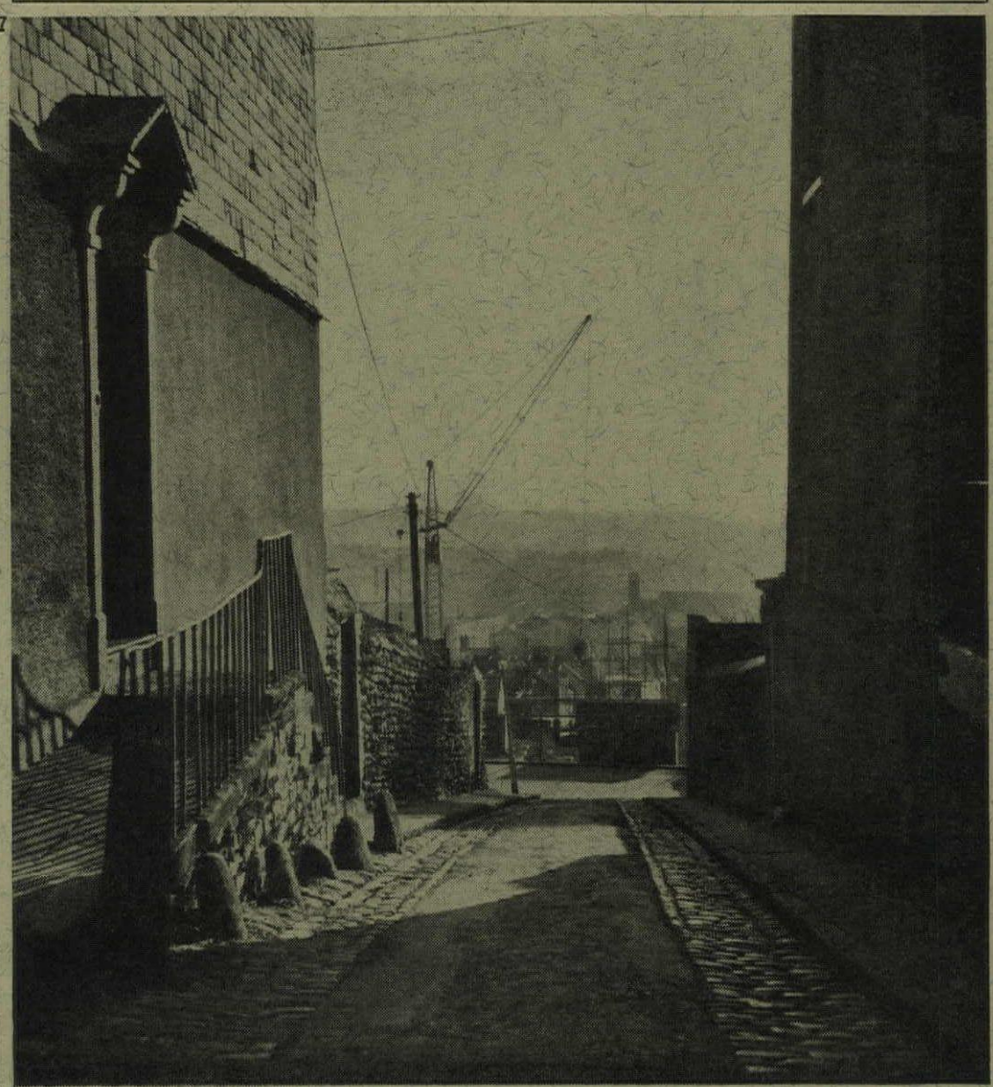


7

CAUTION

EMSWORTH, HANTS

A magnificent opportunity missed, 9; the chance to build a genuine waterfront lost for a familiar concoction of polite but uninspired clichés. There aren't many sites like this left: it seems a pity to waste even one of them.

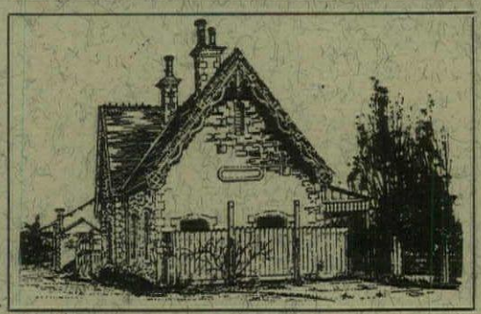
9

Ian Nairn

STOP PRESS

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

S.O.S.



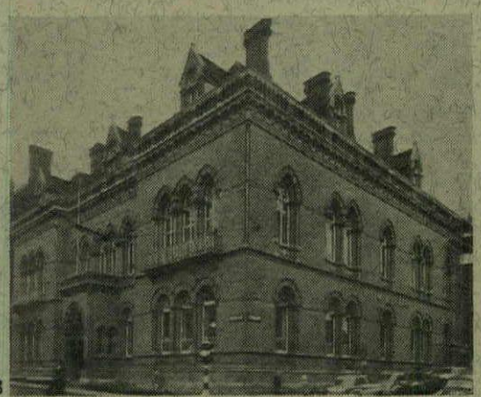
1

CONGRESBURY, SOMERSET
A railway station complete with shed, 1, on the recently closed branch line to Clevedon, which is clearly worth keeping as a group in its own right. A few miles away there is a happier solution . . .

CREDIT

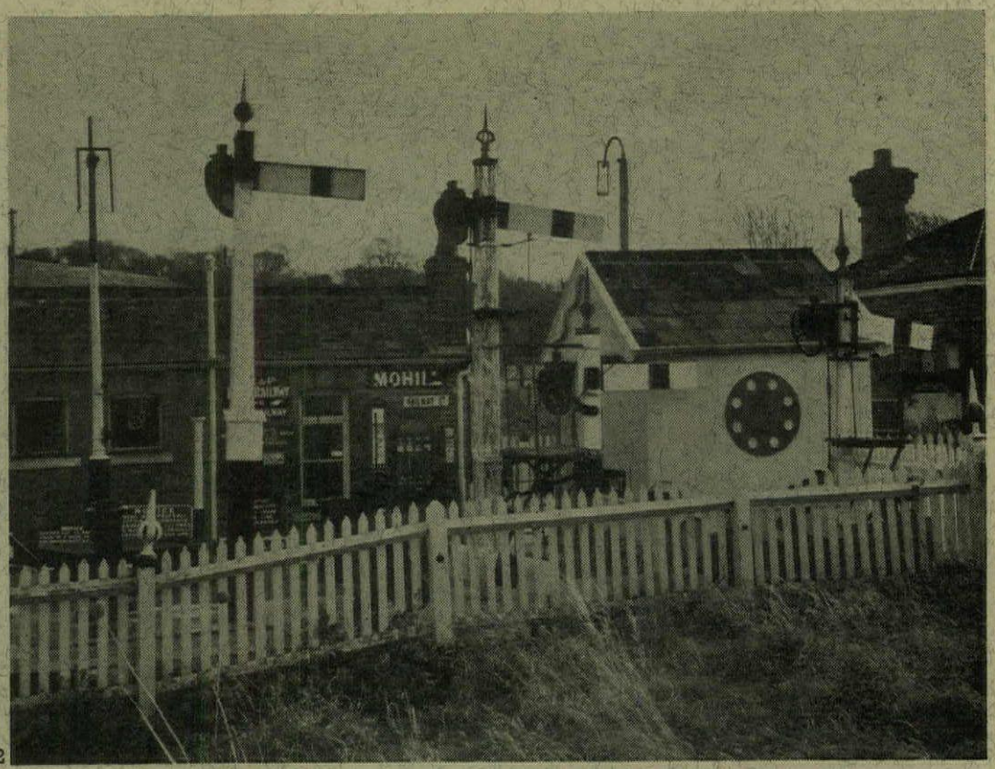
. . . where the station has been taken over as a railway museum, 2. The crowding together of apparatus makes it into a landscape folly as well as a source of instruction; and the contrast is pointed by being alongside the main line from Bristol to the South-West.

OUTRAGE



3

LEEDS
Beckett's Bank in Leeds, 3, was a good Victorian building by Sir Gilbert Scott. It passed to the Westminster Bank who demolished it and erected the present monster, 4. The *Yorkshire Post*



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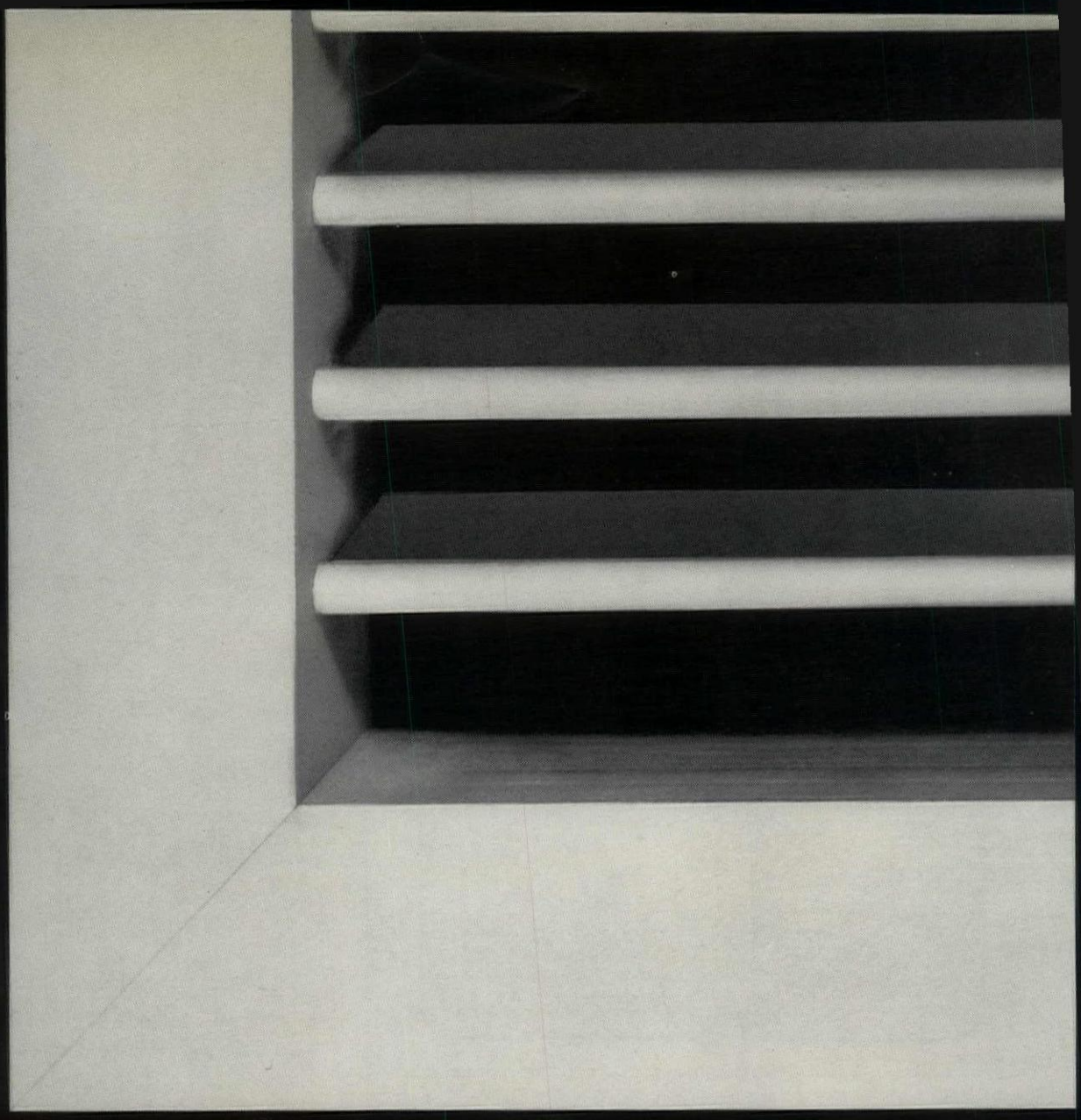

do you know a good mitre when you can't see one?

itre you can't see there at the corner of our grille! But the
a little—with good eyesight and a strong light it *is* possible to
our extruded aluminium grilles. Enough to prove that good
s been at work. Fine finish in every detail like this is just one
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continued from page 396]

colours (all to BS 2660) are also available.
The manufacturers will design and erect the timber substructures and the roof itself, including ridge, chimney flashings, eaves and verge finishes, or can fix over suitable grounds provided by another contractor.
Broderick Insulated Structures Ltd., Hermitage Road, Woking, Surrey.

Washing up machines

The new Colston washing-up machine is made in two models, one for building-in, 7, the other for mounting on a draining board or work top near the sink so that the water can drain

7

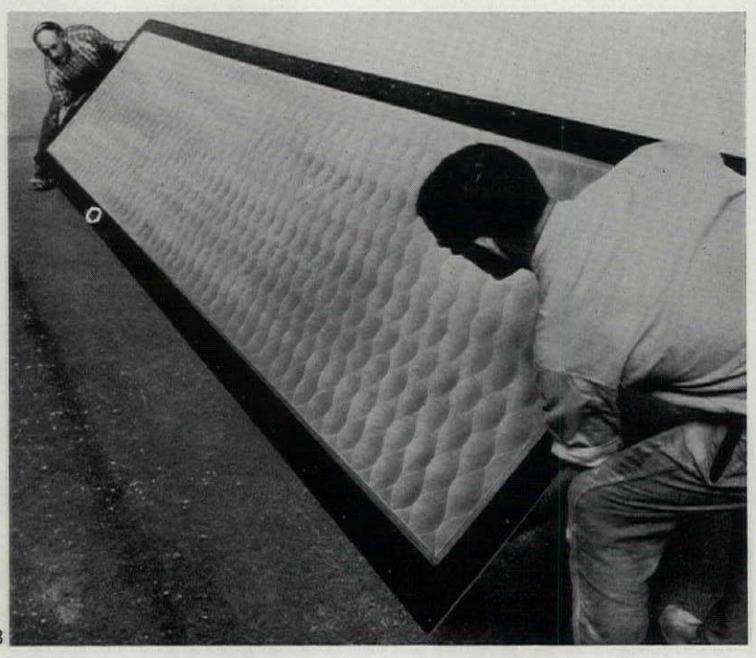
away by gravity. The Colston washes once with detergent in water at 140 deg. F, rinses twice with fresh water and then dries. It incorporates an electric heater so that it can be used with cold water supplies when necessary although this doubles the washing time from 24 minutes to about 50 minutes. The process is entirely automatic with a revolving central spray and a separate top spray. The container will hold 10¾ in. diameter plates, and up to 100 pieces including cutlery. It is also possible to wash moderate sizes pots and pans. Price of the type illustrated is £126, including installation by a Colston fitter.
Colston Appliances Ltd., Wellington Road, High Wycombe, Bucks.

Insulated roof lights

Anderson's Dalite roofing units, 8, are made on a 4 ft. module and are supplied in standard lengths up to 12 ft. They are double skinned, 2 in. thick, with a U value of 0.45 and are suitable for all types of flat or sloping roof construction, including concrete

6

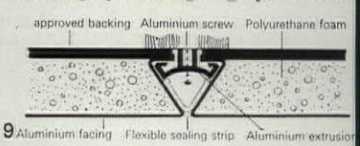
or metal decking and particularly for wood wool or strawboard panels. The units are moulded from glass fibre reinforced polyester resin, the top and bottom skins being separated by a shallow web of corrugated spacers. The bottom skin is turned up to join the top skin at the perimeter and extends 4¾ in. all round to form a continuous fixing flange which bonds well with hot bitumen or mastic asphalte to give a permanent waterproof seal with the roof covering. The units finish flush with the roof and do not need curbs or secondary trimming. They can be walked on when maintenance is necessary and have a light transmission of 60 per cent with a high degree of diffusion, so that glare is virtually eliminated.
D. Anderson & Son Ltd., Stretford, Manchester.



8

Insulated cladding panels

Insural cladding panels consist of an aluminium faced sandwich with a core of fire-retardant polyurethane foam and a backing of partition board or other suitable material. The facing is Booth's Duralcote colour-coated aluminium in BS colours, off white, fawn, grey and light grey, charcoal



9

or blue, but various other colours can be supplied with orders for 25,000 square feet or more. The panels have a U value of 0.13 and are made in a standard width of 2 ft. and in lengths up to 17 ft. Fixing is by an extruded section screwed to vertical battens and a sealing strip is inserted in the joint between panels, 9, hiding the screws and extrusions.
Flashings in the same coloured aluminium are made for exposed edges and to fit all cases where panels butt on to other materials. Cost is about 8s. a square foot.
Insural Panels Ltd., Silk Street, Eccles, Manchester.

Contractors

Cathedral Choir School, London. *Architects:* Architects' Co-Partnership. *General contractor:* Trollope & Colls Ltd. *Sub-contractors: Heating and plumbing:* G. N. Haden & Sons. *Piling:* Pressure Piling Co. *Stonework:* Stone Firms Ltd. *Windows:* Warner (Glass) Ltd. *Sanitary fittings:* Stitsons Sanitary Fittings Ltd. *Kitchen cupboards:* Dennis & Robinson. *Tiling:* Simpson & Sons. *Library equipment:* Terrapin Reska Ltd. *Locker room fittings:* Amdega Ltd. *Gym equipment:* Olympic Gymnasium Ltd. *Swimming pool accessories:* Gilliam & Co. *Blinds:* Seawright Ltd. *Curtain track:* Silent Gliss Ltd. *Flats telephone system:* New Times & Telephone Service Ltd. *Adjustable louvres:* N. V. Appleton (UK) Ltd. *Remote control gear:* Teleflex Products Ltd. *Tinted glass:* Emile Regniers & Co. (London) Ltd. *Roof asphalt:* Limmer & Trinidad. *Roller shutters:* G. Brady & Co. *Overhead door gear:* P. C. Henderson Ltd. *Lifts:* GHP Lifts Ltd.

Bookshop, Oxford. *Architects:* Robert Maguire and Keith Murray. *General contractor:* Bovis Ltd. *Shopfitters:* J. E. Wiltshier & Co. *Sub-contractors:* Ardit Special Screeds. Ardex Surfaces Ltd. *Automatic door:* Automatic Doors Ltd. *Steelwork:* Ralph Blatchford & Co. *Spiral stair:* Dornberg Engineering Co. *Specular louvres:* Elco Plastics Co. *Stair nosings:* Ferodo Ltd. *Sewage pumps:* Wm. E. Farrer Ltd. *Special lighting:* Halolux Ltd. *Light fittings:* Harry Jones Ltd. *Fire prevention equipment:* The Minerva Detector Co. *Concrete liners for orthogonal grid slab:* Monoconcrete Ltd. *Heating installation:* W. H. O'Gorman Ltd. *Rubber flooring:* Pirelli Ltd. *Springs for light fittings:* K. Rodgerson & Co. *Furniture:* Ryman-Edgleys Ltd. *Terrazzo:* Roman Mosaics Ltd. *Flooring materials:* Barry Staines (Sales) Ltd. *Treatment of screeds:* Structoplast (Sales) Ltd. *Flooring:* S. H. Ware & Co.

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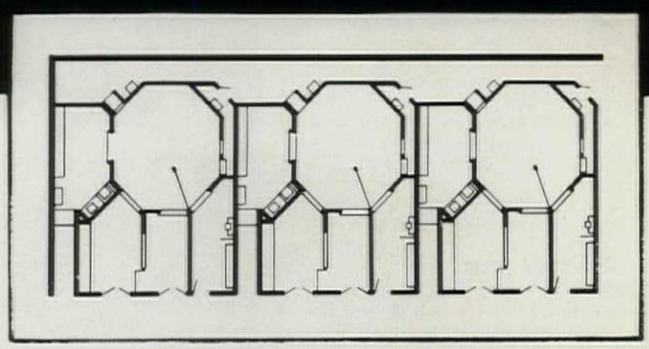

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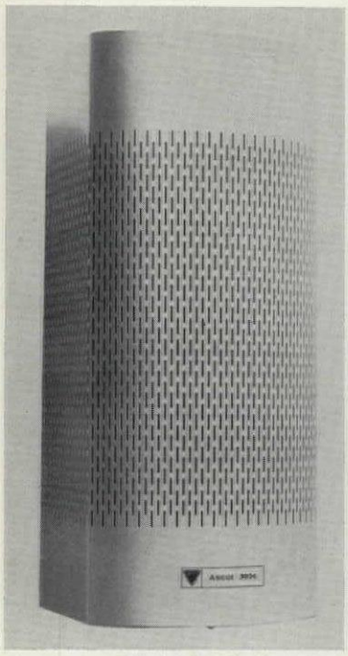
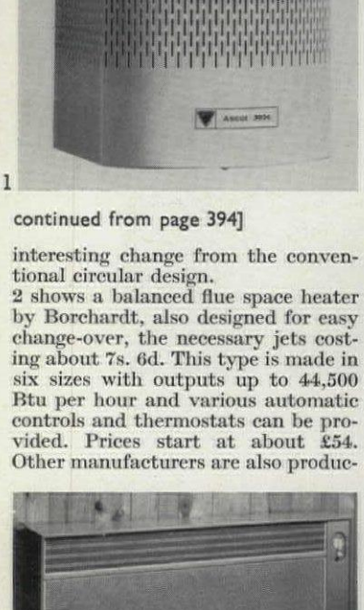


1

continued from page 394]

interesting change from the conventional circular design.

2 shows a balanced flue space heater by Borchardt, also designed for easy change-over, the necessary jets costing about 7s. 6d. This type is made in six sizes with outputs up to 44,500 Btu per hour and various automatic controls and thermostats can be provided. Prices start at about £54. Other manufacturers are also produc-



2

ing equipment which can be altered from one type of gas to another, so that the changeover will be somewhat simplified. It is estimated, however, that the average cost per house is likely to be in the region of £30, and this has to be paid by the supply authorities, so it will be some time before the price of gas to the consumer is noticeably reduced. No reliable information is available about the possibility of natural gas for industrial purposes, though the electricity suppliers would like to use it in generating stations.

*Radiation Ltd., Radiation House, North Circular Road, London, NW*10.
F. A. Borchardt Ltd., Mill Lane, Old Swan, Liverpool 13.

Modular furniture

The Coniston range of contract furniture is being produced by Panther Furniture after a considerable time spent in development with OMK Designs Ltd. The whole range has been based on a 4-in. module and consists of chairs, desks of all types, some arranged for typing extensions, tables of varying sizes and heights, bar stools and matching storage units with drawers and fully adjustable shelving, 3. Other units, all 6 ft. 6 in. high and in widths of 16, 20, 24, 30

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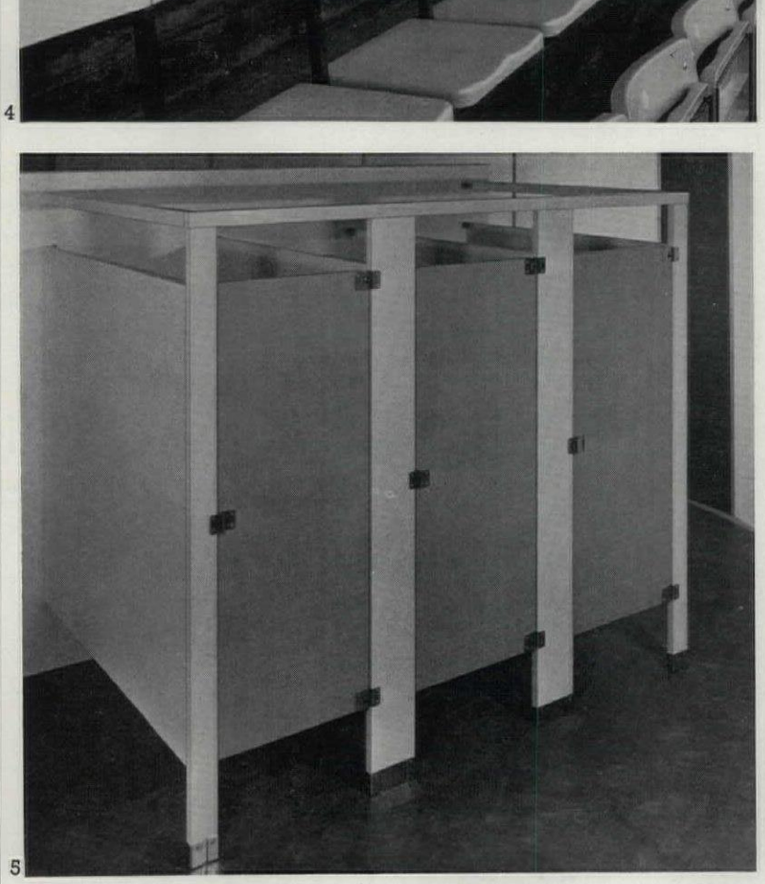

5

and 40 in., are made to take pull reference shelves or lateral fi systems, one unit having four adj able shelves and eleven shal drawers, plus storage space. All units are supplied in knock-d form and are made, like most of other furniture, in utile mahog and in English beech or ash and finished with scratchproof melan lacquer. Other woods are availa for some of the furniture, wild che for instance, for one of the execu desks and chairs.

Panther Furniture Ltd., Sands Ave Kendal, Westmorland.

Stadium seating

Martyn Lynshaw stadium seating costs about £2 per seat, about same as timber, but maintena costs should be virtually negligi The backs and hinged seats moulded in Rigidex high den polythene and the frames are st which can be given a nylon coat at an extra cost of 5s. The seats be made in any colour, and it possible to use this to different between differently priced seats. seats are bolted to the risers of stand stepping and their stand width is 18 in. though this can readily increased when required.

Martyn Lynshaw Ltd., Stratton Re Swindon, Wilts.

Cubicle units

Formica Lifeseal cubicles, 5, designed not only for use with w but can be installed as changing fitting rooms in swimming ba shops or elsewhere. The cubicles made on a chipboard core faced v $\frac{1}{16}$ in. Formica laminated in a rang colours, some to the BS 2660 ra and in wood grains. The nom overall dimensions of the stand cubicles are 6 ft. 6 in. high 2 ft. 8 in. by 5 ft., but they can made when required in larger s to suit most applications. Partic thought has been given to the prev tion of vandalism, and the panels easily be cleaned if they are defa with scribblings. The hardware, is in die-stamped steel, chromed buffed, and is fixed with irremov screws, and Formica Ltd. h sufficient faith in the materials u to give a guarantee of ten ye There are five authorised manu turers covering all parts of country.

Formica Ltd., 84-86 *Regent St London W*1.

Coloured roofing and cladding

Colour-sheathed roofing and clad panels are made on much the s principles as Broderick's copper r ing, though the cost is lower. panels consist of 1 in. insulating c board faced with coloured p.v sheathed aluminium and are mad standard widths of 2 ft., the minium being fixed by cross cleat normally at 18 in. centres, so that maximum free area is not gre than 3 sq. ft. Flanges project at sides and ends of the panels for jointing, 6, and any length of slope can be covered by joining pa end to end. The colour coating liquid suspension evolved by ICI is stove enamelled at about 200 de to both sides of the aluminium in coats to give a very smooth fi which resists dirt and gives good s cleaning under rainfall. The stand colour is known as Atlantic Gr which has been chosen to look in most applications, but six ot

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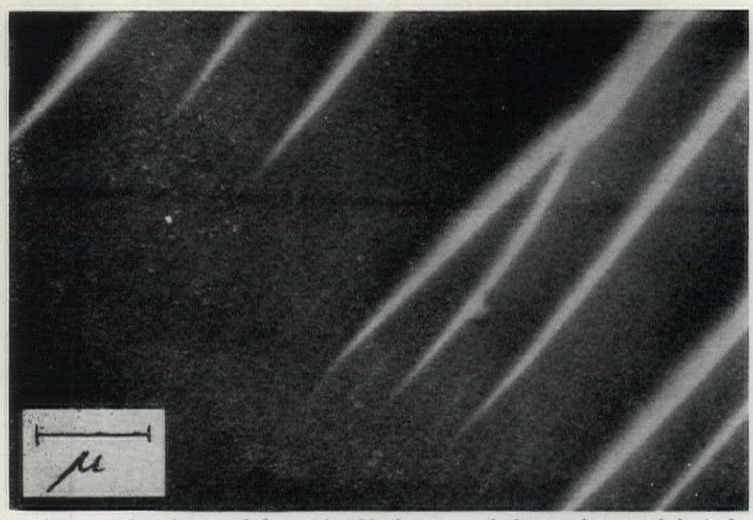
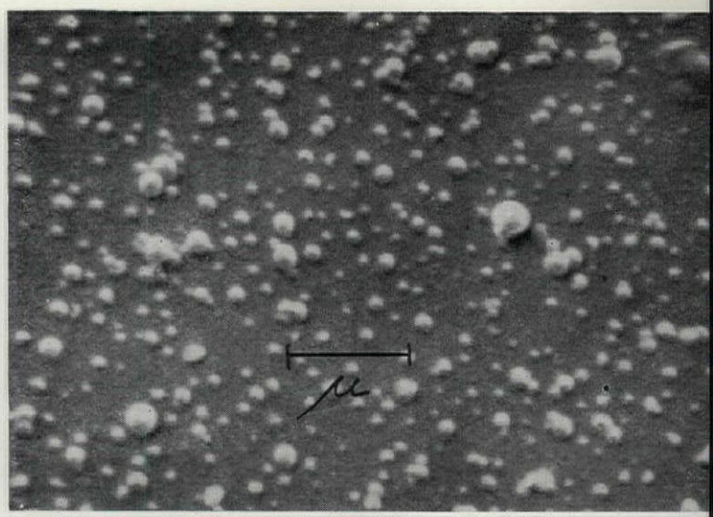
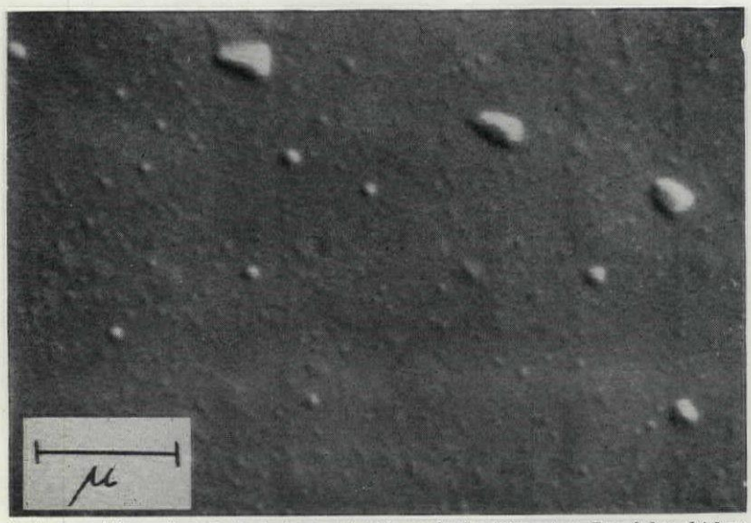


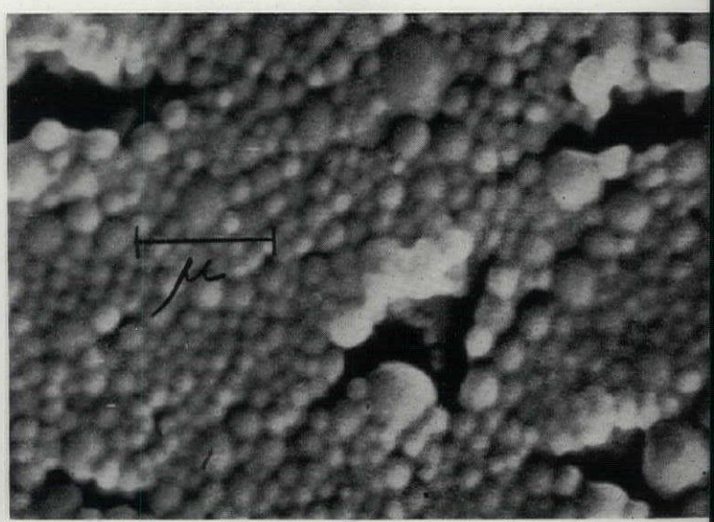
3, *a fracture surface of untreated glass as viewed in the stereoscopic electron microscope. Only ripples caused by the conchoidal fracture are visible.*



5, *the glass of* 3 *after* ½ *hour at the nucleation temperature.*



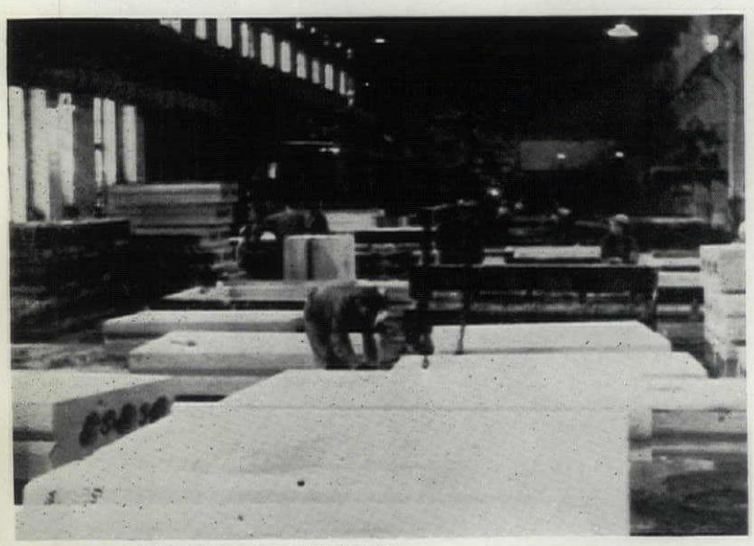
4, *the glass of* 3 *seen after* 15 *minutes treatment at the nucleation temperature. Rounded nuclei have started to form.*



6, *another glass after prolonged nucleation. No crystallinity can be detected by X-rays or ele diffraction.*

continued from page 392]
40,000 lb/in² according to the method of fabrication. For the highest strength the raw materials are finely ground and moulded under heavy pressure.

Mineralogical examination shows that in all these materials the binder is a calcium silicate hydrate of the type known as tobermorite and closely similar to the material formed when cement sets at room temperature. Chemical theory, however, predicts that at the temperature and pressure of the autoclave a different kind of calcium silicate hydrate is probably stable. It seems worthwhile to investigate the reason for this discrepancy which may be due to the nucleation of tobermorite crystals by tobermorite gel formed during the heating up period of the autoclave.



7, *manufacture of Silicalcit flooring slabs in Estonia.*

That such effects are possible is demonstrated by the behaviour of mixes with a CaO/SiO_2 ratio of 3 : 2. If the starting materials are lime and silica the autoclaved product is of tobermorite type. Starting with a mixture of gamma dicalcium silicate and quartz, a new compound, kilchoanite, is formed which is of interest because it contains very little combined water. The strength and other properties of kilchoanite are being investigated and attempts at crystallizing other materials will be made. For instance, it may be possible to produce a true synthetic asbestos by hydrothermal processing, using a suitable crystalline material to start off the process of growing the desired long fibres.

The Industry

Domestic gas appliances

Over the last three or four years the makers of domestic gas appliances have been developing burners which can readily be modified to work on any type of gas. It has for many years been common practice to modify appliances to burn bottled gas so that the problem is by no means new, but it is somewhat complicated by the fact that the exact composition of the gas to be supplied when the No Sea supplies come into use has yet been finally determined. It see however, that it will be supplied about three times the pressure of present town gas and will have ab twice the calorific value. Inevita therefore, the burners of exis appliances will have to be altered the provision of smaller jets adjustments to the turn-down p tion of some taps. The Gas Cou now demands that all appro appliances shall be tested with types of gas and manufacturers making the necessary alterati The Radiation Group, for exam which includes Ascot water heat has had considerable experience the supply of appliances for nat gas in both Holland and Amer and before the end of the year al gas appliances will be capable quick conversion, the necessary and other fittings being provided a small metal box inside the appli so that the alterations to a s water heater can be made in al ten minutes. Cookers will take lon as they have more jets and eye-l grills are an added complication shows the new Ascot 303 circul for connection to cylinders up 60 gallons capacity. It will raise gallons of water an hour thro 80 deg. F, and will cost al £28 10s. The D-shaped casing is

[continued on page

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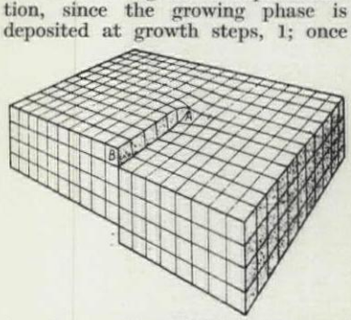
Makers of Minatone, Minaboard, Tacetone, Travertone, Cushiontone.

AT 53

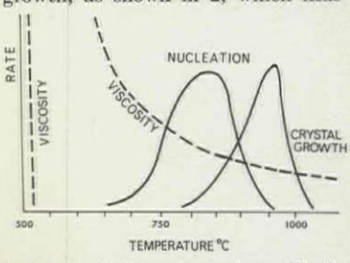
continued from page 390]
induce crystallization, the process being controlled so that crystals are small enough and free from flaws so that desirable properties of strength, hardness and abrasion resistance are obtained. Some properties, in particular thermal expansion and chemical resistance, will also be governed by the chemical and mineralogical nature of the crystals produced.

The process of crystal growth represents another area of research in which great progress has been made in recent years. The most familiar example of crystal growth occurs when a solution containing as much dissolved solid as it will hold is cooled or slowly evaporated; during these processes the previously 'saturated' solution becomes 'supersaturated.' The theory of crystallization processes shows that a very high degree of supersaturation of the solution or melt is required before a perfect crystal can begin to grow. In fact crystallization takes place at much lower degrees of supersaturation, since the growing phase is deposited at growth steps, 1; once



1, model of a cubic crystal with a defect at A producing the growth step A-B. Ions from solution are most firmly bound if they occupy positions along AB. The crystal grows by rotation of AB about A.

this three-dimensional surface is available for growth, far less free energy is required than theory would predict. The initial stage of crystal separation is the formation by accidental collisions in the liquid of two-dimensional nuclei. In suitable cases foreign particles such as dust, grain boundaries on the container, air bubbles, etc., can also act as nuclei. At any given degree of supersaturation, there is a critical size of nucleus which will grow on to form a crystal; smaller nuclei will redissolve. Thus the number, size and distribution of nuclei can be controlled by controlling the degree of supersaturation, or what amounts to the same thing, the temperature. The optimum temperature for nucleus formation is in general lower than that for crystal growth, as shown in 2, which illus-



2, rate of nucleation and rate of crystallization plotted against temperature for a typical glass. The viscosity of the uncrystallized glass is also shown.

trates the essential steps in the production of glass ceramics. The maximum rate of nucleus formation is about 100–200 deg. C. below the maximum rate of crystal growth. In order to obtain a uniform mass of small crystals, large numbers of well-distributed nuclei must first be formed, and this means an initial heat treatment at a lower temperature followed by a crystallization heat treatment at a higher temperature. 2 also shows how the heat treatment schedule is controlled by viscosity changes; too rapid a rise in temperature would bring about distortion or sticking together of the products.

The quality of the product depends on (*a*) crystal size and uniformity; (*b*) percentage conversion of the glass; (*c*) nature of the crystals produced; (*d*) absence of distortion or strain caused by the volume change on crystallization and avoiding slumping (through a too rapid reduction of viscosity) as described above.

Three examples of research projects show how these ideas are being promoted in the field of building materials development at the Building Research Station.

Glass/cement composites

Cement and concrete products are characterized by their brittleness; the bending or tensile strength is low in comparison with the compressive strength. Some control over these factors can be obtained by mix design, and the use of angular crushed aggregates, or by special cements and additives. In general, however, this defect is overcome by reinforcement with steel. Composites of cement and fibrous material have also been successful; for instance asbestos/cement products and woodwool slabs. For some years many attempts have been made to incorporate glass fibres with cement. Most of these experiments have failed because alkalis derived from the cement attack the glass and weaken it. Coating the glass with lacquer only delays this effect; on the other hand some success has been achieved with high-alumina cement, which is less alkaline.

Starting with the premise that a successful material should be based on the cheaper Portland cement, and that the glass should retain its strength as long as possible, the Building Research Station has developed an alkali-resistant glass composition, for which patent application has been made. Table 5 shows how its properties in the form of fibres compare with those of asbestos. Mixing glass fibre with cement paste presents some problems, but it is hoped to develop suitable procedures as soon as bulk supplies of the glass fibre can be obtained.

Glass/cement composites could take various forms:

(*a*) Cement paste/random chopped fibre, i.e. a substitute for asbestos/cement.

(*b*) Composites with directional long fibre reinforcement.

(*c*) Sprayed glass/cement.

(*d*) Laminated glass mat/cement paste; resembling Nervi's 'Ferrocement,' or glass fibre polyester.

(*e*) Toughened concrete containing chopped random fibre.

(*f*) Glass strand conventional reinforcement.

Glass has the advantage over steel or iron wires in that it is not corroded by exposure to the atmosphere; the reinforcement can therefore be placed with minimum or even zero cover.

At the moment development is restricted by the limited supply of suitable glass, but type (*b*) composites have been made containing 6 per cent by weight of glass and with a modulus of rupture of 15,000 lb/in². This compares with a value of 4,500 lb/in² for asbestos cement with 10 per cent by weight of fibre.

Table 5

	BRS glass (10 *micron dia.*)	*Asbestos*	
		Chrysotile	*Crocidolite*
Tensile strength, lb/in²	300–500,000	80–100,000	100–300,000
Flexibility	very good	very good	fair/good
Tensile strength after attack by boiling NaOH, lb/in²	300,000	50–60,000	90–270,000
Specific gravity	2.7	2.4–2.6	3.2–3.3
Adhesion to cement	satisfactory	satisfactory	satisfactory
Essential composition	Complex silicate of calcium, aluminium, and magnesium	Hydrous silicate of magnesium with sheet structure	Hydrous silicate of iron, sodium and magnesium with chain structure

Crystallized glass ceramics

In the USSR and the socialist countries of Europe the process already discussed has been applied to cheap bulk materials such as blastfurnace slag. The products are known as 'Sitalls' and are proposed for use as cladding materials, pipes, lintels, staircases, etc., in the building industry. Crystallized glass products made from blastfurnace slag are called 'Slagcerams' in the UK, and patents have been taken out by the British Iron and Steel Research Association. BISRA have pilot scale production at their Tees-side Laboratories and laboratory research at their Battersea Laboratories and at Imperial College. The basic process is as follows: (*a*) a glass is prepared by melting together blastfurnace slag and sand and a 'nucleating agent,' (*b*) the glass is formed into the desired shape and cooled, (*c*) it is reheated to a temperature at which nuclei of crystallization are formed, (*d*) it is heated to a higher temperature at which crystallization takes place, (*e*) it is annealed.

Tiles and plates up to several square feet in area have been produced in the BISRA pilot plant, and also slabs of a foamed product which could be of interest as external cladding. One of the most interesting properties is the high abrasion resistance, and plates used as linings in coke and ore chutes have lasted very well, suggesting that the material will replace the imported basalt normally used. The material is highly resistant to chemicals, and to heat. The modulus of rupture is given as 20,000 lb/in², but this is probably a conservative figure.

Research on crystallized glass at the Building Research Station has followed slightly different lines. At one stage we were considering the possibility of still further strengthening our glass fibres by controlled crystallization. As yet, however, this line has not been fruitful because of the high surface area of the glass fibre; extraneous nuclei form on the glass surface and produce uncontrolled crystal growth. This observati however, led us to consider approa ing a crystallized glass cera starting with powdered glass. patent for this process has b applied for. Glasses can be proces by hot pressing or hot extrusi which would be too unstable manufacture by the normal proce Processing time is reduced fr many hours to a few minutes; lar quantities of slag are used in formulation, and a nucleating ag is not essential. Experimental m terial produced so far has a co pressive strength (1 cm. cubes) 80,000 lb/in².

In order to understand more clos the processes involved in this velopment a study has been co menced of the process of nucleat in glasses. Such a study is diffic because the nuclei are too small be visible in the ordinary mic scope, and special techniques required to make them visible in electron microscope. We have b successful in demonstrating growth of nuclei by examini fractured surfaces of heat treat glass in the recently develop stereoscopic scanning electron mic scope (Stereoscan). 3, 4 and 5 sh the development of nuclei w increasing time of treatment at nucleating temperature; 6 (a ferent glass) shows more or l complete phase separation; the m terial is still, however, non-crystalli as shown by the fact that it amorphous to X-rays.

It is difficult to forecast the exte to which Slagceram will find a pl in building; its greatly super properties of chemical resistance a abrasion resistance will certainly exploited. The extent of its use a bulk or loadbearing material depend greatly on its cost in compa son with concrete.

The BRS variation of the process probably suitable for the manuf ture of rods and beams of roug the properties of cast iron; cost again likely to be a controll factor.

Autoclaved products

These are familiar products in bui ing in the form of calcium silic (sand/lime) bricks or aerated c crete. In each case the bind material is hydrated calcium silic formed by reaction between lime a silica in high pressure steam. T lime may be derived from Portla cement or may be present in original mixture as quicklime hydrated lime. Similarly the silica m be derived from a pure quartz sa or from a siliceous material such fly ash.

Ordinary concrete may be treated the autoclave, reaching a degree maturity in a few hours correspo ng to moist air storage at ordin temperature for several months. I found that the best strength obtained in autoclaved produ when the ratio of CaO to SiO_2 in binder is approximately 1.0. Fly or some other reactive form of sil is therefore added to the cement.

Recently there has been world-w interest in a material developed Estonia and called 'Silicalcit.' T is a high-strength form of autoclav calcium silicate which is used structural panels, staircases, foun tion blocks, pipes, etc. 7 shows Soviet plant making this mater It can be made in a range of densiti the compressive strength of densest grade ranges from 2,150

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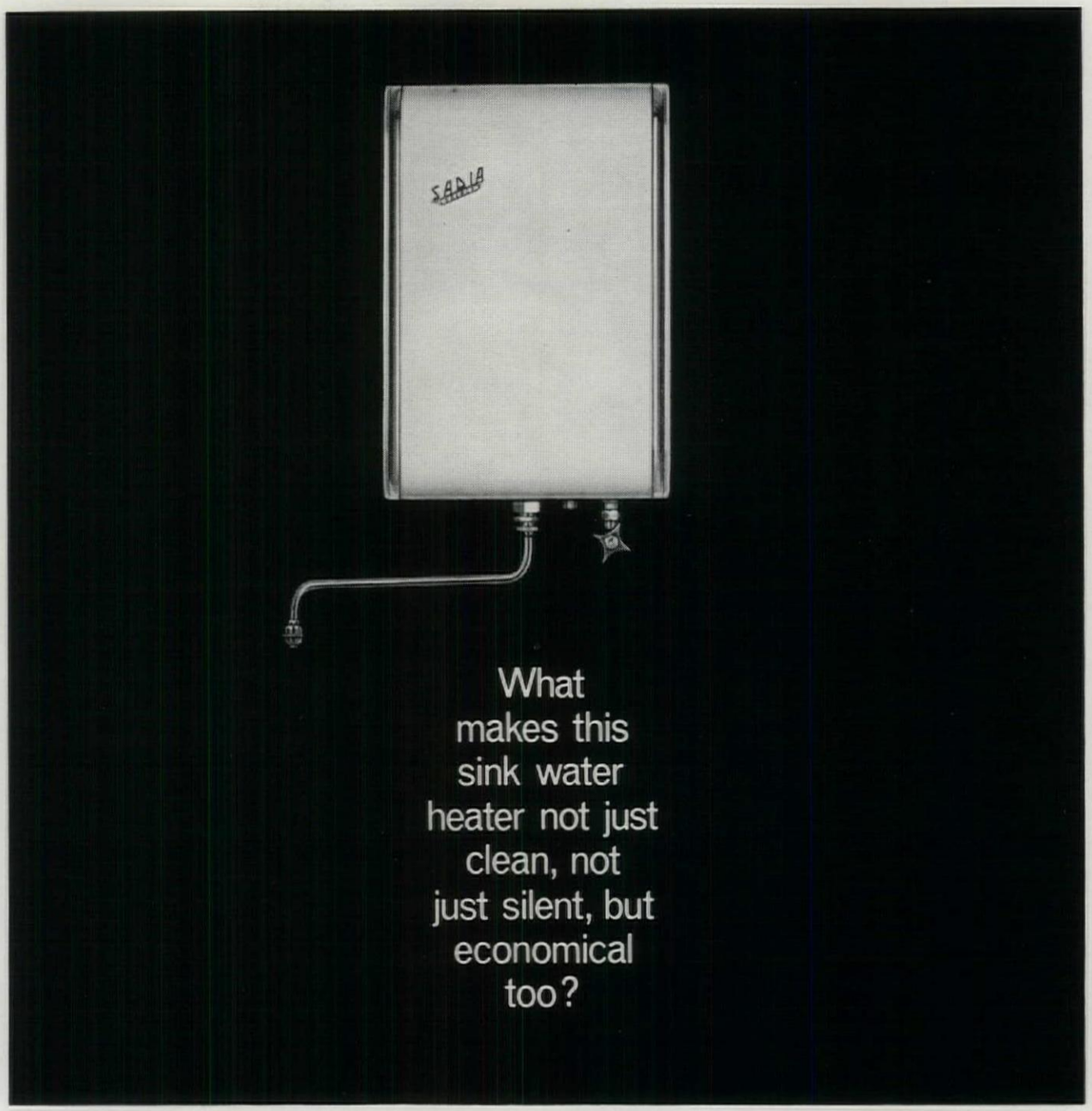

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New inorganic materials

Because building shells have to be relatively bulky and dense to perform their function, the best long-term prospects in building materials would seem to be with the silicates, which are both cheap and plentiful. Having made this point Dr. R. W. B. Nurse, Deputy Chief Scientific Officer at the Building Research Station, describes the Station's work in this field and, in particular, the development of 'glass concrete'. The article is published with permission from the Director of BRS and is Crown copyright.

Some idea of why we should study inorganic materials, and especially silicates, is obtained from an examination of the cost of basic types of material used in building, Table 1.

Table 1

Cost of materials in bulk, before fabrication

Material	*Approximate cost, pence per in³*
Concrete	0.02
Bricks	0.03–0.08
Softwood	0.1
Plastics	0.7
Steel	0.6
Aluminium	2.0
Copper	12.5

Such a table is only a rough guide to the importance of various kinds of material, but it indicates at once why the traditional materials retain their place as the main structural elements, while metals and plastics are used for services, roofing, floor surfacing and finishing generally.

The obvious line of replacing heavy and bulky materials in the structure by lighter and stronger ones is not so straightforward as it appears at first sight. Sound reduction between structural divisions depends principally on the weight of the partition, and thermal comfort is determined not only by conductivity but by heat capacity. Very slender structures are susceptible to failure by buckling. Thus for every situation there is a compromise value for the weight of the element per square foot. Concrete is a cheap material that is easily produced over a wide range of density and therefore frequently becomes the yardstick by which any new material is assessed.

Another significant factor is the availability of primary raw materials. Metals tend to become more expensive as ores become exhausted, plastics are derived principally from imported petroleum. On the other hand, the raw material for the 100 million tons of concrete and the 7 thousand million bricks used every year comes from home resources, from quarries, and from waste materials from other processes.

There are therefore compelling reasons why there should be continuing development of silicate materials. At the same time, current discoveries in materials science have created new possibilities of advance in the technology of such materials.

Controlling materials properties

It is possible to calculate the theoretical strength of materials from a knowledge of their basic structure in a number of ways. However it is done, an answer is obtained which is one or two orders of magnitu greater than the experimenta determined strength using norm sized specimens. The reason is fou to be that the process of ruptu begins at already existing flaws the structure. However, the pos bility of finding a flaw in a specim will be greater the larger the spe men, and when strength tests a made on very tiny specimens, t results approach very nearly t theoretical strength. For examp 'whiskers' are single crystals fibrous form, characteristically 1 microns in diameter and mu stronger than the bulk materi Glass fibres are much stronger th the bulk glass from which they a drawn or blown. Such whiskers fibres can be incorporated in separate matrix to form stro composites, or whiskers can caused to grow within a matr by controlling the crystallizati process. Table 2 gives some typi strength figures for whisker or fil materials.

Table 2

Tensile strength lb/in²	*Material*	*Modulus of elasticity lb/i*
20,000,000	Graphite, theory	150,000,000
3,000,000	Graphite, whisker	110,000,000
4,000,000	Graphite, fibre	50,000,000
3,500,000	Sapphire, whisker	300,000,000
400,000	High-tensile steel wire	
500,000	Protected glass fibre	
100,000	Asbestos fibre	

If whisker material were freely a cheaply available, it would have startling influence on design, shown by the calculation in Table

Table 3

Relative weights of spherical pressure vessels of equal bursting strength

Whisker composite	0.1
Fibre glass	0.75
Alloy steel	1.0

Unfortunately whiskers are availa only in minute quantities at very hi cost. Orientated carbon fibres ha been produced at the Royal Aircr Establishment on a scale sufficie for incorporation in composite m terials, but at a cost still too high be of interest in building. Work this field at the Building Resear Station is concerned with the d velopment of glass fibres which w be compatible with cement a concrete; this subject will be enlarg on later.

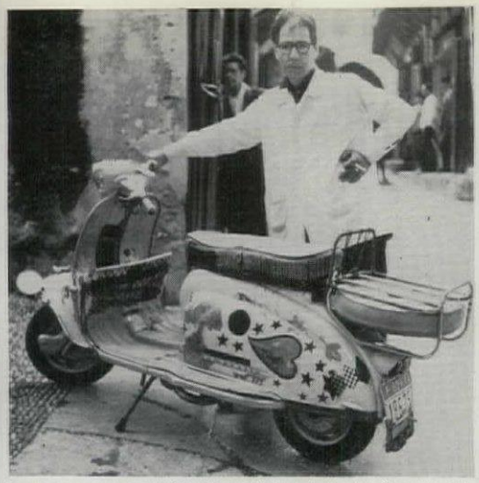
If whiskers can be grown within matrix, they will produce the co plete composite in one operati This is the basis of a new class materials, crystallized glass cerami These materials are now available the form of unbreakable, he resistant domestic ovenware. Tabl gives some of their properties.

Such materials are made from a gl which is melted containing a 'n cleating agent,' the desired obj being fabricated by known gla forming methods such as mouldi drawing, blowing or rolling. Af forming, the object is treated

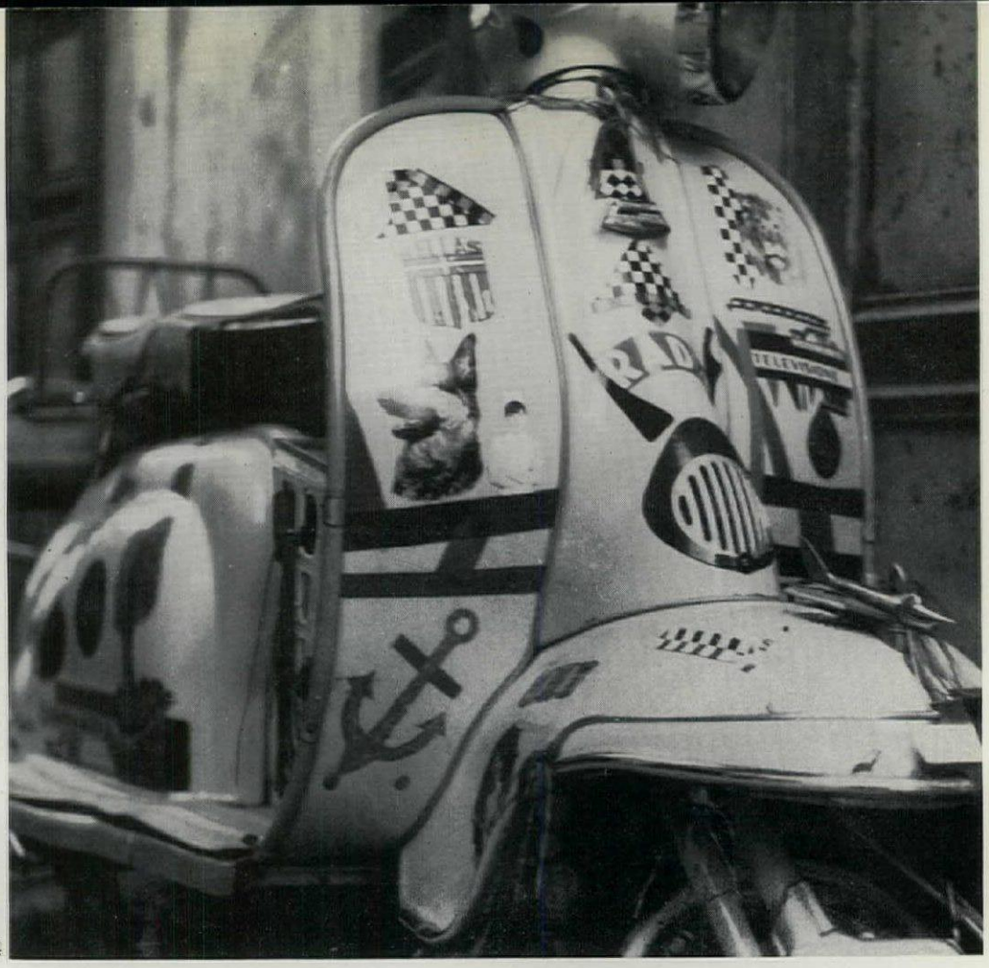
[continued on page

Table 4

	Crystallized glass	*Glass*	*Cast iron*	*Stainless steel*
Elasticity, $lb/in^2 \times 10^6$	20	10	12	30
Modulus of rupture, $lb/in^2 \times 10^3$	40	10	50	80
Abrasion resistance, arbitrary:	30	1.0 to 3.0	—	—
Strength/weight ratio, relative to steel=10:	14	4	3–5	10



barrow, appears to stem from two main causes. First the professional designer has never really taken over from the ordinary man, and secondly the Byzantine style has never really died. For all its apparent rigidity this style has proved very flexible and it is never far from life, as can be seen in 5 and 6, a casual religious graffito from an eighteenth-century monastery on Crete and a medieval fresco in a tiny cave chapel on Rhodes where the scratched initials manage to enhance the total effect of the faded painting instead of diminishing it. JOHN HOPE



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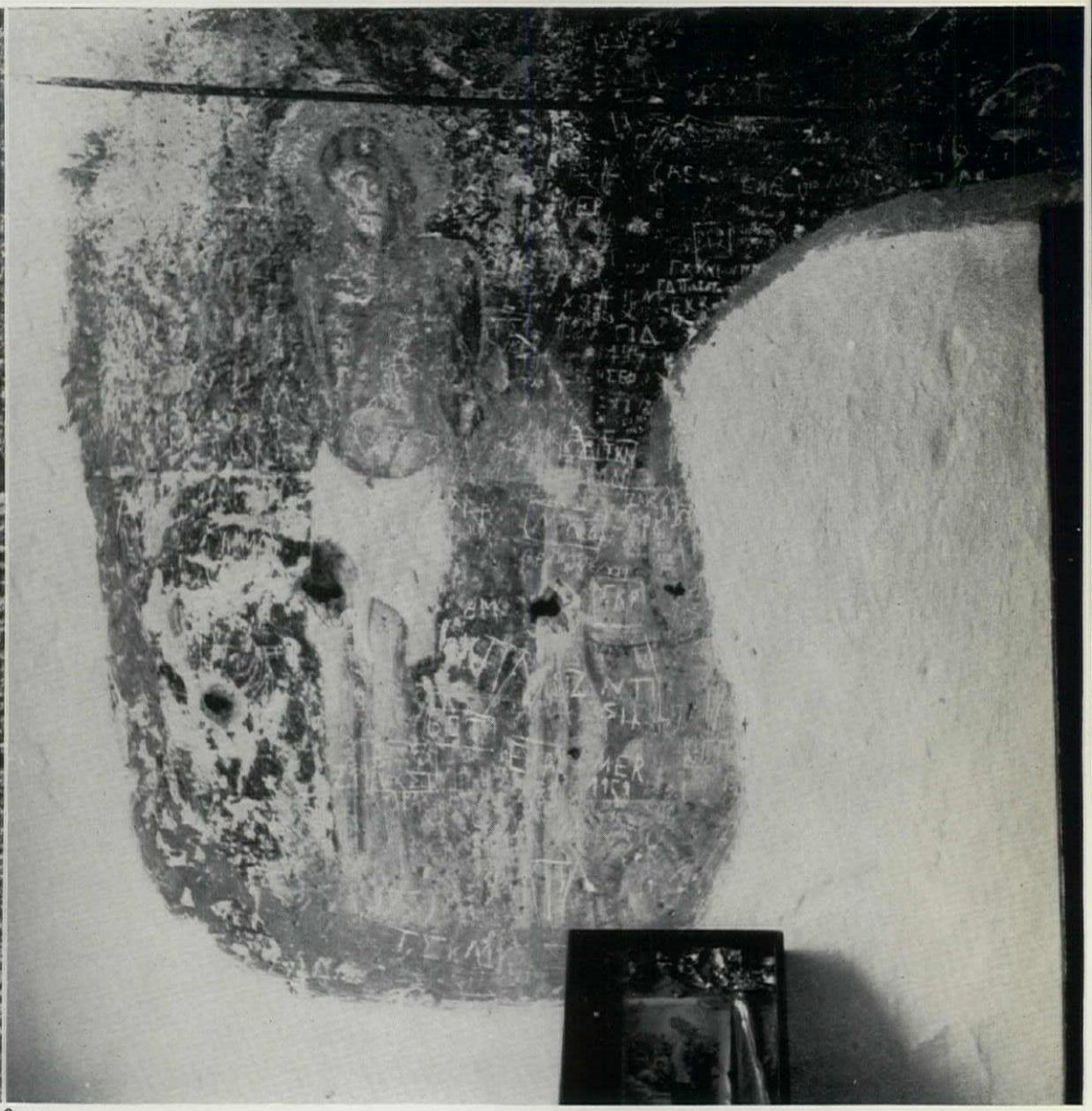

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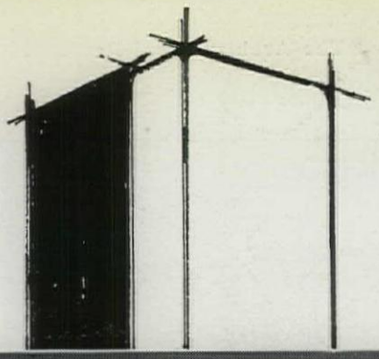

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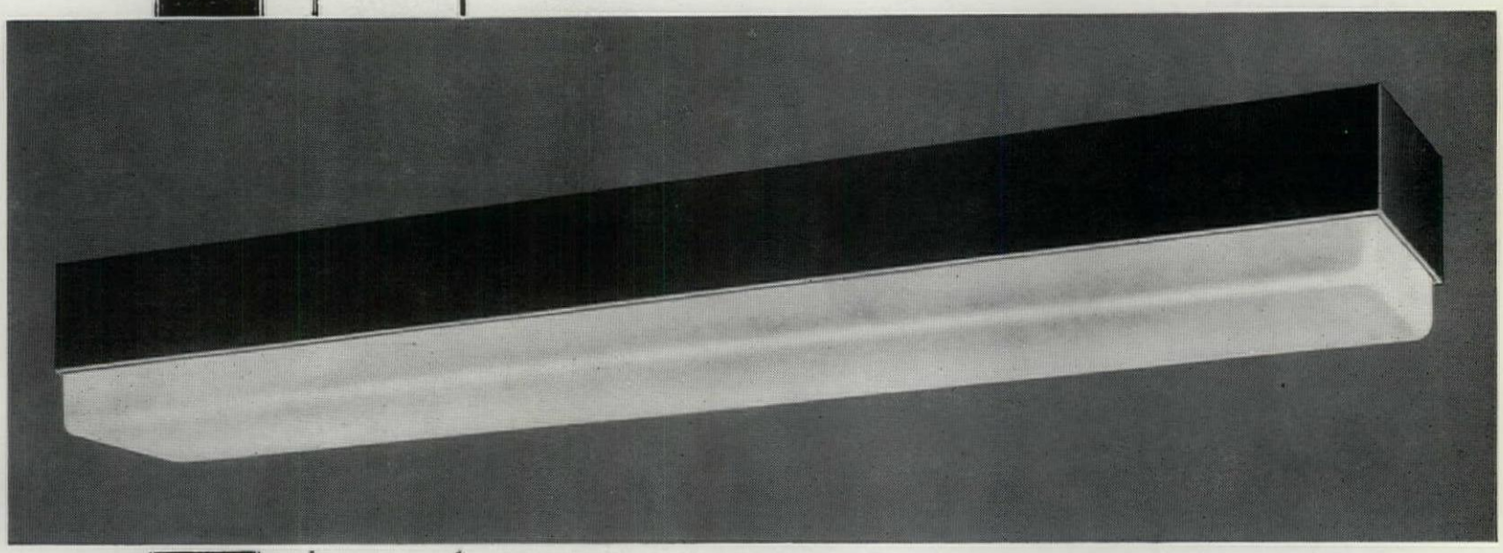

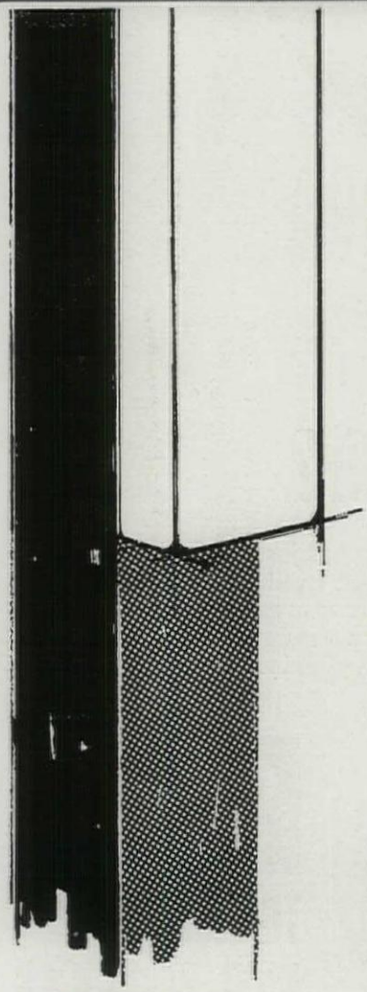

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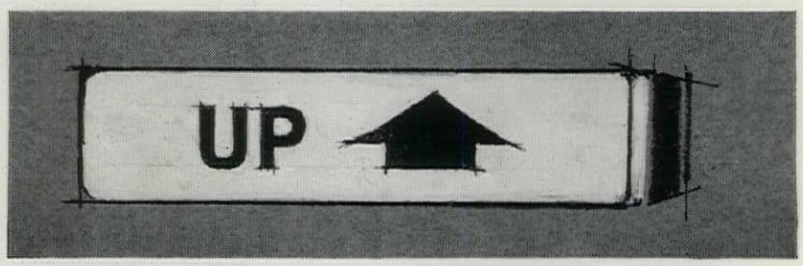

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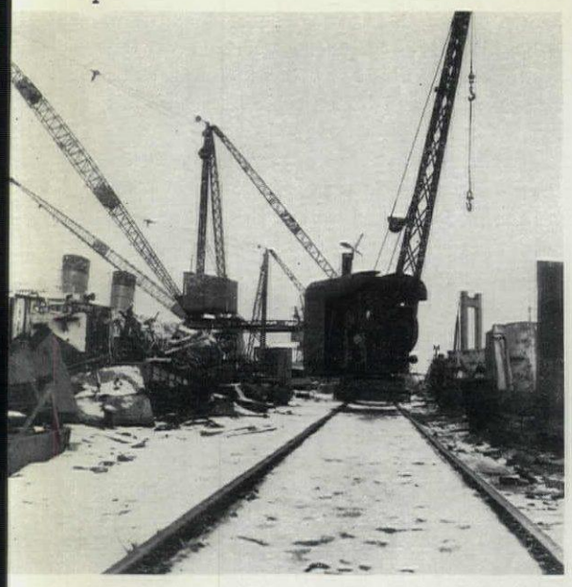

horizon like headstones. Railway lines diminish, converge, and meet with the diagonal lines of tower cranes to explode amidst the disorder. EDWIN JOHNSTON

POP ART IN THE AEGEAN

Filling the gap between ART and LIFE is what Robert Rauschenberg claimed to be doing and this is just what the ordinary Greek (or Turk) contrives to do without apparent effort. 1 shows the façade of a tobacconist's kiosk on Patmos where the painted figure has almost the same face as the boy standing beside him and the chair he sits on could come from any café just round the corner.

Popular art too can sometimes achieve the kinetic fantasies of a bicycle photographed on Crete, 2, and its extraordinary power to domesticate machinery can be seen from the bicycle, and the painted scooter, 3 and 4. This power frequently comes out in unexpected places—the bizarre mixture of blue beads, gold fringes, pin-ups and religious mottoes which decorate the long-distance buses of Turkey or the brand-new deep-freezes which fit so happily into the grocers' shops that it is hard to realize they were only fitted a few months ago.

This persistence of a vigorous art, applicable to things as diverse as an icon and an ice-cream

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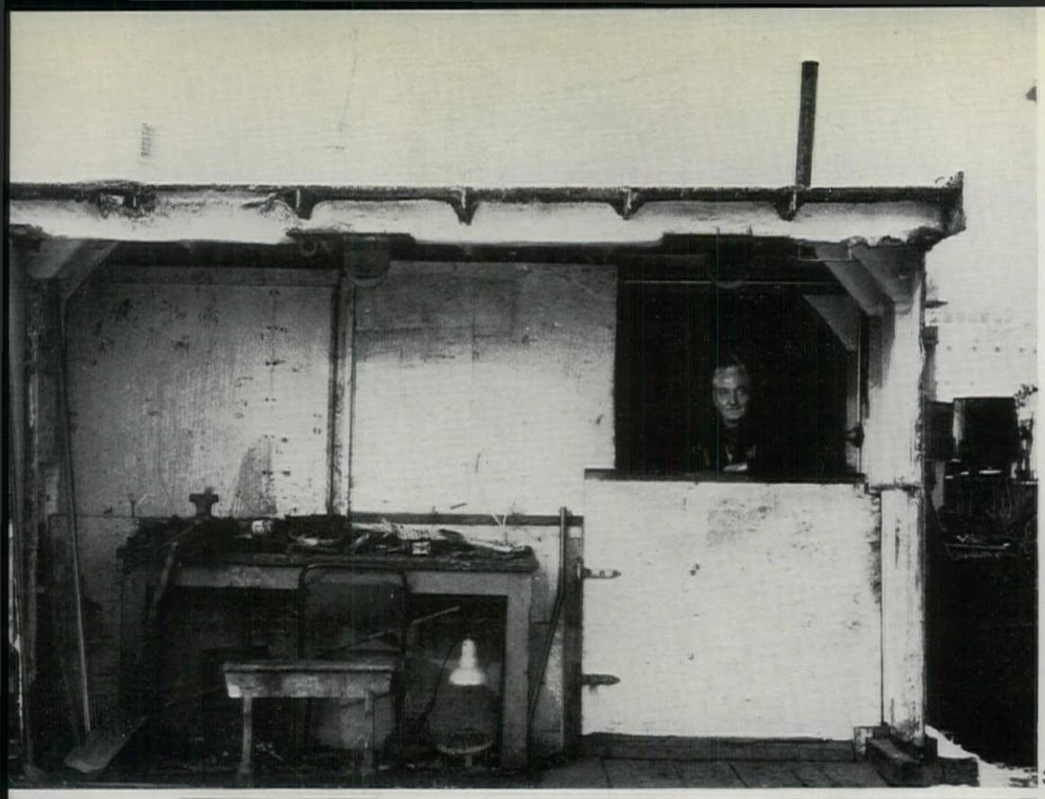

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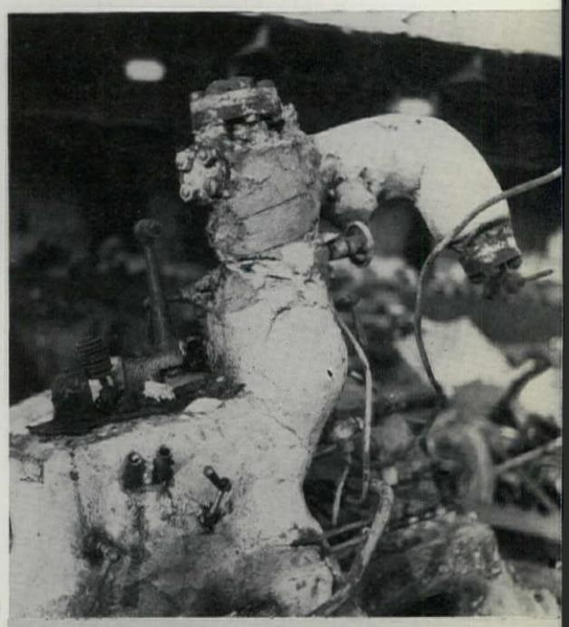
thrown out of their former context and now without identity—fragments which convey the spontaneous brutality with which big ships are broken up and tossed aside like children's toys.

Workmen, always appearing insignificant against the gigantic scale of the metal litter and the massive steel wall of the Mauretania, make their way through the chaos, step into old ships' cabins, and drink cups of tea. Engine room doors erupt and break through the

graveyard of ships



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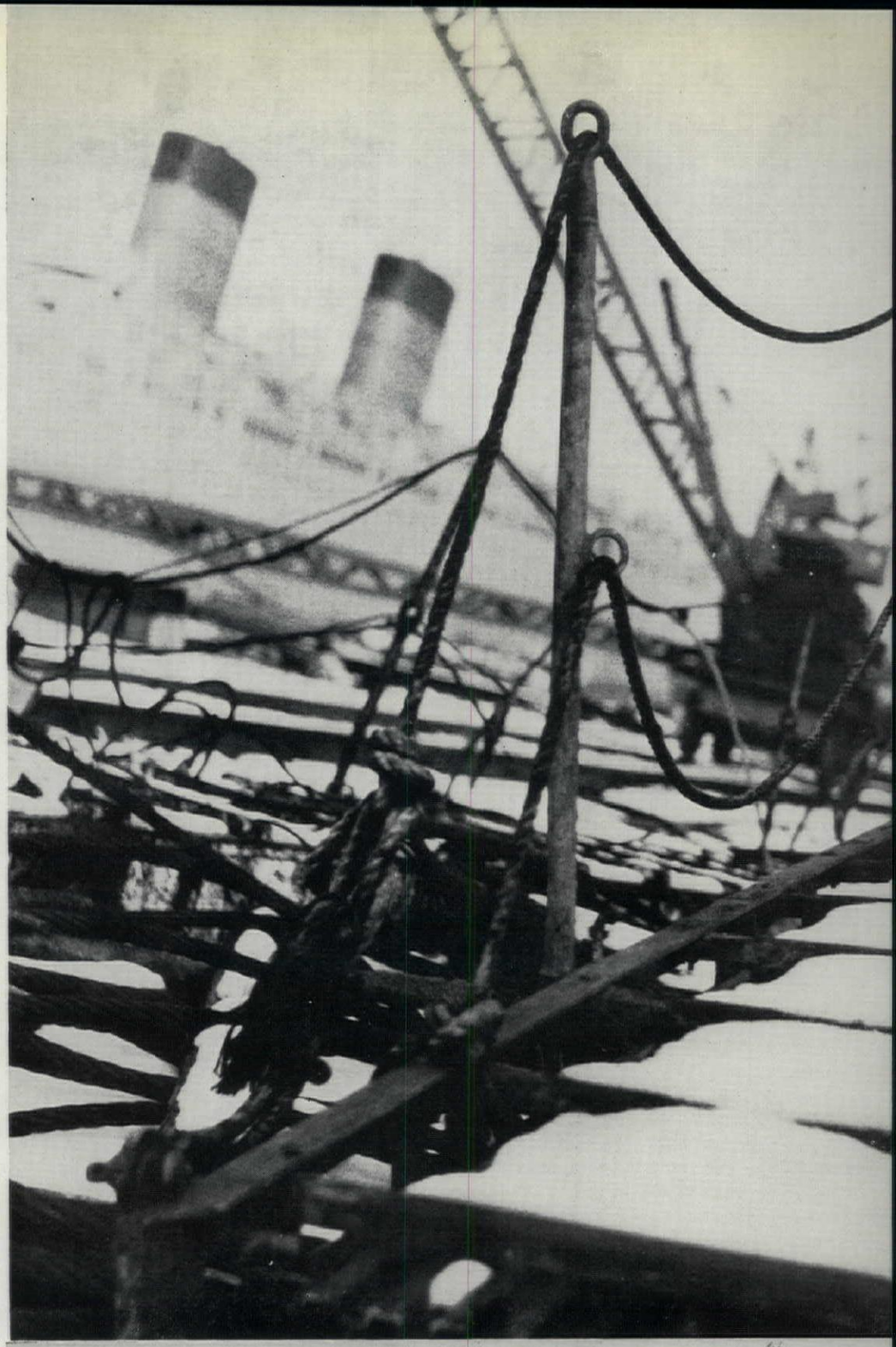
high. Each of the panels in this flower is curved and cast in one piece; and the interstices are open (a glass skylight, overhead, protects it from the weather). All the pilasters of the dome itself, as well as the arches, are cast-iron; the mullions are wood. There is very little distortion here—the iron frames of the windows are actually cast into converging shapes to fit into the dome and represent a triumph of craftsmanship. The myriad sheets of glass in the windows are beautifully stained in many different colours.

From the same vantage-point as in 4, but looking down, we next see, 5, the form of the spiral staircase below as it rises toward the second floor. The rails, the light standards and the treads are all cast-iron. Note that they have been cross-hatched to secure better traction. Finally 6 is a closer view of the arches of the second floor, and the balconies of the third—all the cast-iron members being bolted together. Originally all the third floor balconies were open, like the two shown here, but now unfortunately most of them have been closed in by ugly walls of plasterboard. If these balconies were reopened, and properly illuminated, tourists from all over the US would probably come to see the architectural revelation this building provides.

CLARENCE J. LAUGHLIN

GRAVE YARD OF SHIPS



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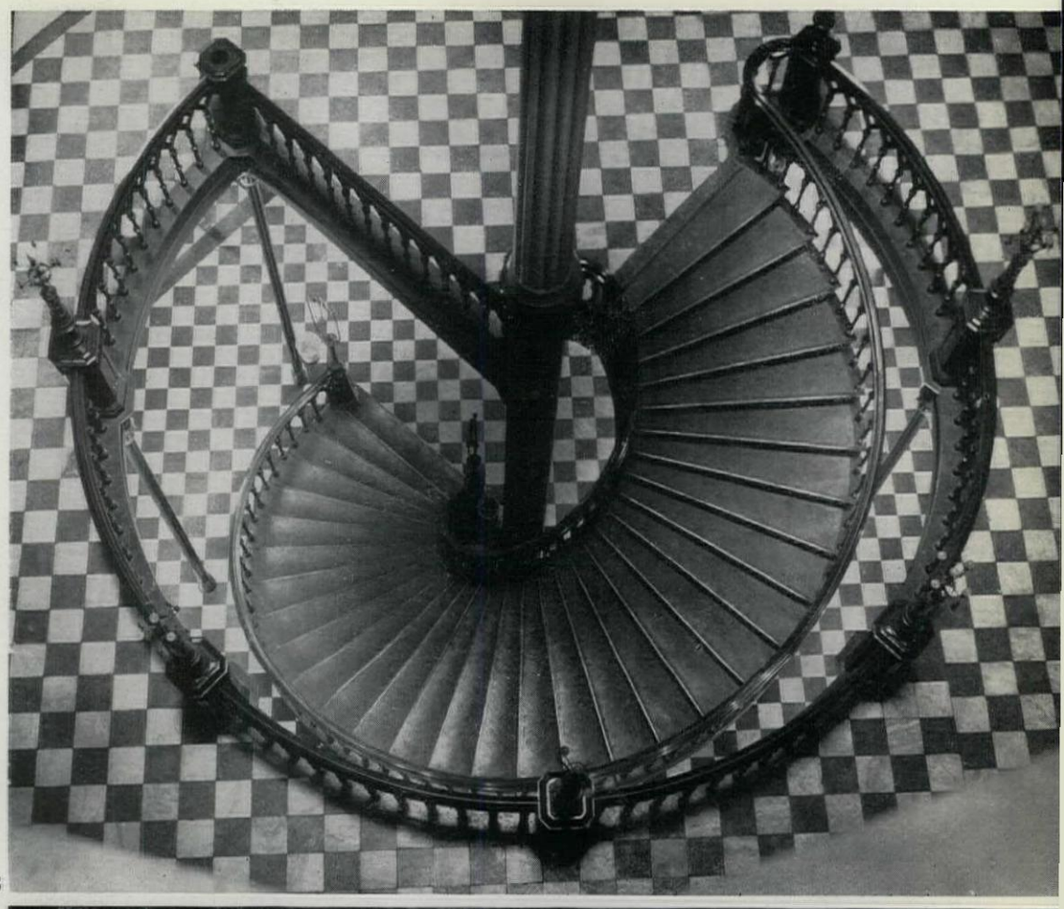
The scene is the shipbreaking yard at Inverkeithing on the Firth of Forth. Poised cranes rise high above the yard, hover around, describe arcs, descend, and dump scrap metal. Each scene speaks through all its parts—bits of ships' guts strewn about expressing violence in terms of twentieth-century obsolescence. Here are simply the mechanical things of life—lifeboats, lavatory seats, pipework, and a telephone in the snow. All fragments in transition (see also the cover of this issue),

and the art gallery and offices of the Louisiana Art Commission. It has been threatened with demolition on several occasions—but now, happily, these threats seem to have passed. But, daily, tourists are guided through the new Capitol (an architectural monstrosity) while the Old Capitol and its wonderful drama of interior space, is usually ignored.

The first of the accompanying photographs of the Old State Capitol (all taken by the author) shows, 1, the west elevation, with its elaborate Gothic tracery. Since this side faces the Mississippi River, it was originally used as the main entrance, in conformance with the general custom in Louisiana at that time. The building can be seen by boats passing along the river and Mark Twain has a description of its exterior in his book *Life On The Mississippi*. The entrance is now on the north side. On the west the ground slopes more steeply toward the river; hence the long flight of steps. The gates in the massive cast-iron railing surrounding the building, 2, are so heavy that they have to move on rollers. The remarkable cast-iron eagles surmounting the gate-posts, of course, symbolize liberty; while the fleur-de-lis motif refers to the French origin of much of Louisiana's population and culture. The quatrefoil pattern used in the lowest panel of the gate reappears in the cornices, and elsewhere, on the building.

Once we enter the building we discover its truly extraordinary feature. Directly beneath the protective square superstructure glimpsed between the two turrets seen in 1 is a remarkable spiral staircase of cast-iron, 3, very vigorous in design. It rises only to the second floor—but, as this picture shows, its ascent is extremely graceful. The staircase, in turn, leads the eye, and the mind, into the extraordinary feature seen in 4, a tremendous iron column that flies up to a vast dome. Before us is the thrust of the column—its height, up to the point where the arches unfold, being 80 ft.; while the overall height of the dome from the ground floor is 115 ft. The ironwork apparently originated in the Shakespeare Iron Foundry of New Orleans (though this does not seem generally known). The foundry grew out of a blacksmith's shop, opened in 1835 by one Samuel Shakespeare—a native of Elkton, Delaware, and a Quaker. He was a man of sterling character, and of inventive and progressive, mind. His son, Joseph A. Shakespeare, who inherited these qualities, also made an excellent record for himself as Mayor of New Orleans during the terms 1878–82, and 1888–92. But he never relinquished his connection with the business founded by his father, so that the foundry became one of the most highly skilled and successful institutions of its kind in New Orleans. The family was of English ancestry, and thus the connection of this dome with the Crystal Palace becomes understandable. The structural methods used in the Louisiana building grew right out of its English prototype—but not, of course, its design. The design remains unique—at least for this country. Despite all flavour of 'imitation' not only has exposed structure been attained as truly as in contemporary architecture, but, unlike most modern architecture, this open structure has resulted in a really extraordinary feeling of grandeur, which here becomes a deeply functional psychological factor; for it stems from the dramatic and exhilarating use of space. Looking even further aloft we see (frontispiece of this issue) that the upper part of the centre column exfoliates into a great cast-iron flower, 35 ft.



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it also follows that in the course of the attempt to reconstruct, or revive, such a building, factors were interjected that gave a peculiarly American, or local, flavour to the 'revived' building (Belle Grove Plantation in Louisiana is an example of a Greek Revival building infused with a remarkably indigenous nineteenth-century romanticism)—and, in a still smaller number of cases, solutions were arrived at which foreshadowed, and antedated, some 'discoveries' of the contemporary architect.

One such significant precursor building is the Old Louisiana State Capitol—near the Mississippi River in Baton Rouge, La.—with its extraordinarily dramatic use of exposed struc-

2

ture within. It is probably one of the most remarkable buildings, architecturally, left in the entire United States. It has a flavour all its own, partly springing from its Tudor-Gothic character, and partly from several features now probably unique among structures remaining from nineteenth-century America.

The original Louisiana State Capitol was designed by James H. Dakin, a prominent Louisiana architect, and was constructed in 1847–49 at a cost of $396,000. In 1862, while occupied by Federal troops, the building was extensively damaged by fire. In 1880–82 it was rebuilt—with some important modifications and additions—from plans by William A. Freret, grandfather of the well known present-day New Orleans architect, Douglas Freret. Among the modifications were: the addition of another floor (making the building four storeys high), the installation of a great dome and the erection of smaller cast-iron towers surmounting the castellated turrets at the corners of the building (these towers, however, have since disappeared). The seat of Louisiana government was in this building from 1848 to 1862, and then from 1881 to 1932—when a new pseudo-modern State Capitol was built during the administration of Huey Long. Meanwhile, the Old Capitol, which during World War II was used as a USO Centre, now houses Veterans' facilities;

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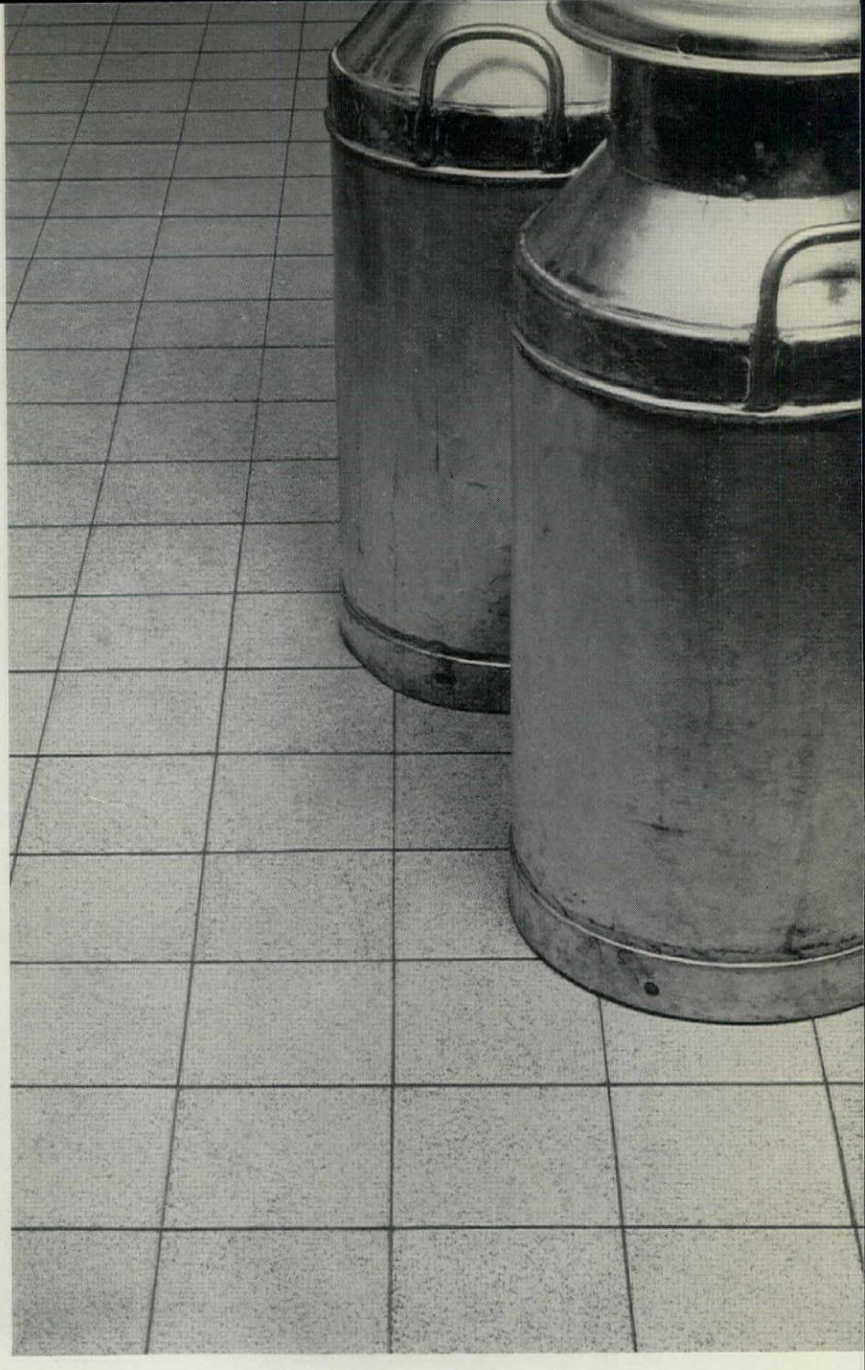
MISCELLANY

LOUISIANA FANTASY

In America, the ninteenth century was an age of eclecticism. Partly because America was a melting-pot of many nationalities it became, also, a melting-pot of architectural styles. Italianate villas appeared, Greek Revival temples, rusticated gazebos, Egyptian Revival tombs—and many other edifices equally hybrid. These buildings today have both detractors (many) and defenders (a few), the former alleging that they were merely imitative and dishonest; the latter, finding that they have charm, romantic interest and historic significance. Perhaps the truth is somewhere between; and perhaps it can be shown that certain buildings of the American nineteenth century have more significance than even their defenders recognize.

For, since it is possible to show that no, say, Greek Revival building has really the same intrinsic quality as an original Greek building;



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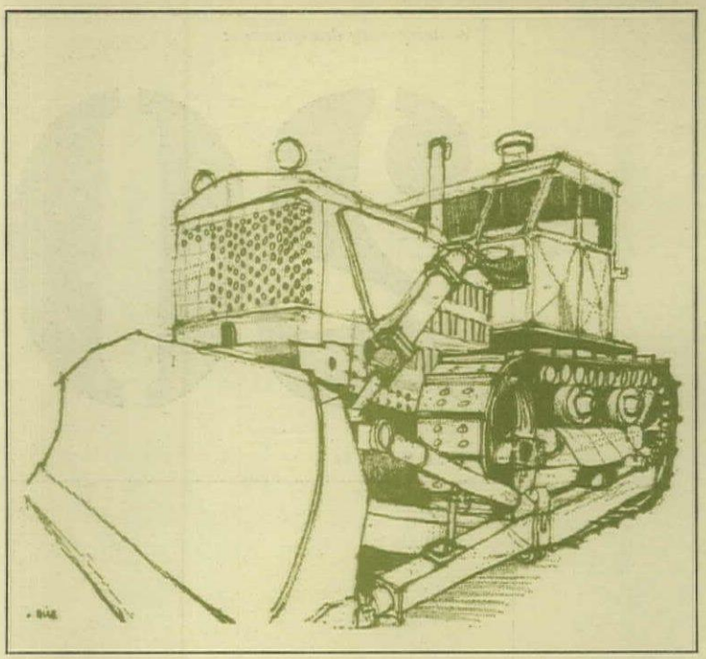
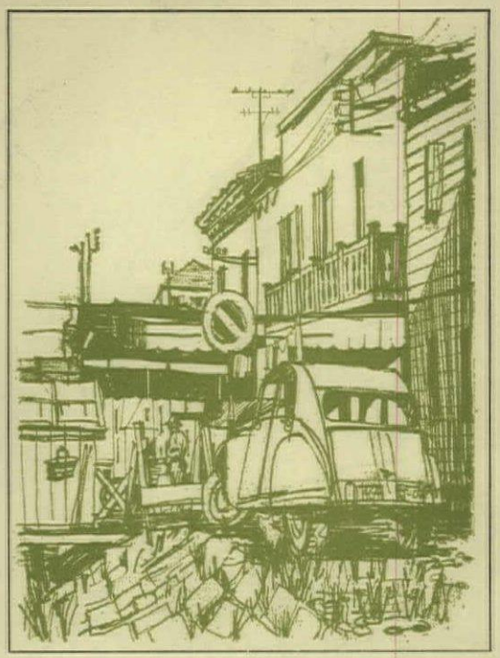
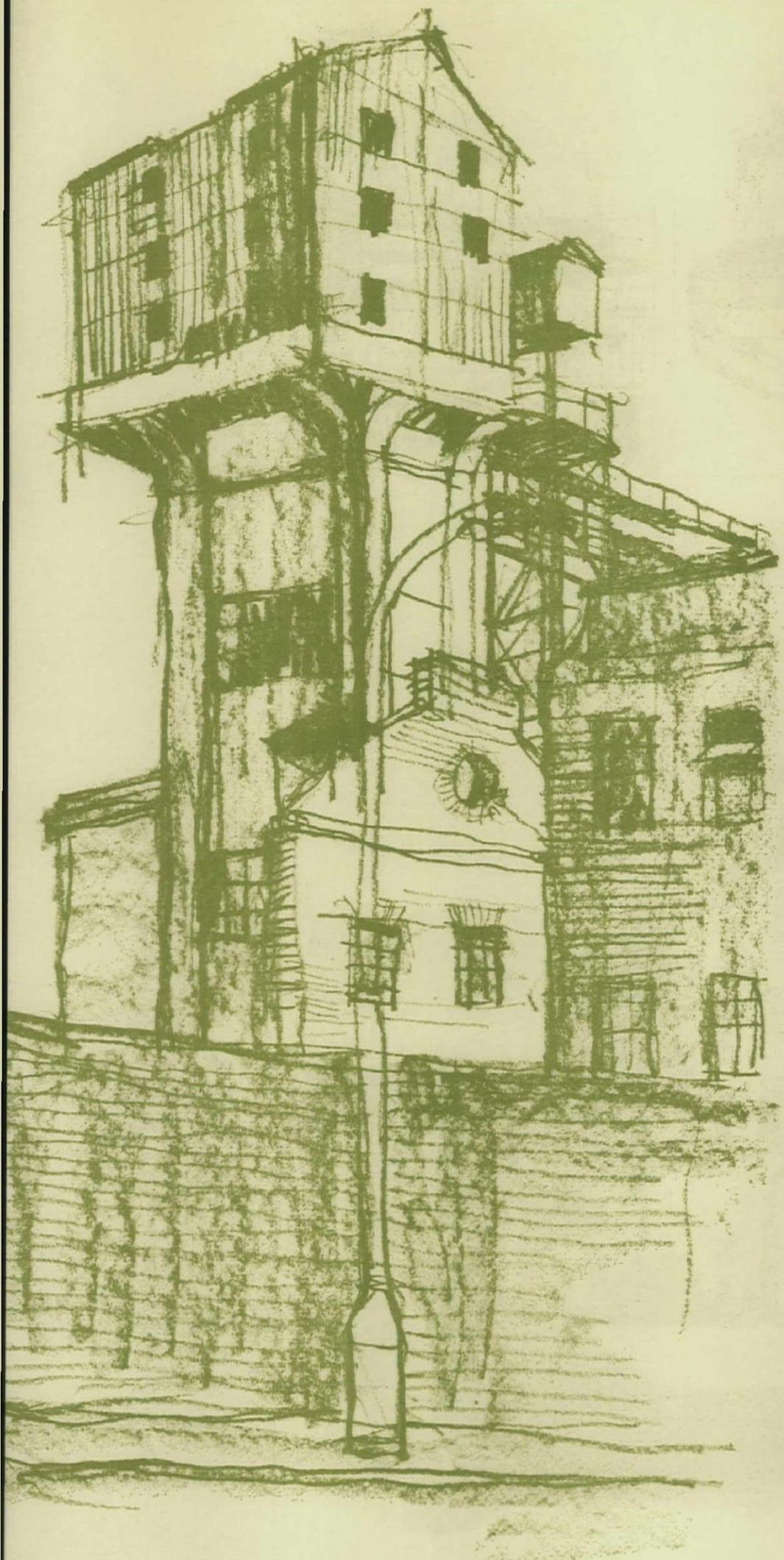




contemporary draughtsmen: 20 Brian Edwards

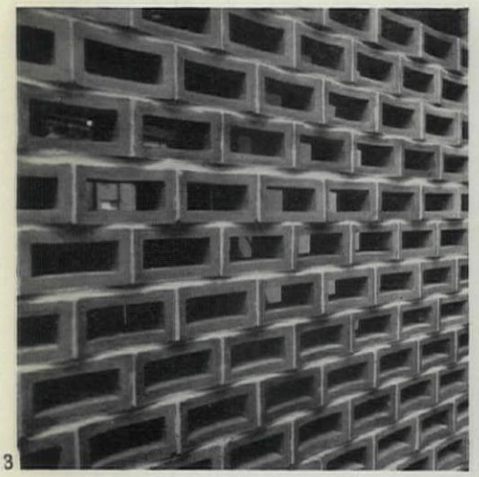


contemporary draughtsmen:

20

Brian Edwards

Brian Edwards was born in Orpington, Kent, in 1944. After an initial period of three years at Canterbury School of Architecture and a year of practical training in an architect's office, he has returned to his studies. Two main themes occur in his drawing. One is the general relationship of buildings, trees and motor cars in the landscape, whilst the other, more evident, is the sculptural effect of industrial buildings and machinery.



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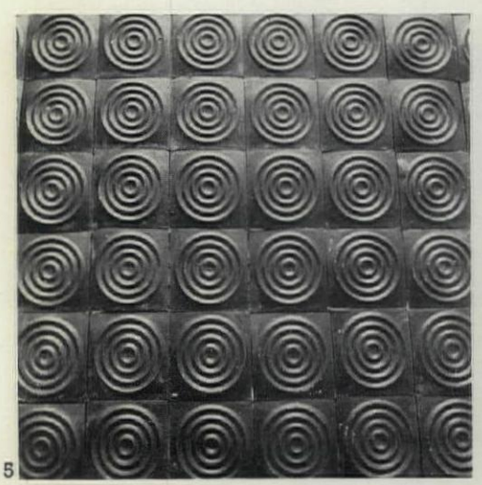
These screens are highly decorative, durable and texturally interesting, being ideal for withstanding our temperamental weather conditions and the ravages of atmospheric pollution. The three-dimensional nature of the patterns, however, tends to need strong sunlight to exploit them. In hot climates, particularly the Middle and Far East, the *mushrabeyeh* type of screen, also intricately decorative, was developed to encourage draughts whilst acting as a shield against the direct rays of the sun. In the British Isles, the evocative Oriental imagery provoked by these photographs would be mocked on most days by sullen skies and the repetitive drip of raindrops. Some architects will doubtless find satisfaction in such a mood, but few would be prepared to specify a material so limited in its functional application, particularly when solid walls, rather than



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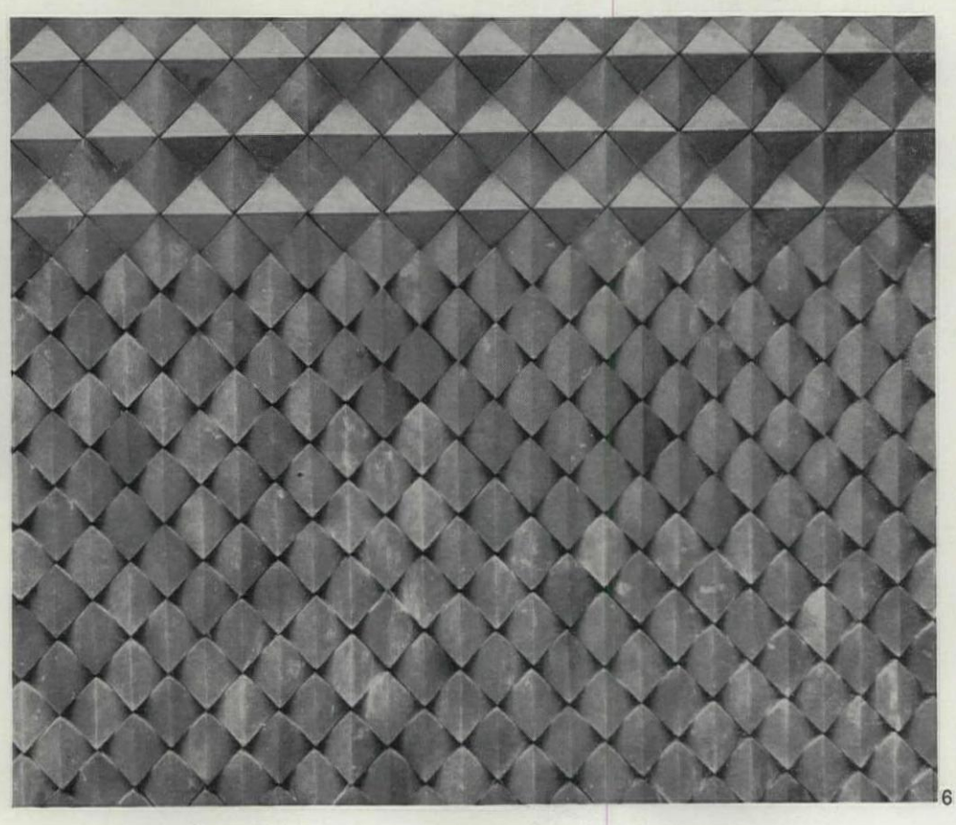

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fretted screens, are increasingly being demanded as barriers to outside noise. In spite of these reservations, both the tiles and the profiled blocks deserve success. The colours and textures of the individual units and the large scale patterns which emerge when brought together create great visual interest and in appearance are superior to most pierced and profiled blocks hitherto on the market. Further development, however, will be necessary to bring down the price of terracotta to the level of ordinary building if the revival of decoration is to be justified as a successor to the chimney pot.

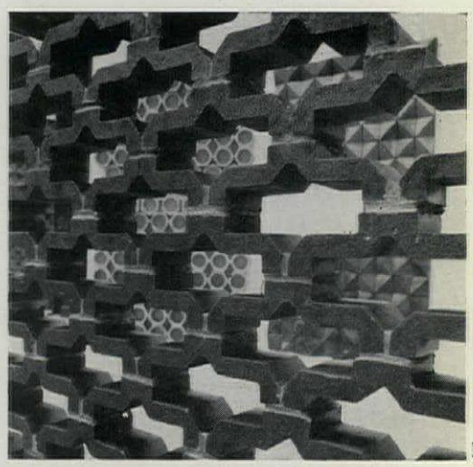
Design Review

New products chosen and annotated by Ronald Cuddon

DR

Terracotta tiles

The advent of heating systems no longer dependent on coal firing has made inevitable the gradual disappearance of the splendid rows of terracotta chimney pots which have adorned the roofscape of our towns for so long. The Red Bank Manufacturing Co. of Measham, near Burton-on-Trent, which claims that half the chimney pots in this country were and still are made by it, must be feeling urgently the need to diversify its terracotta products. It has carried out an interesting exploratory exercise in finding a new outlet for this primary material: screens constructed from hollowed and profiled blocks in three different patterns, 1, 2 and 3, and various deeply modelled decorative tiles, 4, 5 and 6, which are being marketed under the name Teraface. Designed by Lord Queensberry, Professor of Ceramics at the Royal College of Art, with two of his colleagues, Bryan Fradgley and Patrick Rylands, these units are a brave attempt to rehabilitate an old-fashioned facing material. They have been designed primarily for external use, though internal applications are also possible where a coarse durable surface is required. The difficulty is that, whereas the chimney and its pot have been a fundamental element in houses and most other buildings in our northern climate for hundreds of years and have consequently been budgeted for without question, the use of these screens and facings will be dependent on the whims and fluctuations of fashion and spending money. The screens furthermore are non-structural and cannot double up as a basic but decorative building unit, particularly as they are not related to brick or concrete block sizes. If they did conform to these sizes, their potential would be much greater for use in landscaping.



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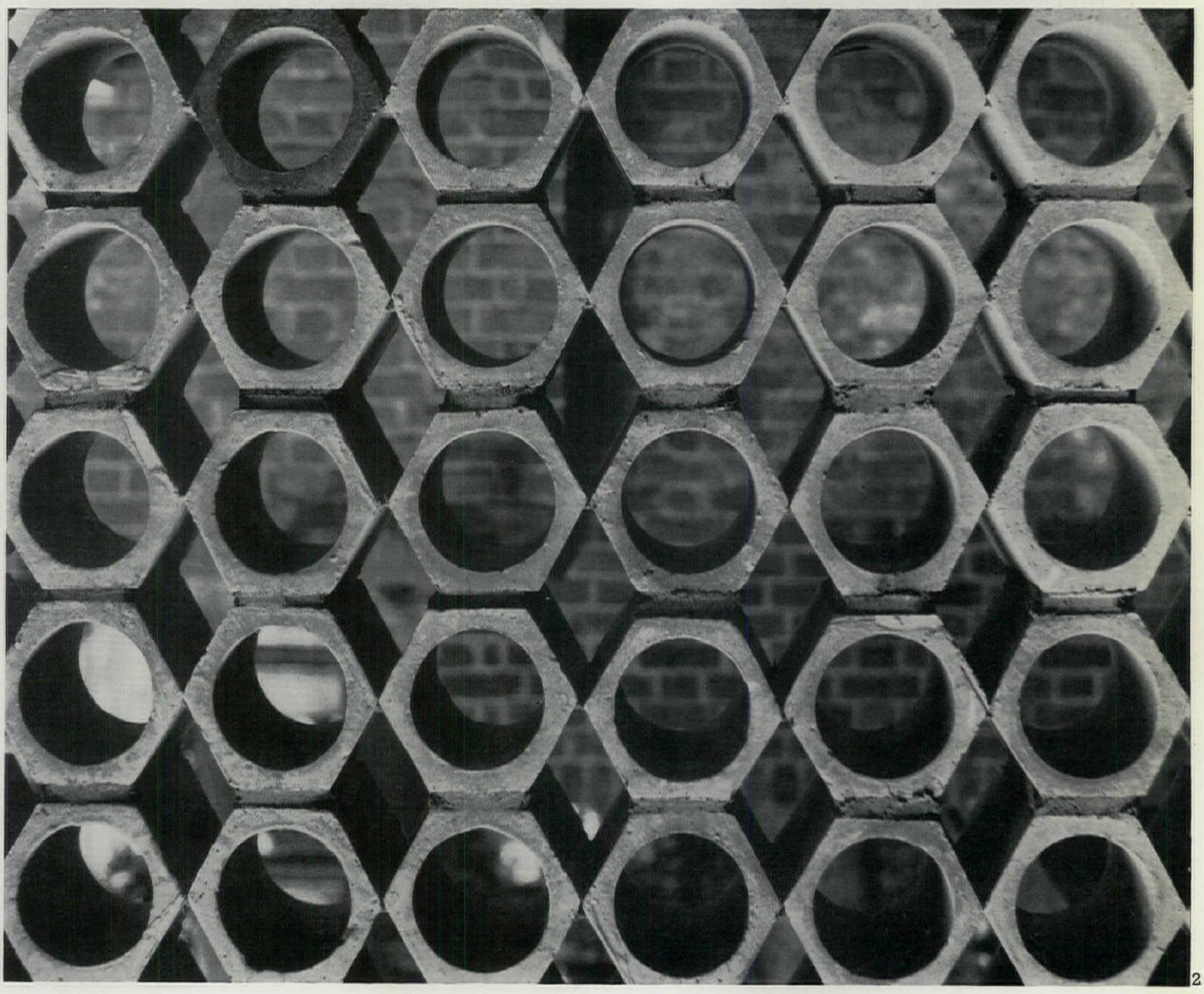

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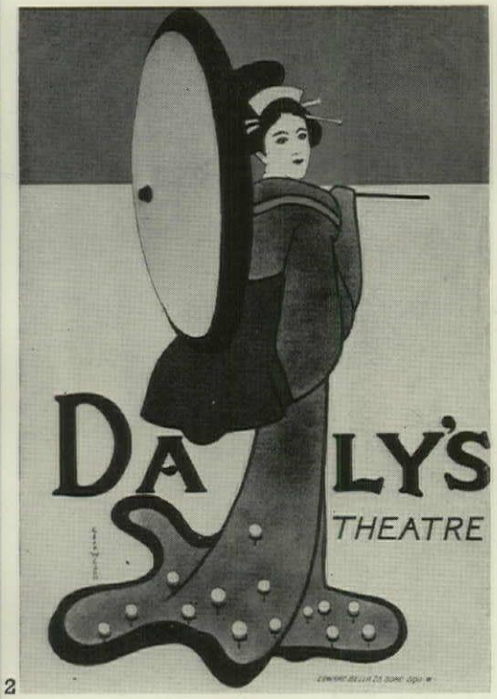
where he placed the words and what style of lettering he used: I fancy that he may have resented having to add words to his nice design and that they probably had the look of an afterthought. It's an attitude with which we now have little sympathy. Some of our best Pop artists—Lichtenstein and Peter Blake for instance—take an almost obsessive interest in lettering. To his paintings of wrestlers and pin-ups, Blake adds their names in beautiful lettering, as if he were actually designing posters for them. His example has been followed by Ian Dury in a black-and-white painting of Stan Laurel, 5, which was included in a recent show of young figurative painters at the ICA. It could be turned into a first-class poster without the slightest modification, and I sometimes think that the poster has replaced music as the condition to which a great deal of contemporary painting—not forgetting the hard-edge abstracts—aspires.

Gesmar seems to have been the poster artist most favoured by Parisians in the gay twenties. He appears to have made a poster for Mistinguett every twelve months or so, but although she was famous for her beautiful legs, she is presented in his posters simply as a laughing face, and a pretty characterless one at that. The most striking feature is usually her feathers—the feathers in her hat, not the ones that accentuated her behind.

7

8

His designs are bright and decorative, but they give the impression that stars like Mistinguett, Yvonne Legeay, 6, and Gilda Gray, 7, all shared the same vacuous face, and that they were quite content to be publicized as merely highly decorated and not very sexy cheesecake. Perhaps the most interesting thing about Gesmar is the fact that he could become the most popular poster artist in Paris by serving up an innocuous version of the *Art Nouveau* style long after the movement was otherwise in total eclipse. Van Dongen's poster for Arletty in 1931, 8, was casually thrown off by an artist who had really ceased to care about his art, but it looks immensely serious by comparison with Gesmar's empty formula, and conveys the impression that he had not, at least, ceased to care about women.



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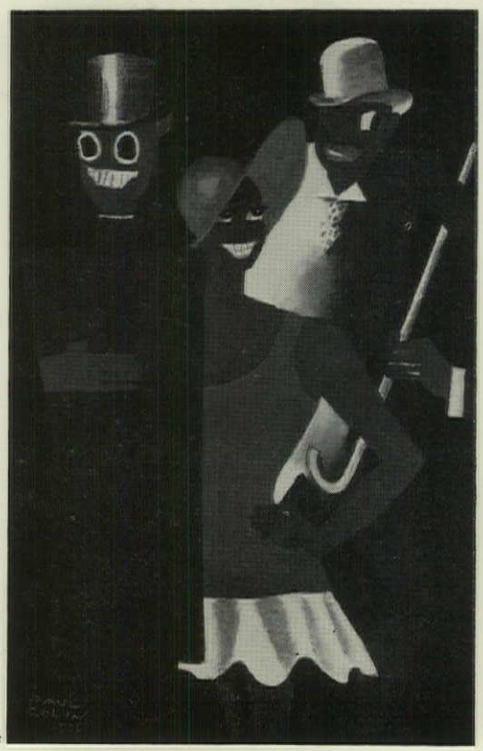
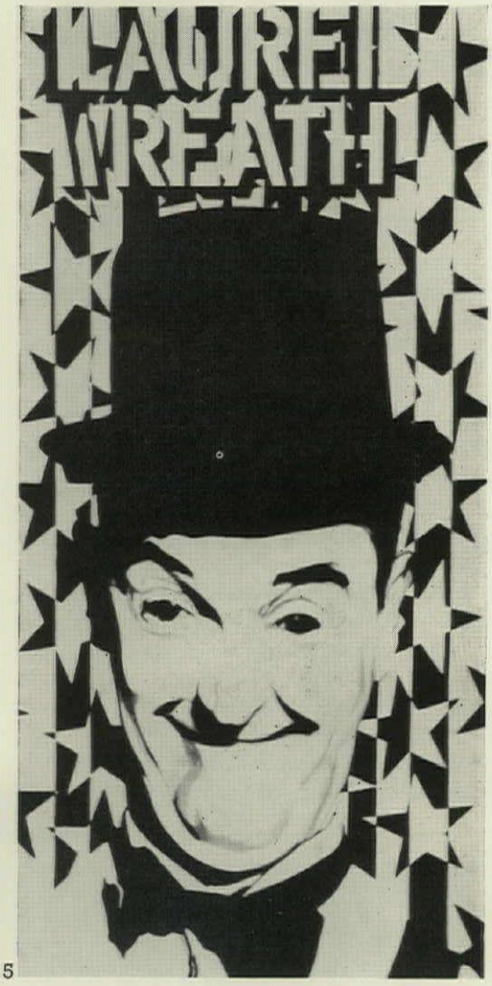
fascinating display. It's not the first exhibition of period posters to be held at this gallery, and some of the examples reproduced here are from earlier shows. Two English artists who were working at the turn of the century had an admirable grasp of poster technique, and although their designs are a bit lacking in exuberance the economy of means is quite remarkable. I know nothing about them, but I think their bold use of large areas of flat colour must stem from the example of Mackintosh and Beardsley. Edgar Wilson's poster for Daly's Theatre, 2, is dated 1896 by the gallery and, if it's correct, it was done in the same year as Charles Rennie Mackintosh's superb poster for *The Scottish Musical Review*. The Mackintosh can be seen in the Arts Council's exhibition called 'Decade 1890–1900' which is touring some of the provincial galleries, and apart from one painting by Wilson Steer it's the finest and most original work in the entire show. It depicts a tall preRaphaelite-type girl, but the symmetrical, highly stylized folds of her gown are drawn in black on a purple ground, and the effect combines with the rather sombre green of other large areas of flat colour to bring strikingly to mind the abstracts of Robyn Denny. Wilson's stylized Japanese girl is very far from being in the same class, but although the image is obviously second-hand it's used intelligently and has a lot of charm.

Alick Ritchie has more originality. His 'On the March,' 3, probably advertised a musical show or a song hit, and it makes its point with wit and economy. His poster for Buffalo Bill's Wild West Show, 1, is ingenious. It's a nice little exercise in the Arcimboldesque and, whilst making sure that its message could be read by people on the run, provided them with a good excuse for coming to a stand-still. The invitation to identify the objects represented in it is irresistible. The crown of Buffalo Bill's hat is a wigwam, his ear a horse's head, his beard the head of a buffalo, his hair the feathers of an Indian head-dress, his eyebrows


4

cartridge-belts, and his moustache seems to be composed of snow-shoes. Other details of the face and neck are defined with revolvers, axes, bows and arrows and what I take to be a Winchester. The hat brim is outlined by a lasso which trails away to form the words 'Wild West' and a fancy edging for the broad collar of his tunic. It's an original lithograph,



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30 by 20 inches, made round about 1905, and the example exhibited at Lords has been bought by the Library of Congress. I'm surprised that this poster hasn't been re-printed; aficionados of the Western would find it a very desirable item.

A delightful poster was designed by Paul Colin in 1926 for the Black Birds when they staged their show in Paris. Florence Mills is standing between two male members of the cast, 4. Colin used much the same technique of simplification as that of the Englishmen Wilson and Ritchie, but made adroit use of child art and cubistic squaring-off to convey a sense of the syncopated gaiety of the show. Lords exhibited the original maquette, which is without lettering. I would like to know

GALLERY

a monthly symposium on painting, sculpture and the applied arts

THE ENTERTAINERS

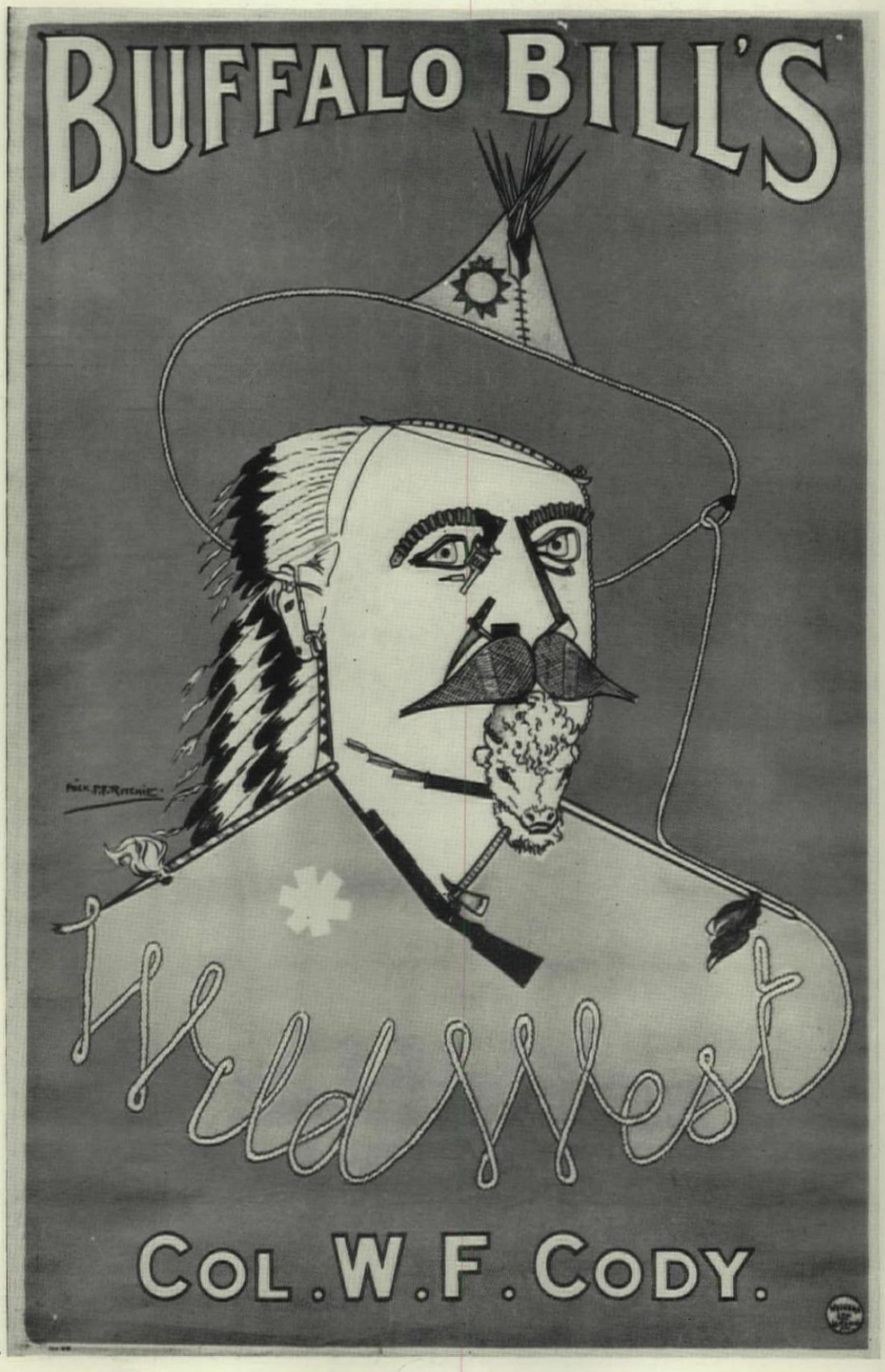
Robert Melville

In the heyday of the big dance bands a small poster appeared from time to time in every big English city. It was the back view of a man in a dinner jacket with his arms raised, accompanied by the words 'Jack's Back,' and it was a clear indication to most people that Jack Hylton's band was in town. If at that time there were other effective images of popular entertainers on the hoardings I've forgotten them. I doubt if there were. It was only in Paris that the genre ever really flourished, and even there it had seen its best days by the end of the century.

Early in its history, someone decided that the ideal poster is one that delivers its message in full as you flash by at a quick trot, but it was Lautrec who discovered that it was the exhibitionism of pop dancers and singers that provided the most stirring subject-matter for instantaneous recognition by the trotting public. No one else, of course, has ever approached the dazzling veracity and verve of Lautrec's posters for Avril, Bruant and Caudieux, but it should be remembered that no thanks are due to the entertainers themselves. They wouldn't have commissioned Lautrec if he hadn't pestered them and hadn't been a good client of the places where they performed. They much preferred the weaker, prettier Chéret, and an exhibition of music-hall and theatre posters recently held at Lords Gallery convinces me that it was the obtuseness, vanity and conventionality of the dancers and singers that prevented other artists of the stature of Lautrec from making important contributions to the art of the poster. Bonnard, for instance, had all the right equipment for a great poster artist. He was a master of the colour lithograph; he had a marvellous feeling for what Baudelaire called 'the passing moment and all the suggestions of eternity that it contains'; and when he was a young man his style was distinguished by that peculiar quality of wanton elegance which we tend to associate rather too exclusively with Lautrec. If Parisians had been as civilized as they pretended to be, his brilliant poster for 'France Champagne' would have brought him a flood of commissions from the entertainers.

It's a sign of Lautrec's undiminished popularity that one of the contributions to the Young Contemporaries exhibition at the Tate was a large paraphrase in oil of a Jane Avril poster. But I think this student might have done better to apply himself to the more urgent task of attempting an adequate image of, say, Dusty Springfield singing. Her panda-like eye make-up, her spangled mini and her little-girl gestures deserve to be immortalized.

The exhibition at Lords Gallery was called 'The Entertainers,' and although the four or five Lautrecs looked like aristocrats being jostled by the poor and needy, it was a



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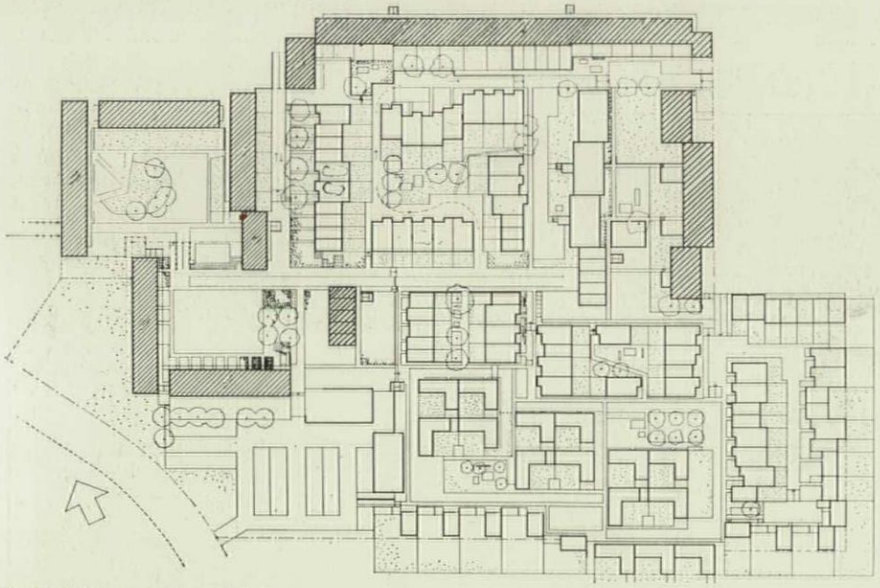
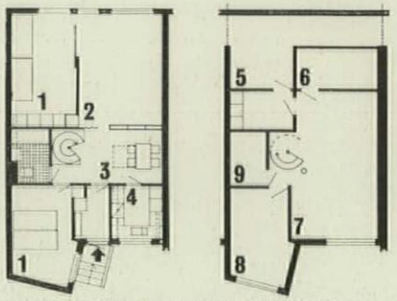
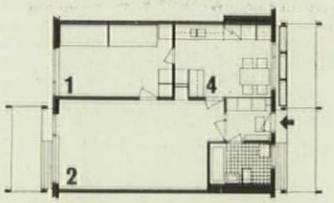


site plan (hatched areas, multi-storey blocks)



typical one-family house: ground floor and semi-basement



three-room flat

0 1 2m

key

1, bedroom	4, kitchen	7, work room
2, living	5, bicycles	8, wash house
3, dining	6, storage	9, larder

This is an estate of 340 dwellings (of which 220 have now been completed) on the outskirts of Tibro in southern central Sweden, designed for a contractor-developer, Svenska Riksbyggen, but conforming to a plan commissioned by the local authority in 1959. It has been laid out to achieve complete traffic segregation while at the same time avoiding long walking distances from the traffic network.

Eighty-five of the dwellings are one-family houses. The remainder are in multi-storey flats, some with gallery access and some with internal staircases. There are also old-age pensioners' homes and invalid dwellings and one shop. The flats range in size from one-room bed-sitters to three-bedroom flats.

Construction is concrete slabs with load-bearing cross-walls, external walls being of 10 in. light-weight concrete elements. The balconies are formed of two reinforced concrete frames hung from the façade, a concrete floor-slab and a prefabricated timber balustrade, a method designed to prevent thermal and acoustic transmission. Along the access galleries the external walls are timber-framed and faced with horizontal boarding. A central plant provides heating for the whole estate.

Associate architects, Aage Rosenvold and Herbert Scheiwiller. Engineer, J. Agren.

HOUSING AT TIBRO, SWEDEN

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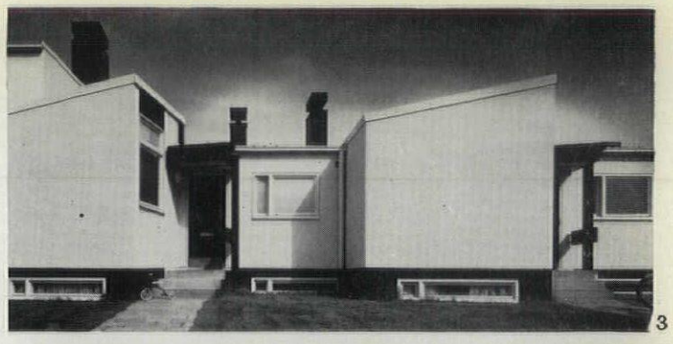

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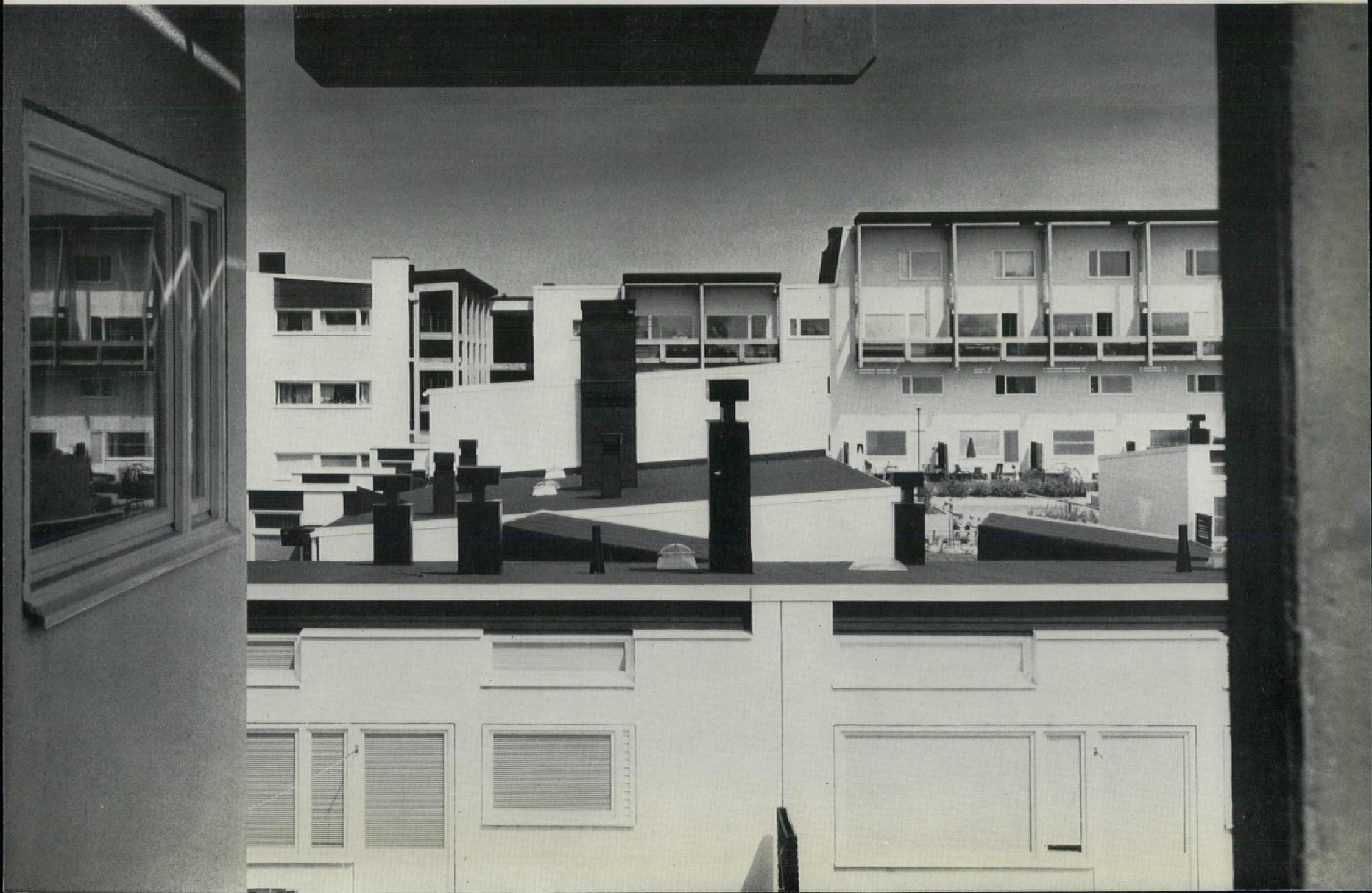
1 (previous page), general view of the estate from one of the multi-storey blocks. 2. gardens at the rear of the tall blocks. Both this view and 4 show how the reinforced-concrete framed balconies are hung from the façades. 3, single-storey one-family houses with semi-basements. 4, central area with, in the foreground, play space. 5, view of the multi-storey block corner of the estate from one of the surrounding fields.

HOUSING AT TIBRO, SWEDEN | *architect* **RALPH ERSKINE** | *photographs by Brecht-Einzig*



CANADIAN CASTLES

to me this would have been nothing short of a positive misfortune. . . . It was practically at the apex of the picturesque old city, and if ever there was a natural place and a natural reason for a picturesque building, it was here; that, and the variations in the site levels that made it perfectly logical to add part to part. . . . The plan somewhat approximates the crazy-quilt fashion, but I believe the results justify the solution.'

The most engrossing figure of all, however, was surely William Cornelius Van Horne—not one of the architects, but the tycoon who hired them. His personality deeply pervades the history of the Canadian railroad adventure in all its ramifications. He was a perfect example of the late nineteenth-century version of the 'universal man'; of Brahmsian proportions, and possessing an endless source of physical and mental strength. Born of a pioneer Dutch family of New York, he became a telegrapher for the Illinois Central Railway at the age of 14, a job from which he was fired for having led a live electric wire across a passageway for the fun of seeing the bewildered passers-by jump in surprise. However, he continued in telegraphy, and by the age of fifteen was filling his off-hours with a study of accounting and of draughting, and making systematic plans for a career in railroads. Long after he had fulfilled these plans he wrote to his grandson describing how he had worked toward his first important promotion to the position of General Superintendent: 'I imagined that a General Superintendent must know everything about a railway. . . . I took no holidays, but gladly took up the work of others who did, and I worked nights and Sundays.' He adds that he 'avoided every path, however attractive,' that did not lead to his goal. Thus he became familiar with railroad machinery, line repairs, bridges, driving locomotives and conducting trains. Later, he found time to pursue other paths, and plunged with his usual intensity into the study of geology, biology and botany. There exist certain of his fossil discoveries known as 'Van Hornei.' Upon hearing that Louis Agassiz was making a trip on one of the railroads with which he was connected, Van Horne arranged to meet the scientist on the train, and from that time on the two corresponded with one another on scholarly matters.

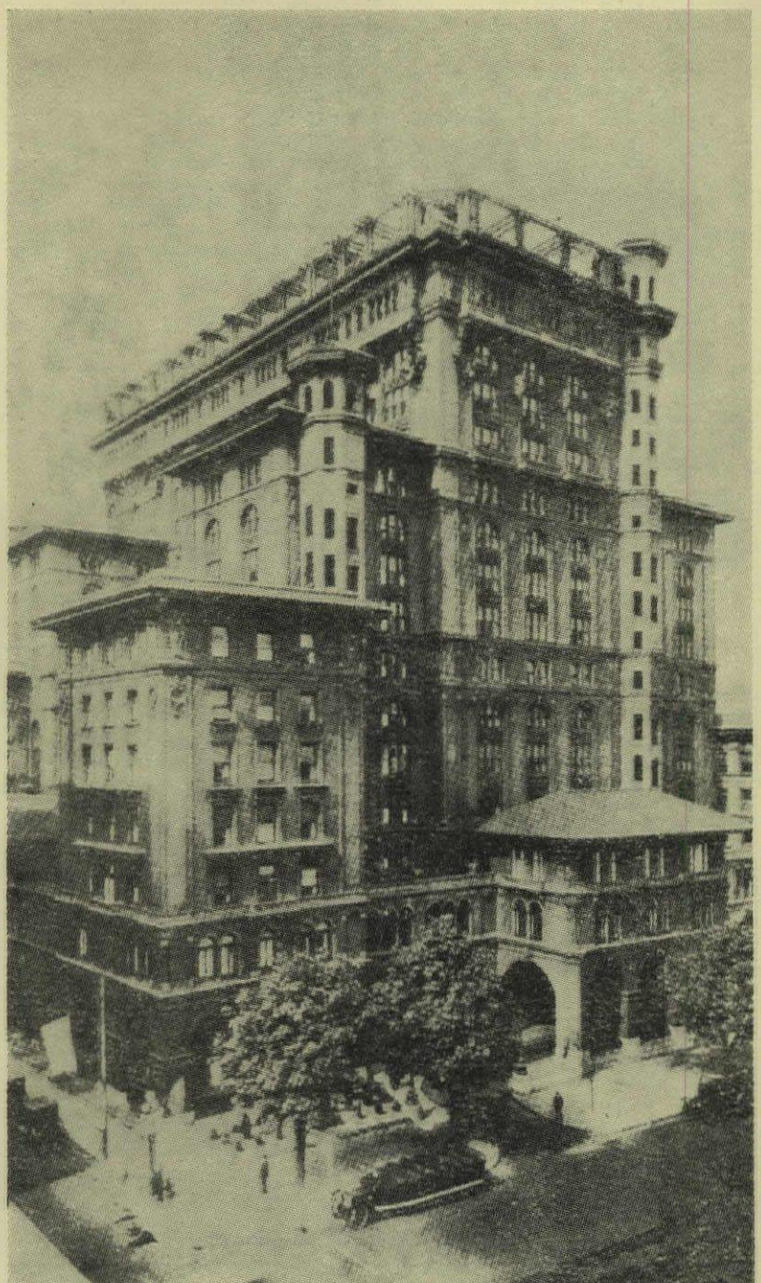
He loved to paint, and after spending every minute of a long day in the high-powered world of railroad business, he still had the stamina to spend midnight hours at his easel. But even this was done with despatch. A friend, who sometimes painted in company with him, said Van Horne 'wanted to paint by telegraph.' He began a collection of paintings which ultimately ranged from the Barbizon School through Japanese art, and even included a Rembrandt ('The Jewish Rabbi') and a Murillo ('Cavalier') among Daumiers, Monets, Delacroixs and Monticelli's. Once, when he was asked to support a young Canadian artist working in Paris, he wrote, 'If the young man's sojourn in Paris . . . leads him to the imitation of French ideas and methods I shall consider the money very badly spent. . . . I do not mean that French ideas and methods are not good, but that originality is a priceless jewel. . . .' He was an avid poker player, kept a set of chessmen in the 'Saskatchewan,' his private railway carriage, and was, in spite of his girth, agile at the billiard table. To supplement these gentlemen's games he could entertain his guests tirelessly with prodigious mental feats based on a memory and a skill for observation and deduction which he carefully nurtured.

Aside from having driven the Canadian trans-continental railroad through to its historically successful conclusion where others had failed, and having promoted brilliant and massive schemes to publicize, settle and develop the areas through which the trains passed (he is said to have appointed priests as colonizing agents to divert French Canadians from migrating to the New England factory towns), Van Horne seems constantly to have had a direct hand in the architectural facets of his extraordinarily complex activities. It was he who chose the Olympian sites for the Banff Springs Hotel, 17 and 18, and for the Chateau Frontenac, and he who chose the architect who might have the vision to live up to them. In spite of Bruce Price's boasting about his habitually careful site studies, one gets the impression that it was on Van Horne's suggestion that the two went out in a boat on the St. Lawrence River to determine exactly how their proposed castle on the cliff should silhouette against the sky. Van Horne said he wanted it to be 'the most talked about hotel on this continent.'

When Price came up with his 'functional-picturesque' drawings for the Chateau Frontenac, for the Place Viger Station Hotel in Montreal, and for the company headquarters on Windsor Street in Montreal, Van Horne's firm pencil-marks were never lacking upon them. Price forever regretted the omission of his 'high sloping roof with great dormer windows' and the tower lantern which he had intended for the Windsor Street pile, a building described as being 'impressive as a Norman fortress and typifying by its solidity the character of the corporation it housed.'

The story is told that at Banff the contractor mis-oriented the plan and gave the kitchen, instead of the 'rotunda,' the tremendous sweeping view of the glacier. Upon discovering this, Van Horne, after having loosed a Jovian tempest which echoed from the surrounding peaks, quickly sketched a circular pavilion in front of the kitchen to project into the mountain landscape and recapture the view. When a suitable design for the station at Banff was undergoing lengthy discussion (an old box-car served as the first 'station'), Van Horne, again on the scene, impatiently sketched out a log chalet on a piece of brown paper and, waving it toward the wooded slopes, gave the order to the builders: 'Lot's of good logs there; cut them, peel them, and build your station.' As succinct as God's injunction to the animals, and equally as effective. Many examples of these utterly simple and appropriate log stations can still be seen.

At a time when modern town planning was in agony of birth, Van Horne was eminently mindful of the planning of space around his hotels and railroad stations, and beyond the immediate vicinity of these, the development of wide areas of settlement. Of his plans for the Chateau Frontenac he wrote that he would avoid 'marble and frills' and that he would 'depend on broad effects. . . . I am planning to retain the old fortifications . . . setting the hotel well back from the face of the hill so as to afford ample room for a promenade. . . .' The promenade had actually been built before the hotel was planned, but with the elegant scenographic façade of the 'Chateau' it became and remains one of the most vividly successful public spaces in North America.



23, *the second Vancouver Hotel, built in* 1913 *and demolished in* 1949 (*from the photographic collection of the Vancouver public library*).

CANADIAN CASTLES

could not love so well the tape which recently replaced the Empress Hotel's tea-time serenaders led for more than thirty years by Mr. Billy Tickle. At the Chateau Frontenac there yet assembles every afternoon a shatteringly sober quartet of pale and elderly musicians in tatty eighteenth-century attire, 20, who offer medleys from *My Fair Lady* and succeed in stirring a mad but ingenuous *mélange* of synthetic nostalgia.

It is a shock to remember that the exceedingly Victorian chambers of the Empress Hotel were officially opened in 1908, and not a half-century earlier. The faltering Empress, with enormously wasteful cubage under its picturesque steep roofs—with quantities of rooms which cannot be used, either because they were designed with only tiny skylights for the use of servants, or have windows obscured by endless stretches of traceried parapets designed to be viewed from afar—would, under the normal circumstances pertaining to any developing North American city, be demolished forthwith. But one hates to see it go. When, in 1945, the second Vancouver Hotel 23, (an Italianate palace, used during World War II as an army billet) was taken over by war veterans and their families in a desperate attempt to assume by force a species of housing accommodation which the authorities were slow in providing, one 'vigilante' urged the mayor to evict these arrogant veterans speedily and summarily lest they harm 'the fine panelling.' Actually, a third Hotel Vancouver (another Francis I-type 'chateau') had already been built nearby, and the veterans were attempting to delay, rather than hasten, the scheduled demolition of the building they had invaded.

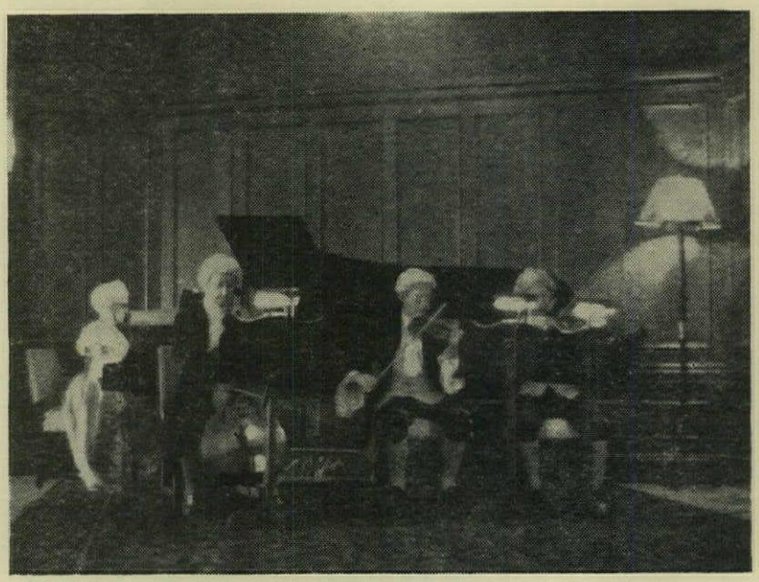
This was not the first time a railway hotel had figured in public controversy. Popular attitudes toward the hotels, as well as toward the railroad companies who owned them, have readily manifested symptoms of hate together with the love. The monumentally large ownings of prime land, rural and urban, which the railroad companies control, are apt to excite envy among the invidious and frustration among the idealists. Many of the hotels were built upon the promise of municipal tax rebates, and every time an agreement to this effect has come up for renewal, the local journals have invariably clamoured, 'Why?' Public resentment being long and gratitude short, the answer is seldom readily at hand.

The men behind the architecture

The architects and company executives who were responsible for the erection of the railroads' edifices were often as intriguing, if not as quaint, as the buildings they created. One of these was Frances Mawson Rattenbury—inoffensively known as 'Ratz'—who, after an apprenticeship in Leeds with the firm of Lockwood and Mawson, designers of Saltaire, came to Canada in 1892 at the age of 25 to win the plum of designing the imposing *palazzo* for the British Columbia parliament at Victoria. While commissions poured in—including the design of the Empress Hotel, work on the second Hotel Vancouver and, later, several hotels for the Grand Trunk Pacific Railway (which became the Canadian National)—Rattenbury began to speculate in the sort of romantic ventures the Northwest could offer in those wild, pioneering days. He made a fortune during the Klondike gold-rush by building boats whose prefabricated parts were shipped for assembly on remote Lake Bennett. Each cost 5,000 dollars to prepare and 25,000 to transport. He also sent a herd of cattle into Dawson City to feed a gold-rich but meat-hungry population. He helped to found a paint company and a brewery in Victoria. Like his contemporary Stanford White, he was able to top off his adventurous history by being murdered in a triangle affair involving the sixty-eight-year-old Rattenbury, his second wife, aged thirty-eight, and his eighteen-year-old chauffeur.

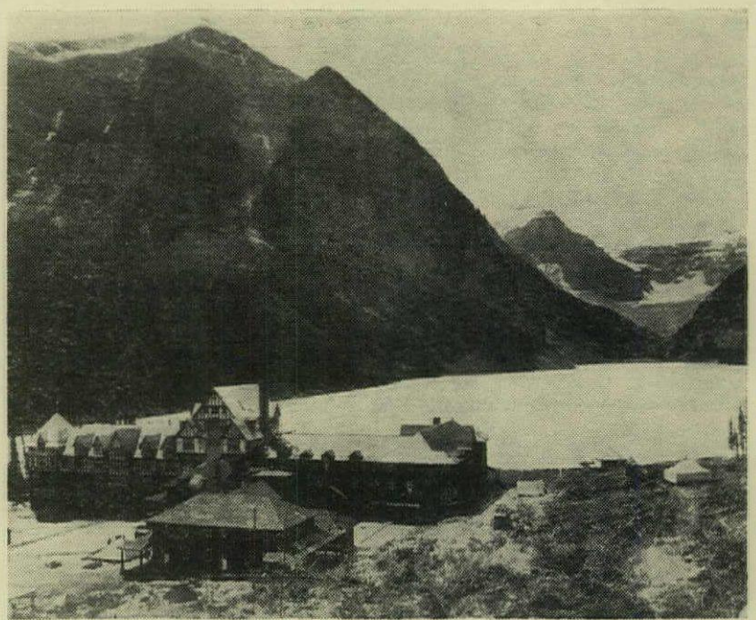
Bruce Price, the American architect of the Chateau Frontenac at Quebec, was the father of Emily Post, whose rationalization of anachronistic social behaviour mirrored her father's ability to do the same for his approach to architecture. 'The real rule,' he affirmed in an interview in 1899, 'is never to lose sight of the architectural solution, and that is invariably the simplest one. . . . The Chateau Frontenac could never have been anything else than it is. . . . Whatever may be picturesque in the design is a natural result of natural conditions. . . . Personally, I like to design on the spot; it is the only way to obtain satisfactory results.' In the same interview he deplores the taste of his times in which, he says, 'everything must be quaint and odd, rooms shooting off at unexpected angles, or unexpectedly appearing where they were least wanted; rooms at various levels, with steps up or down to them; rambling strange affairs, a mixture of all sorts of odds and ends.' But he then confesses: 'I acquired a very considerable reputation in doing these very things of which I now absolutely disapprove.'

A little later he waxes euphoric about the design for the Chateau Frontenac. 'It was originally proposed,' he says, 'to build an ordinary hotel in an ordinary way; that is, a square structure planned in rectangular fashion. It seemed



20, *the musical quartet, in eighteenth-century costume, that still plays at tea-time in the Chateau Frontenac, Quebec.*

21



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21, *Chalet at Lake Louise, the simple hotel built in the Rocky Mountains in* 1899. *It was superseded during the first decade of this century by the far more ambitious half-timbered building shown in* 22, *and this in its turn was superseded by the splendid edifice shown in* 19 *opposite.*

17

17, *the Banff Springs Hotel, Alberta, at the head of a valley surrounded by the Rocky Mountains.* 18, *Banff Springs Hotel: the earlier version, more domestic in scale but equally picturesque in intention. It was destroyed by fire in* 1912 *after which the chateau-style version shown above was built on the same site.* 19, *Chateau Lake Louise, also among the Rocky Mountains in Alberta.*

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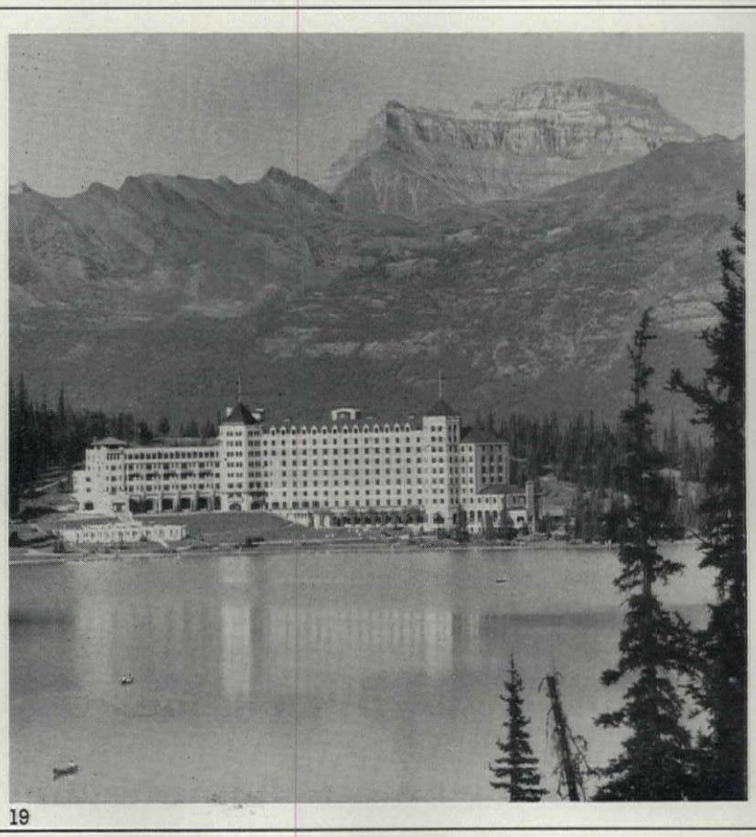

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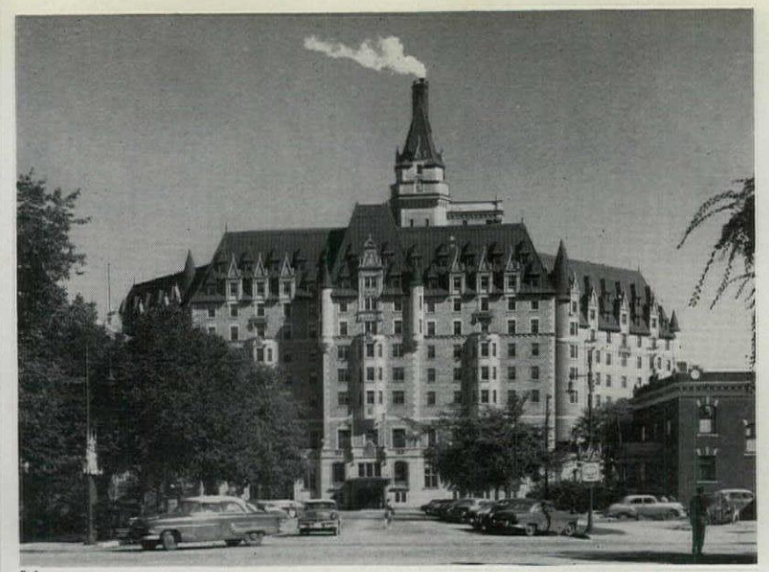

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14, *the Bessborough Hotel at Saskatoon, with characteristic plume of steam.* 15, *conference dining-room in the Chateau Laurier, Ottawa.* 16, *airview of Ottawa showing the grouping (and similar architectural styles) of the government and Parliament buildings, of which 'the hotel might well boast of being an extension,' with the Chateau Laurier at bottom right.*

16

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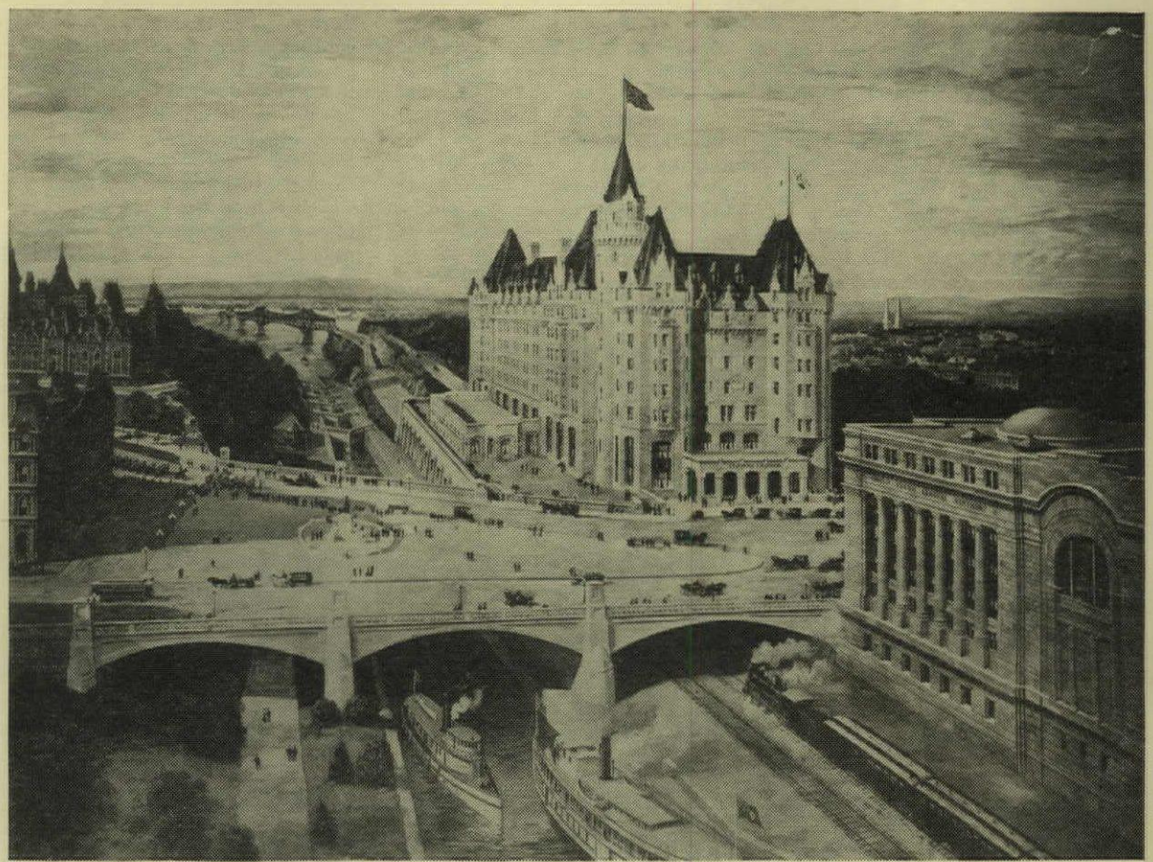
and the town hall—as well as the inn—fulfilled for the ancient European, the railway hotel provided for the modern Canadian. Furthermore, the 'rotunda' or lobby of this hotel was his agora, his piazza, where at no cost at all he could spend any time of day or evening in a centrally-heated, lavishly furnished gallery, meeting his friends, reading his newspaper, or observing the passage of those celebrities and non-celebrities whose temporary presence in his town afforded him a precious contact with a wider world. The custom of observing this indoor promenade of strutting strangers gave the name 'Peacock Alley' to the chain of lobbies at the Frontenac, an epithet borrowed from the old Waldorf Hotel in New York.

The hotel as a potent symbol of what it was to the community was unabashedly flourished by the executive builders of the railway companies. Like the cathedral, it had to be the dominating presence in the urban fabric, an eminence on the skyline. In many of the Canadian cities it remains so today in spite of the irreverent but significant competition of the soaring office buildings of the last decade. Whether it be on the desolate horizon of the infinitely flat prairie or silhouetted against a hovering mountain range, it is nearly always the railway hotel, the general symbol of the city's social and commercial life, that first comes into view, that first denotes an urban entity ahead. If there is an additional landmark, it will usually be a legislative building, a grain elevator or a factory chimney, representing the other, more particular, facets of local vitality.

To achieve this valuable effect, accident and design had to be exploited with boldness and originality. The companies had the advantage of controlling unusually extensive properties made available to them by governments which had more land than money with which to bait the railway builders. But this hardly tells the story of an example such as the Empress Hotel in Victoria, which, although other sites were available, was built on one which was under water at the end of a harbour inlet, because this placed the hotel squarely at the door to greet foreign visitors to the city and to the country, since it was through this very inlet that the CPR's own ships entered from the Orient. The provincial legislative building in all its domed Palladian splendour (designed, incidentally, by the same architect who created the Empress) took a more humble position to one side.



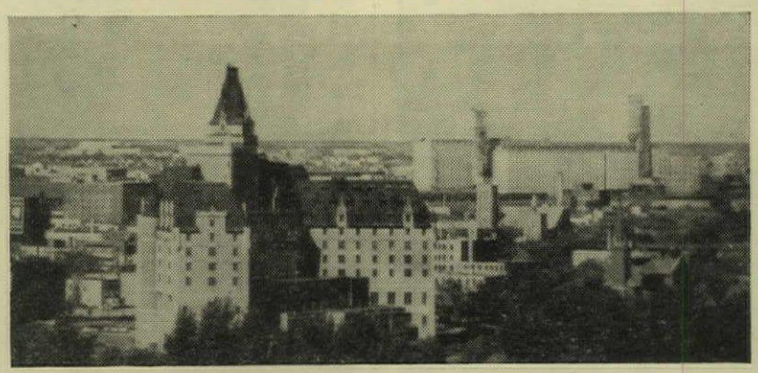
12, *a water-colour panorama of the Chateau Laurier at Ottawa, showing the hotel's relation to the government buildings, left, and the central railway-station, right.*

In the capital city of Ottawa, the Chateau Laurier's recollected medievalism, 12 and 16, the first thing one sees upon issuing from the station across the street, seems to constitute an intimate and proper extension of the sprawling Gothic revival legislative complex next door. Since some of the nation's most critical decisions have been reached within its chambers, the hotel might well boast of being such an extension.

The Bessborough in Saskatoon, set on the shore of a bend in the river and closing the vista along a main street, stays tenaciously in view from every part of the city as effectively as the margrave's tower at the focus of radial Karlsruhe. The little white plume of steam which tops the chimney at the apex of its steep 'French' roof (but which the hotel's proud engineer misguidedly likes to suppress, since to him it represents an inefficiency of the mechanical operation) has become a sentimental landmark to those who refer to the hotel as 'The Bess.'

No wonder that again and again, from city to city, the Canadian railway hotel became a treasured object within its community, a symbol of something to which the local settler felt he belonged, and which he also felt belonged to him. The Canadian has obviously seized upon this symbol out of a profound need. It seems to have represented an aspect of the history of European civilization which he, in his development, missed. This must have been especially true of the western communities which were essentially created during the second half of the nineteenth century and which, unlike Quebec and Ontario and the smaller maritime provinces in the east, lacked a solid cultural continuity and contact with their European past. They had not yet savoured and wallowed in that state of romantic medievalism which elsewhere was past or passing and even deplored. Thus the hotel had to be more than just a centre for a worldly social life in a democratic age; it had to pose in the elegant costume of an age of social classes, which suggested that those who entered the ballrooms of the palace were invited guests of rank, gentlemen and ladies of importance, squires rather than peasants.

Every crocket, every gargoyle, every dormer, became a beloved mark of that gentler, more refined tradition either remembered from childhood or from imagination. To sip tea with hatted friends from a tray amassed with an opulent array of hotel silver in an ambience of dark wood panelling and the crested hoods of immense fireplaces, while from a genteel musical ensemble within the room there softly issued waltzes and melodies of long, long ago—all this meant a great deal in the life of a Canadian matron who found herself an ocean, a prairie and several mountain ranges away from the delicacies, comforts and amenities available to her sisters who remained securely within ancestral territory. In fact, it was a woman, Mrs. Hayter Reed, wife of the first general manager of hotels for the Canadian Pacific Railway Company, who advised on the interior decoration of several of the early hotels and who created that atmosphere of declined but indomitable nobility which still feebly permeates the older establishments. Even the most positive participant in the electronic age



13, *the Bessborough at Saskatoon, Saskatchewan, showing how the town is simultaneously and characteristically dominated by the hotel and by a cluster of grain-silos.*

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nection to serve the needs of hurried oil speculators, but so many charlatan promoters were ostentatiously receiving bogus phone calls regarding 'oil strikes' that the management decided to remove this convenience.

By 1919 another major railway company had entered the Canadian scene. This was the Canadian National Railway Company created by the Canadian Parliament from a rag-bag collection of failed or failing companies which the government felt obliged to take over. Later, this company became an official government agency and created the awkward situation of two dominant railway companies, one private and one government supported, a circumstance which has since been extended to the administration of the country's two principal air lines. With the railroads, the Canadian National, too, inherited a certain number of hotels and, following in the footsteps of its successful predecessor, the younger company joined the orgy of castle-building and brought forth several notable examples, including the Chateau Laurier in Ottawa (1912), 12 & 16, the Fort Garry in Winnipeg (1913), 11, the Macdonald in Edmonton (1915) and the Bessborough in Saskatoon (1935), 13 and 14.

Their role in Canadian life

The significance of the railway hotel's role as nucleus and centre-of-gravity of Canadian urban life during the first half of this century can hardly be overemphasized. These hotels were indeed conclaves into which sophisticates from London, New York and Montreal could scurry for protection along their journeys through the wilderness, but this aspect of their function is nothing in contrast to what they meant in tangible terms to isolated settlers in town and farm hungering for even the slightest contact with cosmopolitan existence. Almost any Canadian born within a reasonable distance from one of these centres will recall today that nearly all the important landmarks of his life took place or were celebrated—and even solemnized—in his local railway hotel: his baptismal reception, the children's Christmas and Easter parties that he remembers, the football rallies he went wild in, the dances he suffered and enjoyed (it might have been the occasion of meeting his future spouse), his marriage reception, his critical business meetings, the commemoration of his anniversaries. In short, the functions that the church, the manse, the guild hall

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8, the chateau style carried to the farthest west: the Empress Hotel, Victoria, British Columbia. 9, entrance hall, the Empress Hotel, Victoria. 10, the Palliser Hotel, Calgary, 'a more functional-looking block befitting the Chicago-like atmosphere of the site and resembling the grain-elevators just down the street.' 11, another, more romantically silhouetted, prairie-town hotel: the Fort Garry at Winnipeg.

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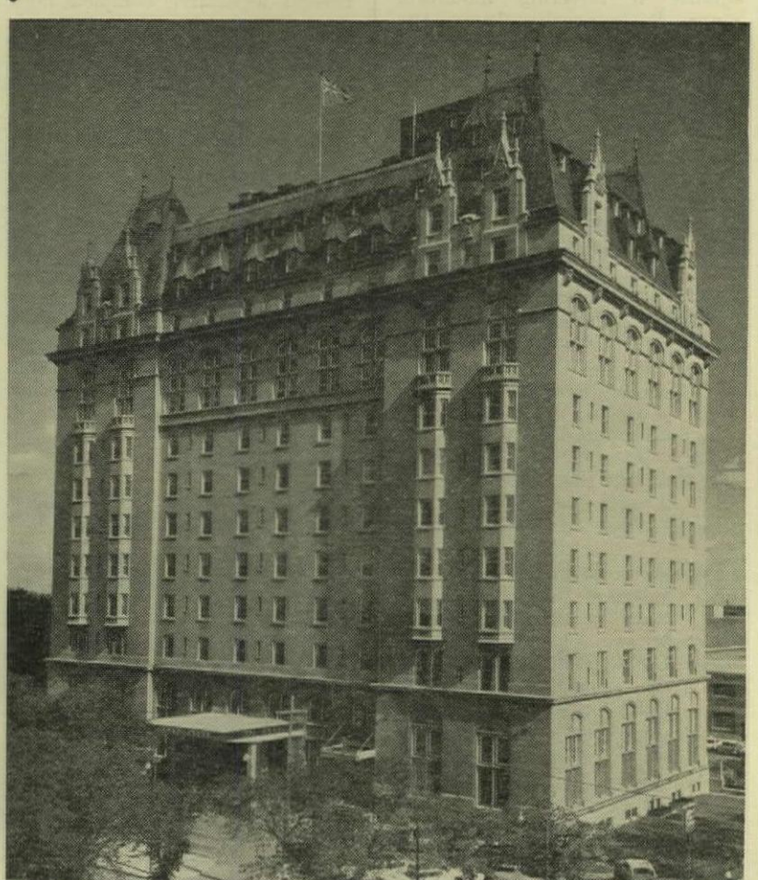

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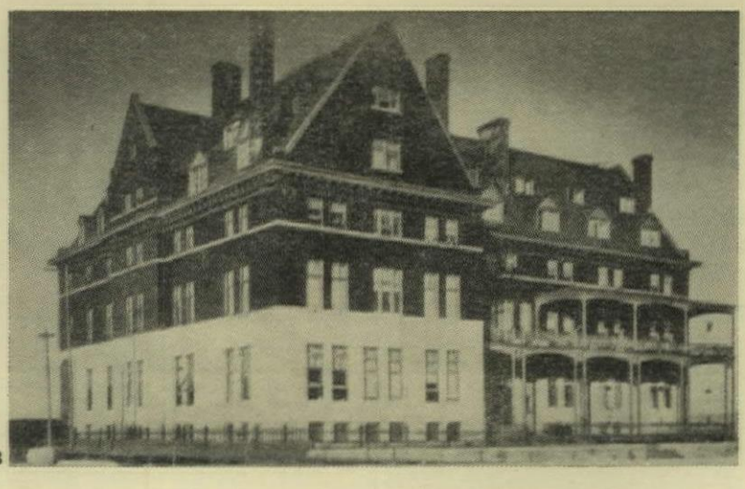

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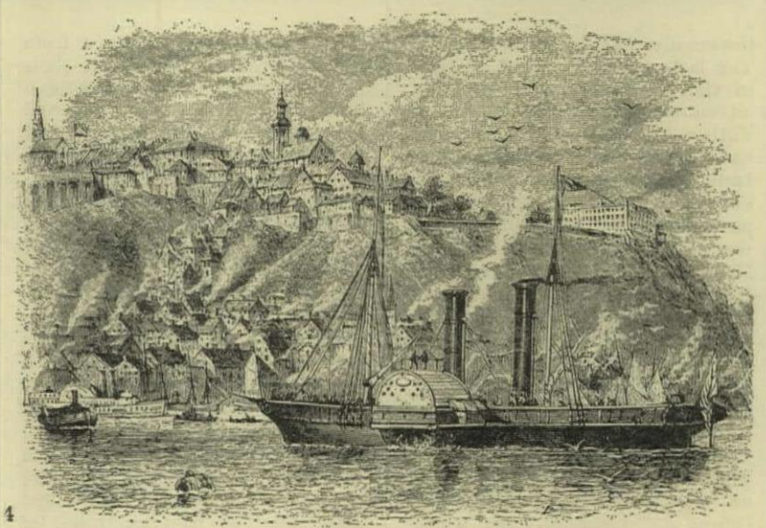

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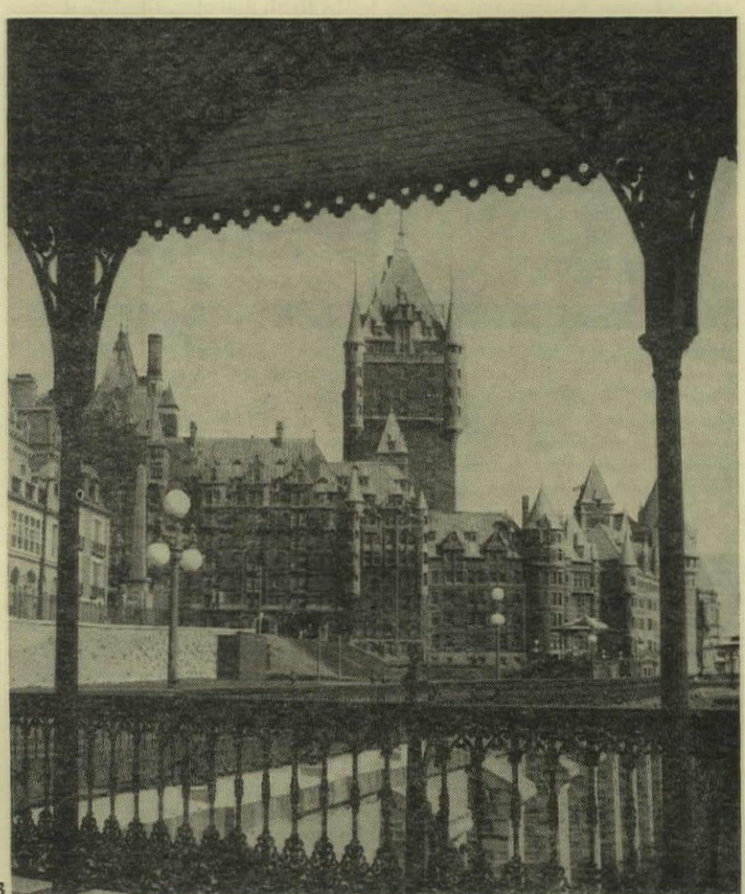

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3, *the first Hotel Vancouver (built* 1886–87) *from a photograph in the collection of the Vancouver public library.* 4, *the site of the Chateau Frontenac, Quebec, seen from the St. Lawrence, before the hotel was built, from* Canadian Pictures, 1885, *by the Marquis of Lorne, Governor General of Canada.* 5, *the Chateau Frontenac from cliff-top level.* 6 *and* 7, *carvings in its entrance courtyard.*

large commercial business of the place, as well as the great number of tourists. . . . It is situated on high ground near the centre of the city, and from it there is a glorious outlook in every direction.' Thus, with little more than the words it uttered, beyond the construction of the railway, a station and a hotel, the company created the city of Vancouver in a primeval forest among the fjords and foothills of the northern Pacific Coast. The site for the railroad's western terminus had been chosen as a compromise solution to the quarrel that had been raging among the established towns to the west and to the east of this surprise location. Victoria, across the Georgia Straits on Vancouver Island, and New Westminster and Port Moody at the lower end of the Fraser River, had been lobbying bitterly against one another to the harried agents of the company. Each knew that at the point where those treasure casks, the railway cars, must be filled and unfilled, that place would prosper and prevail. Like Constantine, choosing for his capital tiny Byzantium after rejecting more ancient and venerable centres, the Canadian Pacific Railway Company decided upon the insignificant settlement on the wooded shore of Burrard Inlet, known as Granville Town (unofficially, 'Gastown'), and made of it Vancouver, now the third largest city in Canada.

Sites and silhouettes

The first Hotel Vancouver was *not* 'situated near the centre of the city,' as the company claimed. The summit of the hill which it crowned was actually far enough away to be very definitely on the edge of where the city seemed to be. But when Vancouver had its Great Fire in 1886, and its citizens began to re-build around what they thought was its centre, they discovered that the real heart already lay in the bushy desolation around the foundations of the new hotel. This cunning genius for siting, this cold assurance that the wealth and society of the communities in which it built would inexorably gravitate towards its enterprises, no matter what the natives might suppose, marks the early powerful history of the Canadian Pacific Railway Company.

The Hotel Vancouver, dominating one of the nation's youngest cities, was hardly open for business when the new president of the company, William Cornelius Van Horne, began to plan the most ambitious venture of them all, a mighty cliff-side manse to tower over one of Canada's oldest settlements, the City of Quebec. He had fixed upon a site, 4, that was fit for a castle, and to design the magnificent keep that must suit it Van Horne chose Bruce Price, of Boston, architect to the baronially inclined High Society of the late nineteenth-century America. Price had worked for, and was an

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admirer of, H. H. Richardson. It was said that his inspiration for the Chateau Frontenac at Quebec, 1 and 5, was Richardson's Lunatic Asylum in Buffalo, New York (1871). Abounding in dormers, turrets, chimneys, carvings, 6 and 7, conical roofs, and irregular building masses, it was capable of exciting the imagination of anyone in practically any mental state. 'It would be a dull person indeed who could remain cold upon first viewing this beautiful building from the river,' said one of the early CPR press releases. Hardly anyone did. Immediately, the Chateau Frontenac seemed to sum up in the minds of both foreigner and native all that Quebec was, or all that it was expected to be.

The hotel empire founded by the CPR continued to expand well into the nineteen-thirties with more than a dozen further additions to the family, including a few acquired from other builders. In anticipation of Expo 67, the company has indeed just completed two hotels in modern tower form, the Chateau Lacombe in Edmonton, and the Chateau Champlain in Montreal, but these belong to another aspect of history.

Among the most colourful of the pre-thirties hostelries was the Empress Hotel in Victoria, 8 and 9, which, typical of the 'chateau' hotels, flaunted a French exterior while clutching at every possible symbol of British colonial culture within. Another, at the edge of the Prairie, was the Palliser in Calgary, 10, a massive, more functional-looking block befitting the Chicago-like atmosphere of its site, and resembling in its configuration the grain elevators just down the street. The Palliser, built in 1914, boasted the longest bar in western Canada. This bar was connected directly with the station platform at the side of the hotel, and, while charging for drinks, offered gratis all the food that one could eat. In the room (reserved exclusively for men) every column was fitted with a telephone con-

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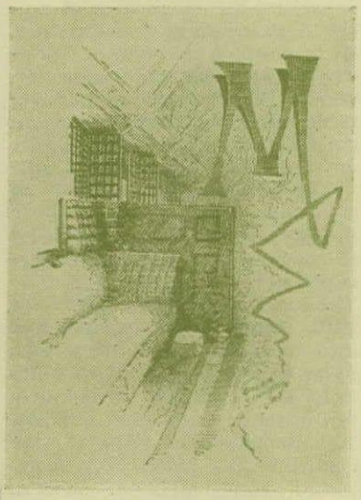
PHENOMENON OF THE RAILWAY HOTEL

ABRAHAM ROGATNICK

This month, when Expo 67 is causing all eyes to be focused on Canada, is an appropriate time to examine an architectural phenomenon unique to that country: the chain of railway hotels, often on spectacular sites and of picturesque architecture and outline, that dominate Canadian cities from the east coast to the west, both in the visual and the social sense. Mr. Rogatnick's article examines their origin and discusses the architectural character that they derived from it.



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1 (*opposite*), *the most famous, and the most spectacularly sited, of all the Canadian railway hotels: the Chateau Frontenac at Quebec.* 2 (*above*), *initial letter with which the quotation at the head of this article (from a CPR brochure of* 1889) *began.*

'*May I not tempt you, kind reader, to leave England for a few short weeks and journey with me across that broad land, the beauties and glories of which have now been brought within our reach? There will be no hardships to endure, no difficulties to overcome, and no dangers or annoyances whatever. You shall see mighty rivers, vast forests, boundless plains, stupendous mountains and wonders innumerable; and you shall see all in comfort, nay, in luxury. . . .*' *The New Highway to the Orient*, Canadian Pacific Railway Co., 1889.

Every history book reminds us that Canada was created by her railways. The century-old union of the British North American provinces might not have been so fully consummated had that transcontinental line not mustered the courage to penetrate the virgin wilderness of British Columbia. Indeed, a deadline had been set: if the railroad did not cross the Rocky Mountains by 1871, the western-most settlement might remain an independent colony, or perhaps join the United States, and the fifteen-year delay in meeting that deadline caused critical moments. While at the eastern extreme, Nova Scotia's ultimatum was not quite so threatening, there was some doubt whether she could be held without the indispensible ligature of an inter-colonial railroad. For that matter, Manitoba and all the other immense territories to the north and west might have found little in common with Ontario and Quebec had they been deprived of direct physical contact with the markets, and ready access to the protection, of those older, securer regions.

That it was a private company which ultimately had to be relied upon to perform the act which established a political family, was not a novelty in Canada. Enormous areas of Canadian territory had already been explored, settled and governed at the behest of private-enterprize, or only quasi-political bodies, such as The Hudson's Bay Company (*The Company of Gentlemen Adventurers*), The Northwest Company (*The Gentlemen of the Northwest*), and the Roman Catholic Church (especially *The Society of Jesus*). The latter played one of its roles in the trans-continental railroad adventure through the person of Father Albert Lacombe, who persuaded the suspicious Blackfoot Indians to allow, indeed to aid, the Canadian Pacific Railway Company to lay its track through the western prairies to the Rocky Mountains—a notable event in the political-diplomatic history of the nation in which none of the parties involved enjoyed unambiguous authority. The Chief of the Blackfoot received for his trouble a permanent railway pass which he wore on a necklace for the rest of his days.

The Company hailed their road as 'The New Highway to the Orient . . . a young Giant' whose 'arms at once reached out across that broad ocean and grasped the teas and silks of China and Japan to exchange them for the fabrics of Europe and North America.' To make good this boast, the company was very soon building ships, carriage roads, tourist resorts and lavish hotels to ensure a nourishing flow of passengers and goods to the railway artery, not to speak of villages and towns to feed and support the train-yards, repair shops, offices, warehouses and other appurtenances of the hugely growing body.

Hotels along the railway

The company's decision to build hotels was motivated by the need to create along that tenuous lifeline a series of what might almost be considered stationary dining-cars, pavilions to which the passengers could repair for refreshment from time to time along the tedious journey. These early structures tended to be modest, but some had nonetheless been situated at such breathtaking topographical sites—often newly discovered by the company's own surveyors during the course of their exploratory forays — that they rapidly became goals in themselves, aiding nature and the company to sell more railway tickets.

Also, like the Roman road-builders in primitive Europe, the Canadian railway builders in primitive North America knew that they could best profit from the wilderness, and protect their interests as well, by bringing a little civilization to its barbarian heart. Thus, at points which but a few years before were so remote that they existed only in the half-legends of indigenous hunting tribes, there were soon to be seen parasols, crinolines, bowlers and spats. The first of these anomalies occurred at the confluence of the Bow and Spray rivers, high up on a promontory facing the fabulous glaciers of the eastern ranges of the Rocky Mountains. Midst this incredible topography abounding in mountain sheep and goats and hot sulphur springs which were 'specially efficacious for the cure of rheumatic, gouty and allied affections,' as well as those 'of the liver, diabetes, Bright's disease and chronic dyspepsia,' the tycoons of the Canadian Pacific Railway Company built the Banff Springs Hotel.

In quick succession afterwards came Mount Stephen House in Kicking Horse Canyon, Glacier House 'in a beautiful amphitheatre surrounded by lofty mountains,' and an easy walk to the Great Glacier 'five hundred feet thick at its forefoot, and . . . said to exceed in area all the glaciers of Switzerland combined'; and the Fraser Canyon House, advertised particularly for the savage sublimity of its landscape. 'The scenery all along the Fraser River,' says a brochure of 1890, 'has been well described as "ferocious".' The character of these early buildings was rural, woodsy, alpine, often referred to by the company as 'of the Swiss chalet style.' With wood in such opulent abundance, it demanded to be used, and some of the western 'chalets' burgeoned into massive timber constructions rivalling some of the greatest masonry piles of the Victorian world, and vying for attention with their Valkyrian backdrops.

By 1887, even before a garland-bedecked locomotive made the first continuous trip from Montreal to the west coast, a five-storey brick Hotel Vancouver, 3, was well under way. 'This magnificent hotel,' said the company, was designed to accommodate the


Welcome
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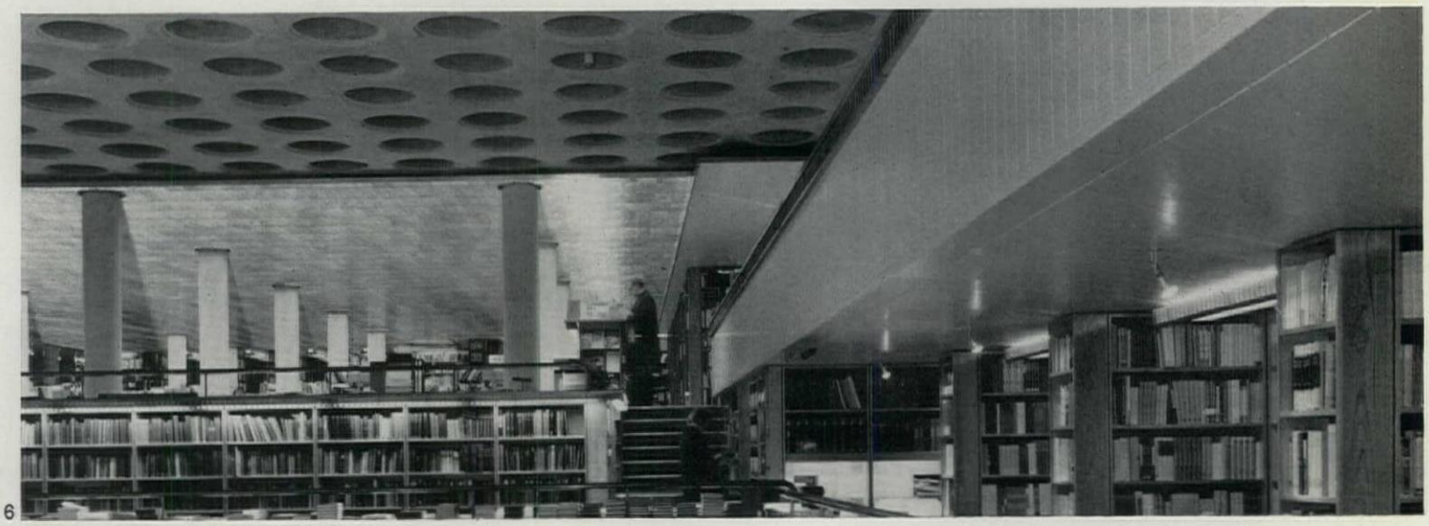

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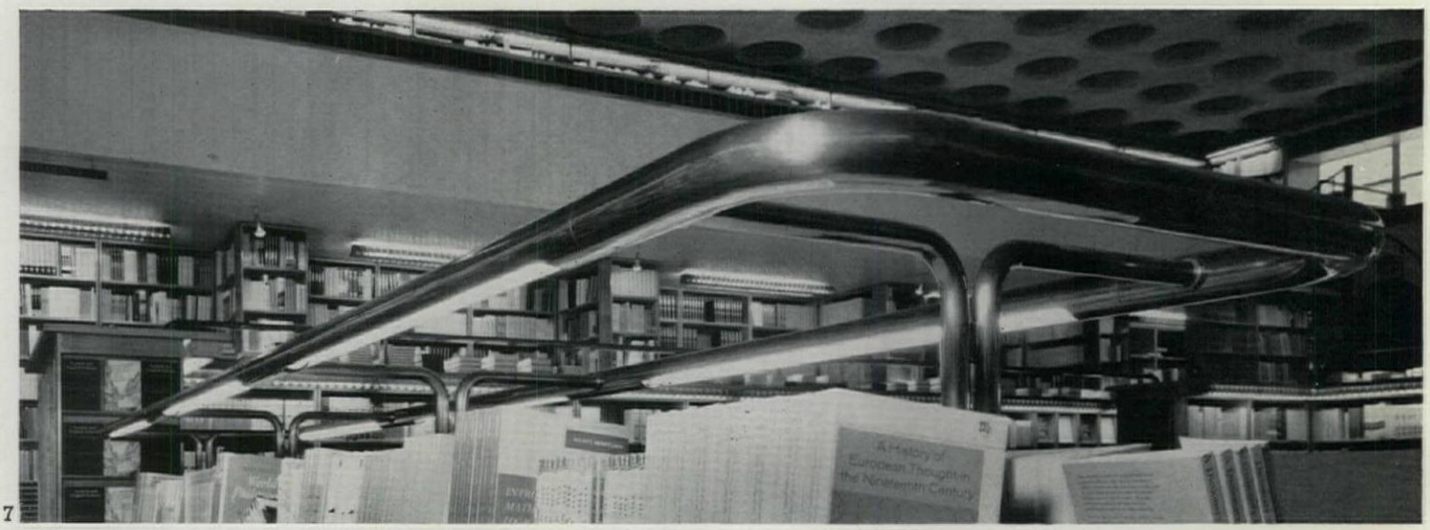
5-8, *long views of the bookshop showing the clear span ceiling with its manhole-ring coffers. 5 and 7, the light fittings in tubular rails just above the counter tops. 6 and 8, main "amphitheatre" area with circular reinforced concrete columns.*



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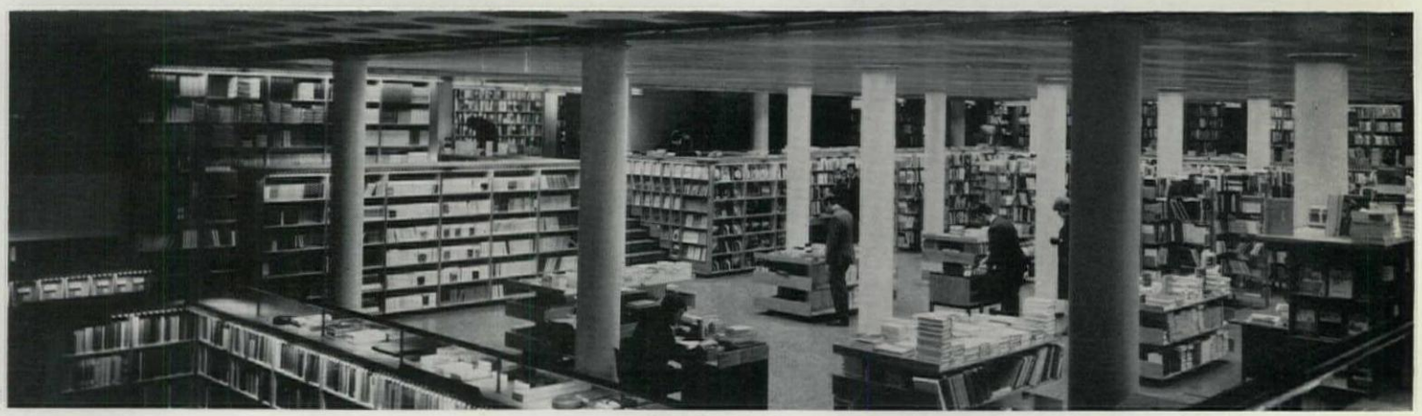

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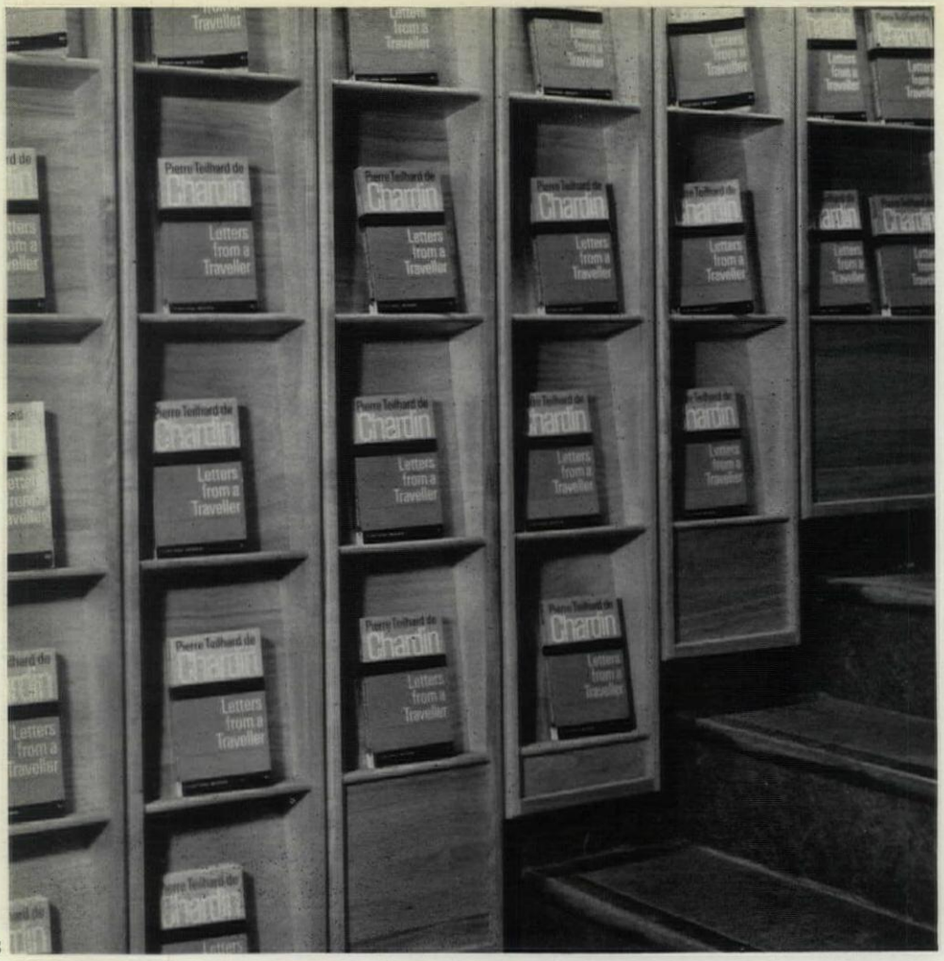

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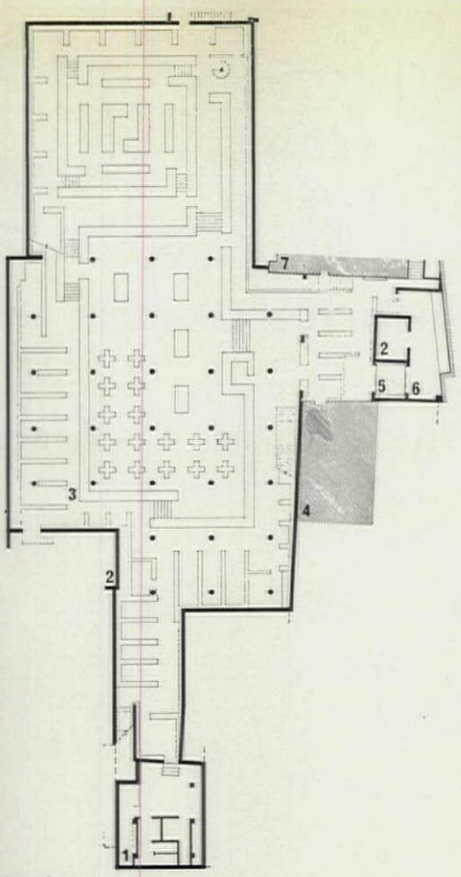
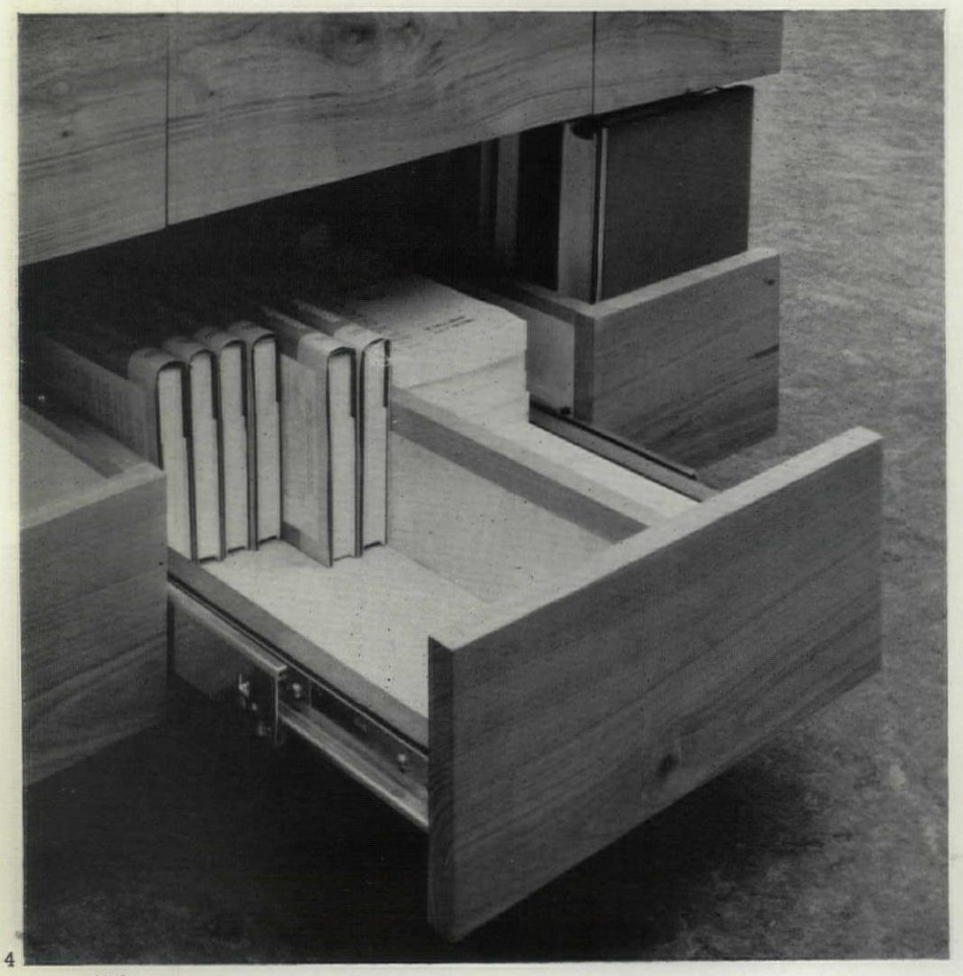


floor plan

key
1, lavatories
2, plant
3, shop
4, boiler-room
5, goods lift
6, unpacking room
7, Trinity library basement

3, *English cherrywood display bookcases on stairs leading up from the lowest level. The floor is of olive-green lino tiles.*
4, *book-store drawer in island display unit.*



4

This basement extension to Blackwell's bookshop in Oxford is situated beneath two quadrangles and a small residential building, themselves extensions to Trinity College and designed by the same architects (see AR November 1966). With 10,000 sq. ft. of sales space the bookshop (on four levels with a gallery), consists of two contrasting areas. The main one of these in the form of a square 'amphi-theatre' has a ceiling span of 60 ft. at the northernmost end, the roof being an orthogonal reinforced concrete grid slab, 21 in. thick with coffers formed of standard manhole rings. Elsewhere the roof is supported on circular reinforced-concrete columns. Walls are unfinished as they are covered by backed bookshelves. The area of the second level down is lit with fluorescent lights through a specular louvred ceiling. This provides up to 100 lumens per sq. ft. at table top level, while the ceiling remains lit only by reflected light. Two types of fittings were specially designed as part of the lighting scheme. Under the clear span, lighting tubes are fitted in tubular rails which light the counter tops. The beech plywood louvres under the white boarded soffits give a warmth to the source with only slight change in the colour of the light emitted by the fluorescent tube.
Heating and ventilation fittings are carefully concealed.

Bookshop, Oxford

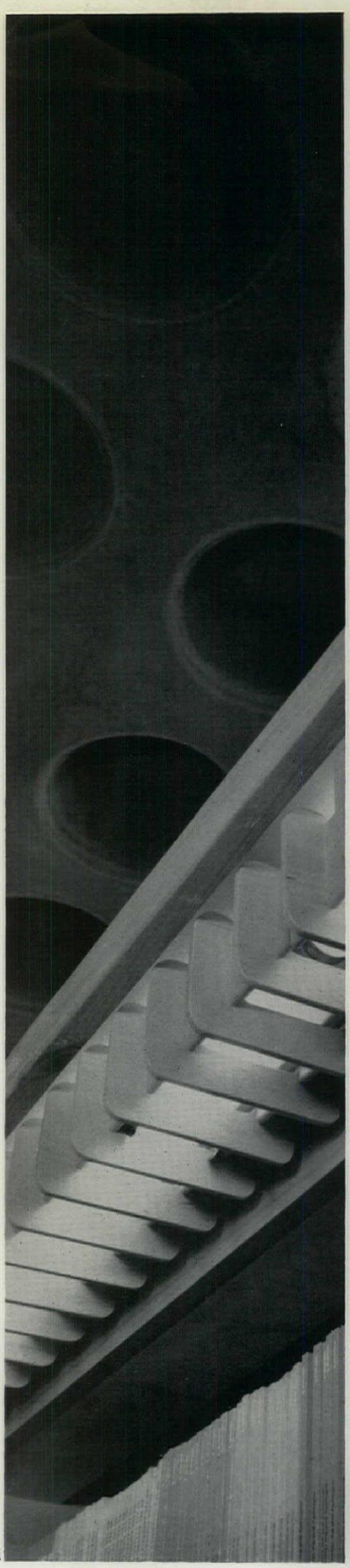
Interior Design

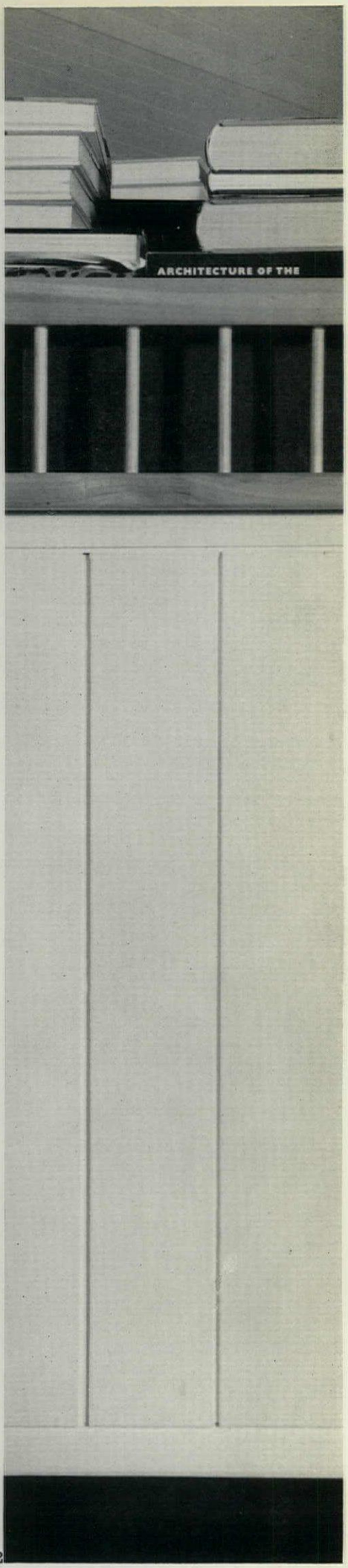
Bookshop, Oxford

architects: Robert Maguire
and Keith Murray

lighting consultant: Peter Jay
and Partners

photographs by W. J. Toomey





1, *light fitting above bookcase with beech plywood louvres.* 2, *detail of display counter end.*

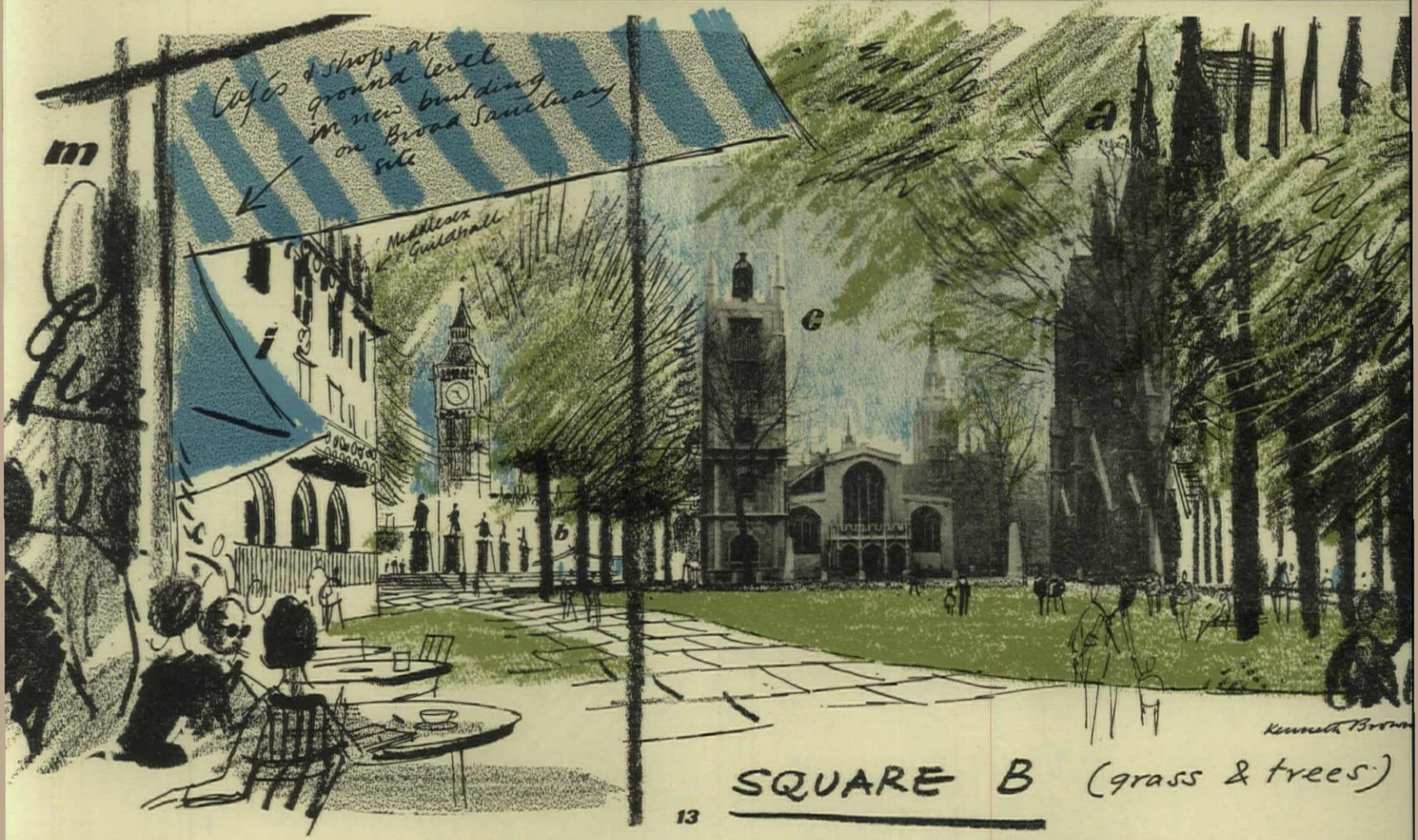
Today →

12

in front of the west end of the Abbey (still about 200 ft. square).[8] This would give a splendid launching pad for the towers from a restricted space, the sort of immediacy impossible to obtain from the spaces shown in the Whitehall plan.

There could be cafes and shops for tourists and visitors, at ground level on the Broad Sanctuary site (thus avoiding the depressing effect of looking into offices, at ground level, as around St. Paul's, for instance) and a hollow centre to the building might form an enclosed court of small shops.

As it might be ↓



13 SQUARE B (grass & trees)

The roof could provide a viewing platform, while below ground would be extensive multilevel parking for visitors' cars and buses with exit on foot direct into the new Broad Sanctuary Square, *A*.[9] The landscaping of the three potential squares requires a special study in itself, but the aim would be to define them by the floor surface, belts of trees and change of level.

As it might be →

14 SQUARE C — Parliament Square (compare with photograph 7)

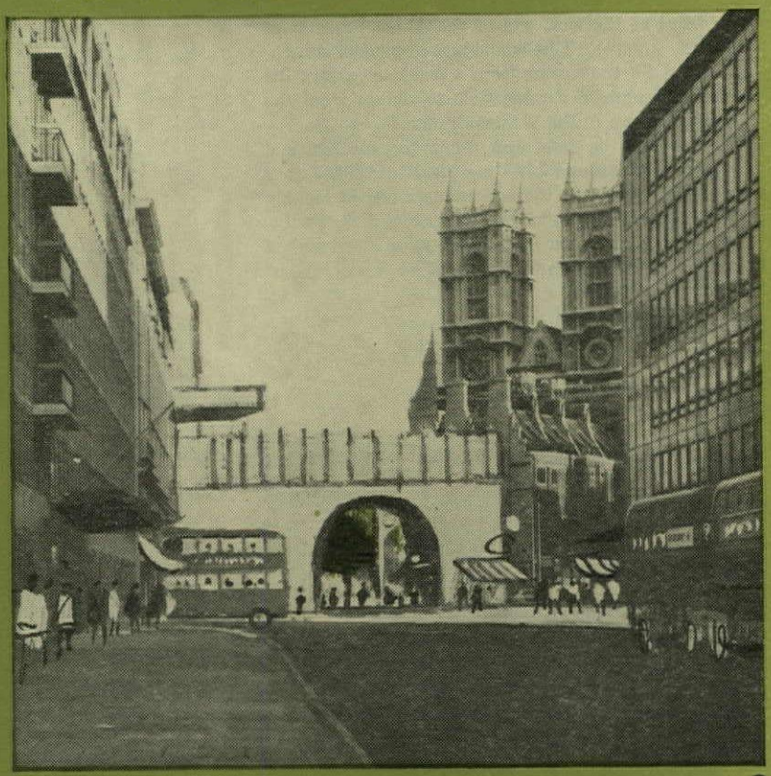
[8] In the competition for the new building, won by William Whitfield, the rules insisted that it should be set back to expose the Central Hall.

[9] The use of part of this site for a Government conference centre has now been confirmed as a result of Sir Robert Matthew's report (March 1967) on the Broad Sanctuary Inquiry. He recommended that provision should also be made for tourists and visitors.

The Victoria Street approach to Parliament Square —

TODAY . . . . . AS IT COULD BE

8 Gulch

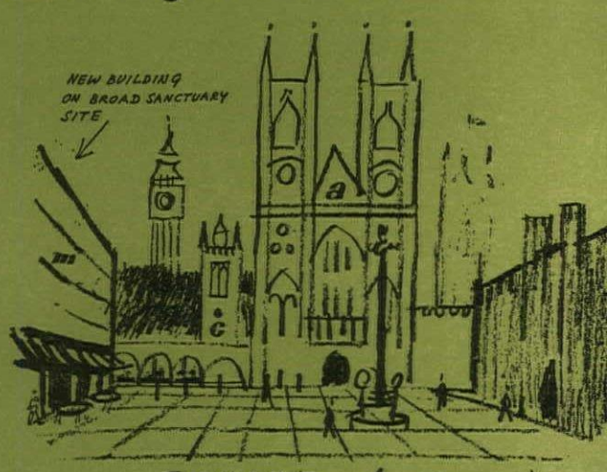


Gateway 9

10 Precinct disrupted

Precinct regained 11

Today, Abbey House (the Victoria Street-Tothill Street corner) strikes into the first space, making you feel as though you were being run down by the 'Queen Mary.' When this site is redeveloped the opportunity must be taken of holding in this side of the potential square. Here the slender vertical of the Westminster School memorial excellently pins down the space in front of the Abbey and contrasts beautifully with its soaring towers. (This square is already linked through an arch to the quiet enclosure of Deans Yard with its grass and trees.) How the removal of traffic and careful use of new building could increase the drama of the Westminster precinct is shown in ***9***, ***11***, ***11a***, ***13***, ***14*** and plan ***IV***. For instance, Victoria Street might be stopped visually by a cross building, ***9***, rather as Gordon Cullen suggested, but perhaps giving entry to the first square through an arcade of shops and at the same time providing an interestingly shaped pedestrian space at the end of Victoria Street with an alternative approach to the square giving the slit view seen in ***6***. The Central Hall (powerful but coarse in detail) is probably best kept as a 'captive balloon' and partly masked by a new building on the Broad Sanctuary site, ***m***, brought forward to the original site boundary to form a small square ***(A)***



11a SQUARE A (PAVED)

to the Government's declared policy of office decentralization.

The report gave the impression that it was all or nothing, but is this really true? Surely, what is so immediately important, at any rate for the average citizen, is to recapture the space of Parliament Square for public use. Yet, this objective is in danger of being lost in the controversy, although it could be effected with comparative speed.

Traffic

Apparently, to quote the report, 70 per cent of the traffic could be removed:

(a) by the building of an Embankment tunnel road[5] (shown dotted on plan ***II***) this could and should be proceeded with. It has the advantage of not requiring demolition and, as the report points out, makes possible terraces linking Whitehall to the river, today hopelessly separated by a torrent of traffic along the Embankment.

(b) by an upgraded east-west route to the south of the area. Horseferry Road is suggested but, Vauxhall Bridge Road may be more practicable, particularly, in view of the future importance of Victoria Station as an inter-continental transport interchange and the inevitable road reorganization involved.[6] Such action would still leave a much reduced Whitehall/Victoria Street traffic to be dealt with and this might, for the present, follow the line shown on plan ***III***. Such limited traffic along the north side only of Parliament Square need not be harmful to environment provided suitably generous underpasses were provided. In fact it adds movement to the scene. All the rest of the area (shown shaded) could then become pedestrian and at the same time the Parliament extension on the Bridge Street site could go ahead (***d*** on plan ***I***).

These actions should be taken. But to get things literally in perspective it is important to study the present townscape at ground level.

Whitehall

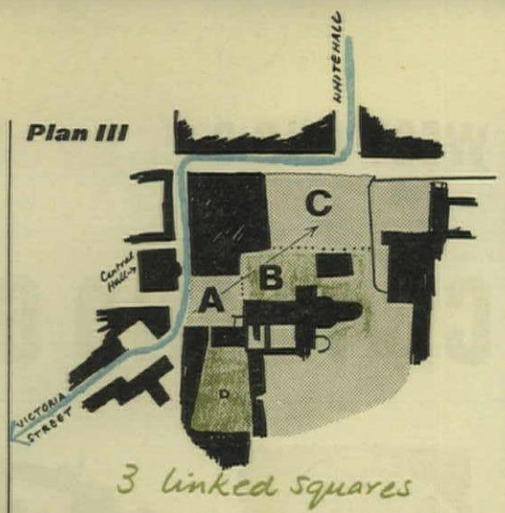
LINK AND CURVE

The link between Trafalgar Square and Parliament Square is a shallow boomerang curve, and fundamental to the continuity between them is the fact that Whitehall is essentially a street. Looking either way it forms a closure to the view. From Trafalgar Square the curve ensures a changing relationship of the towers and spires of Westminster. It starts off in line with Big Ben, ***4***, the giant Victoria Tower takes over and finally it ends up pointed at Henry VII's chapel; this gives a magic which would vanish immediately if Whitehall were straightened out (as suggested in the Whitehall report). Coming from Parliament Square, Inigo Jones's Banqueting Hall stands on the angle of the boomerang; key building in a key position. But note that from a distance it is the turrets of the old War Office building next door which do the work and beckon you on. Then, halfway along, as you turn the angle, Nelson's column leaps up emphatically to end the vista.

PROGRESSION

Whitehall is a progression of imposing buildings, given added scale by contrast with smaller neighbours such as Gwydyr House and those facing the Government offices at the South end of Whitehall. This give and take suggests democracy far more favourably than any system of rigidly squared up superblocks. And important to this sense of progression is the punctuation provided by such events as the turrets of the Old War Office building already mentioned (clearly seen from the far side of Parliament Square), the impassive Cenotaph and the statues of field marshals, chargers frozen in midstride.

In this built-up curving line, the set-back of the Ministry of Defence was a blunder, modified to some extent by the row of trees in front which continues the line of the street.



Plan III

From Downing Street a public way could, with advantage, be opened up, penetrating through the Foreign Office and Great George Street blocks via the fine central courtyards, one square one circular, to Parliament Square. Also, when the Bridge Street site is rebuilt as an extension to Parliament, effort should be made to keep the present striking view up Cannon Row to the Victoria Tower.

Parliament Square

The great open space is largely wasted here since access to the centre is virtually denied by encircling traffic, ***7***. It is far less used than Trafalgar Square, which is similarly isolated, for there is less incentive (no fountains, Landseer lions, or pigeons) and no subways to get there.

ENTRANCES AND EXITS

From Whitehall: From Parliament Square there is a fine view up the curve of Whitehall, but the opening is overwide. If Whitehall traffic is reduced, the entrance might be narrowed by projecting the new building on the Bridge Street site out across the line of Whitehall, cutting down the space leakage.

From Westminster Bridge: Standing on the bridge, the juxtaposition of the Houses of Parliament and the river is one of the great sights of London. How the suggested tunnel road can be built without destroying the present wonderful feeling of immediacy is a considerable design problem, but if it frees Parliament Square it is probably worthwhile. From the bridge the entry to the square is dominated by Big Ben. Again, a narrowing would be an advantage and the handling of the new Bridge Street building (***d*** on plans), is the key to this. ***3*** shows the approach with the existing Bridge Street building on right and beyond it the Great George Street building which should be kept.

From Millbank: The destruction of the terrace in Abingdon Street was regrettable, for in conjunction with the Victoria Tower opposite it held in the space of Old Palace Yard, the entrance to which has now been blasted wide open, ***5***. This entry, site of the original gateway, should again be restricted.

From Victoria Street: Changing direction at Broadway, the ruthless chasm of Victoria Street points at nothing closer than Shell on South Bank. The Abbey gradually emerges, but there is a sawn off, incomplete look about the way the street ends, ***8***. Gordon Cullen has shown in Westminster Revisited[7] how a building projected at right angles to the street could be used to lessen its tearaway character and introduce the marvellous and changing drama of verticals waiting there (Abbey towers, St. Margaret's, Big Ben, ***6***).

From Tothill Street: This narrow high-walled street gives an approach to the Abbey which splendidly emphasizes the verticality of its towers. The west front is approached almost head-on, but the towers only give themselves up one at a time in a developing view, ***1***. Finally the Victoria Tower appears as a surprise visitor.

[5] As first suggested in the *Evening News*, 1956.

[6] Here the importance of providing a better setting for Westminster Cathedral, shielding it from traffic and perhaps with Ambrosden Avenue paved over and tree-lined, should be explored.

[7] AR, June 1958.

From St. James's Park (via Great George Street): Here the vertical emphasis of the street dramatically frames the giant's pencil of Big Ben, ***2***, and the turrets of the Great George Street block of Government offices on the left give just the right powerful introduction to the square.

Walls

The shape of the square is well defined on the north, south and east sides by large buildings. On the east by the Palace of Westminster, ***b***, on the south by the Abbey, ***a***, on the north by the Great George Street block, ***f***. The latter is exactly right here, strongly holding the side of the square. It has that three-dimensional quality so essential to a corner site like this (see ***3***), a fine start to Whitehall. Whether it is a good example of this or that style becomes almost irrelevant. As townscape it is fine, a really civic building.

The west wall of the square is different. Here the enclosure is less complete and the buildings, including the Middlesex Guildhall, ***i***, are domestic in scale. This is an important point for, being seen in the same eyeful as the Abbey, they boost the latter's size. Large-scale buildings here would wreck the effect.

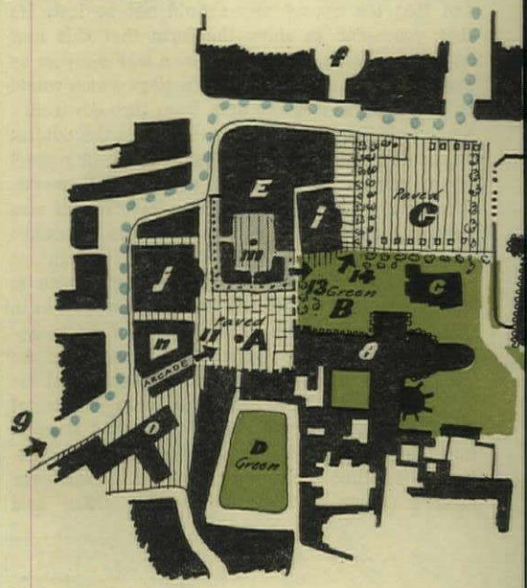
Spaces

The present size of Parliament Square is somehow just right, and the idea of greatly enlarging it (by taking the west wall back to the Central Hall, as the report suggests) would surely be a mistake. It is already as large as Trafalgar Square. Especially without traffic it would then be far too large, and the Hawksmoor towers of the Abbey are not powerful enough to stand such a large space around them.

But this is more than one big space today, it is in fact part of a series of interrelated spaces around the Abbey (see plan ***I***). For instance, passing between the Guildhall and the Abbey you enter another space, roughly rectangular in shape dominated by the dome of Central Hall. The great 'captive balloon' of its dome makes an excellent foil to the verticality of the Abbey towers.

Suggestions

Traffic now rushes through this space to Victoria Street, but if it were removed (as shown on plans ***III*** or ***IV***) there is the possibility, coming from Victoria Street of angling through three linked squares: the first in front of the Abbey west front, ***A***. The second between the Guildhall, The Abbey and St. Margaret's, ***B***. The third, Parliament Square itself, ***C*** (see ***11***, ***13***, ***14***).



Plan IV. *Parliament Square as it could be. Arrowed numbers indicate viewpoints of drawings. (Key as for Plan II but in addition* ***m****, Government conference centre over shops at ground level;* ***n****, shopping arcade. Dotted line shows alternative route for limited traffic.)*

The approaches to Parliament Square (7): from Tothill Street, 1; Great George Street. 2; Bridge Street, 3; Whitehall, 4; Millbank, 5; the drama of verticals seen from the end of Victoria Street, 6.

WEST END 6

TOWNSCAPE

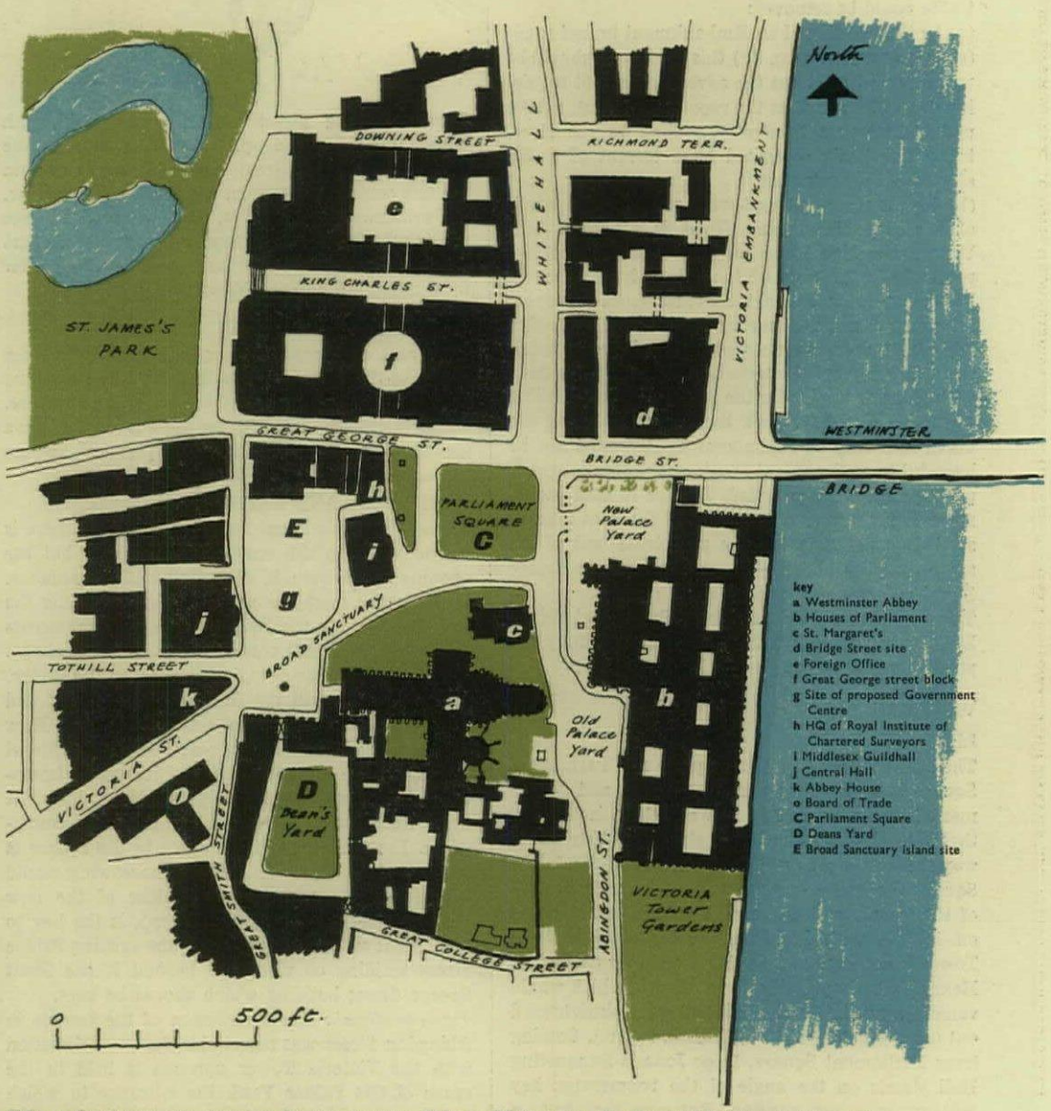
Kenneth Browne

CIVIC AND GOVERNMENT

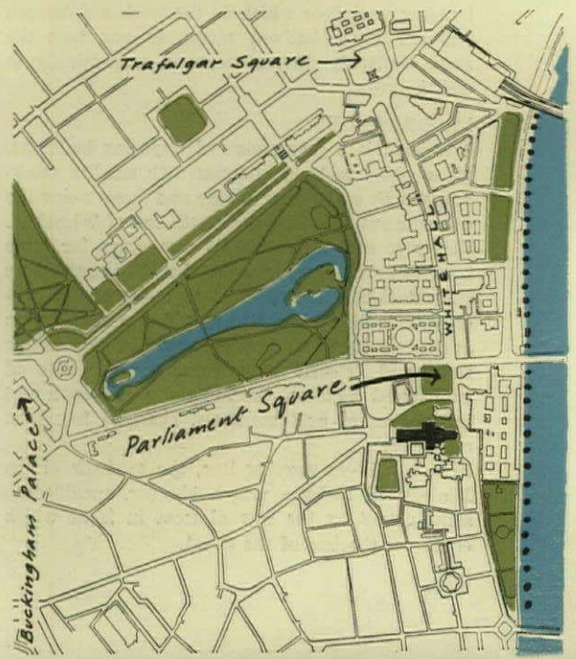
The Abbey, Whitehall, The Palace of Westminster and Buckingham Palace are the visible symbols of church and state and the open space formed between the first three, Parliament Square, is the logical setting for pageantry and the natural gathering ground for tourists. Centre of a splendid urban landscape, a national monument in itself, it is also unfortunately one of the six busiest traffic intersections in London, its grass lawned central space made virtually inaccessible by traffic and inhabited only by the statues of famous men (see **7** opposite). The special importance of this place and the need to free it from traffic was recognized in the County of London Plan as long ago as 1943.[1] This proposed that a considerable area around the Abbey and Parliament should once more become a pedestrian precinct, as it virtually was until Victorian traffic engineers shattered it with the Victoria Street-Embankment-Millbank traffic routes. How the resulting Westminster precinct could blossom in townscape terms was later shown by Gordon Cullen in a special issue of the REVIEW.[2]

Nothing further happened until 1964 when the Government appointed Sir Leslie Martin as consultant 'to ensure that the various proposals which are under consideration for redevelopment in the Whitehall area are related to each other and have regard to the general architectural character of the area, taking relevant traffic considerations into account.' His brief stated that the Government had decided to rebuild the Foreign Office block and also redevelop the Richmond Terrace-Bridge Street site to provide extra accommodation for Parliament and Government offices. It went on to say that the consultant should also look ahead to the possibility of the eventual redevelopment of other buildings in the area, such as the King Charles Street-Great George Street block of Government offices and the former War Office building and should also take into consideration building proposals on the Broad Sanctuary island site including the new Government Conference Centre and the rebuilding of the headquarters of the Royal Institute of Chartered Surveyors (see plan **f**).

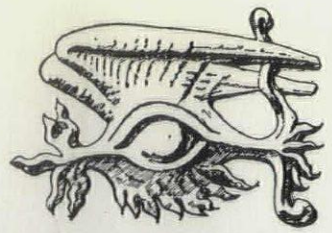
In his subsequent report[3] Sir Leslie Martin stated that in his opinion the building proposals were of sufficient magnitude to create a new setting around, and a new environment within, Parliament Square and that the opportunity should not be lost. He then proceeded to show the form that this new setting might take, backed up by a traffic report by Professor Buchanan showing the steps which would be necessary to free the area from through traffic. Since publication, this report has been the subject of considerable controversy particularly in respect of the amount of demolition envisaged. However, there can be no doubt that the Government was right in calling, if belatedly, for a comprehensive plan for this very special place (though as Buchanan pointed out it cannot be dealt with in isolation) and also that the consultant was right in insisting that Parliament Square must be recaptured for people. No system of decking over the traffic should be considered, he said, because of the visual effect on The Abbey and the Palace of Westminster. So far so good, but the sad thing is that the brief seemed to invite a wholesale destruction of existing environment including some very good buildings, notably the Foreign Office and Gwydyr House and the consultant, instead of questioning its validity, accepted it. He then proceeded to show how a vastly increased number of civil servants could in fact be housed at the end of Whitehall in a special kind of office building without any increase in height. It was a masterly piece of office planning, but whether it justified the ruthless destruction involved is highly questionable. As Lord Shawcross said at a public enquiry,[4] 'there seems to be no administrative advantage and every reason, including administrative convenience, for not concentrating an extra 10,000 civil servants in Whitehall.' For one thing it adds considerably to the existing traffic problems, in direct opposition



Plan I (*above*), *Parliament Square to-day.* **Plan II** (*below*), *Parliament Square in its setting.*



[1] *County of London Plan.* By J. H. Forshaw and Patrick Abercrombie, 1943. Macmillan & Co.
[2] November 1947: *Westminster Regained.*
[3] *Whitehall.* A plan for the national and government centre. By Leslie Martin, accompanied by a report on traffic by Colin Buchanan. HMSO 1965.
[4] Broad Sanctuary Inquiry, May 1966.



the exploring eye

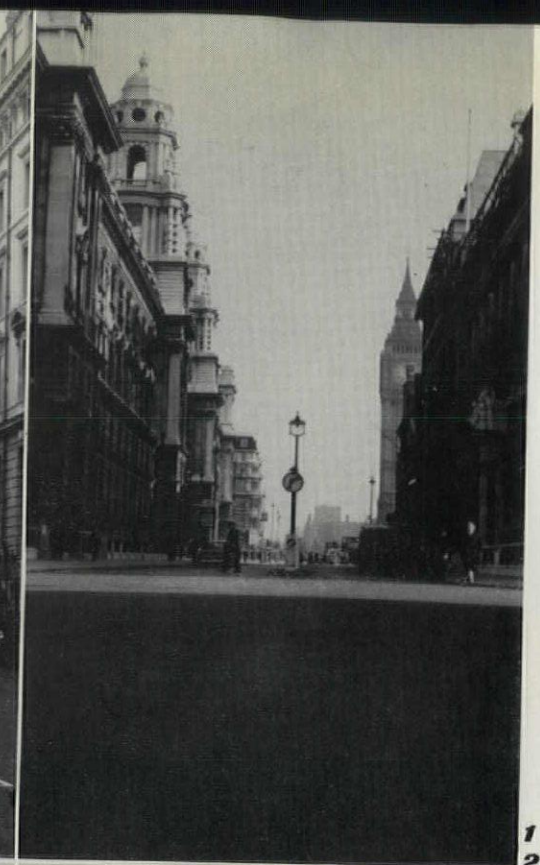
Persepolis was the residential capital of the Achaemenid kings of Persia while Susa was the political capital. Its splendid palaces, embellished by gateways and staircases and sculptured columns with capitals in the form of bulls and lions, were begun by Darius I (521-486 BC) and completed by Xerxes and his successors, whose tombs are close by and at Naksh i Rustam, eight miles away. The city was burnt by Alexander, gradually lost its importance under Seleucid and Parthian rule and was eventually superseded, under Arab rule, by Shiraz. The ruins of Persepolis lie 40 miles north-east of Shiraz. Its palaces stand on a series of rock-cut terraces connected by broad double stairways, decorated with reliefs. Audience halls were at the lower level with the residential quarters of the kings above. The gateways pierced the double walls surrounding the city.

2

1

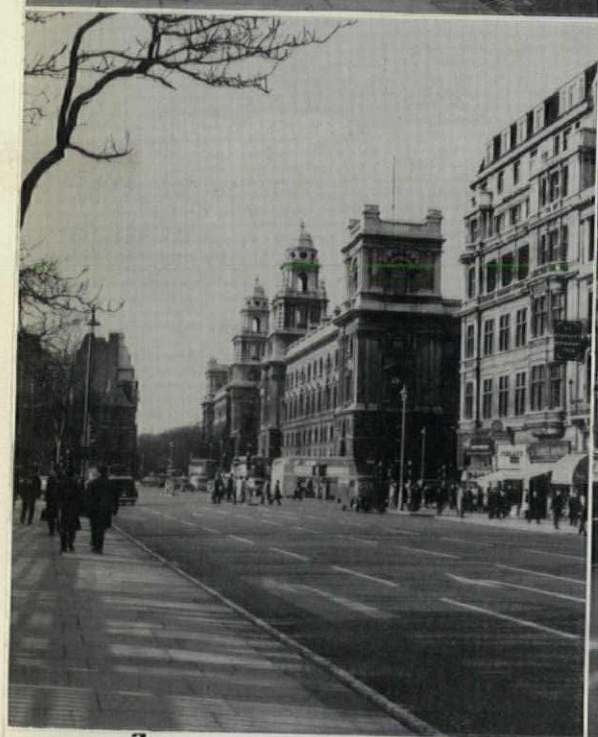
3

1, the remains of the doors of the Tripylon at Persepolis. On the left is a relief of the king, with two attendants and the royal parasol. Above the group is the symbol of the god Ahura Mazda. 2, a lion capital and, 3, a double-bull capital.



1 2

6



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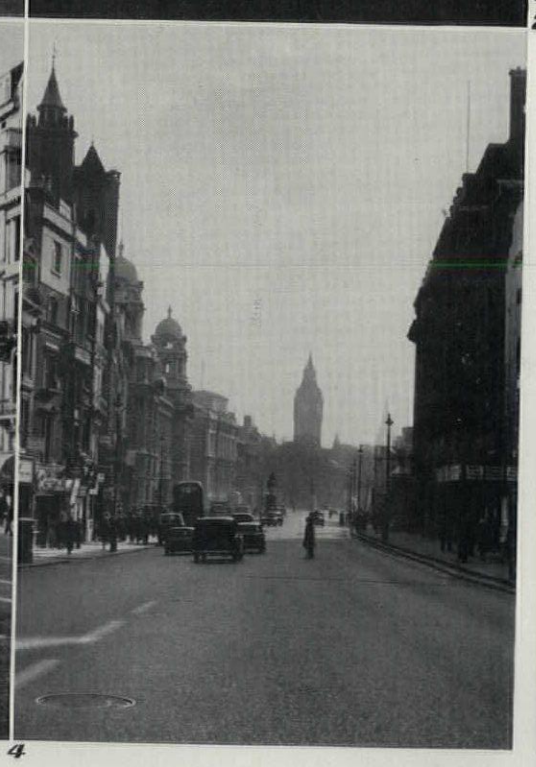


4

5

7

5 *4, the tomb of Xerxes at Naksh i Rustam. 5, winged bulls with human faces guard Xerxes' gate at Persepolis.*

4

questions of heat loss, heat gain and lighting. A comfortable draught-free climate is essential, so there must be a high degree of insulation. Double glazing prevents cold down-draughts near the glass, and 'cold bridging' in the glazing should be provided, together with a current of warm air across the inner surface of the glass, to prevent condensation and discomfort. Single glazing, it is true, has been used for large areas of roof and wall at Walton-on-Thames; it remains to be seen whether this can cope with condensation and heat loss, and whether solar gain can be dissipated. Solar gain is usually a problem of recreational pools, where sunlight is a pleasant feature, rather than of competition pools where its dazzle and reflections can be blinding. It would be uneconomical to provide cooling plant or ventilation plant for a very large area of glass, so unless a good part of it can be made to open when necessary, protective louvres must be provided on the outside—as protection from the sun, not as excuses for elevational modelling. Louvres moreover, while reducing the intensity of daylight near the windows, do not affect light intensity at the rear of the hall, so that there is an overall reduction of glare. This problem has been well worked out at Hampstead. Heat-absorbing glass can be used, but it has a definite tint.

The most usual heating systems employ warm air for the pool hall, reinforced by radiant panels or heating coils in the pool surrounds. Heating coils can be embedded in the pool, though this does tend to increase humidity and encourage growth of bacteria. A warmed seat for divers waiting during competitions is most desirable. As has been said, ribbed rubber flooring around the pool would be an improvement on the hard, cold surfaces we have been used to, and more use of timber in walls and ceiling could add to an appearance of warmth. Large groups of spectators can themselves be a source of heat, to be taken into account when designing the ventilation plant. The main function of ventilation here is to prevent condensation and down-draughts from glazed areas and to extract air that has been humidified by passage over the surface of the water.

For artificial lighting, more easily controlled if less enjoyable than natural light, a high overall intensity is best, possibly by the use of fluorescent tube with some tungsten lighting to give sparkle and life. The diving stages will need separate spot lighting, carefully directed to avoid dazzle. Underwater lighting seems to be of little real use except for aquatic displays, which are less popular than they were; it adds little to the general lighting of the hall and cannot be used during competitive swimming.

A piercing feature of the popular indoor pool can be the noise, and acoustical environment calls for as much special consideration as the rest of the climate. The reverberation time in swimming halls should be kept below two seconds. This is difficult with so many impervious surfaces, the higher frequencies being the most troublesome—one of the main reasons for removing the teaching pool to a separate volume. The principal areas for acoustic treatment are the ceiling and the wall areas behind diving stages. Ceilings can be treated with an asbestos spray or some proprietary tile, or a composite ceiling of teak slat and glass-fibre backing (where the percentage of perforation should amount to about 25 per cent). The glass fibre should be held in place by a rigid screen (as was done at the Crystal Palace) to prevent fibre particles dropping and causing skin irritation. Wall treatments vary, but some type of perforated brick or tile backed by a non-hydroscopic absorbent seems ideal. There are various acoustic plasters, differing in their effectiveness and susceptible to damage, tending to drop grit if rubbed. At Walton-on-Thames, the single 110 ft. by 42 ft. space has self-finish, low-maintenance hard surfaces without any acoustic absorbent, and the wisdom of this remains to be seen.

Publicity

At large competitive sports centres, accommodation must be planned for all the various devices used in broadcasting, reporting and recording the events. Television is seldom planned for, least of all by the television authorities, until it is seen by performance that there is something to televise, so it is well to remember that some fixed camera positions will be necessary, together with a camera on a travelling dolly running on the pool surround, and that cameras cannot operate into a dazzle of light reflections off the water. The intensity of artificial lighting may need boosting for television. A permanent camera cable link to an outside position where the television truck can park saves a lot of untidy temporary cable runs.

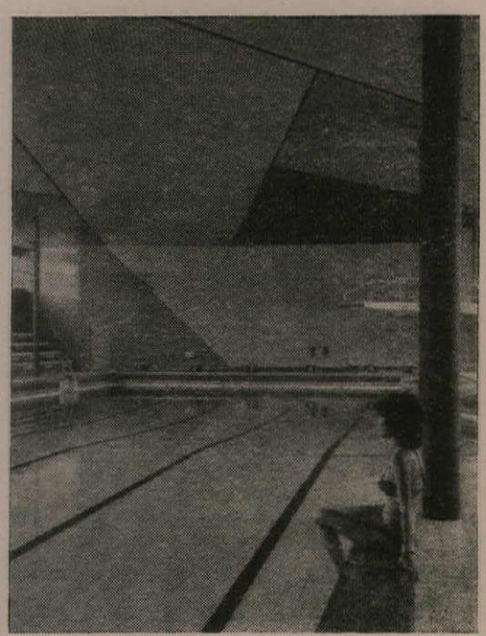
Sound broadcasting requires a control room within the building, preferably with a glassed-in commentator's position. A public address system will be needed for announcements and for music; the loudspeaker, usually column type, needs careful placing. A permanent press room is probably not necessary, even at the largest pools, but where national events are expected it is desirable to have a room with plug-in telephone positions which could be set aside for reporters. Only the largest pools scheduling international events go in for score-boards, which can vary from the manual to the electronic. Electronic timing devices, activated by the starting pistol, capable of timing to 1/1,000 second, and arrested by the swimmers touching a pad at the finish, have been installed at the Crystal Palace.

continued from page 342]
to be split up. With permanent seating, regulations regarding means of escape, ventilation, etc., have to be observed, and sight lines worked out.
As for the seats themselves, a simple form of laminated timber tip-up seat bracketed off the riser was used at Crystal Palace, but plastic bucket seats in various colours are quite suitable, or even plastic or teak strips on the tread itself. Such tiers can be easily cleaned, by little more than hosing down. Temporary seats of the bleacher type, which can be folded and rolled away, should be considered for all but the largest crowds, with minimal space per spectator: 2 ft. back to back, 18 in. wide. Some filling in of the risers of the standard patterns may be required to comply with fire regulations.

Changing area
This includes the ticket office, which should be sited so that it completely controls access to the building for both swimmers and visitors, allowing for considerable queue space under cover. The ticket office should be large enough to cope with deposited valuables and towel issue, if the latter is to be included. The next stop on the swimmer's route is the clothes depository, where some form of crate hanging may be the best way to store clothes; a crate is picked up on the way to the cubicles and handed in again on the way to the pool. A numbered rubber band or other form of waterproof tagging is needed. Lockers are another method of storage, locked by an attendant and opened on production of a numbered tag.
The two changing areas, for men and for women, may include both cubicles and changing rooms. The latter, for school children and athletic teams, should be fitted with lockers and benches. Changing cubicles must be of the sturdiest type, with surfaces as resistant to writing as possible, this being the area of greatest vandalism. Floors must have good falls for hosing down. Great care must be taken in siting the clutter of hair driers, hair-cream dispensers, wringers, etc., that usually accumulates at swimming baths, as these are rarely well designed.
The circulation plan between changing area and pool can vary from a direct and simple one to a complete separation of dry from wet routes into and out of the pool, though such separation seems hardly worth the extra space involved, especially if an efficient foot-bath is provided. Precleansing rooms, consisting of toilets, showers and foot-baths, must be on this line of circulation between changing area and pool. Compulsory showers operated by an electronic eye can be fitted over the foot-bath as at Crystal Palace and Cardiff. Whether a laundry for towels, etc., is to be included depends on the policy of the bath authority. There must, however, be a small first-aid room with easy access from pools and to the outside for ambulance men.

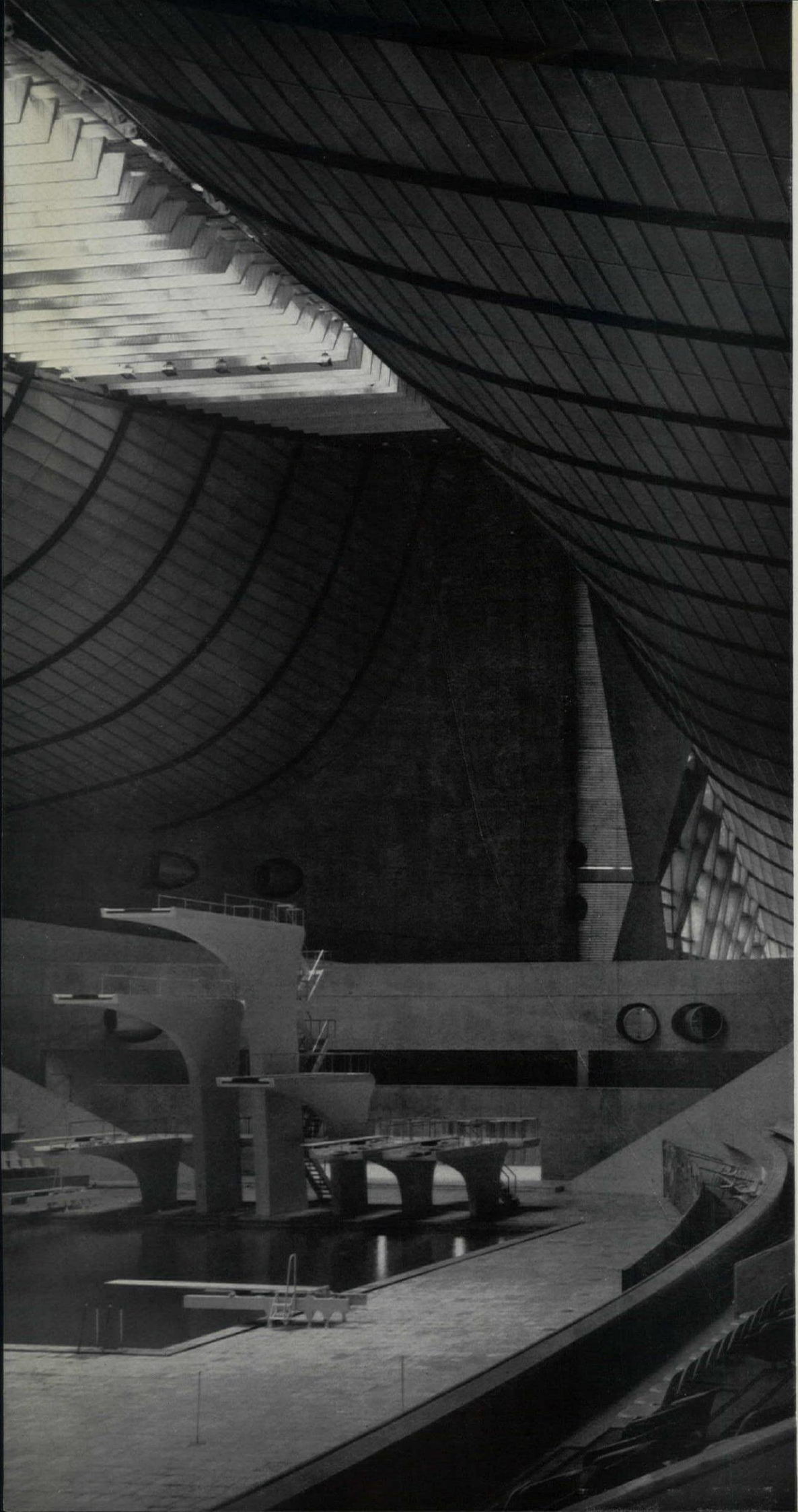
Amenities and staff accommodation
A seldom provided but potentially most useful space is a club area, with meeting room for coaching, film shows, or lectures. This space could well be combined with a cafeteria or restaurant. The usual café with very limited menu, if made part of a social and sports centre, could be greatly extended and enhanced to become an attraction in itself, particularly if given a view over the pools. The siting and servicing problems of the kitchen have to be considered; kitchen staff should be self-contained within the kitchen area, as this facility is often leased to an outside catering firm. When a restaurant is open both to swimmers and to visitors, as it most pleasantly should be, even if only with vending machines or a cafeteria counter for the wet ones, the wet-dry segregation plan needs careful thinking out.
The number of staff required to run a swimming pool efficiently is usually underestimated at first, extra accommodation being squeezed in later. There must be offices for manager and secretary, as well as for ticket issue. Clothes depository should be arranged so that, during slack periods, one person can look after both male and female areas. Rooms for coaches, even for specialists not on the permanent staff, must be provided, and also for staff engaged in general pool supervision. Cleaning, a major consideration, may be done partly by other staff such as clothes depository staff. Servicing, depending on the size of the baths, may require both a mechanical and an electrical engineer resident on the site.

Structure and environment
The roof of a building of this kind dominates the whole, and solutions of the problems posed have led to some interesting forms. Over large pools, the 10-metre diving stage becomes the height generator; a local increase in height to accommodate this one element is sometimes made with varying lack of success. (The problem is akin to that posed by the scene-docks and flies of a theatre.) For very large pools, the spectator seating becomes the height generator. The catenary offers a fine solution for the resulting large span, a most dramatic example being Kenzo Tange's Olympic swimming pool which attains a monumental harmony of form and structure and working parts (although the interior is marred by a clumsy diving stage). Recent German examples of catenary roofs are at Göppingen, Neunkirchen and Wuppertal. The plan at Wuppertal is interesting, with racing lanes at right-angles to spectators, and diving entirely at one side although part of the same volume, in which the seating structure supports the roof.
The practical problems of the large span over a pool are the same as for other such buildings, with the added factors of the need for protection from chlorinated moisture and of hazardous access for maintenance from below. An answer to the former is concrete, although steel can be used if heavily galvanized or zinc sprayed, or separated from the pool atmosphere by a vapour barrier. Steel thus hidden from view is usually the cheapest material, as it can be given the most economic structural form whether handsome or not, and the barrier structure gives space for lighting, ventilation, and safer servicing. Concrete structures produce problems of their own weight, but there are now proprietary precast barrel vault or trough sections capable of spanning 70 ft. economically. An unusually interesting solution structurally is that of the pool at Walton-on-Thames.
Timber shell and hyperbolic paraboloid forms have not been exploited for swimming pool roofs, although potentially suitable, but timber-strip ceilings have been used; for example at Lund in Sweden and at the Crystal Palace, where they help to prevent condensation as well as giving a psychological feeling of warmth. It should be noted that the abnormal conditions of high humidity and trace chlorine in such an atmosphere will promote electrolytic action between dissimilar metals; such minor things as the steel fixing pin in an aluminium door handle can lead to the failure of the aluminium, although this metal by



34, a recent plastic-ceilinged bath at Weinheim, Germany.

itself appears to be able to withstand these conditions. Steel roof members are vulnerable, therefore, unless protected, as is sheet metal ducting. It must be remembered that the roof offers the only large area for acoustic treatment.
Handling of what is generally, on roofs and walls of pools, the most characteristic material of all—glass—is inseparable from



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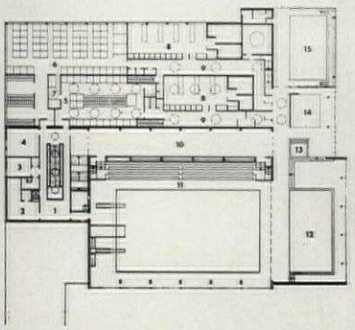
32, diving boards at Västeras, Sweden (architects, Rosenberg and Stal); see also the frontispiece to this article on page 340.

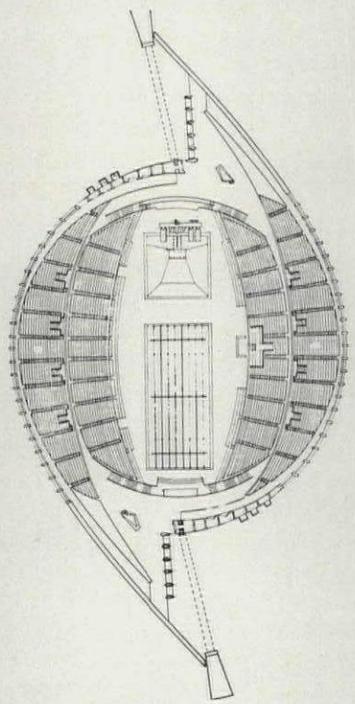


plan of Vasteras baths

key

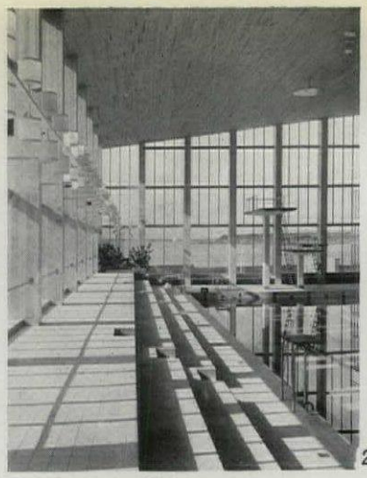
1. upper hall
2. materials' room
3. officials' room
4. lunch and press room
5. changing room (women)
6. changing room (men)
7. resting cubicles
8. wash room
9. drying
10. exercise hall, cloakroom
11. main pool
12. children's pool
13. paddling pool
14. recreation room
15. teaching pool

33, the diving pool at the Olympic buildings, Tokyo (architect, Kenzo Tange); these buildings were fully described in a critical article by Robin Boyd in the AR, April 1966.



33 plan of Tokyo Olympic baths

26



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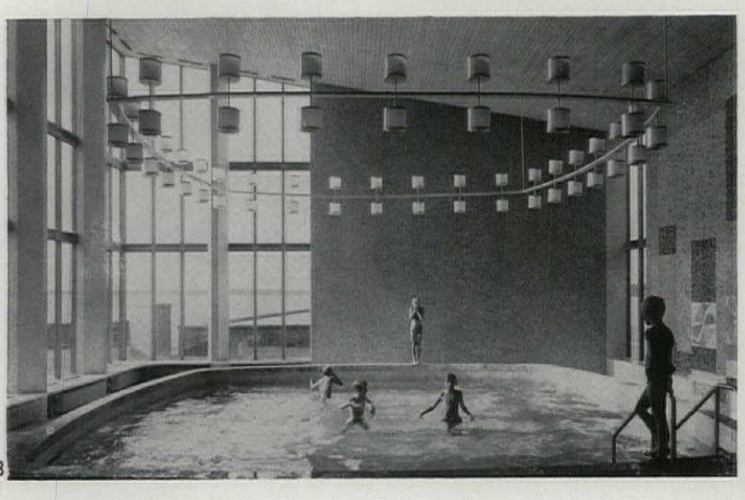
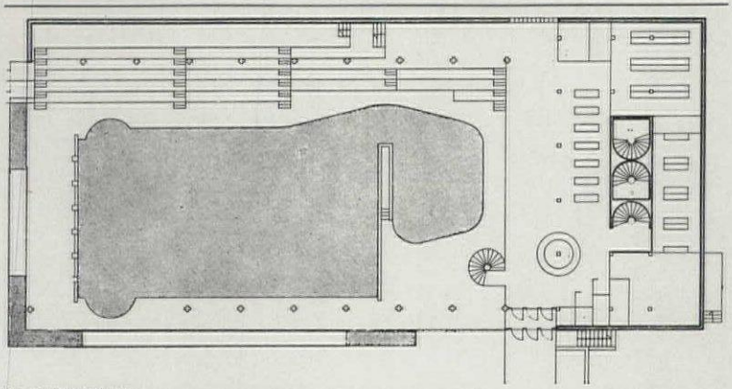


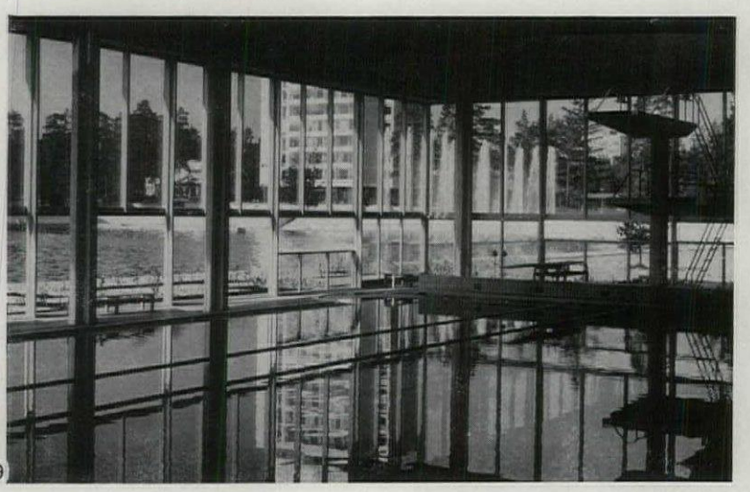
28

26, the diving area of the baths at Göppingen, Germany (architects, Wilhelm Keller and Gerhard Keller). 27, the main pool of the baths at Lulea, Sweden (architects, Ericson, Gynnerstedt & Agren). 28, the children's pool at Lulea. 29, baths at Tapiola, Helsinki (architect, Aarne Ervi). 30, 31, Eriksdal baths, Stockholm (architect, Gustaf Kaunitz).

FOREIGN SWIMMING BATHS



plan of Tapiola baths



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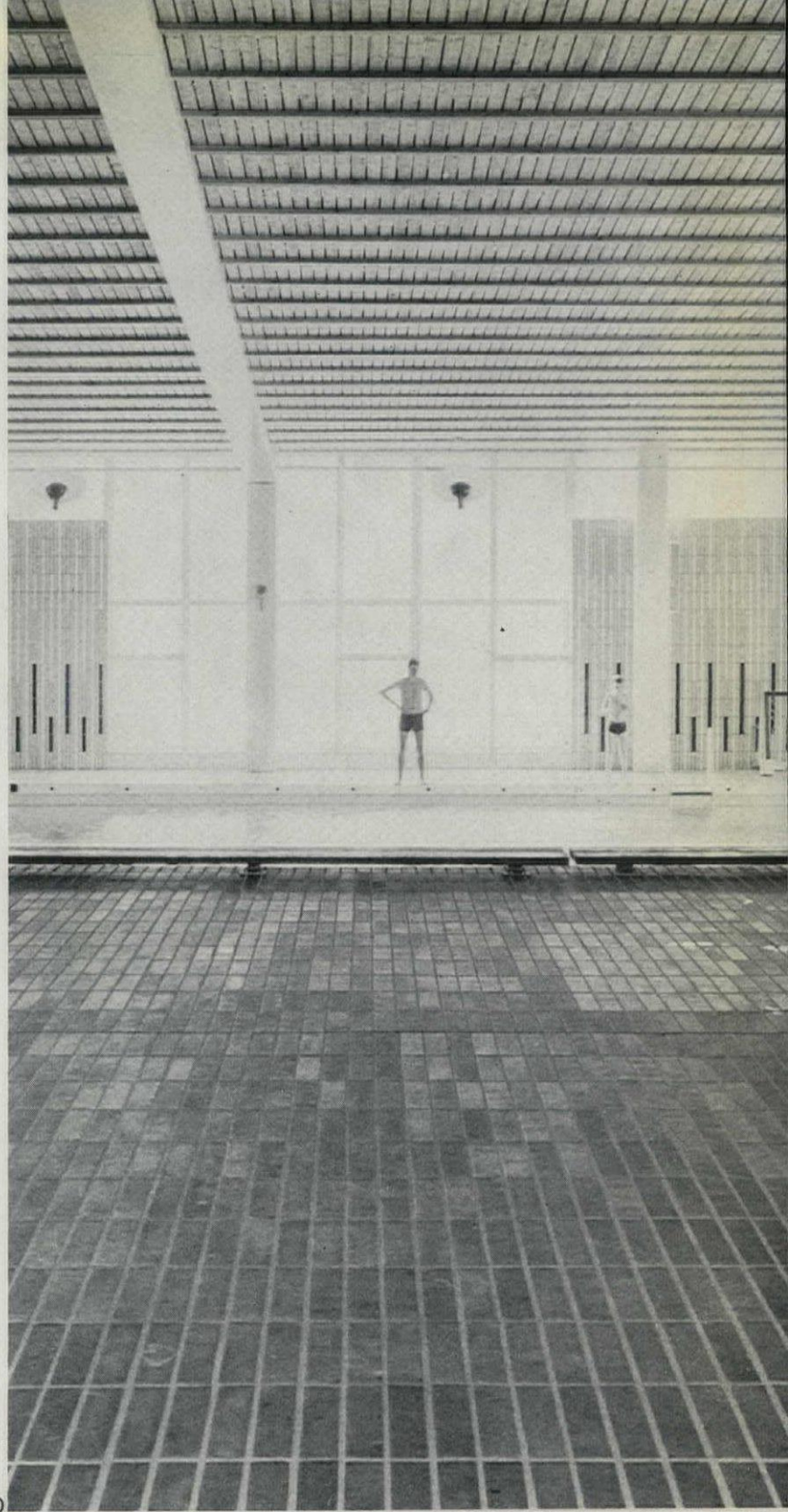

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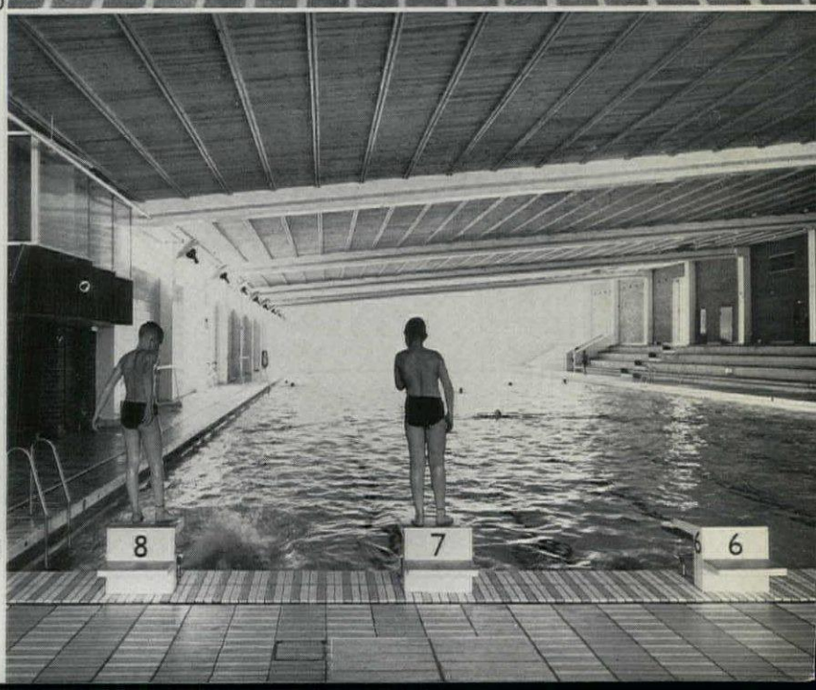

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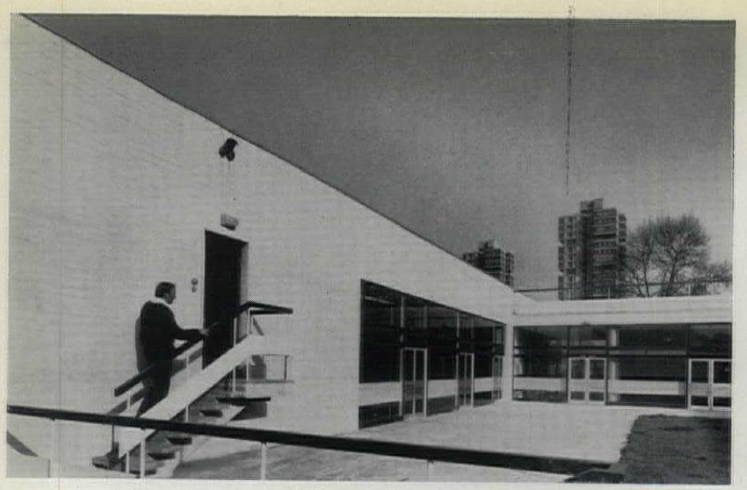
FOUR MORE BRITISH SWIMMING BATHS



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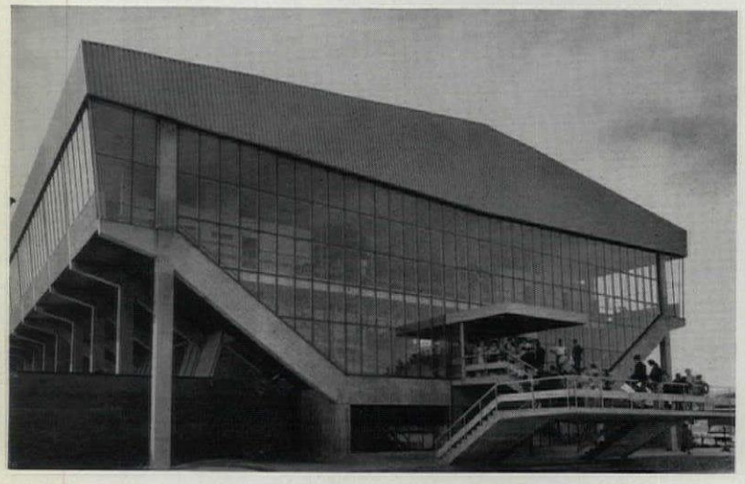
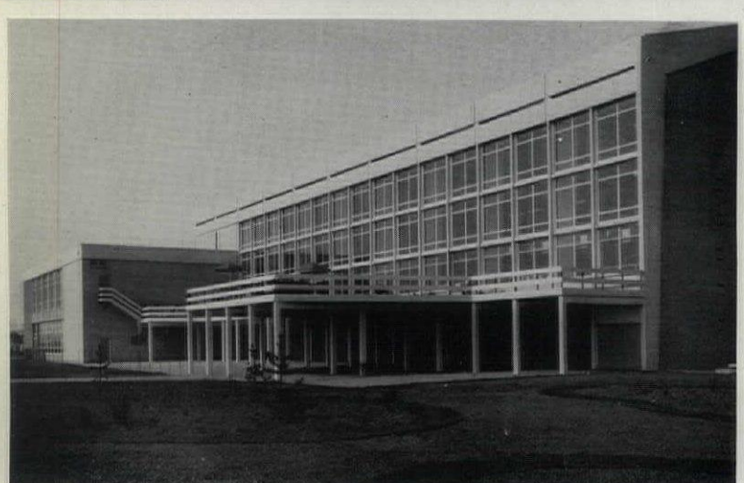
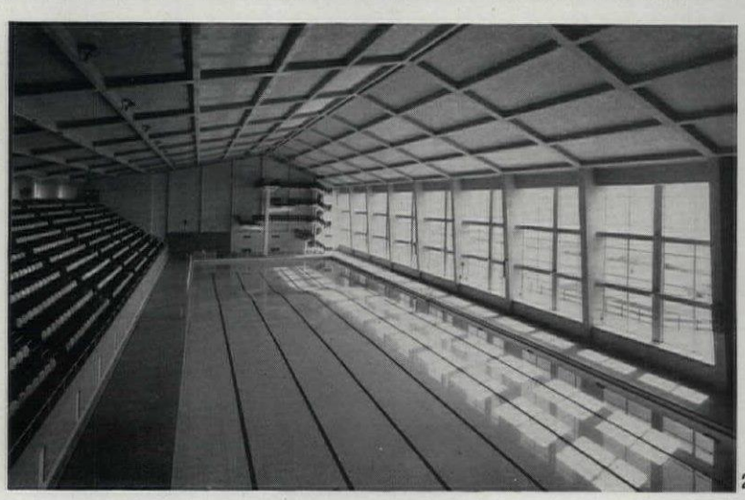


20,2

18, 19, Rotherhithe Baths and Assembly Hall, London, 1966 (W. S. A. Williams, chief architect, Sir Frederick Snow & Partners). The building also has a large sun terrace, slipper and steam baths, a laundry, cafeteria and children's playground. 20, 21, baths at Felling, Co. Durham, 1963 (architects, J. H. Napper & Partners); a large and a small pool, with a restaurant overlooking the diving area. 22, 23, baths at Stevenage New Town, 1962 (L. G. Vincent, former chief architect, Development Corporation); a main pool and a teaching pool. 24, 25, baths on the sea front at Aberavon, South Wales, 1965 (architects, F. D. Williamson & Associates); an Olympic-size pool with gymnasium, restaurant and dance hall.

22,2





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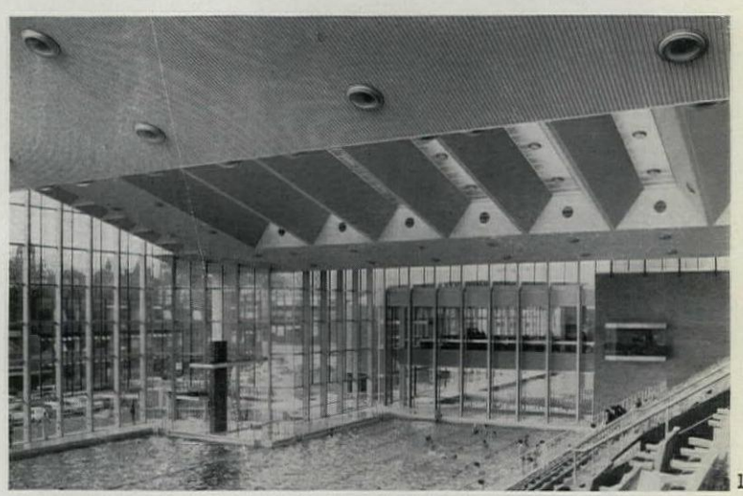


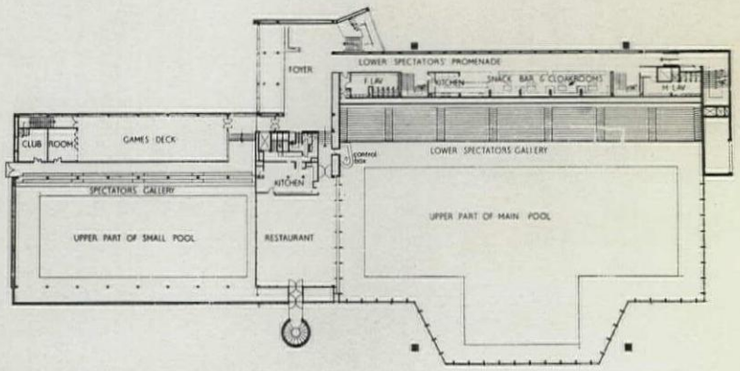
17

Coventry baths: 13, the main pool, looking towards the diving pit. 14, the main pool seen from the restaurant over the teaching pool. 15, the restaurant and teaching pool seen from the small pool. 16, the diving end of the small pool. 17, the main pool seen from the spectators' gallery.

bright day, and about half the pool, principally the diving pool and the deep water of the main part, was semi-tropical with sunlight. To see the diving clearly, one had to sit in the upper tier of seats, but for the divers and swimmers themselves it must have been delightful. The finish lines of races would probably be out of the dazzle of direct sunlight, as there is a wide overhang of roof on either side of the diving bay. On grey days the light would be more evenly distributed.

The whole impression of this pool, both inside and looking in from outside, is of a happy optimum climate of water and air and light. Floor-to-ceiling glass forms the walls of part of the east and west sides as well as all of the south side. The north side of the building turns a utilitarian back on the unlovely, unfinished bus-station landscape behind —a small snack bar under the tiers of spectator seating has a view of that— yet the steep bank of seats filling the north side of the pool space is almost surrounded at the top by high-level windows which let in skyscape and balance any glare from the south wall. Transverse frosted-glass inserts in the W-section ceiling are less noticeable on a bright day, but doubtless contribute to overall lighting on a dull day. From the lower seats there are interesting cross-views of the glass-walled restaurant above the teaching-pool space beside the main pool. Looking eastward from just above pool level, the distant city landscape seems to rise beyond a platform of water.

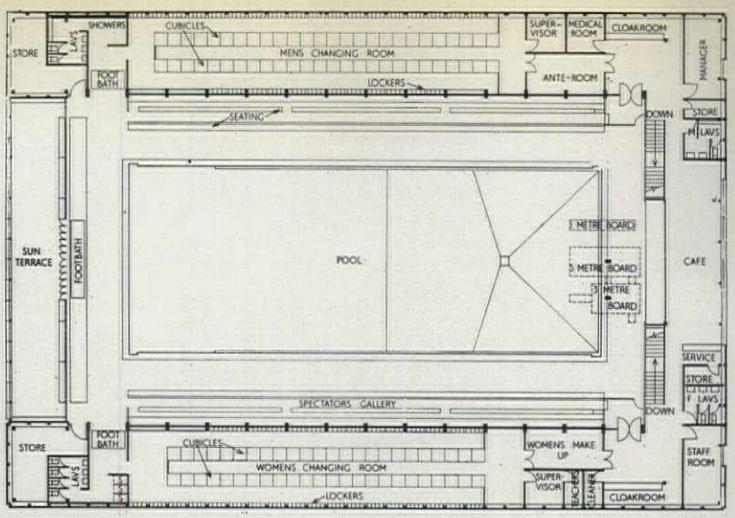
14



second floor plan of Coventry baths

10

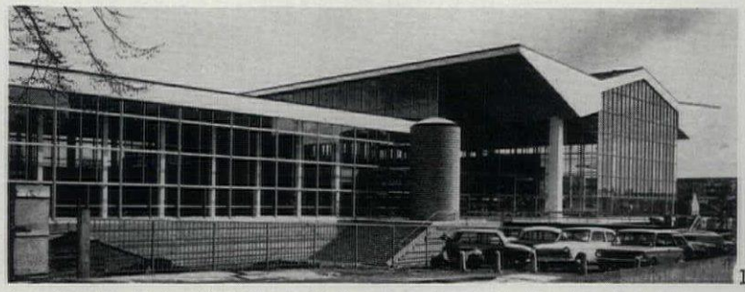
11



first floor plan of Walton-on-Thames baths

Walton-on-Thames baths: 10, corner of the shallow end. 11, the diving boards at the deep end.

a photograph concentrating on these can lead one to expect a sports palace in twentieth-century Rome, at the very least. Yet a few moments of adjusting one's sights from the vantage point of the modest row of benches just below the spring of that arch are enough to tell how wrong the camera was and how right the interior actually is. The low walls behind the spectator benches are timber-faced; behind them are the changing areas. The end or gable walls are entirely glass, with thinner mullions than at Crystal Palace. At the south-west (shallow) end the view is of grass, probably with games going on sometimes, edged by distant trees and houses, and sunlight if any shines in on the littlest swimmers jumping about. Behind the deep end is a low glassed-in coffee bar and above it, as background to the upper diving platforms, is a view into the row of tall trees just outside the entrance—even, one imagines, mitigating some glare and forming nice patterns when the leaves are off. The glare problem, however, is mainly dealt with by the frosted-glass inserts between the concrete ceiling members, distributing daylight evenly over the whole pool. This must be more satisfactory than the solid roof vs. *long glass wall at Crystal Palace, where there is a certain amount of glare; glass ceiling inserts are used at Coventry as well. Although on the day of this visit to Walton-on-Thames the indoor air was much warmer than outside, there seemed to be no condensation on the glass end wall whatever. The ears ring a bit after an hour with seventy falsetto voices crisscrossing the water, though not unbearably.*



12

Coventry baths: 12, from Cope Street with the main pool under the W-roof on the right.

Coventry (Arthur Ling, city architect, and his successors), 1966

The main pool area, as seen from the south or Cope Street side, has a W-shaped roof like a great garden-pavilion roof afloat above glass walls. The poolside floor level is on a fairly high podium so that from inside the building there is a view out into and over the city landscape—the cathedrals, new and old, to the south-west, the new College of Technology buildings and trees to southward, and the red tile roofs and traffic of Coventry to the south-east—with, presumably, some foreground planting still to come. In plan and section the main pool would seem to be a most workable compromise between varying types of use. A rectangular bay of water projects on the south side for diving and its depth is carried across the centre of the main racing area which is shallow at both ends.

When this visit was made in the middle of a weekday, there was general unorganized swimming and diving by lunch-hour swimmers, as well as an orderly marshalling of shoals of schoolchildren, overlapping from the two teaching pools, along the shallow ends of the main pool. It happened to be a

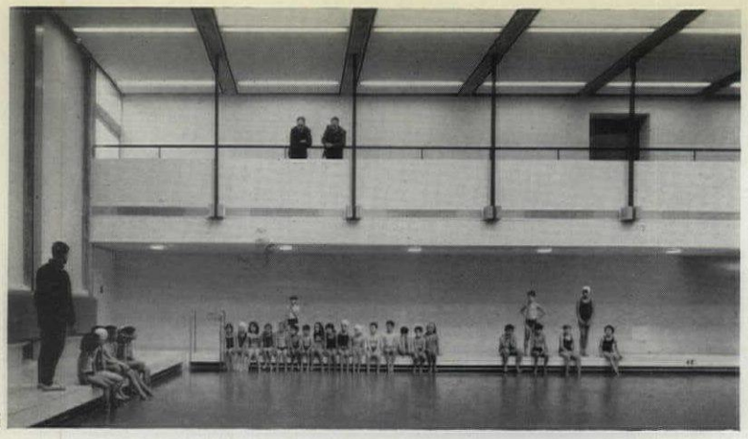
Walton-on-Thames, for Walton and Weybridge urban district council (Arup Associates), 1965.

Domesticated Nervi is a phrase that comes to mind about this building, which manages to be both monumental and neighbourly. It stands in a corner of a large recreation ground not far from the High Street, surrounded by green playing fields, allotments, trees and small suburban houses. While the under-structure is bold and forthright, the gently pitched roof blends into this landscape. Inside, if one has already seen photographs focused on the dramatic ceiling structure, one's expectations have to make a sudden adjustment. This space houses a single pool in which some seventy children might be splashing in all directions without any crowding, even with the diving boards in use; that is, the pool itself is not small, though its margins are modest and lack the elaborate seating accommodation which extends the overall spaces at the other pools illustrated here. In fact, this interior is a fine example of how photographs can lie, especially with the tapered design of the concrete roof-ribs and the low level at which the spring of their arch begins, exaggerating the effect of perspective:

8

Walton-on-Thames baths: 8, from the playing fields to the south-west. 9, the pool hall, with view over playing fields.

9



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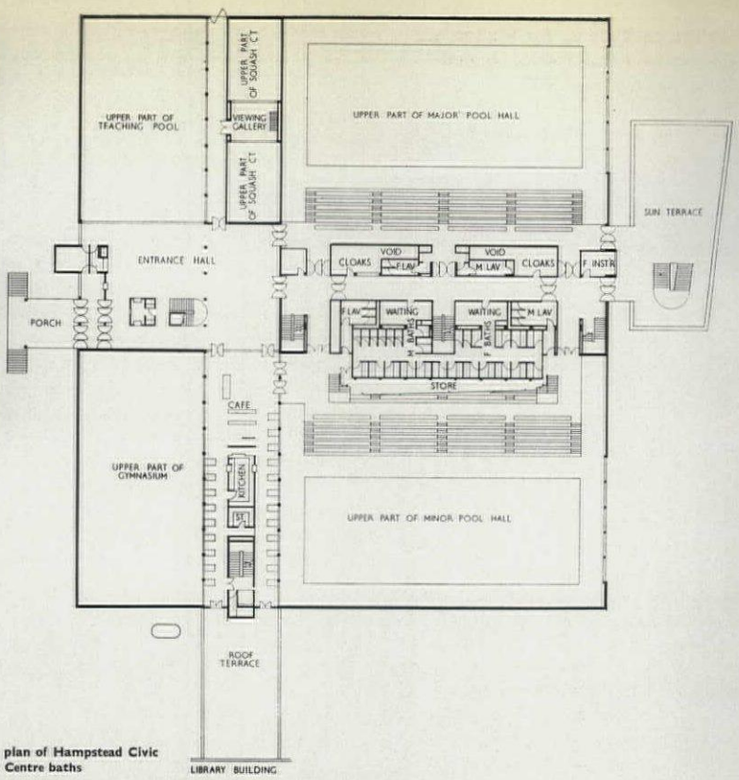


plan of Hampstead Civic Centre baths

Hampstead Civic Centre, Camden borough council (Sir Basil Spence, Bonnington and Collins), 1965.

The first impression of the twin pools at Swiss Cottage is 'warehouse' or even 'prison'—an inhibited northern swimming bath, afraid of the light. Actually such avoidance of light seems a misplaced tropical reaction—all those fins and louvres in latitude NW3 really suit California (like the fad for wearing dark glasses) or curtain-walled, low-ceiled shops and offices with hot strip-lighting and fully dressed people. Their role here seems more to be shutting out the neighbours, since the long wall of both the main pools rises to about cornice level of nearby Victorian houses on the east side, although the long wall of the western pool only faces the new library. The architect's brief may, indeed, have stipulated a minimum of transparency on this restricted site. On a bright day, about as much sun filters in the south end of these pools as would get past venetian blinds, but the sill of this window wall is higher than a man's head and the wall below it is solid. The cool grey interior walls are relieved by a broad orange band as a skirting along the bottom, and presumably on a dark day the lights inset in the flat grey ceiling are turned on. The restless blue water and the swimmers contribute the only real feeling of life—one senses a deliberate concept of housing them with privacy and understatement.

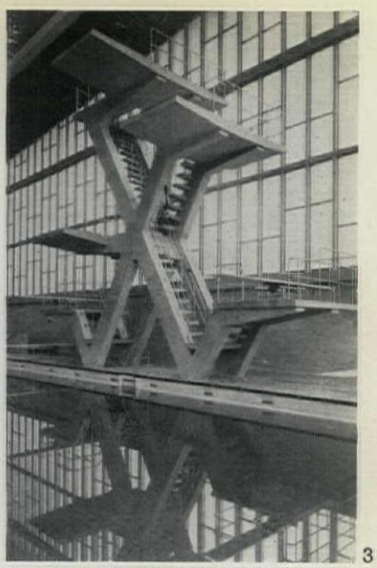
This is even more true of a third smaller pool on the north-east side of the building: to swim in it must be like going down into a storage tank, or a private pool in one's own cellar, as it is almost entirely sheltered from the outdoor world except for ingenious sky-lighting and one window at balcony level. There is more elegance of detail here than surrounds the two large-scale pools. The slender aluminium grid of glass partitioning setting the smaller pool space and that of the snack bar off from the entrance lobby, and the general finish of doors and floors in the corridors, prevent the otherwise subfusc tones of grey and white and brown from being too depressing.

6

7

Hampstead Civic Centre baths: 5, the teaching pool. 6, the major pool hall. 7, diving boards in the major pool.

FOUR BRITISH SWIMMING BATHS: commentary by Priscilla Metcalf



3

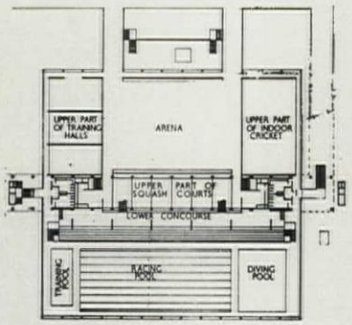
Crystal Palace baths: 1, stainless steel safety barriers alongside the racing pool. 2, starting blocks at one end of the racing pool. 3, diving boards on a single structure. 4, the pools seen from the teaching end, with central spine left.

Crystal Palace Recreation Centre (GLC), 1964

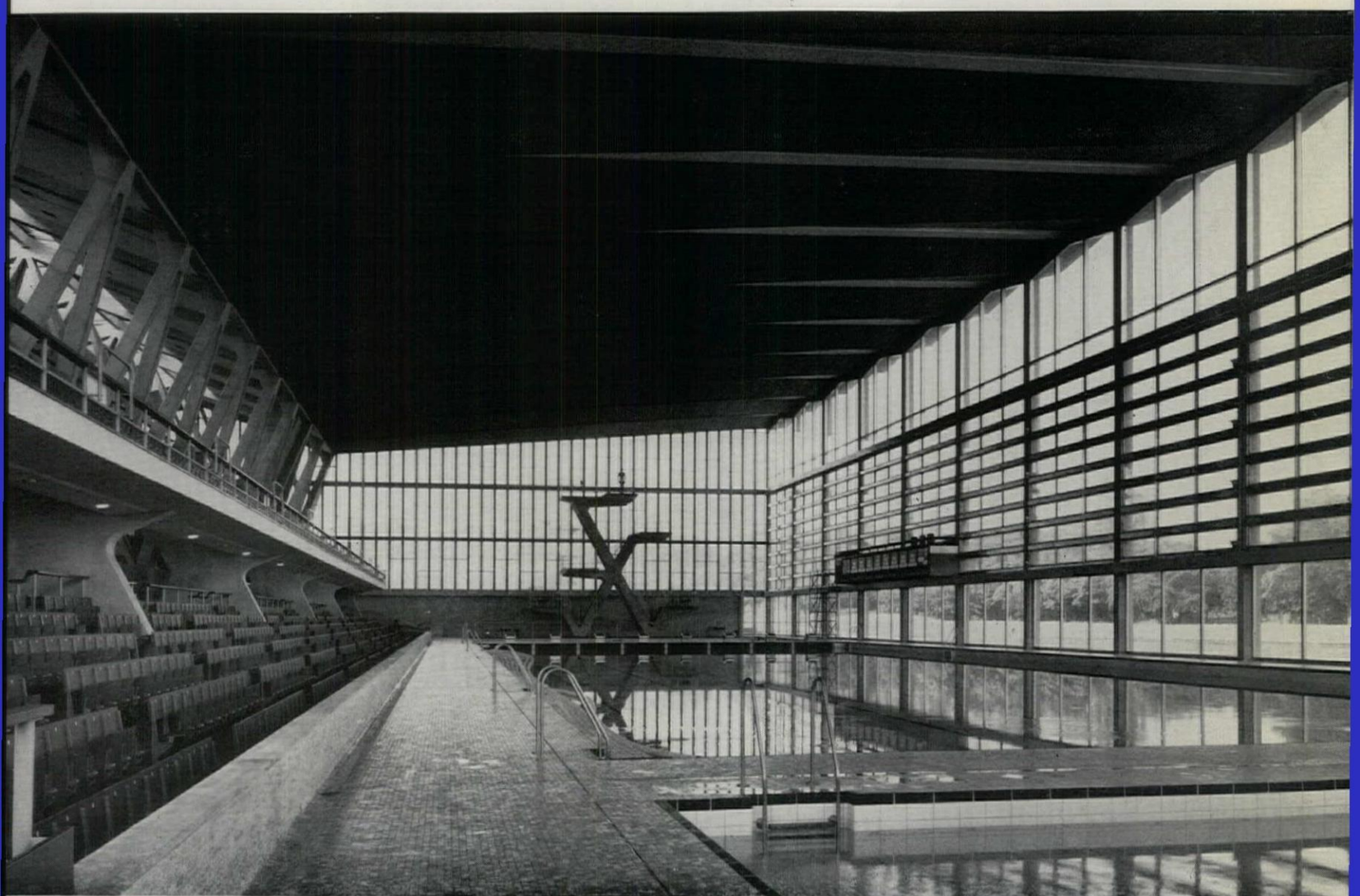
On entering the main concourse or spine between 'dry' and 'wet' sports, one's eye is immediately drawn to the electric blue of the pools, visible in a dramatic interpenetrating view between upper and lower banks of seats. From a higher concourse along the top of the upper tier of seats, a sense of the whole area can be obtained, with the static brown terra firma of ball courts separated from the mobile floor of water by the spectacular structure of the central spine. The supports of the upper seats lean away from the pool and become part of the central roof supports, and one's first view of the forest of raking supporting members along the main concourse suggests a tension from which the sports spaces are free. Certain disadvantages in the open plan are apparent in temporary remedies such as a polythene curtain alongside the diving pool to stop draughts between its warm-air envelope and the cooler atmosphere of the games courts; from the point of view of a mere spectator, one hopes this will never be replaced by a less transparent partition. This situation suggests that public authorities asking their architects to combine different activities in one overall space should think again. The pools space itself, under a timber-slatted roof of zigzag section, houses three rectangular bodies of water. The long south-east glass wall opposite the spectator seating is broken up by a fairly small-scale grid of glazing bars. Glare seems to be somewhat reduced by eaves overhang and the tame green landscape closing in outside—perhaps preferable in this respect to the grand distant view that this side of the building could have commanded at Crystal Palace. Presumably on a bright day the sun pours in for part of the time; even on a grey day it is cheerful. On a tranquil weekday afternoon in between seasons, with only a few neighbourhood swimmers larking about, it is quiet but never dead—both the water and the building itself seem constantly alive.

1

2

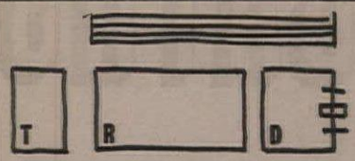


plan of Crystal Palace baths

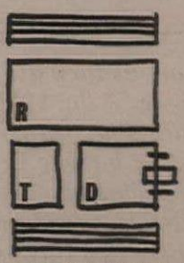


4

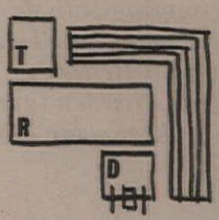
Some pool layouts



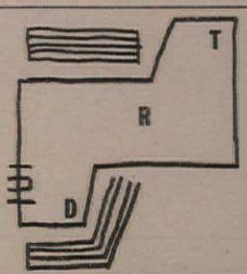
Traditional layout, used at Crystal Palace
T, teaching; R, racing; D, diving)



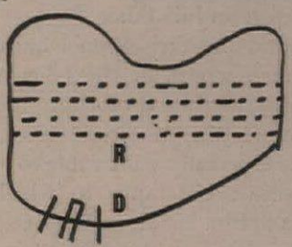
Alternative for above, shortening length of spectator seating



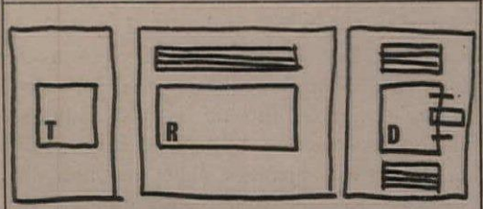
Z-shaped layout, with seats concentrated at points of greatest interest, as in recent design for a pool at Worthing by Architects' Design Group



Irregular shape containing standard-length racing pool with diving and teaching bays off the main area, and seating concentrated at points of most interest.



The plan above developed into a free shape



Cluster development, with each pool in separate environment. Some form of disappearing wall between two halls might be desirable during important events, though people who come to watch diving are usually not so interested in racing, and vice versa.

ing without fuss or pattern are most in harmony with the blue-green, constantly moving and reflecting body of water which they enclose. The mural decorations that surround some recent pools in Sweden and Italy seem superfluous.

Materials used for the pool itself must be fully vitrified and glazed. Care must be taken in matching colours of glazes in materials of different manufacture, though this is a matter of more importance to recreational pools, as white is the most effective colour for competitive pools. Great care is necessary in placing all the various inlets, outlets, vacuum-cleaning points, etc. within the tiling pattern. Steps into the pool need not reach to the bottom, but they must be recessed into, not free-standing from, the pool walls. For racing pools, the anti-wave pattern of scum trough is essential, and at the ends there must be no scum troughs at all.

If the pool is used mainly for competition, the following are also essential: racing lines in black tile along the pool bottom, hooks for fixing floating lines, a roughened or textured tile for turning at each end, fixed or movable starting blocks, touch-pads for timing devices, provision for dropping a line to indicate a false start and for suspending a line of flags above to show backstroke swimmers where to turn—all of which add to the clutter unless thought out in advance. International rules still require two judges per swimmer (even where electronic timing devices have been installed), so space must be allowed for them on the surrounds at the ends of a pool. Underwater observation, through portholes in the sides (as at Crystal Palace and at Loughborough Training College), is essential for training and could be an additional attraction for spectators.

Diving pool

Dimensions and depths are laid down by the ASA. Such a pool should be kept solely for diving, with the possible exception of water polo. Ideally, however, the former should have a separate pool, warmer and with a higher ceiling and with special lighting control. The same comments on finishings apply here as to racing pools, except that scum troughs continue all the way round. Some form of spray is needed to disturb the surface of the water to make it visible to the divers.

The diving boards themselves can be functional pieces of sculpture if handled properly, though in practice they are seldom as successful as the combined structure at Crystal Palace; here the fixed platforms, springboards, and means of access are all part of a single supporting spine—a modern and secular equivalent, in a way, of the old three-decker pulpit. Another example of diving apparatus effectively mounted on a single stem is at Karlsruhe. The competition diver always pleads for some sort of lift to the 10-metre board, an element difficult to accommodate both visually and financially; some German springboards are mounted on hydraulic rams, for example the telescopic platform at St. Ingbert. Underwater observation, though here of no value from the coaching point of view, could again provide an interesting spectacle.

When the diving pool is combined with the swimming pool, some sort of safety barrier is needed, both floating and around the edges. There can be cork floats on the water and simple stainless steel rails along the surrounds.

Teaching pools

These can also be used as general-purpose pools, with separate hours for classes. The teaching space need not be as large as that for the racing pool, and its depths are a matter only of safety. This will be the noisiest area and could well be in a separate hall. Requirements for finishings and fittings are similar to those for other pools with the addition of a teaching rail along the sides. The surrounding floor on three sides is better planned on a lower level than the surface of the water, to make coaching easier, while broad steps—possibly the whole width or length of the fourth side—add greatly to the safety of small children.

Pools for fun

In all the foregoing types of pool, the emphasis is on discipline rather than recreation. The combination of the two always results in compromise, and we ought to assess on a national basis the distribution of pools for competition, leaving the rest for leisurely swimming. This would immediately free designers from restrictions of shape and size (although it might be advisable to keep two sides parallel if any teaching is to be done there at all). The comfort of swimmers can be more fully catered for when there is no need to make room for many spectators. Such a pool can often best be developed with other sport facilities and a restaurant. An open-air pool can be surrounded by a glass wind-break.

Spectators

There are two kinds of spectator, the one who has come to watch an event, and the one who has merely dropped in to watch general swimming or keep an eye on Johnny. Both must have a dry circulation area with access to tickets, cloakrooms and café if any. Permanent seating is probably not necessary for any but the largest pools where national and international competitions are held. If seating is provided but the numbers expected are small, then seats can be concentrated around the points of greatest interest. If expected numbers are large, the whole of one side, or both sides, of the pool may be taken up, unless separation of diving and racing areas allows the seating layout

[continued on page 351

PUBLIC SWIMMING BATHS

Large public swimming baths are once again providing an important architectural theme, as they did for the Romans. Such buildings are much more than the neat solutions to a problem that they were in the 1930*s, and the functional brief is being more thoughtfully analysed than before, both here and abroad. The proportion of space allotted to the various modes of swimming—racing, diving, training, playing games, or just having fun—are partly social questions, and the community as a whole must provide the answer and thus the architect's brief. For example, more people with the leisure to swim for recreation may mean a lower ratio of competitive record-breaking and more peaceable messing about in the water, with revised allocations of space (or time) to these two incompatible activities. In addition, it is generally recognized nowadays that all children should be taught to swim, and their classes must be part of the architectural programme. In the following article (based on notes provided by Bryn Jones of the Architects' Design Group) planning, structural and other aspects of swimming-bath design are discussed from a practical point of view, and the illustration pages, which show recent baths in Britain and abroad, include a critical commentary, by Priscilla Metcalf, on four important British examples.*

On the facing page are the main pool and the children's pool of the baths at Vasteras, Sweden (architects, Rosenberg and Stal).

After the best mixture of uses for projected baths in a given neighbourhood has been settled, preferably in relation to those of the surrounding area, assessment of the required type and number of pools involves their relation to each other. For instance, a diving pool needs warmer air and water to compensate for the divers' continued heat loss; it needs a higher ceiling and greater lighting control. The teaching pool requires little headroom—and less depth—but tends to be noisy. The main pool used for racing has conflicting needs of light: strong daylight and sunshine for the comfort of the swimmer can dazzle the spectator, the diver and the camera.

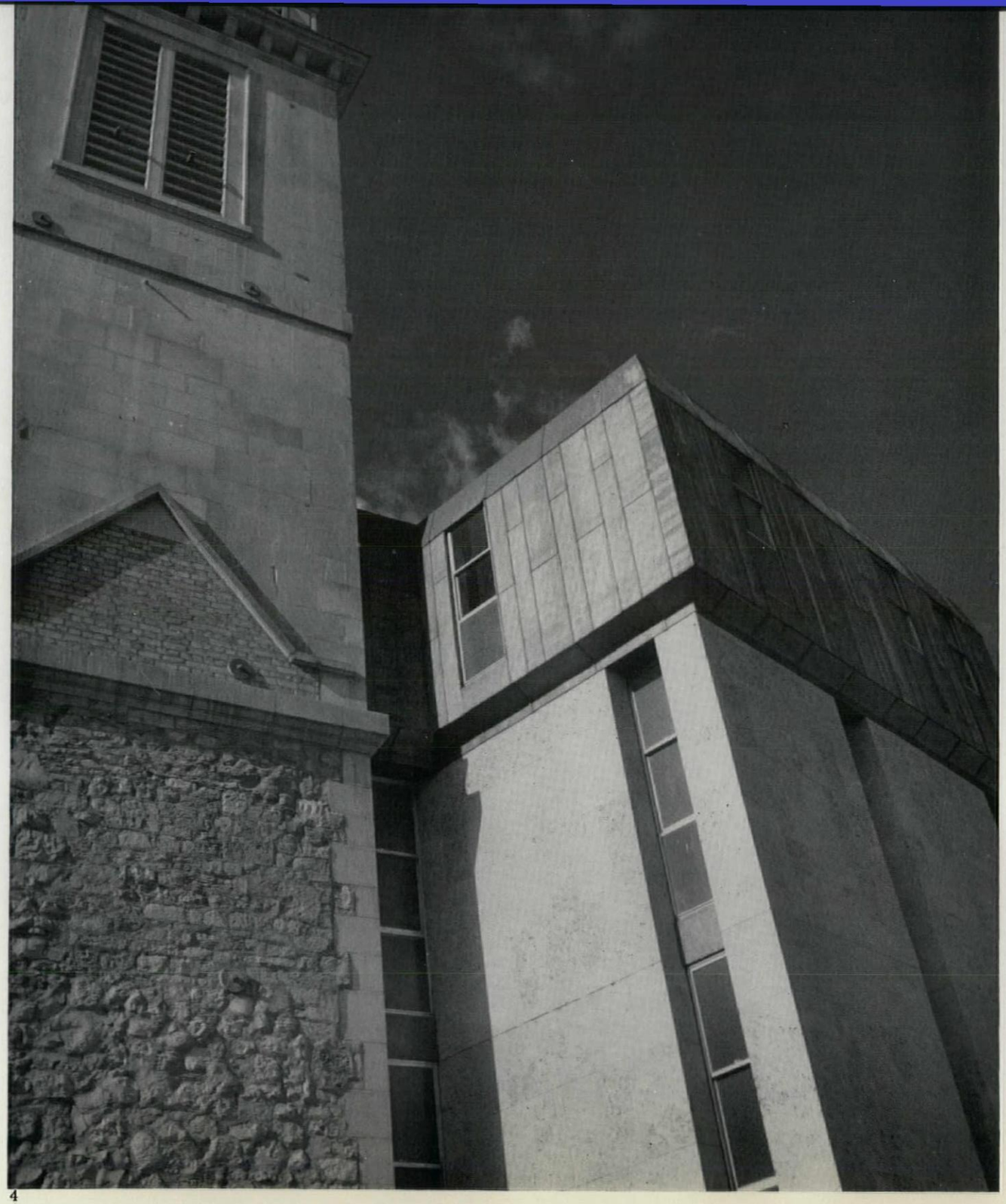
The sketches overleaf show some of the possible permutations of shape, size and layout. Considerations that the architect should bear in mind include the following.

Racing pool

This can be a multi-purpose pool for racing, training and water polo (and recreational swimming if closed to the casual swimmer during club nights and athletic meetings). Air and water temperature can be lower than for diving, as swimmers generate some of their own heat by exercise. The dimensions for this pool are set out by the Amateur Swimming Association and the FINA. Introduction of the metric system may mean a change in the length of British pools, but a 55-yard pool can be converted to a 50-metre length by the insertion of a boom, approximately 11½ inches wide, at one end; such a boom would have to be very rigid, with some form of scuttling device for placing it in position and compressed air to blow the water out to facilitate removal, as at the Empire Pool, Cardiff.

If there is adequate teaching space elsewhere, the depth of the competitive pool is best kept constant without a shallow end. No satisfactory method has been devised of obtaining temporary shallow areas, either by hydraulically operated pool floors or by elements placed in the water. Lowering the water-level temporarily is a technique, not only requiring large storage capacity below the pool, but also dangerous in that it confuses those entering the pool about depth and distance.

Fittings and finishings of pool and surround play a major part in the efficiency of a racing pool, as they do for any much used swimming bath. Materials close to the water are especially vulnerable to humidity and chlorine, resistance to which is the first demand on them, so they are accordingly often hard, cold, and slippery, as well as acoustically unsatisfactory. A fully vitrified unglazed ceramic tile will allow water to drain off and retard growth of bacteria, but is not always pleasant to look at; ceramic mosaic can be used, though marble mosaic is too slippery. Ribbed rubber has been used successfully in Italy for surfaces that are non-slip, warmer to the touch, and quieter; the material is embedded directly into the screed and is unaffected by moisture or chlorine. For interior cladding generally, natural materials in their natural colour-



4

5

4, junction of the dormitory block and St. Augustine's tower. 5, south elevation of the staff residential block.

entrance, assembly hall and music practice room, has been kept as low as possible so as not to obstruct views of the cathedral apse. The buildings are set well back from New Change, and have as few windows as possible facing on to it, because of traffic noise. The secondary cornice of the tower of St. Augustine's, which is 30 ft. above ground level, fixes the main height of the buildings, only their attic storey going above this line. The L-shaped block at the southern end of the site, attached to St. Augustine's tower, houses all the school residential accommodation, boys' dormitories, communal rooms and staff living quarters and the chapel. The ground floor of the east-west wing of this block, containing the dining-room and kitchen, is sunk 10 ft. below street level and looks south on to a private garden. At the same end of the site is a separate four-storey block containing staff flats, mostly with a south and west aspect. The north block, also of four storeys, contains all the teaching accommodation and has a swimming bath on the lower ground floor. A sunken playground is reached from the single-storey linking block. From this playground steps lead up to the door at the south-east corner of the cathedral.

External walls are faced with Portland stone similar in colour to that used in the cathedral but of rougher quality. Exposed concrete surfaces in the lower parts of the buildings have an exposed aggregate finish. The attic storey has lead cladding. Window openings, which reach from floor to ceiling, have three basic widths: 11 ft. 3 in., 2 ft. and 3 ft. 6in. These and the spaces between the openings relate to a planning module. The windows themselves are sliding sashes, of aluminium.

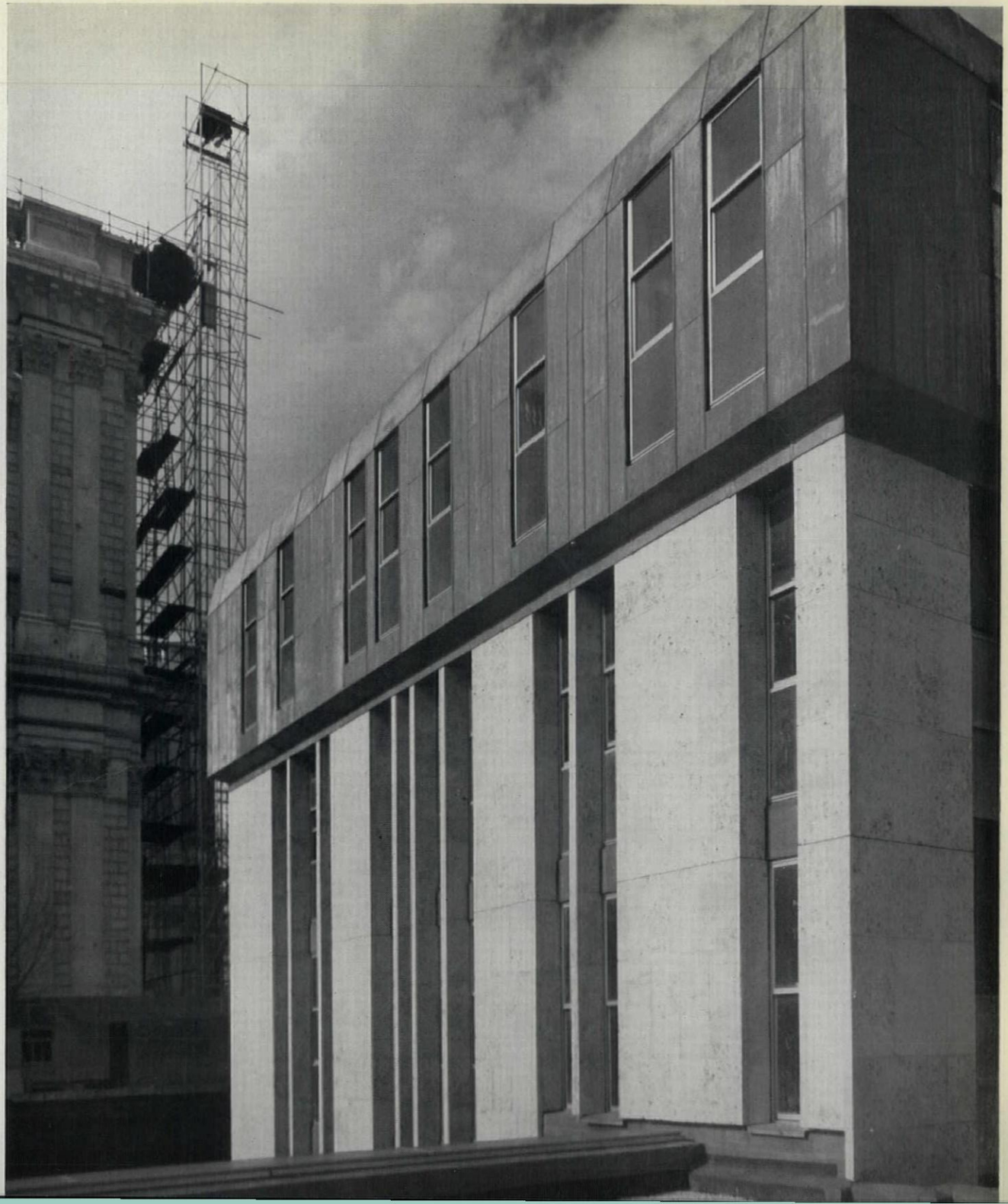
Consulting engineers, Engineering Design Consultants.
Quantity surveyors, G. A. Hanscomb Partnership.
For contractors, see page 400.

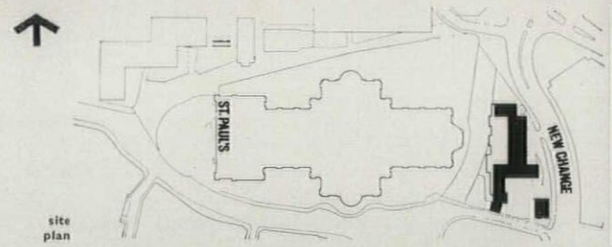
1 (previous page), from the south, with the choir school on the right, St. Augustine's tower centre and St. Paul's left. 2, from the east. 3, the classroom block.

CATHEDRAL CHOIR SCHOOL, LONDON

The new St. Paul's choir school, which replaces the old one in Carter Lane, is sited, in accordance with the Holford plan for the cathedral precincts, east of the cathedral and incorporates the surviving tower (the spire of which has been restored) of the bombed Wren church of St. Augustine, Watling Street. The design was the outcome of a limited competition held in 1962. The roadway (New Change) now passes between it and the neo-Georgian Bank of England offices further east, and among the townscape purposes it was required that the choir school should serve was that of suitably framing the views of the cathedral south from St. Martin's-le-Grand and north from Old Change as well as making the most of the sculptural quality of the Wren tower.

In view of the shadows cast by the cathedral from the west and by the office buildings from the east, detailed shadow-studies were made in order to establish the best orientation of the new building. On the basis of these, the residential accommodation is placed at the southern end with the dormitories facing east and west. The classrooms are at the northern end, mostly facing





site plan

EAST OF ST. PAUL'S

1

CATHEDRAL CHOIR SCHOOL, LONDON | *architects* **ARCHITECTS' CO-PARTNERSHIP** | *photographs by H de Burgh Galwey*

genuine discretion. It was the knowledge of that discretion, however slight, that was expressed in the fanatical pursuit of style epitomised by turning up for work dressed in one's very best—even if one had no other clothes to one's back.

Wolfe himself clearly attaches great importance to this liberation of popular taste by unrestrained money, because he refers to it also in the introduction to *Kandy-Kolored*, where he typifies the restraints from which it has been liberated: 'Free Form! Marvellous! No hung-up old art-history words for these guys. America's first unconscious avant-garde! The hell with Mondriaan, whoever the hell he is. The hell with Moholy-Nagy, if anybody ever heard of him! Artists of the new age, sculptors of the new style and new money of the . . . Yah! Lower orders.' And this is where Wolfe has the reverse advantage of two thousand miles of water and some subtleties of language. It gives him a perspective on the European class-structure of traditional 'Western' culture and enables him to observe in a casual throwaway that 'the educated classes in this country . . . are all plugged into what is, when you get down to it, an ancient, aristocratic aesthetic.' That was why he picked Versailles as the proper term of comparison for Las Vegas and, having done so, he illuminates a negative aspect of the liberation of English popular taste—the reasons why there isn't—and won't be—a Las Vegas in England.

At face value it could happen—every Young Contemporaries exhibition shows that we have the design talent, and the statistics of the gambling industry show that we have the money. And physically we have the space, and the places that could conjure Las Vegas's stunning contrast between the artificial visual pleasures of the Strip, and the natural beauties of the desert and mountains beyond. Physically we have, but not culturally. The more one compares the situation described by Wolfe with that obtaining in Britain, the more one sees how the US lacks—for better or worse—our disembodied survivals of Feudalism implicit in the apparent determination of the Establishment to keep the hoi-polloi off the land. It isn't often explicit, but Commander Rawnsley's brawl with the National Trust caused the mask of democracy to slip for a moment, and it was made clear that, for many members, the Trust's function is not to preserve places of historic interest and natural beauty for the benefit of the people of Britain, but exclusively for subscribers to the Trust.

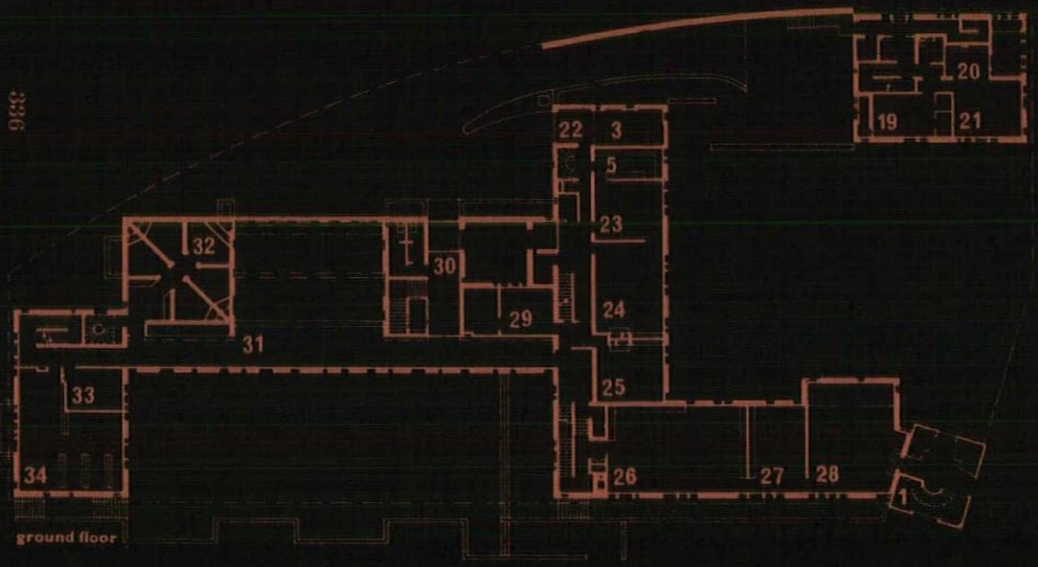
On the observable balances of political power, the Oxbridge/Westminster Establishment now disposes of sufficient legislation and litigious techniques (such as public enquiries) to block any efflorescence of popular taste in open country, but the Yale-Harvard-Washington Establishment does not. So the US has Las Vegas, and Britain has . . . ?

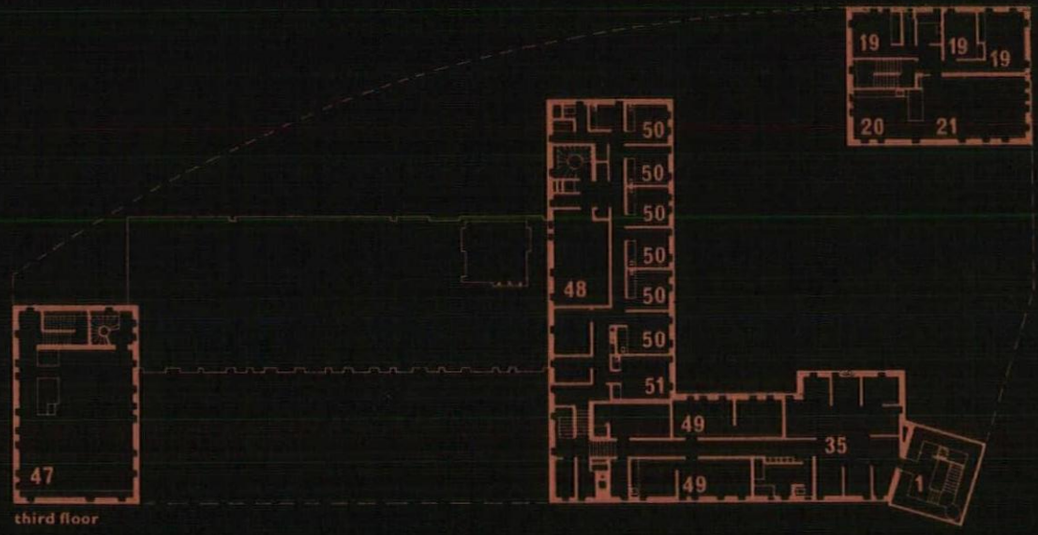
It has a growing tradition of indoor Pop fantasy which still has to find its Wolfe. That tradition began to emerge with the early—the very earliest—espresso bars, has received reinforcement from art-movements like Royal College Pop-painting, from television, from art-historical incidents like the re-re-discovery of *Art Nouveau*, from technologies as diverse as electronics and acid-etched veneers, and at one of its extremes, has now reached conditions like the interior of the Prince of Wales in Fortune Green. This pub's exterior—sub-Georgian and fake-Functional-tradition white boards—is a pretty fair summary of the architectural and town planning tastes of the effective power-Establishment at that point in Greater London. But the interior, with its totally uninhibited improvisatory combinations of camp antiques, Festival heraldry by the yard, cuckoo-clock furniture, random brick, joke-oak beams and sheer Caligari, exceeds anything that the present author has seen either in the US or Australia—exceeds in exuberance and conviction as well as inventiveness.

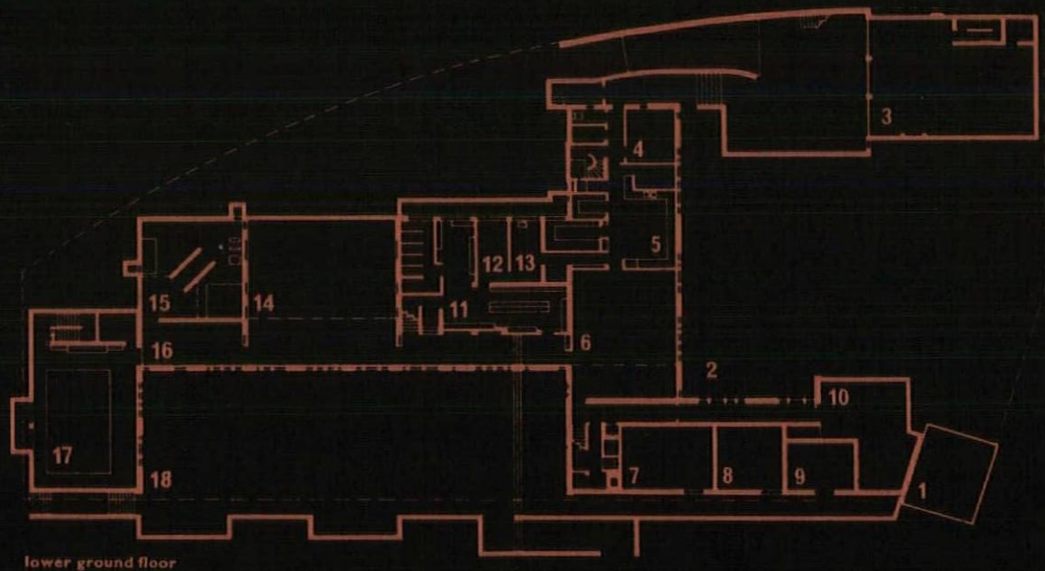
But the indoor manifestation of the . . . Yah! Lower orders, that really needs Wolfe to do it justice is typified by the 'Million-Volt Light and Sound Raves' of January/February last. The aim was total saturation of audio-visual experience—a full 360 degree sweep of projections ranging from abstract art to films about drug-addiction and patterns of moving liquid, synchronized to music amplified to well above the threshold of pain. But it is the (literally) surrounding ironies that give the Raves their unique flavour. Though staged by fairly typical representatives of the new artist/entrepreneur class that has grown up to handle Pop music and manifestations of this kind, the building in whose indoors it took place belongs to Centre 42, the last outpost of the sub-establishment proposition that the function of Socialism is to hand down that 'ancient aristocratic aesthetic' from the educated classes to the lower orders. As a result there is the added irony that so Utopian a socialist as Arnold Wesker, the boss of Centre 42, has to declare that, as far as the organizers of the Raves are concerned, he is 'simply in a normal landlord relationship to them.' But the giant irony embracing all others is that the building which conceals the Rave from the well-educated eyes of Hampstead and Regent's Park, and of which Wesker is a normal landlord, is the Chalk Farm Roundhouse, a structure whose qualities as architecture, as engineering, as a monument of the Functional Tradition and the Great British Nostalgia for Steam (and its merely being more than one hundred years old) all combine to ensure that any attempt to tamper with it will provoke a storm of militant preservationism.

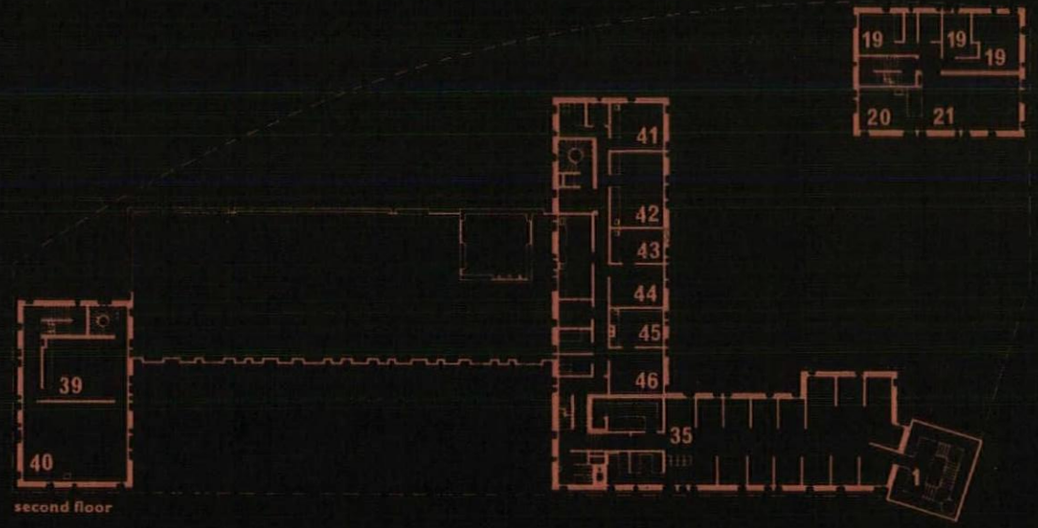
We thus appear to be within sight of a situation in which, for instance, charabanc-loads of Labour Party loyalists might be brought to see *Son-et-Lumière* histories of British Rail (scripted by John Betjeman and L. T. C. Rolt) projected on the outer walls of the Roundhouse, while Raves of mobile teenagers immersed themselves in audio-visual psychedelic happenings within. If so, it would be a fair epitome of our present faltering transition[4] from a culture based on aristocratic taste to one based on free-form self-fulfilment—a transition illuminated by the reflected light from Tom Wolfe's Kandy-kolored prose.

REFERENCES
[1] *The Kandy-Kolored, Tangerine-Flake Streamline Baby*. By Tom Wolfe. Jonathan Cape
[2] *Understanding Media*. By Marshall McLuhan. McGraw-Hill, 1964.
[3] 'The Development of British Pop' in *Pop Art*, by Lucy R. Leppard. London, Thames & Hudson, 1966. This is the first full eye-witness account of events in London after 1952, and should clear up most of the standard misconceptions about the nature and origins of English attitudes to mass-culture and Pop-Art.
[4] A transition epitomised by the difference in intention between Centre 42 and Joan Littlewood's 'Fun Palace' proposals.





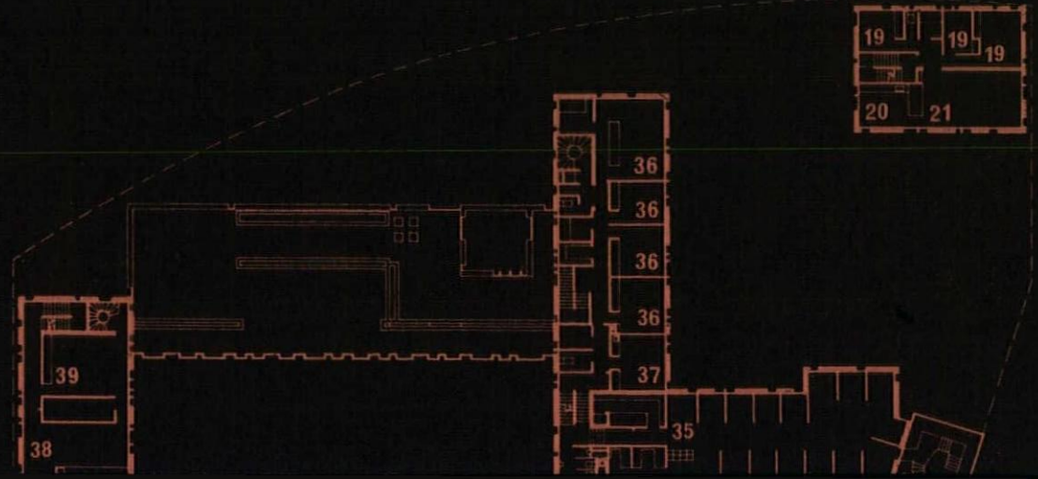




CATHEDRAL CHOIR SCHOOL, LONDON

key

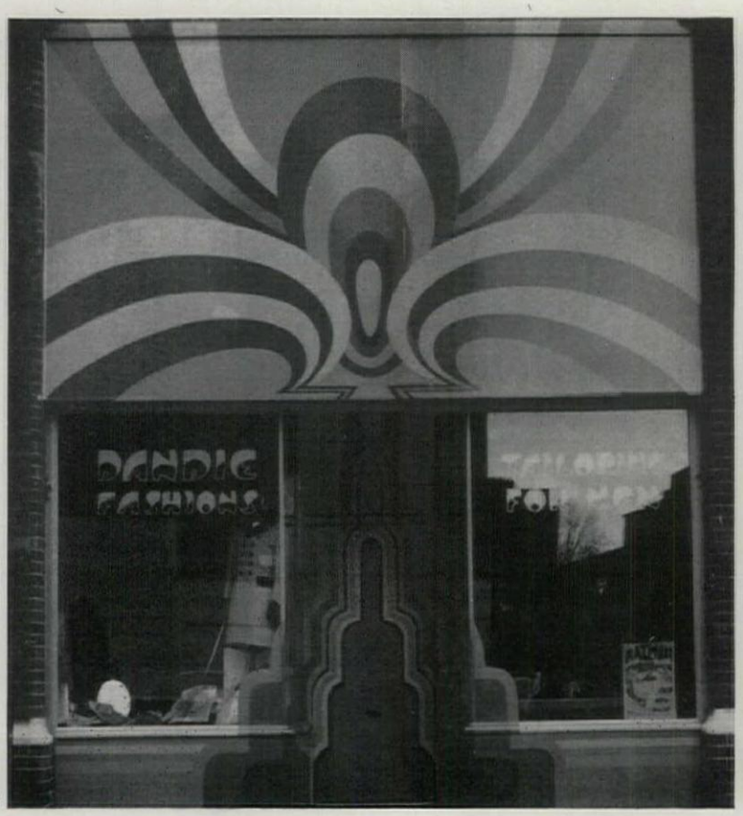
1, St. Augustine's tower
2, private garden
3 garage
4, staff dining
5, kitchen
6, dining
7, boiler
8, fuel store
9, h.t. room
10, store
11, lockers
12, drying
13, laundry
14, hall
15, plant
16, equipment store
18, playground
19, staff bedroom
20, staff dining/kitchen
21, staff living
22, staff entrance
23, dining
24, sitting room
25, headmaster's study
26, common room
27, quiet room
28, chapel
29, secretary
30, entrance foyer
31, gallery
32, practice room
33, visiting staff room
35, dormitory
36, bedroom
37, visitors' room
38, workshop and hobbies
39, classroom
40, science
41, isolation
42, sick room
43, matron's bedroom
44, matron's sitting room
45, housekeeper's bedroom
46, housekeeper's sitting room
47, art room
48, staff sitting room
49, housemaster's suite
50, maid's room



. . . the 'Prince of Wales' in Fortune Green Road in north-west London, 4, 5.

1

Fremont Street in Las Vegas, 1, *is now recognized as one of the great monuments of current Pop culture—recognition largely due to Tom Wolfe's book* The Kandy-Kolored Tangerine Flake Streamline Baby (*reviewed in the accompanying article by Reyner Banham*). *Nothing like it has yet appeared in Britain, in spite of the municipal illuminations of Blackpool. In some ways the nearest thing is the wave of shop-painting in Chelsea which has accompanied the craze for 'camp' antiques and eccentric clothing,* 2, 3. *The exuberance of Las Vegas has been truly matched only indoors in temporary manifestations such as the 'Million-volt Raves' at the Camden Roundhouse, and more permanent performances such as the décor of eating houses and—above all—pubs like. . .*



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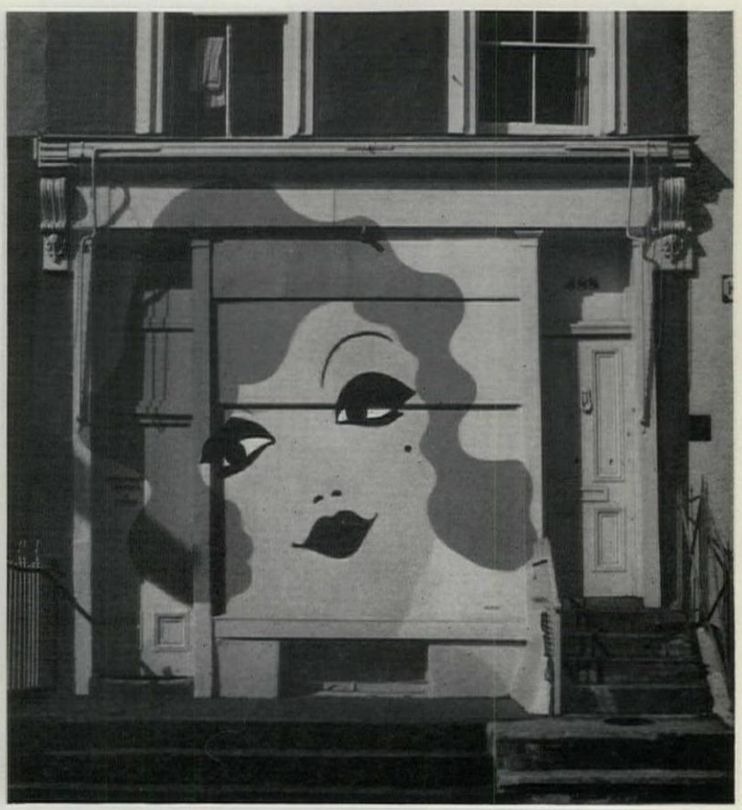


3

recent text[3] of Lawrence Alloway's, because they 'were producing the best popular culture.' Alloway could have pitched it stronger: this was the only popular culture most of the Independent Group had ever known.

This situation had a curious polarising effect—almost as if they were seeing the objects of their study through spectacles with radically different lenses. With one eye they saw a distant culture, remote beyond two thousand miles of water and the distortions of a common language. They thus had psychological distance and a sense of perspective that most American students of Pop culture never had. But with the other eye they saw something so close, and so familiar for much of their conscious lives, that it was more real than the humane learning they had acquired at grammar-school. For most were the sons of the so-called lower classes, to whom the movies had been the only accessible culture of any sort before the War, and in acquiring the higher education that made them articulate as critics and historians, most had consciously cut themselves off from their social roots. In returning to mass-medium culture, most were in some sense returning home. In consequence, English studies of Pop culture were subject to some very particular loyalties and sensitivities, as well as distinctive insights. So is *Kandy-Kolored*, but the analogies that make Wolfe a sympathetic oracle to English ears are not always the obvious ones, and need to be explained warily. For a start, he is a writer of very variable perception; the relative consistency of his plethoric and ornamental prose conceals fundamental differences of content and intent in the book. More than two thirds of it is simply *Jennifer's Diary* transposed from the cultural ghettoes of the Hunting Shires to the cultural ghetto of upper-crust Manhattan (in his London pieces for the *Weekend Telegraph* it was not always transposed even that far, alas). But embedded in this soufflé of smarty-pants gossip are some great awkward gristly lumps of something real—the essays on Las Vegas, on the art and mystique of painting streamlined cars with kandy-kolored tangerine-flake, and on the hero of southern stock-car racing, Junior Johnson; plus some lesser pieces on the holy places of the Twist, on the teenage tycoon Phil Spector, on the disc-jockey Murray Kauffman and on the ritual sacrifices of the demolition derbies.

Most of these bear directly on Pop art and the mass-media, but the key passages explaining Wolfe's acceptance by English pop-fanciers are in the one essay that appears not to—the *Heldenbildnis* of Junior Johnson. Ostensibly this is a fairly straight account of the man, his profession and his life. But it is also about something called 'the New South'—not the old hammy, Mammy, preaching South but 'good old boys and girls of all ages. . . with portable charcoal barbecue ovens set up, and folding steel terrace furniture, deck chairs and things, and thermos jugs and coolers full of beer.' And this New South is, or was, or had become, Wolfe's South. A Virginian by birth, he had been through 'the whole Ph.D. route at Yale,' but now, at the Speedway at Wilkesborough in North Carolina, he seems to recognise that he is at home again, back in the culture he had grown up with, however transmogrified by its ability to create, among other things, folk-heroes like Junior Johnson who were potent enough to command the attention of the nation.

This sense of a return to origins, in the teeth of one's higher education, clearly gives Wolfe a fundamental experience and a lurking loyalty in common with his English contemporaries, but so also does the actual subject of the essay in question. The production of instant heroes from the disestablished strata of English society and their elevation to national eminence is something we have seen in great detail recently. It is not too much to compare the ultimate accolades that have fallen upon the Beatles with the way that Detroit took up and finally took over the heroes of the Southern stocker circuits. Money to buy guitars gave Liverpool a new means of self-expression; money to buy cars did the same for the depressed and culturally deprived South. In the end the influence of the South on motoring has been world-wide: mighty Ford had to hire the 'unknown' Wood brothers to run their pits and re-fuelling, and the name of Holman and Moody of Charlotte, North Carolina, now makes even Ferrari tremble.

There is no need to labour the parallel with the world-wide convulsions excited by the Liverpool Sound. The case is already over-documented—but under-explained. Obliquely, Wolfe can shed a lot of light on the motives and mechanisms involved, however. It has been said, for instance, that 'this sound owes nothing musically to Liverpool.' Not only is this proposition audibly false—the sound is heavily indebted to the preceding fifteen years of Liverpool Dixieland jazz—but Wolfe's reflections on the New South show it to be trivial. Liverpool did not invent Rhythm-and-Blues, the South did not invent car-racing. But at a crucial point on the long drag from traditional poverty to relative affluence, both suddenly found a vehicle for expressing their identity and self-confidence. Indeed, analogues with the Liverpool situation crop up all the time when reading Wolfe, largely because the situation there is not only well-documented, but has been explicit and observable ever since the early 'fifties. Thus the existence of an extravagant teen-age 'sub-culture' on Merseyside could be seen to have emerged by about 1956 or so, when a sixteen-year old mother's help would present herself for the day's work at breakfast-time already *en grande tenue*—flat Italian sandals, black stretch-pants, black sweater, and an elaborately piled and back-combed beehive hair-do. The resemblance to the 'New Jersey Teen-age revolt' identified by Wolfe as the power behind the Twist, is clear and relevant, but equally relevant in a less obvious way, is what he has to say about the architecture of Las Vegas, for what Wolfe had discovered in Las Vegas was the 'mad money' of a relaxed proletariat conjuring up a culture and a visual style that had never been seen anywhere else in the world.

Now, the Liverpool situation in the 'fifties did not provide mad money or discretionary income as an overplus of affluence, Las Vegas style, but the changing structure (and reduced size) of working-class families did mean that there was some money, however little, that teenagers could spend at their

'One of the most amazing cast-iron and glass constructions left from the entire nineteenth-century United States' is how Clarence J. Laughlin (who took this photograph  *of it) describes the domed roof above the main staircase of the Old Louisiana State Capitol at Baton Rouge. An article and more photographs by Mr. Laughlin, describing this richly beautiful but little known Gothic Revival building of the* 1880's, *are on pages* 383-386.

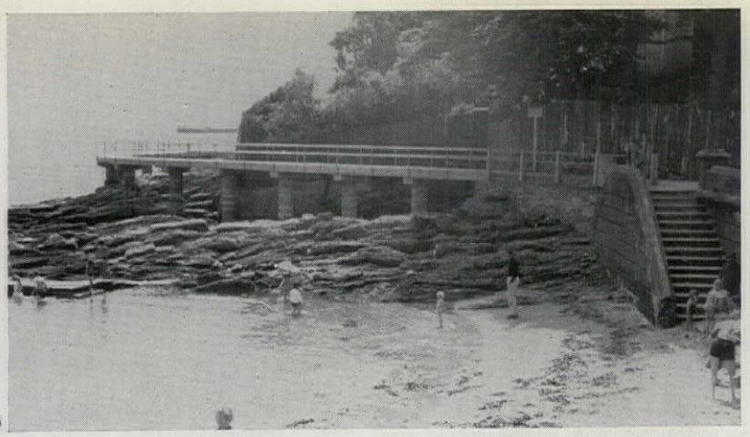
Reyner Banham

TOWARDS A MILLION-VOLT LIGHT AND SOUND CULTURE

'. . . Las Vegas and Versailles are the only two architecturally uniform cities in Western history.' That is not, in fact, a value-judgement (and it's a funny use of the word *city*) but it is so widely taken to be a statement of value that Las Vegas is now a mandatory stop-over in the English architectural student's grand tour of North America. And if it *is* a value-judgement, then most architectural students would agree with it—and that is a fair mark of the way in which the man who said it has imposed his opinions upon English thinking about . . . culture . . . for want of a better word. The quotation comes from Tom Wolfe, of course, and the respect accorded to his views is made only slightly less remarkable by the fact that it can be readily explained. Although the collected volume of his essays and stray papers only came out in 1965 in the US, and a twelve-month later in Britain, its title[1] was already known—*The Kandy-Kolored Tangerine-Flake Streamline Baby*—because the celebrated article of that name had already been reprinted here.

Not only did the English know what was coming, but its kandy-kolored arrival was timely in the extreme. It dropped neatly into the intellectual ferment provoked by Marshall McLuhan's *Understanding Media*,[2] and supplemented that grave academic's rather abstract view of mass-culture with detailed close-ups of the flesh, chromium, neon, nylon and sound-effects involved. But McLuhan's influence in England is older and deeper than that—it can be traced back a decade or more to his *Mechanical Bride* (a work now suppressed by the spite of the advertising business) which has always been a semi-legendary standard work in that tradition of English studies of Pop culture which began in the Independent Group of the Institute of Contemporary Arts.

With this preparation, the English were ready to take Tom Wolfe seriously. Even Richard Hoggart's review of *Kandy Kolored* in *Encounter*, though predictably hostile, was also more respectful and more serious than any of the favourable reviews it received in the US. And Hoggart, one need hardly emphasise, stands well outside the main stream of Pop studies on which Wolfe's welcome rested; the question that needs an answer is why had such studies gone far enough and deep enough to make that welcome almost certain. For it is not merely a matter of that alleged 'Americophilia' which, in the mid-'fifties, had caused students of Pop culture to be brushed off as 'Dupes of capitalism' or even 'Fascists.' The Independent Group studied the products of 'Hollywood, Detroit and Madison Avenue'— in the words of a



9 *Access to the sea and a sense of immediacy are often lost in coastal development. At Port St. Mary in the Isle of Man both these advantages have been ensured by the praiseworthy initiative of the Port of St. Mary Commissioners in constructing this seaside walk, 9: architects, Kay and Gill.*

always close to nature and its revitalizing power.

Of course much modern architecture in Finland is now international in character. Buildings like the Marski and the Palace Hotels and the 'Porthania' university building, all in Helsinki, could be found anywhere from Harlow to Hong Kong. The trend is inevitable as the world grows smaller. We must therefore hope that as much as possible will be deliberately preserved of the best local architecture of the past in every country—not least in Finland whose heritage is rich, particularly in the charming but vulnerable timber vernacular. There, in spite of the buffetings between Swedes and Russians over the centuries, a truly local architecture has somehow been created and much of it preserved, as this book reveals well. Even a few medieval castles and stone churches, some with their original wall paintings, still stand (Lohja is a beauty), and many pleasant seventeenth-century churches have survived (the Swede Adelcrantz's Munsala Church of 1777 is a winner). After that there exists a number of neo-classical buildings of distinction belonging to the Empire period when Finland had become a Grand-Duchy of Russia. Then the prolific C. L. Engel re-built the centre of Helsinki after a disastrous fire and produced a splendid, though not overpowering, monumentality to be found in few of the larger capitals of the world. Even the years of universal eclecticism produced a few vigorous buildings, followed by a lively decade of nationalism - cum - *Art - Nouveau* (Sonck's Tampere Cathedral being no doubt its masterpiece).

Finland gained independence in 1917, but not much happened after that until uncompromising modernism arrived in 1929 with Aalto's muscular newspaper building in Turku and his tuberculosis sanatorium at Paimio. Then a productive phase of excellence began which reached a social peak after the war with the building of the satellite town of Tapiola. Strangely enough Aalto's later buildings such as his civic centre at Seinäjoki of 1964, like those of other architects, show far less confidence than the earlier works. Perhaps that is a symptom of the growing uncertainties and confusions of our times.

A last word must be said about the production of the book—an important concern in works which communicate the visual arts. The production is unaffected and well printed but done less well than its subject deserves, the jacket being particularly dull. The photographs are adequate, some indeed are brilliant, half being by the author, but their lay-out is boring and inconsistent. A more rigorous selection with some of the smaller pictures reproduced larger would have given the book more character and allowed us to see some interesting buildings more clearly. Perhaps the time has come to discard the orthodox vertical page for illustrated books in favour of a wider, perhaps even a square, page. That would make life happier for the unrecognized but often dedicated artist of *mise-en-page*.

ERIC DE MARÉ

THE LAST TWENTY-FIVE YEARS

TWENTIETH-CENTURY ARCHITECTURE: 1940-1965. *By John Jacobus. Thames & Hudson.* 90*s.*

'There are several possible ways' notes Professor Jacobus 'to write a history of this hectic quarter century of modern building.' If so, his is not one of them. The embarrassing acreage of Teutonic culture-enclosures may perhaps be blamed on a simultaneous German publication. A transatlantic viewpoint may excuse the prevalence of the minor works of Marcel Breuer and an earnest concentration on one of the non-problems of our time (whatever happened to Walter Gropius?). But no publication costing 90s. and claiming to represent a comprehensive summary of the last twenty-five years of architecture can seriously dismiss, say, the entire Milanese movement in three photographs and a quarter page of text. In short, Jacobus appears to have but a sketchy and partial aquaintance with his subject. This is hardly the harsh criticism it may seem: it is doubtful whether any useful discussion of this arbitrarily defined period can be entertained except from a partisan viewpoint. The area is too vast, the subjects and influences too diffuse. But to Jacobus the Modern Movement is still a going concern which can be objectively viewed inside a framework in which every building may find its place. That framework he presents to us as the history of style.

Now, there are certain architects of distinction of whom such a study may profitably be made, and Jacobus has chosen wisely, if scarcely objectively, in presenting his preamble to 1940 in terms of Mies, Wright and Le Corbusier. His narrative springs strikingly to life in the considerable sections devoted to Le Corbusier and Wright, and his insight into the formal antecedents of their buildings, though tending towards Scullyesque megaromania, is useful and often refreshing. His presentation, for example, of the Villa Savoye as a stranded Neolithic lake dwelling, is certainly felicitous, though slightly tiresome the second time round. But once off the safe ground of the Masters the study of style becomes the study of form with one-line summaries for each building in the universal compendium, and occasional descents into something far worse. When he wrote of the New York State Theatre that 'The interior space of the foyer is one of the largest of this sort ever to have been constructed in the United States and contains two monumental figures done to the designs of Elie Nadelman' Jacobus must have known his pen was flagging.

This elevation-chewing has its occasional moments. The discussion of Saarinen's *architecture parlante*, for instance, is certainly worth attention. But the absence of any consideration of the buildings in terms of the purpose for which they were constructed—there are few useful plans and fewer sections—makes Jacobus's criticism of important zones of dissent, such as the Brutalist movement, quite painfully inept. His final nap selection of white hopes is a grand cavalcade of eclectics, led by Kahn and Stirling: his tentative summary that there is 'understandably, no end to this new architecture.' Unfortunately, Professor Jacobus has not even shown us its beginning.

STEPHEN MULLIN

COLLECTION OF CRITICS

THE HISTORY, THEORY AND CRITICISM OF ARCHITECTURE. *Papers from the 1964 AIA-ACSA Teacher Seminar edited by Marcus Whiffen. The MIT Press. 1965. 30s.*

It may seem a bit steep to charge 30s. for only 105 text pages and one small line illustration, cheaply bound and printed. This is also a parsimonious piece of editing, as we are given only the bare bones of the papers at the seminar, with none of the combative discussion that surely followed them. Fortunately, however, the book is still comparable in its density of ideas per column-inch to the very best of recent publications on architecture, such as Reyner Banham's *Theory and Design*, Peter Collins's *Changing Ideals* and Serge Chermayeff's *Community and Privacy;* and here we have characteristically brilliant papers from all three of these prophets, plus others, varying in quality, from Bruno Zevi, Sibyl Moholy-Nagy, Stephen W. Jacobs and Stanford Anderson.

Professor Collins presents the case for teaching theory in the high old *Beaux Arts* way; Dr. Banham presents the case for ignoring theory altogether and starting from the functional programme (under the title 'Convenient Benches and Handy Hooks'); and Professor Chermayeff enjoys a tilt at the historians for their lack of awareness of the breadth and speed of current change in community structure. Of the others, Professor Anderson criticizes Dr. Banham for his overconfidence in technological surf-riding, posing instead Karl Popper's critical acceptance of the value of tradition; Bruno Zevi describes his attempt at the Rome School of Architecture to make students enter the minds of great architects by dissecting in detail their buildings (but only, one fears, their monumental buildings); Professor Jacobs gives a lengthy bulletin on the tactical relationship of architectural history to art history on the one hand and to practising architects on the other; and Mrs. Moholy gives a ten-page run-down of architectural history in terms, not of styles, but of five great historical concepts: Verticality, Space Progression, Modularity and Modification, Structured Planning and Art-Space Symbolism, to which she adds an infant sixth concept, Space-Form Continuity. God help the English language, one may think, but these architectural historians know how to make work for themselves.

N.T.

SHELL SPECTACULAR

DORSET: *A Shell Guide. By Michael Pitt-Rivers. Faber & Faber*, 1966. 21*s.*

It is good to see that the Shell Guides are coming back into their own. Michael Pitt-Rivers's *Dorset* is a new book rather than a revision of Paul Nash's predecessor of 1935. Nash's introduction, two of his drawings and some of his marvellous photographs—themselves now history—have been kept, and John Piper's photographs (37 out of a total of 150) of course also needed no replacing. But the Gazetteer is almost entirely new, much more detailed than Paul Nash's, and just right for the series. Mr. Pitt-Rivers notices the contrast of grey and orange stone at Abbotsbury, calls the playing-fields of Canford School the best in the country, picks out the hidden such as the early eighteenth-century church and the mid-eighteenth-century folly tower at Horton, characterizes the ARCHITECTURAL REVIEW character of Lyme Regis by evocative words and to evocative Winstone photographs, goes all out for Poole and the border country towards Bournemouth, but is deplorably brief on Corfe Castle and Forde Abbey.

The Shell Guides have their place side by side with the *Buildings of England* series. While *The Buildings of England* have nowadays 400 or 500 closely-printed pages for one county, and illustrations which are both too small and too dimly printed, the Shell Guides excel in large, unexpected, spectacular illustrations and have only relatively brief gazetteer entries, strengthened by essays on chosen aspects of the county. Prices are about the same and for both series reasonable if one considers what they offer.

S.T.S.

BOOKS RECEIVED

PRECAST CONCRETE CLADDING. *By A. E. J. Morris. Fountain Press.* 60*s.*

WANT TO BE AN ARCHITECT. *By Terence Verity. Leslie Frewin.* 15*s.*

GRAS DARF NICHT MEHR WACHSEN. *By Hermann Mattern. Ullstein Bauwelt Fundament.*

SPORTS GROUND CONSTRUCTION. *The National Playing Fields Association and The Sports Turf Research Institute.* 12*s.* 6*d.*

GREAT MODERN ARCHITECTURE. *By Sherban Cantacuzino. Studio Vista.* 10*s.* 6*d.*

MORFOLOGIA URBANA E INFRASTRUTTURE DI TRASPORTO. *By Urbano Cardarelli. Istituto Di Architettura E Urbanistica.*

LA STRUTTURA IN EDILIZIA E IN URBANISTICA. *By B. de Sivo and U. Cardarelli. Istituto Di Architettura E Urbanistica.*

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plate for the Victoria and Albert Museum; the All Hallows section, with a wider variety of furnishings, has been organized by Mr. Anthony Symondson. Large-scale photographs of many of the finest Victorian church interiors —themselves worthy of exhibition— will be used to put the objects in their context. The work of William Burges on show includes such fantastical pieces as his chalice of 1868 made by

7

Barkentin and Krall, 7, designed for St. Andrew, Wells Street, the vicar of which was the Rev. Benjamin Webb, secretary of the Ecclesiological Society. It is of silver-gilt, with enamels, semi-precious stones, a fragment of stained glass and a stem of malachite.

BRIXTON TOWN CENTRE

Proposals for the redevelopment of Brixton Town Centre will be published by the London Borough of Lambeth on May 10 prior to submission to the Ministry for CDA powers. The scheme, produced by the Department of Architecture and Planning under Edward Hollamby, the Borough Architect and Planning Officer, covers an area of 84 acres. It includes a multi-level transport interchange station designed to link a new tube station (an extension of the Victoria Line) with the railway station, buses, taxis and possibly also express coaches on the London motorway box which at this point will pass right over the centre at high level. In addition to a considerable amount of new housing, the scheme includes a new shopping centre, all kinds of entertainment and recreation facilities and open space. An exhibition of the scheme will be held at Lambeth Town Hall, Brixton, from May 11-20.

URBAN AMERICA, INC.

Readers will remember that our American contemporary *Architectural Forum*, after being killed off by Time-Life in 1964, was resurrected less than a year later by the generous courtesy of a new owner, the American Planning and Civic Association. In December 1965, this association merged with the younger ACTION Council for Better Cities to form Urban America, Inc.— and it is this major organization which has now published a brief progress report on its work (obtainable from its new headquarters at 1717 Massachusetts Avenue, Washington DC, 20036). Its aims are similar to those of our own Civic Trust, but, as it operates in a much larger country with infinitely fewer planning controls, its work is correspondingly more diverse and more genuinely original, even where at first sight it might seem to an Englishman to be indulging in toothless exhortation. Its importance can be gauged from its recruitment last June as executive vice-president of William L. Slayton, a former planning partner of I. M. Pei, who for the previous five years had been a senior Federal civil servant as Commissioner of the US Urban Renewal Administration.

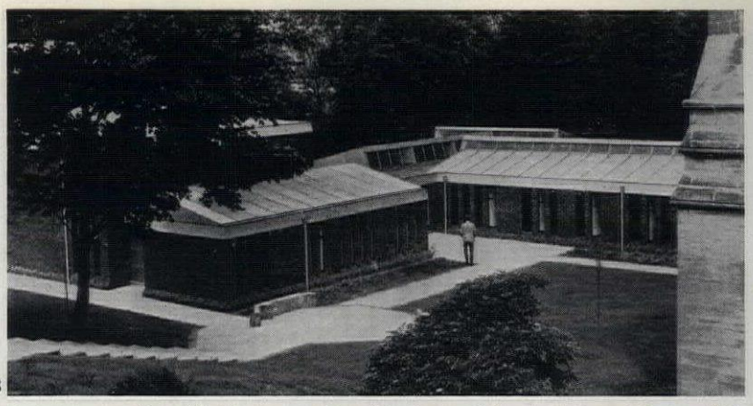
Apart from publishing *Forum*, Urban America's work has fallen so far into four main areas: technical assistance, particularly for non-profitmaking low-rent housing (fifteen different projects at the moment), through the group's division of Local Development Services, supported by the Ford Foundation; the holding of conferences, including a major national discussion of 'Our People and Their Cities' in Washington last September; the work of the more than seventy Local Group Associates (or 'civic societies', as we would call them), of which the most active so far has been the San Francisco Planning and Urban Renewal Association (SPUR—familiar letters in a former English context); and the organization through the group's Redevelopment Division of systematic seminars for property developers, their consultants and civil servants. Future work includes the establishment of three complementary bodies; an Urban Policy Centre, which will conduct research into strategic problems of town planning; an Urban Design Centre, which will seek to educate both public and professionals in the practical techniques of improvement; and an Urban Information Centre, which will provide an enquiry service and disseminate films, pamphlets and exhibitions.

BLACKMANSBURY

Its very small print order so far may have helped to conceal the existence of *Blackmansbury*, an oddly named but otherwise wholly admirable bi-monthly magazine founded three years ago by Malcolm Pinhorn. A genealogist by profession, Mr. Pinhorn, who edits the magazine and writes many of the articles himself, intends primarily to show the relevance of genealogical sources to architectural history. His own speciality is the seventeenth century and he has published interesting material on Sir Roger Pratt, on Peter Mills and on Inigo Jones's Lindsey House, besides a number of wills, inventories and church monuments. To architectural historians the most directly important item in *Blackmansbury* so far has been the double issue for April-June 1966, devoted to a single, well illustrated article on 'The Dutch Influence on English Vernacular Architecture' by Arthur Percival (of Faversham Society fame). Pleasantly designed by Stanley Hickson, the magazine is good value for 48s. per annum (particularly for libraries). Subscribers should write to Mr. Pinhorn at Pinhorns, Shalfleet Manor, Newport, Isle of Wight—he needs a hundred more to keep the magazine going.

PEASANT ARCHITECTURE OF SLOVAKIA

The article with the above title in the February AR described some of the surviving examples of farmhouse and village buildings in Slovakia, examples of which are now being carefully restored, but it did not perhaps make it clear enough that the bulk of the examples are nevertheless rapidly disappearing—an inevitable result of the country's modernization and development programmes. Our contributors from Slovakia, Messrs. Imrich Puskar and Igor Thurzo, also point out that it was ancient Slovak architecture which influenced Hungarian rather than vice versa as the article suggested.



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In similar surroundings of Gothic drama to those of the Durham University clubhouse (AR, June 1966), though on Sussex down instead of Northern bluff, Architects' Co-partnership have designed a new music school for Lancing College, 8, which forms appropriately a kind of cloister on the north side of the younger Carpenter's famous chapel. The architects have controlled a surprisingly large amount of accommodation—concert hall (left), service and recital rooms (centre) and fourteen practice rooms (right)—within a deceptively simple vocabulary of plum-coloured brick and aluminium roof sheeting, with the single visual trick of miniaturizing the window widths (note the scale of the passing boy) in comparison with the immense mouldings of the 120 ft. buttresses alongside. Smaller subtleties abound: for example, the massing of the rooflights in relation to the backdrop of trees (and open downland beyond) and the re-use as an open air rostrum of the footings of Carpenter's abortive bell-tower.

correspondence

REX MARTIENSSEN

To the Editors.

SIRS: I am engaged on a major study of the life and work of Rex Distin Martienssen. Dr. Martienssen was perhaps the central figure in the dramatic flowering of a South African modern architecture, of considerable purity and power, before the war. He is probably known to some of your readers not only for his contributions to our understanding of Greek Architecture—his *Idea of Space in Greek Architecture* is now in its second printing—but also for his potent advocacy of the New Architecture, in the *South African Architectural Record*, which he edited for a decade before his death in 1942.

I should be grateful to hear from any of your readers who knew of Martienssen and his work, so that I might assess his contribution to the development of the modern movement beyond his own immediate circle of influence in South Africa.

Yours, etc.,

GILBERT HERBERT

(Reader in Architecture and Town Planning, University of Adelaide, S. Australia).

book reviews

FAMOUS FINLAND

A GUIDE TO FINNISH ARCHITECTURE
By J. M. Richards. Hugh Evelyn. 50s.

This account, supported by 25 plans and 177 photographs, offers exactly what its title promises in a clear, comprehensive and balanced way. The worn but handy cliché cannot be avoided: the book fills a gap, since it deals with Finnish architecture right back to the thirteenth century as well as with the modern. It will serve as a reliable companion to any English reader visiting the land of the Suomi who knows that, to quote the opening sentence of the first chapter, 'Architecture is the art for which Finland is famous.' It will also please and inform anyone staying at home who has the slightest interest in architecture, old or new.

That this thinly inhabited country of glacial granite, lakes and forests situated on the cold, remote fringe of Europe should have produced such a wealth of excellent architecture is remarkable. How has it become one of the leading architectural countries? The author gives some reasons. A striking one is that the general public is intensely interested in its new buildings—to such an extent that they receive considerable attention in the popular press. Another is the prevalence of the competition system which gives hope and opportunity to enthusiastic and uncorrupted youth. A third is the country's strong pride in its identity, the people being of a unique race and aware of it. A fourth is the recent and rapid industrial expansion and the exploitation, as in Sweden, of vast timber resources. A fifth is the youthfulness of a large part of the population. Finally there is the inspiration and international reputation of one man of genius: Alvar Aalto.

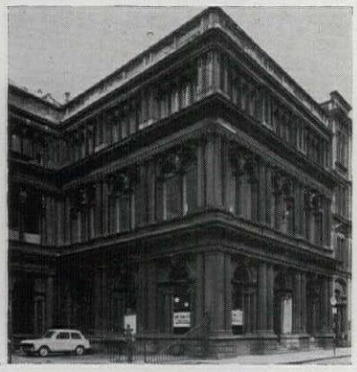
So the best of modern Finnish architecture has managed to be—to quote again—'scientific without being inhuman, regional without being parochial and individual without being whimsical or egocentric.' Perhaps still another reason for the high standard arises from the advantage of living in a small but comparatively prosperous and well-ordered country where the individual feels less anonymous and is more closely in touch with his peers than he can be in large, over-crowded lands where huge, impersonal bureaucracies and half-educated tycoons tend to crush creativity. Moreover he is

VIEWS AND REVIEWS

marginalia

ITALIANISM IN SCOTLAND

The Life Association Building in Edinburgh is to be demolished, the Secretary of State for Scotland having said that he will not put a preservation order on it. The building (1858) is by David Rhind and Charles Barry and is one of the few worthy architectural objects on Princes Street. Indeed it is generally credited as being one of the finest examples of the Venetian style. Its main interest is the facade, which follows the usual Venetian pattern of three stages but with mezzanine floors at every level. Although the building is modelled on Sansovino's Palazzo Corner Ca' Grande there are several necessary concessions to the Scottish climate; the detail is broadened and the stone



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is deeply cut, which allows the carving to show through a century's grime.

It is in the interests of a new overall plan for the north side of Princes Street that the building is to disappear, and it is particularly unfortunate that redevelopment should have begun with the one group of real merit: also scheduled for demolition is the New Club (1834) an early essay in Italianism by Burn and one that makes an interesting comparison with Barry's work in the same idiom.

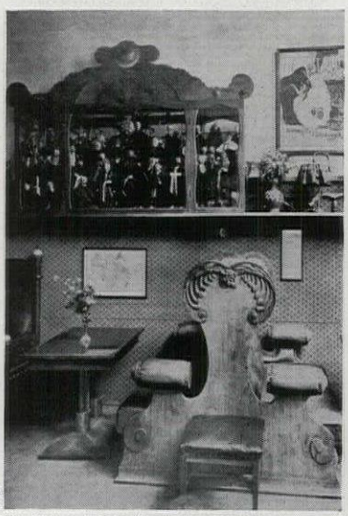
In Glasgow, where there are also a number of palazzi, Alexander Kirkland's warehouse in Miller Street, 1, has a very uncertain future. The street is narrow and the *seicento* design chosen by Kirkland would have been lost as a mere facade. He therefore created a courtyard which not only allowed the loading bays to be placed in the innermost corners but gave the structure that modelling which makes it a unique example of nineteenth-century commercial architecture. In this instance too, local requirements bring changes to the concept of a Venetian palazzo: on every floor large areas of glass are used, balconies are dispensed with and there is no cornice. It would indeed be a loss if the Glasgow warehouse, now empty and needing costly repairs, was to be demolished, but Glasgow is already faced with the cost of restoring the two 'Greek' Thomson churches and St. Andrew's Halls. It is time that the Historic Buildings Council for Scotland advised the Government of the need to allow large sums to be spent on Glasgow's nineteenth-century architecture if that city is to remain 'the most complete and remarkable of all our Victorian cities.' JAMES MACAULAY

ART NOUVEAU IN CRACOW

'Jama Michalikowa' (meaning Michalik's Pit) in Cracow is a paradise for *Art Nouveau* fanciers. It is a café, and its decoration was done in 1911 from designs by Karol Frycz for the literary cabaret The Queer Little Balloon (Zielony Balonik). The cabaret had been started in 1905 by Tadeusz Boy-Zelenski, a poet, critic, satirist and journalist and the translator into Polish of Villon and Rabelais as well as of Proust. He was later professor of French Literature at Lvov University and was killed by the Nazis in 1941. Frycz (1874–1963) was a theatrical designer and producer. He was trained as an art historian and also as a designer, the latter under Alfred Roller in Vienna. During the First World War he was in Japan. Later he became professor at the Cracow Academy. He was one of the leaders of *Art Nouveau* decoration in Poland. J. PIETRUSINSKI

VICTORIAN PLATE

One of the most interesting exhibitions of the year will be open at Goldsmiths's Hall and at the church of All Hallows, London Wall, from May 17 to June 7, under the title, 'From Copy to Creation: Victorian Churches and their Treasures.' Even inveterate church-crawlers tend to be unaware of what is locked in vestry safes, particularly in the Victorian suburbs; this exhibition will provide equally rich food for connoisseurs to the highly successful displays of medieval and Georgian church plate previously put on at Goldsmith's Hall. Sponsored by the Victorian Society, the Goldsmith's Company and the Central Council for the Care of Churches, the exhibition has been arranged principally by Mrs. Shirley Bury, who is doing a comprehensive study of Victorian church



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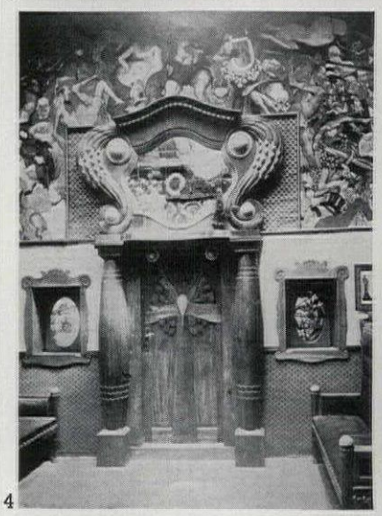

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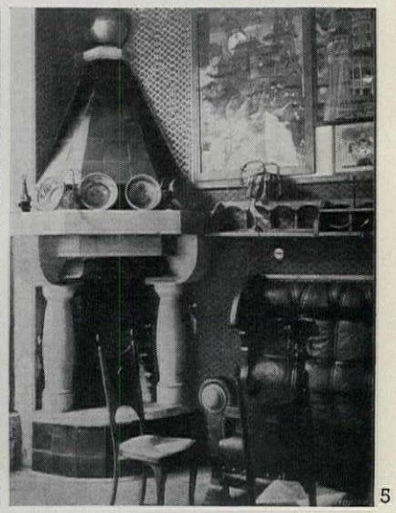

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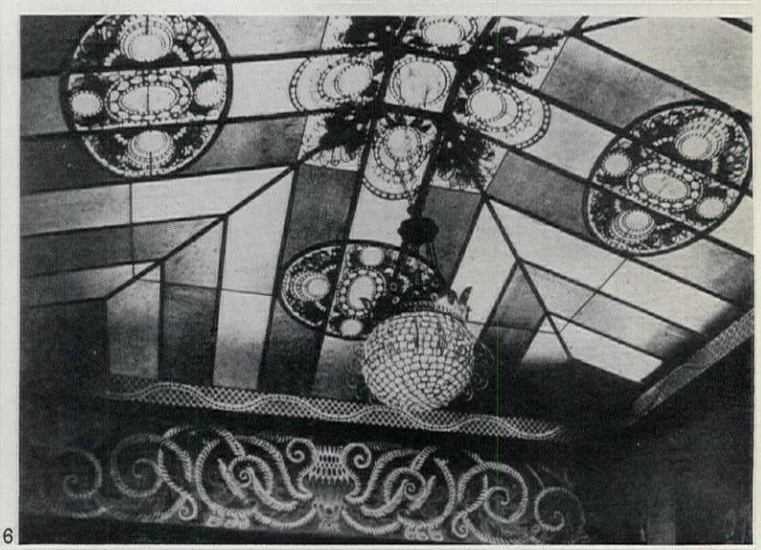

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2-6, *'Jama Michalikowa,' an* Art Nouveau *café interior of* 1911 *in Cracow. See note above.*

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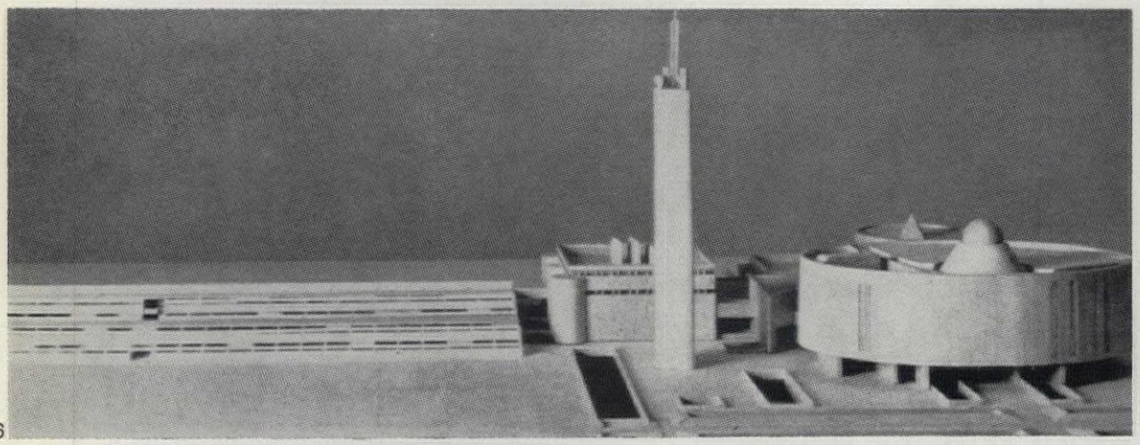
with its freely arranged floor plan, 24, around the central tent pole of the water tower. For the more immediate Riyadh commission, Crosby recommended Giancarlo de Carlo's shapely Corbusian geometry, 26, but the Saudi Arabian Government preferred the design by Trevor Dannatt, 25, to which Crosby has also given the award for Jeddah. Dannatt's design divides the hotel and conference centre into two separate buildings, with climatic insulation by rooftop car parks.



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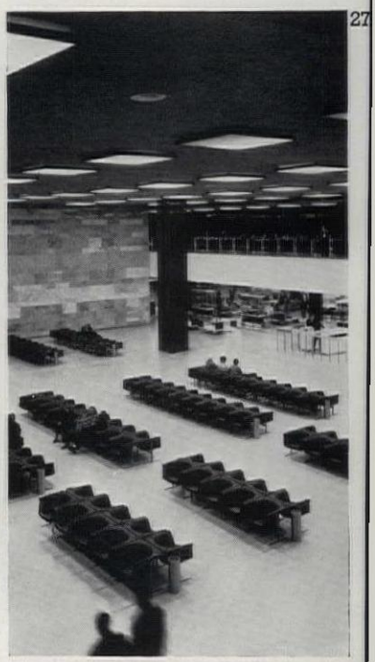
LIMA SEATS

It must be unique for a British industrial designer, Geoffrey Harcourt, to be responsible for the concourse seating, 27, in a major American airport. The five young architects of the new Jorge Chavez International Airport at Lima (Arano, Orrego, Torres, Vasquez and Bao) selected Harcourt's design in black stretch vinyl on chrome steel from the manufacturers, Wagemans & Van Tuinen, of Maastricht.



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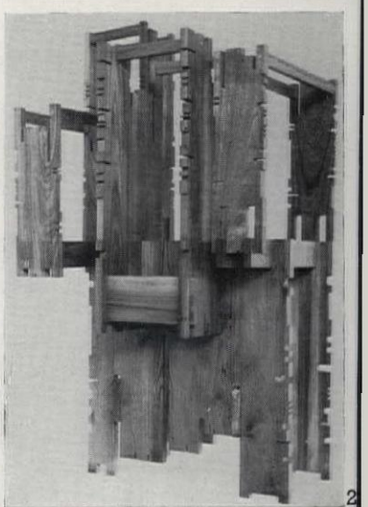
28

ARABIC MONDRIAN

The acute problem in Muslim countries of reconciling the relative simplicity of modern needs with the intricacy of traditional decoration (see 'East Is East,' AR World, March 1967) has been tackled boldly by the Iraqi architect, R. K. Chadirji. From his English training he brought back the geometrical ideals of Mondrian. In the Shanshal house at Baghdad (1960), 28, he used this apparently Western discipline to paraphrase the Islamic lattice window; and in later work, such as a tie rack in a 1965 shop, 29, he has used it to unify traditional decorative geometry, making it into something curiously akin to early Rietveld. More important is the way in which Chadirji has developed a complete climatic architecture, from the straightforwardly Brutalist balconies of his Assaui house of 1962, 30, to the incredibly complex pattern of indirect lighting and ventilating through corridors and bay windows in his recent designs. Several office blocks (see AR World, November 1966) are due to start on site soon, as is the enormous Medical Research Institute at Baghdad, of which we illustrate the plan, 31, south-eastern elevation, 32, and north-western elevation, 33.



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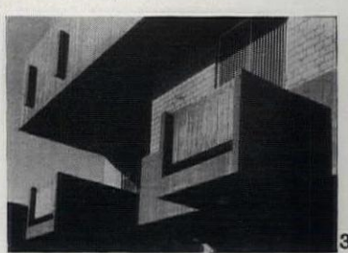

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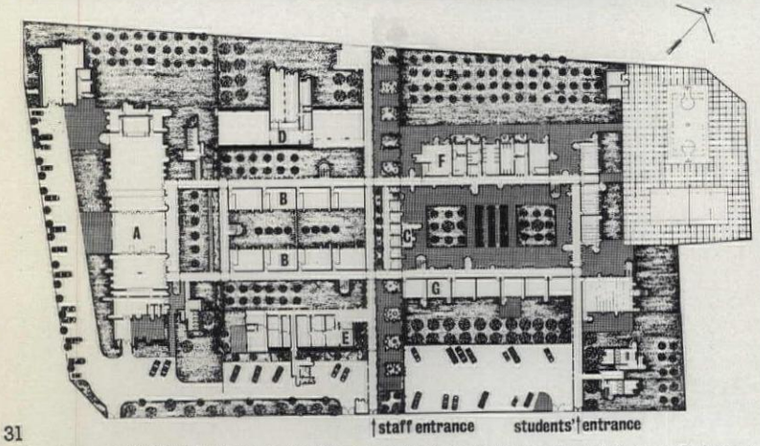
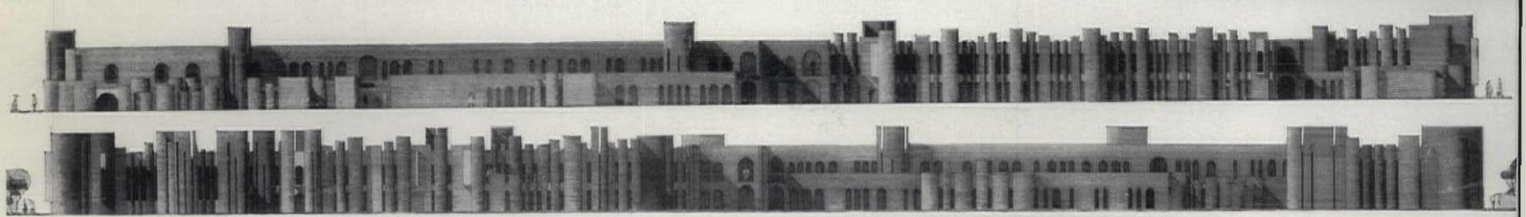
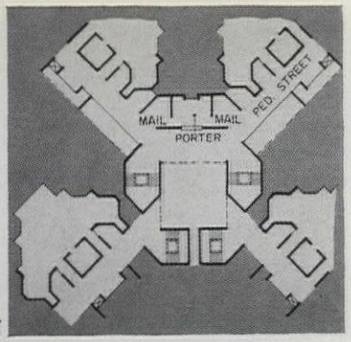


31

key A, communal facilities B, laboratories C, staff rooms D, library E, administration F, special classrooms G, classrooms

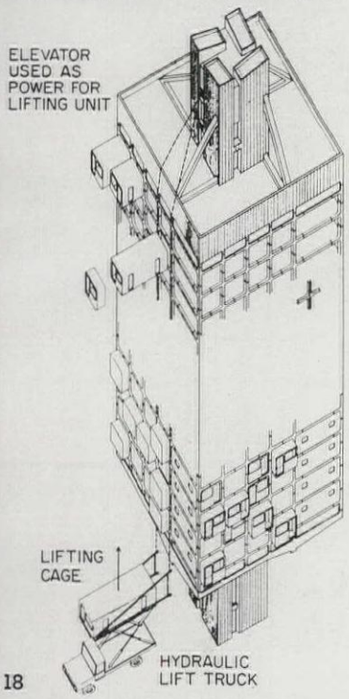




17

GUELPH HOSTELS

same idiosyncratic shape will prove monotonous remains to be seen. Andrews goes beyond Kahn in a self-admittedly 'tongue in cheek' design, commissioned by a steel manufacturer, for a 'filing cabinet' of mobile apartments, 18. It is in Archigram's new orthodoxy of mass-produced 'vehicles for living in,' with car windows of stamped steel; the controlling dimension is that of the end panel of a railway boxcar, the largest stamping at present manufactured.

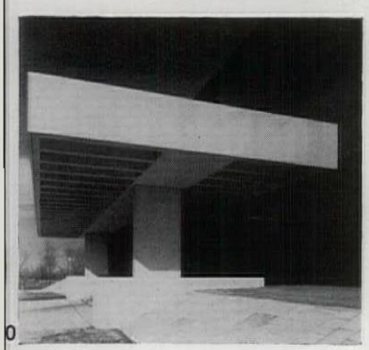


18

THIS CITY

There was a pre-Expo warm-up outside Montreal, in Toronto, when the Art Gallery of Ontario showed a major exhibition entitled 'This City Now' as its contribution to Canada's national self-examination in the centennial year. Toronto is at present expanding faster than any other major cities except Los Angeles. Tokyo and Sao Paulo, so in an international sense as well it was an appropriate place for a fresh look at the nature of city life. Not entirely a fresh look—for Arnold Rockman, the exhibition organizer, clearly did his homework at Archigram's 'Living City' exhibition and at its Smithsonian precursors. He is, however, closer than they were to the real thing, as regards transatlantic pop culture. He aimed to bring 'the ordinary, everyday sights and sounds of the city into the unfamiliar context of the art gallery,' stressing the 'invisible city' of the mass media (Marshall McLuhan was close at hand) as well as the 'visible city' of street-corner clutter. The exhibition inspired a special issue of the magazine *Habitat*, published by the Central Mortgage and Housing Corporation at Ottawa.


9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PARKIN GM

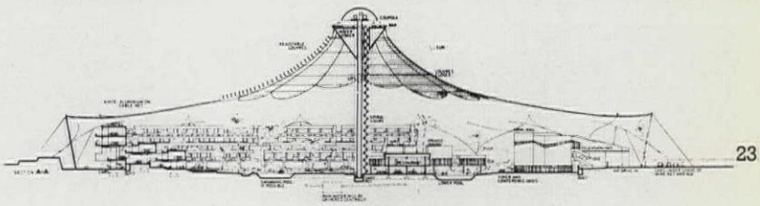
The ever-consistent John B. Parkin Associates have produced an impeccably detailed divisional headquarters at St. Catherine's, Ontario, 19, for McKinnon Industries Ltd. The coffered entrance canopy of in situ concrete, 20, is typical Parkin, but the dark grey glass and aluminium of the steel-framed offices recall Saarinen's design for McKinnon's parent company of General Motors.

21

OUTSIDE-UP

Braniff's restyled aeroplanes are incredibly elegant, 21. Alexander Girard, well-known as architect and industrial designer, was brought in to do a complete remodelling, relatively conventional in terms of 'Inside-Up' (see Gerald Nason's article in AR, December 1966), though the strong fabric colours are pleasing, but startling in its external manifestations. The stewardesses in particular, 22, perhaps the first to be co-ordinated in this way by an architect, present a dashing space imagery in their Pucci-designed uniforms with plastic bubble helmets and brightly coloured leather boots.


22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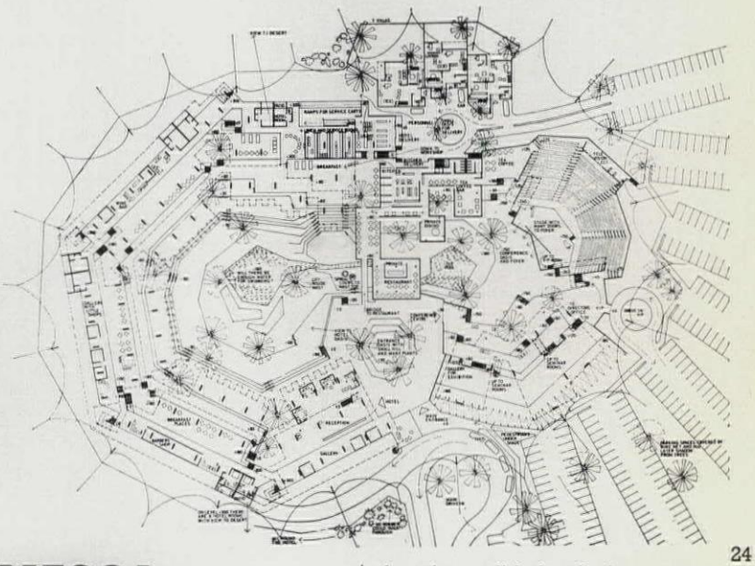
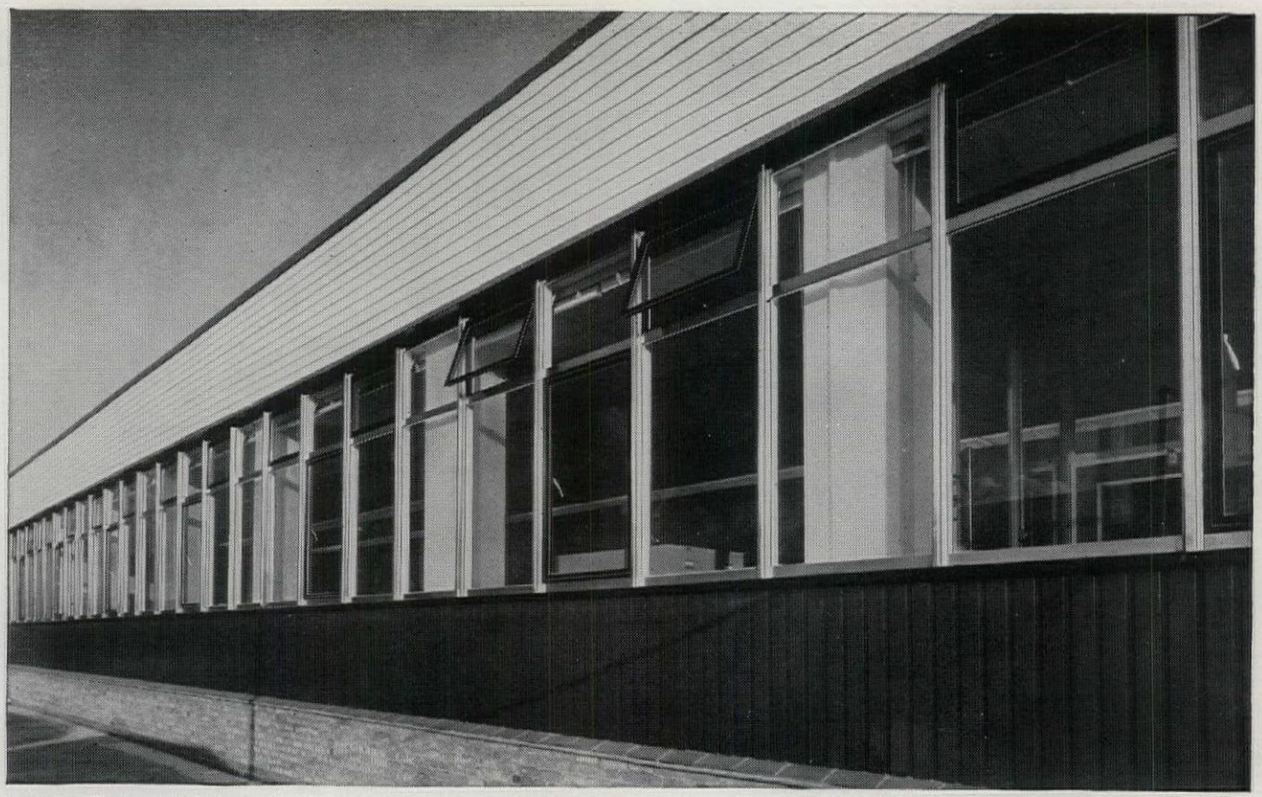

24

MECCA FOR OTTO

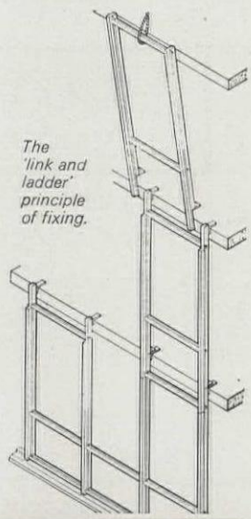
There is a real chance that Frei Otto and Rolf Gutbrod, whose structural-architectural collaboration in the German Pavilion is one of the principal sensations of Montreal, will have the opportunity to build a permanent experiment for their ideas—as a luxurious pull-in for pilgrims to Mecca. Theo Crosby, acting on behalf of the Saudi-Arabian Government, was the judge of a limited competition (under IUA auspices) for an hotel and conference centre at Riyadh, to be built immediately, and for similar facilities at both Mecca and Jeddah, to be built later. In recommending Otto and Gutbrod for the Mecca job, Crosby praised the economy in both layout and finance (as well as the structural daring) of their suspended tent, 23,



Centralised Service Unit & Stores of the North Thames Gas Board, 40/42, New Heston Rd., Heston, Middx. N.T.G.B. Building & Property Maintenance Dept.

Up goes curtain walling

clad in Silver Fox stainless steel



The 'link and ladder' principle of fixing.

down comes its price

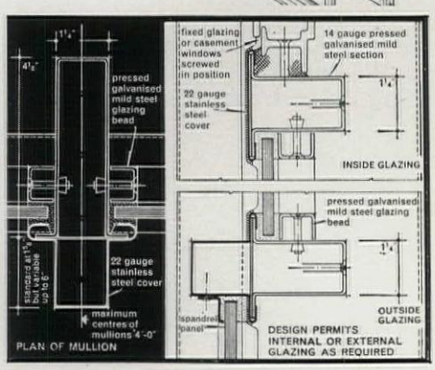
Today, more than ever, people appreciate the elegance, the long-lasting lustre of stainless steel. Its price is now highly competitive.

Thanks to improved designs and more advanced constructional and assembly techniques, stainless steel systems of curtain walling can compete in price with systems employing other materials.

Wherever 'Silver Fox' stainless steel is used, it will withstand hard wear and keeps its attractive appearance with very little maintenance. It does not require painting. An occasional wash-down will bring it up like new.

The Morris Singer Holoform Mark II stainless steel curtain walling was chosen for the Centralised Service Unit, Offices and Stores of the North Thames Gas Board at Heston. The system consists of pressed galvanised steel sections, externally clad with 'Silver Fox' satin polished stainless steel. For multi-storey applications, a "link and ladder" principle of fixing is employed. Units are fixed one above another in a series of ladders to occupy each plan module. Glazing can be done either from the inside or outside.

For further information on 'Silver Fox' stainless steel, write now for the recently published book 'Stainless Steel in Architectural Design'.



samuel fox

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