

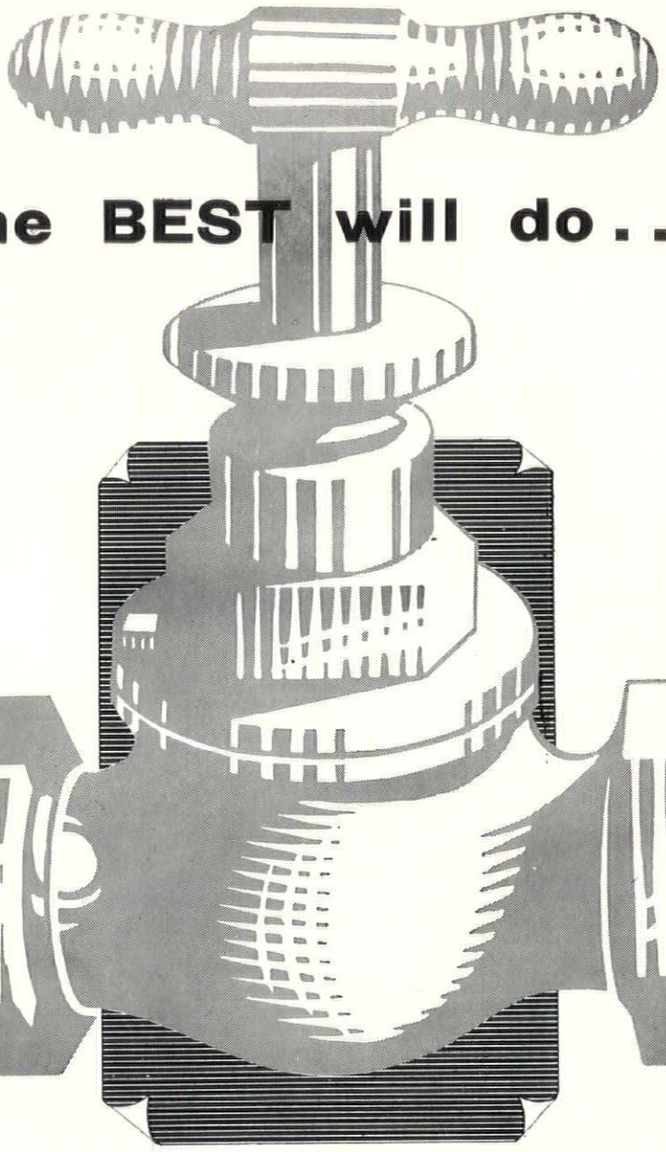

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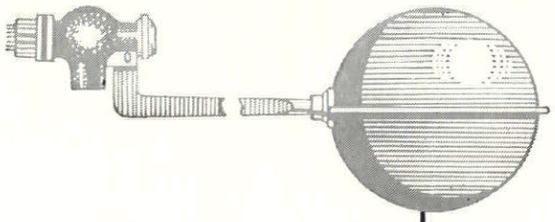

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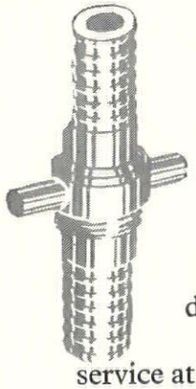

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THE ARCHITECTURAL REVIEW VOLUME CXVIII NUMBER 703 JULY 1955 FIVE SHILLINGS

MARGINALIA

Seagram Building, New York

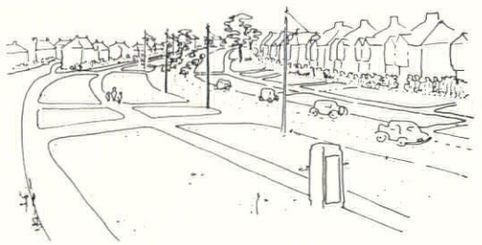
The recent publication of the architects' model of the new Seagram Building designed for a site on Park Avenue, New York, 1, has revealed a building which, if hardly surprising as a product of the partnership of Mies van der Rohe and Philip Johnson, will certainly be the most distinguished of New York's 'miniature' skyscrapers so far built or projected. The treatment of the structure and cladding of this 38-storey tower immediately recalls the treatment evolved for the Lake-Shore apartments, Chicago, but the bays are wider between main stanchions—seven mullions as against five, the exposed metal surfaces are, apparently, to be bronzed, and the glass is to be tinted, but not necessarily in the customary blue-green employed in glazed-all-over envelopes.

Behind this notable design of a notable partnership lies a curious architectural history, which may provide a clue to the kind of mechanism by which changes in American commercial taste are effected. The design was originally entrusted, in an impersonal manner and through routine channels, to Pereira and Luckman. Their project, remarkable chiefly for its complete absence of any sense of scale, 2, was badly received by the press, but a Seagram official said that, although a definite contract had not then been signed 'Charlie Luckman will always be in the picture,' however much the design might be altered, however many other architects were called in.

At this point the story spills out of routine channels and becomes a drama of personalities. The Pereira-Luckman project was seen in the Paris edition of the *Herald Tribune* by Mrs. Phyllis Lambert, daughter of Samuel Bronfman, the head of the vast Seagram combine, and was as badly received by her (she is a painter and art-collector) as it had been by American architectural journals. She returned at once to America and entered actively into the workings of the Seagram organization's building committee. Largely through her influence the project was withdrawn from Pereira and Luckman, and offered to Mies, who co-opted Philip Johnson as his New York partner, with Kahn and Jacobs as associates.

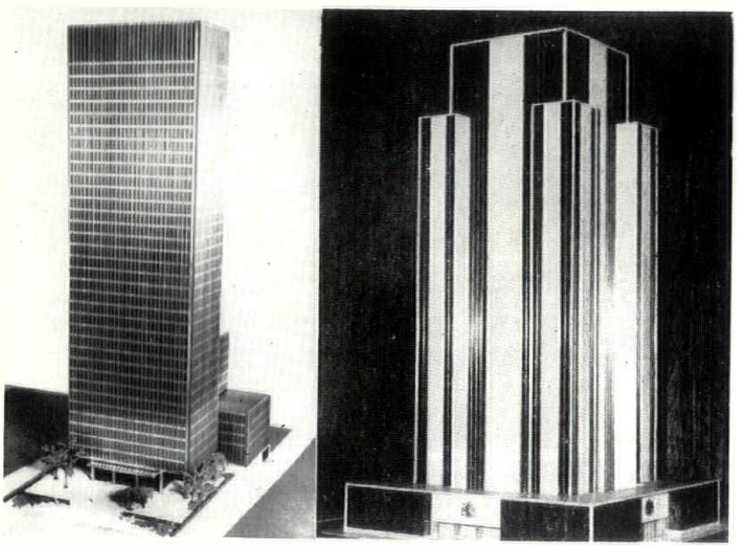
Subtopia as Others See Us

In the past, satirists of their native lands have been in the habit of inventing intelligent foreign visitors whose reports, disguised as *Lettres Persanes* or news-flashes beamed from Mars, have carried the burden of the satirists' attacks. But the opponent of Subtopian sprawl (AR, June, 1955) has no need to invent any intelligent foreigner—he appears to exist already, for Max Werner, of Zurich, writing in the March issue of the Swiss



magazine *Plan*, illustrated his remarks on English housing with this sketch, which seems to show admirable diagnostic ability in face of the sickness in Subtopia's hollow heart. His caption speaks of this scene as typical of ribbon development along arterial highways, and comments that it throws dwelling and industry together without having any 'care for their disposition on the grand scale.' He has thus observed that indiscriminate superimposition of different patterns of land-usage which is one of the foundations of Subtopian sameness, but the sketch itself makes it clear that he has also observed the empty acres of nothing-in-particular, except an ill-placed amenity—in this case a telephone box, and thus the responsibility of a Government authority—and the skyline jagged with ill-considered lamp-standards—the responsibility of a local authority—as well as the fake rurality of the endless semi-dets and their coy front gardens—the responsibility of the public in general.

1, 2



Models for the new Seagram Building New York, by (1) *Mies van der Rohe and Philip Johnson and* (2) *Luckman and Pereira.*

Decoration of Pavements

People who like cobbled, or similarly textured and patterned, outdoor floor surfaces usually see them through eyes dimmed by an obsession for quaintness. They fail to see that their pleasure derives not from a vaguely sentimental, but from a specifically visual source; which may explain why a country with a tradition of such things can be engulfed in a tide of asphalt with so little protest. Varied floor surfaces are associated with the past and a consequent fatalism stifles dissatisfaction with the present. Not so in the Portuguese-speaking countries where they still indulge the pleasure of laying decorative pavements outdoors and for everyday use.



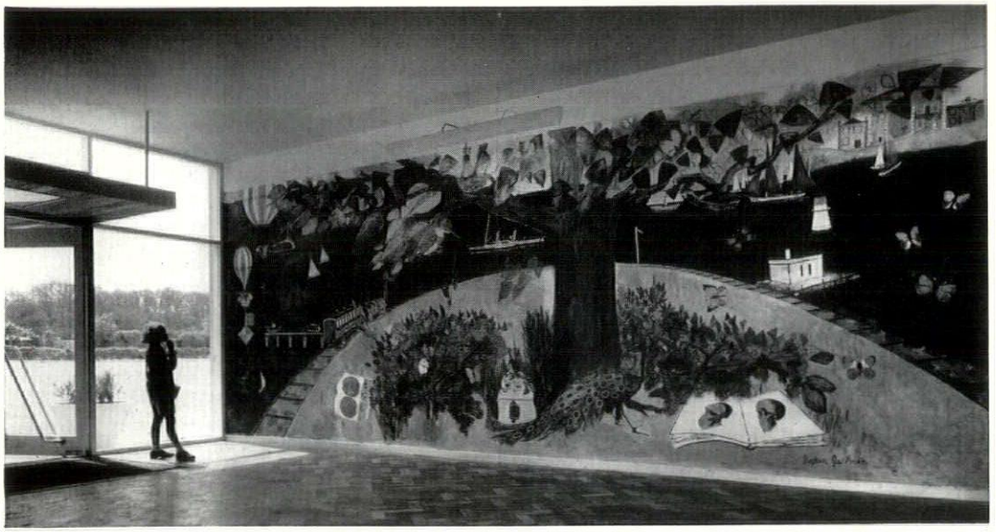
This photograph from a recent book of travel by Oswell Blakeston* shows a pavement in Lisbon. It strives at no effect other than that of quietly gratifying the mind and the senses. The continuous classical motif is ideal for the purpose; it impresses without detaining.

* Portuguese Panorama, Burke, 18s.

Progress on the South Bank

London's most promising piece of comprehensive development, which should serve as a model to those responsible for rebuilding the City, continues to be the LCC scheme for the South Bank. The situation report for May, 1955, gives a good idea of the kind of adjustments and give-and-take which are required to bring such a plan to fruition. Work on the re-alignment of the area's internal roads, the essential foundation to all comprehensive redevelopments is already in hand, and the plans of both the LCC and the largest private body involved, Shell Petroleum Company, both envisage extensive underground parking spaces, another essential in any central area development. The proposed air-terminal will not now be built, and the space rendered vacant by the demolition of the present terminal building (itself a legacy from the Festival of Britain) will be used to provide underground parking space for Shell, with a public open space above.

The Shell building, which will be the site's main feature, is now to be approximately 330 feet high, a bold skyward gesture which again might serve as an example to City authorities. However, one notes that this vertical feature gained is to be balanced by a

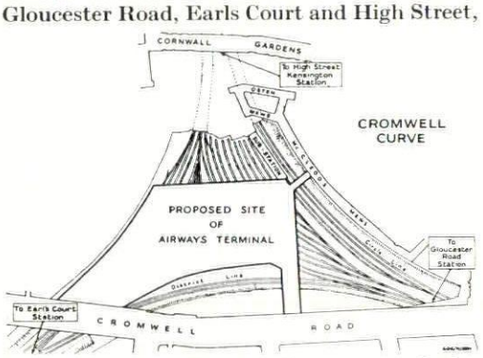


SCHOOL MURAL: The mural, above, in the entrance hall of the new Royston Garden Walk School (architects Richard Sheppard and Partners) was painted by the architect in charge, Stephen Gardiner. The theme, as stated by the artist, is concerned with the contrast between Man's dominion over the elements, as humorously represented by the gay balloons, the paddle-steamer and the antiquated railway, with his Mortalitie—vide the skulls. Nature, however, is seen actively holding her own, not only in the long run, but at the present, with the peacock and the burgeoning tree, and the whale spouting in the distance. The colours are limited to those of the walls and ceilings nearby: dark green, lime green, prussian blue, red, pink and white. The dimensions are 24 feet by 10 feet.

vertical feature lost, for the report states, in passing, that the Shot Tower is to be demolished. Historically this is to be regretted, even if, topographically, it would have been rendered ineffective by the great height of the Shell Building. Always a well-known landmark on London River, it had become almost the only surviving link with the South Bank's pre-Festival past, and one hopes that the LCC can show better cause for its abolition than appears in the Report.

The Cromwell Curve

London Transport, acting as agents for BEA, are planning to erect a reinforced concrete deck at street level over more than half of the area known as the Cromwell Curve, i.e., the triangle formed by the convergence of the District and Circle Lines between Gloucester Road, Earls Court and High Street,



Kensington, stations, for the accommodation of a new airways terminal. The deck will be carried on steel framing and columns at about 21 feet above rail level. Completion of the whole scheme is scheduled for the middle of 1958; but the first stage, permitting the erection of light temporary buildings, should be ready in the Spring of 1957.

Italian Design in London

The opportunity to make a close study of Italian industrial design is normally a privilege of visitors to the *Triennale* or the *Fiera Campionaria* in Milan. During the month of July, however, a selection of star examples of the new movement in Italian design is on view at the Italian Institute, Belgrave Square, thus enabling many architects and designers to see, in the round, famous products from the houses of Necchi and Arteluce—to name only two—which they have hitherto known only as illustrations in *Domus*. Exhibits cover a wide range, from motorcycles to Murano glass and fishermen's jackets, and include the work of well-known designers like Marcello Nizzoli and relative new-comers to the field like Giovanni Dova, the painter. The rise of the concept of industrial design in Italy has come about almost entirely under Anglo-Saxon influence, and the exhibition thus represents an act of cultural reciprocity of particular interest to England.

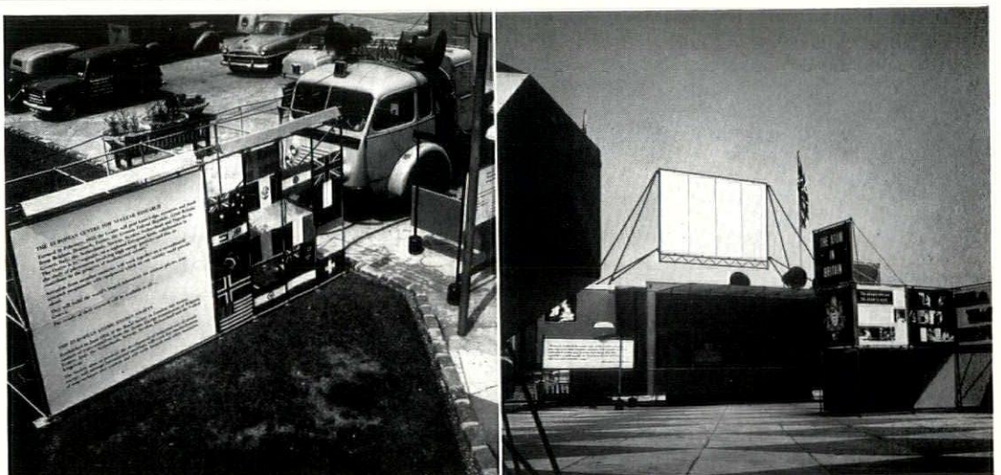
INTELLIGENCE

Marcus Whiffen, who was the AR's literary editor until 1952, when he went to America, has been appointed Architectural Historian to Colonial Williamsburg, a post involving the writing of works on colonial architecture in Virginia.

The Fitzwilliam Museum has recently opened a new gallery for the exhibition and storage of water-colours and drawings, named after W. Graham Robertson, who bequeathed to the Museum a large sum of money and several works by Blake from his collection.

ACKNOWLEDGMENTS

MARGINALIA, page 1: 2, Architectural Forum; page 2: top, Stephen Gardiner; bottom, R. Browning. AIRPORTS, pages 9–10: F. Engesser, Zurich; page 11: Scotnews Ltd., Glasgow; page 12: Alfred de Lardi, Washington; pages 13–15: Dell & Wainwright and Toomey, Arphot; page 16: Jaap d'Oliveira, Amsterdam. PALLADIAN VILLAS, pages 17–20: Georgina Masson. SCHOOLS BY ARCHITECTS' CO-PARTNERSHIP, pages 21–29: Galwey, Arphot. THE LOST AXIS, page 30: Aerofilms Ltd.; page 32: Cullen, Arphot. LUBETKIN, pages 39, 43 and 44: Dell & Wainwright; page 42: 5, Herbert Felton; 6, Dell & Wainwright; 7, J. Maltby. CURRENT ARCHITECTURE, pages 45–46: Toomey, Arphot; page 47: 5, 6, Public Relations Associates Ltd.; 7, J. R. Pantlin; page 48: 8, 9, A. F. Watson; 10, J. R. Pantlin. MISCELLANY, page 51: Oscar Savio, Rome; Man, Machine and Motion, page 52: 1, 2, 3, Science Museum; 5, Autocourse; 6, Colliers; 4, Histoire de la Locomotion Terrestre. Page 53: Roads, 1, Toomey, Arphot; 2, French Government Tourist Office; 3, Herbert Felton; 4, 5, British Road Federation Ltd.; page 54: 1, Dell & Wainwright; 2, London News Agency Photos Ltd.; 3, A. V. Swaebe. SKILL, pages 55–56: Bar at Grosvenor House, Toomey, Arphot; page 57: Bar at Midland Hotel, Manchester, Stewart Bale Ltd., Liverpool; pages 58–59: Design Review, Italian furniture, Heal & Son Ltd.; French furniture, J. R. Pantlin.



ATOMS FOR PEACE: The first of the truckable, demountable exhibitions sponsored by USIS (European Service Centre) to be seen in England was Atoms for Peace, *which—after circulating in Italy, Belgium and Holland—appeared on the South Bank in June, suitably Anglicised in collaboration with United Kingdom Atomic Energy Authority. Housed in five large articulated trucks whose trailer sections can be telescoped outwards laterally to provide almost square floor-plans, and are used to carry the outdoor exhibits when the caravan is on the move,* Atoms for Peace *was designed by USIS-ESC Presentations Branch, under Peter G. Harnden, working with an international team of designers.* (For other mobile exhibits by USIS-ESC, see AR, April* 1953.)

*Chief designer, Bernard Pfriem; architects, Bombelli, Browning and Hadjopoulos; designers, Pierre Boucher, Strub and Ifert.

Norman Hartnell's Salon,
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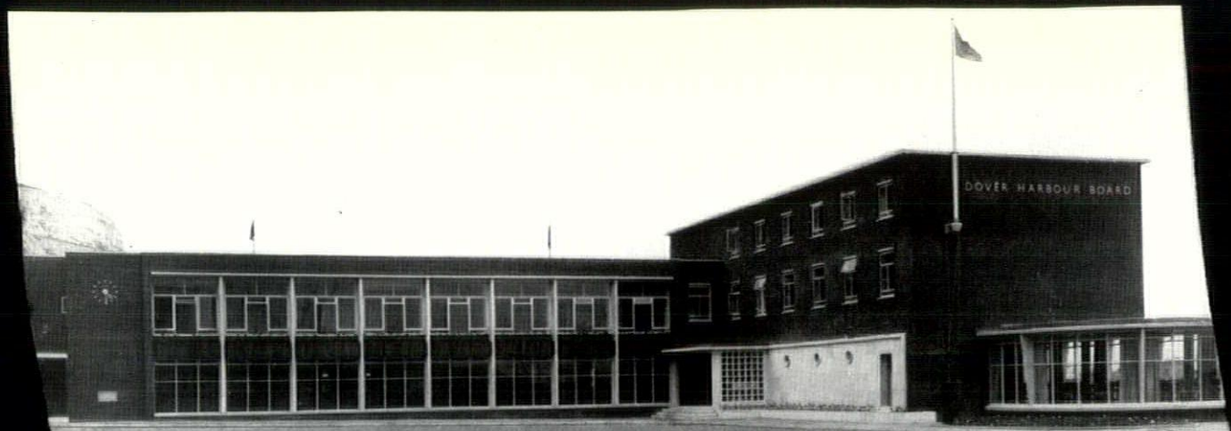

Dover Car Ferry Terminal finished inside and out with Leigh Paints (Photograph by courtesy of Dover Harbour Board — Architects : J. M. Wilson, H. C. Mason & Partners)

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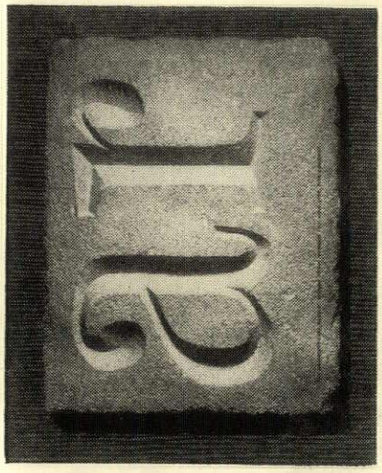

This month's cover is a photograph of the ARCHITECTURAL REVIEW'S initial letters cut in stone. The carver, Ralph Beyer, has cut them in Gordon Cullen's version of lower-case Clarendon —the form in which these letters now normally appear on each month's cover. As will be observed the letters are quite without the dead rule-and-compass regularity which is normally regarded as proper to lapidary lettering, yet there is no loss of clarity, nor any sense of perversion of the letter-form—here indeed is a letter-form perfectly apt to stone, and thus to architectural usage, without subservience to the Trajanic tyranny of which Nicolete Gray spoke in the first of her articles on lettering (AR, November, 1953).

1 **Marginalia**

4 **Frontispiece**

5 **Arrival and Departure** *by Lionel Brett*
The essence of travel is drama, and the role of the architect is to heighten that drama. From this basic postulate can be developed a philosophy of the design of the whole equipment of travel, but in this essay Mr. Brett is concerned chiefly with the design of airport buildings. He considers first the drama of the docks and of the great nineteenth century train-halls, and asks that the way in which they have come to assume their burden of human significance should be understood, and also the way in which architects have largely failed to contribute to that meaning. In spite of the architect's apparent willingness to bury himself in problems of circulation and processing, in spite of an apparent desire to make all airports look alike, Rome and Cairo, Zurich and Chicago still have an atmosphere which is unmistakably their own. Here is an enormous field of architectural adventure as yet hardly surveyed. Writers as different as Le Corbusier and Sir Hugh Casson have spoken for a specially un-assertive architecture for airports, leaving visual and psychological dominance to the aircraft themselves, but between such poetic visions and the practical business of building airports there remains a gap. And yet it is on the practical side that one of the chief means of enhancing the poetry of airports is to be found, for the incoming or outgoing passenger must, inevitably follow a route, from one processing department to another, and that route is for the architect to design and exploit—giving to it measured progress, contrast, surprise, point . . . and drama.

Airport Buildings

9 **Zurich Airport:** *Architects, A. and H. Oeschger*

11 **Renfrew Airport:** *Architects, Rowand Anderson, Kininmonth and Paul*

12 **Philadelphia Airport:** *Architects, Carroll, Grisdale and Van Alen*

13 **London Airport:** *Architect, Frederick Gibberd; Assistant Architect, R. J. Double*

16 **Amsterdam Air Terminal:** *Architects, Joh. H. Groenwegen and H. Mieras*

17 **Palladian Villas as Rural Centres** *by Georgina Masson* Before the word designated a country house, a 'villa' was a rural estate, and the renowned villas of the Venetian Terraferma were organized rural communities, productive farming enterprises, before Venetian humanism and Venetian architects began to alter their intention and their architectural form. A train of accidents, agricultural, architectural and historical has obscured this fact, and we tend to think of Palladio's villas as pleasure-houses, rather than the administrative centres of thriving farms, modelled on the classical precepts of Vitruvius, Pliny, and Palladio's fourth-century name-sake Rutilius Palladius. In this article Miss Masson attempts to recreate the original functional basis of the Palladian Villas, as revealed in the clear and precise practices set out in Palladio's own writings, with their instructions on the location and orientation of granaries, barns, cellars, threshing-floors, staff housing, and porticoes for covered circulation and supervision of the labours of the seasons. In some of the surviving houses, this functional planning for an agricultural economy can still be traced in spite of subsequent alterations or dilapidations, and Miss Masson concludes with a survey of such houses, showing the close integration of seignorial relaxation with business-like cultivation.

Three Schools *by the Architects' Co-Partnership*

21 **School at Chaddesden, Derbyshire**

25 **School at Sheffield, Yorkshire**

27 **School at Hatfield, Hertfordshire**

30 **The Lost Axis** *by Gordon Cullen*
South Kensington conceals a University—concealed partly by the wide windy perspectives of the streets, and partly by the acceptance of stucco-palazzo idiom in the most uncollegiate buildings which house the various institutions which together add up to a University in fact, if not in law. Yet an airview would show that the institutional buildings are, in fact, laid out on the collegiate principle—it is their manner of presentation to the streets which conceals this fact. If the hypnotic insistence of the corridor-perspectives could be broken up, then the buildings could be appreciated three-dimensionally, instead of as mere façades. The proposal to rebuild and extend the Imperial College of Science now provides an opportunity to re-establish a collegiate architecture, and to give full value to some of the remarkable buildings which already occupy the site, and Gordon Cullen illustrates with text and sketches some of the ways in which this might be done.

36 **Lubetkin** *by R. Furneaux Jordan*
Among the body of more-or-less unique figures who make up the Modern Movement in English architecture, Lubetkin stands out as being more unique than most—unique, obviously, in being an outsider with a foreign background, unique in his special brand of radicalism, unique in his firm grounding in the great tradition of European (and particularly) French architecture, unique in his continuous interior dialogue between Classic and Baroque. He must be viewed against the double background of the whole movement of European architecture since the Renaissance and the Modern Movement in England since 1930. This Mr. Jordan sets out to do, tracing his personal history from a boyhood in Tiflis, through Warsaw, Vienna and Paris, to the point of collision with nascent English Modernism, out of which grew the Tecton partnership, the Penguin pool, and Highpoint One—a point at which English Modernism, through his agency, produced its first impact on the European scene, and drew forth from Le Corbusier approval of Highpoint as the first vertical garden city. The comparison with Le Corbusier is instructive; he battered upon the hard, but hollow shell of French Academicism, while Lubetkin, through the Tecton partnership, fought with the soft, but elastic, mush of English Philistinism. The instruments with which this battle was waged were the buildings which succeeded Highpoint One, and Mr. Jordan pursues the successive impacts they made upon English architecture in general, and upon the younger generation in particular, showing how a rising suspicion of Lubetkin's 'Formalism' isolated him more and more from the general body of English Functionalists—a formalism which might have had a triumphant vindication in the New Town at Peterlee, but never came to that final consummation. But if it is a formalism, it is a formalism packed with architectural content, and thus assured of survival.

45 **Current Architecture**

Miscellany

49 **Editors Only**

49 **Books**

50 **Exhibitions**

53 **Landscape**

54 **History**

Skill

55 **Bar at Grosvenor House:** *Designer, R. D. Russell*

57 **Bar at the Midland Hotel, Manchester:** *Designer, John Carter*

58 **Design Review**

60 **Techniques: Domestic Oil Fired Burners** *by John Voelcker*

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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS


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immigration & health
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bridge & ramp
aircraft stand
route of PASSENGERS
route of LUGGAGE
baggage truck

Rationalized techniques for 'processing' airline passengers and their luggage have produced a multi-level standard circulation pattern which is now almost universal, but is most clearly expressed in the new buildings designed by Frederick Gibberd for London Airport. Passengers ascend by escalator to a first-floor concourse (seen opposite in an impression by Kenneth Browne) from which they pass in parallel channels through Customs, Health and Immigration clearances to waiting rooms on the air-side of the building—their luggage being brought up to meet them in the Customs (see diagram, and also pp. 13-15), and then returning to ground level for transit to aircraft. Beyond the wide windows of the concourse can be seen the Control Tower and the airfield.

Lionel Brett

ARRIVAL AND DEPARTURE

It was a journey of six-and-thirty hours. I had set out from Whitcross on a Tuesday afternoon, and early on the succeeding Thursday morning the coach stopped to water the horses at a wayside inn, situated in the midst of scenery whose green hedges and large fields and low pastoral hills (how mild of feature and verdant of hue compared with the stern North-Midland moors of Morton!) met my eye like the lineaments of a once familiar face. Yes, I knew the character of this landscape: I was sure we were near my bourne.
'How far is Thornfield Hall from here?' I asked of the ostler.
'Just two miles, ma'am, across the fields.'
'My journey is closed,' I thought to myself. I got out of the coach, gave a box I had into the ostler's charge, to be kept until I called for it; paid my fare; satisfied the coachman, and was going: the brightening day gleamed on the sign of the inn, and I read in gilt letters, 'The Rochester Arms.' My heart leapt up: I was already on my master's very lands.
Charlotte Brontë: *Jane Eyre*

For many years the bane of passenger handling—at least from the passengers' viewpoint—has been the fact that loading an airplane cannot be accomplished with protection from the elements. Extensible canvas awnings were used at a few airports with meager success. The ubiquitous umbrella almost lent a touch of comedy to the loading process as passenger and agent leaped among the puddles in a dash toward the cabin door.
Recently a device has been developed with the intent of alleviating the loading problem; it is similar to the locomotive transfer table in general use in railroad repair shops. It consists of a pair of tracks each of which supports a dolly. The airplane taxis on to a dolly with each of its main tires, and is then brought toward the loading gate by means of electric-powered cables. Projecting from the terminal is a fixed two-story 'finger' with, at its outer end, a short ramp which can be adjusted to varying cabin sill heights.
In addition to permitting the loading of passengers or cargo to proceed on a level and under cover, use of this device permits a number of changes which should increase the efficiency of terminal operation.
Architectural Record, January 1951

Architects, eternal middlebrows, quite artistic, quite scientific, looking wistfully in both directions from their position of pure neutrality, must not be deluded on this issue. Ultimately, though they may speak knowingly of passengers being processed, they are on the side of the puddles and the two-mile walk from the Rochester Arms. They are on the side of life, and they must never do anything which makes life duller, more uniform or more undramatic.

For the essence of travel, symbol of our journey through life, is drama, and the role of the architect is to heighten the drama by the way he sets and shifts the scene.

Take, for instance, the silence as the stage-coach rattled off round the bend, taking her travelling-companions of the endless night away for ever. Jane Eyre stands absolutely alone in the golden morning sun, begins to hear larks singing, or an early ploughman calling to his horses. New life and love lie ahead across the dew-drenched fields, and this pause is their essence, their savour.

It can be the same, if we are allowed the moment, as the plane door bangs open at Cairo or Nice, and we stand regally on the top step in the astonishing heat and glare,

overdressed, blinded, our ears buzzing. If the architect as airport planner does not speak up for this moment, no one else will, and we shall find ourselves emplaning everywhere as one now has to embark at Southampton, via a totally enclosed gangway, just another corridor, this time from the hideous lounge of the Ocean Terminal to the hideous lounge of the Queen Mary—missing altogether the wind, the incredible height of the ship's side and the dangerous slit of filthy water miles below.

It was through ships, of course, that the drama of travel first struck the human race.

> 'And Telemachus called unto his company and bade them lay hands on the tackling, and they hearkened to his call. So they raised the mast of pine tree and set it in the hole of the cross plank, and made it fast with forestays, and hauled up the white sails with twisted ropes of oxhide. And the wind filled the belly of the sail, and the dark wave seethed round the stem of the running ship, and she fleeted over the wave, accomplishing her path. Then they made all fast in the swift black ship, and set mixing bowls brimmed with wine, and poured drink offering to the deathless gods that are from everlasting, and in chief to the grey-eyed daughter of Zeus. So all night long and through the dawn the ship cleft her way.'[1]

We have exchanged this west wind, for which men listened in the night, for a new drama of size and silence. The enormity of liners and the way they sidle imperceptibly but ineluctably away from the dockside—these are the things we must be allowed to see and feel. Docks must be allowed their superhuman scale and palaeotechnic lack of protective barriers. We should not be debarred from getting lost among enormous chains, watched from the sky by a man in a gantry.

There seems indeed little reason to imagine that the passenger by ship can ever be entirely insulated from the splendours and miseries of this form of transport. Tides, winds and mountainous waves necessitate ruggedness and simplicity of design in everything that will have to reckon with them, so that no one has yet succeeded in re-styling all the character out of the outsides of ships. Clotted paint and gleaming brasswork, scrubbed teak and thick green glass cannot be dispensed with, however pretty the model in the Cockspur Street window, and ships must always tower surprisingly over puny dockside buildings, thrusting their prows over the shuttling traffic of the West Side Drive, or raising a bright red or yellow funnel high above the elms and pastures of Southampton Water. Nor will the lushest lounges seduce that little knot of waving spectators from the pier end, as the gap of water widens between them and those they can no longer speak to, and can hardly see.

But for the last hundred years, to the vast majority of human beings, the railway station has been background for the overwhelming moments of arrival and departure, symbol of escape, exile, reunion, gateway to adventure, start of the honeymoon, end of the holidays, leave from the trenches, desperate partings in the blackout. Nobody foresaw the vastly numinous quality of the great echoing vault, audible (particularly at night) as we enter it, however tightly sealed the wagon-lit or steamed-up the third-class window. In so far as architects had any hand in it, they were as charmingly off the beam as any airport planner of today.

> 'The styles of architecture which have been adopted in the construction of railway stations are very various.' . . . 'Sometimes they are heavy and massive, or large and handsome; in other places they are neat or picturesque; and occasionally they have no one good quality to apologise for their existence. The characteristics of the neighbourhood in which they are erected have in some instances appropriately determined the style.'[2]

One is reminded of the 'English' red brick of London Airport, or of the adobe airport at Albuquerque, New Mexico.

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[1] Odyssey, Book 2.

[2] Quoted in 'A History of Cast Iron in Architecture', Gloag & Bridgwater, 1948.

Let us, however, keep on the rails a little longer, and ask ourselves whether the grandeur of the great railway stations is merely subjective, associational, or whether it can be accounted for and re-created. We are bound to answer 'both' and thus to delete the word 'merely' from the equation. We are thus led to an analysis of these subjective elements. We can, for instance, contrast the London station, with its low anterooms leading into the vast concourse full of steam and interweaving crowds and diffused noise, with the New York station, where the spatial process is reversed, and we pass from the street straight into a huge hushed hall, and thence dive to obscure tunnels where aluminium trains lie quiet and low between high raised platforms.

The point of all this is not merely nostalgic. It is a plea for architectural humanism. We have seen that Victorian architects, with their stylistic preoccupations, entirely missed the point. We may not even except Hardwick's great arch at Euston, which expressed a literary idea ('Gateway to the North') quite remote from the universal human experience I have tried to describe. The engineers, of course, set the actual awe-inspiring scene, but they were the unconscious agents of a vast technological movement, and presumably never gave a thought to its emotional effect on the individual passenger. The fact seems to be that these great monuments were as impersonal as a battleship, and it was the emotions of succeeding generations that filled them with ghosts. It would have needed a great Baroque genius of a type quite alien to the nineteenth century to imagine and embody these emotions.

One must add that we fail too, but in a curiously different way. For one thing, instead of too much Art, we have too much Science. To us, the passenger is a package on legs—or more accurately a weak swimmer in the strong current of a Circulation Diagram—accepted, inhaled, sucked into a backwater, ejected, swept on, tempted by well-sited impulse salesgirls, automatically sorted and counted by turnstiles, and finally disgorged into some kind of streamlined transport, of which all kinds look increasingly alike. For this is a second curiosity—the effect of contemporary styling as sedative, bromide, antidote to feeling. Apart from its obvious tendency to streamline functional differences and thus serve every dish in the same sauce, there seems to be something inherently murderous to emotion (except at Eagle level) in the borax style. How else account for our affection for Edwardian cars, early coast-to-coast expresses with their bells and cow-catchers, bamboo aircraft and balloons. Only the helicopter still has its primitive dragonfly charm; and that we must soon inevitably lose.

Which brings us back to the airport, in which our generation makes its own statement of technocracy, nationalism and anxiety. It is commonly said that all airports look alike, and indeed all travel erects an invisible wall between us and the world. Airports, docks, railway stations are equally cut off within the wall, in an unreality we only escape when we climb into waiting car or taxi. Yet how different, within their separate world, are Rome and Cairo—adjoining stations on the same route—the one chic, lively, always under repair, full of decorator's clichés, the other echoing and lonely, lately done up in Flemish Modernistic of the 1920's, which is perhaps the most depressing style in the world. Or compare chaste, empty Collinstown with cheerful, free-and-easy Prestwick, with its rain-washed hills. Or Zurich, perhaps the prettiest in the world, with Chicago, hideous, and as busy as a main-line railway terminus. Or a Middle-Western airport like Denver, brash and streamlined, with any of the new Indian stations, with their innocent cream stucco and exposed pipe-runs. This is a huge architectural

field, changing all the time before our eyes, yet only a few American specialists know much about it and the critics have hardly looked at it.

Le Corbusier, it is true, in a vivid postscript to his fourth volume, briefly illuminates the problem in his intuitive way.

> 'Une fois au sol, une seule architecture semble tolérable et parfaitement admissible: c'est celle des magnifiques avions qui vous ont amenés ou que vous allez prendre, et qui occupent devant vous l'espace visible. Leur biologie est telle, leur forme est une telle expression d'harmonie, qu'aucune architecture ne devient raisonnable à côté, ni aucun bâtiment supportable.
> Un aéroport semblerait donc devoir être nu, entiérement à plein ciel, à pleine prairie, à pleines pistes de ciment.'[3]

And Sir Hugh Casson, writing about the monumental hangars of London Airport, makes the same claim for light and ephemeral airport buildings, visually subservient to (and thus tactfully emphasizing the size and stability of) the great airliners of the international routes. But between these imaginative writers and the technical men battling with the intricate and elaborate problems of airport terminal design, a not unfamiliar gulf is fixed. Without claiming to bridge this gulf, I propose to summarize here the principles that seem to emerge from our discussion.

First, travel is drama, and you only muffle it by pretending aircraft are ships or ships are floating hotels. You deaden it by running its scenes together and not allowing the passenger the actual moment of crossing the windy tarmac or the steep gangway. You diminish it by applying a standard language of streamlining to shapes as miles apart functionally as a liner and an aeroplane. The aeroplane poised on the tarmac, urgent to start, ground crews busy on engines and tanks, is a fine sight to even the most jaded passenger, and he is entitled to it. So, of course, is the passer-by. The *va-et-vien* of a big airport must always be faster and more exciting than any railway station or port. It should not be walled off or thoughtlessly obstructed by a clutter of insignificant installations. Tail-fins rising above low temporary buildings are by pure chance as surprising as the masts of the sailing ships riding above the rooftops in an eighteenth-century print. It is a pity to hide all this behind pompous façades, allowing only the privileged their grand-stand view through the lounge windows.

The ship dominates its berth by size, the train by noise, the aircraft by shape. Therefore the air terminal should be long, low, earthbound, unassertive, with something of the elegance and flexibility of an English prefabricated school. It must be comfortable, for long grounded nights, thus sound-proofed and air-conditioned. And it can proclaim its region or nationality not by the use of 'local' building materials but by the little things—telephone booths, letter boxes, bookstalls, uniforms, food, manners—which first strike ordinary people abroad. (Who could possibly miss the Parisian atmosphere of Orly, or the Yankee atmosphere of Logan, though both are on the very edge of their cultures, and neither has any architectural affectations?)

Finally, we should note one priceless asset of the air terminal designer. The people who use his building will be moving in a way he can control from one moment of climax (the touchdown of the plane) to another (the emergence into a new city or country), or vice versa—no ant-heap to be sheltered from the weather, but a measured progress to be given point, contrast and surprise: the Baroque dream, not the Gothic.

These are intangibles; but then criticism at best can do no more than remind the architect that while he can trust his client to insist on efficiency or prestige or commercial soundness, it will be for him alone to fight for the life-enhancing qualities of architecture.

[3] Le Corbusier, Oeuvre Complête, 1938-46.



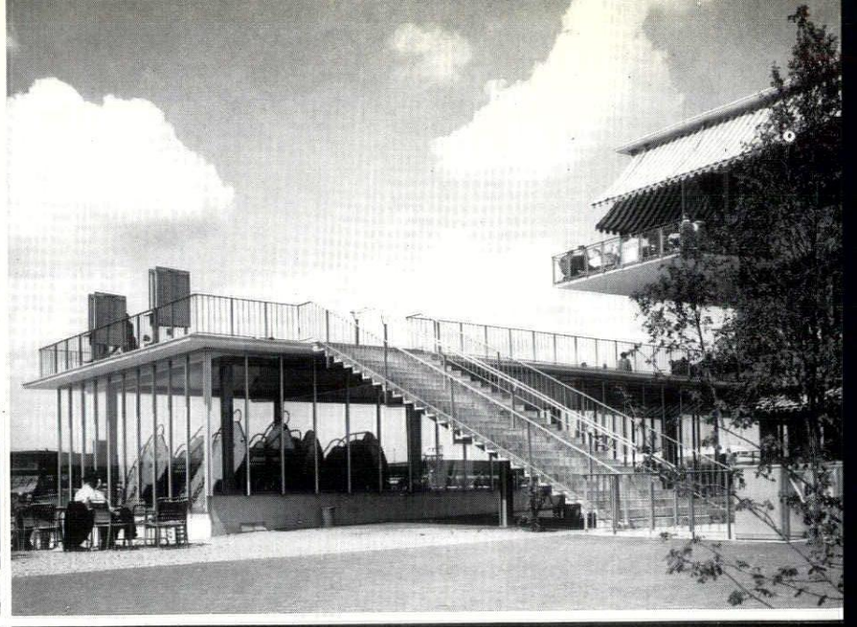
Zurich Airport

Architects: A. & H. Oeschger.

Unlike the great majority of airports, which are built in areas of flat and relatively featureless landscape, Zurich-Kloten—as might be expected in Switzerland—has had to be fitted into a terrain of hills, with low valley bottoms between them. The hills are not very high, but all the valley bottoms are occupied by runways, taxi-ways and other areas of cleared land, and the airport building are therefore backed up against the most substantial of the hills ringing the site, within the V formed by two minor runways. The taxi-way serving these two runways, and the road which leads from the airport to the city, curve round the hill concentrically and the airport building and apron, occupying the strip of land between road and taxi-way, curve with them. The main run of the building thus presents a long convex façade to the apron on the air-side, but a large central member runs back (as at Renfrew) to the entrance canopy on the land-side, giving a loosely T-shaped plan.

This central member houses all passenger-handling facilities except the restaurant, and exploits the fall of the site from land-side to air-side to develop the kind of two-level circulation for passengers and luggage which is now becoming standard practice. Travellers enter at either level and meet their bags,











which come in at the lower level, in the customs hall at the lower level, from where processing brings them forward to the apron at the lower level only, where they join transit passengers (those changing planes) on the air-side of the customs barrier. The level above, from which they have descended, contains the main concourse, whose plan, widening toward the air-side, permits the creation of a vast viewing window overlooking the apron.

To the south of the passenger-handling block is a wing given over almost entirely to restaurants, serving both passengers and visitors, with long outside terraces at two floor levels so that diners enjoy an excellent view of the apron. The other wing, to the north, is for administrative and control offices, serving both the airport at large, and the particular companies which operate from it. The control tower rises four storeys clear above this block in order to give both air-control and ground-control sufficient view over their respective zones of peration.

The structure of the buildings is mostly reinforced concrete, with mushroom construction for the lower levels. Two interesting techniques for overhead cover have been used—a glass and steel triangular grid carrying the ceiling of the main concourse, and a corrugated aluminium vaulting carried on steel supports, which forms the *porte-cochère* at the upper level on the land-side.







Renfrew Airport

Architects: Rowand Anderson, Kininmonth and Paul.

Though a feeder airport, whose function is to connect Glasgow with the great international airlines, Renfrew has its own customs facilities and thus offers, in miniature, the services and problems of a major airport. Like Zurich, it presents a convex façade on the air-side with a passenger-handling block occupying the centre of the structure, and running back to an entrance canopy on the land-side. But because of its smallness, however, there is no need for two-level circulation. This leaves the upper level on the air-side free for a restaurant and viewing-terrace overlooking the apron.

The structure of the lateral office wings is fairly conventional, but the central passenger-handling block is of interest. Reinforced concrete portal frames of an unusual form rise from ground level on the air-side, wrap over the headroom of the viewing-restaurant and drop toward the entrance on the land-side. Due to the curvature of the plan, to which they are radii, they also converge toward the land-side, but instead of being grounded in the normal manner, their ends are gathered by a single concrete beam, hung on tension members from a parabolic concrete arch. This leaves the entrance wall free of structural members—it is entirely of double-glazing, as is the rest of the block.





Philadelphia Airport

Architects : Garroll, Grisdale and Van Alen.

Originally conceived as a peripheral scheme, with each operating company housed in a separate building, the programme for Philadelphia International Air-Terminal was later modified to concentrate all companies within a single building, sharing most facilities, but not baggage handling. Following in local variant of the regular processing-diagram, passengers take their bags up to the first floor where after ticketing and weighing they are dropped by chutes to the handling area below. Travellers then remain at first-floor level, where there is a long waiting room on the air-side overlooking the apron, until due to emplane, when they pass along one or other of two projecting covered walk-ways at first-floor level which extend across the apron. Stairs lead down to the apron at intervals along these walk-ways.

International passengers, requiring customs clearance and other formalities, are handled on a different procedure at the western end of the block, but here again ticketing, weighing and customs processing are done at first-floor level, and travellers and their bags then descend separately to the international section of the apron. On the higher floors are a large two-deck restaurant with windows overlooking the apron, a public viewing-deck to which access is gained by a

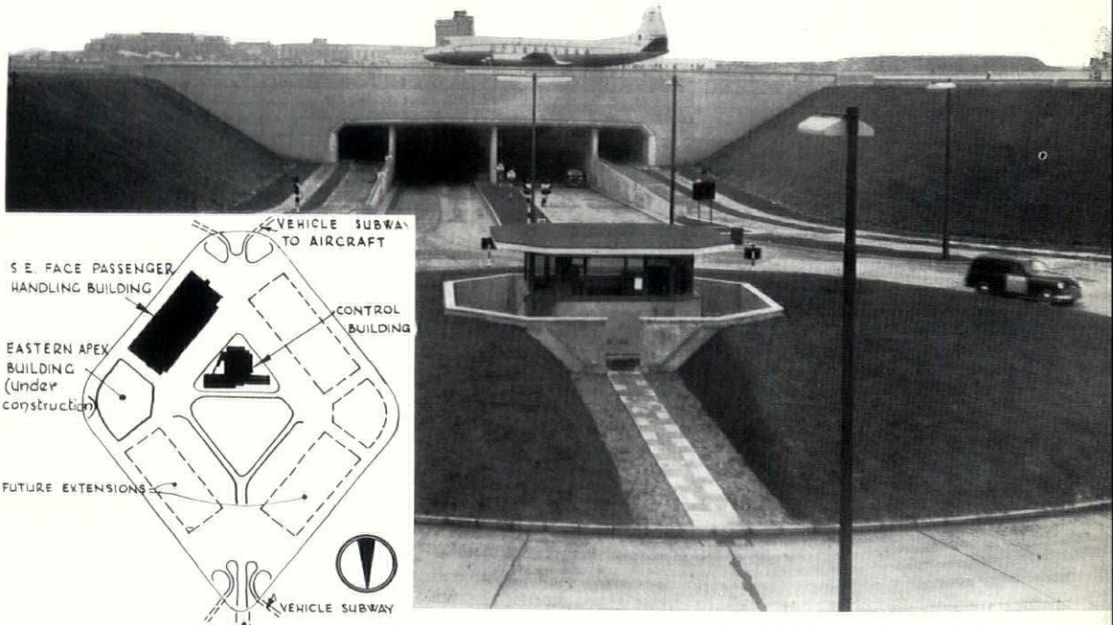












ramp, and weather and control offices.

The structure is almost entirely reinforced concrete post and slab, with *in situ* cast portal frames carrying the windows and roof of the viewing-restaurant. Facing materials of the main block and of the entirely separate power-house are pink brick, aluminium and blue tiles. The two walk-ways are structurally independent of the main building and are framed in steel.

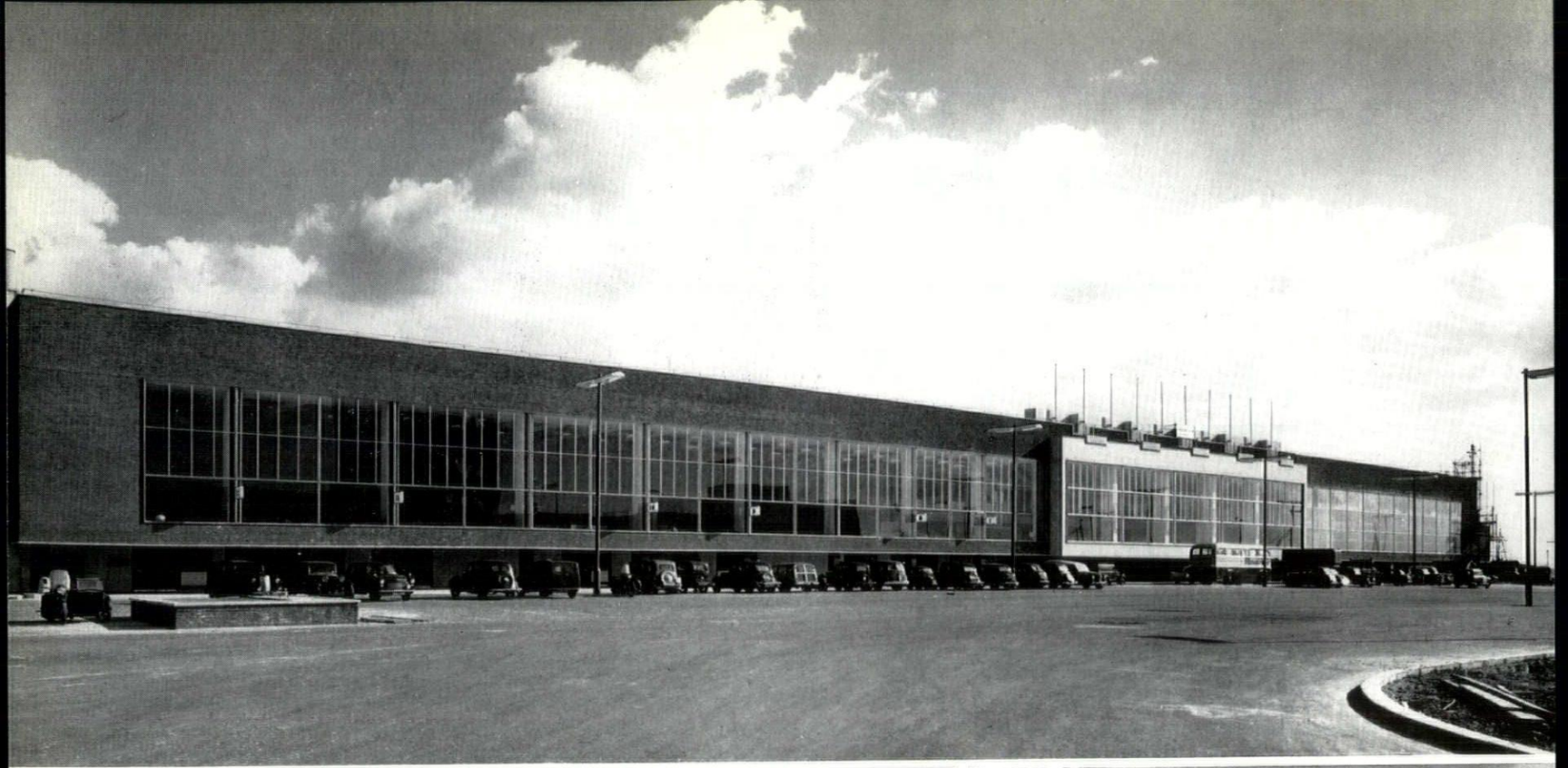
London Airport

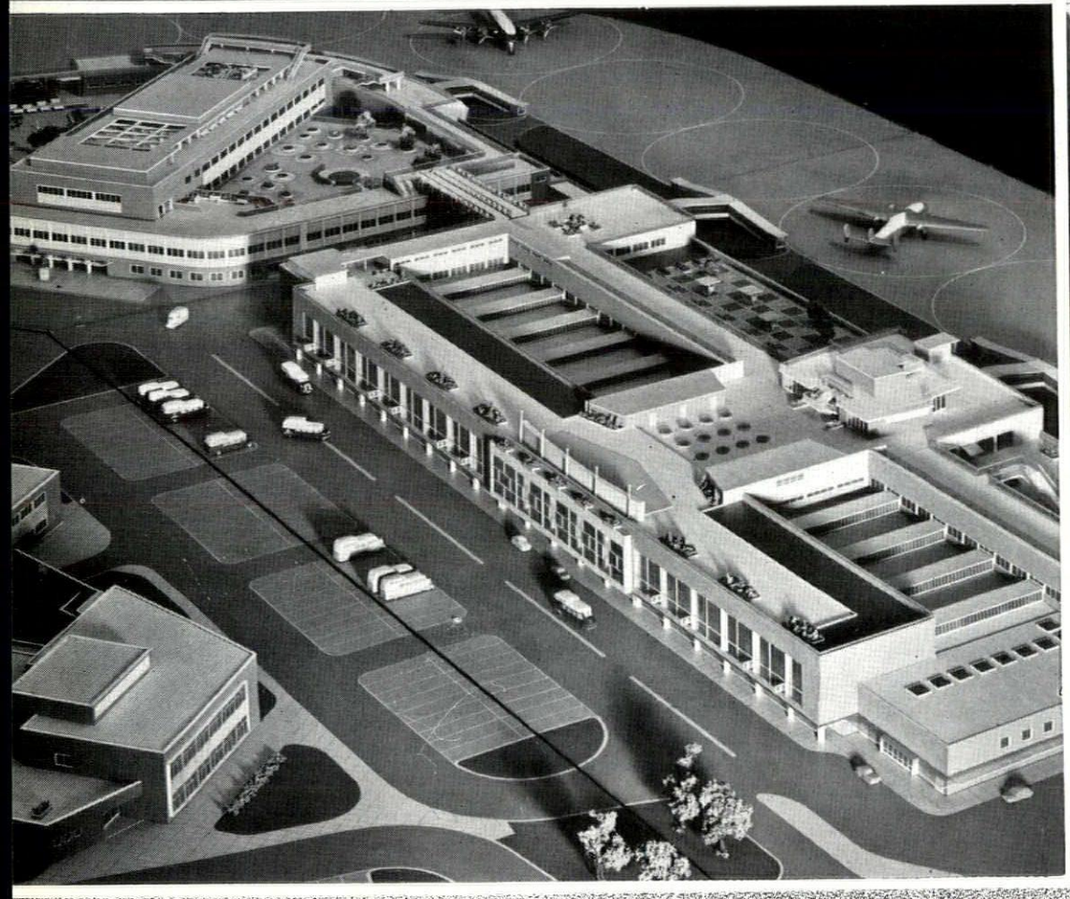
Architect: Frederick Gibberd; Assistant Architect: R. J. Double.

London Airport is unique among major European terminals in having its buildings centrally disposed. The airport site is roughly rectangular, and the runways form within it two interpenetrating equilateral triangles, thus leaving a dead-space of roughly hexagonal shape within which the main passenger-handling and control buildings are being erected—access to the perimeter of the airfield being by way of a tunnel.

This central area has a large apron on its two easterly sides, and it is on these eastern faces of the hexagon that building has begun. The immediate programme calls for a control tower, a large passenger-handling building on the south-eastern face, and another on the eastern apex.

The confrol tower is a completely inde-





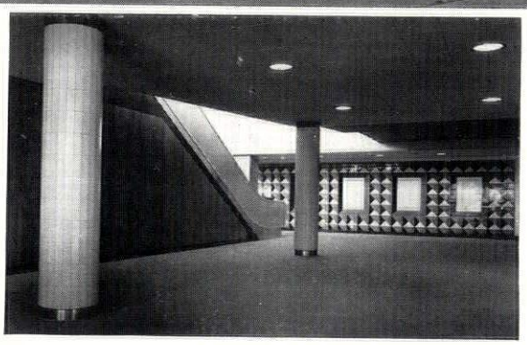


pendent structure, with staff canteens and medical facilities grouped around its base, and the control rooms occupy the upper floors. A large vertical trunk holds lifts, air-conditioning and services, and all control rooms have false floors, permitting the maximum flexibility in the distribution of cable-runs, etc. There are three main operations rooms —on top of the block is the room housing Aerodrome Control, whose responsibilities of over-all command make visual supervision of the complete hemisphere of land and sky essential; two floors below them is Approach Control, where the tricky problems of bringing-in and dispatching are sorted out via a large display board two storeys high; and Ground Control, another storey down.

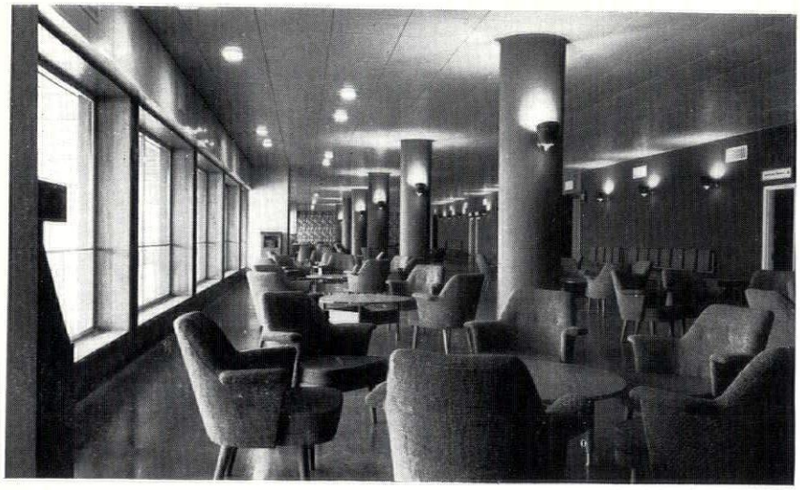
The completed building on the south-eastern face is probably the largest and most complex passenger-handling installation in the world, but built around substantially the same two-level processing diagram as can now be found at all modern airports. The building may be divided into two main levels, the lower for luggage, the upper for passengers; along its length it may be broken down into twelve processing channels; and from land-side to air-side it stratifies into concourse, customs, immigration, health, waiting and ramps to aircraft (see frontispiece page 4).

Thus the processing of a traveller takes him up by escalator to the main concourse, and into the customs hall where he meets his bags,

On facing page : Above and below, right, the land-side of the passenger-handling building. Below, left, the layout as it will look when the eastern apex building is completed. On this page : Top, the air-side of the passenger building. Centre, left, ground-floor entrance hall on land-side. Centre, right, main concourse from second-floor balcony. Bottom, left, north-eastern waiting room. Bottom, centre, cantilevered window on the air-side. Bottom, right, passengers' ramp to the aircraft standings.











which, after checking, then go down to ground-floor level for transit to aircraft. The passenger continues at the upper level and emerges in the waiting rooms, on the air-side of the customs barrier. The comparative rigidity of the three-dimensional processing diagram is softened and diversified by the presence of a large central interruption comprising transit passengers' restaurant and lounge on the air-side, and a grand central concourse on the land-side.

On the second floor is a smaller central concourse overlooking the main concourse below (see frontispiece page 4), offices, a restaurant, and roof-gardens, one of which is a "waving base", while at the highest level of all are more terraces and gardens for spectators.

Work is proceeding on the eastern apex building, which will provide further passenger-handling channels, and increased spectator areas. All structures are in steel throughout, laid out on a regular twelve-foot grid, floors and roofs are mostly of reinforced concrete precast units, walling mostly in brick or glass, with some areas faced in stone, though the customs halls have a roof carried on exposed steel portal-frames with monitor lights. Service runs are carried in deep ceilings, many of which, toward the air-side, are faced with acoustic tile, and most rooms in the control tower have double-glazed windows to reduce the effects of aircraft noise.









Amsterdam Air Terminal

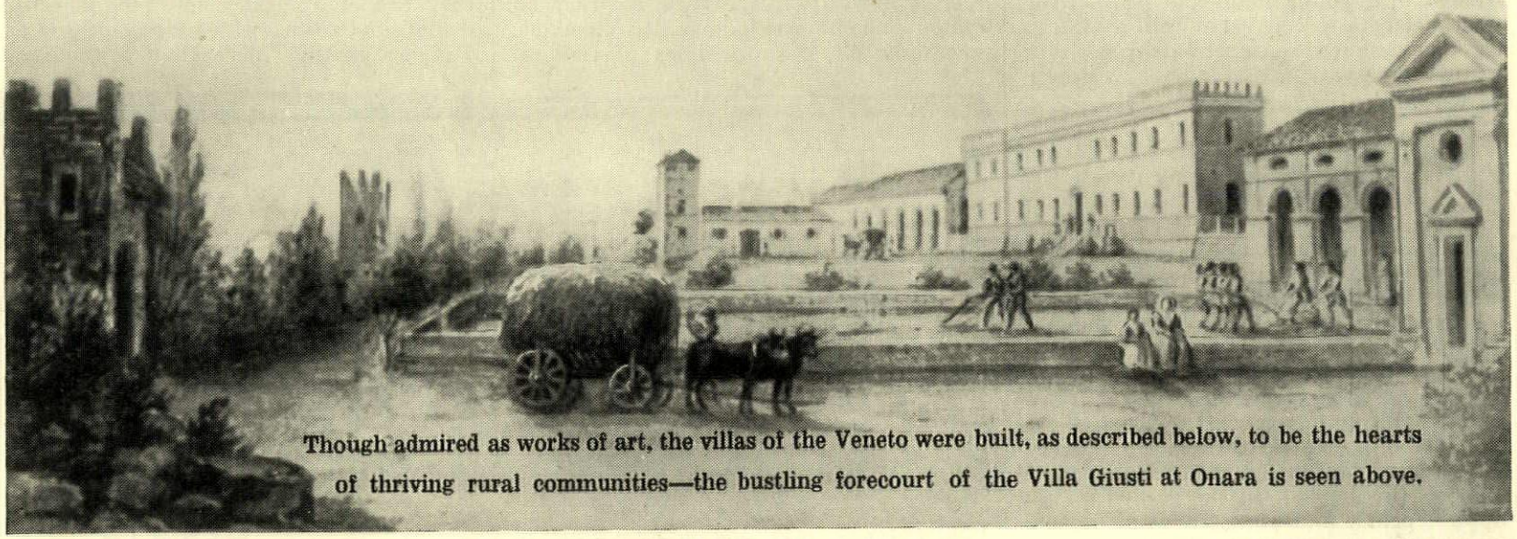
Architects: Joh. H. Groenewegen and H. Mieras.

It is at the bus-terminal that the 'processing' of the passenger and his baggage begins, and at either end of the building at Amsterdam Terminal is a counter: one where the passenger hands over his bags to the airline at the beginning of the journey, before he boards the bus for the airport, the other for the collection of bags on arrival from the airport at the end of the trip. Thus the main traffic flow through the building is across the ends, and this manifests itself in a differentiation of structure, the ends being, in general, lower and wholly or partly under pent-roofs carried, in the case of the departures canopy, on V-strut legs. Between these two ends is an area of less directed circulation, with waiting-space, kiosks for magazines, etc., enquiry, ticket and hotel-booking desks, refreshments and bureaux-de-change. All the public part of this area is under a continuous flat roof carried on pairs of laminated wooden portal-frames, but the purely administrative area of this central block is housed under a lower roof along the north-west side, leaving clerestory windows above to light the public part. The manager occupies a small raised office at the junction of the arrivals area and the central space, and the cellar for the heating plant is directly beneath.

PALLADIAN VILLAS

AS RURAL CENTRES

Georgina Masson



Though admired as works of art, the villas of the Veneto were built, as described below, to be the hearts of thriving rural communities—the bustling forecourt of the Villa Giusti at Onara is seen above.

'A city is nothing less than a great house, and conversely, the house is a small city' said Andrea Palladio in his 'Quattro Libri di Architettura,' when discussing the ideal site for a villa. He went on to outline the requirements of the villa itself; and his opening phrase illustrates the special meaning of the word in renaissance Italy, which was quite different from the sense in which it is generally used to-day. Then, a villa was a country estate, not merely the dwelling house of the owner; and what we now call a villa was originally regarded as an additional convenience which enabled the landlord to oversee the administration of his land in comfort; combining business with pleasure, in bringing his family away from the heat of the city in summer, while he supervised the gathering in of the harvest and the vintage.

By Palladio's day, the holiday aspect of the villa had already increased in importance, and he wrote 'A villa requires two sorts of buildings, one for the habitation of the owner and his family, and the other for the control and storage of the produce.' But after having stated somewhat summarily that the landlord's house should be made 'with due regard to his family and position,' Palladio devoted his attention to planning in detail the farm and administrative buildings, or 'Barchesse' as they are still called in the Veneto to-day.

In view of this it may appear curious, at first glance, that so much has been written about the æsthetic aspects of the 'habitation of the owner' in the villas of Palladio, and so little about their practical planning as the administrative centres of large estates; in an age when a country house was of necessity a 'small city,' and a self-supporting one at that.

This omission becomes more readily understandable when it is remembered that practically none of Palladio's plans were completed in their entirety. Construction was usually begun on the owner's house, and often ended there; leaving the farm buildings to be erected in a haphazard, but more economical, fashion afterwards. Also that Inigo Jones, and the young man of fashion of Lord Burlington's generation, were much more interested in Palladio's interpretation of classical architecture than the practical principles underlying his planning of the farm buildings, which usually only existed on paper anyway, and were designed to accommodate the produce of mediterranean agriculture in a climate very different from our own.

As a result, Palladio's villas have come to be regarded pre-eminently as pleasure houses, built for the 'Passatempi in villa' familiar to us from the paintings of the Venetian school. Whereas, in actual fact, they were the first non-clerical centres of rural life consciously planned as such, upon what was believed to be the classical model. In this they were unique, for although the sixteenth century was a period of great development in the evolution of the French chateaux and English country houses, which fulfilled similar functions, Palladio's break with traditional styles, and planning of an organic whole, was far in advance of contemporary building in northern Europe.

Three factors combined to enable Palladio to make this change, which appears to be so revolutionary, but which had in fact been maturing for more than a generation before he arrived upon the scene. In 1404, the Venetian Republic gained control, by treaty, of the wide area of land which stretches to Verona and which later came to be called the 'Terraferma.' This was the first step. For the constant battles of the tyrannical 'Signori' of each little city was substituted the protection and strong central government of a world power; bringing public order and prosperity in its train.

The transition was gradual; and Crescenzio in his 'Trattato di Agricultura' (published in 1490 but written earlier) was still largely concerned with the strategic siting and defences of his country landlord's house; considerations which were entirely absent from Palladio's mind, when discussing the siting of his villas in the 'Quattro Libri,' published only eighty years later; in spite of the ruin wrought by the intervening war of the League of Cambrai.

An interesting picture of this period of transition is given in the 'Itinerary' of Marin Sanudo, which is a narrative, written and illustrated by the famous diarist on his journey through the terraferma in 1490. He described the decay of the mediæval towers and castles on the one hand; and the beautiful villas, with their gardens growing up on the other. Sanudo made a special note of another interesting feature; where a villa was the property of a citizen of Venice, as opposed to a local family, he says so; and thus affords us an indication of the speed with which the Venetian merchant-patrician had seized upon the opportunity of investing his capital in the newly secured terraferma; when the discovery of America and the voyages of the Portuguese navigators looked like threatening his practical monopoly of the oriental trade.

If the pacification of the terraferma, and the currents of world trade had provided the land and the money; it was left to the philosophy of humanism to give the

inspiration which set the fashion for country life; and to provide it with a suitable setting. It is notable that the earliest existing record of a description of the joys of country life in the Veneto, and a detailed description of a villa, come from Vicenza. They occur in the letters of Bartolomeo Pagello, who was the first of the humanists of that city to present the simple joys of country life in a villa as a new Arcadia, suitable for the relaxation of a scholar and a man of letters. Pagello was born in 1440, he was left a villa, or estate, when still a young man; and he was the first Vicenzan to convert it into a villa in the renaissance sense, of a place for cultured relaxation, as opposed to purely agricultural utility.

In a letter to the artist Bernardino Leoncino, brother of a fellow humanist, Pagello outlined his requirements for the villa which Leoncino was to design for him to build at Lonigo. The letter clearly illustrates the conscious modelling upon classical lines which lay behind the design of these villas. Pagello said that he did not want his to be like that of Pliny the younger, but that 'It will be enough for me if only one portico runs to a pleasant garden. . . . There should be rooms . . . not luxurious but suitable to the general use; and there should be a sufficiently elegant library beside the bedroom for my only essential chattels (his books). In the garden, many apples, pears, and pomegranates, damascene plums, and generous vines; and many plane-trees near the house, and clipped box, and most beautiful bays; and a fountain more clear than chrystal, dedicated to the muses like the Castalian spring at the foot of Parnassus.'

The other humanists swiftly followed Pagello's lead, and during the last twenty years of the fifteenth century the country round Vicenza saw the rise of the suburban villas which were the meeting places of the academies; among the most famous of which was that of Gian Giorgio Trissino at Cricoli. Very few of these villas have survived, however, for they were nearly all destroyed or badly damaged in the savage fighting of the war of the League of Cambrai, which began in 1508, and during the succeeding years of war in Italy there were more serious matters to consider than the building of villas.

Gian Giorgio Trissino appears to have been the first to pick up the threads of life after the wars, and his Cricoli Villa, which was entirely transformed, provides an interesting illustration of the transition from the old style with its corner towers which could be used for defence, to the new, with its classical orders and statuary. It is interesting to note that this villa of his patron is the first with which Palladio's name has been tentatively associated.

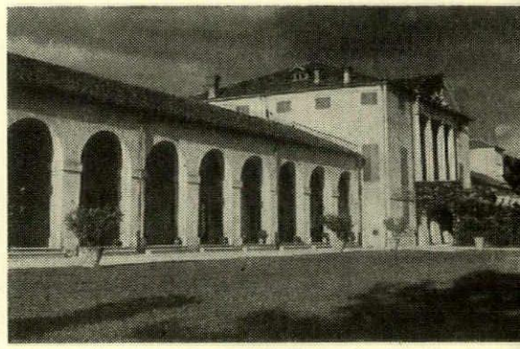
Thus Palladio found the field prepared, and full opportunity to display his genius. Venice appeared to be at the height of her glory; her hegemony over her hinterland was secure; and her patricians were free to expend part of their vast wealth on the acquisition of land, and the building of country houses which would, at one and the same time, provide them with a sound investment; and enable them to follow the current mode for indulging in the joys of country life in this new Arcady. The old castles and the gothic villas had been destroyed by war, and the way was clear for the building of the country houses which would accord with the new fashion for villas in the classical style, built according to the canons of Vitruvius. In actual fact the similarity of layout between the Venetian villas, and Horace's Sabine Farm, near Licenza (which has only been excavated during this century) is indeed remarkable.

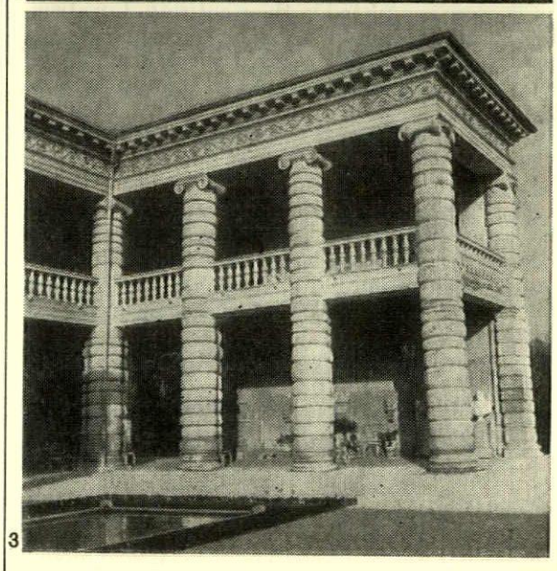
A comparison between the 'Quattro Libri' and the books of the Civil Architecture of Vitruvius reveals to what an extent Palladio was indebted to Vitruvius, not only for the principles of classical architecture, but for the actual practical planning of farmyards and siting of his villas as well. He was also evidently much influenced by his namesake Rutilius Taurus Aemilianus Palladius; the Latin author of the fourth century whose writings on agriculture were much quoted by Crescenzio in his 'Trattato di Agricultura.'

All these three authors lay great emphasis upon the importance of the health of the site; and upon good air and water. Palladius tells his prospective landlords to look well at the peasants to see if they are of a good colour and cheerful disposition; advice which was repeated by Palladio writing more than a thousand



2





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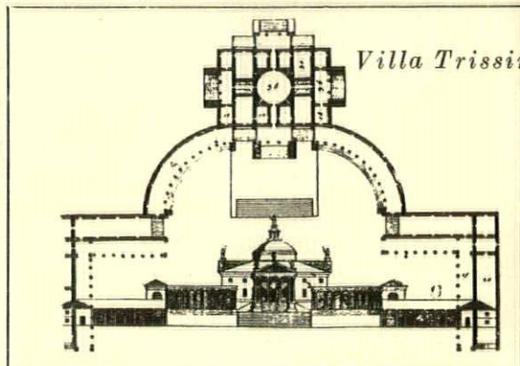
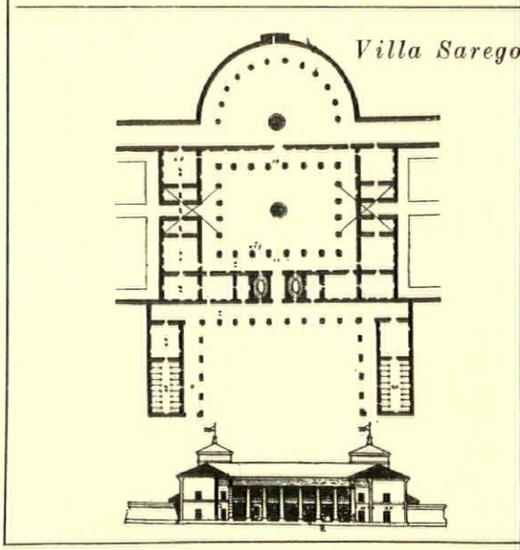
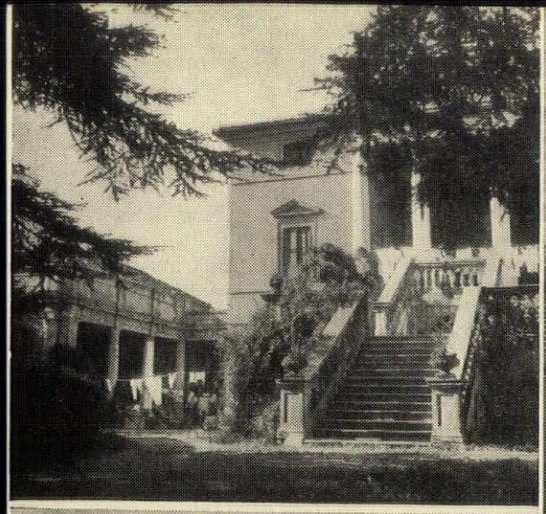




2, Villa Trissino at Cricoli, early and showing transition from fortified manor to 'Palladian' gentleman's country residence; 3, V. Sarego at Sta. Sofia in the Valpolicella, a fragment: no more was ever built than is shown here; 4 and 6, V. Emo, Fanzola; 5, V. Torinieri, near Vicenza, each showing relation between barchesse *and landlord's house; 7, V. Badoer, Fratta Polesina; the farm buildings behind curved colonnades; 8, plans (from the* Quattro Libri*). Of the actual V. Trissino, almost nothing derives from Palladio, but his remarkable plan survives. At V. Badoer, the granaries lie over the main rooms in the central block, and behind the colonnades are the farmer's and steward's lodgings, stables, etc. At V. Emo, kitchen and cellars are underneath the house; other offices in the wings. V. Poiana has granaries above and domestic offices below main apartments which stand 5 feet off ground level. The yards on either side contain respectively a garden and 'other places for the use of a country-house' (as close a description as the townsman Palladio could produce). The colonnades at V. Maser lead to a dovehouse on the left and, on the right, to 'places for making wine and other places for the use of the villa.'*





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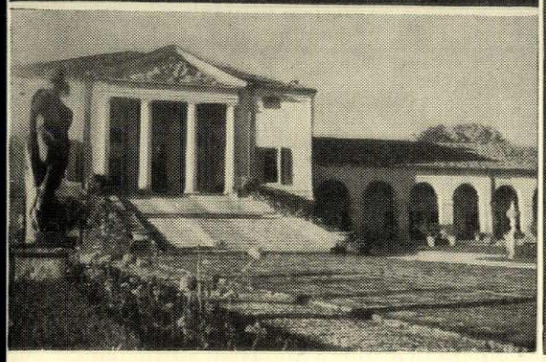



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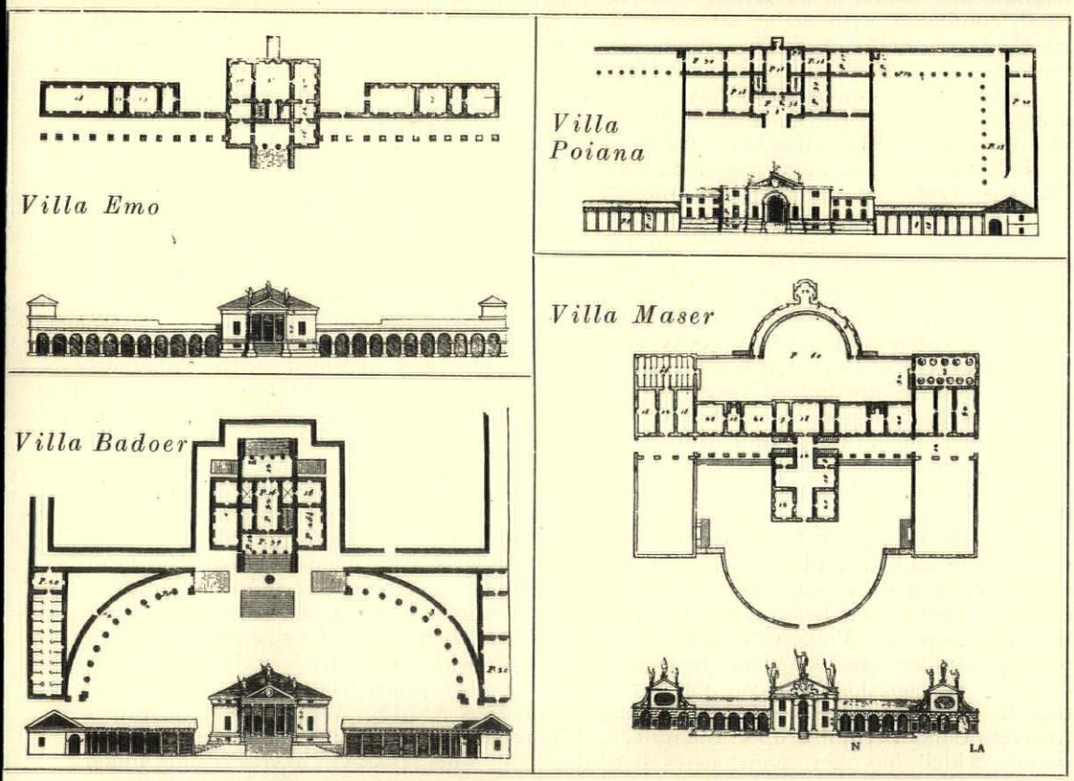


years later, when the scourge of malaria was even more widespread in Italy; he also advised pouring water on a white cloth to test its purity.

Palladio also evidently followed the commonsense rules laid down by Vitruvius and Palladius on the arrangement of the farm buildings—that the granaries should be above ground and cool and dry; cellars should face north for the same reason; hay and fodder be stored in open barns to prevent fermentation and fear of fire; and passages and stairs be built wide and well lit for the use of labourers carrying burdens and bundles.

The long colonnades which were designed to flank most of Palladio's villas, and have called down so many accusations of extravagance upon his head, were primarily intended to connect the owner's house with those of the agent, foreman, and the labourers' bothy; and the dove cots, poultry yards, stalls, stables, barns and stores. That their object was primarily utilitarian is evident from Palladio's description. He said 'they must be attached to the owner's house so that he can go everywhere under cover from the rain and the hot summer sun . . . they are also very useful for providing cover for wood and for the infinite number of things of the villa which would be ruined by the sun and rain; these porticoes are also very ornamental.' Their usefulness in the more temperate climate of England is less apparent, but anyone who has experienced the scorching heat and violent rainstorms of the Veneto will appreciate Palladio's point.

Palladio directed that the stalls and stables should be built far from the owner's house; to avoid the smells of the manure heap, but that the latter must be open to the sun and light. Likewise he advised that the threshing floor should not be too near either, because of the dust, but added a prudent note that it should be near enough for the master to keep an eye on the work; and with a portico flanking at least one side of it; so that if the weather changed suddenly the grain could be carried quickly into shelter.

Some of Italy's most famous wines, such as those from the Soave and the Valpolicella, come from the area in which the Palladian villas were built, and it is not surprising to find that in the 'Quattro Libri' Palladio's instructions for the building of the cellars are given with particular care. He said 'they should be underground, well shut in, and far from all movement, damp, and smells, and should have an east or north light; because if they face in other directions the wine might be weakened and spoilt by the heat. They should be made with the floor sloping towards the centre and the floor should be of 'Terrazzo' (the special flooring made of fragments of marble, known in the rest of Italy as 'Veneziano'), or paved, so that if the wine is spilt it can be collected. The casks where the wine ferments should be under cover near the cellars and raised so that the bung holes are higher than the mouth of the highest barrel, so that either by a system of funnels (maniche di coro) or wooden pipes, the wine can be directed into the barrels.'

With the same care for detail, Palladio lays down that the granaries should have a west light, so that 'they will not become heated, and will be cooled by the wind . . . their floor should be "terrazzato" or at least of boards, because grain goes bad if it touches lime.' The other store rooms should face west for the same reason; but the open barns (teggie) for the fodder should face south because the drying effect of the sun will prevent the hay from fermenting and going on fire.

None of the larger and more comprehensive of the villas of Palladio which illustrate these principles in every detail were ever completed in their entirety; the most outstanding of them would have been the Villa Thiene at Quinto and the Villa Trissino at Meledo; of which only fragments of the original design remain; if they had been completed, it is unlikely that the practical aspects of the layout of the villas as the administrative centres for the estates of their owners would have been passed over as it has. In designing Villa Thiene, Palladio must have taken the ancient Greek villas as his model; this is evident from comparison of its ground floor plan with that of the Grecian villa in the 'Quattro Libri.' The small portion of the Villa Thiene which was actually built now stands in the village street of Quinto, and has only been preserved from complete degradation by its present use as town hall.

So little of Villa Trissino at Meledo was ever completed according to Palladio's plans, that the existing building is not recognizable as such, but the sweeping lines and hemispheres of its colonnades live in Stowe, and Prior Park at Bath.

In contrast to this sad list of might-have-beens are the Villas Barbaro at Maser, Emo at Fanzolo, and Badoer at Fratta Polesine. The first, owing to the magnificence of its Veronese frescoes, and the public spirit of its owner, is known to any Palladian enthusiast who has visited the Veneto. But the other two, especially the exquisite little Villa Badoer, appear to be very little known; although they share with the Villa Barbaro the honour of having survived as the most complete examples of Palladio's country house design. To this list must be added the Villa Poiana at Poiana, and the Villa Sarego at Santa Sofia in the Valpolicella, which are of particular interest to any student of Palladio's country houses; also the suburban Villa Tornieri near Vicenza.

There is a strong superficial resemblance between the Villa Barbaro at Maser, and its neighbour Villa Emo at Fanzolo. In both of them the 'barchesse' (the Venetian term for the farm buildings) flank the central block of the owner's house presenting a unified façade of great length. Here the resemblance ends, however, for the Maser Villa, owing to its hillside site, has only one storey at the back and the piano nobile spreads over most of the length of the first floor of the building; with the store rooms, cellars, and kitchens, beneath on the ground floor; backing on to the hill behind. Villa Emo is much more typically Palladian in style; the cellars and kitchens were sunk in the semi-basement floor beneath the owner's house, while the granaries occupied their usual place in the shallow upper floor behind the pediment. Although the loggias of the 'barchesse' present a unified front with the central block of the house, when viewed from the front; in actual fact the store rooms and stables behind were originally separated at some little distance from the house, and were only linked to it by the loggias. (For some time now, the stores have been used as living rooms and the original plan altered); the villa faces south, and contrary to Palladio's tenets the store rooms also opened in this direction; but the loggias are of sufficient width to prevent the sun from beating directly upon them. The stables were at the extreme end of the western wing.

Although it is conceived upon a much smaller scale, there are many points of resemblance between the Villa Badoer at Fratta Polesine and the Villa Emo. The central block of the owner's house is raised above the colonnades of the 'barchesse' with a similar arrangement of the kitchens and cellars below, and the granaries above, the piano nobile (the original arrangement has now been transformed in both houses). Both have recessed porticoes in front, and in both the original paved walk from the entrance gate to the portico has survived.

There is a sad difference between the two houses, however; whereas the Villa Emo is still in the possession of the family for whom it was originally built and is maintained in excellent condition, the Badoers are long since extinct; and the villa, which was completed with only minor alterations of Palladio's plans, is in a condition of degradation verging upon the derelict. This is all the more tragic because the Villa Badoer, although built on a miniature scale (the piano nobile has only seven rooms) is architecturally on a par with the Malcontenta and the Rotunda; and is complete in almost every detail. The original wrought iron gates, the surrounding wall (similar to that shown flanking the Malcontenta in the 'Quattro Libri'), the flagging of the garden walks, the marble well-head, the fountains, and even the frescoes 'the most beautiful grotesques of Giallo Fiorentino' mentioned by Palladio in the 'Quattro Libri,' which were already believed to exist no more in Bertotti Scamozzi's day; are all still there (the frescoes are hidden beneath coats of whitewash, but the writer could see portions of them in a fair state of preservation where the whitewash has been rubbed away by the villagers parking their bicycles in the central salon; no one else appears to have known of their existence).

The grace of the whole composition of the villa and its dependences, and what Bertotti Scamozzi described as 'An air of magnificence which is surprising' are, as usual, combined with strict attention to practical requirements. The landlord's house is raised upon, and surrounded by, two walls of enormous thickness, which make a platform eleven feet wide all round the house. The disastrous floods in the Polesine two years ago appear to bear out the truth of Bertotti Scamozzi's assertion that they were built as a protection against flooding. Already in his day the accommodation for the agent and foreman, and the stores and stables which Palladio describes as being situated behind the curved colonnades, had been converted to other uses; and today large numbers of peasant families are lodged there. Nevertheless, it is still possible to trace their arrangement facing north and west, while the stables must have opened directly on to the lane which borders the garden wall on the south side.

The Villa Poiana at Poiana appears to be as little known, and quite as derelict, as the Villa Badoer; although it is more easily accessible as it belongs to the Monti Berici group of Palladio's villas. Six peasant families are lodged in the central block of the landlord's house alone; and the frescoes of Bernardino India and Anselmo Canera crumble upon the walls of rooms, which have in many cases been partitioned off in order, presumably, to enable the landlord to squeeze as many rents as possible from the tenement of his creation.

From the point of view of its planning, though it was never completed according to Palladio's design, the Villa Poiana presents aspects of considerable interest. There is the usual arrangement of granaries and cellars above and below the piano nobile; which are still put to the use for which they were intended. A row of farm buildings, of much later, and haphazard, construction take the place of the 'barchesse' of Palladio's design; but it is possible that the open barns for fodder, with their stone flagged floor and Tuscan columns, may have been part of the original building; for they are sited according to Palladio's original layout. In the right angle made by the farm buildings and the barns are the threshing floors; conveniently placed so that the master could keep his eye on them from the loggia of the house, and so that the grain could be hurried into the shelter of the porticoes in case of rain. There is little doubt that the walls which divide the threshing floors from the garden and orchard, and surround the whole layout, were of Palladio's construction as they conform to his plan and are similar in construction to those of Villa Barbaro at Maser, which is more than fifty miles away. They are built of rough stone and surmounted by flat and circular bricks.

The Villa Sarego at Santa Sofia near Pedemonte in the Valpolicella, is also little known; but, happily, it is in the possession of owners who maintain it in excellent condition. The villa was built for Marcantonio Sarego, who married Ginevra Alighieri, the last descendant of Dante. Although only a small part of the original layout was built, this villa is well worth studying as being the only one which its designer described as being particularly appropriate to country life. He wrote in the 'Quattro Libri' that the columns were 'made of undressed stone, which seems more suitable to a villa; to which are adapted things which are plain and simple rather than delicate.' This same rustic style is to be observed in the few constructional features, such as door frames and fireplaces, which were actually built. Of the original layout of enclosed courtyard and garden for the owner, and partly enclosed court for what Palladio called the 'cose della villa,' only half the owner's courtyard was ever built; but from examination of the design it is evident that the villa was planned with Palladio's habitual attention to practical detail.

The Villa Tornieri is so near Vicenza as to come within the category of suburban villas. Unlike the Rotunda, and Villa Pisani at Montagnana, however, where the interest is evidently concentrated upon the owner's house; the Villa Tornieri was particularly well furnished with the farm buildings suitable to a country villa. The right angled turn in the flanking loggias enables them all to be disposed facing in the various directions laid down by their author as appropriate to their various functions. As at the Villa Badoer, the stables must have opened on to a small side road.

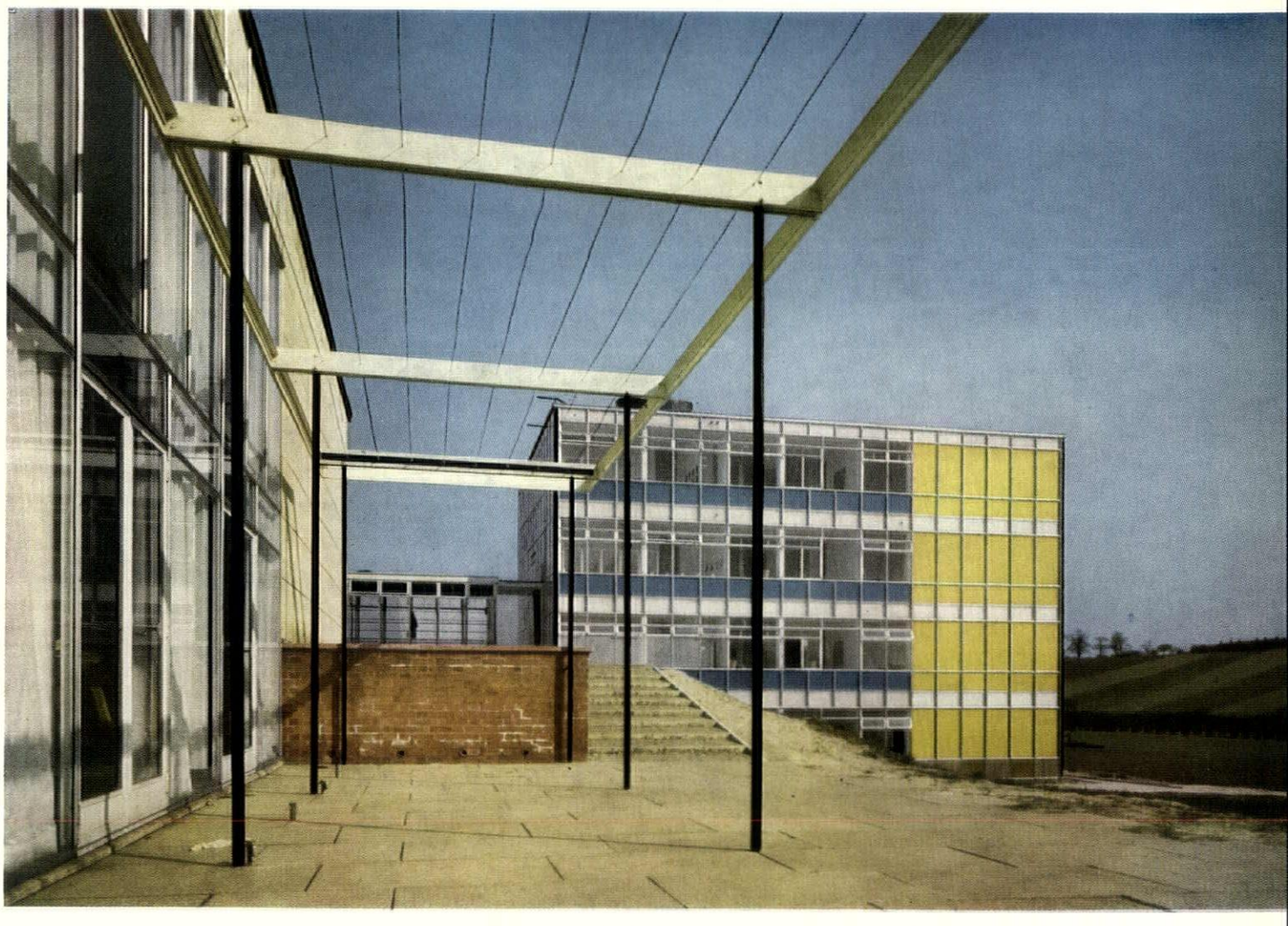
The Villa Tornieri has also now fallen upon evil days, and is divided up between several families, and the farm buildings are used as workshops. But in spite of this, and the town which has grown up around it, with trams running before the door, it has somehow still managed to preserve something of the atmosphere which pervades Bartolomeo Pagello's letter to Bernardino Leoncino, and what our own Sir Thomas Wyatt described as:—

'This maketh me at home to hunt and hawk
And in foul weather with my book to sit
In frost and snow then with my bow to stalk
No man doth mark where I so ride and go
In lusty lees my liberty I take
Here I am in Kent and Christendom
Among the muses where I read and rhyme.'

3 SCHOOLS *by the Architects' Co-Partnership*

SCHOOL AT CHADDESDEN, DERBYSHIRE

1, classroom block from pergola.



This is a secondary modern school for 600 children. Chaddesden, which is two miles from the centre of Derby on the Nottingham road, is developing as a new neighbourhood around an old village.

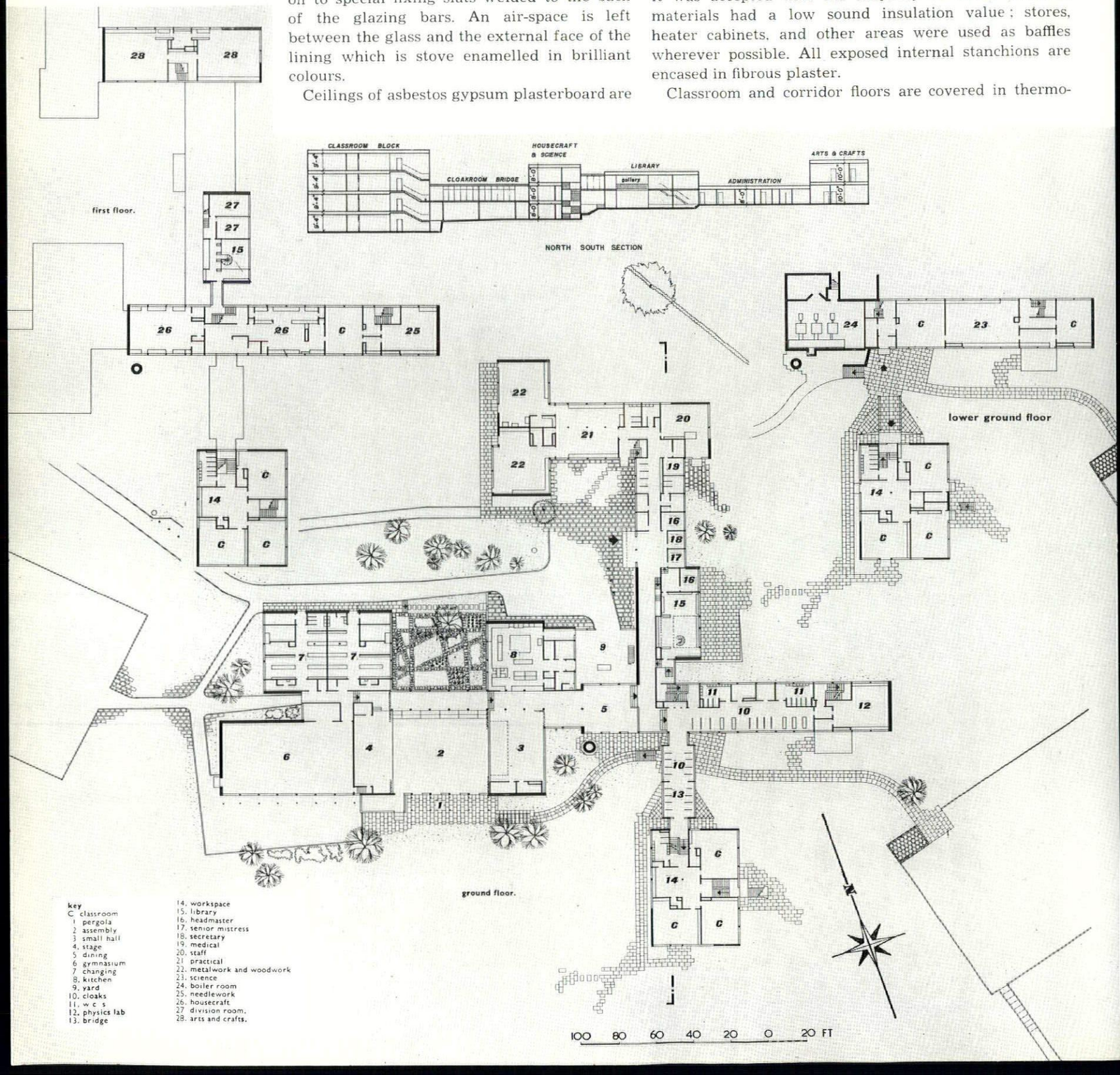
The school site is on the northern slope of a valley running east to west. Due to the sharp slope, it has been possible to arrange for various groups of one-, two-, three- and four-storey buildings to intercommunicate at different levels. Of the twenty-four acres of the site the whole

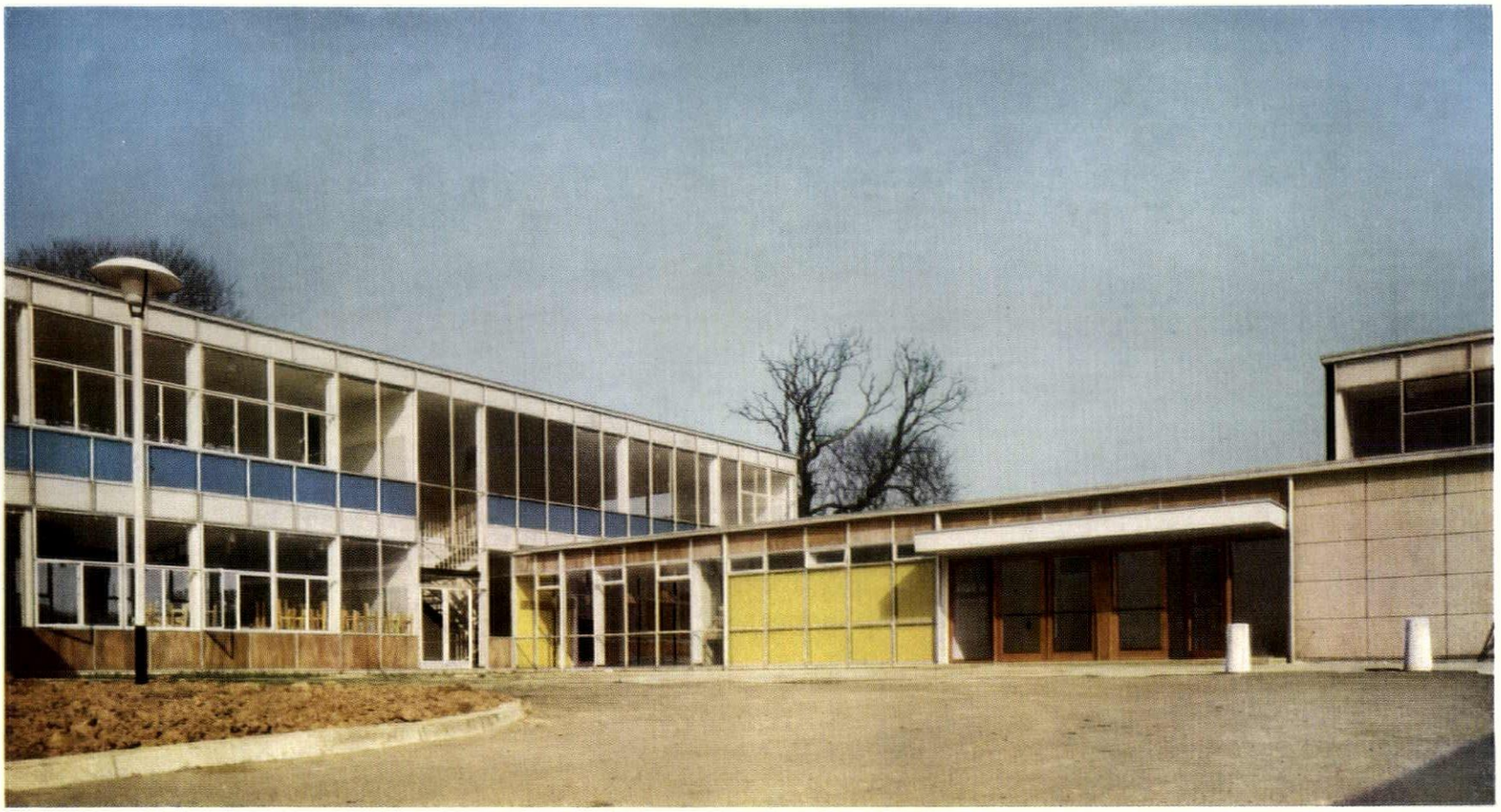
usable area is taken up with playing fields, and a turf-covered hardcore service road gives access to all the main pitches for maintenance machinery.

The building uses a system of structural frame which has already been developed for other schools. It is made up of welded light steel beams and columns on a module of 3 ft. 4 in. For the outside walls the patent glazed cladding has been developed. Windows, external doors, fixed glazing or resin-impregnated plywood panels (used where glass could be endangered, as at ground level) are fixed directly into the glazing bars. The internal lining of the wall is made of a three-ply laminated board, and the outer layers are of asbestos cement sheeting, pressure glued on ½ in. cork coring, and screwed on to special fixing slats welded to the back of the glazing bars. An air-space is left between the glass and the external face of the lining which is stove enamelled in brilliant colours.

Ceilings of asbestos gypsum plasterboard are suspended from the bottom boom of the structural beams. Internal partitions are preformed panels of two sheets of plasterboard glued to honeycombed hardboard core; all partitions are dry mounted from floor to underside of beams and are accommodated in specially dimensioned pressed steel door frames which act as additional support to the partitions. Internal partitions surrounding staircases have an additional sheet of plasterboard glued to the stairwell face of the partition in order to increase fire resistance to the required standard. Where internal partitions are the only means of sound reduction between classrooms two thicknesses of preformed panels have been used and this situation only arises in the case of three rooms. During the planning stage of the design it was accepted that the majority of cheap partition materials had a low sound insulation value; stores, heater cabinets, and other areas were used as baffles wherever possible. All exposed internal stanchions are encased in fibrous plaster.

Classroom and corridor floors are covered in thermo-

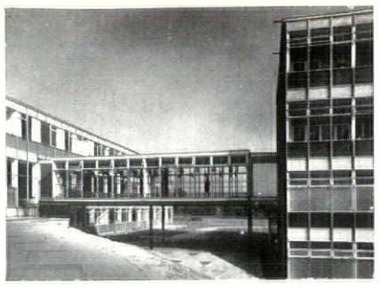




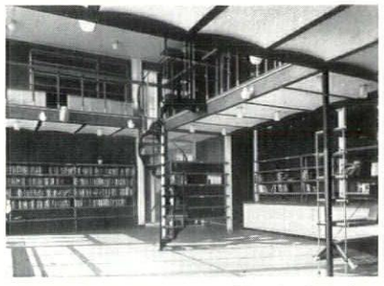
2, the arts and crafts block, above left, joined by the single-storeyed administration centre.



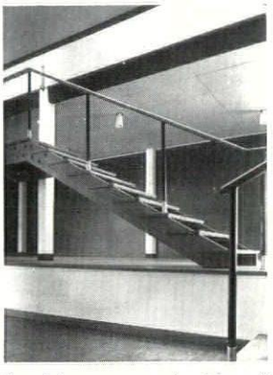
3, cloakroom, looking east ; door ahead leads to physics laboratory, door at left into w.c.s.



5, bridge linking science and classroom blocks.



4, library: gallery and helical stairs.



6, stairs on west side of long central passage.

plastic tiles; the hall and gymnasium in hardwood laminated plank; stairs and lobbies in linoleum; the entrance hall is finished with a ceramic tile floor. Roofs are formed of wood-wool slabs screeded and covered with three-layer bituminous felt over all classrooms and administrative rooms. The roof over the gym and metal and woodwork rooms is formed of aluminium decking with the underside left exposed, covered with insulation board and three-layer bituminous felt finish.

SCHOOL AT CHADDESDEN, DERBYSHIRE

SCHOOL AT SHEFFIELD, YORKSHIRE

1, typical 'workspace' in Tower Block.





2

2, passage from assembly hall to Tower Block, school entrance right ; below, south view of school, with Tower Block, left centre, and the entrance court, extreme left.



3

SCHOOL AT SHEFFIELD, YORKSHIRE



4

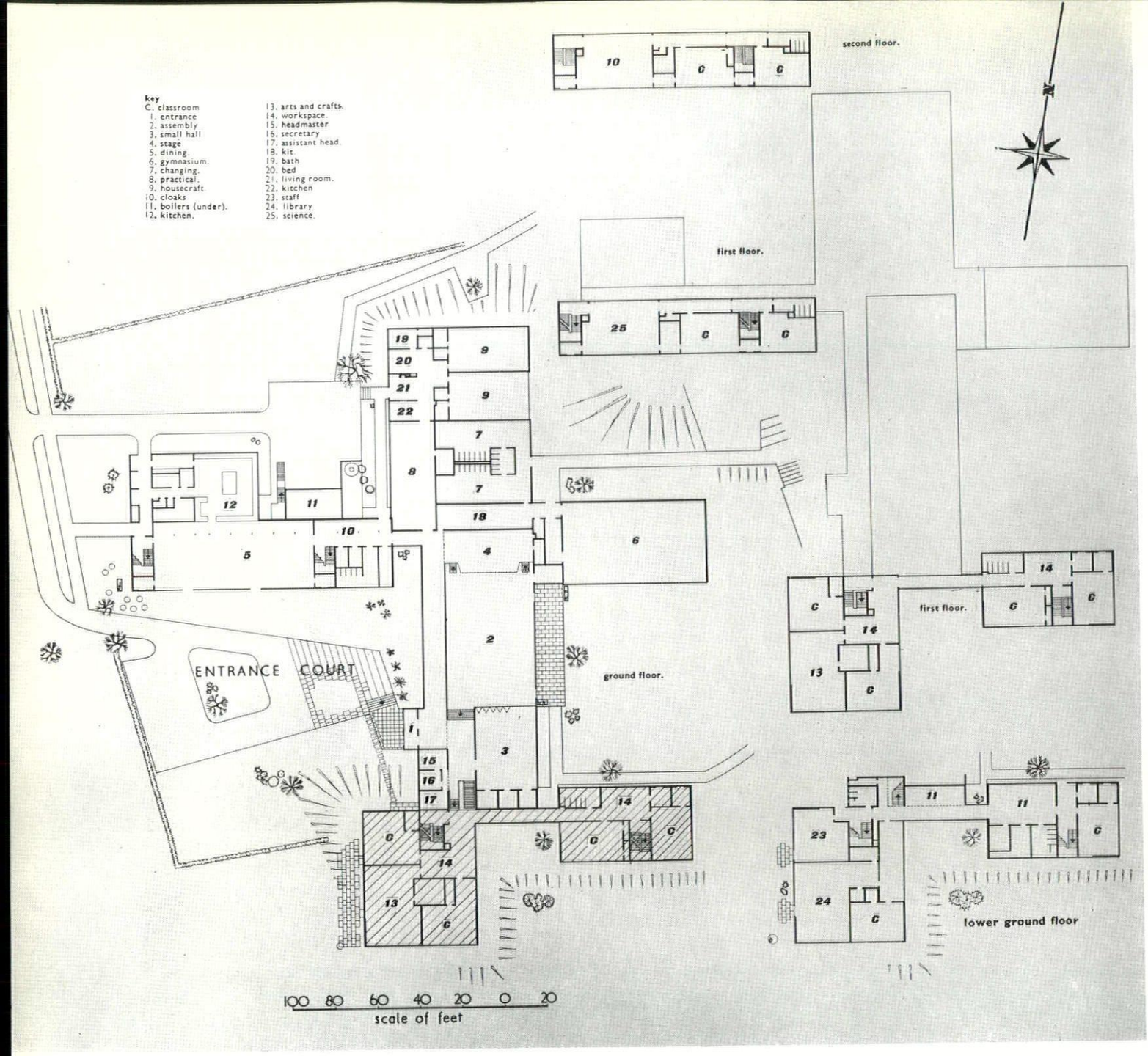
This is a secondary modern school for girls with 600 pupils. The site is on the extreme edge of Sheffield (S.E. along City Road from the city centre, and a quarter of a mile before the village of Intake) and has distant views over the south and south-west. The part of the site on which the school stands was formerly divided intc fields with hawthorn hedges, and as many as possible of these hedges have been retained. There were extensive shallow old coal workings under the site and precautions had to be taken with foundations.



5

4 and 5 above, passage (2) seen as half-landing to Tower block ; below, assembly hall, looking south.

The school is planned on a 3 ft. 4 in. module. The teaching rooms are in three three-storey blocks at the corners of a single-storey building which consists of the assembly hall and small hall. The objects of doing this were to



reduce the apparent internal scale of the building and to focus the whole activity of the school on the assembly hall. The main entrance gives direct access to the halls block. Most of the practical rooms are mingled with the teaching rooms, but the remainder—the general practical room and three housecraft rooms—form a north wing together with the changing rooms. Each floor of each teaching block forms a small unit within the school and most of these have a work space.

The hall is planned with a raised floor on three sides, formed by the stage, a circulation gallery open to the hall, and the small hall which is enclosed by sliding folding doors. The stage curtain, designed by Gerald Holtom, is arranged so that it can be hung across the rear wall of the stage as an alternative to the front of the stage, so that the large space formed by the halls and gallery need not be interrupted more than necessary while allowing easy conversion to make a formal stage. It is hoped that this arrangement of levels and spaces can be used in a variety of ways. The small hall, for example, will provide an alternative platform or stage, while both it and the gallery will serve as additional accommodation for an audience. A performance could also take place in the body of the hall while the spectators sit on the stage and in the gallery and the small hall.

The system used is 3 ft. 4 in. lattice steel frame with patent glazing curtain walls. The lining behind the curtain wall, where there are solid external walls, is of clinker block rendered and finished with silicate paint. Internal partitions are of dry construction consisting of plasterboard units extending from floor to ceiling. Ceilings are also of dry construction, and panels can be removed for access to the principal services which are in the thickness of the floor. The floors of corridors, classrooms and lavatories are finished in thermoplastic tiles and those of the assembly hall, stage and science room in wood block. Wood strip is used in the gymnasium, and quarry tiles in the kitchen and on parts of each housecraft room.

SCHOOL AT HATFIELD, HERTFORDSHIRE

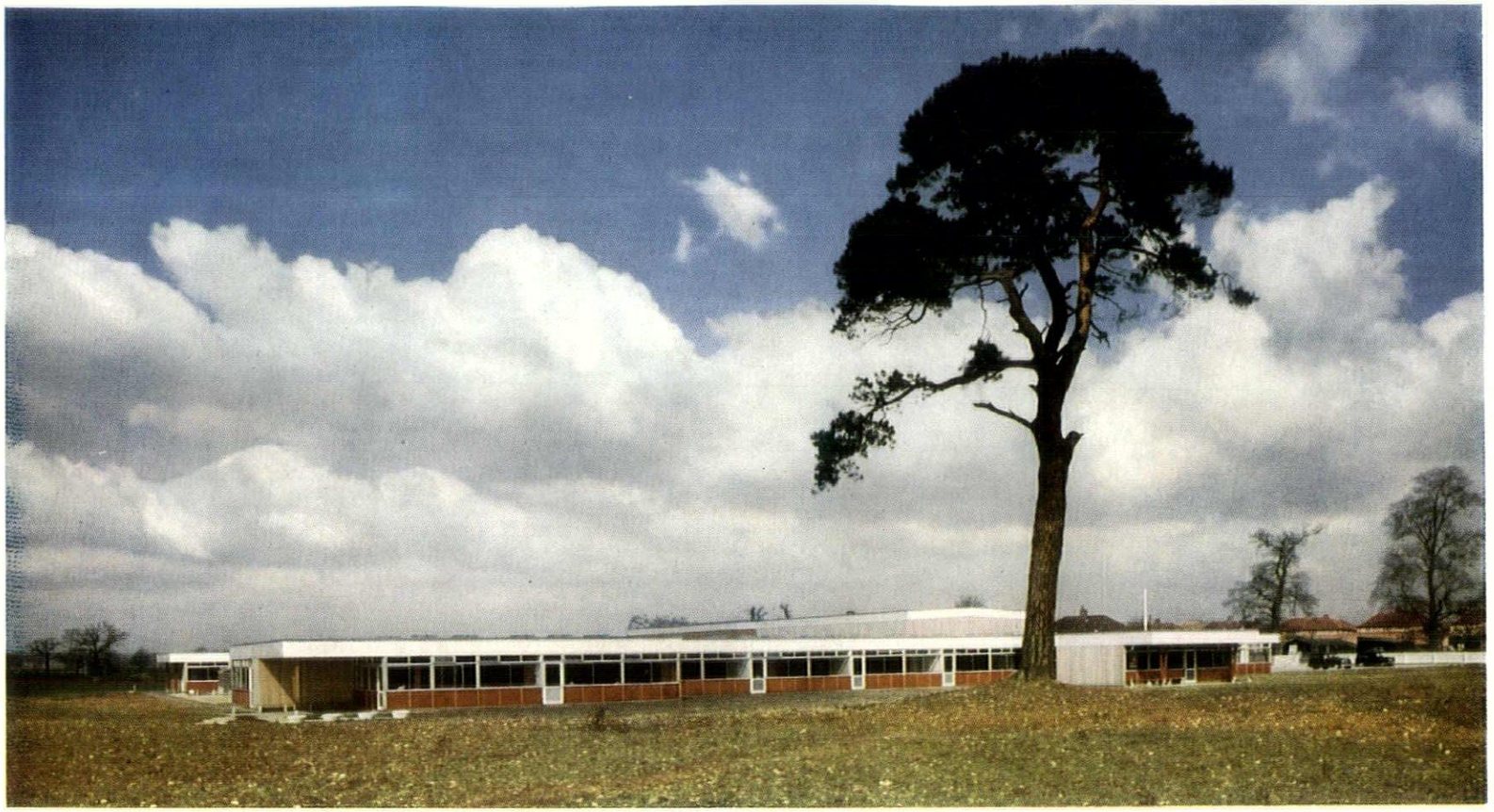
The site of this three-form entry secondary modern school for 450 pupils is virtually flat and lacking in character except for a few mature trees near the boundaries. The new Great North Road runs near to the west boundary of the site, on the farther side of which, within a few hundred yards of the school, is an aircraft works where jet engines are tested. The noise of this testing affected both placing and design.

The courtyard with the assembly hall forming its east side is planned as the core of the one-storey building. The pool in the courtyard which is used for biology has been designed to throw a pattern of reflected sunlight up on to the low part of the ceiling in the assembly hall.

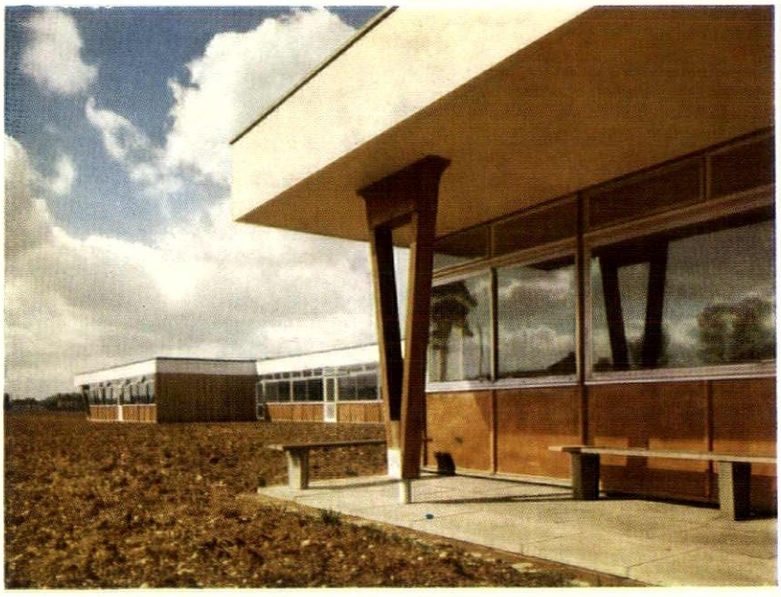
The frame consists of 'V'-shaped hardwood stanchions giving 8 ft., 9 ft. 4 in. and 16 ft. ceiling heights, which support main beams spanning from 10 ft. to 30 ft. in modules of 3 ft. 4 in. All main beams are 2 ft. deep, 6½ in. wide, made up of timber lattice construction, lined both sides with 6 mm. plywood. Deep main beams of



1. central courtyard, looking north, with pool used for biology.



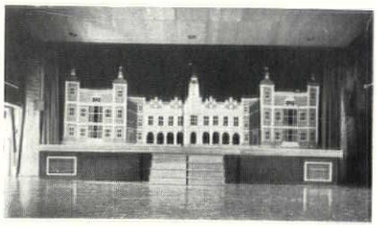
2, general south-west view of school ; higher roof level, centre, indicates hall and gymnasium.



3, view from south end of library towards classroom range.



4, passage, with wall showcase, looking towards library.



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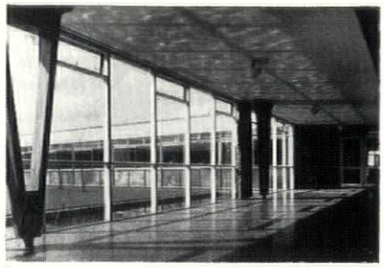

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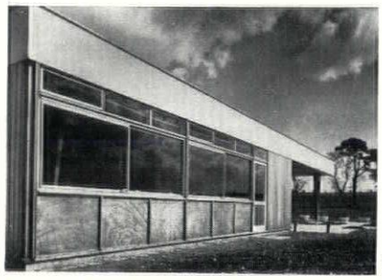
5, stage backdrop in assembly hall, showing Hatfield House, represented in needlework; 6, passage running between assembly and courtyard, and 7, exterior of music room at south-west corner of buildings.

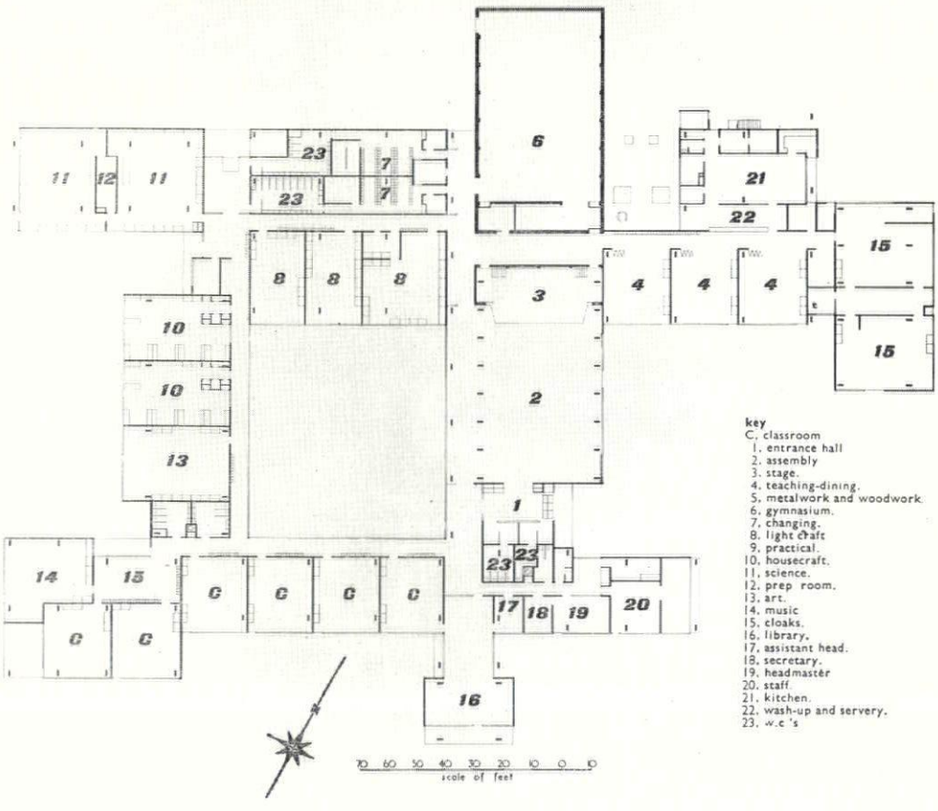
the same construction, but giving a low pitched roof span of 40 ft. are used in the assembly hall. A similar type of beam with slightly greater span is used at 10 ft. centres in the gymnasium, supported on brick piers in a 13½ in. load-bearing brick wall. Certain main beams can cantilever 8 ft. 4 in. and cantilever brackets 1 ft. 8 in. and 5 ft. similar in construction to main beams can be fixed to columns. Secondary beams which are similar in construction to main beams, but without the ply sides, span at 3 ft. 4 in. centres between main beams in spans from 6 ft. 8 in. by 23 ft. 4 in. in units of 3 ft. 4 in. They are fixed to main beams with metal shoes. The roof is three-ply roofing felt laid flat on corrugated aluminium decking, covered with ½ in.-thick insulation board.

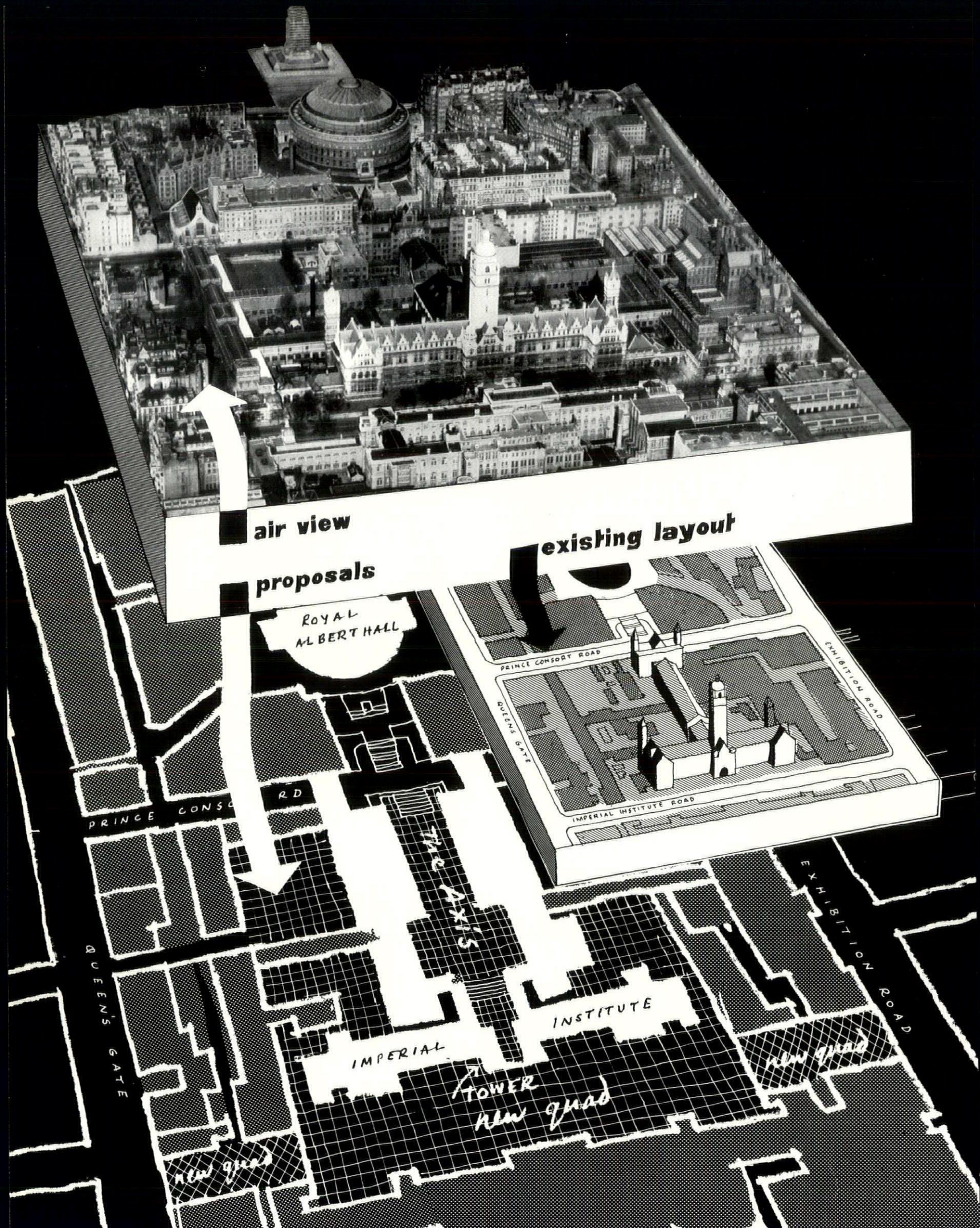
All external walls, except the gymnasium, are non-load-bearing. The internal walls are 4¼ in. hollow breeze block plastered both sides. Ceilings are 3 ft. 4 in. square panels of perforated plasterboard, butt jointed, nailed to nogging, fixed to the secondary beams and overlaid with 1 in. fibreglass. The external soffits to cantilevered parts of the structure are finished with ¼ in. external quality 'V'-jointed plywood. The assembly hall ceiling



7

is fibrous plaster on wood framing fixed to the underside of the main beams. The veneered blockboard resonator over the forestage is framed and suspended from the ceiling on mild steel strap hangers from the underside of the roof and the side of the adjacent main beam. The assembly hall, wood and metalwork rooms, and science rooms have wood-block floors. The gymnasium and stage have wood-strip floors. The kitchen, changing rooms and all lavatories have coloured concrete tiles; the headmaster's room, staff rooms and library have cork, and the remainder of the building thermoplastic tiles.




air view
existing layout
proposals
ROYAL ALBERT HALL
PRINCE CONSORT ROAD
EXHIBITION ROAD
QUEENS GATE
IMPERIAL INSTITUTE ROAD
PRINCE CONS RD
THE AXIS
IMPERIAL INSTITUTE
TOWER
new quad
QUEEN'S GATE
EXHIBITION ROAD

The concealed University of South Kensington lies hidden in buildings which fail to validate not only the properly collegiate nature of their layout, but also the grand planning axis which governs the whole of the academic zone from the Natural History Museum to the Albert Hall. In a diagrammatic breakdown of this situation, opposite ☞, Gordon Cullen shows, top, an air-view of the whole district—and even in this view, denied to the pedestrian, the collegiate and axial qualities of the plan barely register. In the central diagram he isolates the building which causes the muddle—the Imperial Institute, which smothers the axis instead of revealing it—and in the plan, bottom, he shows how the proposal to rebuild and extend the Imperial Institute can be made an occasion to right both wrongs without losing any accommodation.

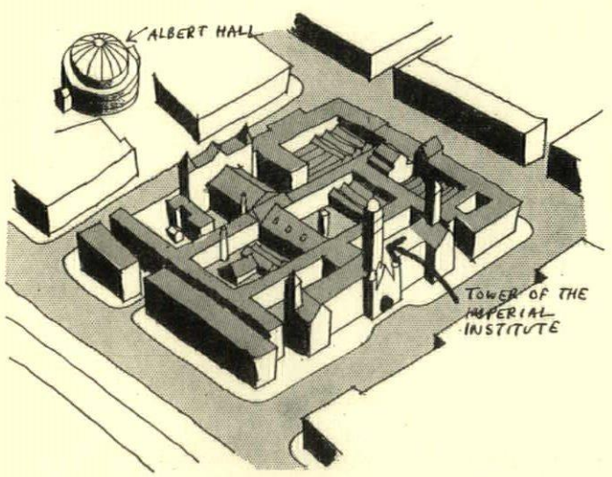
Gordon Cullen

The Lost Axis

The Imperial Institute recreated as a University centre

There is a University* in South Kensington. You wouldn't think so just by walking along Queen's Gate or Imperial Institute Road. You might notice that quite a high percentage of the people you saw on the pavements were young and fresh faced. You will also see a great many ancient Austin 7's. You might wonder why.

There is no sign of a University—just the usual wide, windy streets of Kensington—flanked by monumentally institutional buildings. Most of these are occupied by the University and one block of them, the area bounded by Prince Consort Road, Imperial Institute Road, Queen's Gate and Exhibition Road, is being handed over to the Imperial College of Science for an expansion programme. When this programme is complete South Kensington will be even more of a university.



What you see from the outside is all you are supposed to see for the apparent precinctual pattern is an illusion. Instead of being pedestrian courtyards meant to be walked through they are back yards to be avoided. The REVIEW *proposes that this should be reversed, and that the interior landscape be exploited by re-creating quads and by opening an axis between the Albert Hall and the Tower of the Imperial Institute thus drawing them into the heart of the University.*

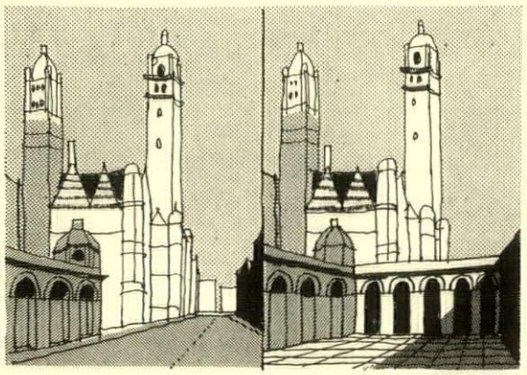
But unless someone sees the light it will still not look like one. Kensington by tradition is the home of the stockbrokers' palazzos (stucco on the front and stock brick and drain pipes on the back)—and whether for this reason or not the collegiate principle of planning has never been adopted in Kensington.

And yet the queer thing is, though you never see it unless you get into an aeroplane, the colleges *are* built on the collegiate principle of quads or courts and even cloisters, with fronts and backs and insides and axes. There is even a main axis. Instead, however, of being treated as the final product, as they are at Oxford and Cambridge, these collegiate patterns have been treated as *moulds* into which Nissen huts, oil drums, extract fans and odd university buildings are *poured*, and then allowed to set, so that the resulting site plan is a solid impenetrable block which keeps all circulation on the outside. You don't go through the 'colleges', you go *round* them—round the outside for which purpose enormous wind-swept streets have been provided.

In the developments now foreshadowed for South Kensington, the great thing it seems to us is to put right this wrong, by using the new building development to seal off the windy streets

* Actually, parts of London University together with other bodies also providing further education; but in effect and in extent a university—and with the proposed extensions, one that will provide for five thousand students.

and open up the interior of the quads. This would come very much cheaper and would have the great advantage of saving the best buildings and getting rid of the clutter. Instead of handing over to the housebreaker one of the great monuments of Victorianism, Collcutt's Imperial Institute, a building of immense character distinguished by what in England is the rarest architectural quality—scale—one of the great buildings of London in fact—it should be possible by ingenious manipulation of interior space to add all that is required in the way of accommodation and at the same time open up the collegiate plan. Obviously we can't produce a general plan for the whole area, but to make the principle clear we take the main axis to this complex which no one has ever seen. The proposal put forward here is that the new developments should start with the rediscovery of this axis and steer from it. It is a great, a monumental, lay-out as the air reveals; the great thing is to bring it down to the ground.

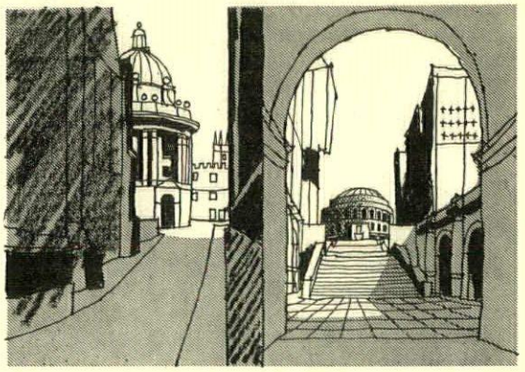


Left, Imperial Institute Road. The accent is on Road for the University stops at the pavement. But by enclosing the road (right) the space that was neutral becomes University space and the buildings change from facade to sculpture.

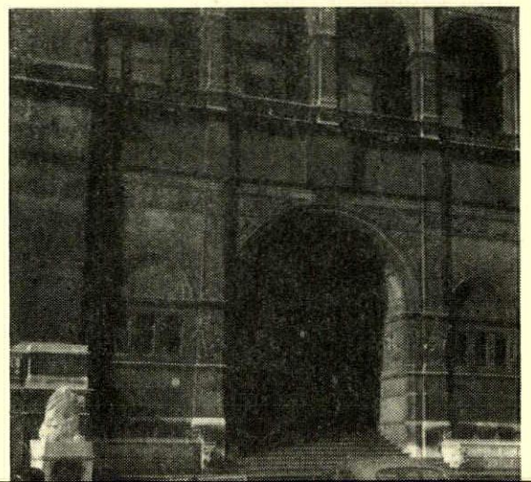
One might start by closing Imperial Institute Road with a wall so that street is turned into quad, or a series of quads. On the outside you are in Kensington—inside you are in a university. The insistence of perspective has given way to enclosure and with this comes a change, a change from progression in a straight line to an appraisal of the environment all round you. In this way the actual architecture ceases to be façade and becomes sculpture, which the present Imperial Institute already is, though the surrounding development cancels out its effect. One could utilize part of this building, replanning the area behind so as to bring out the drama of the domes and towers and marry them with the modern architecture completing the new quads. It is chiefly a question of releasing potentialities which are already there.

Then comes the axis about half a mile long, picked up by dome, monument, tower and turret from the Albert Memorial to the Imperial Institute and wider beyond. Yet as far as the pedestrian is concerned it might not be there at all. It is impenetrable, blocked, non-existent.

In a short study of the capabilities of the area, which is all that this article pretends to be, we stress this one point and show how the establishment of this axis as a reality for the pedestrian could completely alter the whole development. It would mobilise two of the largest man-made objects in London, the Albert Hall and the tower of the Imperial Institute, to the uses of the university as the Radcliffe and St. Mary's spire are mobilized at Oxford. Simply opening a line of vision between the two monuments would illuminate the very heart of the University: create a centre at the heart not the circumference, from which new developments could organically flow. And just in case anyone feels like saying absurd, let him before he does so remind himself that the buildings were planned and laid out with exactly this object.



Left, the Radcliffe at Oxford. Dominant and geometric it is revealed and unfolded as one moves through the streets, thus fulfilling its visual function as focal point. Right, the REVIEW'S *proposal for utilizing the Albert Hall to the same end. At the moment this view is blocked by some ¼ mile of solid building.*



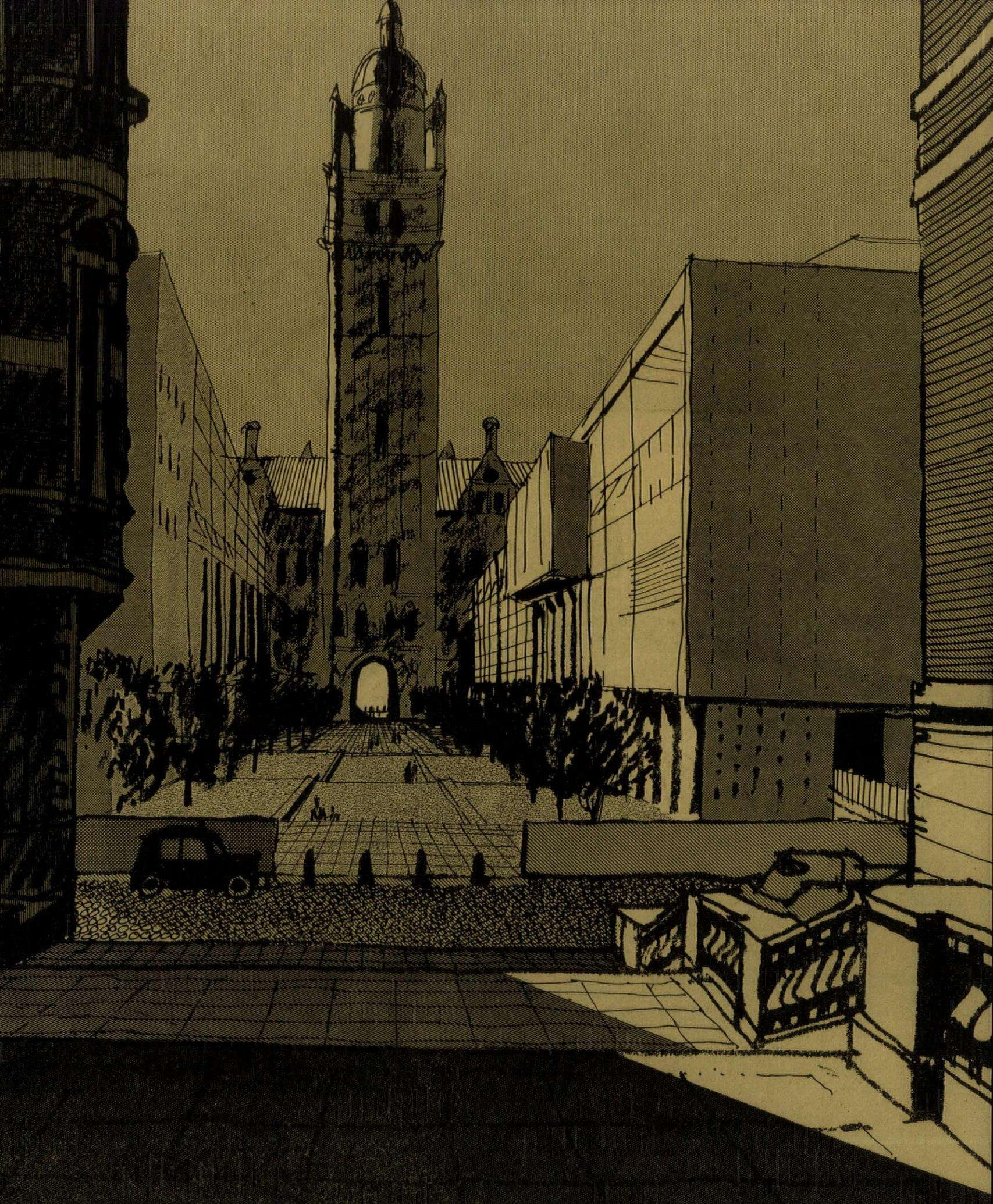
The entrance doorway of the Imperial Institute



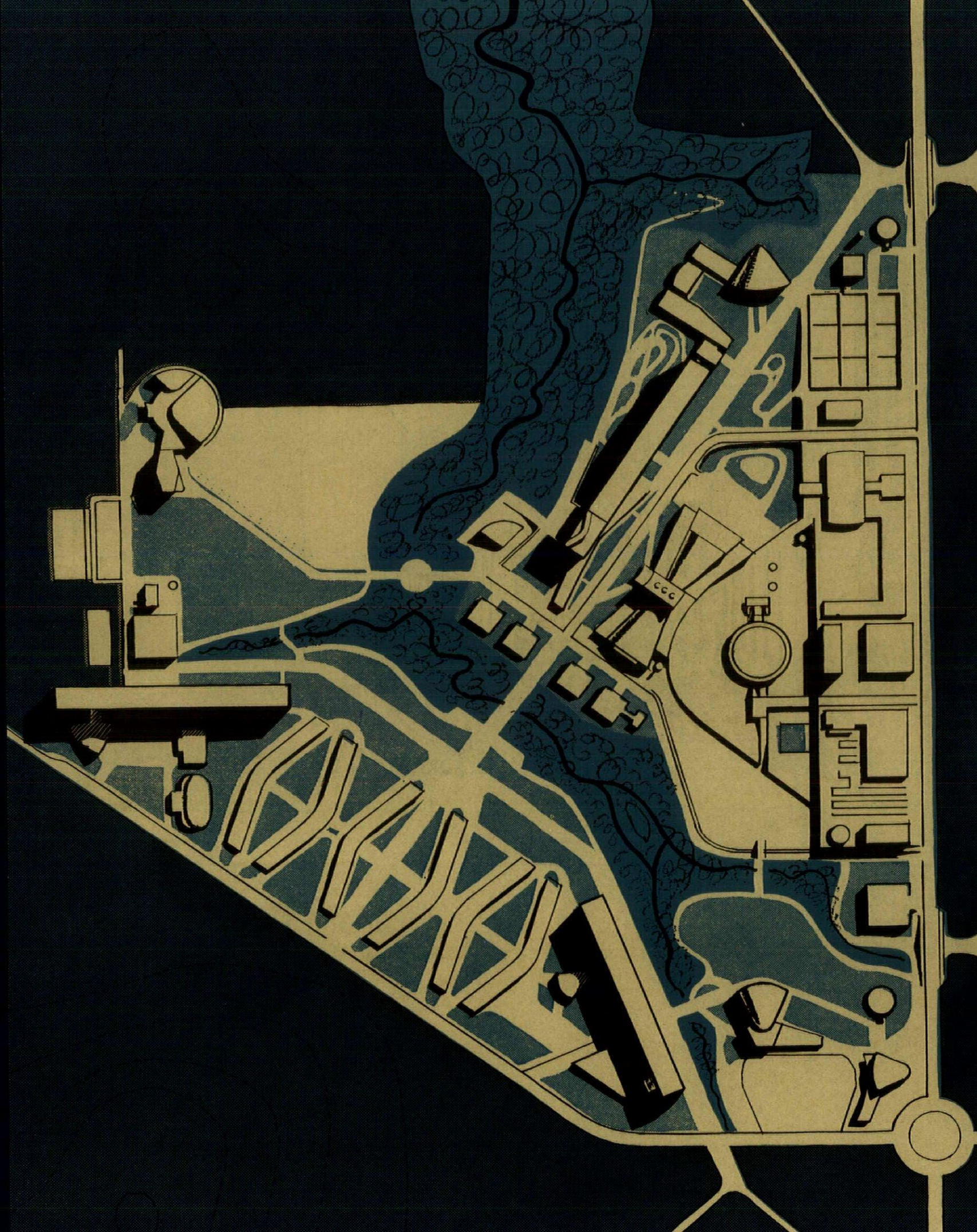
.... pierced to reveal the axis which extends to the Royal Albert Hall.....



.... new flanking buildings dramatize the re-found axis.....looking back...



to the Tower change of level emphasises the basic collegiate pattern.



The city centre for the new town of Peterlee is the empty climax of Lubetkin's career to date. For reasons beyond the control of the architect and his partners, it was never able to pass beyond the stage of private sketches, like that seen opposite  *, but the underlying intentions are clear —to create an unambiguous city core, classically defined by the three tall slab blocks, to create an urbanity that could embrace a straggle of wild nature as effectively as does the plan of Chandigarh. Such a comparison of the works and personalities of Lubetkin in London and Le Corbusier in Paris can be more than instructive, and it forms one of the hinges of Mr. Jordan's appraisal of Lubetkin which begins below.*

BIOGRAPHY

R. Furneaux Jordan

LUBETKIN

'The rootless cosmopolitan with hate foaming from his mouth'—the words are Zhdanov's; the hatred is of systems, organizations and academies, cliques and claques, hatred of men who 'get on' by smoking the right cigars in the right clubs. Lubetkin would insist that his work is the work of Tecton. He would insist, secondly, but more passionately, upon the intensity of his individualism, upon the dilemma of the radical who rejects anarchy, upon the masochistic delight of swimming against the current. And thereon he quotes Zhdanov.

Carlyle called Christopher Wren a gentleman. From Carlyle, when we remember the ungentle heroes of his hero-worship, that may have been a qualified compliment, a statement even of limitations. An artist, as Carlyle well knew, may be rather less than a gentleman, but simply must be much more. The 'something less' is mere Bohemianism; it is the 'something more' that makes the artist an odd and, sometimes, a persecuted figure in our society.

When the inner eye, like Ruskin's famous stork and swallow leaning upon the sirocco wind, views from afar all the crumbling cities of old Mediterranean peninsulas, then that merely gentlemanly phase is seen for what it is—a minor facet of a North Sea culture, as recent as the Restoration and now dead. But it does raise the question, *tout court:* what is Art? Is it no more than a cool and careful arrangement of spaces and proportions to a rule of taste; or is it—hand and intellect being mere tools—is it the sublimation through sensual form of the deepest sexual or religious passions. From the Lascaux caves to that

eternal quadrille danced by baroque saints beneath a dome in Prague, all history cries aloud that it is the second of these things. Each cathedral was an orgasm. And yet, somehow, that icy hand of taste fell, intent upon freezing art as a vested interest, not of that aristocracy which had basked in the warmth of baroque form, but rather of a new bourgeoisie bent upon petrifying form within the limits of its own inhibitions.

But the artist in society became a dangerous figure and only after two centuries made his reply—Blake's flaming invective against Sir Joshua. Omens of victory came only with the Salon des Réfusés of 1863 (*Déjeuner sur l'herbe*) and in England only with the Roger Fry Exhibition of 1910. So much for painting . . . architecture, more hopelessly enmeshed in the nature of patronage, had to wait a little longer. If the Modern Movement was a structural and aesthetic revolution, its historic role was to attack the system. It became a movement of the Left; forced to wait upon events, it became obsessed with them. Its response to Hitler, to Munich, to the Spanish War, to Unemployment and to all that, was an emotional response, also a correct one. But that, while possibly a birth pang of a new culture, did not by itself give us a new art form. The intellectuals of the 'thirties—what Betjeman might call the *vieux jeux avant garde*—deprived and indeed very willing to be deprived of their traditional milieu of Chippendale and porcelain, escaped hastily to the clean world of the new technocrat, to share in the Pyrrhic and Wellsian victory of nineteenth century materialism. With the very dirty bath water of 'style' they threw out the baby of philosophic understanding. *Vers une Architecture* was their handbook.

Lubetkin, while part of all this, was more profound. Unlike his English contemporaries he had learnt the history of art; unlike the Teutonic scholars he understood the deep emotional and dynamic values lying beneath the forms and facts. Lubetkin will dilate upon those opposite poles of baroque and classic, upon the violent storm music of the former as against the spaces and composure of the latter. Lubetkin will contrast the Place Vendôme as a baroque interior—minus its ceiling—with those vast spaces between Carrousel and the Etoile around which classic buildings, like milestones, demarcate not merely space but also a more epochal change from an architecture of the single masterpiece to an architecture involving the complex of the whole city. Lubetkin will explain the sempiternal nature of the dividing line between the Invalides of Hardouin-Mansart and the Panthéon of Soufflot. Lubetkin will illuminate the transformation wrought in Petersburg when Catherine the Great—untying, as it were, the baroque knot—re-orientated those monuments at the fork of the Neva, depriving them of their inward-looking, incestuous, baroque relationship, and setting them instead to look outwards, classically, over the spaces of the River, thus converted the Neva itself into the Place de la Concorde of Russia . . . an imperial *coup d'état* based quite consciously upon a philosophy of art; something inconceivable in any other century.

To expand upon Lubetkin letting off any of these verbal fireworks could be a fascinating digression. And not wholly a digression; it would point to the springs of his own visual imagination; it would also help to explain his place in the Modern Movement, or rather to explain his detachment from it, to explain his denial of the very existence of any such thing as a 'movement' *qua* movement. Architecture, for him, is bigger than that. Lubetkin can only be understood, and his work can only be understood, when one realizes that to the structure and form of twentieth century housing he would apply certain values acquired in Paris and Petersburg: baroque and classic values, but also—in his view—values of eternal validity. Moreover, he would say that he is not merely applying these values to structures in the modern idiom, he is also reconciling classic and baroque with each other.

It is a more imaginative and more profound attitude—as well as a more intellectual one—than can be found elsewhere in architecture today. Whether it is a possible attitude, whether it 'works,' whether it is flying in the face of history, whether it is—as at, say, Priory Green or Spa Green, Finsbury—producing good architecture . . . all those things may remain open questions. To dismiss it as formalism or 'pattern-making' is too shallow; one should at least respect any attempt to imbue Western architecture with qualities that might lift it above the trivial or witty which, for all its competence, are now its main characteristics.

London, for Lubetkin, was the end of a long journey—the rootless cosmopolitan in search of his freedom. Naturally he never found it; to this day London remains an approximation. It was a long journey for a Tiflis boy. He was the son of an admiral; Choisy, Bannister Fletcher and scholarly histories of painting were part of his childhood. His architectural education, such as it was, began in Moscow of the Revolution. It was all as exciting as that, and an aura of excitement hangs around him still. The journey to Warsaw in 1923 must have been a kind of flight, not to freedom, but from chaos to order, from a sort of Slavonic *Schlamperei* to a correctitude, an insistence upon status that was Prussianic. No place for Lubetkin.

And then, after a slightly fabulous interlude studying carpets in the museums of Vienna, came Paris. Paris, as the womb of Liberty, might perhaps be different from Warsaw. In a sense it was, though even a boy from Tiflis must have known that there is nothing in the world so unassailable as that carapace of French academicism . . . the right men in the right clubs! Not that Paris was without its dividends. They were rich dividends. There was the whole backcloth: Paris itself, classic and baroque, to be going on with. That was something that the Modern Movement had repudiated as part of a dead world; for Lubetkin it was a quarry, not of forms but of values and emotions. Paris also



1, 25, Av de Versailles (1927), which created a storm. Lubetkin explained its horizontality as a reflection of the passing traffic.

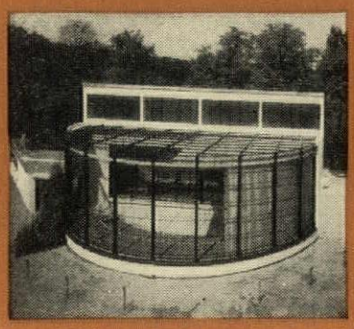
brought the first jobs—with J. Ginsberg—such as the apartment block (1927) at 25 Avenue de Versailles 1. It caused a storm. Although all that the word 'modern' then meant, 25 Avenue de Versailles is still a smooth and accomplished building, unmannered and dated here and there with only the ghost of an *art nouveau* touch. Typical of Lubetkin is his explanation of its strong horizontality, not in structural or functional terms but as a reflection of the passing traffic. It has worn well and still has a certain Parisian elegance which Lubetkin, one suspects, may have learnt to despise. Above all else in Paris was the Atelier Perret. Lubetkin, in the midst of admiration for his master, would say that he got much from him in the way of method, in the understanding of scale and proportion, very little in the philosophy of art, a great deal in the philosophy of reinforced concrete. And it was that that he brought with him to London.

Le Corbusier in Paris, Lubetkin in London. To set them side by side may be offensive and obvious, also rather instructive. Both, being intelligent, accepted their inheritance from the 'pioneers'—the not unintelligent idea that a building might be fit for its purpose. They were, in what was then popular jargon, functionalists. Both, being intelligent, could apply that credo—or whatever one calls it—to the total form of the building and the city, rather than merely using it to make new details for a new style. It was a revolution; yet fundamentally it was only negative. It was where one went from there that mattered. Le Corbusier's work has been a development of that credo; Lubetkin's a critical commentary upon it.

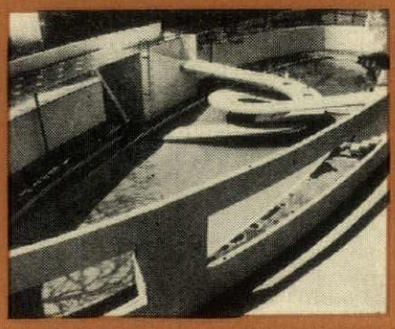
In some ways the Le Corbusier problem was simpler, and the impact—when it came—therefore more shattering. For 'Corb' the enemy beneath that carapace was so well defined. Against all the *vieux pompiers* of the Grand Manner in decay he had only to set the stripped precision of Hellenic and mechanised form . . . and there was *Vers une Architecture* and the Pavillon Suisse; against the squalid cities he had only to set his clear geometric and schematic reply . . . and there was *Ville Radieuse*. Beneath the carapace there was never a twitch, but then the carapace no longer mattered; Le Corbusier had become the god of all ateliers outside France. And now today, twenty-five years later, L'Unité has inspired another generation all over again. A most remarkable 'follow through.'

Remarkable, but not profound. Was it not a little too simple—this febrile, optimistic, Wellsian world, where two modulor men play tennis for ever and ever on a flat roof, and never think? The Lubetkin problem was, anyway, more subtle and more complicated, English society being more subtle, more complicated than French. French academicism, with its own logic, had enshrined and codified itself in institutions; English academicism had very little to do with the Academy or even with the RIBA, and it is an odd mark of Lubetkin's 'foreignness,' not that he rejected Professor Reilly's efforts to bring him into the RIBA, but that he thinks that Institute important enough to be worth annoying. English society—the 'system'—was not so simple as that; it was a more subtle, tangled muddle of many mutual admiration societies, including such things as the Academy, the Athenæum or the Arts Club, but mostly unnamed and even unaware of their own existence. This philistine bourgeoisie could have no art; its only architecture was an emasculated Suedoise. To an English Le Corbusier there would have been no response. That was the England where Lubetkin—still chasing his will o' the wisp nineteenth century radicalism—arrived about 1930. To make an impact upon all that one had to build so as to hit the solar plexus. He did. Highpoint I was an orgasm.

Meanwhile there were five years to go, and the home of nineteenth century radicalism—as Lubetkin first saw it from the Brompton Hospital—took more than a little unravelling. Godfrey Samuel came to the

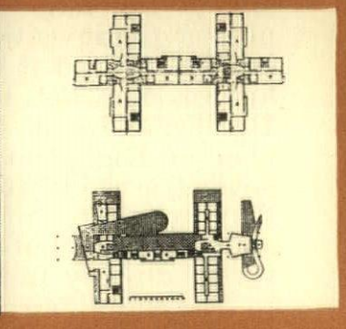


2, Gorilla House (1933). These small isolated Zoo buildings, although strictly functional, had a light-hearted character.



3, Penguin Pool (1934) gave almost the first full demonstration of the plastic potentialities in reinforced concrete.





4, Highpoint I (1934): dismissed by Lubetkin as juvenilia, it shows a purely functional and geometric approach, from which Highpoint II, 7, largely breaks away.

rescue, bringing along five other AA boys to form Tecton. Later he brought together Tecton and the Zoo, the latter in the person of Peter Chalmers Mitchell. In addition to Samuel and Lubetkin there were Michael Dugdale, a rather amusing partner who withdrew early; Anthony Chitty; Val Harding whose death in the war was a disaster for English architecture; Lindsey Drake, who remained until in 1948 he joined Denys Lasdun, another pre-war partner, to build the Paddington scheme; and Freddie Skinner—still there, the one constant star. Douglas Bailey came in on the Peterlee episode, miraculously survived it, and is now the third partner in the present firm, the name Tecton having been dropped. No one, least of all Tecton itself, will ever sort out respective contributions, and if Tecton was meant to be a team—though a team with a captain—that is as it should be.

In the Paris of 1927 there was nothing happening beyond the fortifications that one could call architecture. Lubetkin, to whom the dynamic of space was all, hankered for those more open sites of outer London then ripe for flats and housing, jobs that might be realized in three dimensions. It was then—this move from Paris to London—not altogether unlike Palladio's move from Venice to Vicenza, an escape from the palaces of the Canal, with their single façades, to buildings with some outward expression of their volume.

It was a few years before the first of such sites—the brow of Highgate Hill—came Lubetkin's way; meanwhile the Zoo was an enjoyable and unexpected substitute. For young men with ideas there could hardly have been a more ideal field than the Zoo during the regime of Chalmers Mitchell and Huxley. A series of projects, each small and each an isolated architectural concept on its own site; each with a stringent functional programme and yet each capable of light-hearted solution . . . almost a series of school projects plus an enlightened client. Again and again, moreover, these Zoo jobs enabled Lubetkin to exploit all the novel plastic potentialities of concrete. It is not a far cry from the Zoo to the church at Raincy; yet how far beyond Perret did Tecton and Ove Arup take this new and peculiar art of designing concrete. The most famous of the Zoo jobs is probably the Penguin Pool 13; carefully designed to meet penguinian acrobatics it ended up as a kind of Max Bill abstraction —the free and loose double spiral of the diving platform being firmly enclosed by the elliptical wall of the pool itself. This motif—the highly sculptural one of the free form within the rigid frame—was neither the invention nor the monopoly of Lubetkin, but he enjoyed it enough to use it again in the less known, but not less interesting, Penguin Pool at Dudley; above all, but for the last time, in the flowing plan of Highpoint I, ground-floor set beneath the geometric rigidity of the towers. It is fair to remember that only later did other people make it a cliché, and that with Lubetkin, as with Corb, it really does spring directly from function, that is from the need to free and differentiate the ground-floor of an apartment block from the standardized upper floors.

Just because the Zoo buildings were so complex, they do perhaps tend to be strained or over-designed. In such frivolous concepts that may not matter, but Lubetkin—with all his emotional response to form—does design, as they say, 'at the top of the voice.' If it is a fault it is one that is born of a heightened imagination. It is the opposite of insipidity; it is virility.

These buildings at Huxley's Zoo[1], plus a nice bit of sharawaggi at Dudley, were a curtain raiser to Highpoint. Highpoint I (1934), 4, had almost everything. Lubetkin would disagree, insisting that it was no more than a bit of juvenilia . . . and that even Highpoint II (1937), 8 and 9, was only adolescence. He would say that Highpoint I was arid, schematic, the barest functionalism, a merely sculptural upward projection of a plan. He would not deny, however, that there was in those years of frustration, the years of the Goodhart-Rendel regime at the AA, a generation of young English architects to whom Highpoint I mattered. It mattered to them because 'even the slightly zooish flippancy of some of its details was unimportant beside the clarity of the building—a clarity that was both real and sculptural.'[2] It mattered because it proclaimed that their modernism really was a structural revolution, not just a style; it mattered if only as a symbol that their Modern Movement could be a reality, not a mere protest. To visit Highgate, instead of reading French, was at least an encouragement.

It mattered, of course, in other ways. It was the first of the point blocks. It was not a *Ville Radieuse*—for we had not yet got around to building new towns—but it could have been a unit in a *Ville Radieuse*. It took account of a social problem, land and population, as did no other building of its time. The flats were meant to be enjoyed—all sunlight, sky and freedom—and were all let before the job was finished. Le Corbusier could write:—

> 'The building is large enough to be an example, a proof. The ground-floor here extends like the superb surface of a lake, absorbing easily the lines of traffic. . . . These flats possess the most important factor of all domestic architecture: sun, space and intimacy. The building at Highgate is an achievement of the first rank, and a milestone that will be useful to everybody.'[3]

One glance at, say, the LCC Ackroyden Estate (1954) shows this statement to be correct.

If, to that generation, Highpoint mattered at the time not less than the Pavillon Suisse, they might add now that the tragedy of Lubetkin is the absence of the 'follow through'—that very remarkable 'follow through' of Corb's from Pavilion Suisse to L'Unité. They might say that the Tecton work of to-day, while having its own more obscure qualities, is emphatically not L'Unité and, even more, relevantly, is not Highpoint I. They would be wrong, partly for confusing criticism with their own nostalgia, partly for failing to recognize the real effort by Lubetkin to put into his recent work those classic and baroque values—values not forms—that are the mainspring of his imagination. He, on his side, would be wrong in failing to recognize what, perhaps, he never knew,

[1] The condition of these Zoo buildings to-day is a scandalous reflection upon the present regime at Regent's Park; it also invalidates any comment upon a colour treatment that has long since disappeared.

[2] Anthony Cox in Focus 2. Winter, 1938.

[3] Le Corbusier in THE ARCHITECTURAL REVIEW, January, 1936.

that twenty years ago he gave to the Modern Movement in England, with all its curious Domestic, Romantic and Quaker origins, just that warmth, glamour and guts, the absence of which had made it so 'odd' and so insular. To dine out at Highpoint I, to arrive past the caryatids of Highpoint II just when the dark foliage is catching the lights, is still an architectural experience. For an Englishman it is, very nearly, to recapture some half-forgotten evening in some indefinable south; it is—as Henry James might have put it—'to be so ineffably "abroad".' But then glamour too, not less than sensual form and functional fitness, is part of an architecture.

Between Highpoint I and Highpoint II were three years; there was also a gap of six feet. Lubetkin would say that this gap is symbolic—symbolic of many things both in the external world of the Hitlerian jungle and the internal world of his own development. He would claim, one suspects, that the 'forward from functionalism' boys, in choosing the gay, brittle road that led to *Domus* and Brazil, failed to express their own social crisis, while he at least acknowledged the gathering mysteries and shadows, through an architecture which, while seeming to withdraw from life like some Buddha or Sphinx, did so only to look down upon it in serene comprehension. To the Anglo-Saxon this is Slavonic mysticism taken to the point of fantasy; for Lubetkin it was a conviction, almost a catharsis. Being an architect's catharsis it changed the London skyline.

Catharsis . . . or the beginning of decline? Lubetkin, fierce individualist, probably doesn't care. He had after all—it was one evening at the Zoo, with Wells-Coates and Connell—helped to found MARS, given it very material help and then, feeling it to be just one more 'club', resigned. He has detached himself from the Modern Movement and thinks that it is—if it exists at all—only clever-clever variations by the 'club' upon the theme of old clichés. So, decline, catharsis, self-isolation . . . it hardly mattered when, into Highpoint II sixteen years ago or into Holford Square today, one had to put those indefinable things—storm music, space dynamic, repose—that Mansart or Gabriel had put into very different monuments ages ago.

It was magnificent, but it was not architecture. One cannot with impunity defy one's gods. Taking account of life and techniques, it was more noble than stylistic revival but doomed to the same cul-de-sac. The values of a Mansart or a Gabriel may mean everything to a Lubetkin . . . in private; he can never share them with twentieth century man. Highpoint II was technically an advance upon Highpoint I—in fact a technical triumph—but whereas 'Highpoint I stands on tip-toe and spreads its wings; Highpoint II sits back on its haunches like Buddha'—the Buddha that squats, not the serene, comprehending Buddha of the architect's intention. It might all be a move 'forward from functionalism,' but only to formalism. It was more than a deviation of appearance, it was a deviation of aim. Anthony Cox, in his *Focus* article, stated the case when he wrote:—

> 'It (Highpoint II) is more than an adjustment within legitimate limits; it is prepared to set certain formal values above use-values. . . . As I see it there are limits of intention by which certain aspects of the vast concept "building" are emphasized in relation to the long-term development of modern architecture in an industrial economy . . . If these limits of intention are changed, rather than extended (and in the case of Tecton it seems they *are* changed), it should follow that a point has been reached at which external material conditions affecting architecture have made such a change necessary and appropriate. If this point has been reached, and I cannot see that it has, the change in aim must be due to personal reasons, to a turning inwards towards private formal meanings which have no generally recognizable social basis. Is it really an important move forward from functionalism, from which development is possible; or is it a symptom of decline, an end in itself?'

The same article admits that to speak of 'legitimate limits,' 'use-values' and so on, is to beg a lot of questions about the nature of modern architecture. Nevertheless, here is a young architect already, in 1938, much concerned with formalistic deviationism within the Movement. Highpoint II seemed almost a betrayal. Highpoint II was a reversal of Highpoint I, L'Unité a development of Pavillon Suisse. Highpoint II was not, however, a betrayal merely because it went beyond the limits set by 'use-values'—'use-values' themselves being indefinable—but rather because the nature of the infringement involved *private* meanings as incomprehensible to the 'club' as to the man in the street—no doubt a profound and brilliant language of the emotions, but nevertheless a private one in which Mansart and Lubetkin talk to each other across time. Perhaps Lubetkin thinks of it as some universal esperanto; perhaps he thinks that a building in the street may be as private as a painting in the studio; perhaps he is content that only the dead and himself shall understand.

Examine, for example, the Finsbury Health Centre (1938), 10. This building, while just a little later than Highpoint II, would seem in fact to show a transition in Lubetkin's development. Like Highpoint I it spreads its wings; it spreads them with a fine clarity that is a foil to the richer complexity of the central block from which, indeed, they are almost detached. It is an albatross of a building. Here, between the wings and the central block, is an early use of the 'loose link,' justified not as a cliché but as something derived from the contrasted architecture of the things linked; that architecture, in turn, being derived from 'use-value.'

Nearly all the forms of the Health Centre do in fact spring from use. The programme was stringent, but the solution almost as 'functional' as any 1938 purist could wish for. And yet . . . examine that central block: things are happening, strange convolutions and interplay of forms. The private language is at work. There is, for example, an intermediate area, a kind of terrace, above the entrance but below the lecture hall roof that is—æsthetically—common to both. Like the upper storey of Les Invalides it 'belongs' equally to the façade below and to the dome above; the eye can flick it up or down at will, making it part of either; it is the opposite of the ruled horizontality of Highpoint I. Baroque move-

ment is playing like a beam over an otherwise functional façade. It does not displease, it merely lacks its full flavour until the cook explains. Real baroque flavours get through to us because the 'punctuation' of the baroque vocabulary emphasizes them. Moreover we read them knowing the idiom will not be our own and this adds the indefinable piquancy of historical sentiment. Modern architecture can get through to us only in our own language. True, to an eighteenth century mind it may not have much to say, but the little there is should at least be comprehensible to the sort of people who use the building.

Lubetkin, needless to say, would disagree and has his own explanation of the 'private language,' of this baroque basis for modern building—this formalism both of Highpoint II and of his more recent work. With the Cartesian dualism that entered seventeenth century society the old domination of the Church was broken; Mind and Matter came under separate authorities, thus opening the way not only for the scientist but for specialization as such. The single masterpiece of the classic, as opposed to the unity of a baroque group, symbolized this specialization, this fragmentation of the monistic baroque world, until we end with the architecture of capitalism, the architecture that says to the common man—'Keep Out!'

One cannot return to a baroque world any more than to a baroque art. Can one—and this is the question posed by Lubetkin—restore that communion between building and onlooker? Can one make the large housing block a single object, a *tromp d'oeil*—as, say, was Les Invalides—and thus set up in the passer-by an emotion or at least a reaction—for even bewilderment is reaction of a sort.[4]

But of course the world beyond one's building remains the same chaos of fragmentation. And so one isolates one's own statement . . . one is not resigned to this, it is an interim necessity. The blank end wall, the shadowed base (whether achieved by piloti or otherwise) and the penthouse under the flat roof—all these combine to isolate and to frame in that inward-outward looking façade that is to set up that reaction in the passer-by.

If we had an 'integrated society' then our building could respond to and look towards other buildings—baroque-wise. Meanwhile the architect must make his own statement, an aesthetic statement but also a social protest.

This analysis of how—at Highpoint II in 1937—formalism entered like a bacillus into the bloodstream of modern architecture, makes unnecessary any full analysis of Tecton's post-war housing. That Gestetner owners of Highpoint and typical glamour client of the 'thirties—should be replaced by the Borough of Finsbury is normal. That, at any rate, means that the tragi-comic story of getting Highpoint II past the local authority won't happen again.

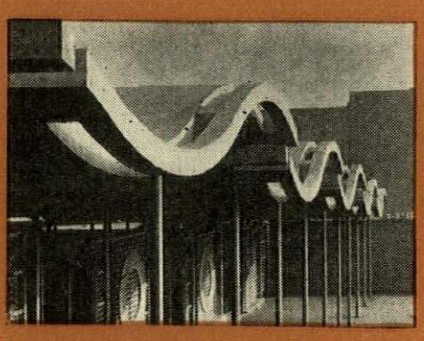
The formalist controversy today is not very different from sixteen years ago, although three new elements may be said to have entered the arena. One, the conceptual building; two, façade patterning and, three, social realism.[5] The main stream—the Modern Movement—has advanced, at least in theory, beyond the mere upward projection of a plan in terms of functionalist elements. The building itself must now state, in a single *coup d'oeil*, the 'idea' underlying it; it must be a concept capable, like, say, a mediæval cathedral or a Farnsworth House, of being visually grasped and enjoyed, fondled almost, as if it were a Ming pot. Is this an advance? Does this conceptual building now invalidate the very intention of formalism, of the private language, of saying something that 'arid functionalism' could never say? Has the Modern Movement, in its Mies phase, now found its own answer in its own terms to the problem Lubetkin tried to solve so long ago?

Formalism, on the other hand, faced with the terrific problem of humanizing groups of vast[6] slab blocks, has meanwhile added to its vocabulary. That baroque beam still plays over Spa Green (Rosebery Avenue), 11, and Priory Green, 12; upper stories and penthouse still ingeniously recede, shadows still ingeniously detach the building from the ground; there is still the nod across the centuries. That is just a carry-over from Highpoint II and the Health Centre into our own era—an era wherein the strictest economies have robbed these baroque values of the

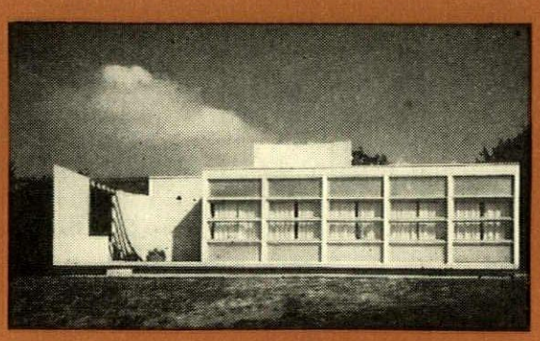
[4] The autocratic basis of baroque in no way excludes this communion with the onlooker; with its outward drive into avenues and public spaces it demands a reaction. The reaction demanded may be 'awe,' but, unlike Capitalist architecture, baroque does not exclude the onlooker.

[5] The 'new brutalism' is not a fourth element—only a conceptual building in a private language. Lubetkin talks across time to the great masters; the Smithsons talk only to each other.

[6] 'Terrific,' 'vast'? London, as seen on a clear day from the Senate House tower shows that the new housing of the inner boroughs—a fair proportion of it Lubetkin's—is changing the skyline more than any equivalent event in our architectural history. The Gothic Revival (Westminster, St. Pancras, South Kensington, etc.) is the only rival.



5, Dudley Zoo entrance (1937), a handling of reinforced concrete against brick which emphasizes their contrasting character.



6, Bungalow at Whipsnade (1937), an early exposed concrete frame, never done better than here, and requiring courage at that date.



7, Highpoint I (left) and Highpoint II (1938: right) which tries to embody within the modern idiom baroque's more plastic values.

suavity and finish without which the whole thing becomes almost nonsense—misplaced sophistication.

In any case this interplay of masses on large buildings could not be enough; classic had to come to the rescue of baroque, with its façade treatments, its scale-giving elements, its divisions and subdivisions. Windows, panels between windows and brickwork below, all come into play—like entablatures and orders—to make of the façade an all-over pattern . . . like a carpet in a museum in Vienna.[7] Less important than the criticism that—as at Bishops Bridge Road[8] for instance—the pattern forces the window into the corner of the room, is the fact that this is not, not here and now, a viable architecture. Lubetkin would reply that Family Smith, Family Jones, etc., are each given their due expression, their own unit of the pattern within the containing frame of the building. This is not strictly true. It was not, moreover, a form of self-expression for which the wealthier and more individualistic tenants of Highpoint had ever hankered unduly; they were content, like aristocracy in terrace housing at Bath or Nancy, to live in an architecture of distinction.

That third new element in the arena—social realism—is irrelevant here except that by analogy, or by antithesis rather, it points to the sophistication and difficulty of formalism. For that abstruse language it would substitute catchy tunes, marching songs and folk tales. After great revolutions and national wars there comes eventually a moment when liberation and victory give vent to an architecture. That is the moment when the classic dynamic of space takes over from the baroque, when the Crillon, Chambre des Députés and the rest become points of demarcation around an area. It is the space, not the building, that proclaims the nation. That is the moment when even bad buildings serve to set off, as it were, the incredible spaces and flights of steps in the new Stalingrad. That dynamic of space is one thing, the architecture is another. That the western baroque chosen by Peter the Great for his new westernised capital upon the Gulf of Finland should be the basis of a modern revival is explicable but, at least to a 'modern' mind, odd. It is perverse, not only socially and technically, but æsthetically, since an architecture of rich textural surfaces is lost in space—destroyed by its own foreground. Baroque qualities that are admirable inside the Place Vendôme would be wasted on the Champs Elysées. The calm classicism of the white cliff that is the Rue de Rivoli, the grouping of separate buildings leading on from space to space—as Gabriel leads one on from the Quai d'Orsay to the Madeleine—that, or rather its equivalent in a technically modern idiom, was the answer to the great spaces of Russia's new cities.

This is not a digression. It points the error both of social realism and of formalism. Social realism, in its anxiety to find a popular language, revives a style—baroque—that was intended for quite different social purposes and for quite different spaces—for piazzas, courtyards and little German parks.[9] Formalism makes the opposite error. Lubetkin understands æsthetic values and spatial relationships and handles them with superb facility and erudition; he cannot interpret them through a generally comprehensible architecture. It is all rather sad. Social realism and formalism are heresies against the 'Modern Movement'—as seen by, say, CIAM—and in intention at least, both are nobler than the catholicism they offend. Both, while prepared to grant the merits of English legislation, Italian craftsmanship, Scandinavian detail and so on—do, more and more, find that Modern Movement nervous, bright, papery and fundamentally trivial—which indeed it is.

One day the tragic story of Peterlee may be told. Whatever else the plan did or did not do, it did not make the primary blunder that will haunt the other New Towns for years. It did not fail to make an unambiguous centre and to make it at the start. It did not regard that centre as a mere market-place group of communal and commercial buildings; it conceived it in strong architectural terms. At the centre of Peterlee were to be three very high buildings—not an undue proportion of high against low for the town as a whole—and these three towers were to be disposed at the points of a triangle—i.e., classically—demarcating space with such clarity that market groups, cinemas and all the rest of it would inevitably,

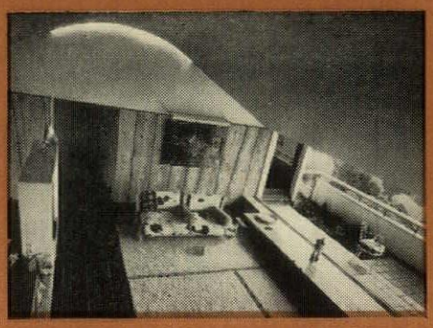
[7] It is significant that Lutyens, in his tenement blocks for the Westminster Estate, arrived at a comparable patterning. He was en route from baroque style, Lubetkin en route from baroque values.

[8] This big Paddington scheme began in the Tecton office, its lay-out taking shape there. It has been executed and developed by Lasdun and Drake in a manner which, superficially at least, would seem in its breezy self-assertion, to be rather more Lubetkin than Lubetkin.

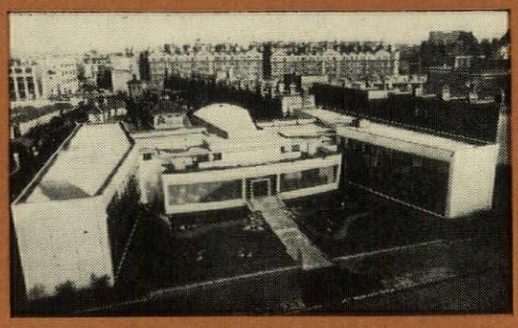
[9] The buildings of the Ring in Vienna are also classical milestones demarcating great areas, and yet are often baroque. Each, however, while playing its part in the spatial conception is, on approach, found to have its own immediate baroque setting. Vienna is an interplay of the two scales.



8, Highpoint II, entrance. The synthesis: 3-dimensional patterning, concrete and brick, foliage and sculpture.



9, Highpoint II, Lubetkin's own penthouse flat, the furniture and decoration designed by himself.



10, Finsbury Health Centre (1938). The simplicity of the wings is a foil to the richer textures and modelling of the centre.

because naturally, be born between and beneath them. The outer rings of the tree trunk would then form themselves later, in the right order. If England had emerged from war in a more triumphant or self-confident mood, the bureaucratic scandal of Peterlee might have been overcome and one new town at least would have had a true dynamic born of architecture conceived spatially. The concept was accepted at the highest level in the country; it was only lesser fry who first muddled and then postponed it to the Greek Kalends, and all in favour of pink cottages beyond the true Peterlee boundary. Lubetkin and Bailey resigned. They had been commissioned to design the town, not to murder it.

When Lubetkin says of the Peterlee plan that, in the sense that its three key buildings demarcate space, it is a 'classical' concept; or of Priory Green that, in the sense that its patterned façades look inwards to enclose space, it is a 'baroque' concept, he may seem far-fetched. But he means it. It is, admittedly, a nostalgic statement, the statement of an emotional being reading into the rather humdrum architecture of today, dreams peopled with ghosts from the Neva, the Danube and the Seine. It is, admittedly, an attempt to rationalize in the form of an architectural theory, the products of a deep imagination. That does not invalidate it. This passionate feeling for space, the dynamic of space, the definition of space, the architecture of space, is the golden thread running through Lubetkin's career. Going beyond current arguments about formalism and the rest, it may not set Lubetkin above his colleagues, but it does differentiate him. It explains his genesis as an architect; it explains the move to London; it explains the sculptural nature of the Zoo projects; it explains the exploitation of the brow of Highgate Hill; it explains the post-war planning; and it explains Peterlee.

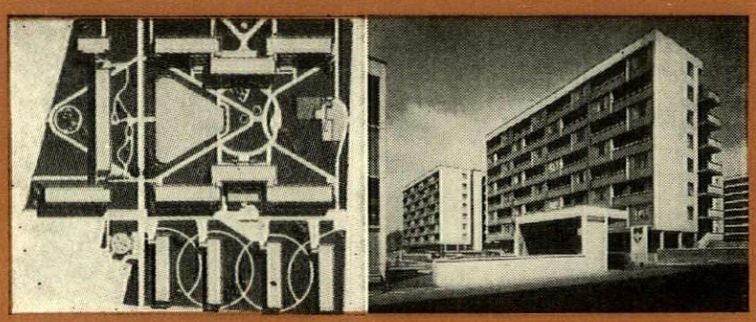
He is a technician—Highpoint II set a new standard in its own field, and so did the Health Centre. And he is a decorator. His own Penthouse at Highpoint, 9, speaks for itself, but even there the throwing forward, as it were, of the room towards the long window and panoramic view, is a spatial thing far more important than the ephemeral decor.

Individualism, imagination, humility and artistic erudition make a curious amalgam. To link such strands of character with the ultimate product—in this case an architecture—is the fascination of all biography. In the 'thirties it was individualism, whether of the Left or the Right, whether of a Lubetkin or, say, of a Baker, Cooper or Blomfield, that held the stage. The Modern Movement in England was as much an affair of individuals as was the academicism of the Right . . . and had been ever since the Red House. So Lubetkin, at that time, had found almost what he was looking for. In the post-war world where men sink their individualism in organizations—organizations such as Hertfordshire or the LCC—to produce good architecture . . . can there be a place for the Lubetkins? There must always be a place for the artist and technician, but to 'belong,' to be on the band-wagon, is the eternal problem of the Leftist who has seen his dreams come almost true. It is why, sometimes, old revolutionaries disappear.

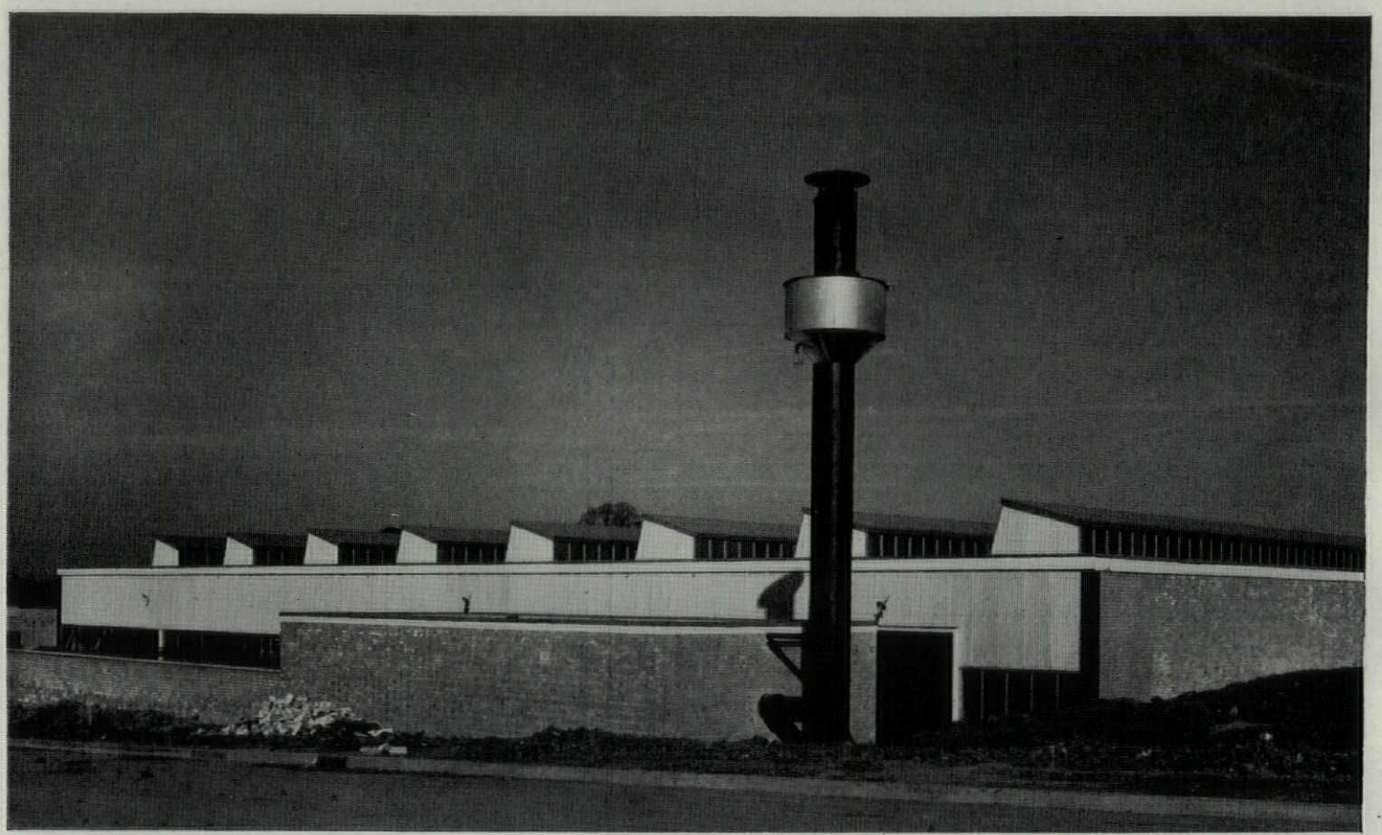
Are individualism and humility a contradiction? The humility of the artist is humility in face of his art . . . not self-effacement. Turner, with all those big blazing canvases, could steal any show anywhere; before the god of sunsets he was prostrate with humility. When Lubetkin, in 1935, designed a building to steal the show there was no arrogance, no réclame; it was a three-dimensional statement about structure and life, an honest and therefore humble statement about convictions honestly held. When the author of this article was Principal of the AA School he heard many criticisms of students; most of them cancelled each other out; Lubetkin's comment went home—that too many students designed to their own glory. There are, however, others besides students; to seek applause from the 'right people' for the wrong reasons, to rob one's work of real architectural content, only to fill the vacuum with nice sentiment, is the quintessence of conceit . . . an assurance of architectural death since there is no *architecture* to live. Lubetkin's work—specially in recent years—is often bewildering and as difficult to understand as are his own explanations; sometimes it is self-assertive or even over-designed. It is never guilty, however, of prettiness, triviality or nice sentiment; it is on the contrary packed with very real architectural content, and is thus assured of survival.



11, Spa Green, Finsbury, (1951). Its detachment from the ground, the strongly shadowed penthouse and the surrounding frame epitomize a detachment also 'from a world that does not share its architectural values.'



12, Priory Green (1951). The patterned facade here, says Lubetkin, expresses the inhabitants: yet it is strictly confined by its frame and detachment from the ground.



1, *the west side of the factory, with the boiler house.*

FACTORY AT STEVENAGE NEW TOWN

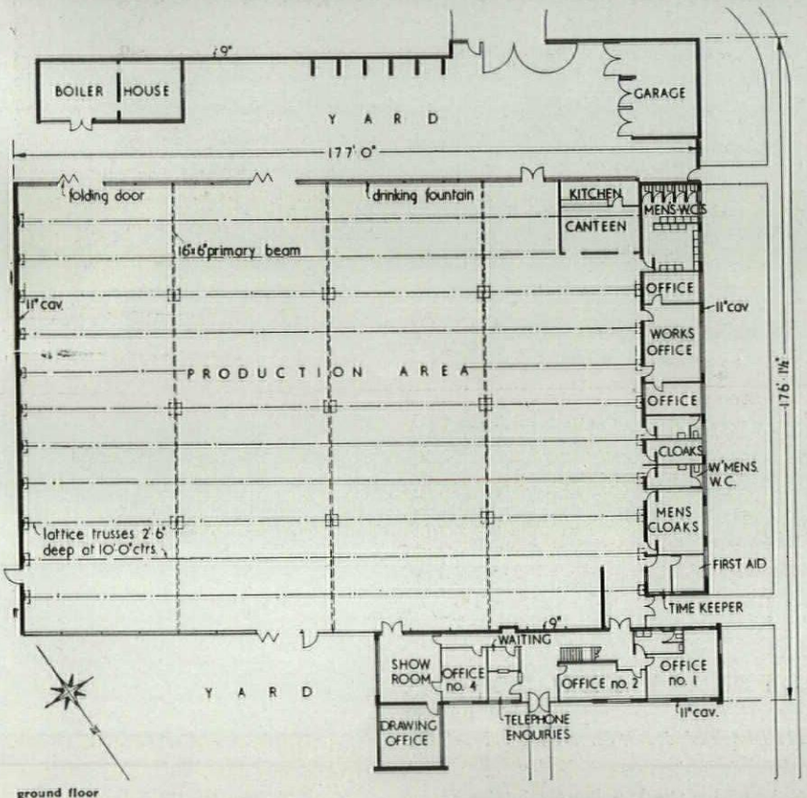
ARCHITECTS' DEPT., STEVENAGE DEVELOPMENT CORPORATION

This is the first factory designed by the Development Corporation since steel became derestricted, and was developed as a prototype for factories for light engineering work. The use of prefabricated components for the production area made for very rapid erection, 2 months ahead of the traditionally constructed offices, allowing prior installation of machinery and services, so as to start production as soon as the offices were occupied. The factory produces tube-bending machinery; it is sited near the railway west of the Great North Road.

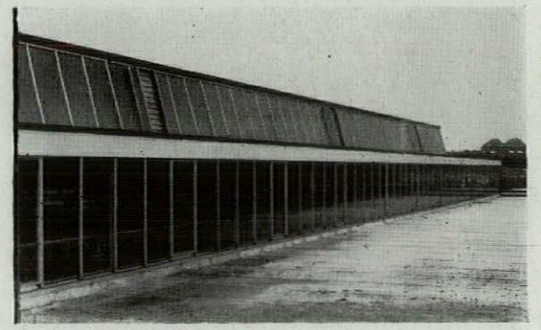
R.S.J. or welded steel box stanchions carrying 16-inch by 6-inch primary beams and welded steel lattice secondary beams is the load-bearing element for the production area; 11 inch cavity brickwork supporting precast, prestressed concrete floor and roof for the two-storey office block. The south wall is of unfenestrated brickwork, with brick piers. This brickwork and that below sill level throughout the production area is non-load-bearing; above sill level, except on the south, is cladding. Outer walls of office blocks are of loadbearing brickwork and non-load-bearing panels. Upper walls and ceiling of production area are lined with ½-inch insulation board. Production area and office block are separated by a 9-inch fire division wall.



2



ground floor



3

2, inside the production area, before the machinery was installed. 3, the northlight and clerestory light on the north wall of the production area. 4, the garages from the receiving yard.

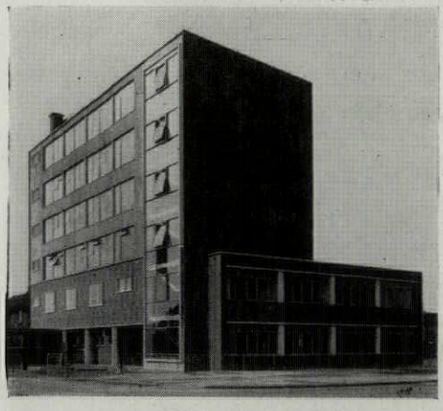
4



5, the block from the west. 6, the north and east elevations, seen from the street.



5



6

LABORATORIES AT RICHMOND

ARCHITECT: KENNETH ANNS

These laboratories in Lower Mortlake Road, Richmond, contain electronic equipment and therefore no plans may be shown. The six-storey block is steel framed, external walls having an outer skin of pre-cast concrete slabs, faced with an exposed Derbyshire spar aggregate, criggion granite or faience slabs. Behind this cladding is an inner skin of 'No-fines' semi-cellular concrete, plastered direct internally. Internal partitions are of breeze blocks. Floor finishes are in thermoplastic tiles for the laboratories and wood block for the offices. Radiator heating and hot water supply are served by similar cast-iron sectional boilers; electrical installations include floodlighting, loudspeaker system and a smoke detection system for fire prevention.

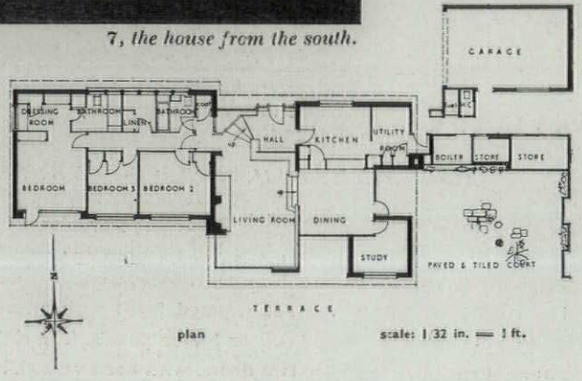


7, the house from the south.

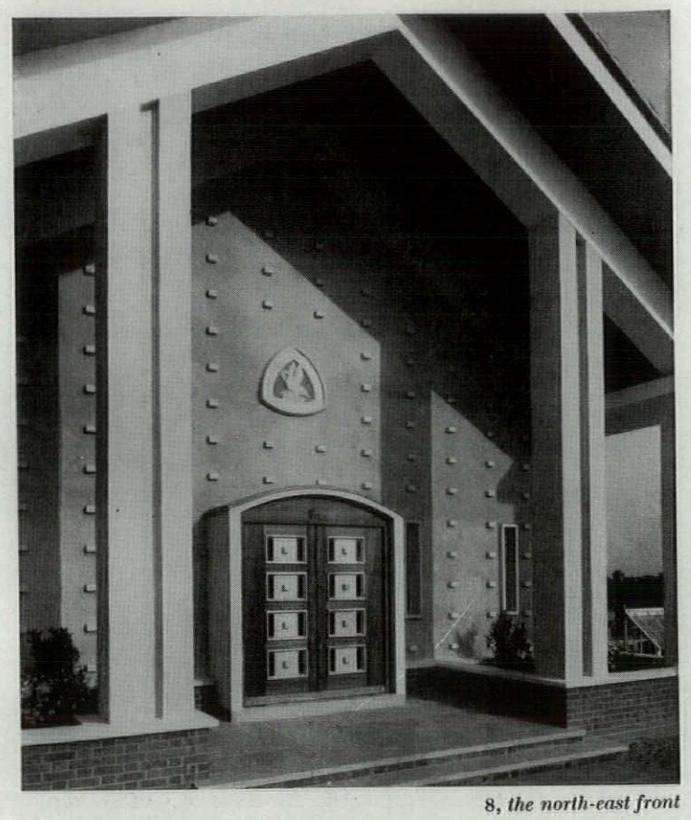
HOUSE AT TOTTERIDGE, HERTS

ARCHITECTS: GREENWOOD AND MICHELL

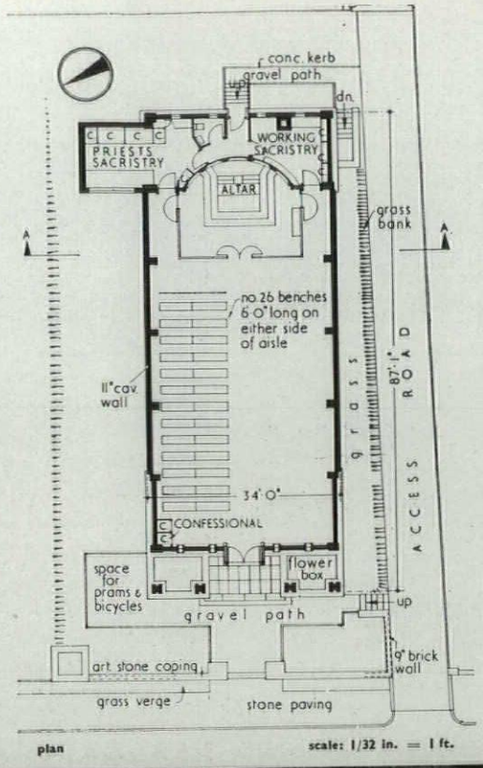
This house in Totteridge Lane was sited in mature grounds sloping southwards. External walls are of cavity load-bearing construction, faced with bricks of mixed textures, and elsewhere with glazed tiles, vertical cedar-boarding and onyx marbles. All main rooms are double glazed. The whole house is floor-heated by coils over wood-wool slabs, covered with 3½-inch screeded concrete.



plan scale: 1/32 in. = 1 ft.



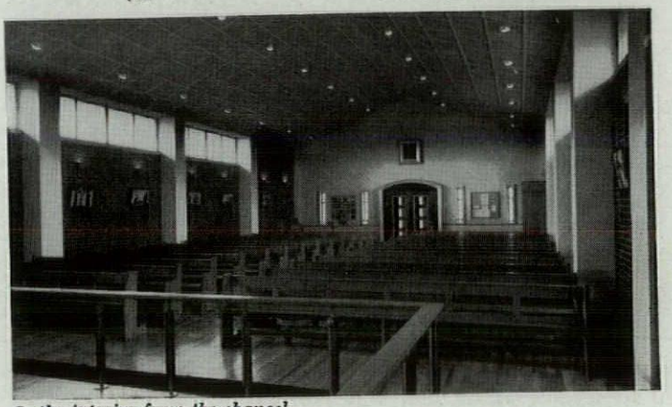
8, *the north-east front*



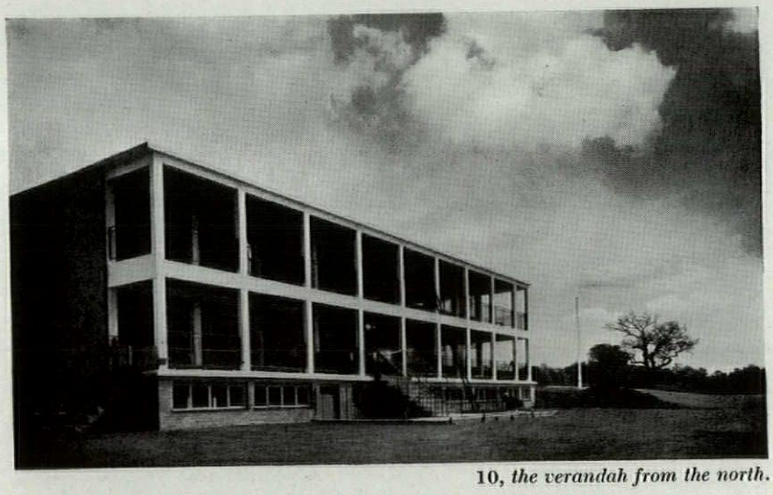
CHURCH AT SIDLEY, SUSSEX

ARCHITECT: A. F. WATSON

The entrance front of this Roman Catholic church in Southlands Road, Sidley (a suburb of Bexhill), has columns of reinforced brickwork carrying a r.c. cranked beam supporting the porch roof. The apse at the S.W. end has stud partitions, finished with plaster on expanded metal lathing. Side walls are of cavity load-bearing construction with brick piers between windows.



9, *the interior from the chancel.*

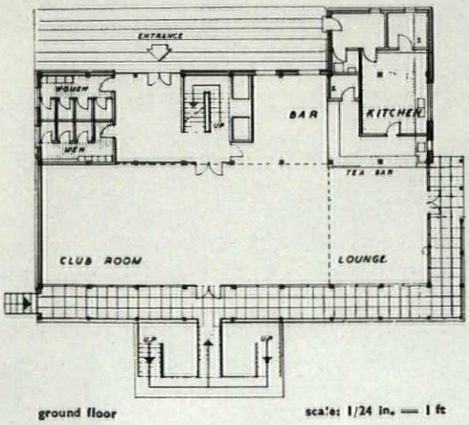


10, *the verandah from the north.*

SPORTS PAVILION AT BARNET

ARCHITECT: D. H. GILLIES-REYBURN

The site of Finsbury Sports Centre at Barnet is a half-hour's motor ride from Finsbury, but was the nearest available. The building has r.c. frame, retaining walls and changing cubicles in the basement. Where exposed the frame is rendered and coloured, and where not exposed faced with yellow flint-lime brick. Infilling is chiefly of glass, brick or breeze panels. The club room, the main feature of the plan, occupies two floors, with open verandah, games room, offices and caretaker's flat grouped around it on the first floor.



The name miscellany implies, of course, an architectural miscellany—one that will include subjects which, though marginal to architecture, are nevertheless vital to it.

miscellany

EDITORS ONLY

[*It has not been part of the policy of* THE ARCHITECTURAL REVIEW *to publish 'leaders' or to provide its editors with the opportunity to air their opinions, suggestions and/or grievances—other than in full-dress articles. This column is provided so that they shall henceforth have that opportunity, each note being signed to show that it is the responsibility of that particular editor and none other.*]

ARCHITECTURE AT THE R.A.

Each year, when the Royal Academy summer exhibition* comes round again we we are reminded of the confusion of purpose that reigns in the Architectural Room. This year efforts have clearly been made to invigorate its contents and the best way we can welcome them is by examining seriously what is wrong with the basis on which they are chosen, instead, as we have been inclined to do recently, of deciding that the exhibition is so unimportant that it does not matter one way or another.

The confusion can only be resolved by redefining the purpose of the Architectural Room. Is it to exhibit architecture, just as the other rooms exhibit painting and sculpture? If so, seeing that buildings cannot themselves be brought inside Burlington House, what is required is the most factual representation possible: photographs of completed buildings, supplemented by sketch plans to show how they work. In practice, however, most of the exhibits are projects—though not all; a few are completed buildings that are nevertheless illustrated by the kind of fanciful perspective drawing that is made to impress clients before the building itself exists. Leaving this absurd practice—which offers us the worst of both worlds—on one side, let us consider the case, which undoubtedly exists, for an exhibition of architectural projects; that is, of representations of buildings not yet built.

Projects give a more up-to-date picture of the state of architecture by depicting what is in architects' minds now, whereas illustrations of completed buildings show what they were thinking several years ago. Perhaps more important, an exhibition of projects can serve as a shop window in which the public can see what buildings are being planned for its use and admiration. It can thus help to create an informed public opinion about architecture, which is always being discouraged by the discovery that the buildings it would be only too ready to criticize are an accomplished fact by the time it sees what they look like.

If the purpose is to exhibit projects, it is important, however, that they should be real projects: buildings that are actually going to be put up. At present there is no means of telling which drawings on the walls of the Architectural Room represent such buildings and which mere architects' fancies. Few would want to exclude exhibits like those moving neo-Victorian exercises that Mr. Raymond Erith has contributed in recent years, but the place for these surely, exquisitely drawn as they are, is in the water-colour rooms at the other end of the galleries. They are works of draughtsmanship in their own right.

In proposing the exclusion of architects' fancies from the Architectural Room one must not forget the valuable part these have played in past times. Vanbrugh, Hawksmoor, the Adam brothers, Soane and many others developed their ideas and strengthened their architectural vocabularies by producing designs for palaces and parliament houses that they can hardly have imagined were likely to be built. This kind of fantasy, based on an accepted idiom and devised irrespective of site or schedule of accommodation or structure, is not perhaps relevant to the way modern architecture evolves, nor does it foster the qualities modern architecture is seeking. Yet rather than discourage far-reaching thought and imagination, a corner should perhaps be set aside for theoretical exercises of this kind, clearly separated from the illustration of real buildings.

These would provide a splendid foil to an exhibition of photographs of completed buildings to which the Royal Academy might usefully decide to restrict the exhibition in future, in spite of the arguments in favour of projects given above. If they were to so restrict it, the exhibits should consist *only* of photographs, plans and models, except in the 'visionaries' corner' just proposed. The greatest weakness of the present arrangement is the undifferentiated mixture of architects' achievements, proposals and hopes. There have even been instances in recent years of the submission—and acceptance—of designs that have been entered for, and failed to win, public architectural competitions, with no indication of their origin given.

To change the Architectural Room into a factual record of real buildings would be refreshing and stimulating and bring the exhibition into closer contact with the practice of architecture. If, on the other hand, it is to remain an exhibition of projects (it should be one *or* the other), one final plea must be made: that the projects should be shown either by models, by impersonal geometrical drawings or by sketches by the hand of the architect responsible. To visualize a project on the basis of the designer's own drawings is difficult enough. To visualize it when it is interpreted by a third party and presented by him in a highly stylized drawing such as the hired perspectivist usually produces is even more difficult. As works of art most of these are valueless, and besides this, an irrelevant similarity of style is often given to several dissimilar designs by the draughtsman's highly individual style of presentation. This ringing of the changes on a small number of perspective draughtsmen while the architect, the real author, one supposes, of whatever æsthetic qualities the building possesses, takes a back seat, has lately become absurd. In this year's Architectural Room, of 135 drawings exhibited no fewer than 15 are by Mr. J. D. M. Harvey, 13 by Mr. Lawrence Wright and 10 by Mr. E. J. Thring. Not more than perhaps half a dozen architects have drawn their own buildings.

J. M. Richards

* At Burlington House until August 14.

BOOKS

MISINFORMED REFORM

FORM AND REFORM IN ARCHITECTURE. *By Bertram Hume. Halcyon Press Ltd., London.* 15*s.*

The avowed aims of this book are exciting; 'an account of the various theories of design put forward during the last hundred years' arriving at 'an estimate of the present position.' Mr. Hume's performance, however, does not rise to the task. To the fashionably middle-aged its appeal will be oblique, and therefore satisfying; but to a harsh younger generation it has the too-familiar voice of the deserter, the exile returning to rake a thin layer of 'ifs' and 'buts' and 'howevers' over the nasty cracks that an earthquake left. Under the banner of a 'rappel a l'ordre' the attempt

at fairmindedness has here achieved no more than indecision.

The selection of progenitors of the modern movement 'since the power-driven machine began to exert its influence on society' is confessedly insular; Pugin, Ruskin, Webb, Geddes and Ebenezer Howard are a mousy team to set against Pevsner's Pioneers. No mention of Art Nouveau, Loos or Mackintosh; of the Moderns, no mention of the Bauhaus, Die Stijl, the Scuola di Como, the Americans; two sentences on the Futurists. The desire for generality and brevity might have excused such specific historical omissions were it not that the one Modern who is discussed, Le Corbusier, is treated in a manner uniquely misinformed. 'The influence of classic ideas' are apparently 'never acknowledged and do not derive in any sense from his theories'; guilty of a 'neglect of plan,' his primary interest is in 'technology' and yet, perversely, 'the principal aesthetic characteristic of his architecture . . . is picturesque.' It is hard to frame a protest against criticism of this sort which is apparently based upon a refusal to consult the texts and the buildings under discussion. That it gains in originality by what it lacks in accuracy is not greatly to its credit.

The central portion of the book is devoted to an abstract discussion on the academic dichotomy 'Classic v. Romantic'; one can still occasionally get some fire by rubbing together these dry sticks, but not at the tempo of 'symmetry and convenience are one and the same thing.' This is, however, the best portion of the book; it does state a need and does in retrospect give some coherence to the earlier criticisms of Pugin, Ruskin and current English town-planning. When it becomes transformed into 'Aristocratic v. Communist' obscurity returns. (The Communism is of a rare vintage—Berlin 1920 perhaps with an unspecific dash of Bauhaus ?)

The themes of this book are tremendous, and surely need to be analysed but not, to use the author's own prose, by 'people who, as is not unusual in such cases, understand only very imperfectly with what they are dealing.'

C.St.J.W.

VOL. FIVE—AND VICTORY

LE CORBUSIER: OEUVRE COMPLÈTE 1946-1952. *Editions Girsberger. Zurich*, 1953. £4 4*s*.

The fifth volume of the 'Oeuvre Complète' marks twenty-five years of Le Corbusier as prophet, poet, manifesto writer and master of the esquisse. Seldom has printed page worked so thorough a transformation in the vision of its beholders as have these five volumes. But what makes this one so fitting a milestone is the presence in it of the twin victories, Chandigarh and the Unité d'Habitation at Marseilles. After all the projects abandoned or never taken up, the buildings half-built or too soon deserted, the death or defection of clients, the duplicity of politicians, the inertia of committees, the bankruptcies of contractors, now the smoke of battle clears and there, gleamingly triumphant, stands Europe's only architectural master-work of the twentieth century to date, the Unité d'Habitation and, promising even greater triumph, the new India's first experiment as major art patron, Chandigarh, capital of East Punjab.

For the record of these alone (though Chandigarh is only illustrated in project form) the book is worth possessing. Of the rest there is the millinery factory at St. Dié—sole outcome of the rejected town plan of 1945—a post-war report on Le Corbusier's own flat, in the description of which he declares experience to have shown him 'that certain materials are the friends of man. These are stone, wood, terra-cotta and white chalk or white plaster, while nickelled and chromed metals, polished and brilliant, can only be used in very special circumstances'—a far cry this from futurism and the machine aesthetic. The story of the UN Building is told, including the fascinating but so far unsolved mystery of the missing sketch-book 'disparu pendant deux années du coffre-fort de l'institut de Boston.' There are schemes for Marseilles, Strasbourg, Cap Martin, for an exciting house of ingenious section at La Plata, for the chapel at Ronchamp, for demountable exhibition buildings, and for the new Unité d'Habitation at Nantes-Rezé. The latter, similar in principle to Marseilles but of different construction, was commissioned by the future occupants, labourers and foremen, the majority of whom are employed at the nearby port.

This book, then (in company with its companion volumes), is an expensive necessity for every architect's bookshelf. Without it many hours must be spent in reference libraries; for such is the subtlety and inventiveness of Le Corbusier's imagination that his secrets are not all yielded at a glance.

Ian McCallum

Shorter Notices

MEDIAEVAL CARVINGS IN EXETER CATHEDRAL. *By C. J. P. Cave. Penguin Books.* 4*s*. 6*d*.

King Penguins are following Dr. Pevsner's *Leaves of Southwell* and Mr. Tanner's *Unknown Westminster Abbey* with a volume on the corbels and bosses of Exeter Cathedral. Is this the beginning of a series within the series? It would be an excellent venture, but can such books ever be as popular in this country as Ducks or Lilies or Heraldry? The illustrations are from photographs by the late C. J. P. Cave, miraculously clear and telling considering the distance from the camera at which they had to be photographed. The corbels and bosses run from c. 1275 to c. 1350. The quality is highest at the beginning and end. In between there is more curious than competent carving. Mr. Cave chiefly discusses the meaning of the subjects represented. A note of a few pages is added by Dr. Pevsner to place the sculpture in its historical context and divide it up between various hands—a hazardous undertaking.

S.T.S.

Books Received

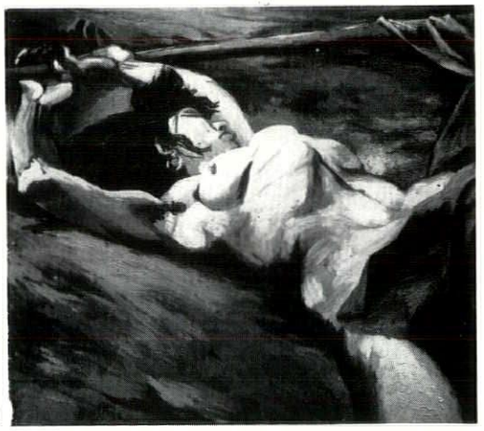
THE ART & ANTIQUE RESTORERS HANDBOOK. George Savage. Rockliff Publishing Corpn. 15s.
SACRED EDIFICE. John Gloag. Cassell. 8s. 6d.
A HISTORY OF THE SCHOOL OF ARCHITECTURE, COLUMBIA UNIVERSITY. T. K. Rohdenburg. Columbia University Press (Cumberlege). 20s.
THEIR NAME LIVETH. VOL. I. Methuen. 15s.
THE RESTORATION OF OLD HOUSES. Hugh Braun. Faber. 16s.
PENCIL DRAWINGS FOR THE ARCHITECT. Charles I. Hobbis. Tiranti. 7s. 6d.
CHATEAUX OF THE LOIRE. Vivian Rowe. Putnam. 18s.
THE STEEL SKELETON. J. F. Baker. University Press. 42s.
SCULPTURE IN WOOD. P. Edward Norman. The Studio. 15s.

EXHIBITIONS

PAINTING

At the time of Renato Guttuso's successful exhibition at the Leicester Galleries it was said of his work that 'it extends our experience of significant objective facts,' but this is deliberately confusionist phraseology; it does not refer to the kind of objectivity with which Courbet painted a plump woman in a hammock, but means that, in the art of Guttuso, human beings as such are of no account, and are valued only as political emblems. By the time Guttuso has finished with a 'killed worker,' or a heroine of the fight for the land, 1, or a 'shooting of patriots,' the human figure has become an appeal for violence, a 'clenched fist,' divested of identity and divorced from real occasions.

The taste for violence is one of the most respected attributes of the modern painter,



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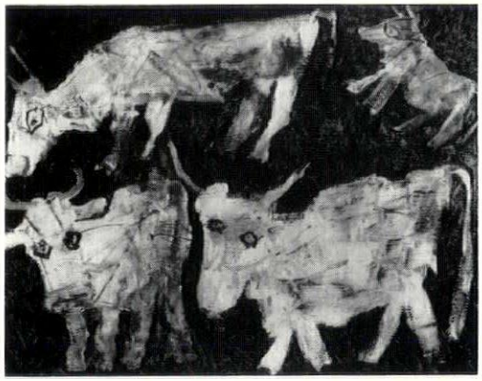
but recently, and especially in the work of the abstract expressionists, the very act of painting has become a violent mindless exercise, and the pictures that result from this activity are formless demonstrations of a yearning to besmirch and deface. Guttuso makes the same savage and ejaculatory use of line and colour, and like them turns the art of painting into a neurotic branch of athletics, and the fact that at the mental level of a street-corner agitator his work is more purposive and understandable does nothing to raise it above the documents of bourgeoise frustration.

Jean Dubuffet, too, is a brutalist, and an adherent of the a-formal heresy. He is also a comedian in the dadaist tradition, and his exhibition at the I.C.A. turned the Gallery into the playroom of an imaginary

and very special school where melancholic children feverishly devote themselves to the pleasures of smearing and daubing without ever brightening up. To illustrate his belief that matter is more important than form, Dubuffet exhibited a number of very substantial works, composed of a dull red substance smeared thickly and unevenly over some sort of support, which look like the rather battered samples of a dealer in hard tennis courts. Besides these, there were figurative works of a kind: half-formed effigies in sponge and slag; large, earth-coloured, gloomily high-spirited portraits in a style based on the wildest scrawls of children; and, unexpectedly, a painting of four cows, 2—melancholy, lovable creatures who have



2

obviously tasted all the joys and miseries of a cow's life—which is a work of comic genius, as radiant and as beautifully painted as the finest Soutines.

Rodrigo Moynihan held a one-man show at the Leicester Galleries at the same time as Guttuso. It included excellent portraits of Victor Willing, Michael Law, Fiore de Henriquez and an unnamed girl, 3, some rather facile still lifes and land-



3

scapes, and the huge painting of the 'Penguin' editors, called 'After the Conference' which is an extraordinarily ambitious essay in the neglected art of illusionist painting. I understand that Moynihan intends to continue working on it, but even if he is unable to take it much further it will remain a monument to his courage, a challenge to younger men, and perhaps the most sustained and sensitive effort in our time to create a realistic composition on a large scale. Yet it is sustained only up to a point. The composition seems absolutely right; the disposition of something like twenty figures has been brilliantly conceived, and their slow, casual drift through a couple of rooms is so natural that when one saw them from a distance they seemed to be on the point of mingling with the visitors to the Gallery. When one had a closer view of them, one found weaknesses of drawing, hesitant portraiture, areas of lifeless paint, a fumbling of the light in the middle distance, but in theory these are all blemishes which can be rectified. If the artist can somehow muster the endurance to go through with it to the bitter end, and I realize that the task can be very nearly a martyrdom, the picture will be a masterpiece created against the grain of the time, and likely to have an immense influence on the future relations between artists and society.

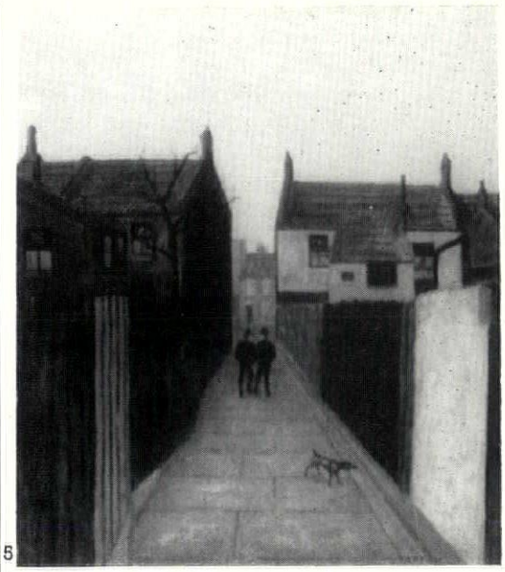
Edward Burra obtains a sombre richness from his use of watercolour which must be unique, and his habit of placing large, brilliantly coloured forms against low-toned backgrounds gives them an eery splendour, but his technique lends his vision an air of profundity which is illusory. The work in his recent exhibition at the Lefevre Gallery seemed more accomplished than ever, but his studies of the low life in ports and capital cities are a kind of synthetic *genre* painting, as if he preferred to find his material in film stills rather than the real thing, 4. He has been



4

likened to Rowlandson, but his vision is too remote from reality, too neurotic and Firbankian, to have much in common with the English comic tradition. His macabre sense of humour transforms everything into a malicious, rather *fin de siècle* caprice, and when he introduces flowers into his compositions he achieves 'deliciously evil' effects worthy of Odilon Redon.

In his second exhibition at the Mayor Gallery, the Australian painter James Cant continued his exploration of some of the seedier suburbs of London, 5. His use of paint is slowly growing more rich and lively, but his figures are still too quaint and flimsy. What gives his work its distinction is his poetic gift for assuring us that life goes on naturally and decently



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behind even his grimmest façades. If only he can make his paintings more substantial, work with greater patience, squat more heavily with his subject and acquire the lone wolf's disregard of the art being made elsewhere, he has a chance of doing something as strong and just for the suburbs of North London as Edward Hopper has done for the villas, garages and lunch-counters of New England.

Robert Melville

MAN, MACHINE AND MOTION

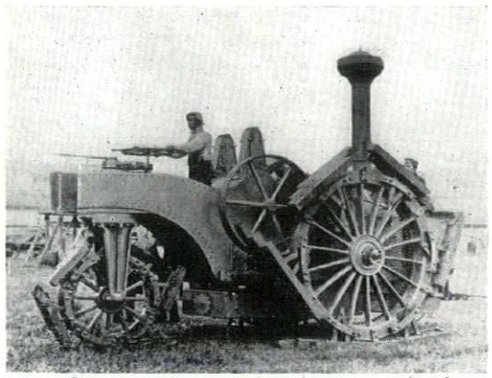
The view of Machinery as an extension of man's personality, specialized hands and feet, long range eyes and ears, extra-big lungs and extra-thick skins, has already been advanced in THE ARCHITECTURAL REVIEW by D. E. Harding (Embodiments, *February*, '55) *in so far as it applies to his static equipment, but the theme has now been extended to those appliances by which man extends his powers of movement in the exhibition* Man, Machine and Motion *at the ICA.**

This pictorial anthology of man at speed, man at height, man at depth and man in space, was originally assembled for the Department of Fine Art in the University of Durham by Richard Hamilton, whose previous ICA exhibition *Growth and Form* was a feature of Festival summer, 1951. Where that exhibition pursued a Universal Analogy of Form, the present one uncovers a standard iconography of motion. The basis of selection of the material exhibited was that each image should show a motion-machine, or similar piece of equipment, and a recognizable man. Photo-

* July 6-30, at 17-18 Dover Street, London, W.1.

graphic images were preferred since photography is more or less coeval with mechanized transport and belongs to the same technological environment, but this rule has not been rigidly followed to the exclusion of patent-drawings or space-fiction illustrations.

Nevertheless the preference for photography, and the insistence on the recognizable and visible presence of man, sets definite limits on the material shown. There are very few images from the pre-photographic era, but the oldest known photograph of a self-propelled vehicle is included, 1, Boydell's steam tractor of 1857, and this date marks the effective beginning of this picture-history of transport. Present-day tendencies toward saloon bodies and pressure cabins have tended to make travellers and explorers invisible to the photographer, and for this reason the coverage tends to narrow toward the fifties, leaving the show broadest, thickest and richest in the period 1890–1920.



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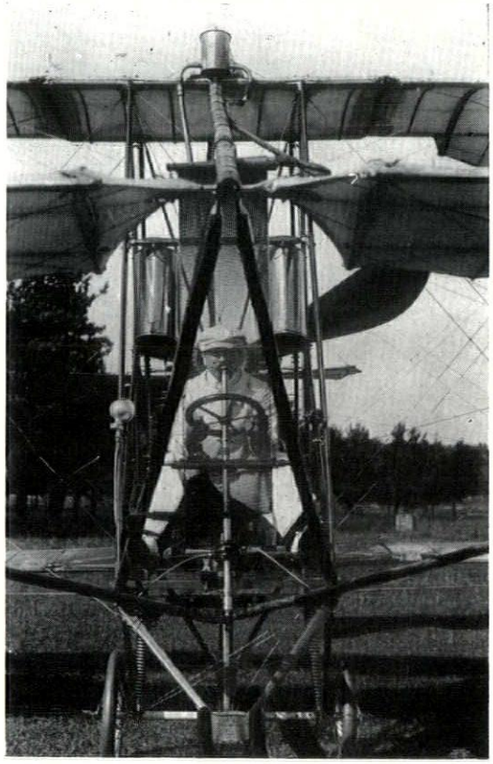
Thus there is a very rich haul of action portraits of the Pioneers of the Aeroplane and of the Automobile, and here, at once, standard iconographical patterns emerge.



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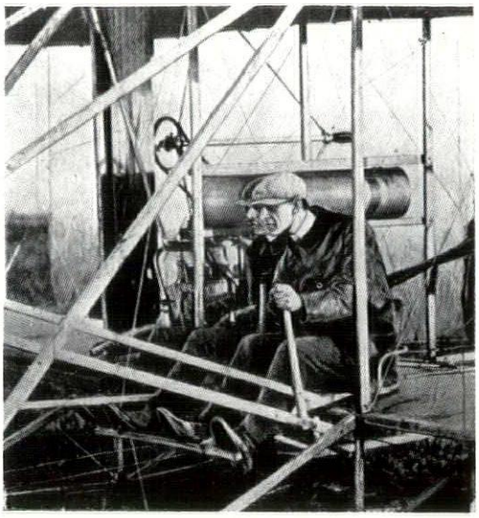
Among aviators a tweed cap and a keen, if apprehensive expression are *de rigueur*, framed among the intricate structures of their inventions. The results are often austere and formal, not at all the comic images to which Strand Magazine illustrations have accustomed us. W. F. Cody, the eccentric founder of British military aviation sits centralized, frontalized, hieratically enthroned, 2, while the Wright Brothers present a double profile, 3, as noble as a Renaissance medal, among their interlace of struts and wires, shafting and chains.



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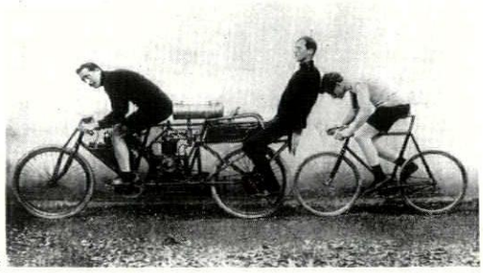
So these apparently obligatory iconographic patterns run, the product of artless photography and pioneer aviators far too preoccupied to think of pictorial effects. If the airman-in-space-frame is the product of a short period of technological history, the photographic breakdown of the different parts of a group-activity seems to be constantly present. The camera's power to capture gesture differentiates the functions of the members of Bonhours tandem-pacing team, 4, with merciless accuracy—the steersman alert with eager crouch and forward glance, Bonhours himself on the following bicycle in a concentrated and businesslike stoop, while the second man on the tandem, whose function is solely to create the aero-dynamic disturbance which will tow Bonhours along, sits rigidly to attention, impassive and blank-faced. Fifty years later, a trick of the focal plane shutter, 5, keeps Ken Wharton, the active protagonist, full-bodied and reduces the passive spec-



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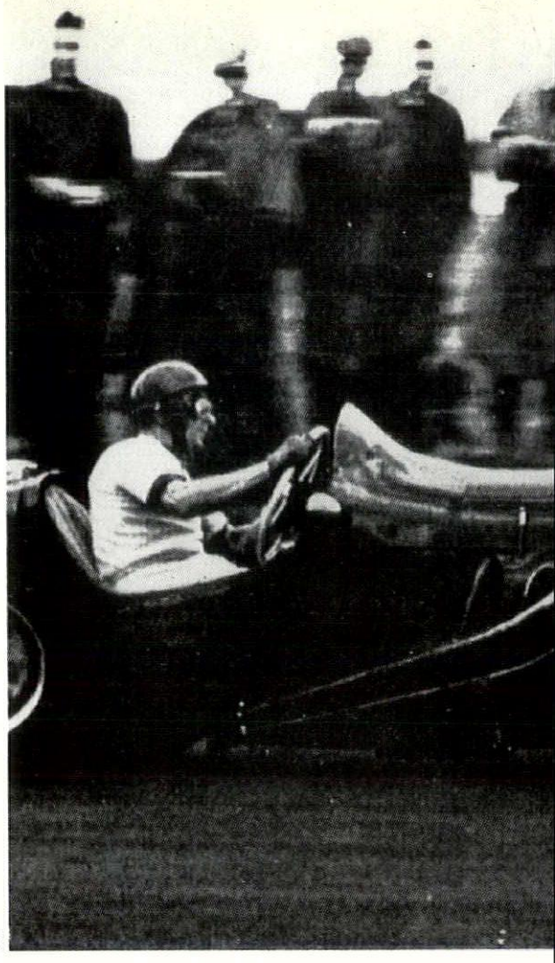

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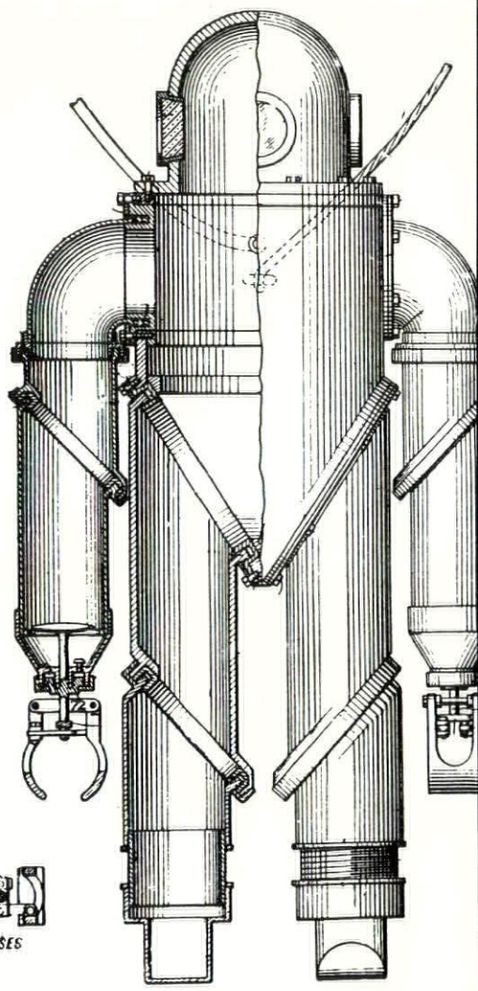

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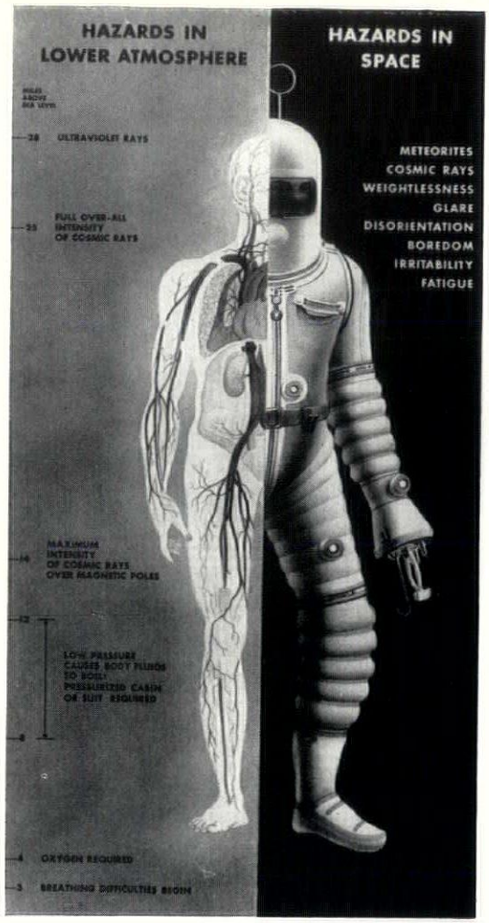


7

tators to minimal pinheads, figures from a Giaccometti sculpture.

But one of the most suggestive of these iconographic themes is man's passionate attachment to his own image. Even in hostile environments requiring elaborate body-armour, designers of diving suits and space-suits still hope for a recognizably anthropomorphic form. Campos, in 6, is still fighting a rearguard action for the anthropoid shape in 1919, though the exigencies of deep-sea work have already driven it into a zombie-like rigidity, and space-imagination runs the same way—though common-sense suggests that personal space travel will probably be done in minute pressurized spheres in which a man can barely crouch, space-suit inventors insist that even in outer space men will still look like men, 7, just as they seem to anticipate that psychologically—'boredom, irritability, fatigue, disorientation'—outer space which will be much like any other place to Duodenal Man. **P.R.B.**

LANDSCAPE

ROADS IN THE LANDSCAPE

During the next four years the government proposes to authorise the expenditure of some £120,000,000 *on roads. Can the roads which are included in this programme become an asset to the landscape, or will they, like so many of the existing roads, remain as alien constructions superimposed upon it?* The answer will depend on many factors, including roadside planting and the design of road furniture, but the basic need is for the roads to be sited and engineered in sympathy with the landscape through which they pass, and for a common ground to be found between the essential character of each landscape and the essential character of a traffic artery. In the past too many roads have in the first place been sited and engineered without regard to the surrounding countryside, and have then been 'beautified' with equal disregard for the landscape and for the true needs of a motor road. For the safety and the pleasure of the motorist the landscape of the road should combine absence of distracting detail with provision of broad-scale, quickly-grasped interest. The garden treatment of small flowering trees, 1, is the antithesis of this need, which is, on the other hand, perfectly met by the massive landform and simple drifts of planting which are found in nature and are adaptable to most man-made landscapes. By recognizing the individual character of different landscapes the roads can become a part of them, adding interest without disrupting or imposing uniformity.

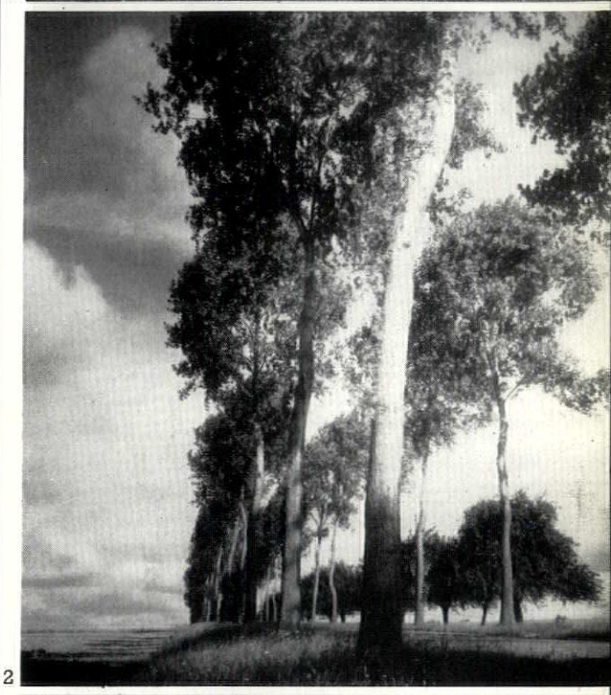
The French pattern of roadside trees, 2, is valid in a flat and cultivated land, where there are no contours to suggest diversions nor woods to give a basis for groups of planting. On the wide expanse of Salisbury Plain the road needs no planting, only engineering, which lays it like an undulating ribbon over the contours, 3.

The road snaking through the forests of West Germany, 4, is superb landscape because it is contained within the massed trees and inflected to the landform. The bridge is curved and saucered to maintain the swing of the line and gradient.

In smaller scale, more varied country, such as constitutes most of England, great sensitivity is needed, every curve of the land and group of trees calls for recognition by the road. Between Kassel and Frankfurt, 5, the carriageways on different levels fit themselves to the crossfall of the ground; the embankment is faded gently into the lower slope; the mounded central reservation masks the full width of the carriageways and carries the eye across the break in the slope of the

landscape: roads in the landscape
Five different treatments: 1, *typical English suburban.* 2, *Route Nationale in the Ile-de-France.* 3, *A303 on Salisbury Plain.* 4 *and* 5, *the Frankfurt-Kassel autobahn.*


1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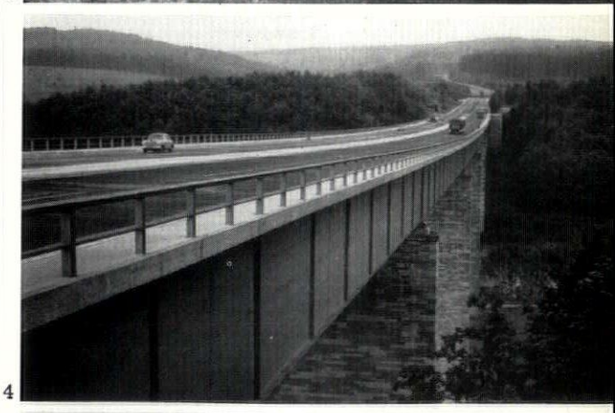
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5

hill; planting carries the woodland across the road, which becomes part of the landscape, leading the eye into the composition.

Roads designed to a universal, preconceived pattern produce scars which no after-treatment can heal, and it is only by planning them in sympathy with every change of the countryside that they can become both efficient traffic ways and good landscape. **Sylvia Crowe**

HISTORY

ISOKON FLATS

Built with the avowed intention of 'providing living places which will not be obsolete in 1950,' Isokon Flats, Lawn Road, Hampstead, have successfully passed that term by five years, and now celebrate their coming of age on July 14, 1955. The history of this remarkable building is inextricably involved with the history of the Modern Movement in England, and features pioneer architects, pioneer exhibitions and famous architectural refugees, while it has housed an extraordinary cross-section of thinking England from Gordon Cullen to Agatha Christie, and in the immediately post-war years it helped to focus a crisis of the English *avant-garde*. As is so often the case, the project started simply enough, with Jack Pritchard (now Director of the Furniture Development Council) wishing to build a straightforward house for himself and his family. But, because the service-requirements of a young professional family could not be met economically by one family on its own, he and Wells Coates found themselves in 1933 with a project to build a communal dwelling with some thirty small flats on four floors, with food and other services provided on a 'collegiate' basis.

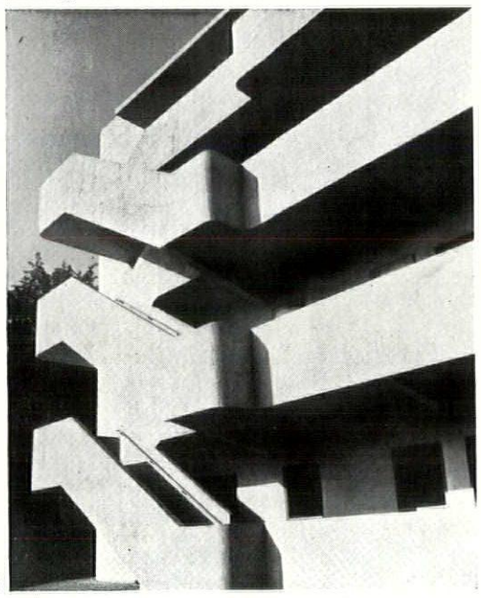
Couched in Wells Coates's uncompromisingly modern concrete idiom, this project, ingenious as its plan might be, only inspired alarm in real-estate financiers, who doubted that the flats could be let, but the projectors of the scheme seized the opportunity offered by the pioneer exhibition of British Industrial Art at Dorland Hall, to exhibit the 'Minimum' flat, and thereby obtained enough lettings to make it clear that the scheme would work.



1 *Miss Thelma Cazalet christening Lawn Road flats with a bottle of beer on July 14, 1934. Immediately behind her is Wells Coates.*

Wells Coates's design for the block was published in *Unit One*—another landmark in the Modern Movement in England—and the completed building, having been 'launched' by Miss Thelma Cazalet, 1, on July 14, 1934, was illustrated in that fabulous volume of THE ARCHITECTURAL REVIEW (Vol. 76, 1934) which also contained Lubetkin's Penguin Pool, Sir Owen Williams's Empire Pool at Wembley, Morton Shand's serialized history of the pioneers of modern design, the first reviews of F. R. S. Yorke's *The Modern House*, Cyril Connolly's epoch-marking essay on the new publicity of Shell and LPTB, and Richard Neutra's Coco Tree restaurant.

Isokon Flats, quite apart from the intrinsic merits of Wells Coates's boldly plastic design, 2, were thus modern among the moderns, a monument to the



2

pious aspiration of salvation through good design and social consciousness which was the key-signature of English *avant-garde* thought in the Thirties. But hardly had the social experiment of Isokon got under way than the inhabitants had to move up a bit, and pack a little closer together, in order to accommodate distinguished architects fleeing from Hitler Germany. It is a mark of the esteem in which Isokon and its 'onlie begetter' were held that it was felt by Morton Shand that the accommodation of the Gropiuses and Marcel Breuer, 3, the Moholy-Nagys and Arthur Korn should be their proud duty, rather than other people's. Both Breuer and Gropius worked on the famous Isokon plywood furniture, Breuer designed the interior of the Isobar, and through Pritchard and Henry Morris—later an Isokon resident—Gropius was given the chance to work on Impington Village



3 *Lawn Road's first birthday party, 1935. Left to right, Dr. Markova, Marcel Breuer, Ise Gropius and Walter Gropius.*

College, another monument of the alliance of modern design and social enlightenment in the Thirties.

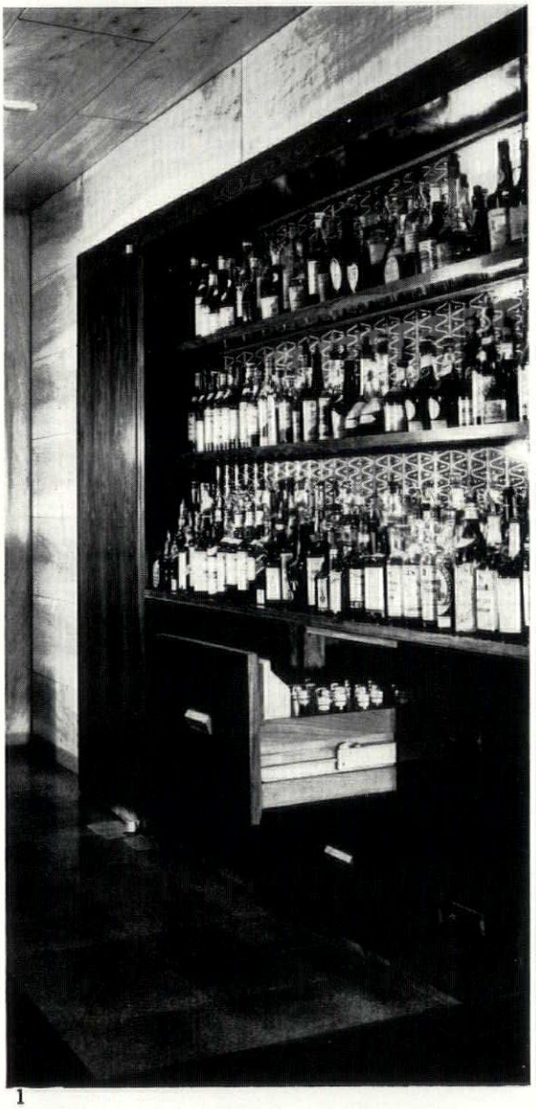
The refugee architects departed for the USA, and were followed by rather more than a fair quota of refugees from the Spanish War, while in the larger war which followed, Isokon escaped shaken but unbroken. But just when a decently mellowing period of repose after the years of crisis might have seemed a just reward, Isokon Flats were suddenly catapulted back into the limelight. The disintegration of that alliance between the various elements of the English *avant-garde* which had made Isokon and Impington possible, had already begun to show in such gestures as Cyril Connolly's appeal for American food-parcels for English Intellectuals, and now took a dramatic architectural turn, in 1946, when his magazine *Horizon* published the result of its Ugliest Buildings Competition, in which Isokon Flats split second place with a slum property in Cumberland. Walter Gropius and Siegfried Giedion answered this challenge to the architectural conscience of the Modern Movement with dignified letters of reproof while in the *Architects' Journal*, Astragal laid aside the mask of comedy and read Mr. Connolly (in 'his unquiet playpen') a stiff sermon about the competition in general, and about the description of Wells Coates as 'architect unknown' in particular.

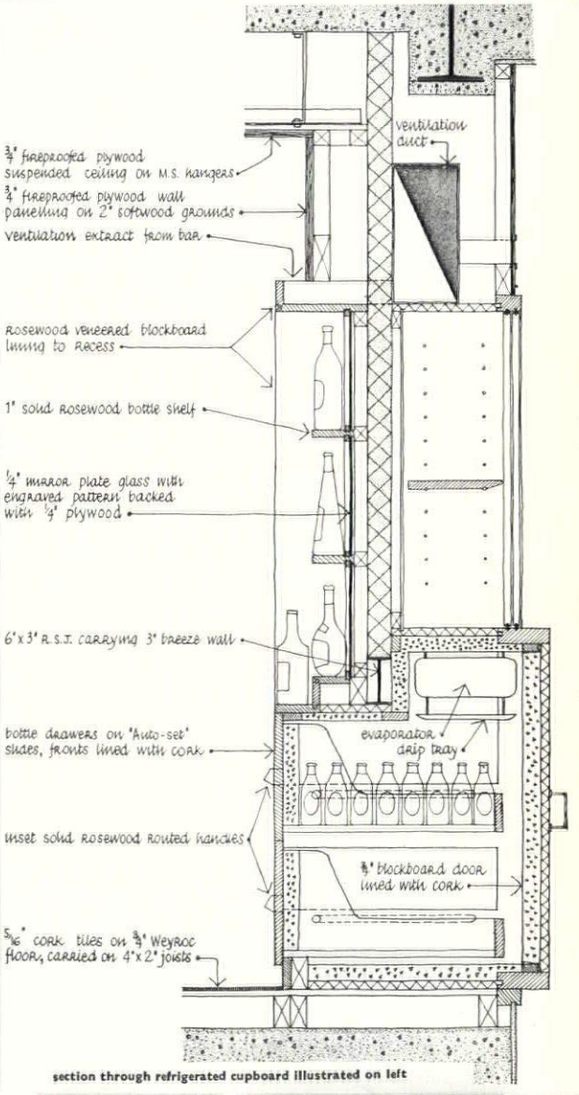
The fuss died down, and the nominated year of 1950 passed without any public enquiry as to the obsolescence of the living places, and now in their twenty-first year it seems that Isokon Flats can settle down with decent dignity among the accepted inhabitants of Hampstead's lower slopes, though the very positive character of its design will always make it a building which divides opinion, and the nature of its social structure will always make it a topic in discussions of communal living patterns. **Reyner Banham**

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry





section through refrigerated cupboard illustrated on left

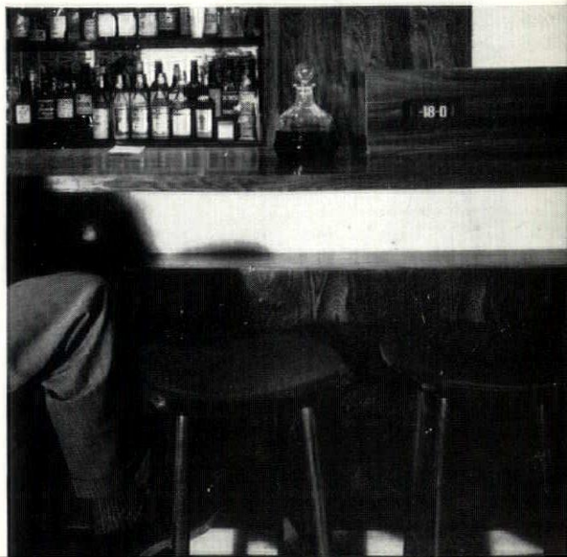
1

1 INTERIORS

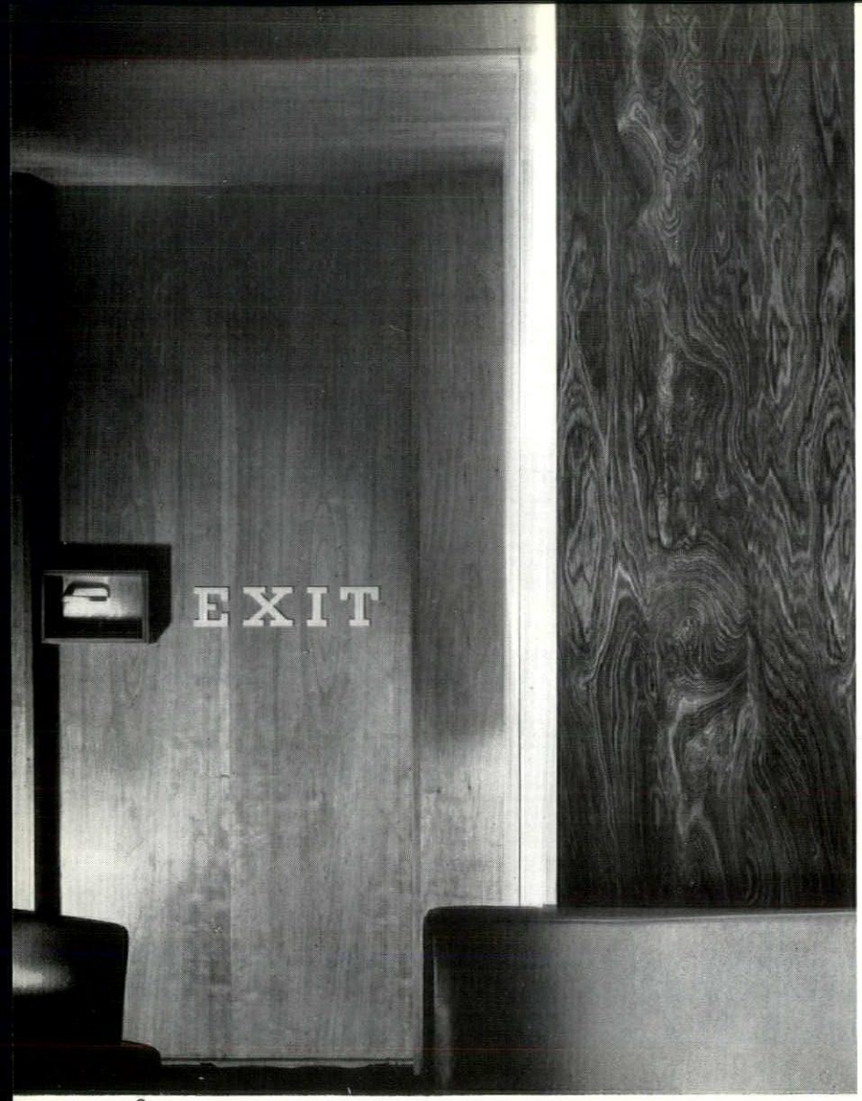
BAR AT GROSVENOR HOUSE

Designer: R. D. Russell
Chief Assistants: R. H. Leigh and Ian Hodgson.

The new cocktail bar is to replace the existing one, which was too small and too isolated. A shop in Grosvenor House with one door and window on to Park Lane and another door to the main hotel lounge became vacant and provided the site. Arrangements for the service of drinks to



2, *bar counter.*



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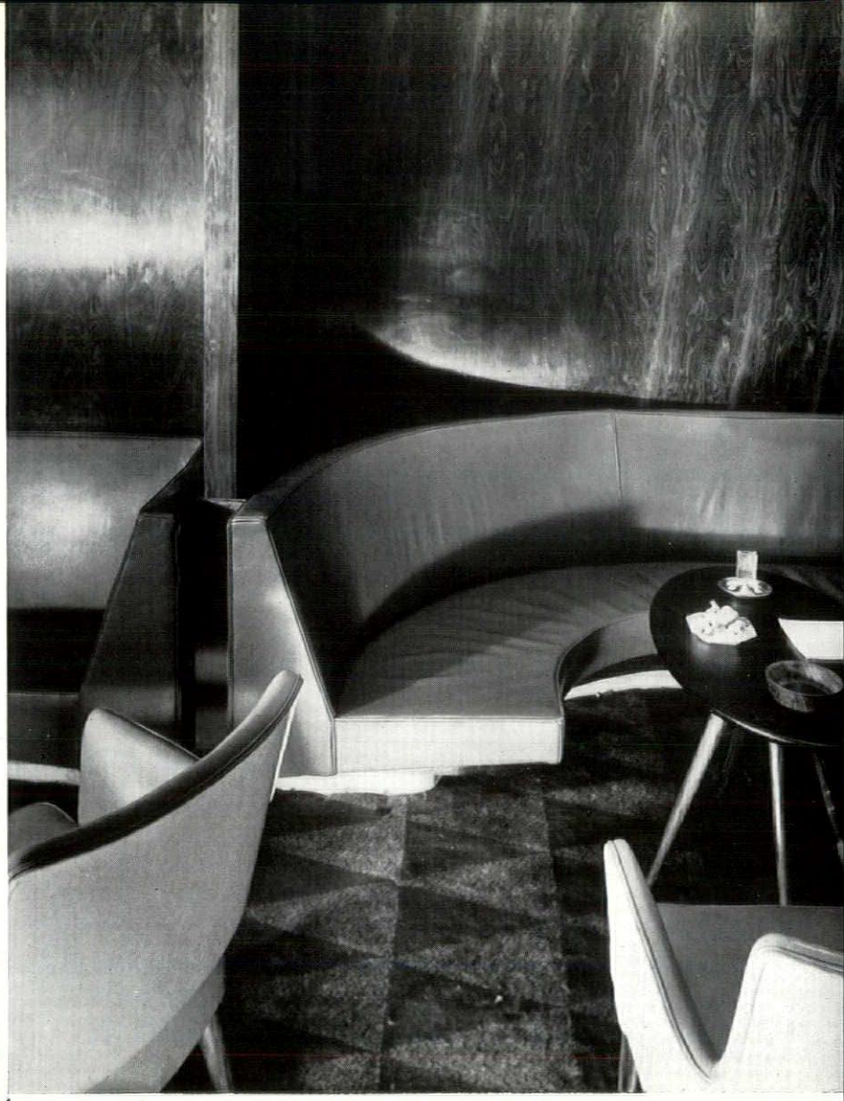

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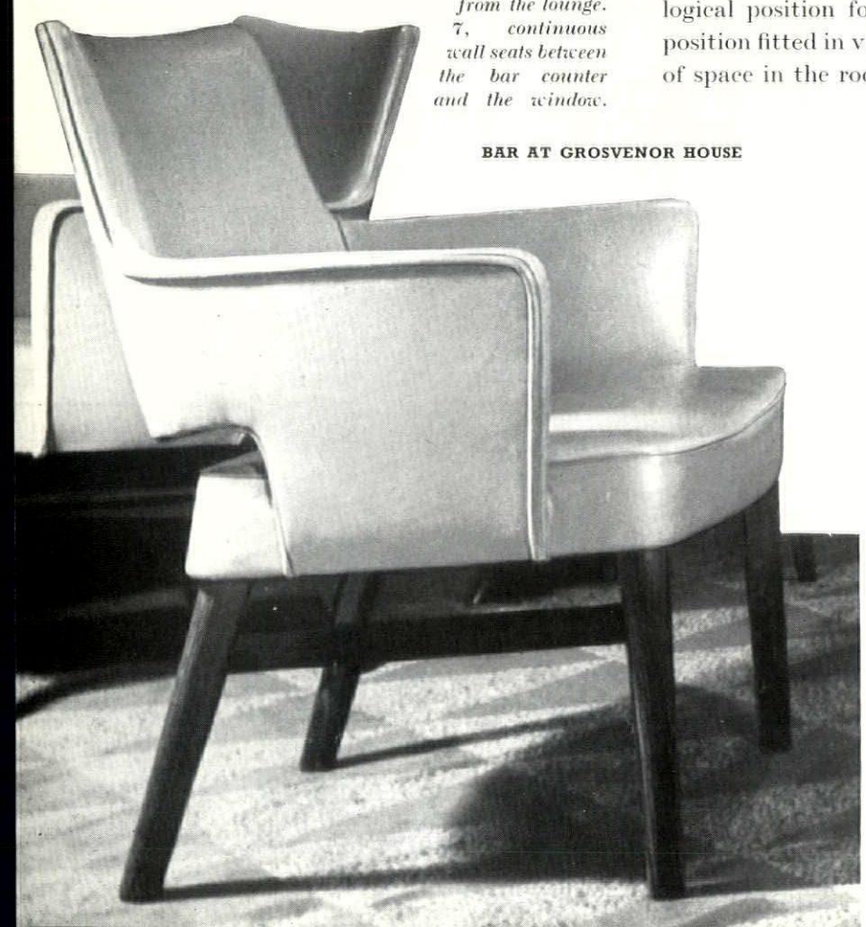
3, the emergency exit to Park Lane. 4, the large curved seat next to the entrance. 5, one of the specially designed chairs. 6, the main entrance from the lounge. 7, continuous wall seats between the bar counter and the window.



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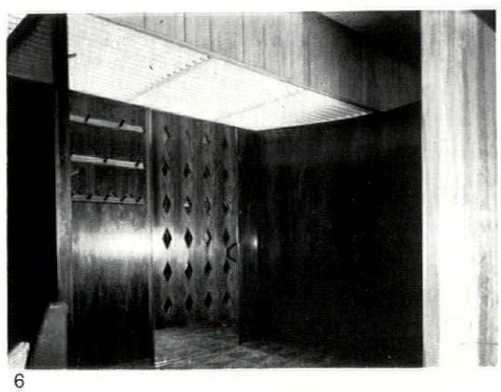
BAR AT GROSVENOR HOUSE

the lounge already existed in the area behind the east wall of the new bar. Backing on to this wall was therefore the logical position for the bar counter. This position fitted in very well with the division of space in the room itself. The room contains two freestanding columns, part of the structure of the building. The bar counter extends to join the column near to it, so providing two separate runs of counter, each served by one barman. The barmen also serve drinks through a hatch in the side wall to the waiters of the hotel lounge. Each barman has his own complete service unit, with the equipment arranged in the correct working sequence.

The upper counter of the bar is kept clear for the use of customers. Below this counter is a service shelf with working space for mixing drinks, a small sink and a tank for ice and chilled bottles. The floor behind the bar is raised by one step. The bar counter area is defined by stone paving. The window is screened by net curtains and, to avoid heat loss, a second window of glass slides is set on the inside wall face with plants arranged in between.

General lighting is direct from tungsten fittings concealed above openings in the



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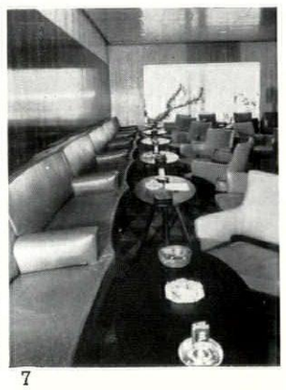

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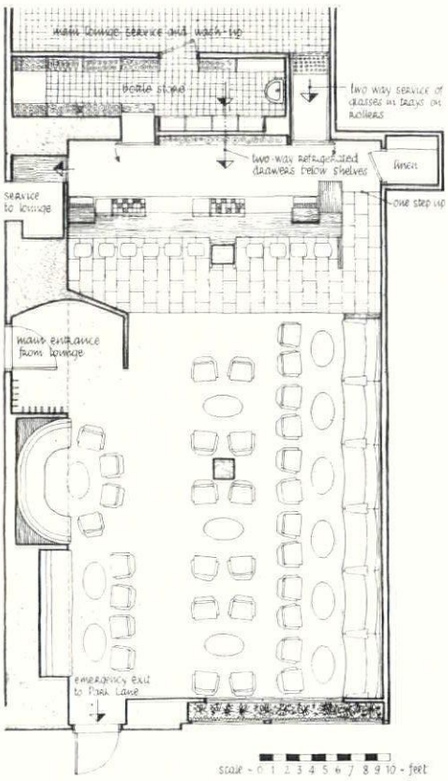
ceiling panels; the lighting of the deep recesses over the fitted seat and immediately inside the entrance door is indirect from fluorescent lamps above a louvred dropped ceiling. A system of forced ventilation is installed, the extracts set in a groove at the top of the walls, the intakes below the fixed seating.



The walls and ceiling are lined throughout with veneered and lipped panels of aspen, with a knotty grain and bright nicotine colour. Parts of the wall related to the fixed seating are veneered with Brazilian rosewood. The fittings behind the bar, the bar counter, the entrance door and adjacent walls are also of Brazilian rosewood; the bar top is solid timber with a special finish resistant to heat and alcohol. The specially designed loose furniture is of Brazilian rosewood with hide on table tops and the upholstered parts of chairs and stools.

The colour is developed from the tan of the aspen and the red and black of the rosewood—a stronger yellow leather for the chairs and a stronger red leather for the fixed seating, and black for the bar stools and tables. The paved area in front of the bar counter is of warm grey Purbeck, the carpeting of two tones of grey. The window curtain, drawn at night and brilliantly lit from above, is of clear scarlet wool, and the two columns are finished in a lower tone of Chinese red enamel. The strong and varied greens of the window plants provide contrast with the prevailing warmth.

BAR AT THE MIDLAND HOTEL, MANCHESTER

Designer: John Carter

The triangular plan of the new bar is determined by the structure of the building, and every device has been used to make the most of the possibilities offered by this form. The room is separated from the foyer by a stepped wood and glass screen, and the twenty-foot long bar is placed at such an angle as to be easily visible from the hotel entrance.

The white ceiling is of alternating solid panels and eggcrate lighting units, fitted with the new de-luxe fluorescent tubes, and framed by hardwood ribs. The bar front is in hardwood inset with small illuminated panels, and a hardwood lattice serves to frame the opening. The counter top is white and the back fittings are in red, blue, black and white on a mirror background. The difficulties presented by the need to retain a large structural pier have been practically overcome by splitting it into carefully considered colour sections, thereby lightening its bulk and imparting interest where none would have existed otherwise. The carpet is composed of alternate widths of dark purple and grey. The fixed recessed seating and the loose chairs and bar stools are upholstered in black, red and yellow material.

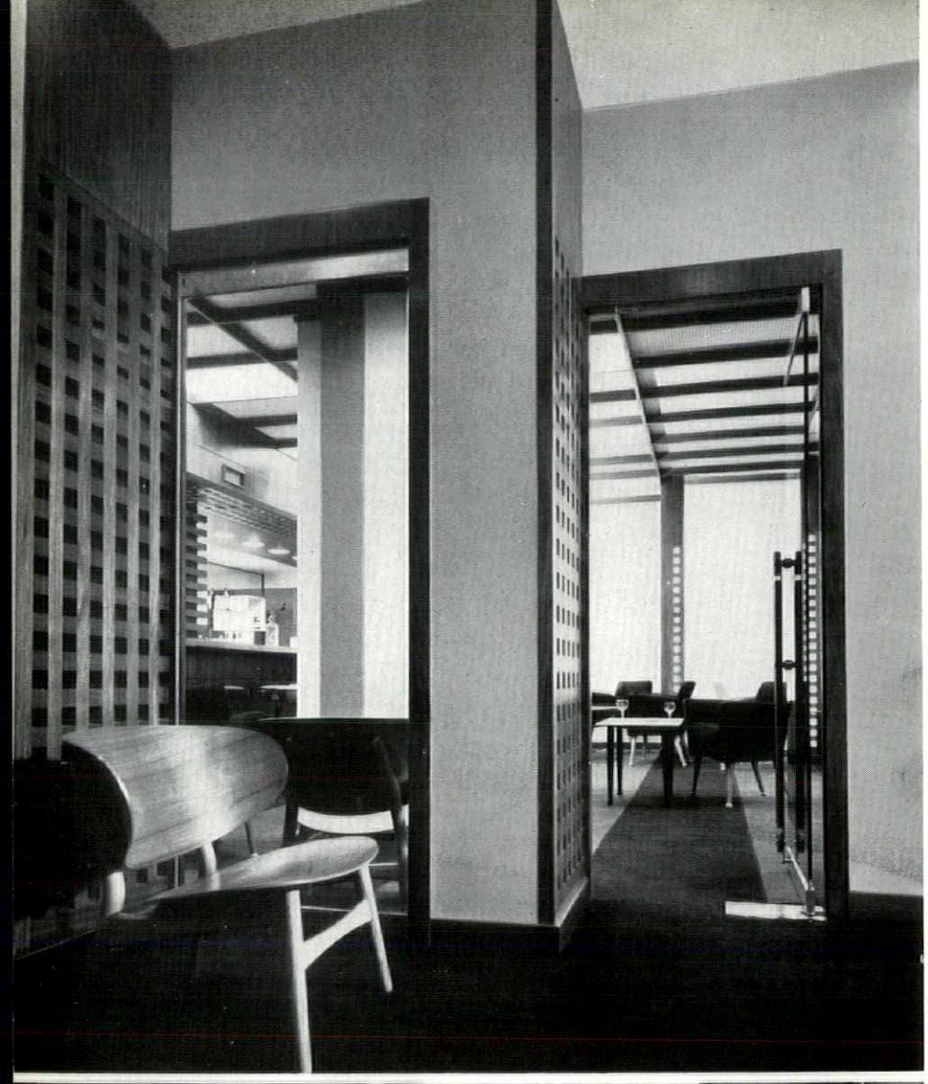


1



2

The wood and glass-screen separating foyer and bar looking down the foyer away from the bar entrance, 1, *and towards it* 2.



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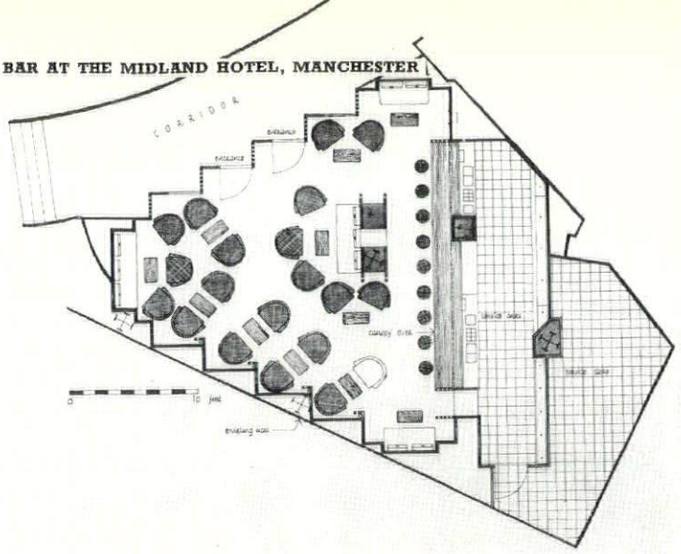
BAR AT THE MIDLAND HOTEL, MANCHESTER



3, looking into the bar from the foyer. 4, the bar counter. 5, inside the bar with the entrance doors on the left.



5

2 DESIGN REVIEW

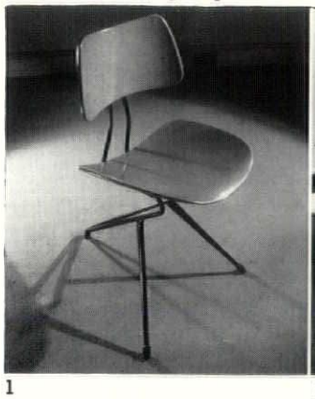
ITALIAN FURNITURE AT HEALS

Although people, objects, and ideas circle the globe at ever increasing speed, Heal's winter exhibition of Furniture, Pottery, etc., from only as far away as Italy brought us that particular stimulus that comes from originality that is also foreign.

Some of the Italian dining chairs combine extreme sophistication of colour and finish with plain engineering construction. The metal sections are very heavy, and it is the combination of weight, and the resulting stability, with the pastel satin effect of the upholstery, that gives a jolt to our accepted ideas. These chairs are chic because the design is emphatic and uncompromising.

[continued on page 59

continued from page 58]



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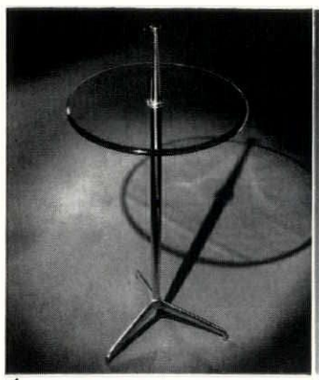
2



3

Several chairs of this type come from Rima of Padova. 1, metal construction, seat and back in brightly painted wood. The large uncompromising fixing of the back can be seen in 2, background. Low centre of gravity combines with resilience to make this a very comfortable chair. £13, or with seat and back upholstered in plastic material with a satin finish, 19 guineas. 2, centre, a single metal sheet is folded to form the sitting unit and supported on tubular legs. The sheeting is covered in plastic material with leather finish. £13. 3, a more conventional combination of upholstery and metal frame. £18 19s.



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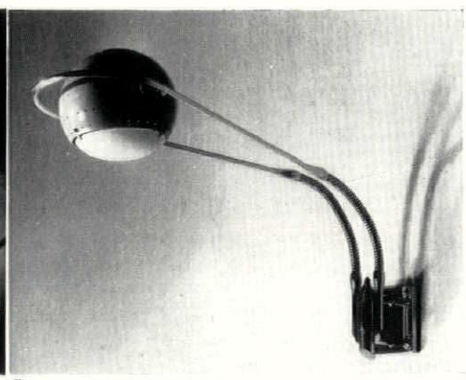

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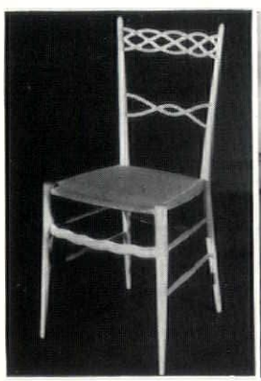
The Italians are using brass with an urbane elegance very soothing to our chrome-dazzled sensibilities. No satin finishes here, nor evidences of the craft workshop—no beating, chasing or engraving. Pietro Maffeis uses brass as the supporting unit of his occasional table, 4, in shining, considered, simplicity. £15 10s. The Arteluce lamps in brass have a sophistication very proper to the material, 5, a wall bracket. £16 18s.

In contrast to these urbane accessories is the wealth of ingenuity and beauty of the traditional wickerwork. There are baskets of every kind and scale, trays, letter-racks, chairs. This work is less prohibitive in price than the furniture.

In marked contrast to the Rima chairs are those illustrated 6 to 9. 6, a prim design, though of excellent finish, brings to the boudoir just a touch of the servant's bedroom. Admittedly the latter has housed and preserved for us much lovely and simple furniture, but the two styles are not compatible. There is, however, real elegance in the detailing of the seat. £21 10s. 7 and 8, also detailed with care and finesse, are products of Figli di Sanguineti. Armchair £10 15s. Upright £5. The seats are rush. 9, a simpler and more telling statement by Amedeo Cassina. This rosewood chair has a cellophane seat and sells at £7. The cellophane is available in four bright colours.

Diana Rowntree



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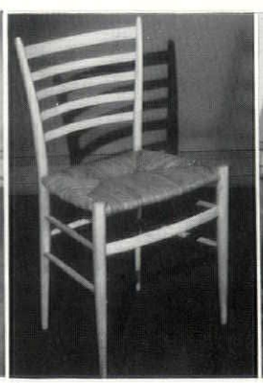

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9

FRENCH FURNITURE AT WOOLLANDS

Woollands' Modern Interiors, usually most attractive, assumed an added breadth and spaciousness for its French fortnight. Since the amazing prices of furniture and ceramics in France, with British duty added, will generally prohibit any actual buying, let us analyse the validity of the impression.

André Motte's metal chairs with cushions in various but equally felicitous bright colours, 1, have a breadth and an excellence of detailing I have not seen equalled. They are exceedingly comfortable, though,



1

at eight times the price, certainly not eight times as comfortable as the Race Springbok. The French designers seem to have overcome the minute problems of detailing metal furniture, which tend in this country to be accepted as snags in the nature of the material. Another chair of metal construction was by Alain Richard, 2, 25 guineas. The generosity and directness of French taste



2

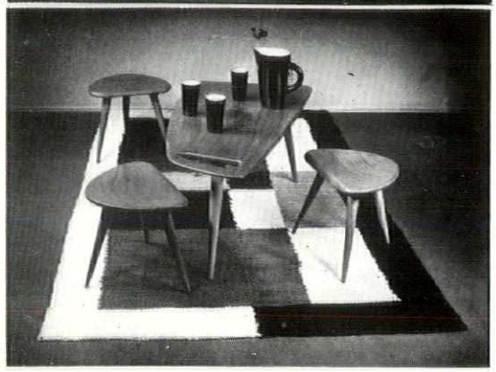
is perhaps most happily demonstrated by a table and sideboard made by a firm called Meubles TV of Paris. The table, 2, designed by Guariche is the direct visual expression of the structural problem



3



4



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involved. The width of the lateral supporting member even varies in accordance with the bending moment. This simplicity turns out to be extremely flattering to the mahogany. The scale and simplicity of the sideboard by Janine Abraham, 3, is here shown at a disadvantage, being topped off by a regrettable set of port glasses by André Macon; these sell at 2 guineas the set, with jug. The sideboard retails at 95 guineas.

The British conception of comfort by sheer depth of upholstery is unknown in France. Two alluringly-shaped fireside chairs, 4, right, by Jean Souvrain, 50 guineas, and the striped one by René Drouet, 52 guineas, fail completely to fulfil their promise of comfort. One feels that they are so elegant it would be worth re-designing the human spine on the principle of a plastic-covered spiral, in order to enjoy their curves. Jeanneret's model, left, in the idiom of the Crafts Movement is included here in grateful acknowledgment that even a pioneer will have his little joke.

The most striking feat of design in this exhibition, and the most typically French, is André Monpoix's success in bringing the largest possible scale to the design of a coffee table, 4.

More informal, though no more accessible in price, 52 guineas, is the table with low stools by René Drouet, 5. Beothy's rug on which they are shown is a welcome find, making a positive contribution both in feeling and scale.

The most notable 'pictures' shown were the Braque prints, for which I think no praise great enough, and the Lurçat tapestry. The use of tapestry to fill the same role as easel painting is an art form that bothers me. Perhaps it is the historical associations of tapestry as a functional wall covering, perhaps a persistent disappointment that the revival of this craft is not going to mean that we can all hang whole wall surfaces with entrancing designs in this warm and agreeable texture.

A wide range of craftsmen's ceramics were shown, from Picasso's exuberant goose, shown in 3, 75 guineas, down to ash-tray level. There was much variety and originality among the ceramics but the true excitement of this exhibition was in the *breadth* of the furniture.

CORRECTION

Apologies are due to Conran Furniture for a wrong description of their conical chair in the April issue. The iron framework is in fact hot-dipped phosphated before being given two coats of stove-enamel.

3 TECHNIQUES

DOMESTIC OIL BURNING EQUIPMENT

by John Voelcker

The steadying of the fuel supply position and the increase in the number of people who are able and prepared to pay for labour saving equipment have caused a renewed interest in oil as an alternative to gas, electricity and solid fuel for domestic heating and hot water. In the article below John Voelcker sets down what an architect should know about this type of fuel and about the equipment required to use it.

To a surprising extent a nation's choice of fuel is a matter of custom, if not of accident. There seems to be no fundamental reason why oil, which has so long been an alternative for large installations in this country, should have only recently (if we neglect a short-lived boom before the war) become an alternative for domestic use. Labour saving and cleanness are the chief incentives for using it, high installation costs the chief drawback. Sweden and the United States are the countries which chiefly use oil in the home. The social structure of these countries cannot be greatly different from that of the United Kingdom: there must be roughly the same proportion of people over here who have enough money to afford an outlay on equipment while not having enough to pay for domestic service.

Oil is cheaper in running cost than the two fuels which have the same advantages: it is reported to be 40 per cent cheaper than electricity and 20 per cent cheaper than gas, but about 20 per cent more expensive than coke. Bearing in mind that the kind of household which is likely to contemplate going over to oil would have an annual solid fuel bill of £50 to £100, is it worth their while to pay an extra £10 or £20 per annum to evade the daily or twice daily stoking —and the mess? To this annual charge must be added the cost of conversion, which varies between £90 and £300 depending on the type of burner and the accuracy of operation required. We speak habitually of 'conversion' to oil, of 'going over to oil,' as though there were no such thing as designing for oil in the first place. In fact—as we shall see—there is some justification for this phraseology. For though there is a surprising number of oil *burners* on the market there are, to the best of our knowledge, only three which provide a *boiler* to match. In the great majority of cases, therefore, installing an oil burner means affixing an oil burner to a solid fuel boiler and providing a tank for storage of the oil. In addition, since the properties of a solid fuel boiler are not favourable for oil burning, it will almost certainly be wise to attach what is called an 'economizer' to the boiler flue. Lastly, since oil firing is very susceptible to thermostatic control it may well prove worth while to apply additional controls to the system.

fuel oils

For practical purposes there is only one type of oil used for the equipment discussed in this article. It is a Gas Oil categorized as Class A in BS. 742, 'Fuel Oil for Burners.' This is a heavier, less readily vaporized oil than the paraffin used in portable oil burners, and lighter than the coal tar oils or heavy grade fuel oils used in large installations. Class A gas oil is delivered in road tankers and costs about 1s. 2½d. per gallon delivered in quantities of 500 gallons or more. Deliveries are very reliable, and indeed, one firm of distributors has a project for a 'milk round' in which they will make themselves wholly responsible for maintaining the level of consumers' storage tanks.

storage tanks

The size of the storage tank can vary between wide limits. One opinion favours a 600-gallon tank for domestic use. This enables the owner to receive deliveries of 500 gallons at a time (which commands a cheaper rate) while leaving a comfortable margin for emergencies. Since the average consumption of a small house is of the order of 800 to 1,200 gallons per annum, this would give an average delivery period of six months —which seems reasonable. Another opinion (which emanates from a firm of fuel suppliers) recommends a tank of only 150 gallons. This would be small enough to be sited adjacent to the burner, and in fact some firms of burner makers supply a tank of this capacity with the burner.

Since the type of fuel we are considering has a flash point 'not below 150°F.' its storage is not subject to petroleum regulations. The specification for the tank itself is covered in

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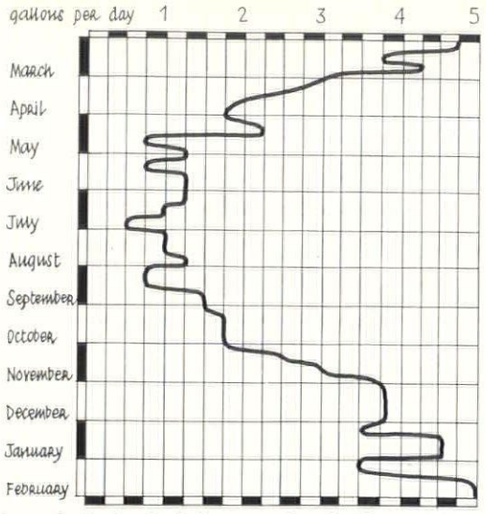


1, *graph showing the fuel consumption of a Samoa medium pressure atomizer (see Fig. 11) from March 1, 1954, to March 1, 1955. The burner is installed in a small house and provides central heating (giving a 30°F. temperature rise in coldest weather) and domestic hot water.*

continued from page 60]

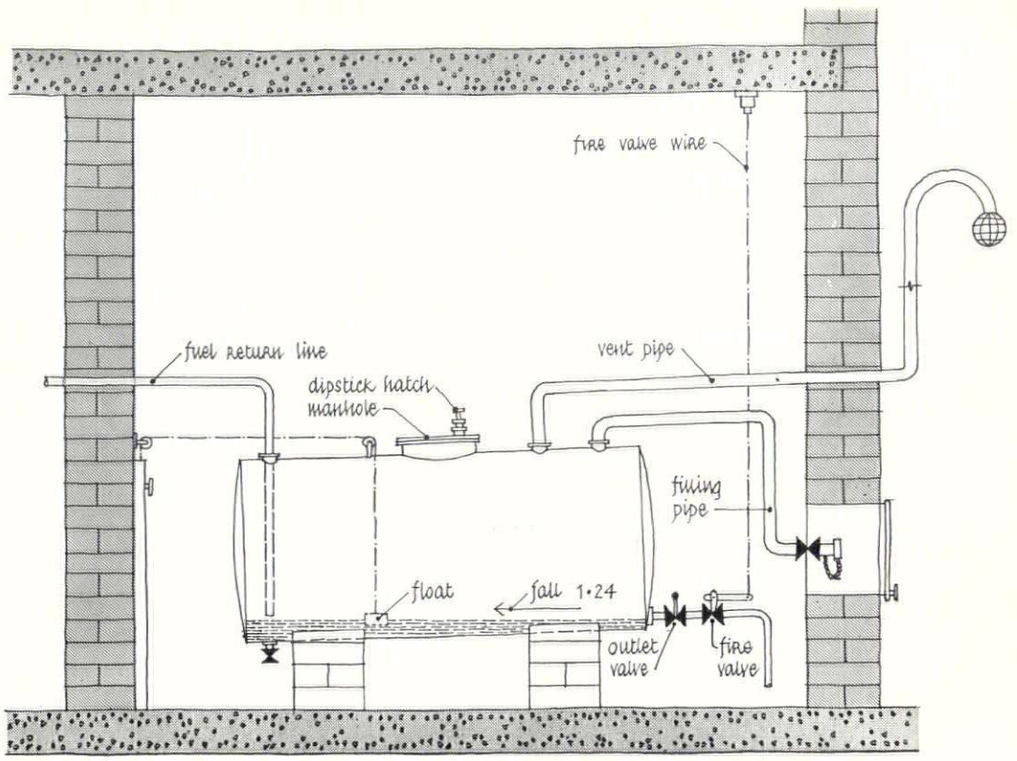
BS. 799: 1953, 'Oil Burning Equipment.' Further advice is given in a brochure entitled 'Definitions and recommendations issued by the Fire Offices Committee in connection with liquid fuel, etc.' which is obtainable from the Committee (address 65-66, Watling Street, London, E.C.4) though the latter adds little that is not covered by the British Standard. An interesting point about these recommendations is that they make a distinction between a tank which has a capacity not exceeding 150 gallons and which is defined as a 'service tank' and one of over 150 gallons capacity which is a 'storage tank.' A service tank can be located almost anywhere: it needs no catch pit and the only limitation is that it should not be so placed that escaping oil can reach a heated surface. A storage tank, on the other hand, if it is inside a building, should be located in or below the lowest storey and should either stand in a tank chamber of fire-resisting construction or be buried in the earth with at least 6 inches of concrete cover. The second of these alternatives is unsatisfactory, as there is no means of giving maintenance. The tank chamber requires 9 inches brick or 6 inches concrete and a fireproof door. Further, the floor and lower walls of the chamber must be oil-proofed and the sill of the doorway must be high enough for the chamber bottom to serve as a catch pit to receive all the oil if the tank should spring a leak.

Another practical point which must be watched is that if the tank is below the level of the burner a pump will have to be provided. Further, if a service tank is placed adjacent to the burner they must not be in a habitable room, as the tank may smell. The last consideration which affects tank placing is ease of refuelling. The oil tankers' supply pipe is long, but not limitless.

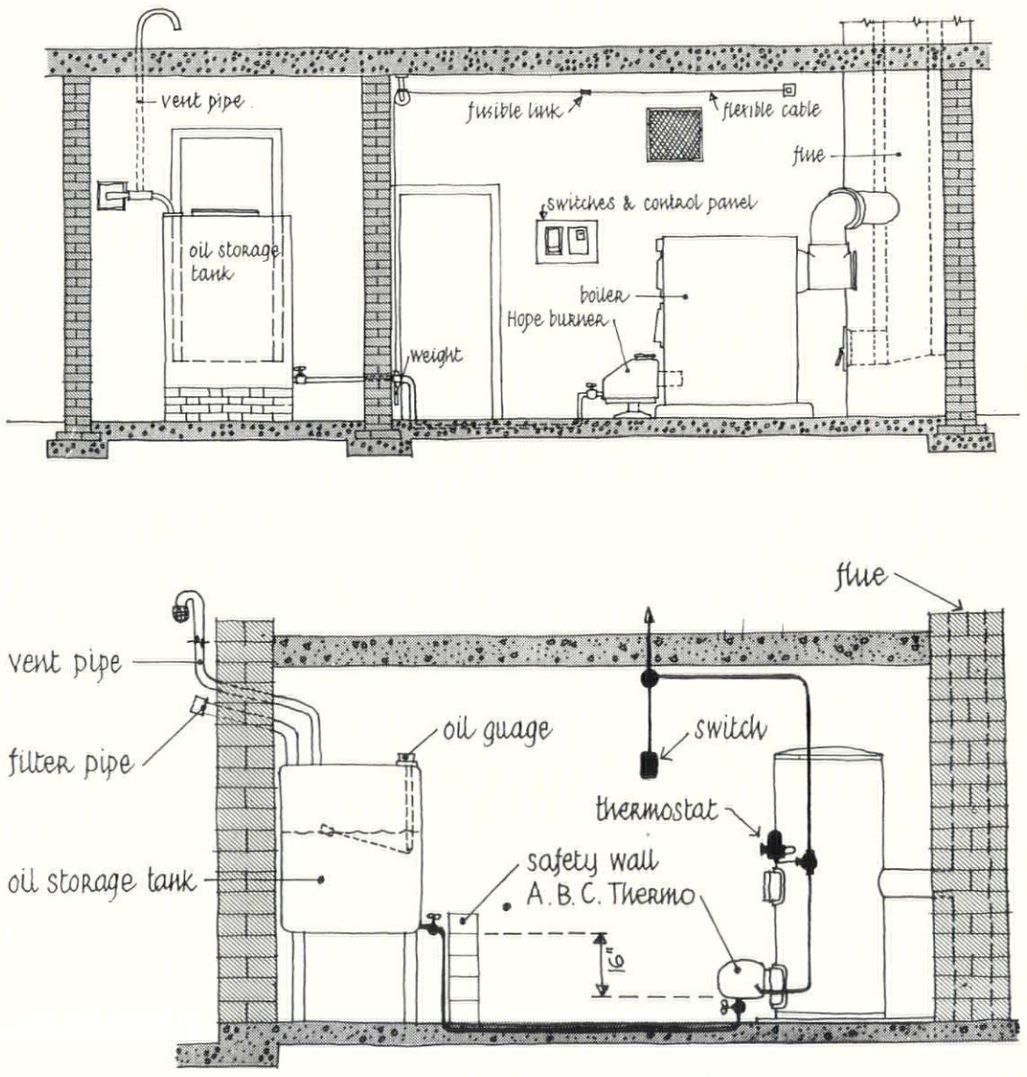
A good position for the tank would be the far end of a garage when this is near the boiler: here it would be protected from extremes of weather yet easily accessible for maintenance and fuel delivery.

combustion principles

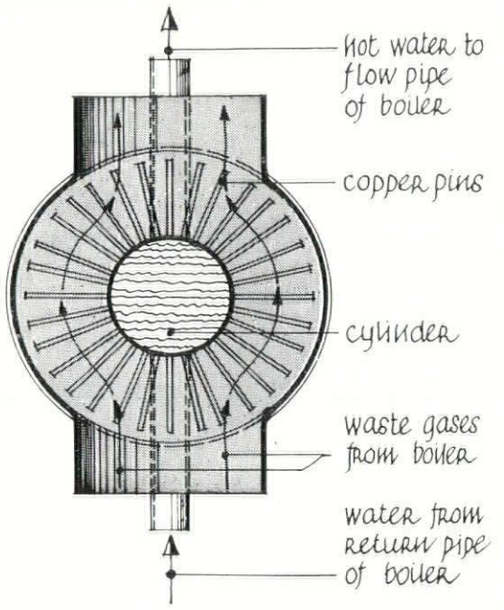
Though oil firing is a specialized subject and beyond the reach of most architects, it is not beyond their power to grasp the mode of operation of the main burner types or—most important of all—the



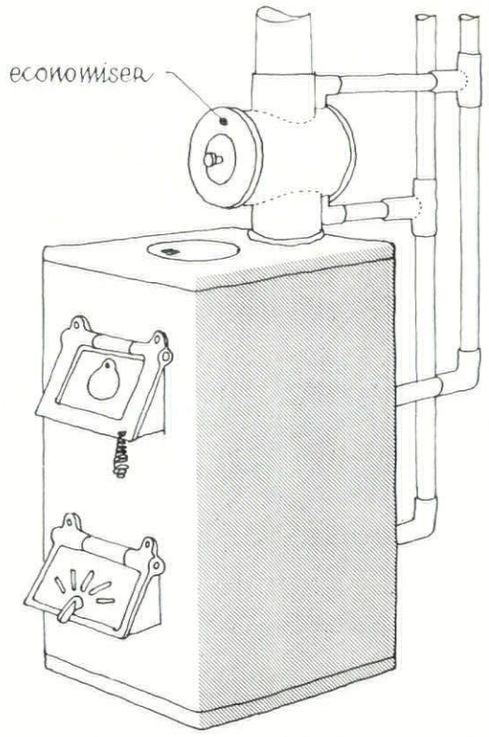
2, *diagram showing a 600 gallon storage tank and tank chamber, suitable for Grade A oil fuel.*



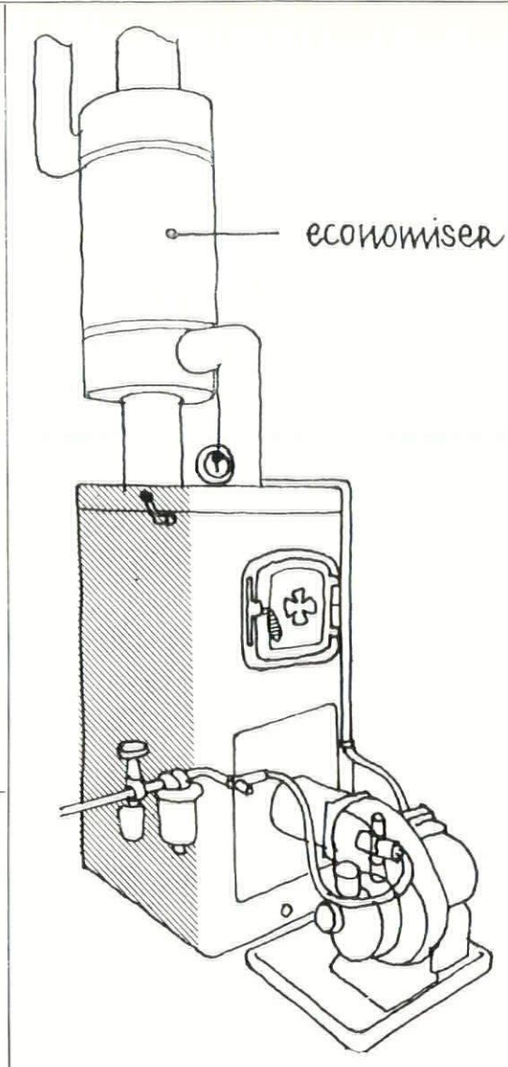
3, *two manufacturers' suggestions for the layout of oil-burning equipment. Above, a 'Hope' burner with a storage tank in an adjoining tank chamber. Below, an 'ABC Thermo' burner with a storage tank in the same room. Note the 'safety wall' to prevent spilt oil from reaching the burner.*



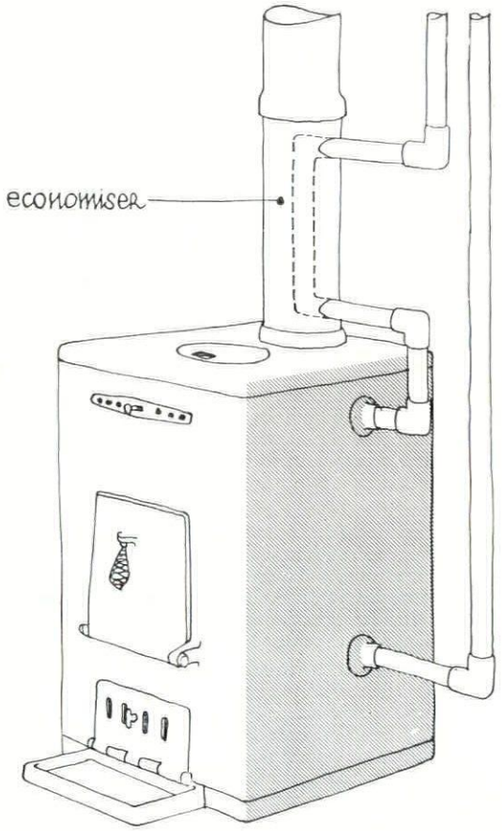
4, *diagram of the standard 'Sunrod' economizer for boilers up to* 360,000 *BTU rating.*



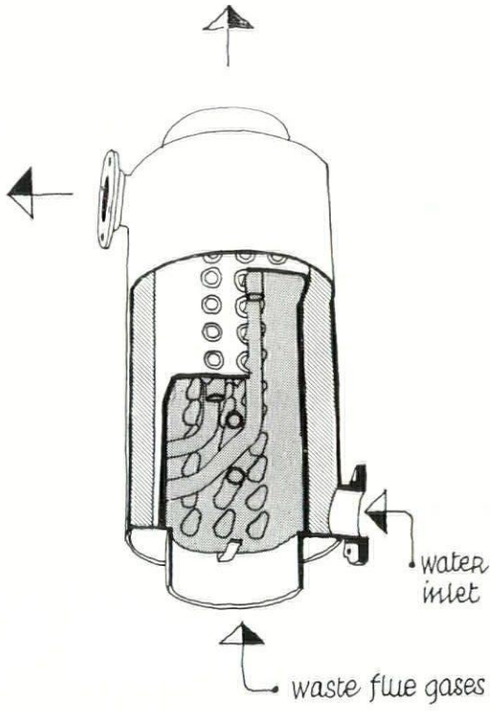
6, *standard 'Sunrod' economizer fixed to a boiler flue. Note that the position of the economizer may vary considerably.*



8, *'Clarkson' economizer fixed to a boiler flue.*



5, *diagram of a 'Sunrod minor' economizer, for boilers up to* 65,000 *BTU rating.*



7, *diagram illustrating the operation of the 'Clarkson' economizer. 'Thimble tubes' in the waterway project into the flue where they take heat from the waste flue gases. This type is suitable for boilers of* 90,000 *to* 600,000 *BTU rating.*

characteristic of oil burners when they have to operate in solid fuel boilers. In order to make these points clear it is necessary to discuss briefly the fundamentals of oil combustion.

Fuel oils are compounds of carbon and hydrogen; both of these burn readily in the presence of oxygen, carbon becoming carbon monoxide and then carbon dioxide, hydrogen becoming water or steam, as heat is liberated. For every pound of fuel oil 3.31 lb. of oxygen are required for complete combustion. It would not be a practical proposition to supply pure oxygen to the burner, particularly in small installations, but there is an abundant supply in the atmosphere which is made up of oxygen and nitrogen in the ratio of about 7:2 by weight. It will be seen from these figures that approximately 14.5 lb. of air are required for the theoretically complete combustion of 1 lb. of fuel oil.

Because fuel oils cannot be burnt unless sufficient oxygen is present, bulk storage with a relatively small surface area does not provide a serious fire hazard; conversely a high degree of inflammability is required within the combustion chamber if ignition is to be achieved and the fuel efficiently burnt. It is necessary, therefore, to devise some method of preparation which considerably increases the ratio between the surface area and the volume of oil fuel. This process of modification is the chief function of an oil burner and demands considerable theoretical study as well as extremely precise engineering.

There are two distinct methods of preparing oil fuels for ignition in general use; one method involves equipment designed to vaporize the fuel by heating it to a certain temperature and simultaneously introducing the required quantity of air for combustion. This method is particularly suitable for small burners where the temperatures are not sufficiently high to cause uncontrolled cracking of the oil in the vaporizing pot. Vaporizing equipment is robust, simple to operate and maintain, and vaporizing units are the cheapest type of equipment available. The other method involves equipment which atomizes the oil before it is ignited. Any oxygen bearing medium may be used as an atomizing agent: air is generally used, or steam for very large units. The principle of the atomizer is to break the stream of oil up into a mist of fine particles, and further, to set up an orderly turbulence in this mist so that when it is ignited the resulting flame is of a form which ensures that the oil will remain long enough in the combustion chamber to be fully burnt.

The flame in the vaporizing type of burner is normally vertical, that from the atomizing type being cone shaped, horizontal and usually between 6 inches and 1 foot long. With some experience it is possible to judge whether the burner is operating correctly by the colour of the flame. It should be bright, but orange in colour, darkening towards the edges; if insufficient air is present or the oil preparation has been incomplete, the flame will be red and sooty, and if there is too much air present the flame will be bright, white and painful to look at.

the application to solid fuel boilers

It is a limitation of the present time that such precise equipment as an oil burner is generally fitted to an existing boiler not designed with the same degree of precision, and, more significant, not intended for oil firing. Solid fuel combustion is a con-

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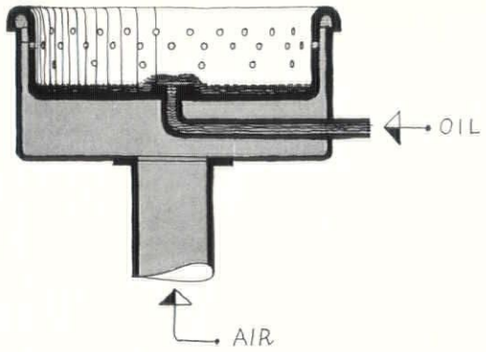
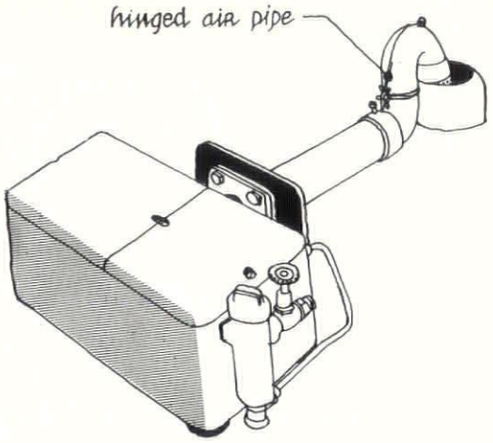
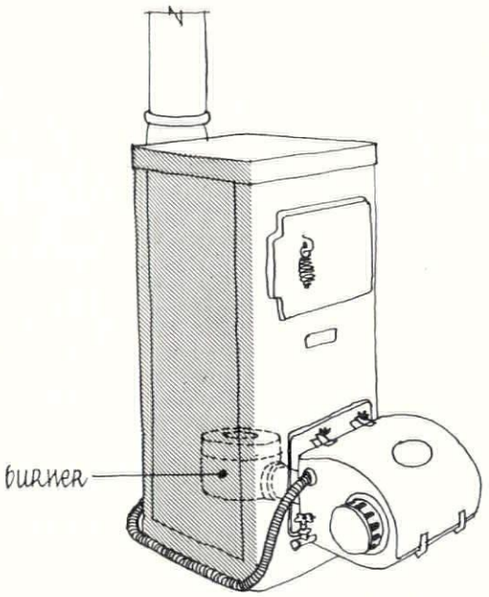


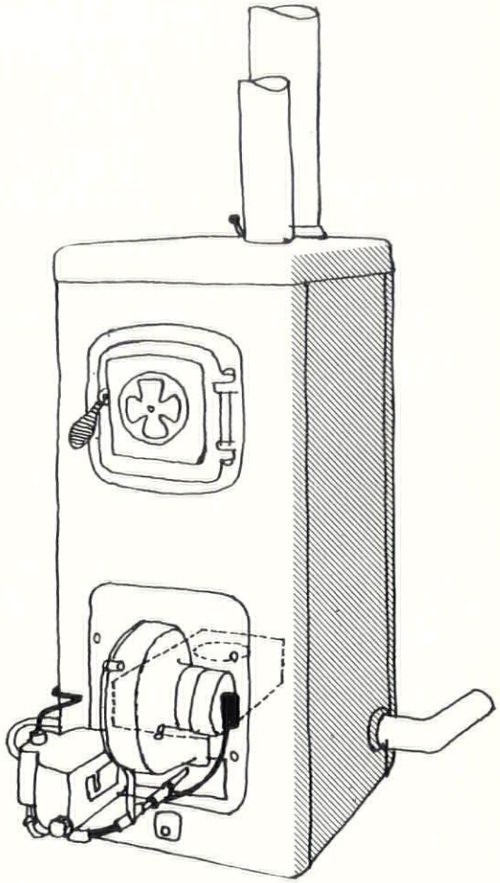
9, *section through a 'Prior' forced draught vaporizing pot.*



10, *Nu-way Home Fire vaporizing burner. Rating* 15,000-65,000 *BTU/hr. List price* £47 10*s.* 0*d. Price installed, including* 150 *gallon tank,* £95.



11, *ABC Thermo Domestic vaporizing burner. Rating* 25,000-60,000 *BTU/hr. List price* £58 10*s.* 0*d. Price installed, including* 150 *gallon tank,* £110.



12, *Cob (series* 3*) vaporizing burner. Rating* 105,000 *BTU/hr. Price installed, with* 600 *gallon tank, approximately* £120.

continued from page 62]

tinuous process once it has begun, and the system is warmed up; the output of heat varies within limits of about 25 per cent only. Oil fuel combustion on the other hand is an articulated process: either the flame is of the High-Low type or it is intermittent, only being alight at times of demand.

Heat transferred from solid fuel is principally by radiation to the sides of the chamber, by conduction where the firebed is in contact with the side and end wall heating surfaces, and by convection from the hot gases to the secondary passes of the boiler.

In the case of oil there is no conduction: the main heat transfer is by radiation. As the flame has a high luminosity, both the gas temperature and the speed with which the gases leave the combustion chamber are high. It is all important, therefore, that they should give up their heat before entering the flue. An oil burner/boiler unit, therefore, consists of a combustion chamber proper which has as its chief object to keep the oil mist at a sufficiently high temperature to ensure complete combustion and an additional space above in which the escaping gases give up their heat to the secondary heating surfaces. The combustion chamber should be shaped to fit the flame and should have a volume of $\frac{1}{8}$ cubic feet per gallon of oil burned per hour. The space above may vary in shape but should have a volume of $2\frac{1}{2}$ cubic feet per gallon of oil burnt per hour.

The development of domestic boilers suited to oil firing has been slow probably because the initial cost of oil burners and auxiliary equipment is high enough without the potential consumer having to have a solid fuel boiler removed and a new one put in its place. As a result the manufacturers of oil burning equipment have shown considerable ingenuity in reversing the intended mode of operation of solid fuel boilers. One method, adopted by some Scandinavian manufacturers, is to connect to an existing boiler a combustion chamber complete; the existing boiler then becomes the secondary convection-heated surface, and one maker claims that it may be used for burning domestic rubbish. The method usually adopted in this country is to fix the burner into the lower part of an existing boiler and to connect an 'economizer' between the flue outlet and the stack. Two types of economizer are illustrated, 4 and 7. The first consists of a large number of copper nails radiating from a central water way through which the water system circulates. In the second the flue gases pass through the centre of the component and the water ways are round the periphery projecting into the gases in thimble tubes. Economizers save as much as 25 per cent in fuel efficiency by extracting heat from the flue gases.

When an existing boiler is converted to oil firing it is generally necessary to line part of the combustion chamber with refractories, as otherwise the sudden temperature changes, caused when the burner flame goes high or is turned on, would have a destructive effect. High quality refractories should be used, and it must be remembered that these will reduce the volume of the combustion chamber considerably.

the problem of the flue

In an oil burning installation the products of combustion for an even heat output are rather less than for solid fuel. Further, oil burning, unlike solid fuel, is an intermittent as opposed to a continuous process. When, therefore, oil burners are installed in an existing flue, it is wise to provide a draught stabilizer which will cut down the draught due to the oversize flue and will damp out variations caused by intermittent firing and differing weather conditions. For a domestic installation a draught reading in the combustion chamber of .05 to .1 water gauge is the condition to be aimed at. In designing the flue layout, particularly the discharge from the rear of the boiler to the stack, sharp bends should be avoided wherever possible, as these tend to cause pulsations in combustion of oil.

types of burner

As will be seen from the foregoing there are two main types of burner: vaporizing and atomizing. These two classifications can, however, be further subdivided. The vaporizing burners can be classed as natural draught or forced draught (though since the natural draught type is only suited for burning kerosene, only the forced draught type is discussed here); the atomizing burners as low and medium air pressure atomizers or pressure jet atomizers. There is yet a fourth variety of the atomizer group, the rotary burner, but as these are only used for large installations they also fall outside the scope of this article. Vaporizing burners are 'semi-automatic' in that they require igniting by hand. Atomizing burners are fully automatic and require no attention other than turning on the electric current.

forced draught vaporizers

In this type of burner the fuel is delivered to a heated metal pot where it is vaporized. The correct quantity of air is provided round the pot to mix with the vapour and ensure satisfactory combustion. The level of the oil in the pot and the temperature of the pot must be carefully controlled because the thoroughness of vaporization, and consequently of combustion, depends on these factors. In this type the correct amount of primary air is supplied to the vaporizing pot by means of a small fan driven by an electric motor. Vaporizing burners are normally hand lit; but once alight the burner operates automatically on a thermostatically controlled high-low flame, the turn-down ratio of high and low flame varying from one manufacturer to another between 4:1 and 18:1; the larger ratios economize fuel when the demand is intermittent, but where there is a constant demand for heat the smaller ratios tend to be more economical, because very low flame combustion is inefficient. The illustration, 9, shows a section through a Forced Draught Vaporizing Pot, the perforations in the pot side being forced air ports. Illustrations 10-12 are all burners of this class.

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air pressure atomizers

This group is divided into low and medium pressure atomizers, though the principle is the same for both. The burner contains a compressor driven by an electric motor, an oil metering device and a jet nozzle. Unlike the vaporizer, the air and oil are mixed before they reach the combustion chamber, the compressor emulsifies the fuel which is metered to the jet nozzle, where it is ejected and ignited. The jet orifice may be fairly large since the fuel is metered before reaching it: this is an advantage, for clogging seldom occurs and a considerable range of oil grades can be used. Operation is fully automatic and the ignition is intermittent, the flame being cut off when heat input is not demanded. The illustration, 13, is an atomizer of this class.

The medium pressure burner, 14, is similar in principle to the low pressure, but the compressor is more powerful and, therefore, the possible output ratings are higher. Hitherto, few burners of this type have been used for domestic purposes because the assembly is complex and, therefore, expensive. Certain advantages should, however, be borne in mind: they are robust and are easily maintained.

pressure jet atomizers

This is the most widely used type of burner, suitable for a wide range of outputs and for applications to different types of boilers. Unlike the Vaporizing or Air Pressure Burners, the Pressure Jet does not require a metering device, as the jet orifice itself meters the fuel and any excess fuel is returned to the storage tank by means of a by-pass valve and pipe line. The advantage of this arrangement is that the construction and operation are simplified, but the efficiency of operation will depend very considerably on the accuracy and quality of the jet orifice. Until recently the difficulties of accurate machining have retarded the development of jets capable of metering small amounts of fuel, but research into the manufacture of gas turbine equipment for aeroplanes—where even smaller magnitudes than the smallest oil jet (0.009 inch diameter) are required—has helped the burner manufacturers in this respect. The risk of blockages is considerable in the Pressure Jet burner and it is always necessary to use filters to protect the orifice; these are usually made of specially treated papers and require renewal once a month. Pressure Jets are normally fully automatic and ignition is intermittent. When the burner is operat-

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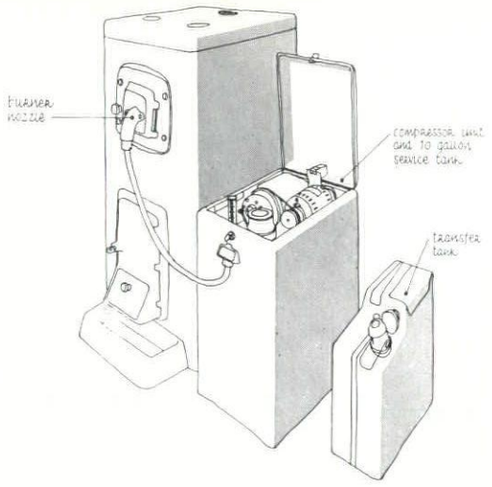
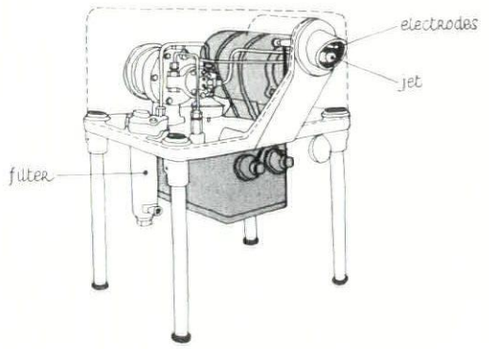
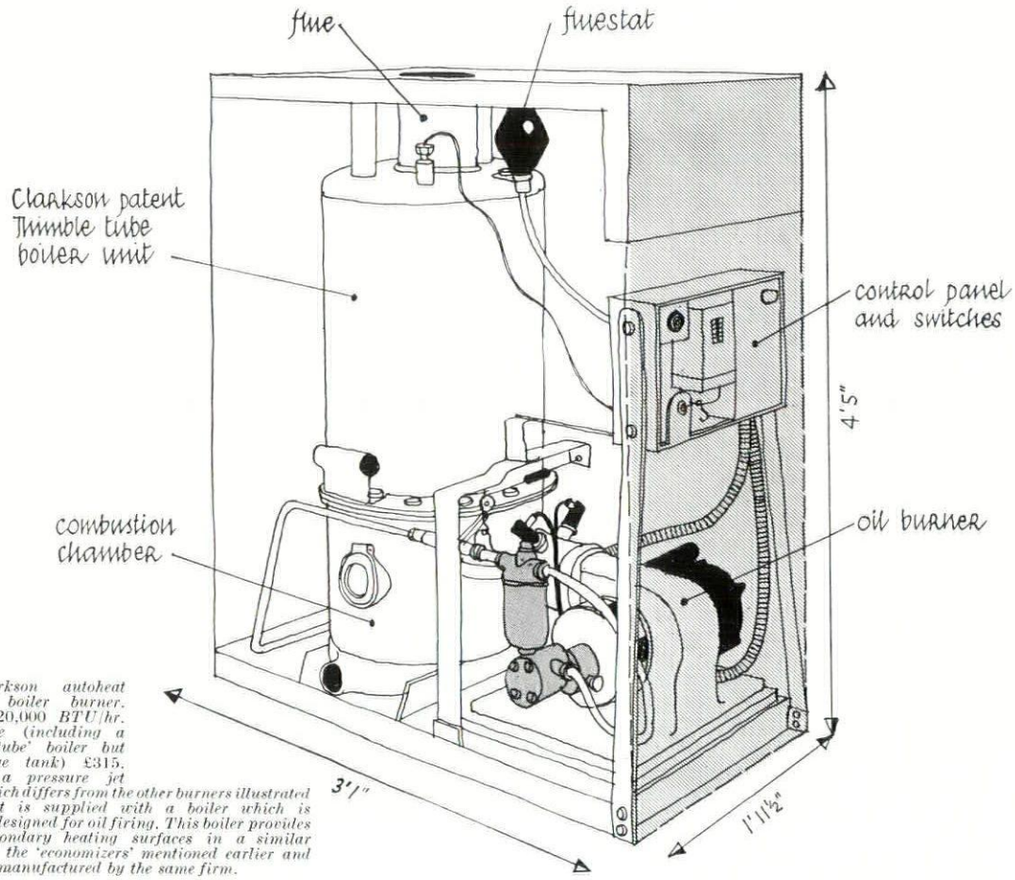


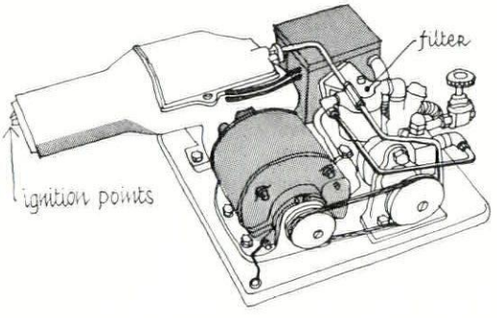
13, *Emulsor low-pressure atomizer equipment. Rating* 20,000-75,000 *BTU/hr. List price* £125 *(which includes a* 10 *gallon service fuel tank incorporated in the unit). It must be noted that this burner is unsuitable for installation in pot type boilers.*



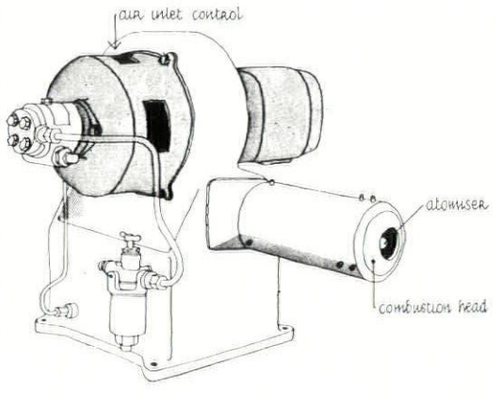
14, *Samoa medium pressure atomizer. Rating* 30,000-100,000 *BTU/hr. List price* £150. *Note there is a second size of burner which has a capacity of* 70,000-200,000 *BTU/hr. The burner is mounted on a metal table with adjustable legs so that the jet can be located at any vertical position between* 9½ *inches and* 17 *inches above floor level.*



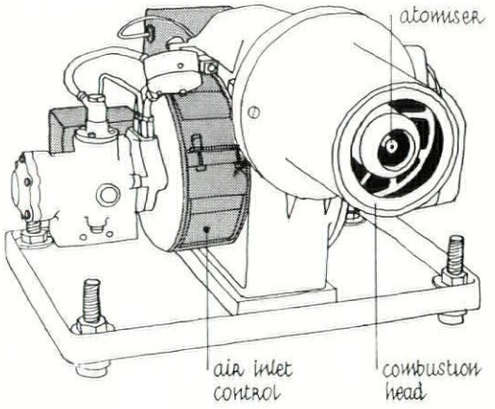
15, *Clarkson autoheat domestic boiler burner. Rating* 120,000 *BTU/hr. List price (including a 'thimble tube' boiler but no storage tank)* £315. *This is a pressure jet burner which differs from the other burners illustrated in that it is supplied with a boiler which is specially designed for oil firing. This boiler provides added secondary heating surfaces in a similar manner to the 'economizers' mentioned earlier and which are manufactured by the same firm.*



16, *Hope's type 'A' pressure jet burner. Rating* 65,000-165,000 *BTU/hr. List price* £100. *Price installed, with* 700 *gallon tank,* £285-£295.



17, *Doby L4/1 pressure jet burner. Rating* 75,000-175,000 *BTU/hr. List price* £135.



18, *Brockhouse pressure jet burner L.O.175. Rating* 75,000-175,000 *BTU/hr. List price* £135.



the trend is to Fuel Oil

More and more architects are specifying oil firing for central heating plants in blocks of flats, hotels, offices and similar large buildings.

The unique flexibility of oil firing is such that heat can be instantly, automatically and accurately controlled through the widest variations to meet peak loads. Outstanding cleanliness in use, high burning efficiency, negligible ash content . . . all lead to economies in handling costs, storage space and ash disposal.

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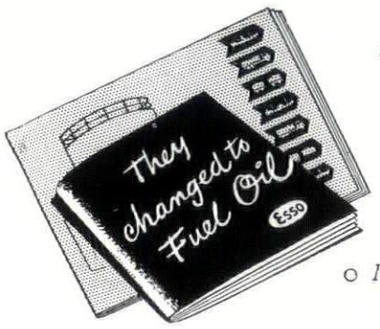

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ing the fuel is ignited by a 10,000 volt spark arcing across two electrodes at the jet face. Some manufacturers arrange for the spark to operate continuously during combustion, others arrange for it to cut out when ignition has been achieved; in the latter arrangement it is necessary to devise means to keep the flame stabilized at the jet face.

conclusions

With the small amount of data at present available it is difficult to indicate clearly how the choice between the semi-automatic vaporizer and the fully automatic atomizer should be made. In general it appears the vaporizer is initially the cheaper installation, but at the same time its response to control is not so precise as the atomizer. Further, the continual presence of the burner flame, inefficient when burning low, may result in running costs greater than an atomizer with the same output.

The choice between the two types can only be made on the basis of careful consideration of the particular requirements; when the quantity of heat required is between 25,000 and 80,000 BTUs, and the frequency of demand does not fluctuate too considerably during a 24 hour cycle, a vaporizing burner, of the correct capacity and carefully set, should prove reliable and economical. The atomizer, on the other hand, is manufactured to generate greater quantities of heat, and, therefore, should be used in situations where extensive space heating is required, and, because the flame is completely cut off when there is no demand for heat, it is particularly suited to situations where demand fluctuates and varies in quantity between wide limits.

Equipment shown in the illustrations is manufactured by the following firms: 3A, 16, Hope's Heating and Engineering Ltd., Smethwick, Birmingham, 3B, 11, Associated British Combustion Ltd., Porchester, Fareham, Hants, 4, 5, 6, Sunrod Ltd., Cray Avenue, St. Mary Cray, Kent, 7, 8, 15, The Clarkson Thimble Tube Boiler Co. Ltd., 15, Fetter Lane, London, E.C.4., 9, Prior Stokers Ltd., 1-3, Brandon Road, Yorkway, London, N.7, 10, Nu-way Heating Plants Ltd., Droitwich, Worcs., 12, Vaporheat Ltd., 212-213, Grand Bdgs., Trafalgar Sq., London, W.C.2, 13, British Oil Burners Ltd., 9, Warren St., London, W.1, 14, Franglo Products Ltd., 3, Pipe Lane, Bristol 1, 17, British Doby Stokers Ltd., 4, Stratford Pl., London, W.1, 18, Brockhouse Heater Co. Ltd., Victoria Works, West Bromwich, Staffs.

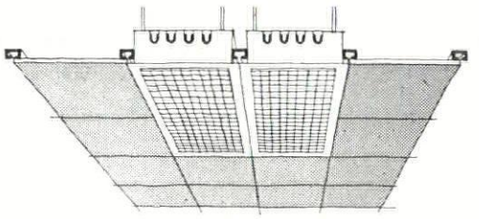
4 THE INDUSTRY

ARCHITECTS' COLOUR RANGE

There are repeated signs that architects are at last coming to their own in the composition of paint manufacturers' colour ranges. For too long colour cards have been dominated by the reputed preference among paint users for the different shades of mud. A particularly good colour book has just been published by Joseph Mason & Co.; good both in the range of colours which it shows and the business-like way in which it shows them: dual sheets of generous size enable you to compare any shade with any other while on the back of each leaf is printed the reflectance value of the colour on the face. Lastly, part of the book is devoted to 47 colours chosen from the Archrome (Munsell) range. In preparation advice was given by the architects Samuel Morrison and Partners. Obtainable from *Joseph Mason & Co. Ltd., Nottingham Road, Derby.*

RECESSED LIGHTING FITTINGS

Modular co-ordination in industry now generally takes the form of co-ordination round certain recognizable structural elements, such as the curtain wall or the suspended ceiling. An example of this is afforded by BTH's 'module' lighting fittings which have been designed to fit into the various proprietary suspended ceilings. The basic fitting comprises a



sheet steel box with a flange which has one outside dimension of 2 feet and a second outside dimension which can be 2 feet, 3 feet 4 inches, 4 feet or 6 feet. The box (which is suspended from above the ceiling) can receive tungsten or fluorescent lights (or both) and can be fitted with a wide variety of diffusing panels. *The British Thomson-Houston Co. Ltd., Crown House, Aldwych, London, W.C.2.*

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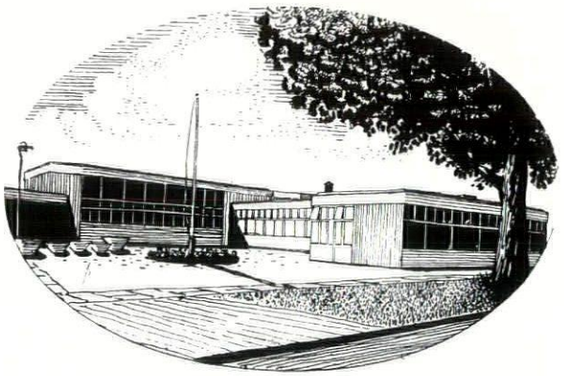

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continued from page 66]

CONTRACTORS etc

Secondary School at Sheffield. *Architects:* Architects' Co-Partnership. *General contractors:* Public Works Department, Sheffield. *Sub-Contractors: Steelwork and external cladding:* Hills (West Bromwich) Ltd. *Heating installation:* Wright Bros. (Sheffield) Ltd. *Hot water services:* R. E. Heathcote & Sons. *Electrical installation:* Yorkshire Electricity Board. *Piling:* The Cementation Co. *Laboratory drainage:* Chemical Pipe & Vessel Co. *Gas installation:* East Midlands Gas Board. *Tennis courts and playing fields:* The En-Tout-Cas Co. *Sliding and folding doors:* Esavian Ltd. *Ceiling fixers:* Hall & Co. *Tanking:* John Hadfield & Sons. *Cork tiles, wood block floors, wood strip floors:* Hollis Bros. *Stage and Hall curtains:* Gerald Holtom (Printed Textiles). *Thermoplastic tiles:* Letco Floors & Tiles, Ltd. *Roofing felt:* Northern Asphalt & Roofing Works Co. *Steel roof decking:* Permanite, Ltd. *Fibrous plaster:* Plaster Decoration Co. *Exterior decoration:* Quickset Water Sealers Ltd. *Gymnasium equipment:* Spencer, Heath & George, Ltd. *Sanitary fittings:* Adamsez, Ltd. *Fireplace Grate and Back:* Bratt Colbran, Ltd. *Ceiling panels:* The Cape Asbestos Co. *Adjustable louvres:* H. W. Cooper & Co. *Acid neutralizing chamber:* Doulton & Co. *Sanitary fittings:* W. Emery & Co. *Rayburn cookers:* B. Finch & Co. *Kit Lockers:* James Gibbons Ltd. *Cubicle track:* Hunter & Hyland Ltd. *Toilet incinerator:* The Hygienette Mfg. Co. *Firepiace tiles:* H. & R. Johnson, Ltd. *Wood wool:* The Marley Tile Co. *Ironmongery:* Mountford Bros.; Neville Watts & Co. *Sanitary fittings:* John Norton & Son (Sheffield). *Window cleaning cradle fixings:* Palmer's Travelling Crane & Scaffold, Ltd. *Shower curtains:* Proctors, Ltd. *Mats:* Public Health Department, Welfare of the Blind Dept. *Wallpaper:* Sandersons, Ltd. *Ironmongery:* Smith Bros. & Widdowson, Ltd. *Facing bricks:* G. Tucker & Sons. *Hose reels:* A. W. V. Turner & Co. *W.C., shower partitioning and Permaply panelling:* Venesta Ltd. *Mixing valves:* Walker Crosweller & Co. *Sanitary fittings:* Woodhouse & Co.

Secondary School at Hatfield for Herts C.C. *Architects:* Architects' Co-Partnership in collaboration with the County Architect. *General contractors:* Welwyn Builders Ltd. *Sub-contractors: Bitumetal roofing:* William Briggs & Sons. *Fencing:* Chain Link Fencing Ltd. *Chemical resisting traps and wastes:* Chemical Pipe & Vessel Co. *Curtains and tracks:* Gerald Holtom (Printed Textiles). *Wood and thermoplastic flooring:* Hollis Bros. Ltd. *Window blinds:* London Blinds. *Sump pump and ash hoist:* Wickham Engineering Co. *Fibrous plaster:* Plaster Decoration Co. *Electrical installation:* A. Tindall & Sons. *Windows:* Quicktho (1928) Ltd. *Skylight:* Crittall Mfg. Co. *Gymnasium equipment:* Spencer, Heath & George Ltd. *Tarmacadam paving:* Home Counties Tarmacadam Contracting Co. *Floor tiling:* Haradine Rouse & Co. *Plastering and paving:* R. F. Jones. *Plumbing:* Lakers (Sanitation and Heating Ltd.). *Asphalte tanking:* Excel Asphalt Co. *Painting and decoration:* Ernie Bayliss Ltd. *Glazing:* Mustill Wallis & Co. *Earth moving:* Joe Beaton, Ltd. *Aluminium alloy r.w. fittings:* Alumasc Ltd. *Aluminium alloy r.w. pipe:* T.I. Aluminium, Ltd. *B.A. partition blocks and manhole covers and frames and C.I. floor gratings:* Broad & Co. *Ironmongery:* Nettleford & Moser Ltd. and A. J. Binns Ltd. *'Triped' door mats:* James Benson, Ltd. *School furniture:* Gee, Walker & Slater, Ltd. *Wall panel units:* Boulton & Paul, Ltd. *Timber components to roof framing:* Samuel Elliott & Sons (Reading). *Roof lights:* Greenwoods & Airvac Ventilating Co. *Precast flower pots:* Walter Lawrence & Son. *Cloakroom fittings:* Mountford Bros. Ltd. *Facing bricks (external):* R. Passmore & Co. *Facing bricks (internal):* J. H. Sankey, Ltd. *Sanitary fittings:* Stitsons Sanitary Fittings, Ltd. *W.C. Partitions:* Venesta, Ltd. *Reinforcement:* Twisteel Reinforcement Ltd. *Preformed copper wastes:* Econa Modern Products, Ltd. *Cerebros floor tiles:* William Lockhart, Ltd. *Paint:* Docker Bros. *Wood finishes:* Nu-finishes, Ltd. *Sliding door gear:* P. C. Henderson, Ltd.; British Trolley Track Co. *Astos and Ledtrinda DP course:* J. Byford. *Expamet angle bead:* The Expanded Metal Co. *Gyproc Acoustic ceiling boards, bitumen bonded fibreglass and Celotex insulation board:* Fine-Fare, Ltd. *Internal plywood wall linings:* M. L. Meyer, Ltd. *Sundeala 'A' wall board (pin-ups):* Sundeala Board Co. *Drain goods:* Travis & Arnold, Ltd.

Chaddesden Secondary Modern School, Derby, for Derby C.C. *Architect:* Architects' Co-Partnership, in association with the County Architect. *General contractors:* Ford & Weston, Ltd. *Sub-contractors: Structure and cladding, steel frame steel staircases, metal balustrades, p.c.c. floor units, roof lights, external p.c.c. cladding, glazing, steel casement windows, internal door frames and external doors:* Hills (West Bromwich) Ltd. *Internal partition panels:* British Plasterboard (Holdings) Ltd. *Inner lining panels to external walls:* Laconite Ltd. *Electrical installations:* Hartley Installations Ltd. *Heating, hot water installations and cold water:* Weatherfoil Heating Systems. *Suspended ceilings: Gypsum asbestos sheeting:* Cape Asbestos Ltd. *Perforated acoustic fibreboard:* Anderson Construction Co. *Sanitary fittings:* Adamsez, Ltd. *Copper waste fittings:* Thos. Crump & Co. *Ironmongery:* Parker, Winder & Achurch Ltd. *Floor and stair finishes: Laminated wood strip:* Masters & Andren, Ltd. *Wood block:* Hollis Bros. Ltd. *Thermoplastic tile:* Marley Tile Co. *Linoleum:* Korkoid Decorative Floors.

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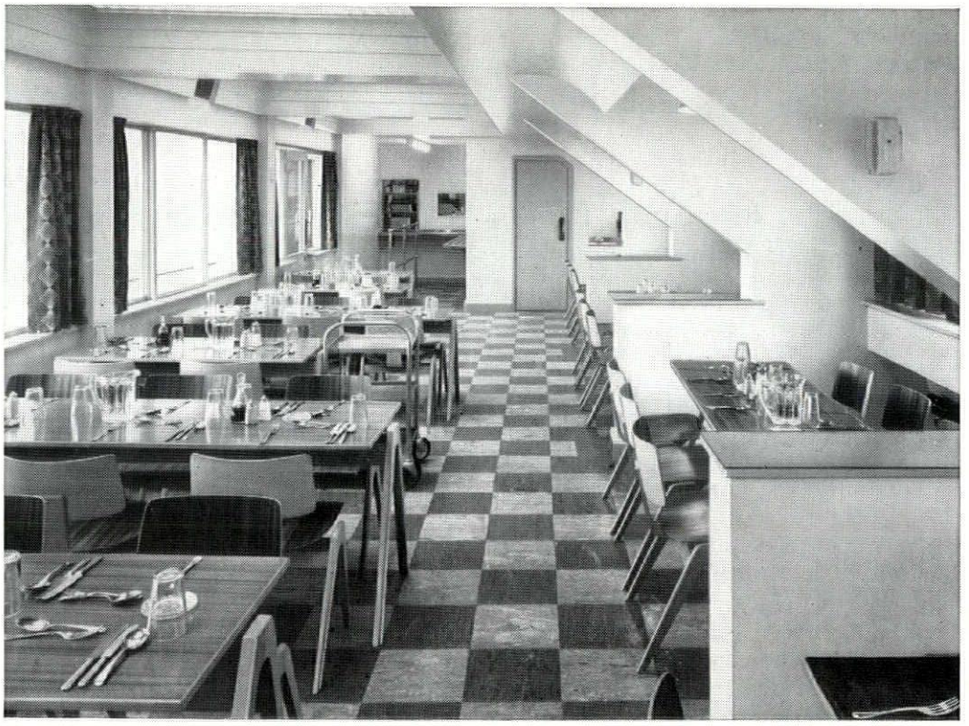
In good taste



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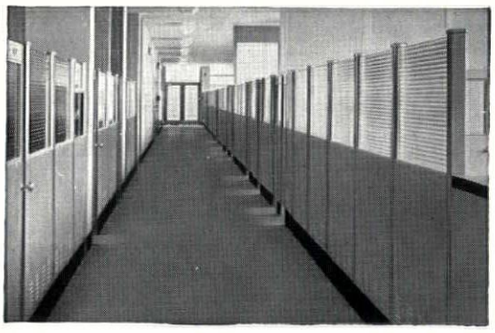

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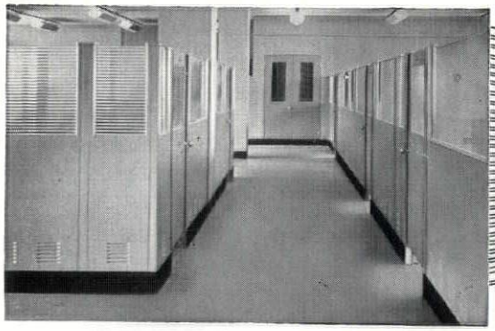

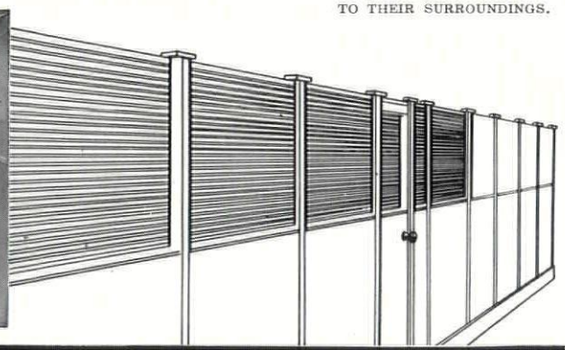

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Ceramic tiles (entrance): Langley (London) Ltd. *Wall tiling:* Carter & Co. *Internal doors:* Leaderflush, Ltd. *Brick facings:* Geo. Tucker & Son. *Chimney:* Chimneys, Ltd. *Impregnated plywood cladding sheets, and lavatory partitions:* Venesta, Ltd. *Asphalt tanking:* Highways Construction Co. *Roofing: 3-ply bituminous felt and felt tanking and d.p.c.s:* Northern Asphalt, Ltd. *Wood wool slabs:* Thermacoust, Ltd. *Aluminium roof decking and 3-ply bituminous felt:* William Briggs & Sons. *Fibrous plaster:* Plaster Decoration Co. *Window cleaning cradles and bolts:* Palmers Travelling Cradle & Scaffold Co. *Venetian and blackout blinds:* J. Avery & Co. *Book lockers:* Gee, Walker & Slater, Ltd. *Curtains and tracks:* Gerald Holtom. *Furniture:* Geo. M. Hammer & Co., Hopewells, Ltd. and Heal & Son. *Lighting fittings:* Hartley Installations, Ltd., Merchant Adventurers, Ltd., Hale, Wood & Ackroyd, Ltd. and Hume Atkins, Ltd. *Assembly Hall curtain tracks and gear:* Hall Stage Equipment Ltd. *Gymnasium rooflights and kitchen extract fan:* Greenwoods & Airvac Ventilating Co. *Entrance gates, railings and chain link fencing:* Bayliss Jones & Bayliss, Ltd. *Sliding door gear:* E. Hill Aldam & Co. *Incinerator:* The Hygienette Mfg. Co. *Paint:* Docker Bros. *Ash hoist:* Wickham Engineering Co. *Windows for fume cupboards:* Quicktho' (1928) Ltd. *Clocks:* Gent & Co. *Shelving:* designed by Clive Latimer, M.S.I.A.

Factory at Stevenage New Town. *New Town Corporation Architect:* D. P. Reay. *General contractors:* John Laing & Son. *Sub-contractors: Foundations:* The Franki Compressed Pile Co. *Reinforced concrete:* Shockcrete Products, Ltd. *Bricks:* Cement Marketing Co. and London Brick Co. *Structural steel, fencing gates:* Boulton & Paul, Ltd. *Special roofings:* Brock Roofing, Ltd., Macartney, Ltd. and Universal Asbestos Co. *Partitions:* Broad & Co. *Patent glazing and glass:* Faulkner Green, Ltd. *Patent flooring:* Semtex, Ltd. *Plastering:* Pollock Bros. Ltd. *Central heating:* James Combe, Ltd. *Electric wiring:* Holliday, Hall & Stinson, Ltd. *Door furniture:* Alfred G. Roberts, Ltd. *Folding doors:* Educational Supply Assoc. Ltd. *Plumbing:* Mathew Hall & Co. *Sanitary fittings:* Ashley Brandon (Kensington) Ltd. *Doors:* Hills & Son. *Metal:* Clark Hunt, Ltd. *Tiling:* Carter & Co. *Signs:* The Lettering Centre. *Paint:* Leyland Paint & Varnish, Ltd.

Church at Sidley, Sussex. *Architect:* Alex F. Watson. *General contractors:* E. Godwin & Sons. *Sub-contractors: Dampcourse:* Ruberoid Co. *Bricks:* The Sussex & Dorking Brick Co. *Insulation quilt:* Huntley & Sparks, Ltd. *Tiles:* Marley Tile Co. *Woodstrip:* Horseley Smith & Co. (Hayes). *Patent flooring:* Highway Construction, Ltd. *Waterproofing materials:* The Cement Marketing Co. and Chemical Building Products. *Central heating:* Comyn Ching & Co. (London). *Gas fixtures:* Ascot Gas Water Heaters, Ltd. *Electric wiring:* Higgins & Cattle, Ltd. *Electric light fixtures:* The Merchant Adventurers, Ltd., Courtenay Pope (Electrical) Ltd. and Falk Stadelmann & Co. *Door furniture:* A. J. Binns, Ltd. *Casements and window furniture:* Wainwright & Waring, Ltd. *Plaster:* Gyproc Products, Ltd. *Connectors of roof timbers:* Kerby Engineering Co. *Paints:* Lewis Berger (Great Britain) Ltd. *Pews:* E. J. Bowles & Sons.

House at Totteridge, Herts. *Architects:* Sydney Greenwood & Howard N. Michell. *General contractor:* John Laing & Son. *Sub-contractors: Bricks (golden brown facings):* Proctor & Lavender, Ltd. *Bricks (Tuscan facings):* London Brick Co. *Stone, marble:* Anselm Odling & Son. *Special roofings (cedar shingles):* W. M. Walker & Co. *Roofing felt:* Permanite, Ltd. *Glass:* Pilkington Bros. and Newman & Watson, Ltd. *Patent flooring (mosaic) and tiling:* S. A. Forbes & Sons. *Central heating, plumbing:* G. N. Haden, Ltd. *Fireplace:* Allied Ironfounders, Ltd. *Gas fixtures:* Eastern Gas Board. *Electric wiring:* Holliday Hall & Stinson. *Electric light fixtures:* Merchant Adventurers of London, Ltd., Troughton & Young, Ltd. and Falk Stadelmann & Co. *Electric heating:* Bratt Colbran, Ltd. *External tilings:* Carter & Co. (London) Ltd. *Sanitary fittings:* Shanks & Co. *Door furniture:* A. G. Roberts, Ltd., A. J. Binns, Ltd. and Childs Constantine & Co. *Casements, sunblinds, window furniture, greenhouse (metal windows):* Crittall Manufacturing Co. *Carda windows:* Holcon, Ltd. *Plaster:* Pollock Bros. *Textiles, built-in fittings, furniture:* Heal & Son, Ltd. *Wallpapers:* John Line & Sons. *Shrubs, trees, landscaping:* F. C. Courten & Co *Water softening plant:* Permutit. *Signs:* Franco Signs, Ltd. *Wall panel:* Thermalite Ltd.

Bar at Grosvenor House, W.1. *Designer:* R. D. Russell. *General contractors:* Holland & Hannen & Cubitts, Ltd. *Sub-contractors: Stone paving, skirting, marble footrest:* J. Whitehead & Sons. *Lighting:* Anthony Juer Lighting, Ltd. *Heating and ventilating:* Ashwell & Nesbit, Ltd. *Carpet:* I. & C. Steele & Co. *Upholstery and curtains: hide:* Connolly Bros. (Curriers). *fabric:* W. A. Percheron and John W. Caller, Ltd. *Corktile flooring:* Armstrong Cork Co. *Sliding glass panels:* P. G. Allday & Co. *Suspended steel framing for ceil panels:* W. H. Colt Ltd. *Plant arrangements:* Mary Braendle. *Alterations to handrailing in lounge:* C. A. & A. W. H. Haward, Ltd. *Floor springs and hinges: night latches:* A. J. Binns, Ltd. *Decorated looking glass:* Pugh Bros. Ltd. *Refrigerated cupboards:* Gaskell & Chambers, Ltd. *Occasional tables—bar stools:* Ernest Joyce. *Chairs:* Russell Furnishings, Ltd. *Decanters:* designed by R. Y. Goodden and made by Webb & Sons.

Bar at the Midland Hotel, Manchester. *Designer:* John Carter. *Chairs and tables:* Finmar, Ltd. *Upholstered chairs:* Horace Holme. *Contractors:* Harris & Sheldon, Ltd.



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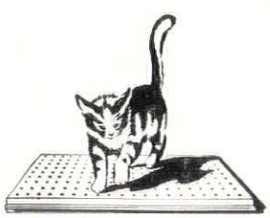

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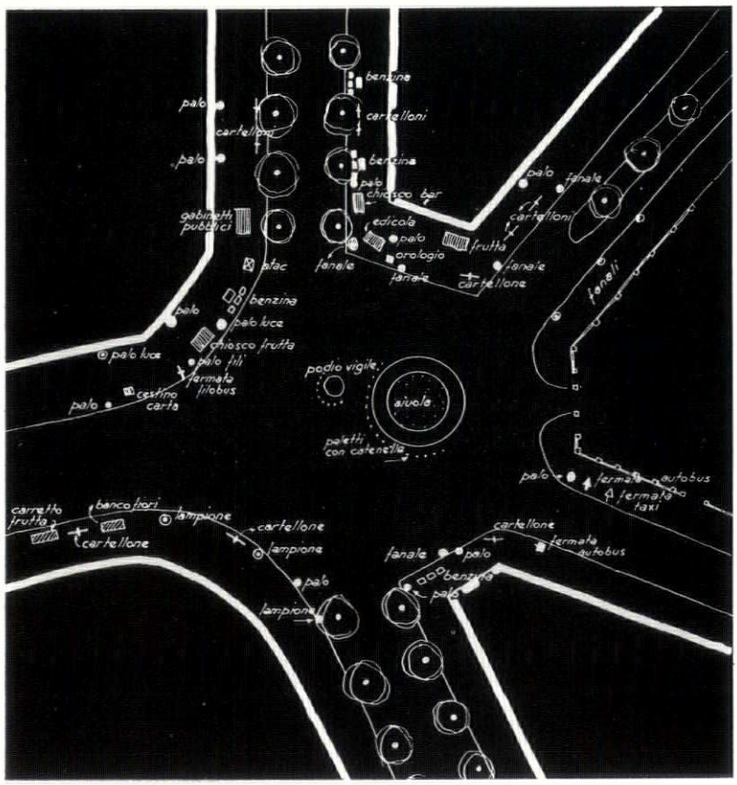
MARGINALIA

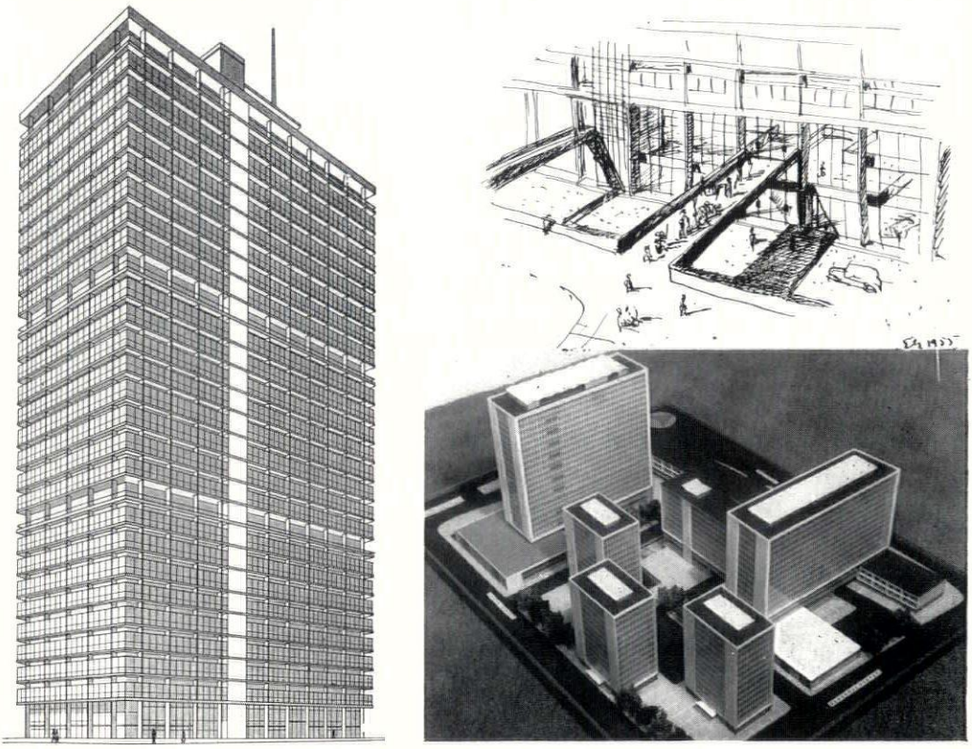
L'Architettura

With the apparent demise of *Spazio*, Rome has appeared likely to find itself without an architectural magazine of breadth and stature commensurate with the Eternal City's standing in the Modern Movement, but the apparent and equally regretted demise of *Metron* has now resolved itself into Metron-transmogrified—*l'Architettura*, a new bi-monthly which will clearly carry weight. It inherits much from *Metron*, most notably its typography and its editor, Bruno Zevi, but the earlier paper's connection with Signor Olivetti's *Communità* programme of social and technological reform seems to have been severed, and replaced by a linkage with the urbanistic studies of the *Fondazione Aldo Della Rocca.*

The Della Rocca contribution comes as a separate supplement at the back of the magazine, the rest of which follows the programme of: 1, Editorial and short editorial notes; 2, recent buildings; 3, projects; 4, articles on general subjects; 5, history and criticism; 6, structural techniques, and 7, bibliographical and other notes. The programme is familiar enough, but English readers will find *l'Architettura* more familiar than that. In his full-dress editorial Bruno Zevi says that the magazine 'is different from the others. The London *Architectural Review* is the most similar, though that magazine is a product of a culture less methodologically strict and more psychologically fertile than ours.' Just *how* similar is shown by the appearance of an article on 'Paesaggio Urbano'—or Townscape with an Italian accent. This would appear to be the first deliberate use of the word, and the accompanying techniques of visual analysis, in any European magazine, and we wish Vittoria Calzolari good hunting in one of the richest Townscape / Outrage terrains in the world, the streets of Rome.

But a study of her article will show what Zevi means by 'methodologically strict and psychologically fertile'—if not in quite the sense he intended. A map of the Piazza Ungheria with every piece of street furniture located and named shows, perhaps, a more methodical approach than is common in English practice, but also a more abstract one, while her complaint that 'the vista down a street (often) ends in the gigantic "M" of Motta cakes instead of an obelisk or campanile' seems to suggest an aprioristic assumption that all obelisks are better than Motta advertisements—an attitude which might easily prove psychologically infertile if pushed to methodologically strict conclusions.

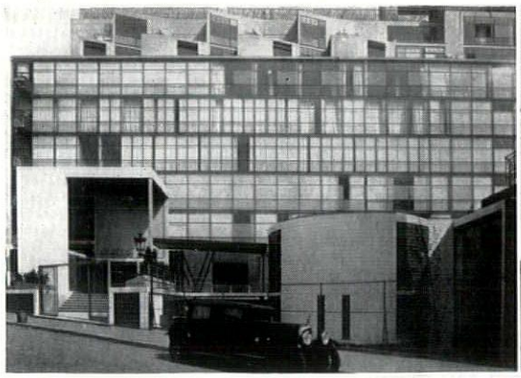




HIGH RISE IN THE CITY. Two more projects for high-rise developments in the City of London have been announced recently. For a site in Moorgate the architects Erno Goldfinger and H. T. Cadbury-Brown have designed a free-standing tower block, left, of twenty-seven storeys. Vehicle access is to be below pavement level, as shown in the architect's drawing, right above, and the recessed floors at the ninth and eighteenth storeys are intended for palatial executive suites. The other project, below, is a small comprehensive development for one end of the Barbican site, designed by C. Edmund Wilford, for the Hammerson Group of Companies. This is a mixed development with building heights ranging from three to twenty-seven storeys, and full provision for shops and extensive underground car-parking.

Turn Again

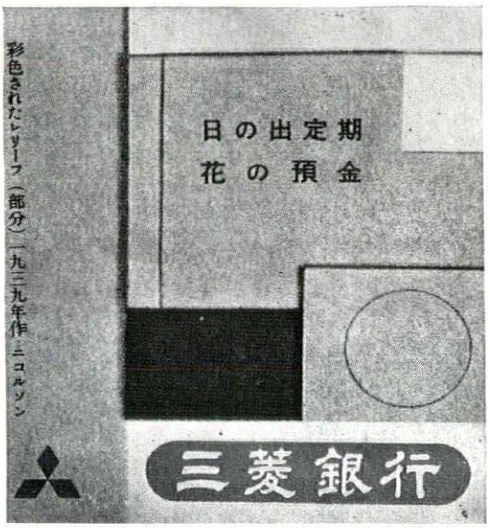
The special value of the MARS Group exhibition 'Turn Again', staged last month as a 'protest against the lowered architectural standards in the City of London' was that it carried the war right into the enemy's camp. It was held in the courtyard of the Royal Exchange and, what is more, was opened by the Lord Mayor. It consisted of photographs of modern city buildings—European, North and South American and a few English. Assuming that the people who sponsor the monstrosities with which the City is being burdened at present do so in ignorance of any alternative, it is obviously desirable and useful to show them what other cities have achieved by being aware of the existence of contemporary architecture. But the exhibition did not explain that the advantages of modern architecture do not only lie in the fact of its being contemporary and aesthetically more appropriate, but in its being more efficient and economical because it makes full use of modern techniques. Neither did it try to relate the architectural argument to the needs of the City, and thus ignored all questions of townscape and the relationship between buildings, on which the quality of the City will ultimately depend. Nevertheless, if it made some City business men look more critically at their own productions it will have added a little to the campaign of protest, which must be pursued further by all possible means—preferably more constructive ones.







LE CORBUSIER: TWENTY YEARS AFTER. The present condition of two master-works of Le Corbusier, completed between 1930 *and* 1933, *is shown in these two recent photographs by Robert Browning. Above, the* Cité de Réfuge, *Paris, now once more in excellent condition mechanically and structurally, with the added* brise-soleil, *by Pierre Jeanneret, which has so drastically altered the appearance of the great glass façade (previous condition, upper left) that a complete re-appraisal of its architectural qualities is required. Below,* Les Heures Claires *(the Savoye house at Poissy) after fifteen years of neglect; in spite of discoloration of the rendering which is no worse than that shown by English Regency stucco-work after comparable periods without maintenance, the house seems as sound as ever and much of the plate glass is still intact. Evidence of present agricultural occupancy is to be seen all around, and the guest-suite on the ground floor is occupied—its present aspect unfortunately re-inforces the comparison with Palladian villas suggested by Colin Rowe in his article,* The Mathematics of the Ideal Villa (*AR, March,* 1947).



JAPANESE INFLUENCE—ON JAPAN. The Influence of Japanese art on the avant-garde *artists of the west from Baudelaire to Charles Eames is something that every beginner in the history of the Modern Movement is expected to know about. The continuous influence exercised by Japan on the rise of abstract art, round-about through Whistler and Gauguin to Mondriaan and on to Mies and Ben Nicholson is particularly notable, and the aesthetic debt which has been accumulating over the last century has now mounted to almost world-bank proportions. Repayment has now begun, however, and in kind. It was an expendable mass-produced art—the popular* Ukiyoye *prints—which spread Japanese influence abroad, and it is on expendable mass-produced objects that Western abstract art has gone back into Japan, for the 'relief' after, and credited to, Ben Nicholson which is reproduced above is a current Japanese match-box cover.*

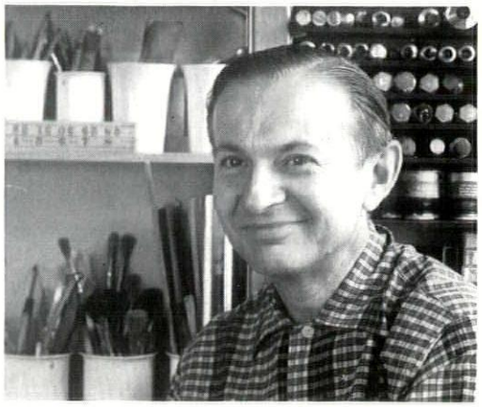
Architect of the House in Hampstead. Alexander Gibson. Succeeded in being born, early in the century, in a pair of early Victorian semi-detached houses—Greek and decayed. Earliest memory, lying in pram looking at Cabbage White flying round Doric capital. Miserable schooldays alleviated by cricket and lectures on Italian Renaissance. False start as accountant, followed by five irresponsibly happy years at A.A., remembered chiefly for its bonfires and cricket in the square.

Before the war alternated between the offices of Gropius & Fry and Norman & Dawbarn, and owes a great debt to Gropius. After the war abandoned a solitary and too private practice of war damage and drainage to join Design Research Unit. Has since designed houses, farms, exhibition stands,



interiors, and with Misha Black the Regatta Restaurant on the South Bank.

Lives in Hampstead: is married to a marionette operator, who keeps a family of three children adequately strung together, and unties the worst of the knots. Eldest son, refusing to be warned, is finishing his first year at A.A.; second one has accepted warning; daughter draws, models, rides, grooms, lives and dreams about horses.



Architect of the House at Santa Fé. Alexander Girard, born in New York 1907. Graduate of RIBA; then studied and had first practice in Italy, returning to US in early 1930s. Much of his work has been in the field of exhibition and showroom design, together with some offices and a number of private houses, including two for his own occupation, the first at Grosse Pointe, Michigan (AR, April, 1950) and the second, which appears in this issue, at Santa Fé.

Intelligence

The RIBA London Architecture Bronze Medal for 1954 has been awarded for the Ackroydon Estate, Wandsworth (AR, October, 1954), designed by the architect to the LCC. The RIBA Bronze Medal for the three-year period ending 31st December, 1954, in Essex, Cambridge and Hertfordshire, has been awarded for the Harrowfield Boys' Secondary School, Harold Hill, Essex, designed by Richard Sheppard & Partners.

ACKNOWLEDGMENTS

MARGINALIA, page 72: Corbusier, 2 & 3, Robert Browning; PAUL HOGARTH, pages 75—79: Alan M. Bechervaise; HOUSE AT SANTA FÉ, pages 81—86: Alexander Girard; HOUSE AT HAMPSTEAD, pages 87—89: Galwey, Arphot; SCHOOLS AT HARLOW AND HORNSEY, pages 98—105: Galwey, Arphot; PEDESTRIAN SHOPPING CENTRES, pages 106—110: Galwey, Arphot; CURRENT ARCHITECTURE, pages 111—114: all photographs by John R. Pantlin; MISCELLANY; history, pages 115—116: P. S. Spoker; exhibitions, page 118: 2, Marlborough Fine Art Ltd.; 5, Ernest Brown & Phillips Ltd.; Landscape, page 119: Eric de Maré; Play Sculpture, page 122: Mitzi Cunliffe. SKILL, Interiors, pages 125—127: Offices in Park Lane & Copthall Avenue, Galwey, Arphot; pages 128—129: offices in Aldford St., Wainwright; Design Review, pages 129—132: Toomey, Arphot.

Three Schools by the Architects' Co-Partnership

The colour half-tone blocks on pages 21, 23, 24, 25, 27 and 28 of the July issue were made available by courtesy of Hills (West Bromwich) Ltd., Welwyn Builders Ltd., Adamsez Ltd., Samuel Elliott & Son (Reading), Quicktho (1928) Ltd., Docker Bros., Boulton & Paul Ltd., Hollis Bros. Ltd., Gee, Walker & Slater Ltd., Weatherfoil Heating Systems Ltd., Gyproc Products Ltd.

Offices in Park Lane

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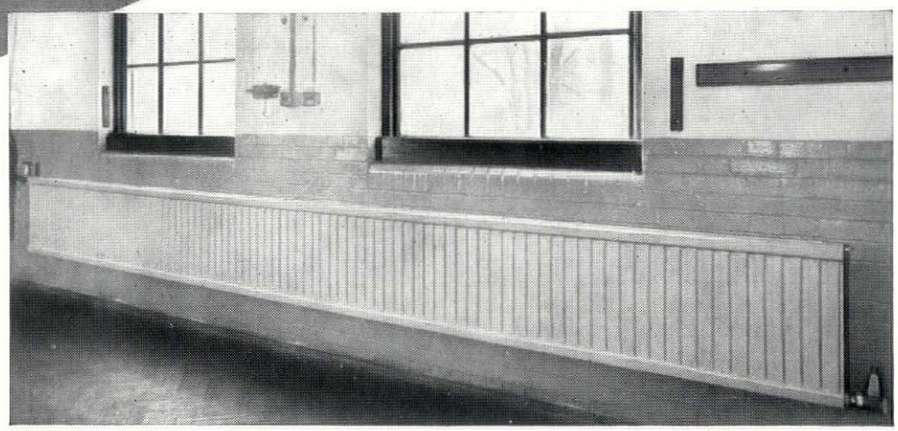

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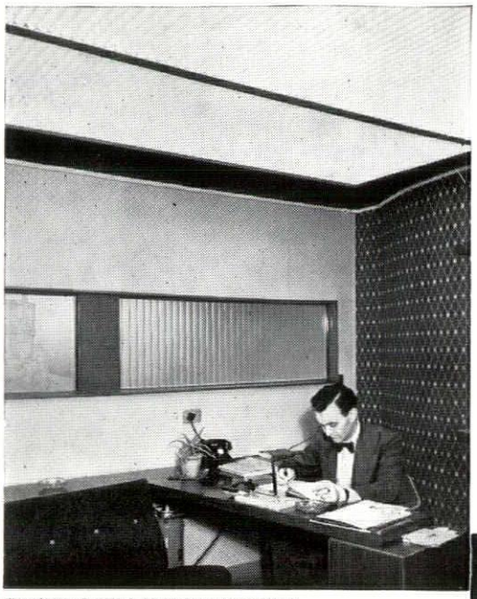

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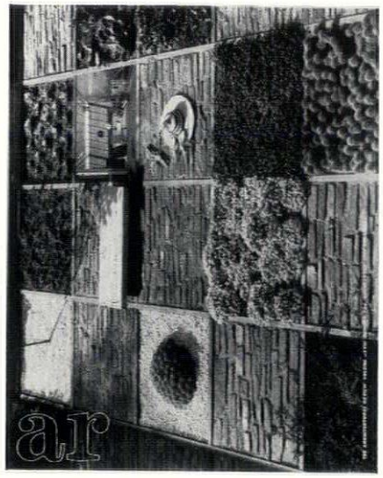
THE ARCHITECTURAL REVIEW

Volume 118 Number 704 August 1955



On the cover the first-floor patio of a house in Hampstead has been interpolated as one of the squares in the chequer-board floorscape of a ground floor patio in Santa Fé. The patio—a dwelling space which is both inside and outside the volume of the house—is a form of room, or form of garden, which is well adapted to any climate where there is pleasure or profit in exposing oneself to one aspect, the great outdoors, be it sunshine or breeze, while protecting oneself against another, be it glare or gale. The two houses are described and illustrated on pp. 80-89.

71 **Marginalia**

74 **Frontispiece**

75 **Paul Hogarth** *by Robert Melville* For reasons which Baudelaire found it worth his while to investigate over a century ago, the topical or topographical drawing has become a subject 'that artists disdain,' and reportage has become the exclusive province of the news photograph, except when some major human upheaval drives a Henry Moore to sketch in air-raid shelters or a Sutherland to record the havoc of the blitz. A figure like Paul Hogarth—a graphic artist reporting as a special correspondent from behind the Iron Curtain—is therefore something of a rarity, and he, like Moore and Sutherland, seems also to need an occasion to rise to but, given his political orientation, the sight of a new China in the building is precisely that, and has called forth his best work to date. Mr. Melville characterizes these particular drawings by their ability to summon up a mood of exuberance and optimism, their largely topographical quality, and their un-centred compositions. If some of them must be judged partial failures aesthetically, they are failures on the side which the artist-correspondent values less than his ability to emblemize man's constructive energies, and if he can grow to emblemize without aesthetic loss then he will have given new life to topographical draughtsmanship.

80 **House at Santa Fé:** *Architect, Alexander Girard*

86 **House in Hampstead:** *Architect, Alexander Gibson*

90 **Blake and Art Nouveau** *by Robert Schmutzler* Having already taken Art Nouveau back to its immediate English sources in the work of Whistler and Rossetti, in THE ARCHITECTURAL REVIEW for February, 1955, Herr Schmutzler now poses the problem of earlier sources still. Had Aubrey Beardsley, the Glasgow school and other key figures of Art Nouveau other sources beyond the Pre-Raphaelites, known to them either directly, or as transmitted through the work of artists active in the middle of the nineteenth century? Examination of the pictorial evidence reveals one such source so clearly that only the widely-held conception of Art Nouveau as a rootless *fin-de-siècle* style can have concealed his contribution—William Blake. Many characteristics of the Pre-Raphaelite generation, such as their mingling of word and picture, which were taken up by the Art Nouveau, had their origins in Blake, and Herr Schmutzler is able to show a continuous stream of Blakian influence, in documents as well as iconography, running right through the century. In particular, he is able to identify an interest in Blake among the members of Mackmurdo's Century Guild, which—as he pointed out in his previous article—must now be given an important place among the immediate sources of Art Nouveau. Beardsley, too, can be shown to have drawn directly upon Blake, and so can Margaret MacDonald, whose influence upon her husband, Charles Rennie Mackintosh, was so vital, and, when the work of the Glasgow school is compared to the type of Blake from which it is descended, it is at once clear how much Art Nouveau differed from Blake, but even clearer that he, with Rossetti and the art of Japan, is one of the movement's chief sources.

98 **School at Harlow:** *Architect, H. T. Cadbury-Brown*

101 **School at Hornsey:** *Architects, Richard Sheppard & Partners*

106 **Shopping Precincts** *by Charles Forehoe and Kenneth Browne* Whatever the future of shopping the corridor street seems unlikely to be a part of it, for it offers the harried pedestrian none of that peace of mind which seems advantageous both to vendor and purchaser. Peace for the pedestrian, however, cannot be bought at the price of complete isolation from motorized circulation, and the problem of designing shopping precincts is one of locating them at points where pedestrian and motorized circulation can interlace naturally and safely, so that the shopper will come there willingly, can circulate safely on foot, and yet remain constantly aware of the mechanized bustle outside. Thus the junctions between the two kinds of circulation become a vital problem: they must present the pedestrian to the automobile and vice-versa, but without becoming clogged with parked cars. The article is supported by illustrations of three notable recent attempts to deal with these problems—at Crawley New Town, at Vanderbijlpark, Transvaal, and in rebuilt Rotterdam—all quite different in their approach and the topographical features at the planners' command, but all making their contributions to a growing world-wide body of skill in presenting the drama of mechanized transport to the pastoral of pedestrian shopping.

111 **Current Architecture**

Miscellany

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117 **Editors Only**

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119 **Landscape**

120 **World**

122 **Play Sculpture**

122 **Books**

Skill

125 **Offices in Aldford Street, W.1:** *Designer, R. D. Russell*

126 **Offices in Park Lane, W.1:** *Designers, Peter Miller and F. H. K. Henrion*

128 **Office in Copthall Avenue, E.C.2:** *Architects, Farmer and Dark*

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THE ARCHITECTURAL REVIEW

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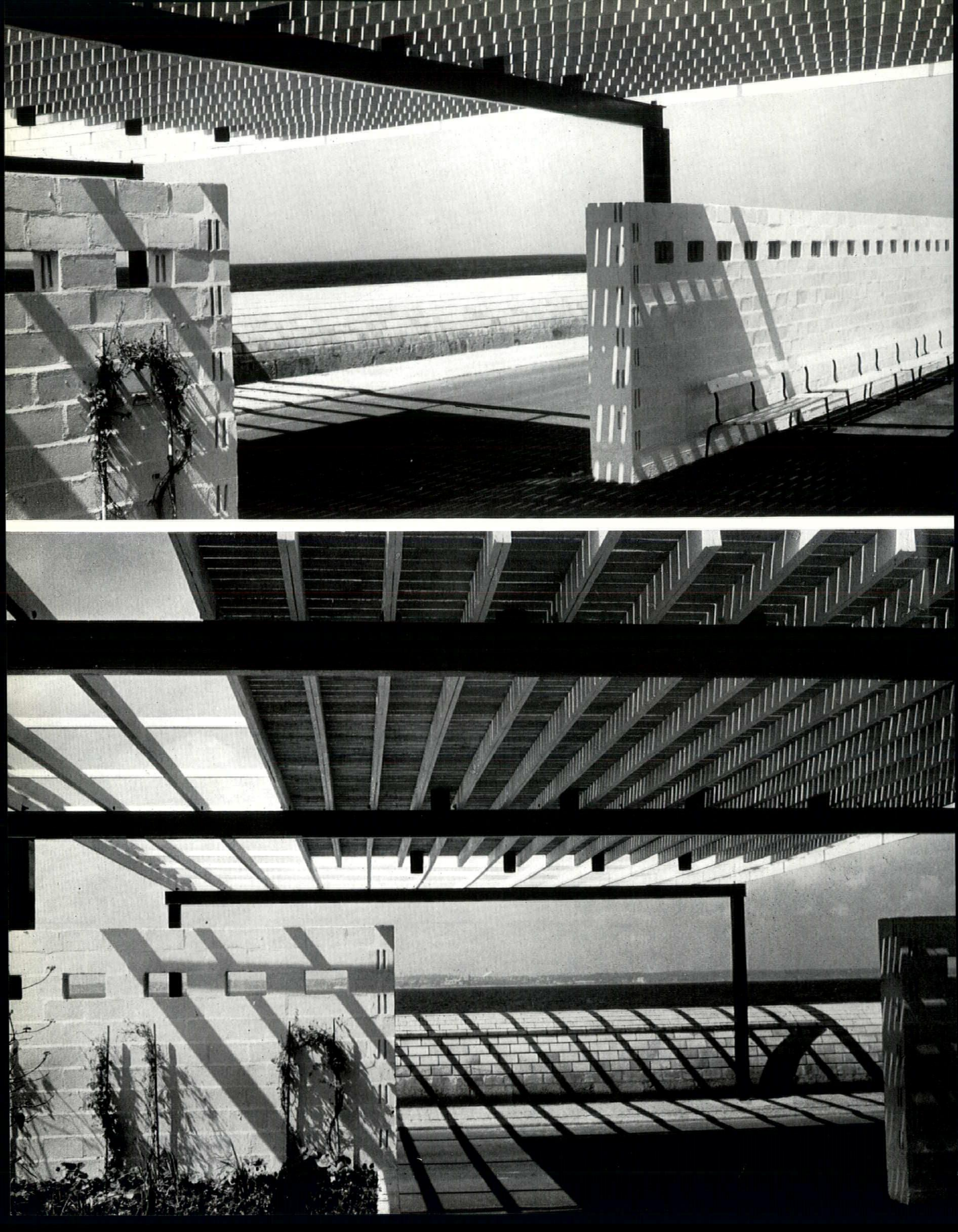
FIVE SHILLINGS



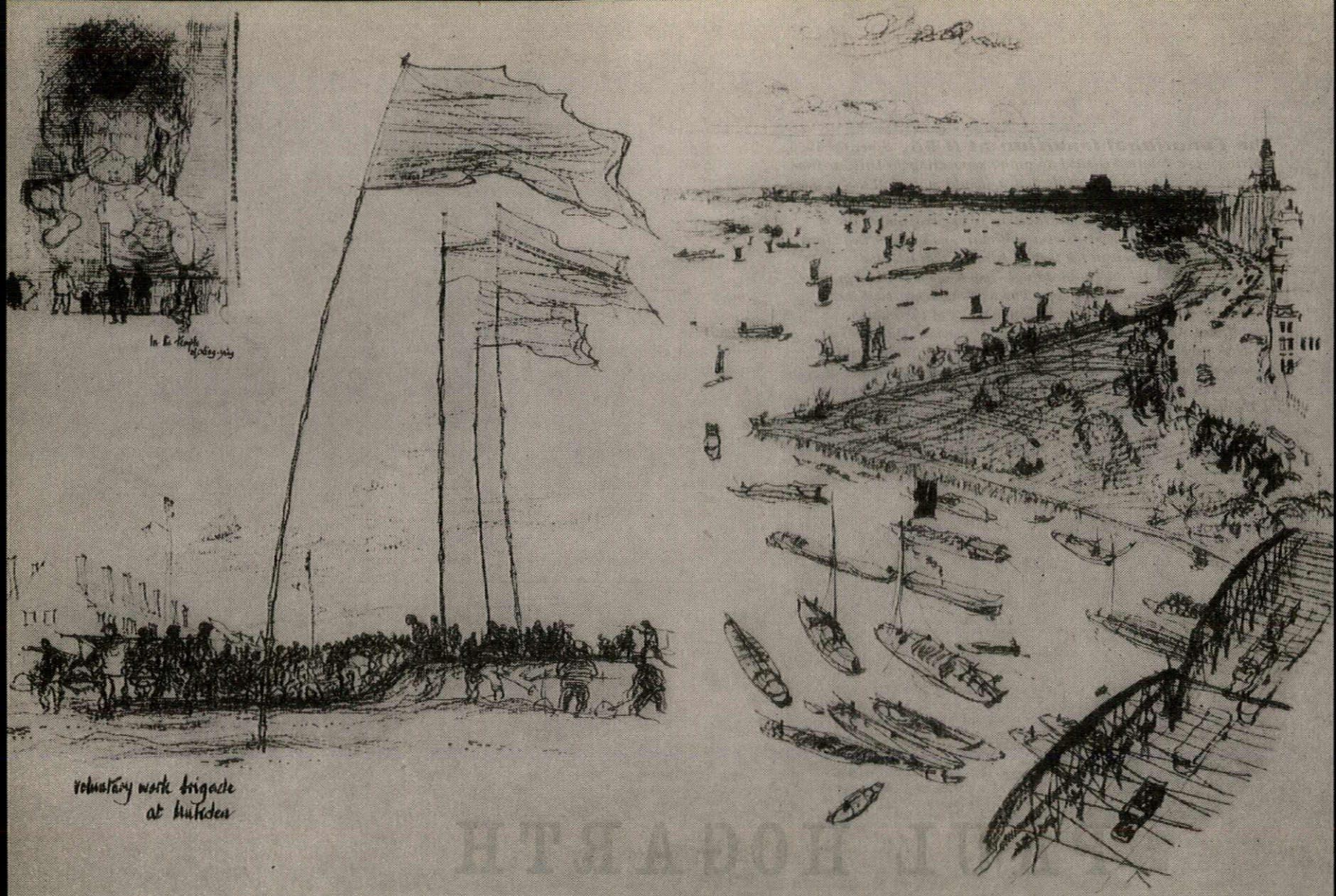
The Functional tradition at H 55. *Since the* 1955 *Hälsingborg exhibition is sited on a pier separating the harbour from the open strait, it is appropriate that it should make full use of the functional tradition, which is largely nautical in inspiration. One characteristic of the functional tradition is its very simple use of the basic geometrical elements of architecture, as in these two views opposite*  *taken in the formal gardens that link the various exhibition buildings—some open to the sky; some partly covered by timber pergolas. The walls which protect the gardens from the sea winds are, like the walls of the smaller exhibition buildings, of breeze blocks, whitewashed. Openings at eye-level permit a view of the horizon. The curved stone wall in the background of the pictures is part of the permanent structure of the pier. In the distance in the lower picture can be seen the coast of Denmark. H55 will be illustrated and described in the* REVIEW'S *October issue.*

Robert Melville

PAUL HOGARTH

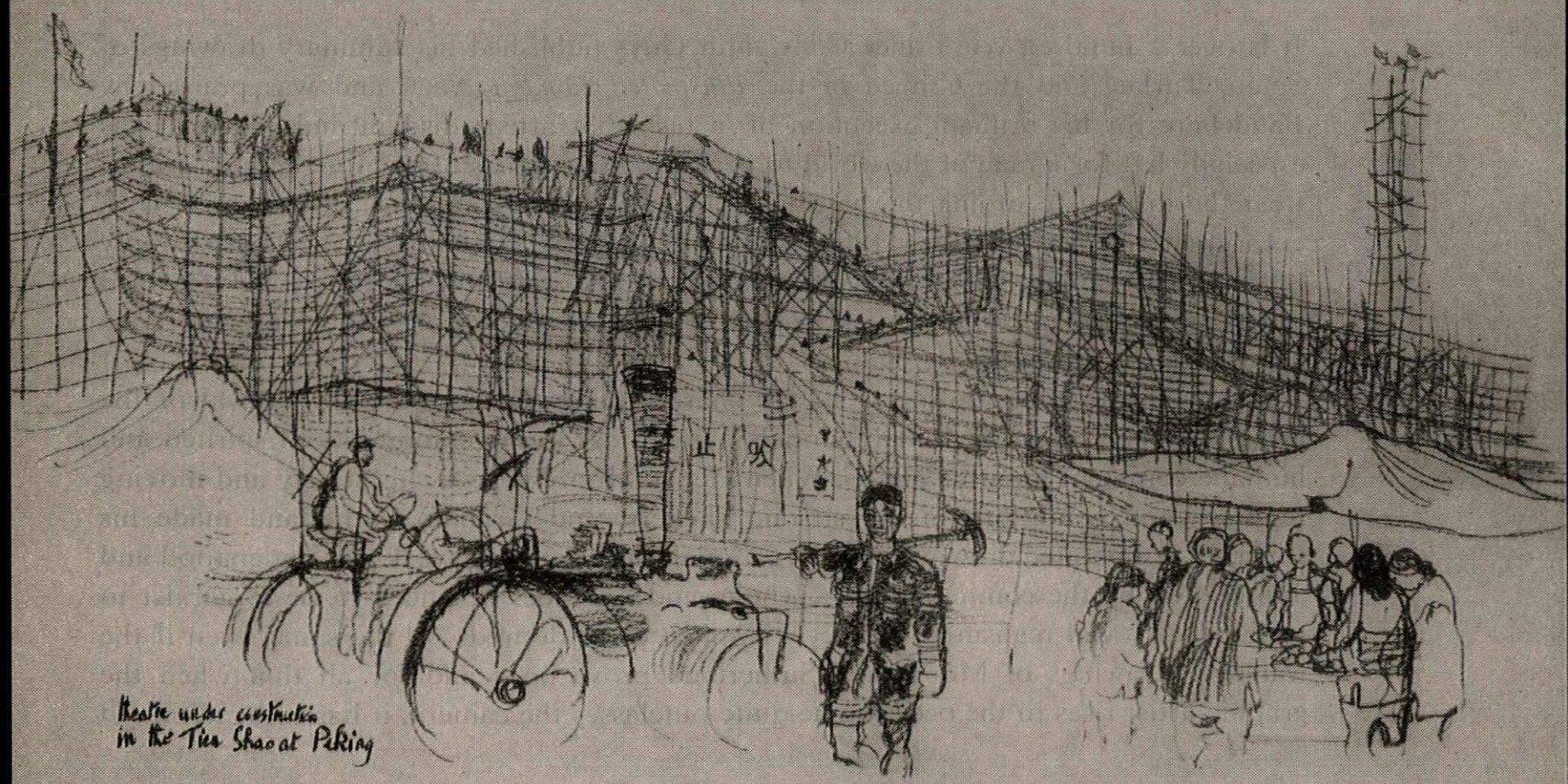
It is over a hundred years since Constantin Guys published his summary drawings of Spain, Turkey and the Crimea in the *Illustrated London News* and was praised by Baudelaire for his brilliant execution of 'a task that artists disdain and which it was especially left for a man of the world to perform'. The artists of our time might seem to treat the task of recording the passing event and the changing face of the world with even greater scorn than their 19th-century predecessors, but in fact they have simply taken it for granted that a topical drawing is a laborious and far too straightforward substitute for the queer, distorted imagery of the news photograph and the voluptuous textures of the more considered kind.

From time to time, however, we are sharply reminded that the withdrawal of the artist into more abstract domains entails a great loss to the community of spirited and humane comment upon its affairs. When Henry Moore gave us his stately and moving reports upon conditions in the air-raid shelters, and Graham Sutherland made his superbly exasperated drawings of destruction in the City, their work was understood and appreciated by the community as a whole, and one does not need to be a marxist to realise that social realism at that level is much to be desired. All the same, even if the war-time drawings of Moore and Sutherland prove once and for all that when the graphic artist rises to the occasion he quite outclasses the camera, it has to be admitted

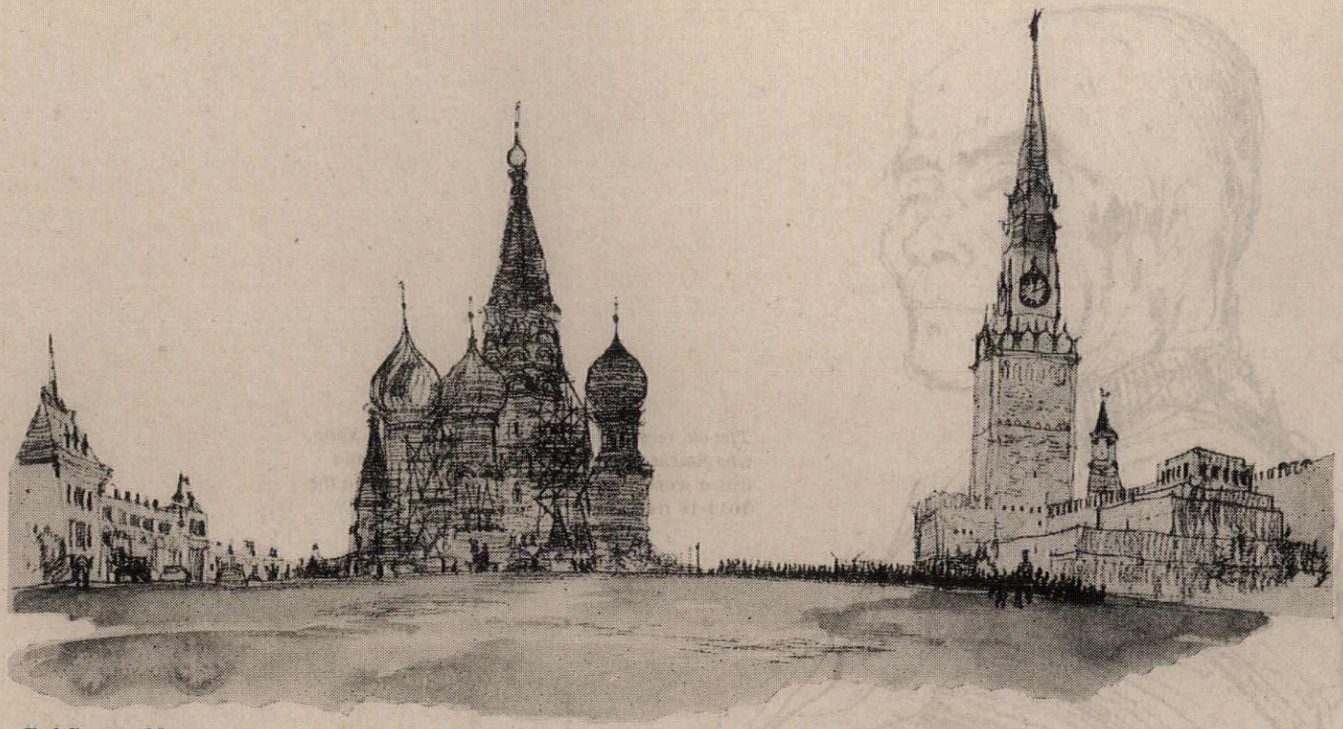


voluntary work brigade at Hufeidan

Shanghai



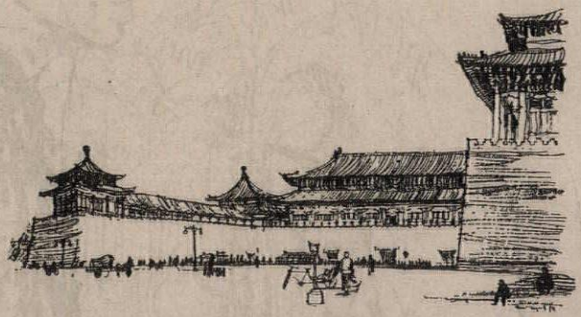
Theatre under construction in the Tien Shao at Peking



Red Square, Moscow.

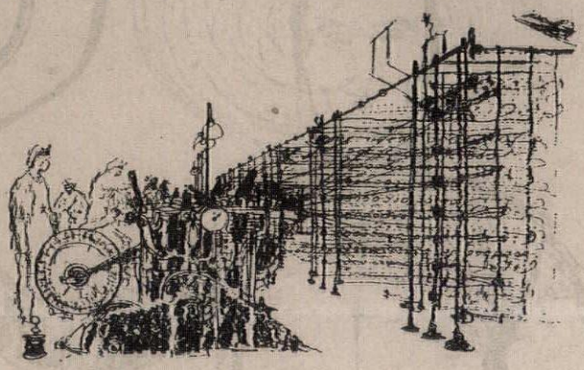
that we cannot afford to contrive such calamitous occasions in order to stimulate our most talented artists to communicate directly with all levels of society, and Baudelaire was undoubtedly right to distinguish Constantin Guys from the run of artists, for it is evident that very few of our contemporaries could bring the zest of Guys to the role of special correspondent.

Paul Hogarth, a graphic artist who has deliberately set himself the task of becoming a special correspondent, without even waiting for commissions, has nothing like the appetite for 'the ephemeral and fleeting beauty of present-day life' that distinguished Guys: in his acute awareness of the problem of finding occasions to 'rise to', Hogarth betrays his modernity, and in his attempts to find a solution discloses a romantic flair for reporting on inaccessible regions. But on his recent visit to China, where he has, I think, done his best work to date, he found in its fervent building programme a simple and natural symbol of man's constructive energies which enables him to use his sensitive topographical draughtsmanship purposefully, but without symbolical and propagandist gesticulations.

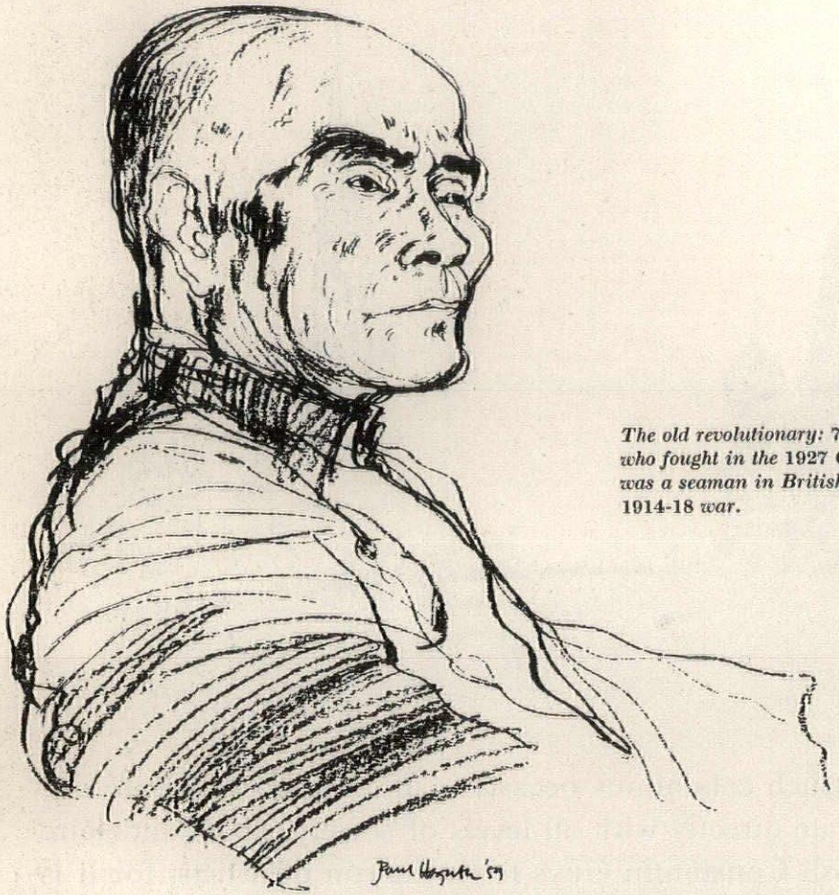


Meridian Gate, Imperial Palace, Peking.

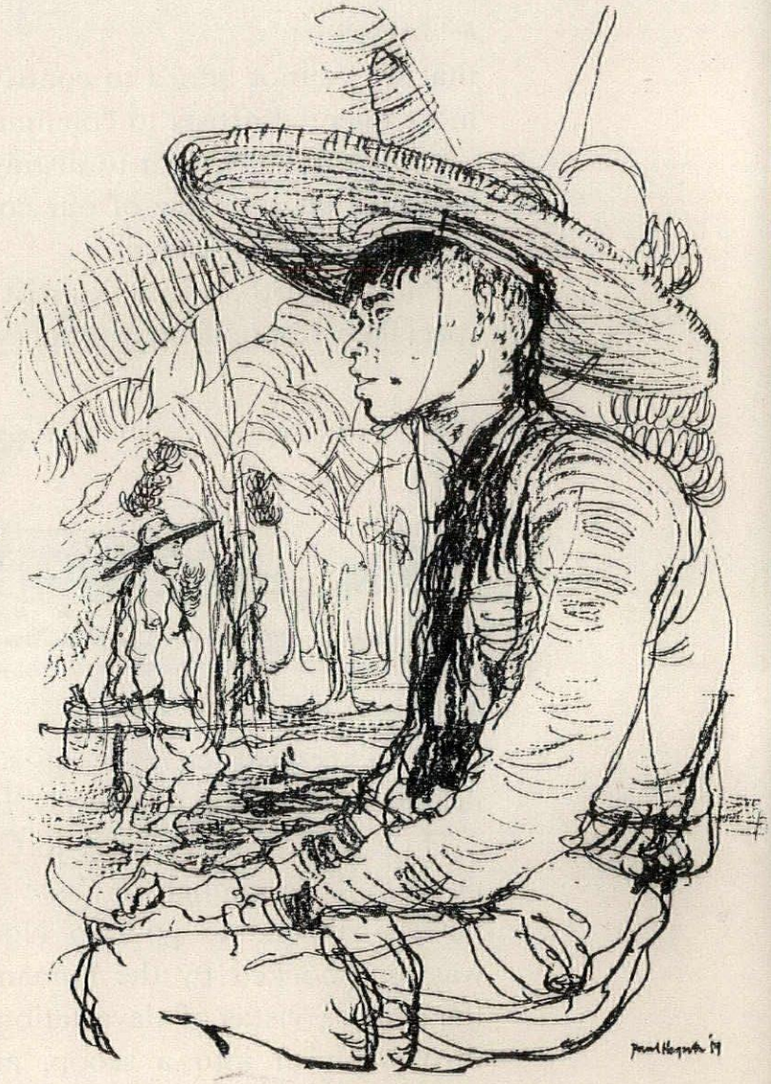
He went through Russia to China, but could not stay long enough to make many drawings: he was allowed to go into North Korea, but was too shocked by the human wreckage and the endless vistas of devastation to be able to turn his visit into a scoop, and his distant, melancholy view of the new sky-line rising at Pyong-Yang, taken from a spot which overlooks what used to be the busy waterfront section, admirably summarizes his mood.



In a new textile mill.



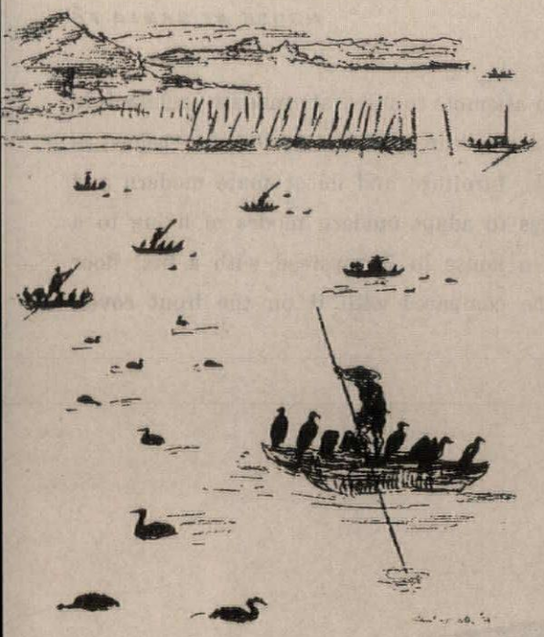
The old revolutionary: 73 *year-old Huang-Yeng, who fought in the* 1927 *Canton Commune and was a seaman in British Army transports in the* 1914-18 *war.*



Banana workers in South China, near Canton.



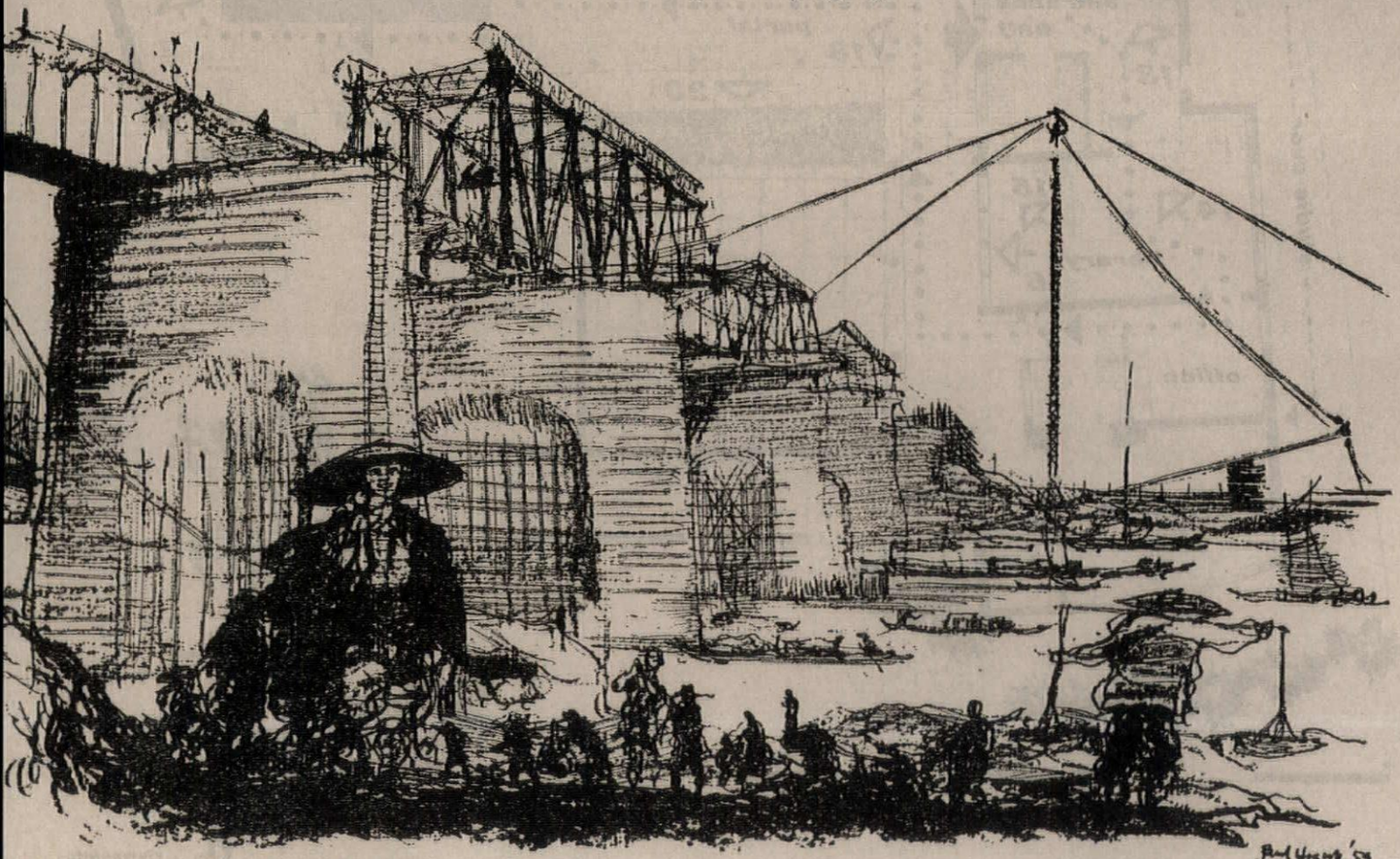
A Shansi peasant.



Shanghai from off-shore.

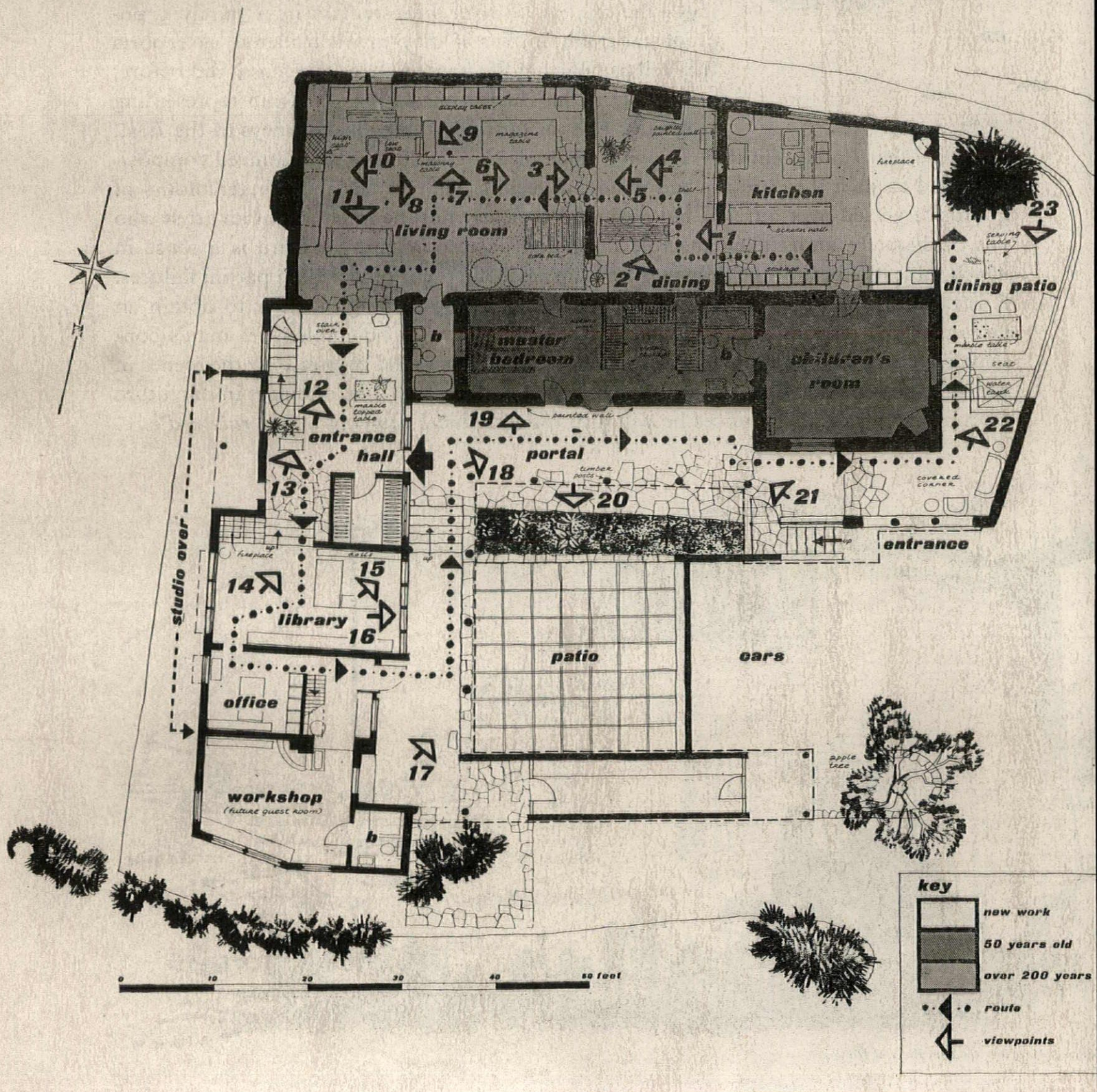
The atmosphere in the drawings of China is altogether different. His line is neither adroit nor particularly vigorous, and his composition, though far from being unstudied, rarely depends upon dramatic effects (the heroics of the fluttering banners in his drawing of volunteers making a new park is the exception rather than the rule), and it is the peculiar excellence of this set of drawings, made in many different parts of China at the end of long, exhausting journeys, that the optimism and exuberance of the people seem to emerge of their own accord.

One cannot fail to notice that the finest of these drawings—the studies of river life—remain in a purely topographical tradition, for if they are considered as reports they tell us only that life goes on there much as it did before, and I take it that such a message is far from representing Hogarth's reasons for undertaking his journeys to the East. From another standpoint they also give much pleasure as studies in uncentred composition, and as such they are not too remote in feeling from Sutherland's watercolours of gourds dispersed over a trellis, but again this is clearly not the intention of an artist who has deliberately undertaken the role of special correspondent. So there is a sense in which these, the best of the drawings from an aesthetic point of view, are partial failures. It is the work in which he has been prepared to lose something in order to obtain an extra-pictorial response from his public, the work in which he emblemizes man's constructive energies without having made a fully satisfying visual response to the scenes in which he perceives it, that Hogarth himself values most, and if he manages in the future to emblemize without sacrifices he will give topographical drawing a new *raison d'être*.



Railway bridge over the Han River at Hankow.

Alexander Girard's house at Santa Fé is one of the most subtle and complex of recent American attempts to integrate modern architecture with strongly characterised local conditions. New work has been grafted on to existing traditional structures—shown in the plan below, as is the route of the viewpoint-tour followed by the photographs on the following pages—materials, furniture and décor mate modern and traditional, adobe walling with Eames chairs and local popular art, and the use of patios serves to adapt modern modes of living to a desert climate. But the patio has its uses in other climates, and on page 86 will be found a house in Hampstead with a first floor patio—different in aspect and intention, but still sufficiently like Girard's in function to be compared with it on the front cover.



HOUSE AT SANTA FE

ARCHITECT | **ALEXANDER GIRARD**

1

The photographic tour of the house begins from the kitchen, looking out into the dining-room, 1. The living-room is beyond. The dining-room table . . .



2

. . . made of pine-board is suspended on nylon-coated cable stretched from floor to ceiling, 2; this was made necessary by the unevenness of the floor. The Eames chairs are white.

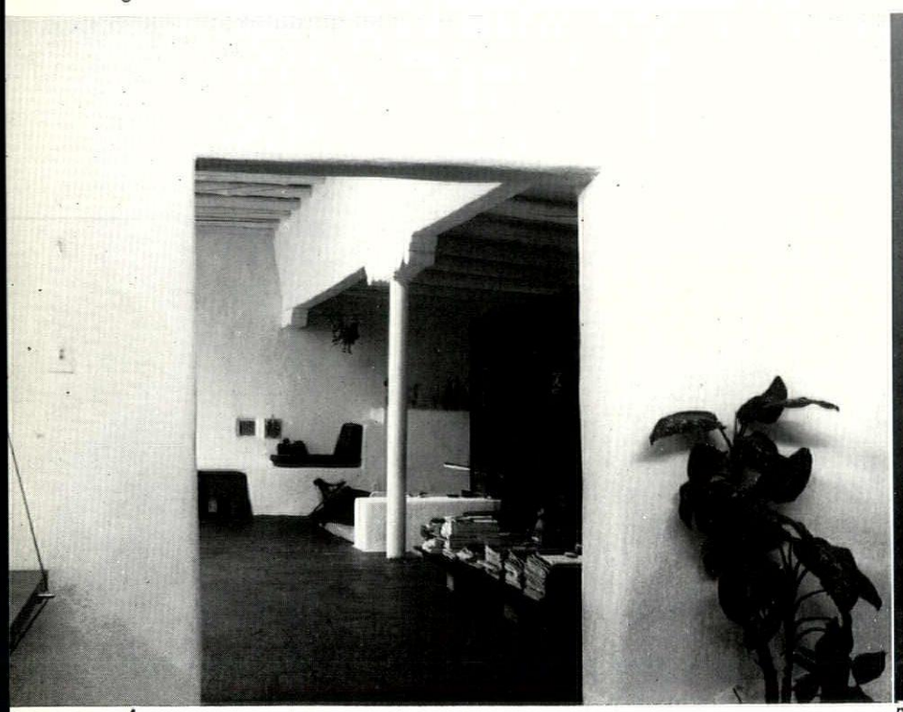
The house stands on a hillside in the perimeter of Santa Fé, New Mexico, in a plot approximately one hundred feet square, amidst a background of pinon trees (dwarf pines), cactus, wild flowers, and reddish rock. The central portion, which once took the form of two small 'box' houses, and is more than two-hundred years old, is built of 'adobe' (sun-dried mud-block), and roofed with unfinished logs, tarred over. About fifty years ago two portions, also built of 'adobe', were added to the south, and a further addition was made still later of pumice block construction. The recent additions consist of the following: extensions to the kitchen, an entrance hall connecting pre-existing buildings with the new north wing, the studio and workrooms on the first floor, the patio, and extensive remodelling and redecoration throughout both interior and exterior.

The walls are built on 'field stone' foundations, which are left exposed, whereas all other exterior surfaces are plastered and painted natural adobe colour (pinkish raw umber). Most floors are paved in natural, dark-reddish stone. Walls are everywhere painted flat white, except in the dining room and on the south wall facing the patio which have murals of brilliant colours.

The newly created entrance hall contains two comple-



3



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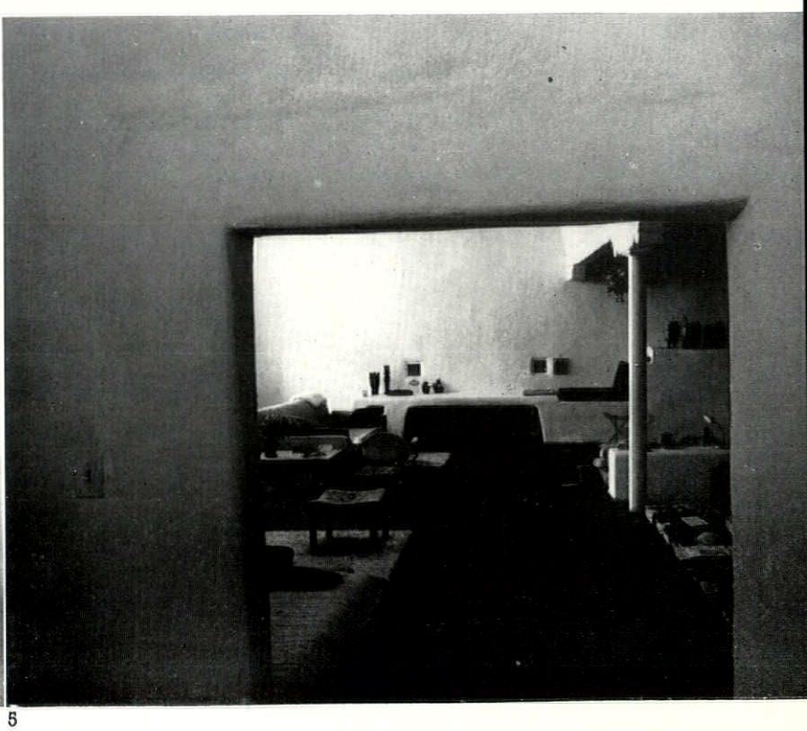

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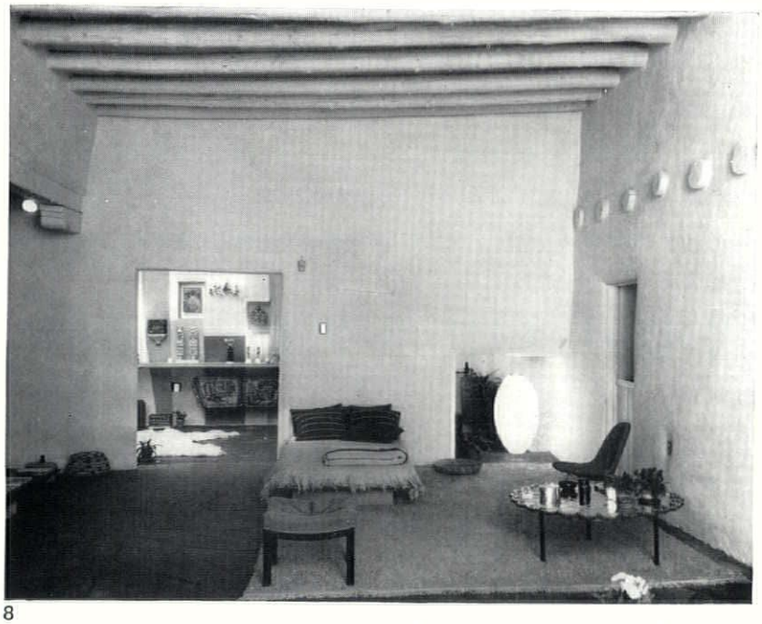

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9

3, dining-room wall from the living-room, painted in pinks, reds and blues by Girard himself. Among the *objets* under the side-board are two Guatemalan chests and a Sicilian cart side-piece. Candle sconces are of Bohemian glass. 4, 5, living-room from dining-room ; pillar and beams were pre-existing. Masonry table (back-rest to floor mattress seat) and fire-seat, 9, are new. 6, 8, high part of living room opposite fire-place, with a George Nelson lamp in right aperture ; wall of oldest house right, with door to master bedroom. 7, low part of living-room and open storage-display wall.

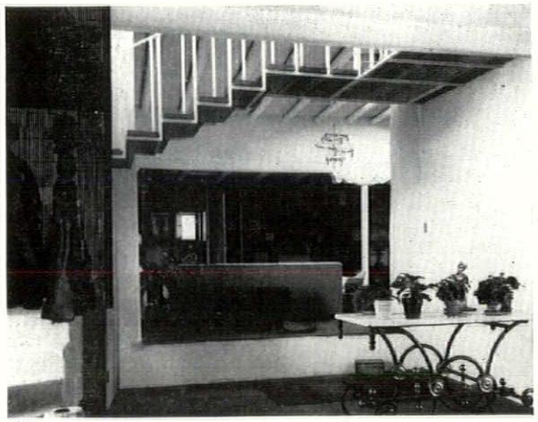
HOUSE AT SANTA FE

mentary flights of cement steps to the upper floor, one on either side of the hall, separated by a white-painted steel bridge section with wooden steps. The living room has been provided with seating of different types ; there being as little conventional (movable) furniture as possible. There is a masonry table to provide the back for a floor seat. Display cases cover the entire north-east wall, allowing for the arrangement of objects in depth and with indirect lighting. Wood is painted dark raw umber. The mural painting on the south-west wall of the dining room is seen framed in the bare openings from the living room. The dining table, which is of pine board and suspended from floor to ceiling on nylon-coated steel cable, is completely stable, the unevenness



10

10, living-room fire-place. 11, entrance from living-room ; behind staircase is pink panel, centre, and a painted wooden grill, right.



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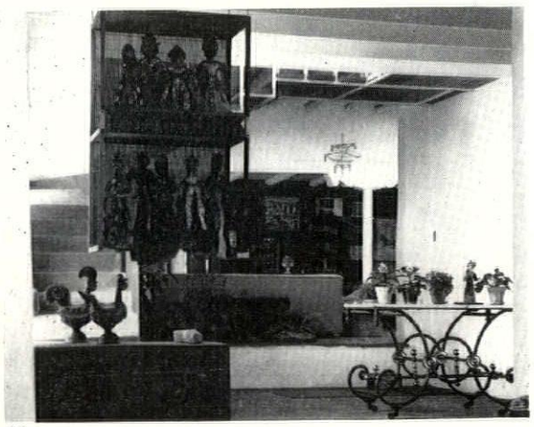
12, 13, 14, all show hall from library, with pinkish local stone floor, and French butcher's table. The case on left contains East Indian puppets.



13

On the right in 14 are Katchina figures by the Hopi of Arizona, and the delicate object hanging in front of the pillar is a Tibetan devil trap.



11



14

15, from library looking on to stairs from lower to upper "portal" (loggia); the back wall of the upper portal, painted in brilliant colours, contains the window of master bedroom. 16, view from library window, with an Eames desk in left foreground. 17, view from lower to upper portal, 18. 19, detail of same with painted panel by Girard.

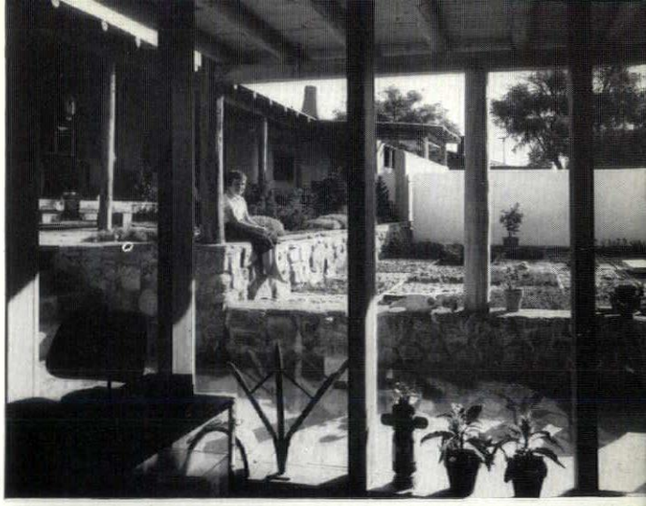
of the floor making legs unsatisfactory. Unevenness of wall and floor surfaces again led to the 'suspension' of the storage cupboards in the kitchen from steel posts. These cupboards are of pine plywood, with doors of chopped wood stable laminate. A screen wall of perforated hardboard provides for hanging of kitchen tools.

Inside circulation is entirely free from doors from the kitchen right through to the north-east workshop. The small windows and enclosed, viewless quality of the main living space are an agreeable relief to the very broad and dramatic exterior views presented by the surrounding country. Sunlight is so powerful that a pinhole could produce almost sufficient illumination. No colour schemes are used; colour appearing solely as accent, since the whole interior is white. The *Katchina* figures in the library are made by Hopi Indians.

Outside, the patio is divided into squares by means of 2 in. by 4 in. wood strips. The limited planting space so provided is suitable to the arid climate. Some of the squares are filled with local stones; one contains a small water tank. Both of the two portals, upper and lower, are designed to provide variously exposed shelter for sitting out of doors in different seasons.

15





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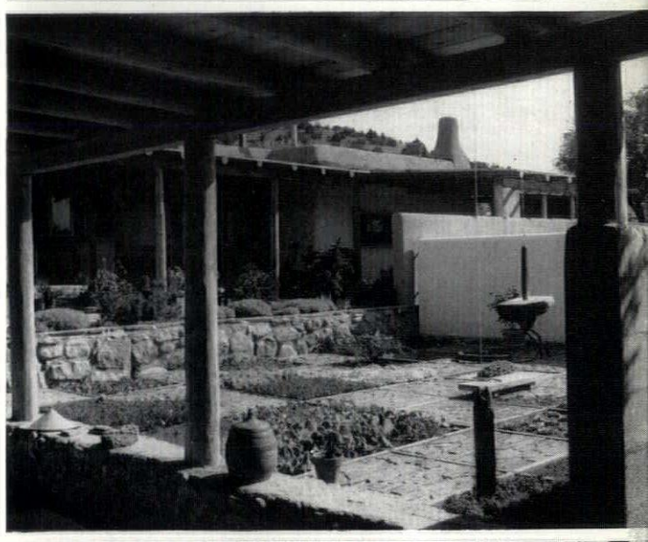

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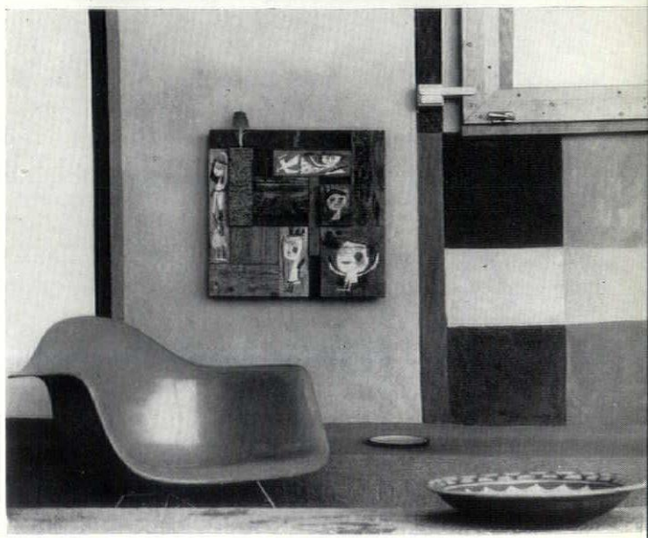
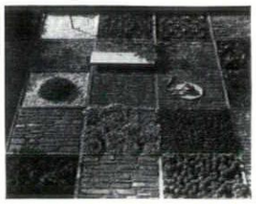


19

HOUSE AT SANTA FE

20, mosaic of squares in patio, 3ft. x 3ft., some planted, others paved, which appears on the cover of the issue. 21, protected west corner of upper portal. 22, 23, kitchen patio seen from opposite directions together with covered passage and corner of house containing children's bedroom.



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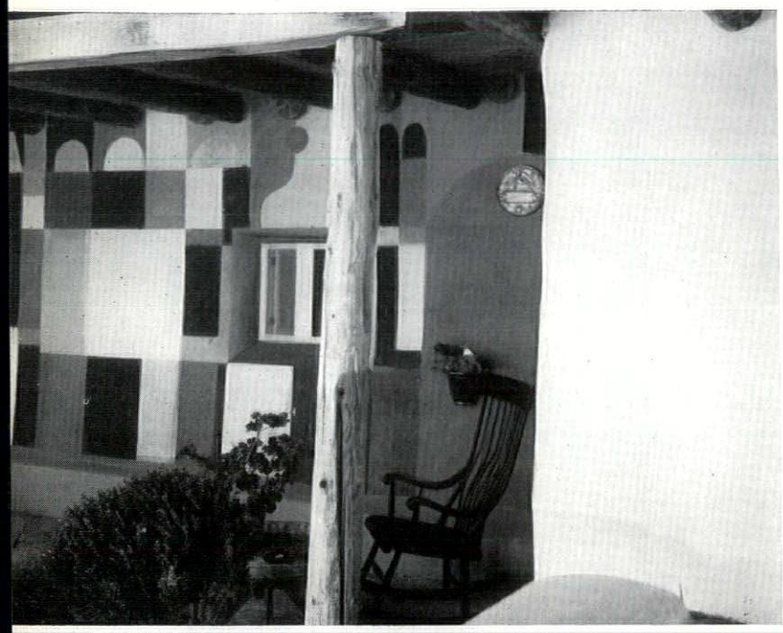

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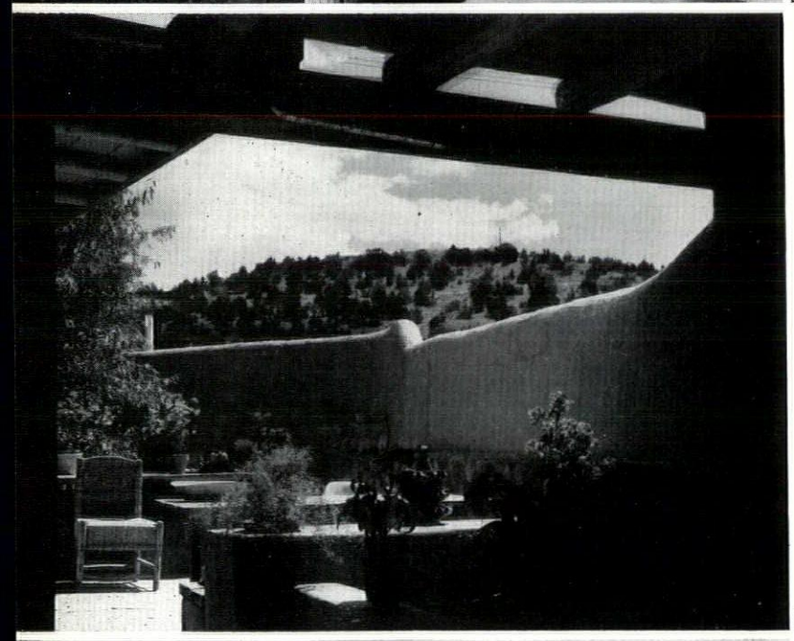

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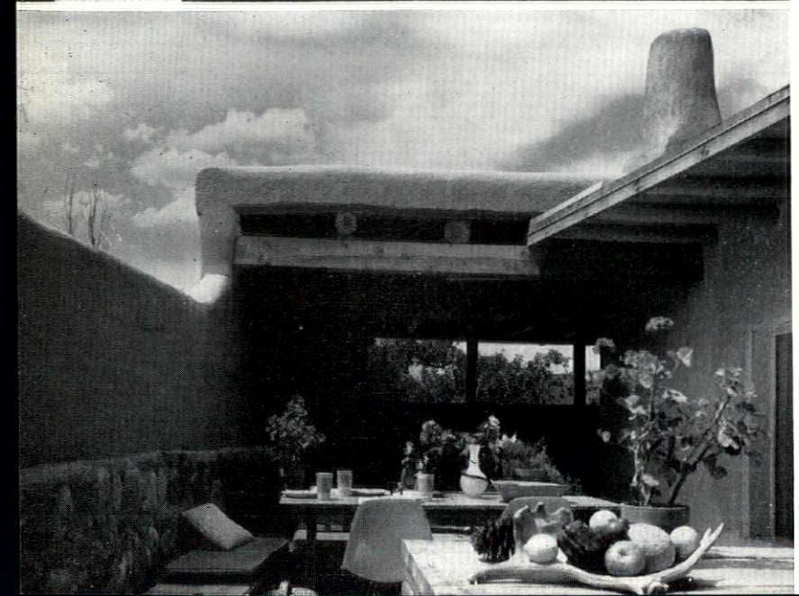
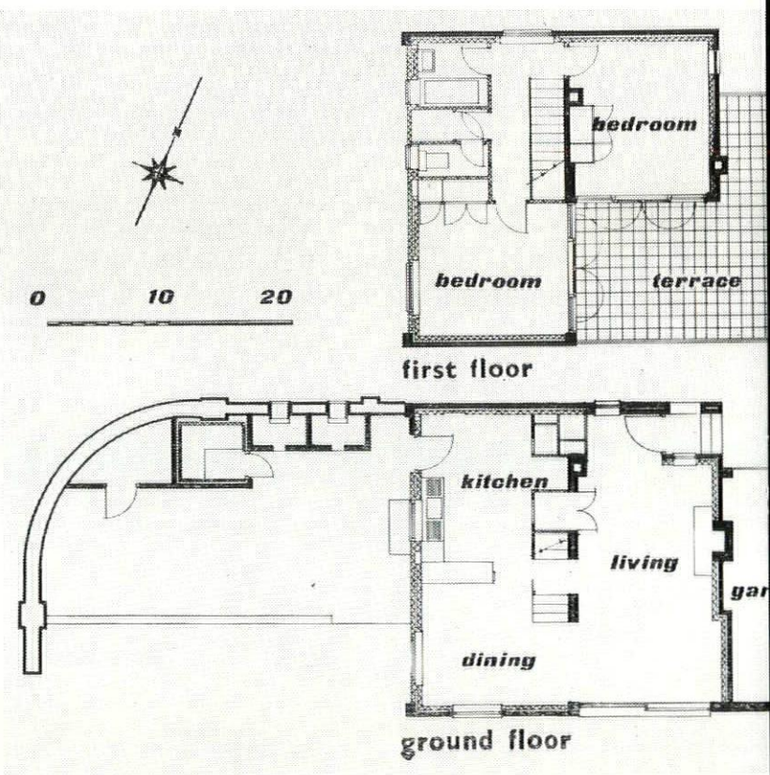


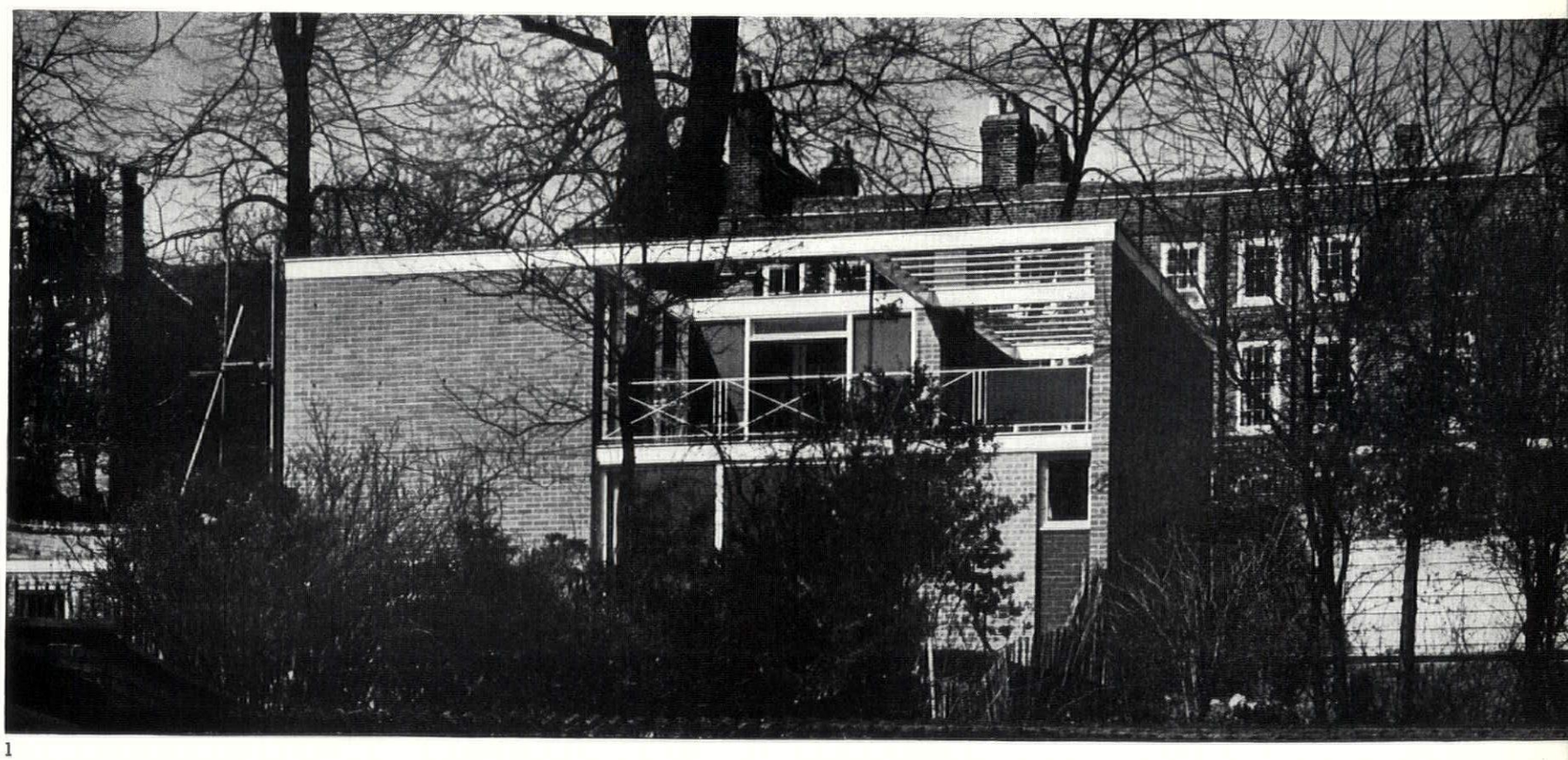
23

HOUSE IN HAMPSTEAD

ARCHITECT | **ALEXANDER GIBSON**



1. general view from the garden with Cannon Lane running behind and old houses opposite ; small window, bottom right, belongs to garage, large windows, centre, to living-room.



1

The house has been built on a small site in a quiet lane running down to the west side of Hampstead Heath ; the land was part of the kitchen garden of a mid-Victorian house called The Logs, but owing to its position it is seen more in relation to two fine 18th-century houses than to The Logs itself.

The house is for a married couple without children ; the ground-floor plan is therefore open with the lightest division between the different parts. As the clients are enthusiastic gardeners some compensation for loss of ground area has been achieved by providing a roof deck for flower-box gardening. The client's wife required a kiln for firing pottery, to which back as well as front access had to be provided. The house itself will probably have a second house built against it at the garage end, and this was allowed for in the design.

The cavity walls are faced with dark grey flint bricks and with an inner skin of thermalite blocks ; the west wall consists of two skins of thermalite to which red hand-made tiles are nailed direct. Panels of red facing

bricks are used at the back of the garage and in the outbuilding.

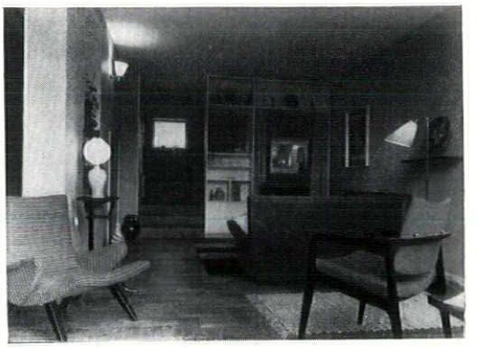
The roof is of timber joists covered with wall board, screed and three-ply felt ; the first floor has timber joists covered with boarding, the roof deck being finished with three-ply felt and asbestos cement paving tiles. The ground floor is solid concrete covered with mahogany blocks and tiles.

Joinery generally is softwood painted: windows, with the exception of the large sliding one in the living room, are based on the LCC Housing Division's modified English Joinery Manufacturers' Association's range. The external screens to the bedrooms have panels framed up in deal with $\frac{1}{4}$ in. asbestos lining and 1/16 in. stone faced steel cladding externally and hardboard internally, the cavities being filled with glass fibre. Sills, thresholds and entrance paving are in slate and the garage forecourt is of granite setts.

The heating is from a forced draught warm-air unit driven by a boiler ; this also supplies the hot water and heats a towel rail. The heating is reinforced by an open fire which also supplies warm air to the living room.

The large living room window is double-glazed as well as some of the screen in the main bedroom. Comfortable conditions are maintained during cold weather, with a very small consumption of fuel, owing partly to the high insulation provided in all parts of the building ; aluminium foil backed plasterboard is used below the wall board and on the ground-floor ceiling where it comes under the roof deck.

4, living-room with steps at end leading to porch ; 5, the same, looking towards garden windows ; 6, deal-lined aperture in staircase wall (with cupboard under) ; 7, opposite, terrace, paved with asbestos cement tiles, showing two bedrooms leading off ; 8, galvanised steel trellis covering end of terrace devoted to flower boxes.



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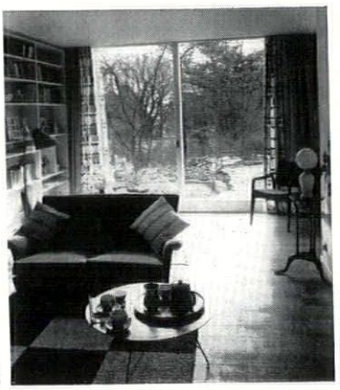

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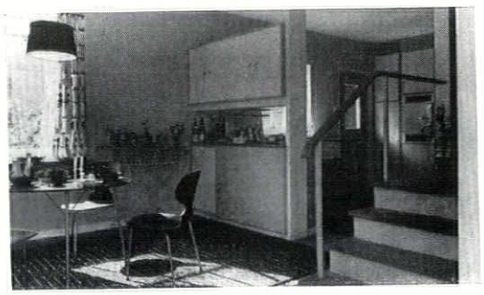
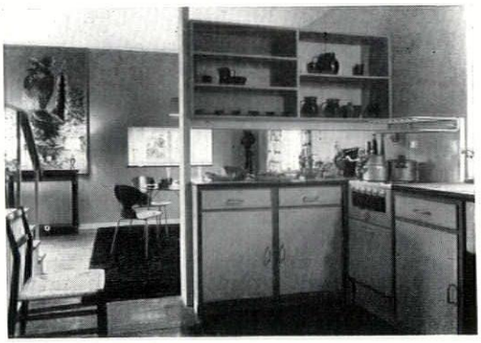
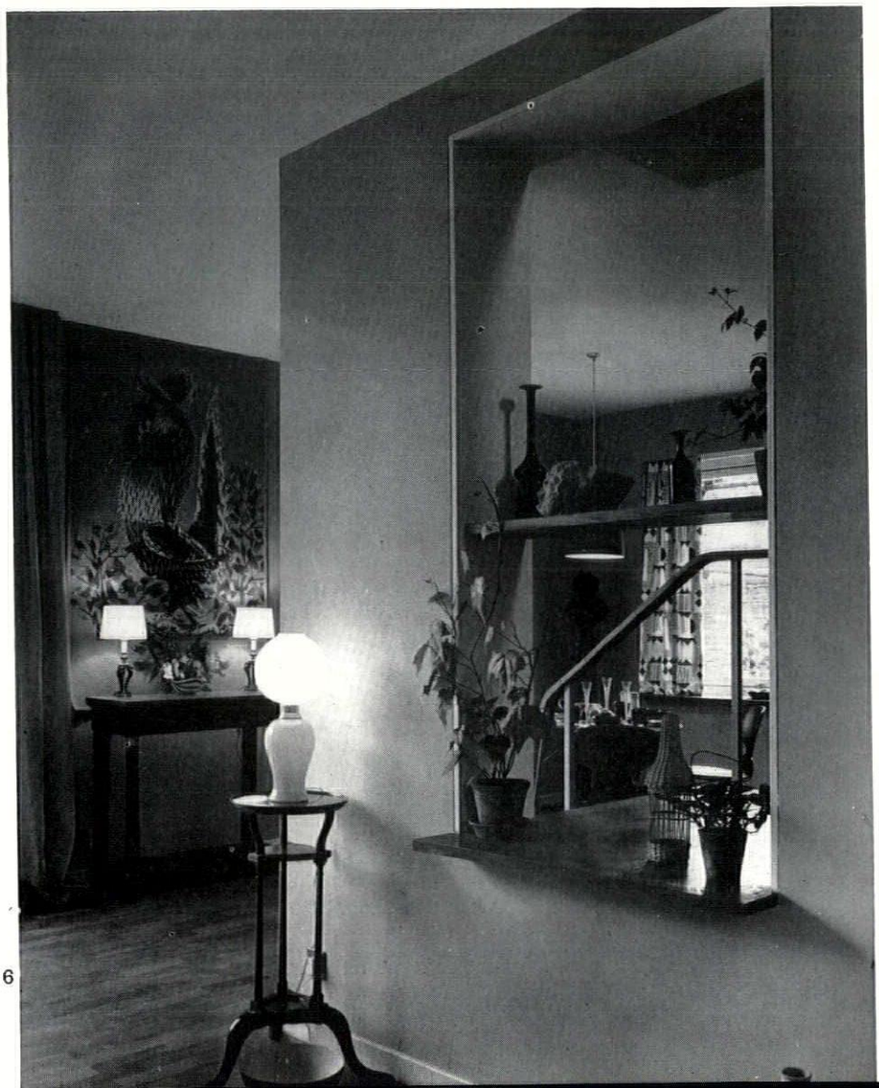


2, dining-room seen across foot of stairs, opening into kitchen beyond.



3, view from kitchen into dining-room, showing serving hatch-cum-crockery cupboard fitting.



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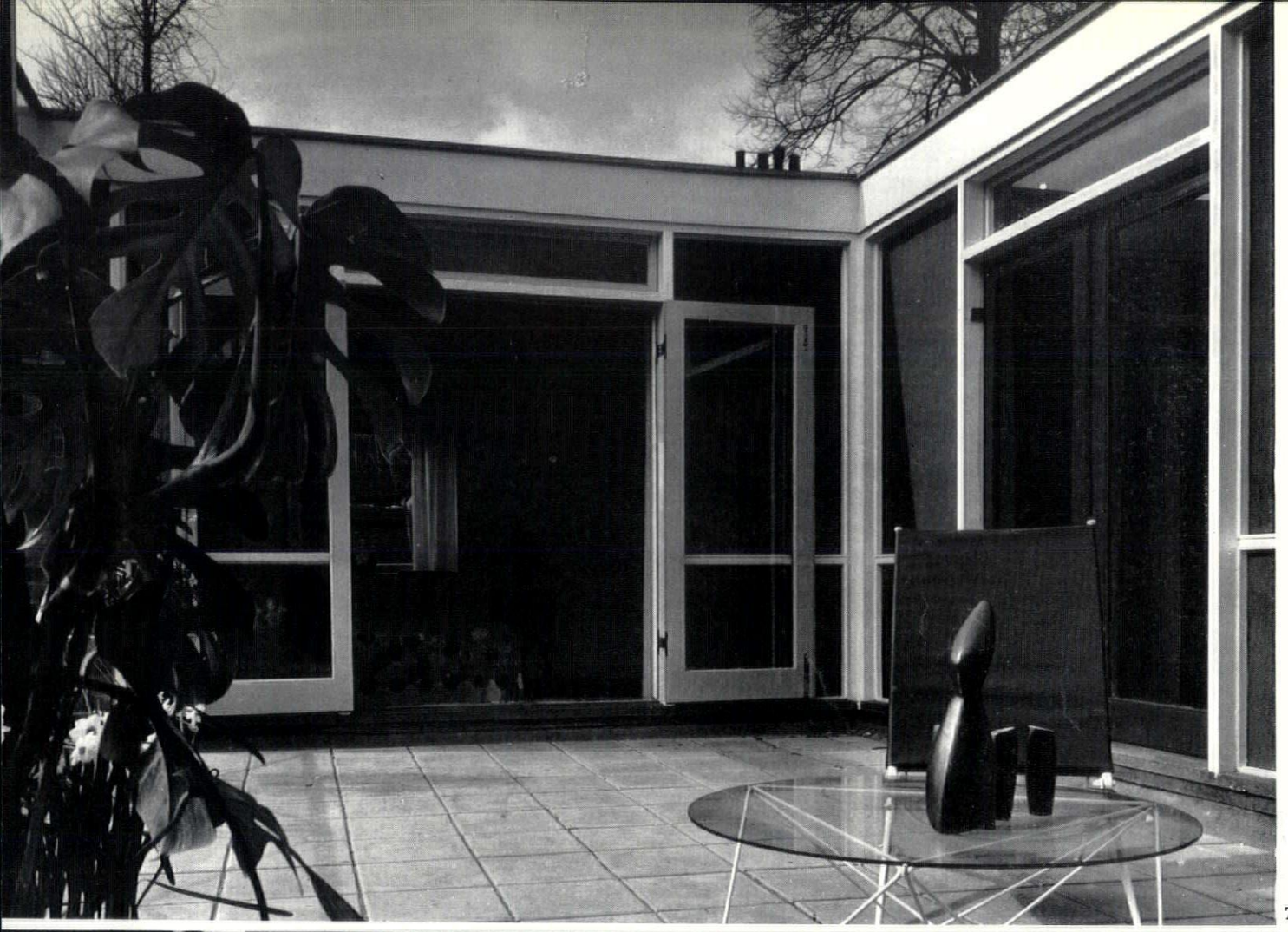

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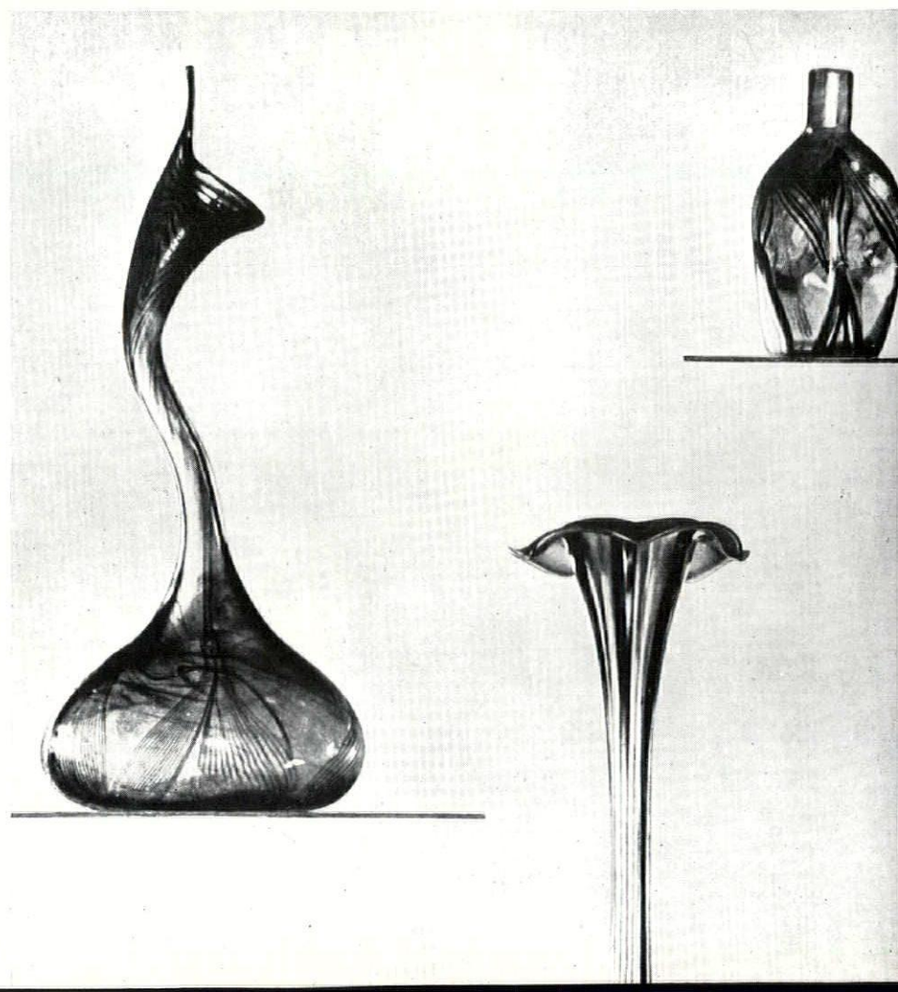
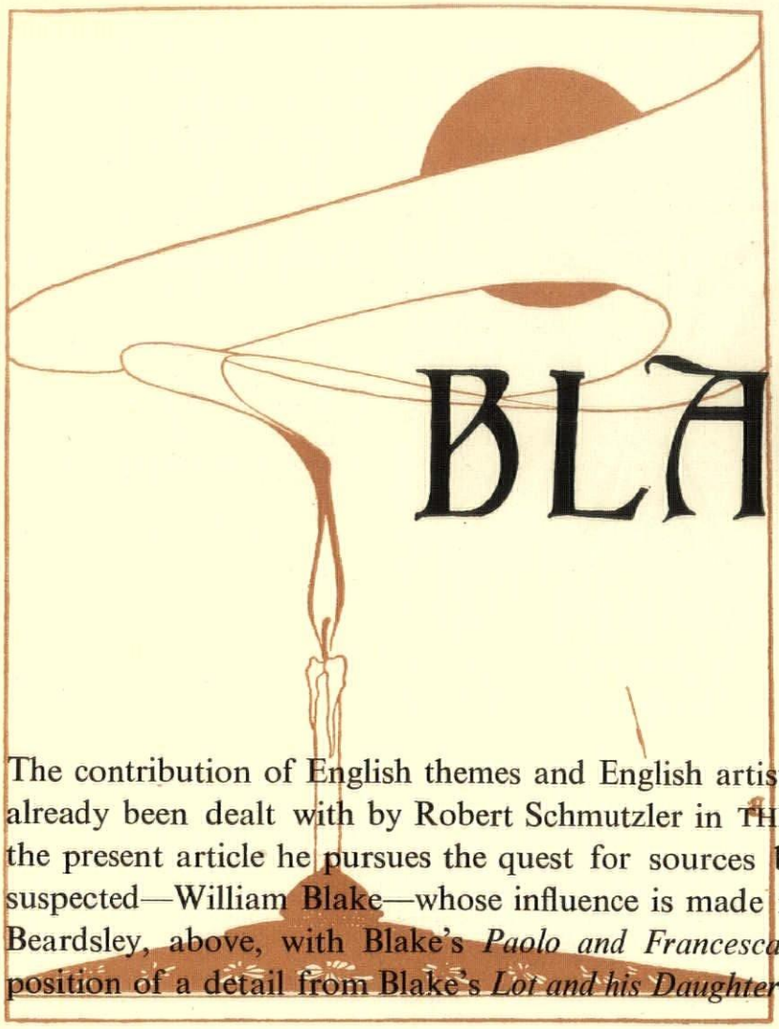
HELL Canto 5





ROBERT SCHMUTZLER



BLAKE AND ART NOUVEAU

The contribution of English themes and English artists to the shaping of international Art Nouveau has already been dealt with by Robert Schmutzler in THE ARCHITECTURAL REVIEW for February 1955. In the present article he pursues the quest for sources backward to one of the most important and least suspected—William Blake—whose influence is made immediately clear by comparison of the drawing by Beardsley, above, with Blake's *Paolo and Francesca in the Whirlwind*, opposite top, and by the juxtaposition of a detail from Blake's *Lot and his Daughters*, lower left, and typical Tiffany glassware of 1900.

Nothing could be more typical of Art Nouveau than the little-known drawing by Beardsley which is placed at the beginning of this article.[1] Its chief characteristics are a rocking, soaring, undulating line filling part of the page surface and leaving plenty of it bare. It is a flowing, a flaming line, yet in its movement not dynamic, and it never abandons one flat plane. It is as emphatic in its asymmetry as other Art Nouveau manifestations may be in stressing symmetry—the emphasis as such is what counts.

What are the sources of these qualities in Beardsley and Art Nouveau? How far can they be traced back? The first of these two questions I have tried to answer in my article last February,[2] and the answer was Rossetti and Whistler, and those who followed them in the eighties and about 1890, Mackmurdo, Heywood Sumner, Charles Ricketts. The second question was left open. It must find its answer now. For in fact the very long sinuous asymmetrical line of Beardsley and Art Nouveau[3] cannot be explained either by Rossetti or by Whistler. Both Rossetti and Whistler, in spite of the planeness and weightlessness of their most pre-Art-Nouveau looking drawings, paintings and designs, keep to compact volume, to the material solidity of colour, that is to a tangible presence. In Beardsley all that has evaporated. Was that then entirely his own innovation?

The answer is No, and the real innovator turns out to be a genius, a hundred years older than Beardsley: Blake. We can take any page from the Songs of Innocence of 1789, and the affinity is at once established, however much more body the undulating flames or blades of Blake's framework to his poems may possess.[4] Even more curious because less expected is the relation of our Beardsley drawing to Blake's Paolo and Francesca in the *Whirlwind of Lovers*, frontispiece. This airy ribbon, this fiery hose curls and twists its way just as regardless of the possible in nature, just as weightlessly, just as flatly— and even the loop of Beardsley, revealing the black moon, re-appears in Blake's whirl.

Nor is Beardsley's relation to Blake an exception. Time and again, amongst those in the English Arts and Crafts who established Art Nouveau, the same dependence on Blake can be felt. Our next comparison may be one between a leading German designer of Art Nouveau and Blake, and between two emphatically symmetrical compositions. The title-page by E. R. Weiss, 2, of 1899, and Blake's *Christ ministered to by Angels*, 1, of 1807 or 1808 have all essentials of design in common. The two angels below are like a shallow bowl from which rise the two other angels in their ogee-shaped contours holding tiny lyres of cornucopia outline, and Christ, a more substantial figure, but also circumscribed by long shallow symmetrical curves. Cornucopia and ogee are amongst the forms of which one is reminded, and the whole pattern might be compared to a lyre or a fleur-de-lis. It need hardly be said that the Art Nouveau designer has removed all that was concrete in Blake, has carried simplification to excess and removed what in the curves of the lower angels and of Christ was still alluding to a second plane in front of the principal one. The result is a deeper more human art in Blake, and a certain emptiness in Weiss.[5]

When Blake is purely ornamental, such allusions to real space disappear. An example is the *Cradle Song* from the Songs of Innocence of 1789, 3. Written images and calligraphy are here indivisibly united. Against the trellis of uprights and horizontals established by the script the gentle play of flame-lines seems to curl arbitrarily. If this page is placed next to a similar page from a book of 1895 by Theo van Rysselberghe, 4, the pointillist painter, Blake appears almost *plus art nouveau que l'art nouveau*. Van Rysselberghe is more precise, more measured, more transparent. In Blake we feel we are watching protoplasm first assuming shapes.

Blake's greatest innovation in his early books was the merging of poetry and painting, of text, ornament and often figures. The text designed in something between drawn type and script[6] has in every detail the same character as the lapping curves of the marginal decoration. To aspire to a blend of poetry and painting is characteristic of the whole territory from which Art Nouveau sprang. William Morris is the case that comes to mind at once, because he, like Blake, printed what he had written. And although Crane and Kate Greenaway did not go as far as that, they also had the clearest sense of the unity of the book-page, a sense growing stronger and stronger, as we enter into Art Nouveau proper, for instance with the pages of *Pan*, the German luxury magazine started in 1895.

The interpenetration of various modes of art is a romantic heritage. Rossetti writes poems on paintings, Swinburne one on Whistler's *Symphony in White, No. II.*[7] Swinburne's lines were written on gold tin-foil paper and pasted on the frame of the picture which had its pre-Art Nouveau patterns.[8] And Whistler's own titles are borrowed from music: Nocturne, Symphony, Scherzo, etc.

So far my Art Nouveau examples have all been from the art of the book. But Art Nouveau was as fertile in craft as in illustration, and Blake seems at first out of the question as a source for the glass-blower or the cabinet-maker. Yet, even there, if only one looks carefully amongst the rare furnishings in Blake's watercolours, one can make discoveries. Not that direct influence can be assumed, but the affinity remains surprising. There is for

[1] Published previously only once, in the *Insel-Almanach auf das Jahr* 1906, Leipzig.

[2] THE ARCHITECTURAL REVIEW, Vol. CXVII, 1955, p. 108-116.

[3] 'The *leitmotiv* of Art Nouveau,' says N. Pevsner, *Pioneers of Modern Design*, New York, 1949, p. 55.

[4] The dependence of Blake on the *linea serpentinata* of Italian Mannerism to which Blake owed so much in other ways as well does not concern us here.

[5] 'We have a language of ornament and yet nothing to say,' wrote Voysey in *The Studio* ,1893 (quoted in the catalogue of the Zuerich Exhibition 'Um 1900, Art Nouveau und Jugendstil,' Zuerich, 1952, p. 24).

[6] On the technique of Blake's prints and books *see* Geoffrey Keynes, *William Blake's Engravings*, London, 1950, pp. 10-21.

[7] T. R. Way and G. R. Dennis, *The Art of Whistler*, London, 1903, pp. 27-29.

[8] The picture in the Tate Gallery has now a different frame. The original frame is illustrated in Pennell's *Whistler* with the poem stuck on.

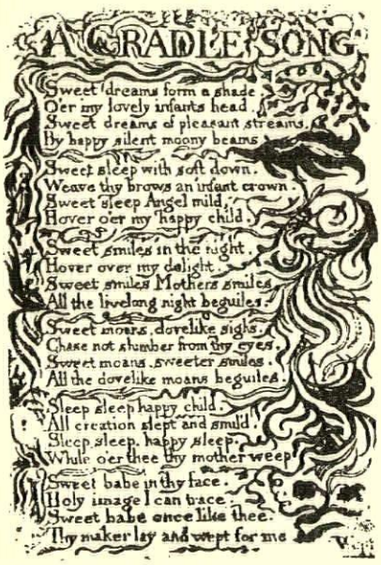


1



2

The essentials of these two symmetrical compositions, 1, *Blake's* Christ minister-ed to by Angels, 1808, *and* 2, *a title-page by E. R. Weiss to a book of poems by Rilke,* 1900, *are the same. Blake's* Cradle Song, 3, *from the Songs of Innocence,* 1789, *and a similar page from a book of* 1895 *by Theo van Rysselberghe,* 4, *make Blake seem almost more Art Nouveau than the Art Nouveau.*



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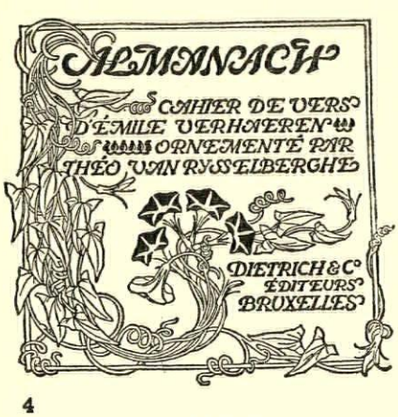

4

instance the tall flower-like jug on the table in *Lot and his Daughters,* (frontispiece, bottom left). Does it not look as if Tiffany must have thought of it in some of his vases? (frontispiece, bottom right). To take a second example, Adam and Eve in one of Blake's illustrations to Milton's *Paradise Lost,* 5, sit on a flowery chair remarkably similar in design to Mackmurdo's Sign of the Century Guild, 6. Are such similarities accidental? Did Mackmurdo know Blake, did Beardsley, did Beardsley's immediate forerunners in the Arts and Crafts, did Mackmurdo's forerunners, did Whistler and Rossetti? It is for the historian of art to answer this question, and he has not so far done it sufficiently.

Rossetti as a boy of eighteen and nineteen admired the Songs of Innocence and the Songs of Experience and looked round for Blake originals. In 1847 he was offered the Blake Note-Book now known as the Rossetti Manuscript.[9] What attracted Rossetti first of all was Blake's peremptory epigrams against Correggio, Titian, Rubens, Rembrandt and Reynolds. They were 'balsam to Rossetti's soul and grist to his mill.'[10] He bought the book and his *Blessed Damozel* of 1847 is indeed clearly influenced by Blake's poetry.[11] Amongst Rossetti's paintings *The Girlhood of Mary Virgin* of 1849 with its verses carved into the specially designed frame is equally influenced by Blake's drawings. Rossetti's brother, William Michael, wrote that Dante Gabriel's 'ownership of this volume conduced to the Pre-Raphaelite movement.'[12] The two brothers got in touch with Alexander Gilchrist who was writing the life of Blake and examined the few collections in which at that time almost the whole oeuvre of Blake was still assembled. William Michael compiled the Descriptive Catalogue for Gilchrist and after Gilchrist's death concluded his book and edited it in 1863 with the subtitle 'pictor ignotus.' Many illustrations in facsimile and photolithography are inserted, and many vignettes added, details of flames, clouds and hovering spirits. Especially in the fifties and sixties motifs are taken over from Blake by Rossetti. To refer to only one case here, the angel in one of the illustrations to Milton, 7, recurs with few changes in Rossetti's *Michael Scott's Wooing,* 8.

Through Rossetti his Pre-Raphaelite friends made Blake's acquaintance. 'The age is visited by Blake, just because Rossetti has discovered Blake.'[13] So Blake's effect now was twofold, direct and indirect by way of Rossetti's works. Take as an example Millais's design, 10, for a Gothic window.[14] Must these symmetrical arabesques of floating loosely connected figures not be the reflection of a knowledge and understanding of such Blake drawings as the Angels hovering over the body of Jesus, 9? Similar dependances can be found in Holman Hunt, 11 (1857),[15] in Boyd Houghton (1863–65), 12, and Arthur Hughes (1871) 13.[16] In 1867 James Smetham published an essay on Blake which was reprinted in 1880 in the second edition of Gilchrist's book, and Rossetti said of Smetham as a painter that 'he partakes greatly of Blake's immediate spirit.'[17] Burne-Jones shared Rossetti's enthusiasm, and we hear that in his later years he had Blake read to him while he painted.[18] The whirlpool through which we follow Orpheus, 15, and which like Decorated tracery curves into the tondo shape of the picture is smoother and milder, but all the same in an unmistakable relation to Blake's *Then the Lord answered Job out of the Whirlwind,* 14.

Swinburne's book on Blake was finally concluded in 1868. Binding and title page were decorated (and handcoloured) by pastiches of flames and small figures from *Jerusalem,* and in his text the phrase of Blake's 'flamelike impulse of idea'[19] occurs. The stimulus once again came from Rossetti. 'Without him Swinburne could not have written his brilliant essay . . ., and without this essay Blake would not have become the idol of a whole group of poets and writers.'[20] From that moment interest in Blake indeed grew rapidly, and apart from the man and the poet, the painter was now appreciated.

Walter Pater in the foreword to his *Renaissance Studies* of 1873 quotes Blake.[21] William Michael Rossetti published a book on him in 1874, and Comyns Carr, the initiator of the Grosvenor Gallery, where Whistler and Burne-Jones held their exhibitions, wrote extremely sensitive and convincing articles on Blake in the *Cornhill Magazine* and in *Belgravia* in 1875 and 1876. Originals were owned by Ruskin, by Herbert Horne, and by Disraeli.[22]

From the fifties most of Blake's illuminated books and a few water colours were available in the Print Room of the British Museum, from 1868 an unbroken sequence of facsimile editions of the illuminated books carried on, culminating between 1884 and 1890. The first Blake Exhibition was held by the Burlington Fine Arts Club in 1876—with 333 items—and two years earlier the 537 water-colours to Young's *Night Thoughts* had been acquired by a London bookseller, James Bain. He did not want to sell them and rather kept them exhibited in his shop in Haymarket as an attraction for customers.[23]

When in 1880 a new edition of Gilchrist's *Life* became necessary, Frederick Shields designed the binding, 17, after a Blake water-colour in the Rossetti Manuscript, 16, (which incidentally later turned out to be by Robert, William's brother, who died young in 1787). Now Shields a little later appears as one of the collaborators of Mackmurdo, and one or two years after the publication of this new edition of Gilchrist Mackmurdo began to design those mysterious pieces of furniture, 18, 19, in which Art Nouveau for the first time seems to be with us. In 1882 Mackmurdo founded the Century Guild, and 1883 is the date of that famous cover to his book on Wren's Churches, 20, which Professor Pevsner has placed at the beginning of Art Nouveau—ten years before Horta—and which now turns out to be a variation on a favourite theme of Blake's. The frontispiece, 21, of the first issue of the *Century Guild's Hobby Horse* (1884), edited by Mackmurdo, Selwyn Image and Herbert Horne is so obviously a pastiche of Blake motifs that the reviewer in *The Studio* called attention to the fact.[24] On the pages are

[9] Geoffrey Keynes, *The Note-Book of William Blake,* London, 1935.

[10] *Letters of Rossetti to Allingham,* London, 1897, p. 241.

[11] Jakob Walter, *William Blake's Nachleben in der englischen Literatur,* Schaffhausen, 1927, pp. xx, 9, 14, etc.

[12] *Letters of Rossetti to Allingham,* p. 241.

[13] Jakob Walter, *op. cit.* p. 7.

[14] A propos this romantic Gothicizing of Millais it might be worth referring to the mixtures of Gothicizing and Classicizing in Philipp Otto Runge's works of about 1800 which result in formations reminiscent both of Blake and Art Nouveau. Schinkel also can be Gothic or Classical, but the two remain separate alternatives. For the Werder church in Berlin, *e.g.,* he made designs in both styles over the same plan. The English-Late Gothic design was carried out. Oscar Wilde comments on the co-existence of Classicism and Gothicism in Walter Crane ("The best books to give away," in *Complete Works of Oscar Wilde,* New York, 1916, The Prose, pp. 523-24).

[15] *Moxon's Illustrated Tennyson,* London, 1857, p. 67.

[16] *See* for instance the Hughes illustrations in Walter Crane's *Of the Decorative Illustration of Books, Old and New,* London, 1896, pp. 202, 304, etc.

[17] Robin Ironside, *The Pre-Raphaelite Painters,* London, 1948, p. 26.

[18] Lady Burne-Jones, *Memorials of Edward Burne-Jones,* London, 1904, Vol. 1, p. 231, Vol. 2, pp. 290, 343.

[19] A. C. Swinburne, *William Blake,* London, 1868, p. 75.

[20] Jakob Walter, *op. cit.,* p. 7.

[21] P. x.

[22] Geoffrey Keynes, *A Bibliography of William Blake,* New York, 1921, p. 18.

[23] Geoffrey Keynes, *Illustrations to Young's Night Thoughts . . . by Blake,* Cambridge, Mass., 1927, introductory essay.

[24] Vol. xiv., 1898, pp. 1-10.



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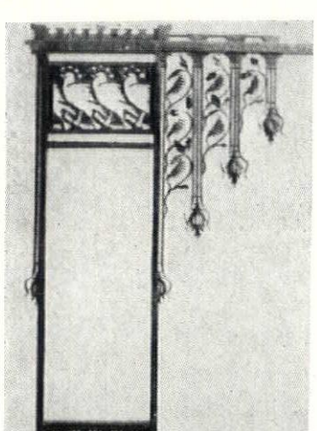

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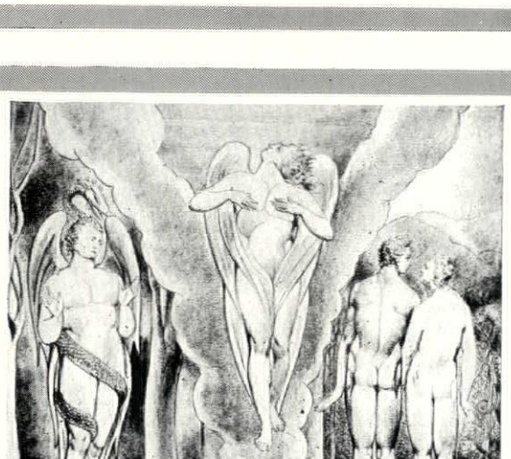

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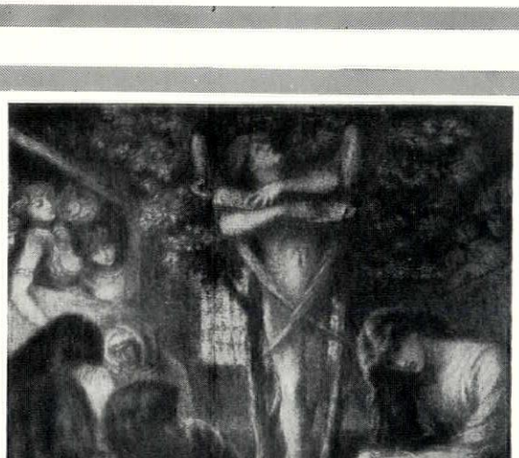

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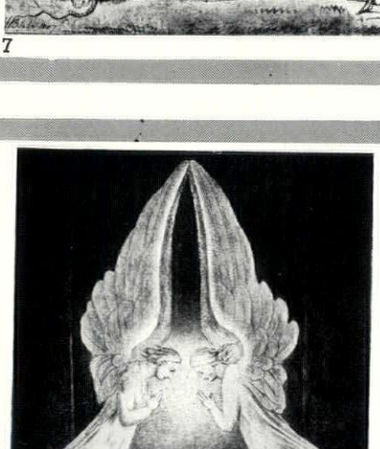

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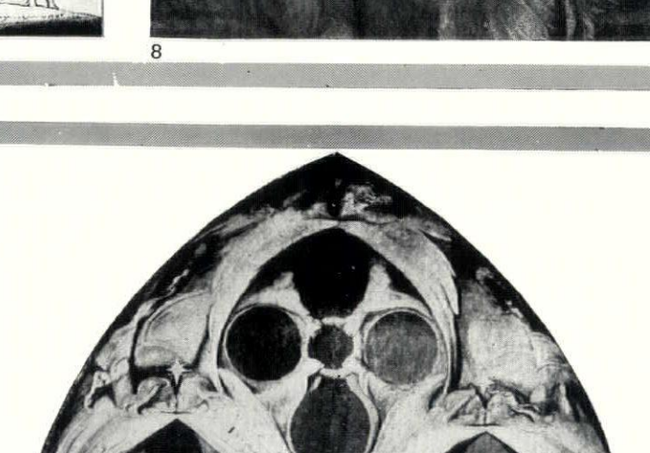

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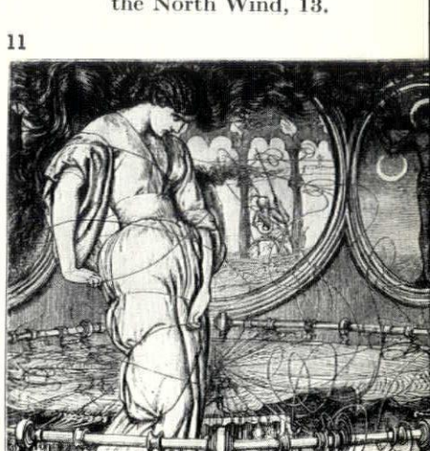
Adam and Eve in one of Blake's illustrations to Paradise Lost, 5, *sit on a flowery chair similar to Mackmurdo's sign of the Century Guild*, 6. *The angel in another of the* Paradise Lost *drawings*, 7, *recurs little changed in Rossetti's* Michael Scott's Wooing, 8, *Millais' design for a Gothic window*, 10, *reflects an understanding of such Blake drawings as the* Angels hovering over the body of Jesus, 9.

Similar dependences are noticeable in Holman Hunt's illustration for The Lady of Shalott *in Moxon's* 1857 *edition of Tennyson's poems*, 11; *in A. Boyd Houghton's* Princess Parizade with the Singing Tree *from Dalziel's* Arabian Nights *of* 1863–4, 12, *and Arthur Hughes' illustration to Grace Macdonald's* At the back of the North Wind, 13.

11



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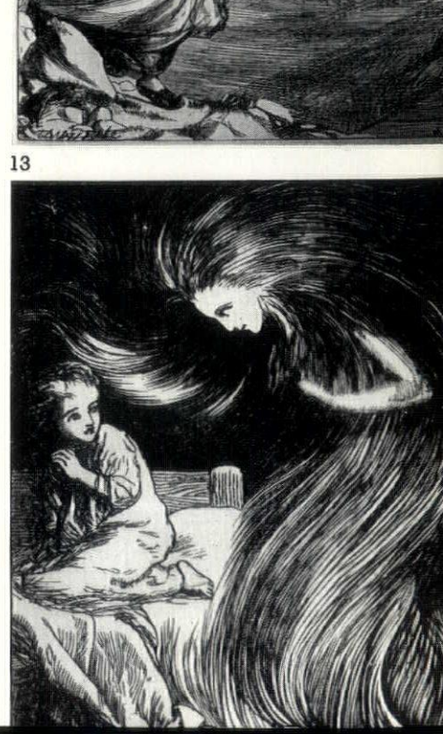



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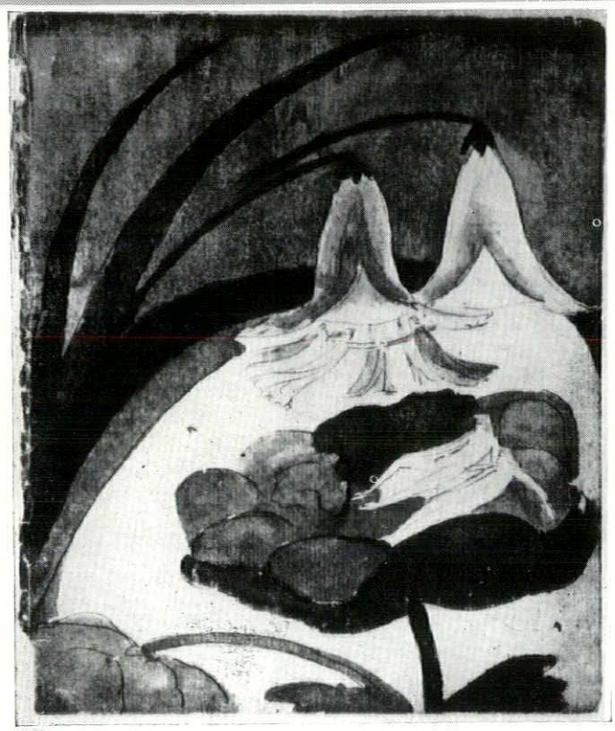

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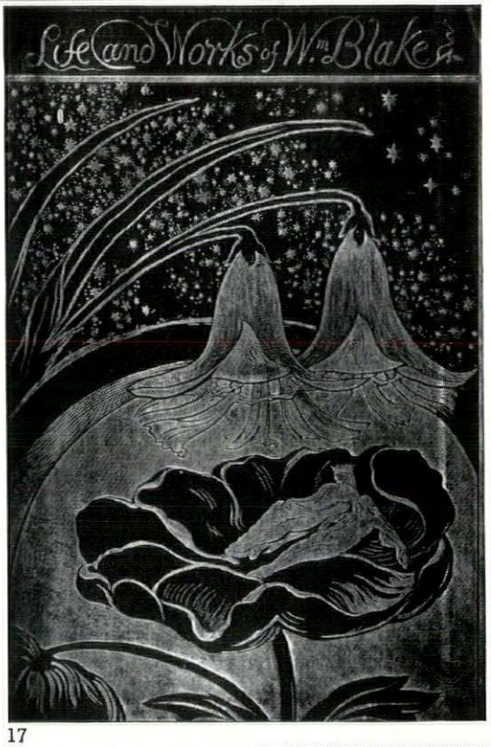

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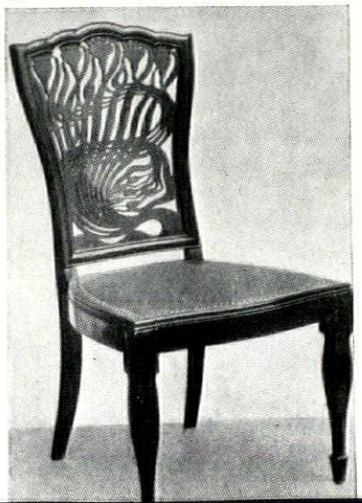

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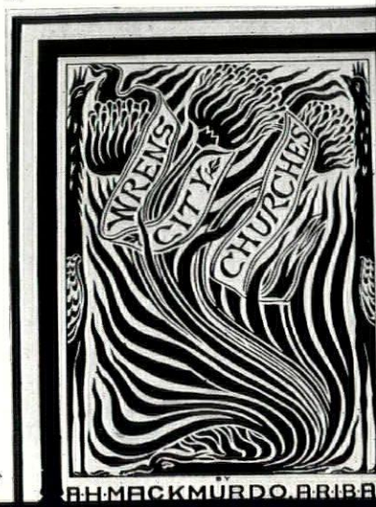
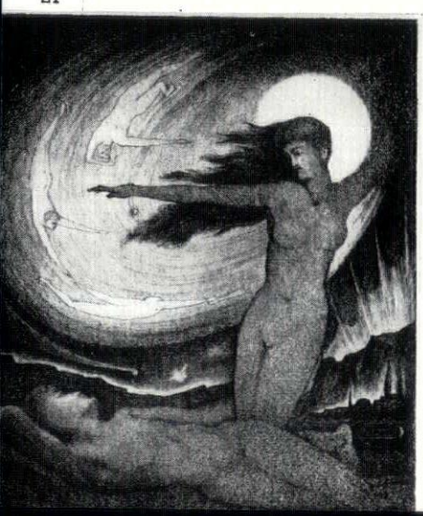


Burne-Jones' pencil drawing in his Orpheus and Eurydice series, 15, *is unmistakably related, in its whirlpool winding about the figure, to Blake's* Then the Lord answered Job out of the Whirlwind, 14. *The drawing of the King and Queen of the Fairies*, 16, *after which the cover for the second edition of Gilchrist's* Life of Blake *was designed by Frederick Shields in* 1880, 17, *was by William Blake's younger brother Robert. The flower motif in the pieces of furniture*, 18, 19, *and the cover to a book on Wren's churches*, 20, *all by Mackmurdo, is derived from a favourite Blake theme. The frontispiece*, 21, *to the Century Guild's* Hobby Horse, *edited by Mackmurdo and Horne*, 1884, *by an anonymous artist, is an obvious pastiche of Blake motifs. The flame-flower of* Infant Joy, *from the Songs of Innocence*, 22, *clearly inspired Mackmurdo's cretonne design of* 1885, 23; *and Walter Crane's tiger lilies*, 24, *bear witness to Mackmurdo's influence if they do not go back direct to Blake, as does Ricketts in the two wood-cuts from* The Dial, 25, 26, *and an illustration for Wilde's* The Sphinx, 1854, 27.

21





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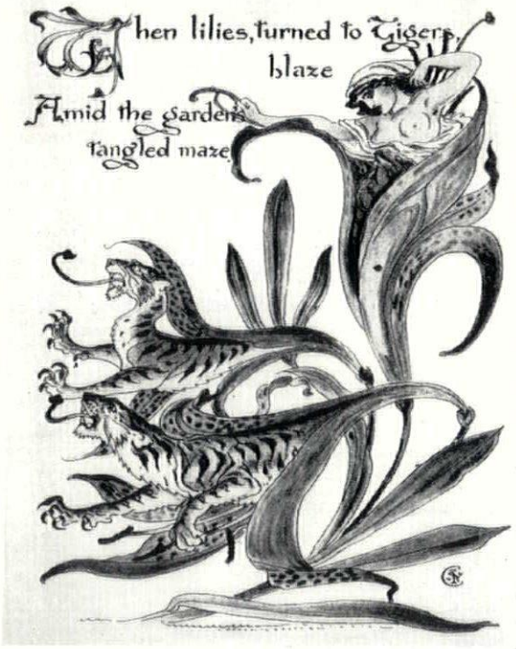

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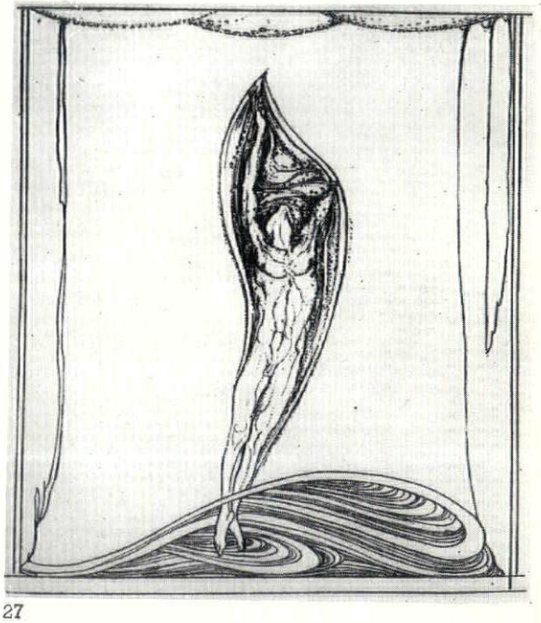

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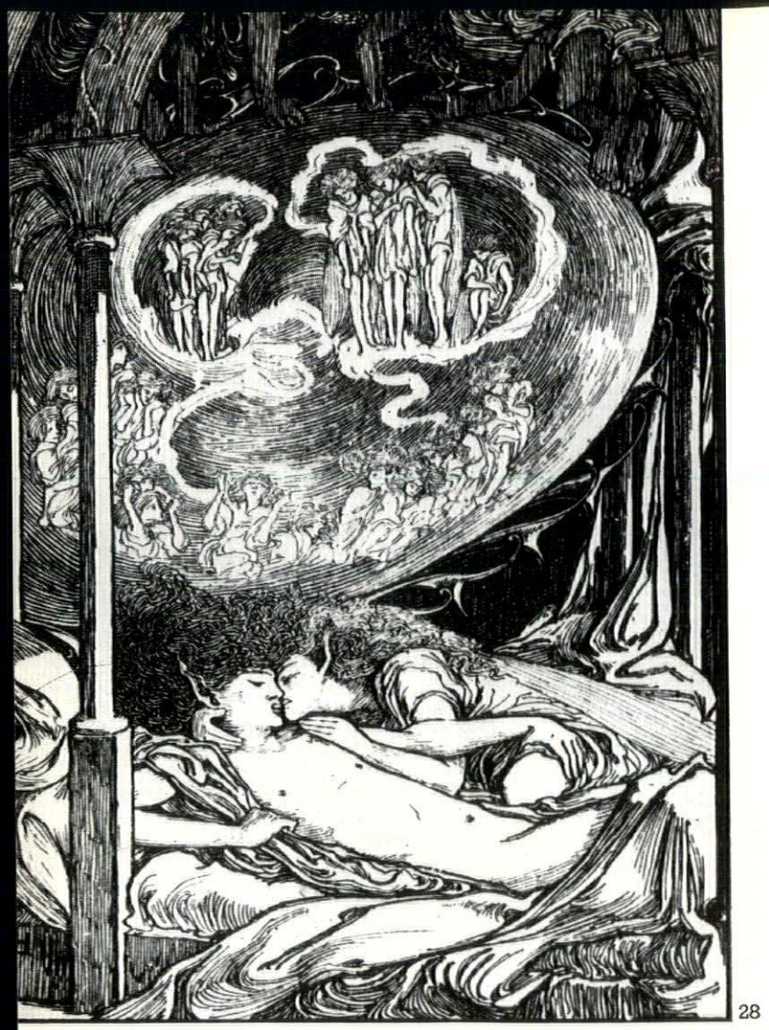

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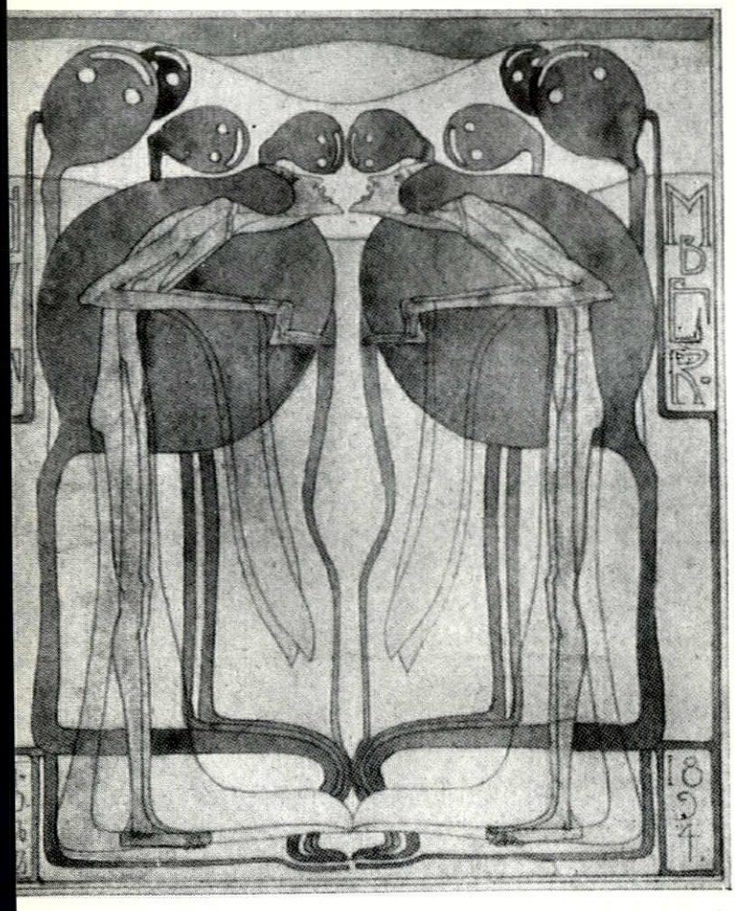
Blake influence shows in the timid Art Nouveau of Laurence Housman's illustration to his fairy tales of the 1890's, 28.



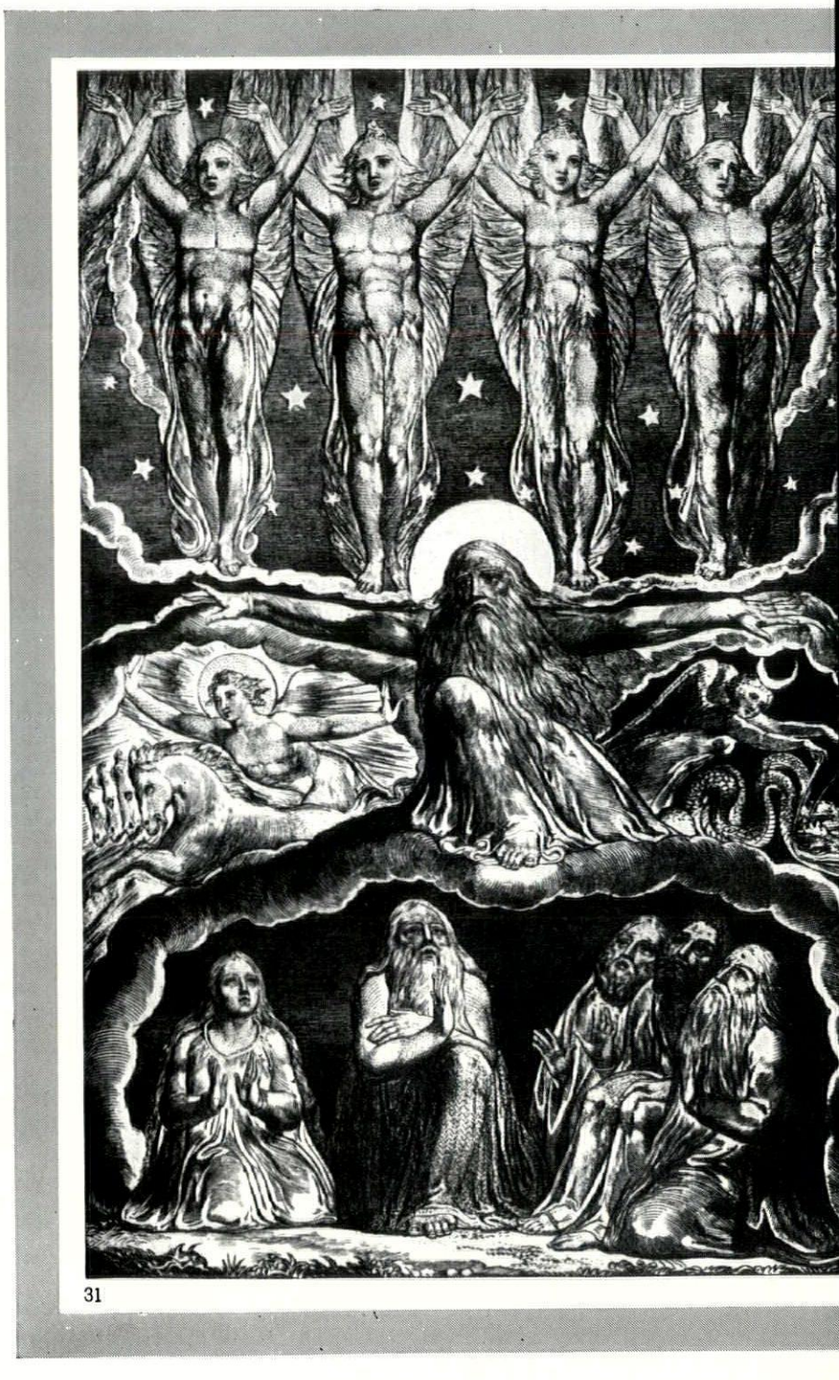
29

A very remarkable and not previously noticed dependence is that of the Glasgow School, as in the symmetry of Frances Macdonald's water colour, A Pond, 29.



30

. . . and in C. R. Mackintosh's Diploma of 1893, 30, *with its central frontal figure and outstretched arms.*



31

vignettes derived from Blake's *Virgil* and in a review of a big exhibition of English art Mackmurdo exclaimed: 'Will our reader believe it? Neither Blake nor Rossetti has place or name in this exhibition.'[25] Shields contributed a drawing of Blake's Workroom and Death-room.[26] That was in the first number. In the second number Horne in writing on Inigo Jones refers to Blake[27] and a facsimile of the broadsheet of *Little Tom the Tailor* is added, and in 1887 a facsimile of the *Marriage of Heaven and Hell*. A comparison of a flame-flower of Blake's, 22, with a textile design of Mackmurdo's, 23, may complete this chapter.

The influence of Mackmurdo in these years is patent. Where, if not from him, could Walter Crane have derived his *Tiger Lilies*, 24—or ought one go back once more direct to Blake?

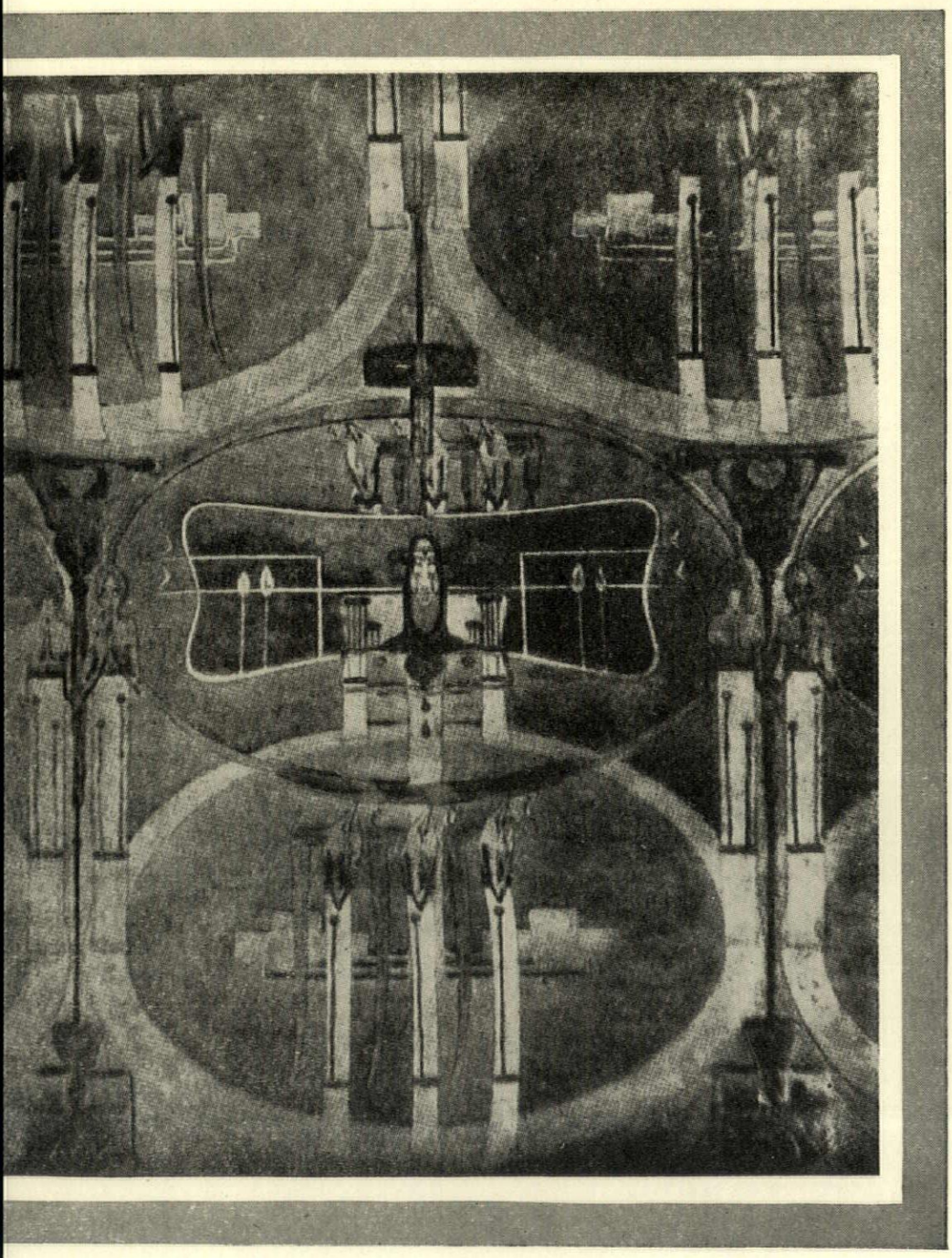
The Dial followed the Hobby Horse in 1889. In the very first number there are wood-cut vignettes by Ricketts, 25, 26, which can only come from Blake. That Ricketts knew Blake well, is evident from a Blake quotation in the second number on which he critically commented. Blake had said that in his poetry he only copied his visions which even in their form were ready when he received them 'organized and minutely articulated beyond all that the mortal and perishing nature can produce.'[28] Ricketts denied the truth of this. 'To copy, even from a vision, is not to create. Blake made this mistake, speaking as though a picture was a literal rendering of a vision, in which the technique already existed.' [29] These were the years when Mallarmé stated that a poem is made of words not of thoughts. Ricketts may have been critical of Blake, as an artist he was not for that reason any less influenced by Blake's designs, 27. In 1889 also C. R. Ashbee had a cabinet made by his Guild of Handicraft which was inscribed with passages from Blake's *Auguries of Innocence*.[30] Laurence Housman in 1890 showed a wood-engraving after a Blake painting[31] at the Exhibition of Arts and Crafts, wrote an essay on Blake in the same year, edited some works of Blake in 1893 and illustrated his fairy tales of the early nineties, 28, in a timid kind of Art Nouveau never forgetful of Blake's example.[32] And even Beardsley in the most important years of introspection looked at Blake carefully. The immature drawing of Dante in Exile (1890–91)[33] proves that; an unpublished drawing of 1891–92 is called *Thel Gathering the Lily*,[34], and another suggested to Edmund Evans at once its inspiration by Blake's *Piping down the valley wild*.[35] It was only after 1893 that Beardsley created his own Art Nouveau out of the various precedents disclosed in this and my previous paper.

At the beginning and at the end of that paper stood Beardsley designs, and I chose to start this with Beardsley. I could again close it here, if it were not for one necessary postscript.

Much has recently been discovered on the sources of the art of Mackintosh and the sisters Macdonald. Blake has not yet been given the emphasis which here also his work deserves. Early water colours by Frances Macdonald such as *A Pond* (1894), 29,[36] and by Margaret Macdonald such as November 5th, (1894)[37] make no secret of their Blake connection, and Mackintosh's Diploma of 1893 also, in spite of all its personal character, presupposes Blake, 30. One need only mention the strict symmetry, the frontal figure in the middle with horizontally raised arms, and spread wings, the wavy lines interwoven with the figures and forming themselves into an embracing oval, and the relation is evident.

A similar comparison could be made between Blake's *Where the Morning Stars sang together*, 31, and Margaret Macdonald's *Crucifixion*, 32, of 1894. But this comparison could also at once help to summarize the one profound difference between Blake and mature Art Nouveau. Blake's vision represents 'the outer universe as seen with the inward eye of poetic imagination.'[38] At Glasgow they converted it into a wallpaper pattern which could easily be adapted to an all-over repeat. Blake's line and Blake's composition are retained and developed, his meaning is abandoned. All the same, he remains, side by side with Rossetti and Japan, the most powerful source of Art Nouveau.

[25] *The Century Guild Hobby Horse*, 1884, No. 1, p. 100.
[26] *Ibidem*, p. 242.
[27] *Ibidem*, 1886, No. 1, p. 139
[28] L. Binyon, *The Drawings and Engravings by William Blake*, London, 1922, p. 7.
[29] T. Sturge Moore, *Charles Ricketts*, London, 1933, Introduction.
[30] Victoria and Albert Museum, *Catalogue of an Exhibition of Victorian and Edwardian Decorative Arts*, London, 1952, p. 82.
[31] *Arts and Crafts Exhibition Society, Catalogue of the Third Exhibition*, 1890, p. 272.
[32] For instance G. Meredith, *Jump to Glory Jane*, London, 1892; Christina Rossetti, *Goblin Market*, London, 1893; Jane Barlow, *The End of Elfin Town*, London, 1894.
[33] *The Early Work of Aubrey Beardsley*, London, 1912, pl. 16.
[34] A. E. Gallatin, *Beardsley, Catalogue of Drawings and Bibliography*, London, 1945, No. 217.
[35] Aymer Vallence, *Reproduction of eleven designs omitted from the first edition of 'Le Morte d'Arthur,'* London, 1927, p. 14.
[36] Thomas Howarth, *Charles Rennie Mackintosh*, London, 1952, pl. 6, fig. A, and pl. 7, fig. B.
[37] *Ibidem*, pl. 6, fig. C.
[38] Joseph H. Wicksteed, *Blake's Vision of the Book of Job*, London, 1924, p. 167.



Finally, Blake's Where the Morning Stars Sang Together, 31, *can compare directly with Margaret Macdonald's* Crucifixion, 32—*in form if not content.*

SCHOOL AT HARLOW

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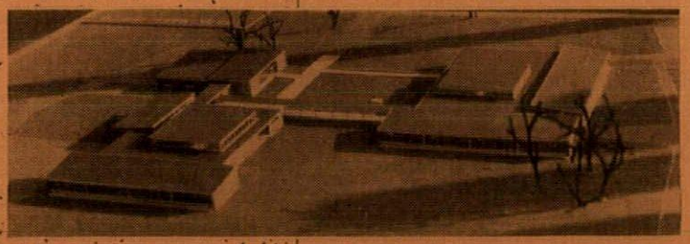
SCALE OF FEET



key
C, classroom.
1, assembly hall.
2, head teacher.
3, secretary.
4, staff.
5, staff w.c.s.
6, w.c.s.
7, cloaks.
8, store.
9, dining-room.
10, kitchen.
11, boilers and fuel store.
12, pump room.
13, larder and stores.
14, chairs.
15, switch-room.

junior school

dining block

infants' school

SCHOOL AT HARLOW

ARCHITECT	**H. T. CADBURY-BROWN**
Assistant-in-Charge	**R. W. Finch**

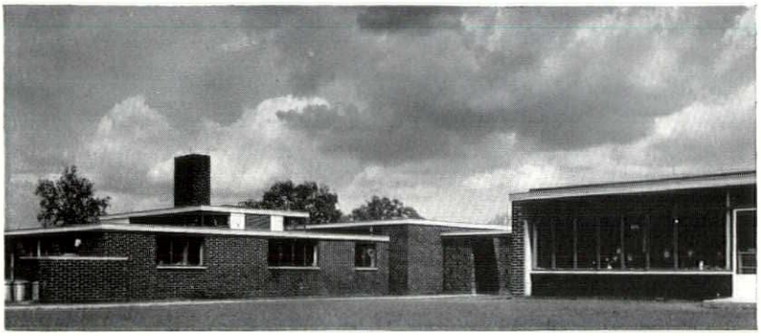
1, infants' block, showing raised assembly hall roof and outside covered way, seen from south end of juniors' block.



The school is centrally placed in Mark Hall South, between the residential areas of Cooks Spinney, Blackbush Springs and Ladyshot, and was briefly described in the article on Harlow New Town (AR, May, 1955). The site is essentially flat but there is a general fall towards the northern (approach) side. The school is for 320 juniors and 240 infants and is grouped into three separate parts: junior school ; infants' school (the only link between the two schools being an uncovered paved way) ; and dining block, which is joined to the infants' school by a covered way.

The generator of each of the school plans is the assembly hall, and the schools are arranged about this space. The hall has windows on one side opening on to a covered way and thence to a green space. It is lit by a continuous clerestory on the three other sides ; the

roof of the hall rises above the roofs of the cloakrooms, stores and corridors surrounding it, which are kept low. Where (as in the administrative offices) additional height is required, advantage has been taken of the slope in the ground to have a lower floor. Classrooms have a sloping roof with clerestory lighting on the higher side, and comparatively low eaves on the side of the main window, towards the south or east. This gives no more than the minimum necessary light, as the architect felt that the frequent tendency to overlight classrooms causes an effect of bleakness.



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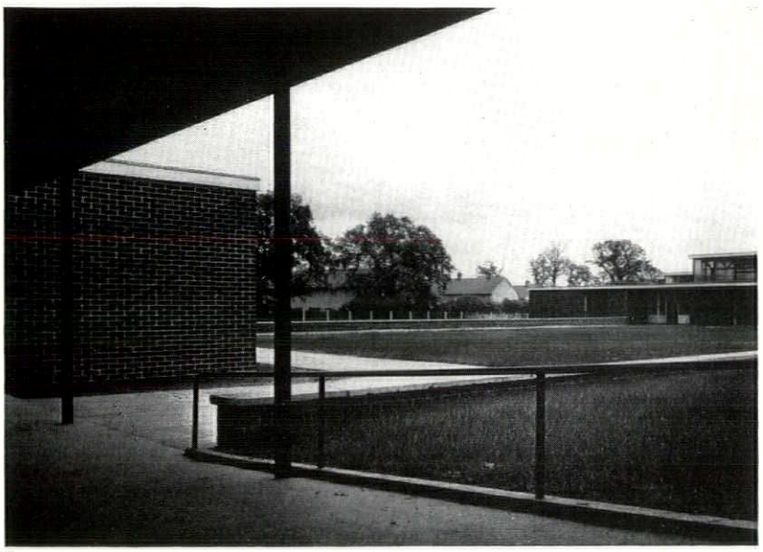

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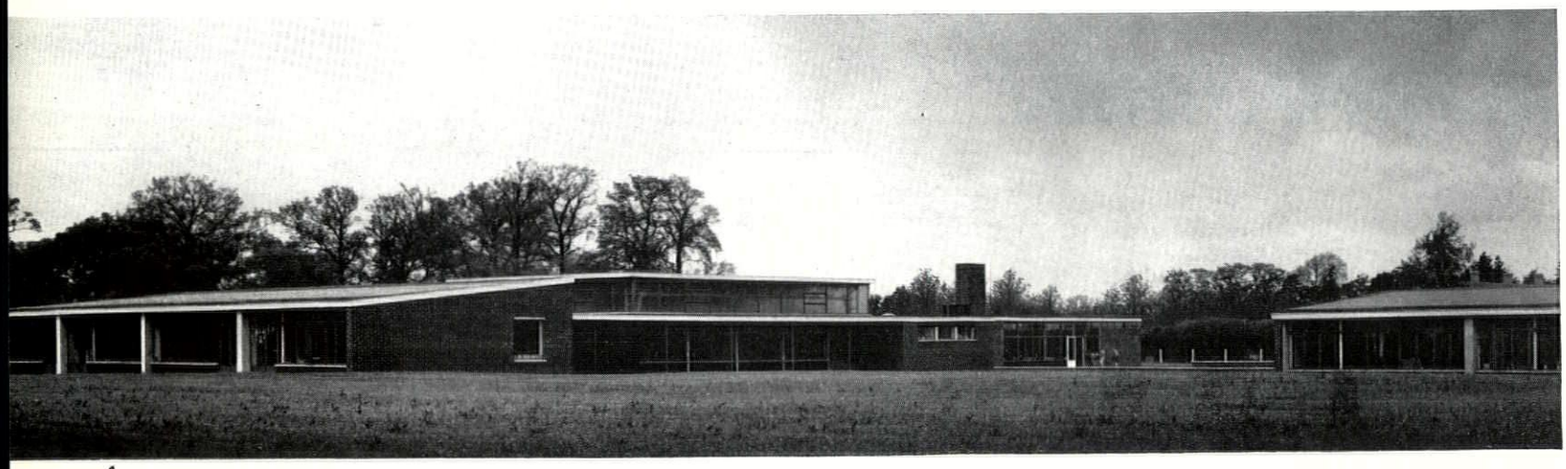
Just as the school units concentrate round the assembly halls with views into them from the corridors, so the two schools and the dining block are brought together to form a single group round an enclosed space to be used for circulation and also to provide a formal centre for the whole school. The playgrounds and playing fields are on the outside of the group of buildings, the infants' playground immediately adjoining the west side of the infants' school and so enabling some walls to be used for playing ball. From the exterior, emphasis is laid on the long horizontal lines of the fascias which are painted white for maximum contrast with the dark brick and dark metallic grey of the windows.

Each class of the junior school is provided with individual cloak hanging space. An open store and sink are added to the teaching space and a lock-up cupboard is provided for the teacher. There are low, wide tiled window cills for flowers and models, and other necessary paraphernalia. In the infants' school, coats are hung in the corridor, the class store is off the corridor and the sink is in the classroom by the window cill (which is of the same design as those in the junior school). There are inlaid patterns on the floor for impromptu games, counting, etc.

Walls are of load-bearing brickwork. Classroom roofs are timber, on RSJ's. Steel lattice portal frames support the assembly hall and dining hall roofs. The roofs of the kitchen, cloakrooms and corridors are of concrete slab. External bricks are brown-black in colour, and those in the corridors are buff. Steel windows are painted with dark grey metallic paint. Colours in classrooms are varied, without any violent contrasts, as the walls are intended to be much used for the pinning up of children's drawings and work. Strong colours are used in corridors and cloakrooms.

2, dining block (left) showing juncture with and classroom window of infants' block ; 3, junior school (right) seen from covered way on east side of infants' block. 4, general view of school from south, showing sloping classroom roofs of both school blocks (infants' left) and dining block (with chimney) centre.



4

SCHOOL AT HORNSEY

ARCHITECTS | **RICHARD SHEPPARD AND PARTNERS**
Associate Architect | **Gordon Taylor**



1, entrance to school, on north side, with projecting upper storey containing classrooms; kitchen to the left.

This is a four-form entry secondary modern school for 600 pupils in Creighton Avenue, on the west side of Muswell Hill. The site originally sloped steeply from south to north with a gradient of 1 in 20 and this had to be levelled over the school area and a 20-ft. high retaining wall provided across the rear of the site.

Like the schools at Ruislip and Hounslow (AR, June, 1954) this is designed to the Middlesex County Council's compact-planning requirements. The main teaching rooms are situated in one central two-storey block running north and south down the middle of the site. This basic arrangement brings most of the teaching rooms, with their stores and ancillary accommodation, together in one compact unit. The rooms are placed either side

2. view southwards with assembly hall in distance. 3. the two-storeyed block containing staff and administrative rooms. 4. view into dining area from assembly hall. 5. entrance court with administrative offices.



2

of a 22-ft. corridor. This width avoids the institutional atmosphere which can result from the use of a narrower corridor; it also allows hat and coat racks to be centrally placed on the ground floor. Access to the main teaching rooms on the first floor is by two broad stairs—the only stairs in the school. The remaining accommodation is planned in four 'arms' which project forward east and west from the extremities of this main block and are linked to it by corridors or covered ways.

The construction of the school falls into three main types: reinforced concrete frame for the lower storey of the main teaching block and the kitchen and the dining hall; load-bearing brick walls with concrete roofs for the administration wing and girls' changing room; steel frame for the remainder. Facing bricks are yellow and dark brown, with occasional panels rendered and painted. In between the steel frame of the first floor of the main teaching block, and below window cill level, glass panels have been fixed externally. The back of these panels is painted dark green or light blue.

Internally, walls are generally plastered, with some walls built in fair-face brickwork in the assembly hall and dining hall—dark grey and yellow—and some walls in patterned tiling. Otherwise walls are generally painted in white and grey with strong colours in small areas. Wallpaper has been used in the library and the staff common room, to provide additional interest.

Floors are finished in many different materials: those in classrooms and stores with thermoplastic tiles; in lavatories, kitchen, and changing rooms with quarry tiles; the stairs with terrazzo. In certain rooms various hardwoods have been used: in the gymnasium, loliondo strip; the assembly hall,



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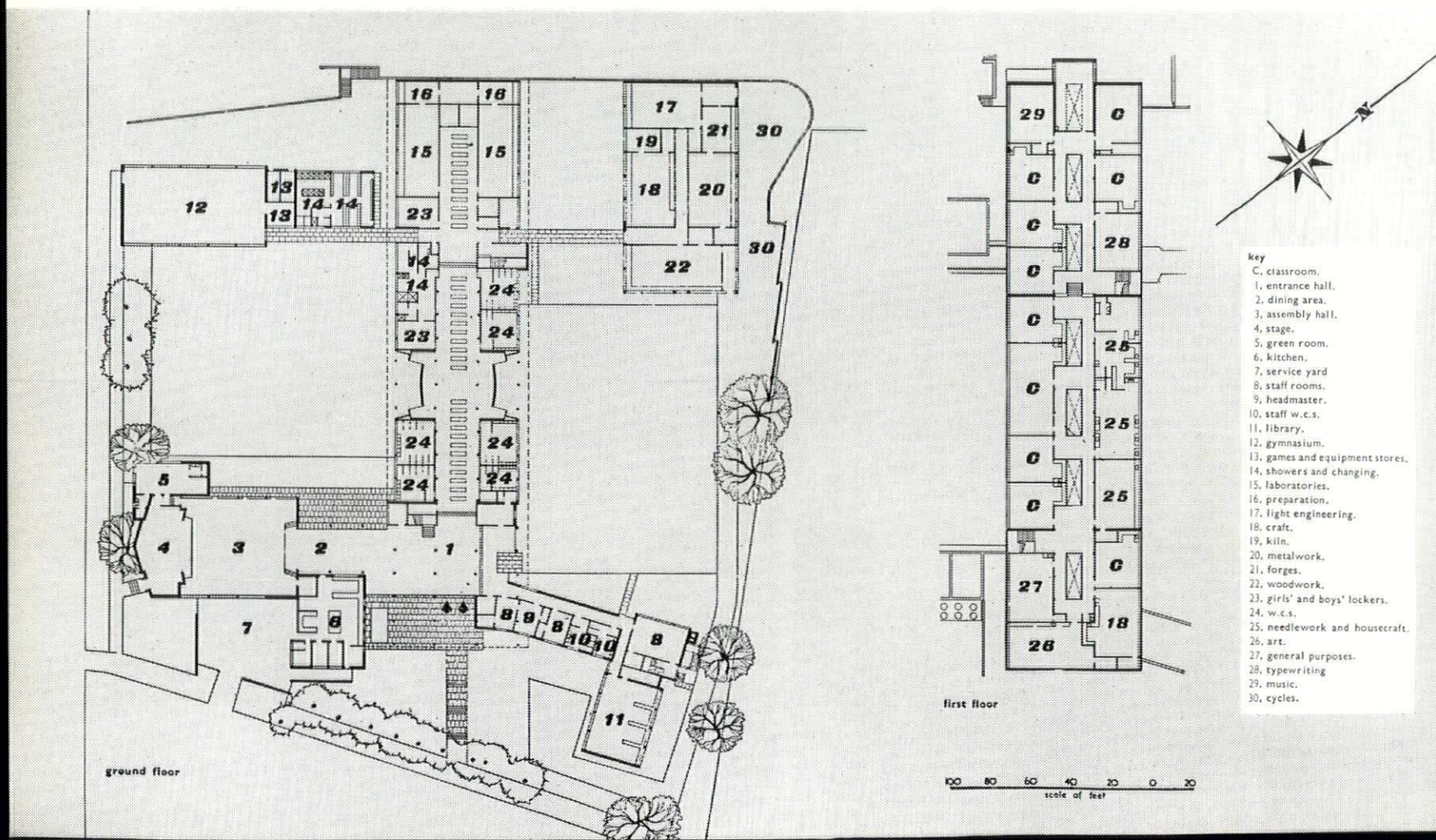



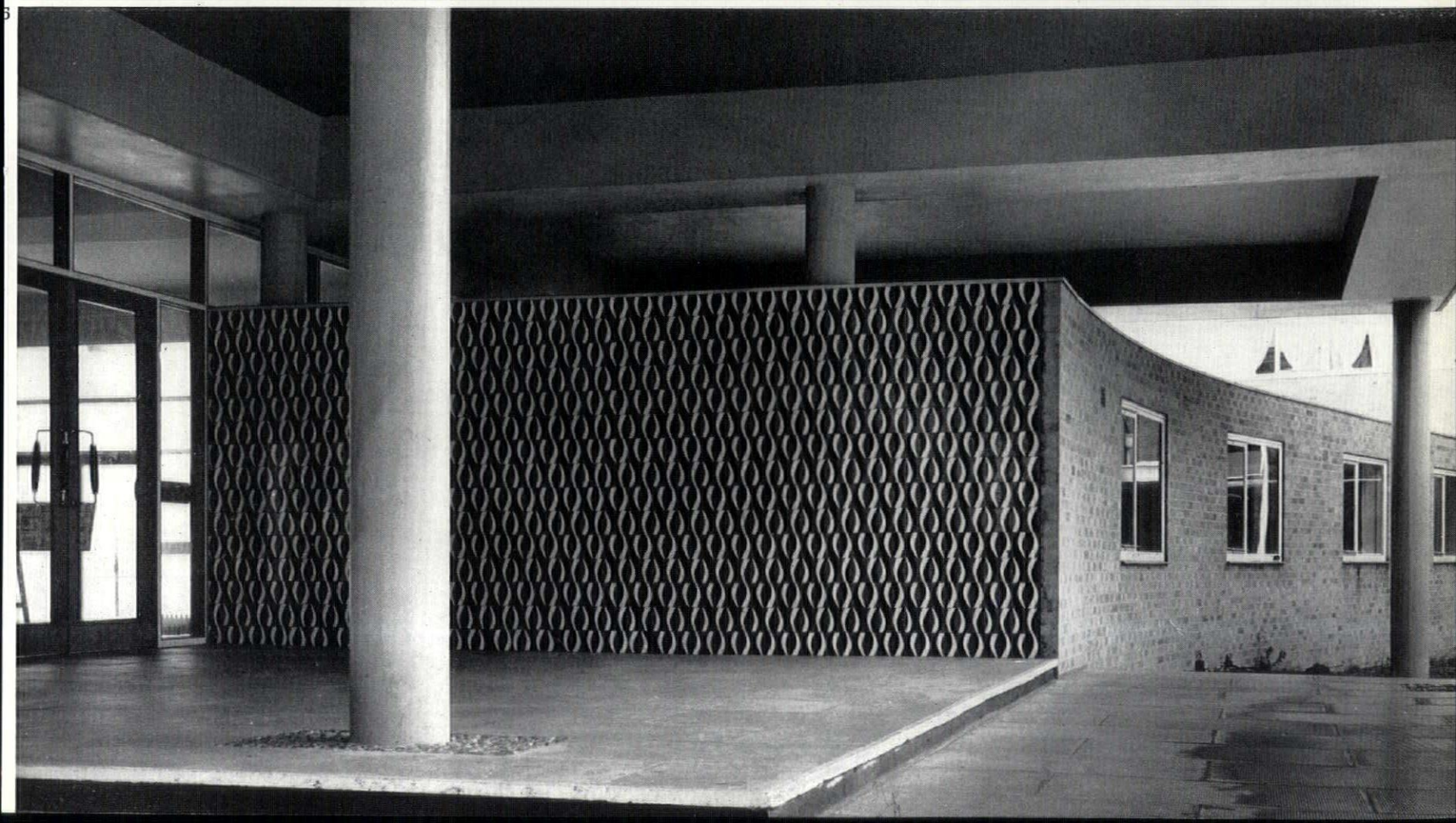

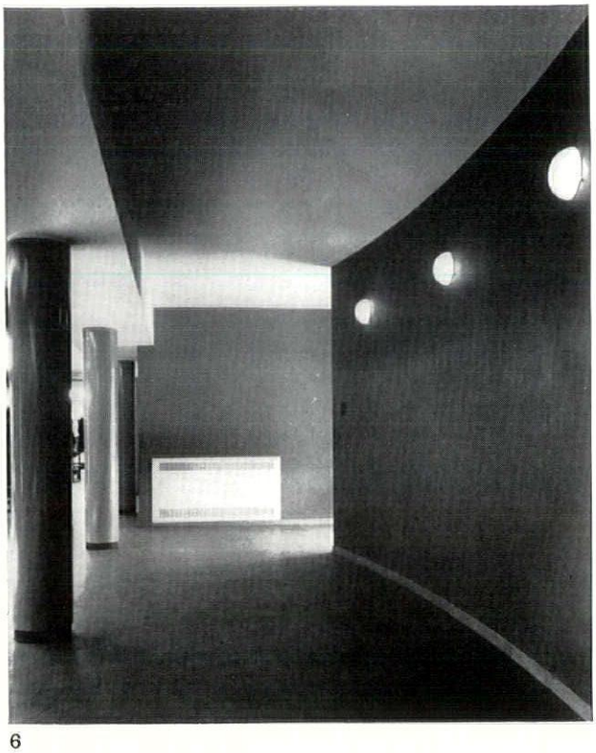

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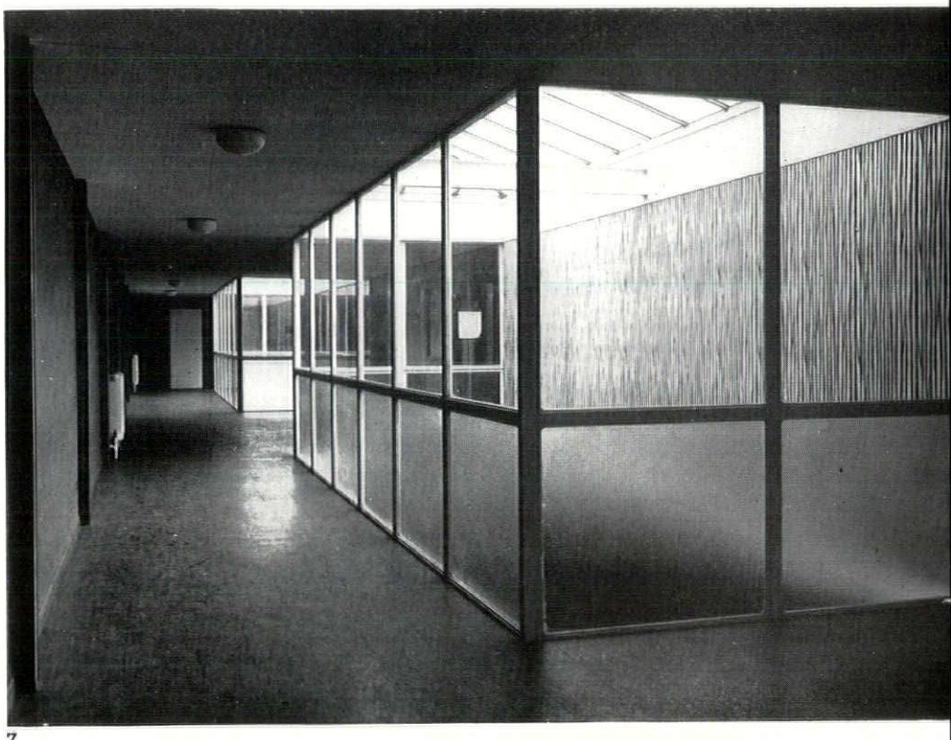

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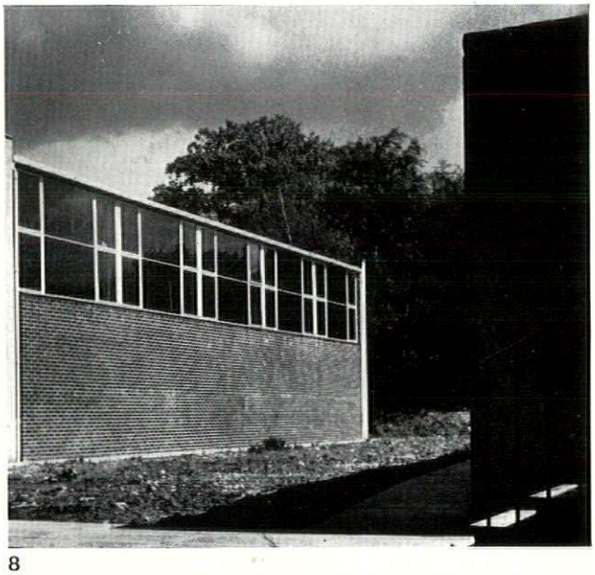

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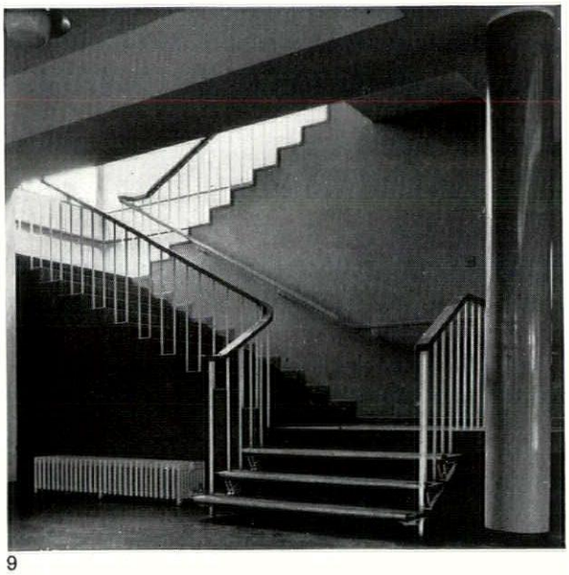

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6, widening in the north-south cloakroom passage. 7, enclosed ventilators from the ground floor seen in upper floor passage. 8, south-east corner of gymnasium. 9, staircase on south side of entrance hall. 10, view across dining area of assembly hall and stage. 11, assembly hall exterior, south-west view. 12, east side of central block with classrooms above.



11

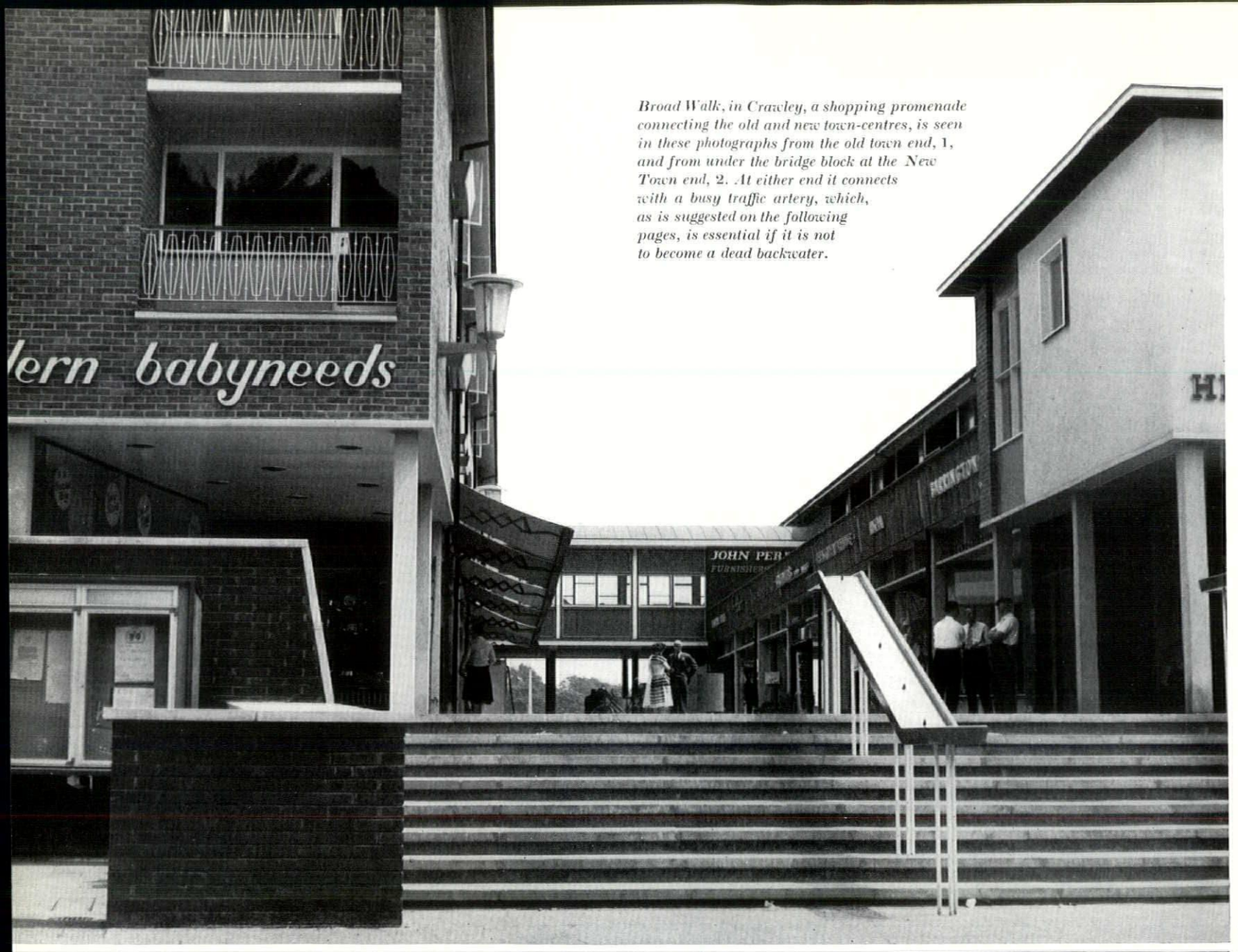


12

missanda ; the entrance hall, gurjun ; staff rooms and science rooms, sapele.

The building is heated by low-pressure hot water fired by solid-fuel boilers. The heating surface generally takes the form of radiators, with heating panels embedded in the floor thickness in the case of the library and the assembly hall.

Broad Walk, in Crawley, a shopping promenade connecting the old and new town-centres, is seen in these photographs from the old town end, 1, *and from under the bridge block at the New Town end,* 2. *At either end it connects with a busy traffic artery, which, as is suggested on the following pages, is essential if it is not to become a dead backwater.*



1



2

Charles Forehoe and Kenneth Browne

Shopping Precincts

ROWS, BACKS, TWITTENS, GANNELS, SNICKETS AND VENNELS *

The future of shopping is in the melting-pot, but whatever that future may hold in store the corridor street—where two lanes of traffic crush the shopper against the shop windows—is unlikely to be a constituent part of it.

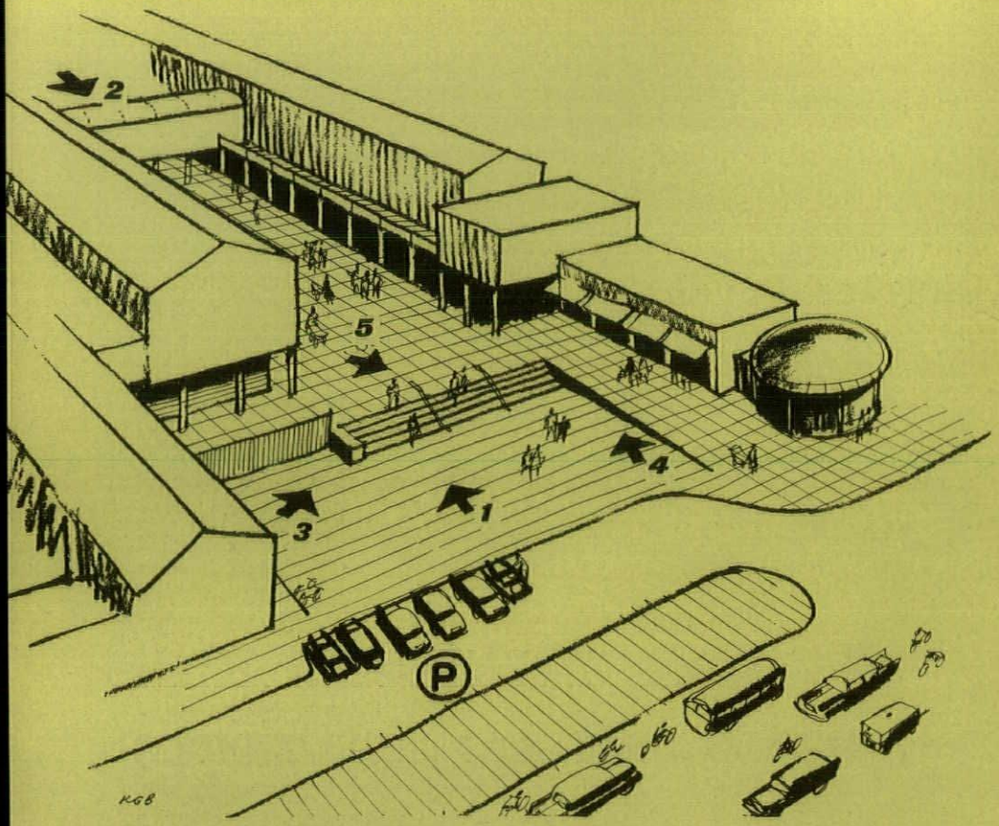
The recognition is growing that shopping is a form of purposive loitering, conducted on foot and at walking pace, and even in the homeland of the 'drive in' the US shopper is becoming increasingly accustomed to quit his car in order to walk the planned piazzas and air-conditioned promenades of vast out-of-town supermarts—the peace of mind that accompanies pedestrian velocities, circulation on the scale of man, is conducive to better merchandising, both from the vendors' and the purchasers' angles.

However, solutions which may be ideal for the inhabitants of the Great American Exurbia are not necessarily those that would suit either British shoppers, or British planning conditions. Our land is scarce, but to us a mile is still a long way. Our automobiles are smaller and fewer, but not further between; more of us expect to use public transport, and few of our retailers operate on sufficiently large or diversified a scale to provide supermarket facilities.

Our problem is to create centres of natural congress—urban foci that will attract the small, specialist retailers who, together, can provide balanced merchandising; will attract the motorized and the bus-borne shopper, and provide them with good cause to change down to foot-pace velocities. Such natural foci in the past have tended to occur where two social patterns have overlapped—John Nash made his shopping places along Regent Street, the seam that joined lower-class Soho to the upper-crust squares of the West-end, and along Albany Street where the Regent's Park terraces back on to Cumberland Market.

Nowadays such social stratifications count for little, and our shopping habits—particularly in recently-founded communities like the New Towns—run to a fairly standardized middle-class pattern. What differentiates us nowadays is whether we are mechanized or not, and it is not an overlap of social patterns, but the interlace of velocity-diagrams

* Some, though not all, of these local terms describe shopping promenades, but all in general imply a pedestrian place connecting traffic roads. Rows may be found in Great Yarmouth and Chester (among other places); the Backs of the Inns in Norwich are a complicated network of minor shopping streets, largely pedestrian; Snickets seem to belong to the Home Counties, Twittens to Sussex, Gannels to the North of England and Vennels to Scotland.



Broad Walk *Architect to the Development Corporation: H. S. Howgrave-Graham*

Broad Walk, Crawley, has as its most notable feature a pedestrian 'patio' at the lower end, 3. Rising ramps, 4, on either side make access possible for prams, etc., but the steps, 5, make it clear that Broad Walk is unsuitable for motors.



4



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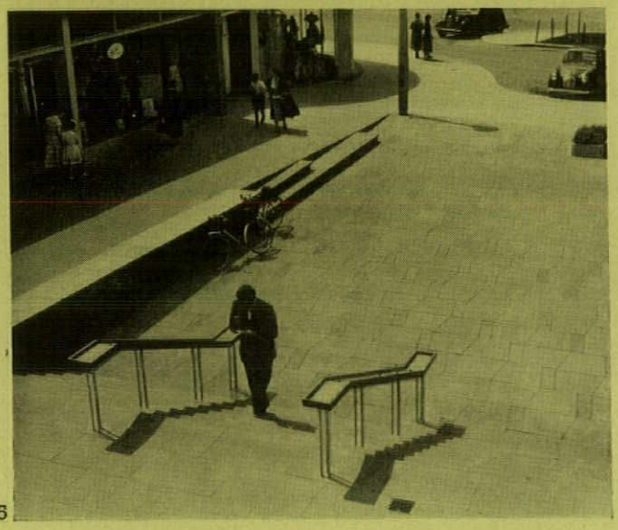

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that creates natural foci—points where motorized circulation, on the scale of the city, tangles with pedestrian circulation, on the scale of man.

Because this interlace is—commercially and psychologically—literally vital, the corridor street is the lowest form of life among shopping centres, and the pure pedestrian precinct the highest form of death. The corridor street tangles the two velocity-diagrams on a level of Subtopian squalor, the automobile has to crawl and the pedestrian has to run, no circulation and no peace of mind. The pure pedestrian precinct isolates twentieth-century man from his fifth limb, and he therefore goes to some other place where he can do business without being amputated from mechanized transport.

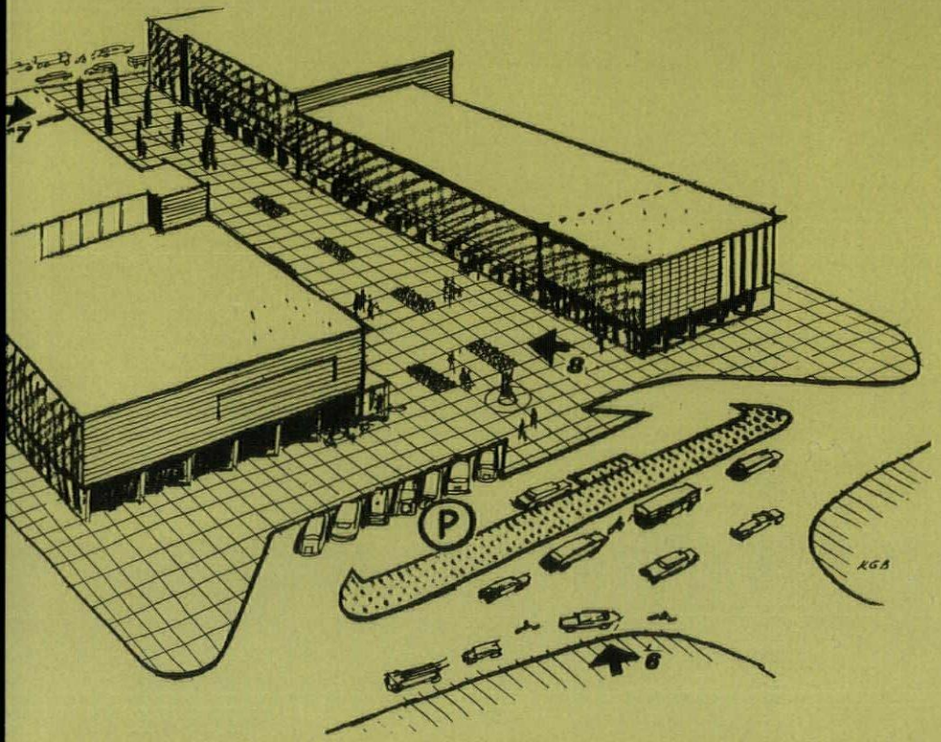
The shopping centre of the future—the shopping centre *with* a future—must provide the pedestrian with circulation of his own, but not isolated from the main arterial circulation of his town. Man and Motor must be got out of one another's hair, but not out of one another's sight, for fully to value the tranquillity he has gained, the shopper must be able



6

Vanderbijlpark *Architect: P. R. Anderson*

Built to serve a new community in southern Transvaal, Vanderbijlpark shopping centre has had to make urban scenery out of a terrain with no topographical aids. The shopping promenade is accented by quick-growing trees at the market end, 7, where there are no buildings to give shade, and at the Becquerel Street end by the monument, 6, which holds open a pedestrian line of communication across the street.





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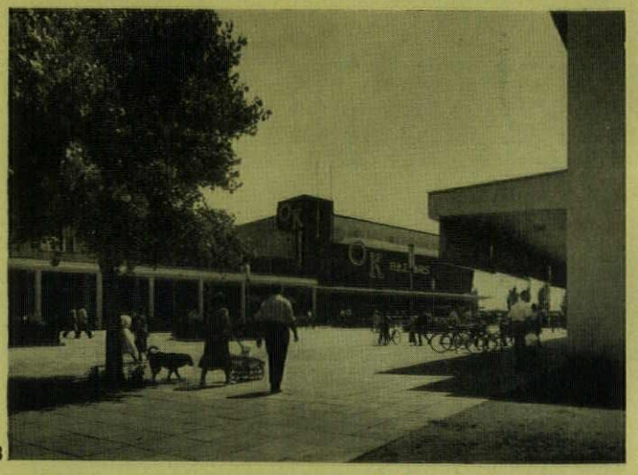

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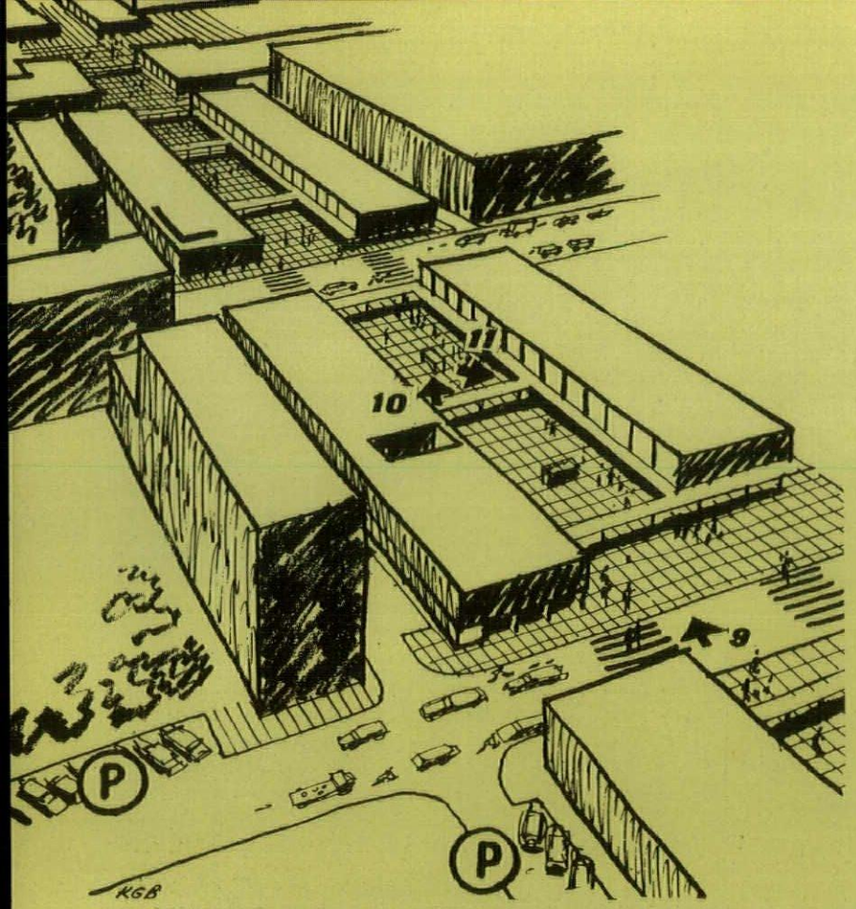
to savour the mechanized hustle he has left behind; to appreciate his special privileges of random, low-speed meandering, he must remain conscious of the high-speed, precisely-oriented flow of traffic outside.

Protection from the risks of traffic must be balanced by a constant sense of its vital presence, and the planner must be able to combine his two velocity-diagrams in such a way that full value is obtained from their interlace. This points up two particular problems: the junctions between the two diagrams and the management of car-parks. These must remain two separate problems, for the accumulation of a layer of static automobiles around the shopping promenade would merely isolate it from traffic flow—the points of junction cannot also be car-parks, they must be planned visually to present the automobile to the pedestrian, and vice versa. Almost a problem of stage-management, with some suitable hazard—steps, bollards, a kerb—serving as footlights, not between audience and drama, but between two dramas.



Lijnbaan *Architects: J. H. van den Broek and J. B. Bakema*

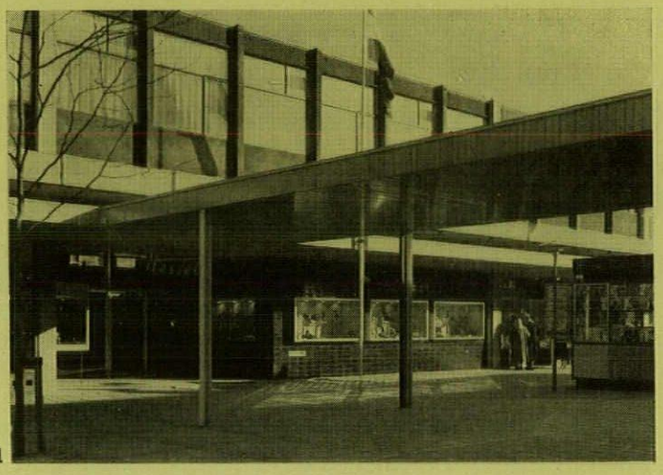
Not a new town development, but part of the rebuilding of the bombed heart of Rotterdam, the Lijnbaan takes much of its character from the way in which it intersects with the existing grid of traffic streets, and forms an interrupted sequence of pedestrian spaces, 'ventilated' by traffic arteries, 9. Very sensibly, for a northern climate, the architects have provided almost continuous shelter-canopies along each side, linked by periodic transverse canopies, 10 and 11, which also give an increased sense of intimate interior spaces.



10



9



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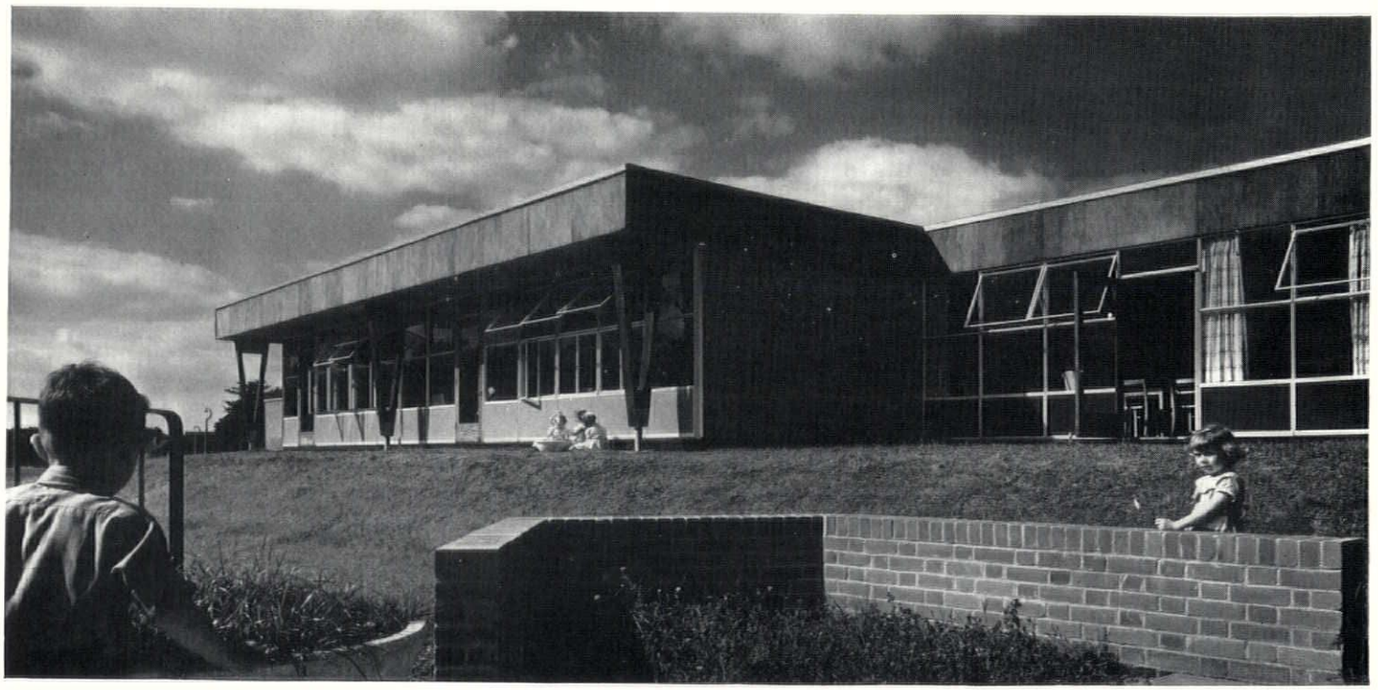
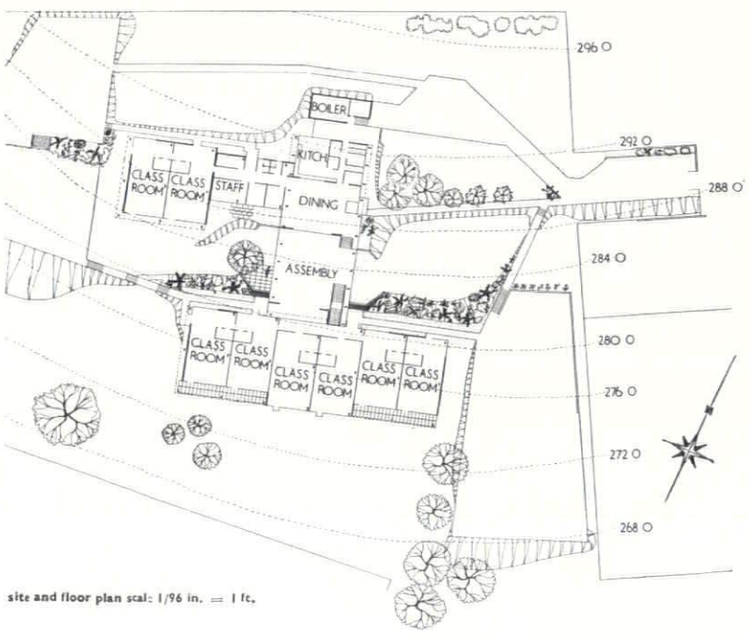
The illustrations to this article show three examples of a growing world-wide skill in presenting the drama of mechanized transport, and the drama—almost a pastoral today—of pedestrian shopping, so that they add maximum value to one another. The methods they employ are very different—in Vanderbijl Park an exiguous length of unparkable kerb, but forcefully signalled by a monument, holds open a view to the moving traffic beyond; at Crawley, a slight change of level marks the shopping promenade as unsuitable for wheeled traffic, and also provides a view over the roofs of any vehicles parked at the end; the Lijnbaan at Rotterdam reads as a serial with the long pedestrian walk continually intersecting an existing grid of traffic roads. The double drama is clearly one that may be produced in any number of different ways; it is up to the planner-townscaper to find the one which gives particular value to his own version of it.



1, *the two classrooms on the upper terrace, with staff rooms on the right.*



site and floor plan scale 1/96 in. = 1 ft.

SCHOOL AT GARSTON, WATFORD

HERTS COUNTY ARCHITECT, C. H. ASLIN

ARCHITECT-IN-CHARGE, R. C. N. PAUL

This Infants' School was designed for 320 children and was opened in April, 1954; one of four schools built at this time using a timber frame designed on a 40-inch module. The site is in a comparatively new housing area, falls 20 feet across the building area and has a fine view to the south across the valley. Two main building terraces were formed parallel to the contours and were linked by the Assembly Hall forming a third terrace level running at right angles to the slope. The Classrooms were grouped six on the bottom terrace and two on the top, together with the administrative rooms and kitchen, the two long sides of the Assembly Hall on the central terrace being glazed in order to give visual continuity to the ground plane along the middle terrace. The 8-foot floor to ceiling heights for most areas, together with the flexibility gained from the freedom of planning the wall screens under the roof areas and off the frame grid, were found to be the greatest assets in attempting to attain the small-scale informality considered essential for an



2, *looking south from the assembly hall over the roof of the lower classroom block.*

School at Garston, Watford

Infants' School. The timber frame was developed from first principles, each element being tested to destruction in the works, before the final designs were accepted. The frame components, consisting of stanchions, beams and cantilever brackets, were erected on the site. The frame consists of hardwood 'V' shaped stanchions of two types for 8 foot and 11 foot 4 inch room heights, and are designed allowing main beam cantilevers. The main and secondary beams are all softwood with a constant depth of 2 feet. Main beams have softwood top and bottom booms with plywood webs. Lengths of beams are in increments of 3 feet 4 inches up to a maximum of 30 feet, plus a maximum of 8 foot 4 inch cantilevers each end. Secondary beams have open latticing and are again in 3 foot 4 inch increments of lengths up to a maximum of 23 feet 4 inches, not including 20-inch secondary beam cantilevers. Except in the Assembly Hall, where the special shaped main beams were exposed and painted, all beams were enclosed above a suspended ceiling. The constant roof beam depth is expressed on face of the building with a deep fascia made of 9 mm. West African mahogany plywood treated with linseed oil. External screens are solid glazed or windows between medium section mild steel droppers at 40-inch centres around the periphery of the buildings. Window types used were from mild steel standard universal sections made up into french casements, projecting top hung and top hung ventilators. Solid screens on softwood frames between droppers are of cedar with 9 mm. Lagos plywood internally. Internal screens are 2½-inch and 2¼-inch plasterboard on screen grid finished either painted or with cold glued surface sheets of hardboard (various patterns), or $\frac{1}{16}$ inch plastic, depending on type of surface protection and decoration required. All sheets are fixed direct to softwood soffites of secondary beams and to softwood noggings. Classroom floors are $\frac{1}{8}$ inch Semastic. The Assembly Hall floor is Rhodesian Teak wood block. Heating is from boiler in detached house.

POLICE HOUSING IN HIGHGATE

CHIEF ARCHITECT, METROPOLITAN POLICE:
J. INNES ELLIOTT

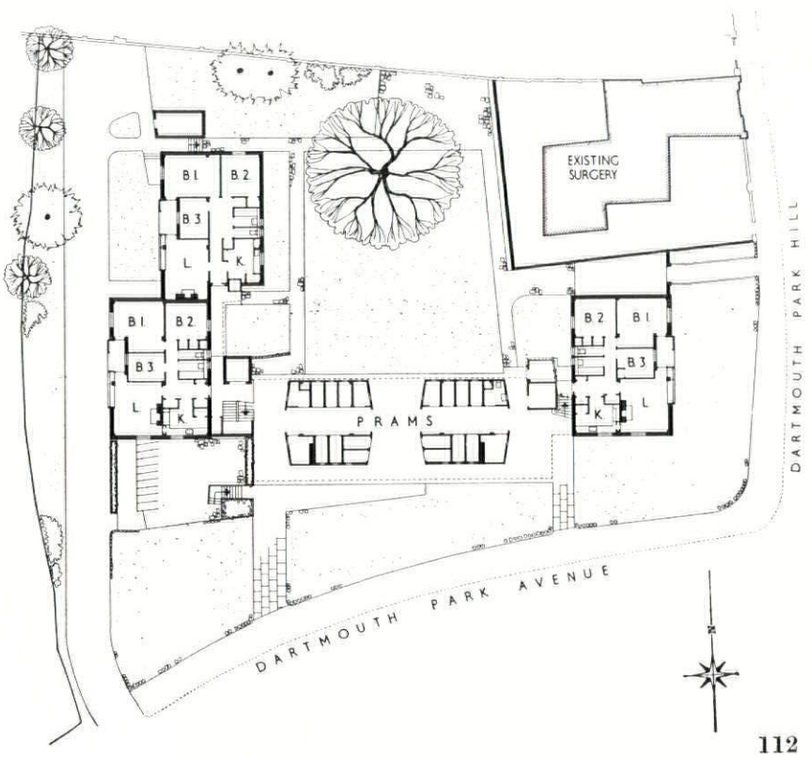
SENIOR ARCHITECT-IN-CHARGE: S. J. HANCHET

The site of these married quarters for the Metropolitan Police flats falls westwards along its length from Dartmouth Park Hill, with a cross-fall from the north to the frontage on Dartmouth Park Avenue. The site falls have been used by raising the east block at half-landing height above the central block, and by forming basement accommodation under the west block, with access from the service road. The basement provides a hobbies room, the transformer chamber (required by the LEB), store room and undercover play space. A passenger lift in the west staircase serves all floors and the basement, and a cantilevered connection balcony on the north side of the centre block connects the east and west staircases, and gives access to the lift from the upper floors.

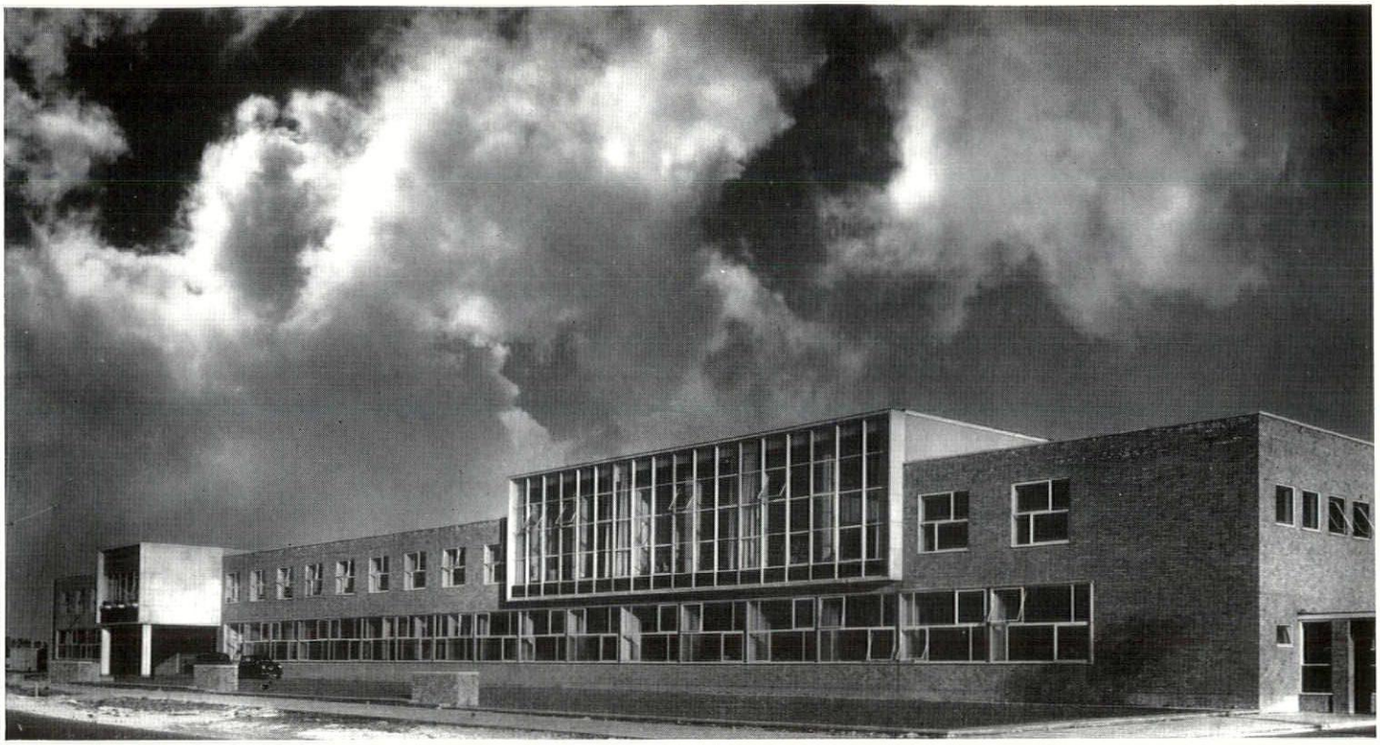
All the flats provide the same accommodation, and are sited so that the living room and two of the bedrooms face nearly south, and the one other bedroom, kitchen, bathroom and w.c. north.

The basement is in reinforced concrete, the remainder having a reinforced concrete subframe of columns, beams, suspended floors, balconies, canopies, staircases and lift motor room. Column bases are in mass concrete; the lift well enclosure walls are of reinforced brickwork. External walls are of hollow wall construction, with infilling of reinforced concrete beams and columns. Structural columns passing through living rooms are in fair faced concrete painted with emulsion.

Opposite, 3, top left, and 4, top right, the central block looking downhill (west) and uphill. 5, below, the scheme seen from Dartmouth Park Avenue.




THE TOWERS
No. 39



6, *the north façade of the administrative block*

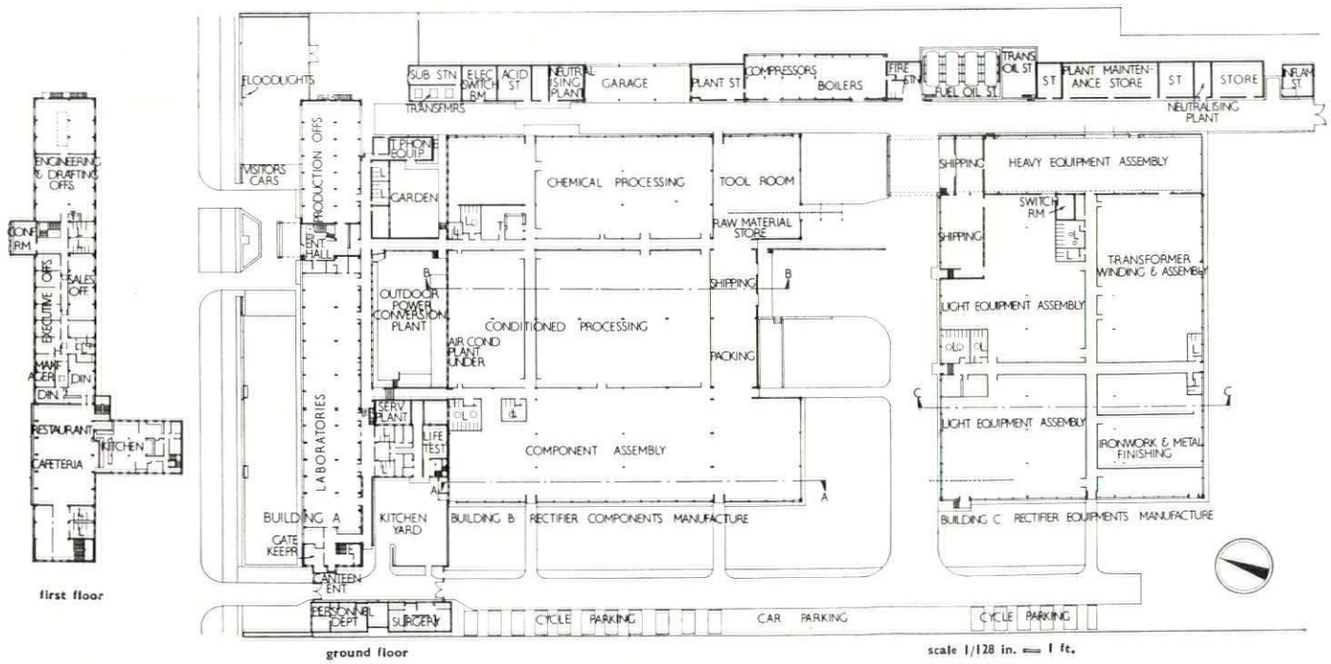
FACTORY AT HARLOW NEW TOWN

ARCHITECTS, HARLOW DEVELOPMENT CORPORATION

This factory—the largest in the Templefields industrial area—was briefly illustrated in the article on Harlow, AR, May, 1955. The 8¼-acre site has a frontage of about 140 yards on the south side of Edinburgh Way. The administrative area of two storeys stands along the road frontage in front of the production area. The production blocks are separated and different methods of construction used on account of the different processes being carried out in them and to allow for future expansion. Ancillaries such as stores, garages and boiler house are placed in a separate block along the east side of the site.

The entrance to the administrative block is under the projecting board room. At this point a contrast to the simplicity of the other buildings is provided in a variety of textures and patterns—for example recessed light fittings in a dark red ceiling over the entrance, continuing through into the hall, which is floored in ceramic tiles of three shades and walled in brick and vertical hardwood strips. The staircase is a free-standing reinforced concrete monolithic structure with treads of dark blue terrazzo and risers of white ceramic tiles.

The central section of the production area B houses processes requiring an air-conditioned and dust-free environment; to eliminate ledges and other projections, reinforced concrete barrel vaults have been used, with clerestory lighting at the ends, and a basement provided to circulate warmed and humidified air. The outer sections (assembly and chemical processing) of block B are constructed in the light lattice framework of high-tensile steel. The main girders span 60 feet at 24-foot centres, with two monitors to each bay. These are built up in light angles with patent glazing clipped on; their purpose is complete flexibility of machine layouts through even distribution of light.



HISTORY

CHESTERTON, WARWICKSHIRE

There is scarcely an English county in which (as Mr. Lees-Milne has recently observed) 'some Jacobean house with, say, a window, gable or porch displaying a more or less regular use of the classical orders, has not been classified by over-zealous topographers as an Inigo Jones building'[1]. Though in most cases such ill-informed attributions can be dismissed out of hand, they are sometimes worth investigation. For the influence of Inigo Jones spread far beyond the narrow Court circle to which his own architectural activities were confined, and for many years after his death his buildings were studied and admired by those many architects and master-builders for whom (as a German traveller noted in 1740)[2], Jones was 'the Palladio of England.' What we find is unlikely to be an authentic work of the master (or even of his pupil John Webb), but may well prove to be an imitative work by one of those master-builders who were the backbone of English architectural practice in the seventeenth and eighteenth centuries.

Chesterton in Warwickshire is a case in point. Every guidebook to the county contains a reference to the vanished seventeenth-century mansion of the Peytos, 'designed by Inigo Jones and demolished in 1802 by Lord Willoughby de Broke,' and draws the visitor's attention to the still surviving windmill, likewise said to have been 'erected from designs by Inigo Jones.'

For further information we turn to Dugdale's *Warwickshire*, and to the manuscript collections of Thomas Ward of Barford, now in the British Museum.[3] From these two authorities we learn the essential facts in the history of the Peyto family: how they claimed descent from a Poitevin ancestor reputed to have come to England in the reign of Henry II, how in the fourteenth century John de Peto acquired the manor by marriage, how in the fifteenth Sir John de Peto rebuilt the manor-house and filled the windows of its hall with heraldic glass, how in the sixteenth the family produced its most famous son, that William Peto who was made a cardinal under Queen Mary, and how in the seventeenth Sir Edward Peyto was 'a strenuous asserter of the Parliament against King Charles I,' and held Warwick Castle in the face of the royal army.

Sir Edward Peyto died in 1643, and it was his son, another Edward, who in about 1655 began to pull down the old manor-house and 'to build a Mansion House and other buildings necessary for his habitation' on the hill overlooking the church. But in 1658 he died at the early age of 32, leaving a widow to bring up his heir and five other children. During his last illness he had told his servant Robert Smoak that 'if he should dye before the said buildinge was finished his desires were that the same should be compleated,' and in his will[4] he accordingly directed that 'the building I have begun at Chesterton may be finish'd out of the rents of the lands in Chesterton which belong after my decease to my son Edward Peyto . . . towards which I do give and appoint that all the Bricks, Stones, Timber and other materialls provided for that building shalbe therein imployed.' True to her trust, Elizabeth Peyto carried on the work with the aid of the faithful Smoak, and it is their accounts (now divided between the Willoughby de Broke archives at Stratford-on-Avon, and those in the British Museum[5]) which enable the progress of the work to be followed to its completion in *c.* 1662. The masons chiefly employed were Thomas Bonde, father and son, but they were both paid by the day, and were evidently local men with little capital who were not prepared to take a contract for the masonry as a whole; or, if they were, Elizabeth Peyto was too prudent a manager of her son's heritage to put out the mason's work 'by the great,' a manner of proceeding which was universally condemned by seventeenth-century writers on building. As for the plan and elevation, they had of course been settled by Edward Peyto in his lifetime, and are consequently not mentioned in his widow's accounts. But there were certain details for which drawings had still to be obtained, and so in October, 1659, she gave £1 to 'Mr. Stone for Drawing the Draught of the head of the Pillars for Chesterton.' In the following year she paid John Stone £2 'for the 2 capitalls of the arch at the Staires,' and a further £6 as part 'of the Bargaine he made for the 10 Capitalls of the lower Row of pillars, and to Caius Gabril Cibbers for the same work £4.' Further entries show that in 1660 Cibber carved the ten capitals of the upper order and the staircase doorway, for which he received in all £24.

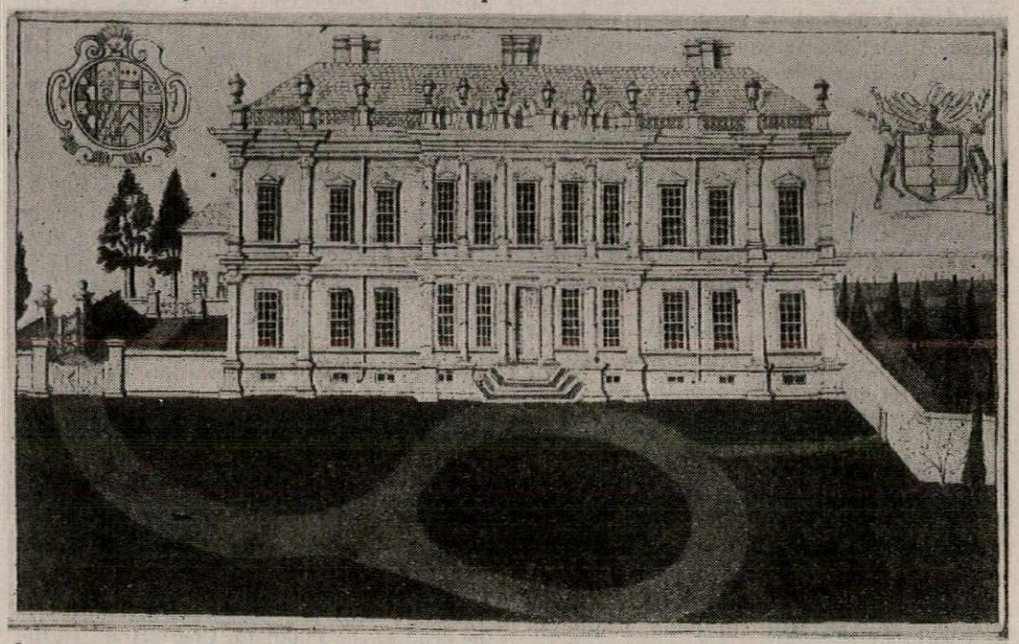
John Stone (1620–1667) was a member of a family of London master-masons, and Cibber, afterwards a well-known sculptor, and father of Colley Cibber the actor, was at this time acting as his foreman. John's father, the famous Nicholas Stone (1586–1647), had served as master-mason under Inigo Jones at the building of the Banqueting House in the reign of James I, and had been one of the most distinguished monumental sculptors of his day, designing and erecting many splendid tombs in churches all over the country. Among them, as we know from his notebook,[6] was the one in Chesterton Church to the memory of William Peyto (d. 1609) and his wife Eleanor (d. 1635), which he made in 1639, and 'for the which I had well payed unto me 150£', 1. Now in 1639 Nicholas Stone also made a monument in St. Mary's, Warwick, to Sir Thomas Puckering, the owner of Warwick Priory, 'for the which Ser Daved Cyninghem my Nobell frend payed 200£,' and a few years before he had been paid £180 by Sir David for erecting a very similar monument at Charlton in Kent to Sir Adam Newton, Puckering's brother-in-law, and father of Sir Edward Peyto's wife Elizabeth.[7] The similarity between the two monuments was not accidental, for in his will[8] Sir Thomas Puckering had directed that the 'materialls, forme and proporcion' of his tomb were to be 'sutable to that erected in Charlton Church for my brother Newton.' As for Sir David Cunningham, he had been one of Sir Adam Newton's executors, and when Sir Thomas Puckering's executors required a duplicate of Newton's monument in 1639 it was natural that he should be consulted. He was evidently interested in architectural matters, for he was the builder of the house in Lincoln's Inn Fields, now known as Lindsey House, which is one of the earliest examples of what Mr. Summerson has called 'the purer type of Artisan classicism,' and which he suggests may have been designed by Stone himself.[9] Whether or not the Peytos were personally acquainted with Stone's 'noble friend,' they would certainly have known the monument to Lady Peyto's father which he had commissioned, and it may well have been this family connection which led to the sculptor's employment at Chesterton. When Sir Edward Peyto the Parliamentarian died in his turn in 1643, and was buried in Chesterton Church, his monument too was evidently made in Stone's yard, 2, for not only does it closely resemble the two monuments ordered by Sir David Cunningham, but Dugdale procured an engraving of it for his *Warwickshire* which bears the signature 'Ioh. Stone delin. et fecit.' It was John Stone who in 1660 supplied the black marble ledger-stone which covers the remains of the second Edward Peyto, for among the family papers at Stratford-on-Avon is his receipt for £5 from Mrs. Elizabeth Peyto 'in full payment as well for all worke done for her as for particularly a gravestone sent down for her husband deceased.' John Stone, like his father, was a mason as well as a sculptor, and we have it on the authority of his brother-in-law Charles Stoakes that he was 'an excellent architect.'[10] Hitherto nothing has been known of his architectural activities, but in view of the continuous patronage of his firm by the Peyto family over a period of some twenty years, and the fact that he was employed by Elizabeth Peyto in 1659 to make the 'draughts' for the capitals of the superimposed orders which

[1] *The Age of Inigo Jones* (1953), p. 105.
[2] *The Letters of Baron Bielfeld*, trans. Hooper (1770), iv, p. 99.
[3] Add. MS. 29264, ff. 189-90.
[4] P.C.C. 62 NABBS.
[5] Egerton MS. 2983, ff. 126-133.
[6] *The Note-Book and Account Book of Nicholas Stone*, ed. W. L. Spiers (Walpole Society, 1929), p. 76.
[7] Op. cit., pp. 65, 76.
[8] P.C.C. 157 GOARE.
[9] *Architecture in Britain 1530-1830* (1953), p. 102.
[10] *The Note-Book of Nicholas Stone*, p. 26.

were the principal feature of Chesterton House, it is reasonable to conclude that it was he to whom Edward Peyto had gone for a design when three or four years previously he had 'resolved to build a Mansion House and other buildings necessary for a habitation.'

Had the house which he designed survived to the present day there can be no doubt that it would have been regarded as one of the most interesting examples of the architecture of its time, 1. Its dependence on the Banqueting House in Whitehall is obvious, and shows how faithfully John Stone clung to the Palladian formulas which his father had learned from Inigo Jones. Had Jones himself been its author, the relation of the ends to the centre would no doubt have been managed more adroitly, while the centre itself would certainly have been emphasised by something more effective than the row of niches whose swan-necked canopies nod to one another between the urns. Nevertheless, the elevation of Chesterton avoids the *gaucheries* of that of Brympton D'Evercy in Somerset, another house whose designer borrowed features from the Banqueting House, and managed them so badly that the terminal pediment at one end is segmental in form while that at the other is triangular, 4. But the house with which Chesterton may most profitably be compared is Coleshill in Berkshire, 5, which three years ago was so lamentably destroyed by fire. Designed by Sir Roger Pratt in about 1650 for his cousin Sir George Pratt, it was completed in the same year as Chesterton, and likewise owed a good deal to Inigo Jones. Both represented the new type of compact, rectangular house introduced by Jones and his pupil Webb, and Chesterton, like Coleshill, was probably what Sir Roger Pratt called 'a double pile,' that is, a house two rooms deep divided along its length by a corridor, and entered through a central hall containing a grand staircase. So far as the exterior was concerned, the problem was to give interest to what might easily become a somewhat monotonous succession of identical windows. In both houses this was achieved by skilful variation in the spacing of the windows, and, in the case of Chesterton, by the additional embellishment of superimposed orders and pedimented architraves. There can be no doubt that in the refined simplicity of Coleshill Pratt achieved a better composition than Stone did with his architectural parade at Chesterton. But it would be unfair to judge Chesterton solely by the illustration, 1, for Cibber's carving was certainly more competent than Ward's rather coarse drawing would suggest, and the effect of the façade on a sunny day must have been exceedingly handsome.

The young Edward Peyto did not long survive his father, and Chesterton passed to his brother William, who died in 1699. The last male member of the family was William, son of William, and nephew of Edward Peyto, who, in the words of Thomas Ward, 'lived here at Chesterton in no little honor, being one of the first rank in this County, and representing it in several Parliaments as one of the Knights of the Shire . . . and being fond of the sports of the field, for he kept a Pack of Fox Hounds.' Unfortunately he was also too fond of the bottle, and died at Warwick in 1734, while overcome by liquor after a dinner at the Castle. Thomas Ward says that he was 'unfortunately strangled' as he lay helpless on his bed, 'his servant having neglected loosing his Neckcloath.' He died unmarried and intestate, having destroyed a will made not long before on discovering that the lawyer—one 'Will' Wright of Warwick (so called 'on the account of his making wills') had surreptitiously inserted a clause leaving a handsome legacy to himself. His heir at law was his aunt Margaret Peyto, who died in 1746 at the age of 88, leaving the Chesterton estate to her cousin, Lord Willoughby de Broke. But her 'kind bequest' was disputed by collateral branches of the family, and when the sixth Lord Willoughby had the house pulled down in 1802 it was reported that he did so 'to prevent possession being taken' by any rival claimant. The materials were taken to Birmingham and sold, and today nothing remains of the Peyto mansion except a walled garden, a brick gateway, 6, leading from the churchyard to the site of the dried-up



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fishponds, and a fragment of carving preserved in the church.

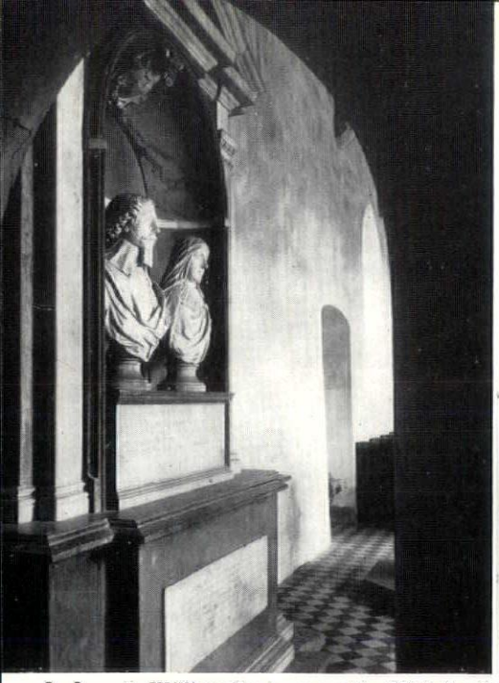
But half a mile to the north-west, on the highest point in the parish, stands the windmill, 7, which the guide-books so confidently attribute to Inigo Jones, and not far away, at the end of a small lake, is the charming water-mill illustrated in 8. The windmill is dated 1632, and must therefore have been built by Sir Edward Peyto (d. 1648). The façade of the water-mill is evidently of the same period, and the two buildings may therefore be treated together. Both are beautiful examples of seventeenth-century mason's work whose classical formality can hardly, at this early date, have been due merely to a local master-builder. But despite the persistent attribution of the windmill to Inigo Jones, it is equally evident that neither building displays the Palladian correctitude so characteristic of his authentic works, and, in the absence of any documentary evidence, it is tempting to suggest that their real designer may have been Nicholas Stone. However, it is equally possible that Sir Edward was his own architect, for he had a number of architectural text-books in his library,[11] and with their aid the designing of these comparatively simple structures would hardly be beyond the powers of one who is described on his monument as *vir bonarum literarum maxime mathematicarum peritissimus.*

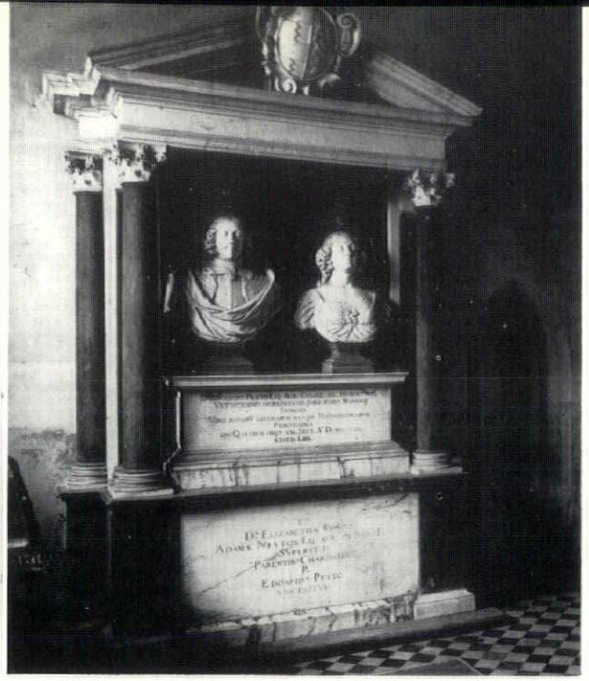
These were not the only buildings which embellished the Peyto's estate, for in Thomas Ward's manuscript there is a sketch, 9, of a curious building known as the Lodge, which once stood near the clump of trees called Lodge Wood.[12] It was, Ward says, 'a kind of Summer House, having two Rooms one over the other, and both wainscotted. In the lower Room was a cupboard in which was painted very masterly a large loaf of bread and a cheese half of which was cut, a cucumber and onion, plate, knife, etc., which being seen at a small distance gave every appearance of things in reality: and the edifice becoming out of repair, through chinks and fissures in the door and windows, many looking through have been much deceived.' This whimsical conceit has long been destroyed, but Ward's sketch shows that it was square in plan, with windows corbelled out over the angles rather like the bartizans of a Scottish castle. Unlike the other buildings associated with Sir Edward Peyto, it was Jacobean in style, and belonged to the same class of architectural extravaganzas as the famous lodges built by Sir Thomas Tresham on his estate at Rushton in Northamptonshire. While the erection of such a building was therefore by no means unprecedented, its siting 'on an elevation backed by a small plantation' seems to indicate an awareness of the picturesque on the part of its builder which in the first half of the seventeenth century was decidedly precocious, and which makes its destruction all the more regrettable.

Howard Colvin

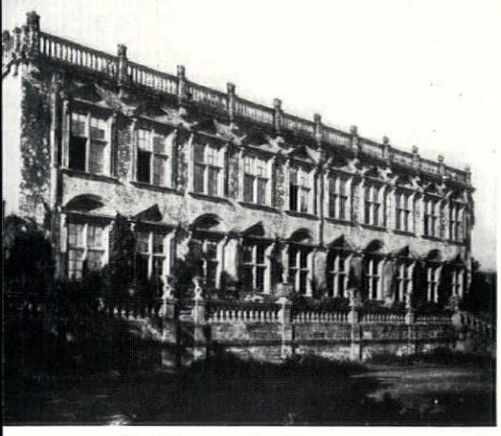
[11] I am indebted to Mr. Philip Styles for drawing my attention to the catalogue of the library at Chesterton, drawn up in 1733, and now among the Willoughby de Broke papers at Stratford (No. 1741). The architectural works included three editions of Vitruvius, a Palladio (1601), Scamozzi (1615), Alberti (1553 and 1565), Philibert de l'Orme (1626), de Vries (1619), and Rubens' *Palazzi de Genova* (1622).

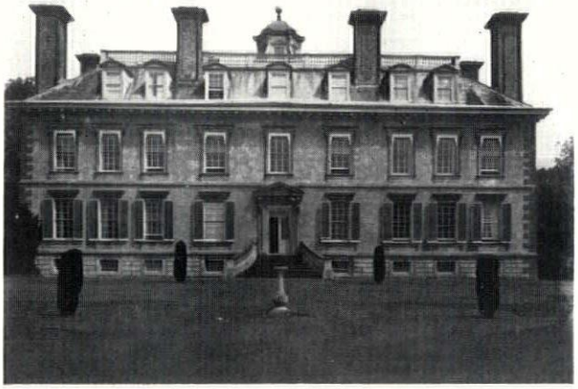
[12] Mr. Styles tells me that its foundations can still be seen.





2, 3 2, *William Peyto, carved by Nicholas Stone in* 1639, *and,* 3, *Edward Peyto, d.* 1643, *probably carved by his son John; both in Chesterton Church.* 1, *opposite, engraving of Chesterton House, dem.* 1802, 4, 5 *compared with* 4, *Brympton d'Evercy, Som. and* 5, *Coleshill, Berks.*





Buildings on the Chesterton estate. 6, *the brick gateway between the church and the grounds of the house;* 7, *the windmill;* 8, *the watermill, and* 9, *the lodge, now demolished.*

history: Chesterton, Warwickshire



6, 7





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8, 9



EDITORS ONLY

NO GRACE FOR MACKINTOSH

The Ingram Street Tea Rooms are the only one of Mrs. Cranston's Glasgow tea rooms still essentially preserved in the form Charles Rennie Mackintosh gave it. Six illustrations in Mr. Howarth's book give an idea of its fascination, the ingenious interplay of levels, the grilles through which the eye is tempted to explore in diverse directions. The eye is apparently not much longer going to have a chance of doing so. The Corporation, four years ago, bought the property for £21,000. They have never found a suitable tenant. The Saltire Society and the Mackintosh Memorial Trust had a plan for its use partly as a restaurant, partly as an art centre. Conversion would have cost the Corporation about £10,000. So the offer has been turned down and the building is to go now to a jeweller and warehouseman who will retain Mackintosh features 'as far as practicable.'

That is a shocking end to a miserable story. Would Glasgow behave in the same way if the object were a series of outstanding Elizabethan interiors, with wood carving and plaster-work galore? Or has it still not dawned on the Corporation that Mackintosh is in the same category? Surely, now, that is fifty years after the event, the historian and the connoisseur can be trusted as to what is going to last and what was a flash in the pan.

Glasgow is not rich in works of architecture of more than local interest. Ingram Street is one of them. Glasgow has a gallery of paintings inferior in these Isles to the National Gallery only. To build it up has cost quite some money. The Burrell Collection will add yet further lustre when it is finally opened in its own building. If money can be found for such purposes, why is the duty to architecture and to the classics of the twentieth century neglected?

The interior of Ingram Street could be torn out and re-erected, if the building as such is commercially too valuable to keep them there. The job would need much respect and much tact, but it could be done. Only it would not cost much less than the £10,000 needed to keep the building going as it is and as it ought to be.

My own hope is America. American museums collect rooms, and American scholars appreciate Mackintosh. The Glasgow Corporation, having behaved as it has, cannot possibly now place obstacles in the way of any possible American purchaser who would be ready to re-erect the group of rooms, perhaps as a

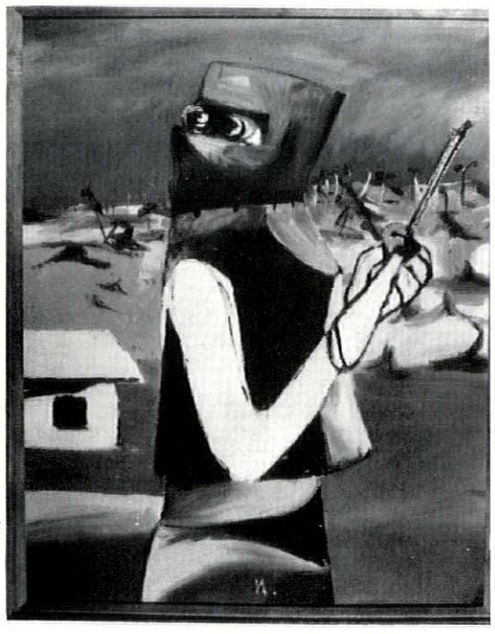
museum canteen. And as for an export licence, in these columns (*Exporting Buildings*, April, 1953) a passage from the Waverley Report has been referred to which encourages the export of unwanted houses from this country.

Nikolaus Pevsner

EXHIBITIONS

PAINTING

Ned Kelly and his band made themselves armour out of ploughshares, but it was too heavy for use in their lightning raids, and when they were on horseback they wore only their steel headguards: this fact has played a decisive role in the imagination of Sidney Nolan, who is the first Australian artist to gain a European reputation. Kelly, as perhaps everyone knows, was a bushranger and bank robber who operated in an area between Melbourne and Sydney still known as 'the Kelly country.' He pulled off his hold-ups without murder, was generous to poor people, never molested women, and was hanged in 1880 at the age of twenty-six for causing the death of a policeman when shooting his way out of an ambush: but if he had never worn that absurd home-made headpiece, like a little boy playing at crusaders, Australia's contribution to the ever-necessary renewal of the myth of the good law-breaker would have lacked its fine iconographical distinction and rough poetry, and Nolan would be simply an excellent topographer of the strange landscapes of Central Australia,



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and a recorder of the graphs of misery and fear explicit in the skeletonic mementoes of Australia's cataclysmic droughts. As it is, his interpretations of an epic figure which is still potent in the dreams of an entire community transmit a unique magic on a more broadly communicative level than the great subjective 'personages' of twentieth-century painting —the Disquieting Muses of Chirico, the Minotaurs of Picasso, the Standing Forms of Sutherland—and may yet rival them in formal self-sufficiency.

There were a dozen paintings of the Kelly theme, 1, in Nolan's one-man show at the Redfern Gallery, and they are greatly superior to the delightful but illustratory group, in the manner of the naïve painters, shown at the New Burlington some time ago. He is now probing the mystery of identity and sometimes achieves an interplay of phantasmal presence and human personality by leaving out the head of the outlaw and surmounting the realistically conceived body with a black silhouette of the headguard, whose aperture is filled by a cloudless sky that pours its heat-hazed light on to a flat, lonely, interminable landscape. The effect is at once sinister, comic, tragic and uncannily plausible.

I have devoted half my space to Nolan, in a month which has provided a rich and various feast for the eye, because here, for the first time in this century, is an artist who is fortunate enough not to have to make what Sir Herbert Read calls 'a mythological salad,' and intelligent enough to rise to the occasion. He has inherited a virgin myth, and he can increase the value of his addition to the significant imagery of our time by continuing to explore its meaning, by remaining sensitive to its origins and by patiently developing his pictorial system. To say, as some people already do, that he can't go on painting the Kelly gang indefinitely is to fail to understand that his present treatment of the theme has rendered it inexhaustible, and Jean Cassou has not exaggerated in referring to him as 'a painter who creates in us a wonder of something being born.' Nolan can learn a great deal from Europe's immense experience of the myth, but if he should be tempted to abandon Ned Kelly and adopt some of our more civilized themes we shall probably have to treat with a no more than moderately talented painter: I say this, because he included some Italian landscapes and Crucifixions in his Redfern show that are merely documents of a provincial culture hunger.

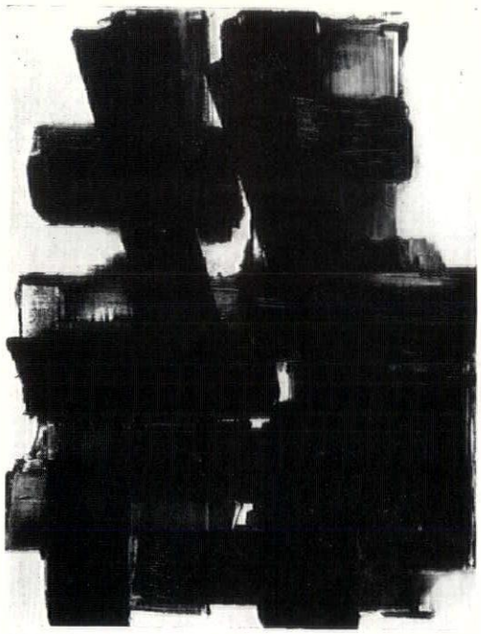
No contemporary painters have been more addicted to the mythological salad than Picasso and Masson. It was André Masson who introduced the minotaur into modern painting and aroused Picasso's interest by inviting him to design the first cover for the magazine which borrowed its name, but Masson's own minotaur designs lack substance, and the paintings from various periods which he recently exhibited at the Leicester Galleries suffer from the same look of flimsiness. If one is well-disposed towards them they reveal his acute poetic intelligence and his subtle knowledge of the grammar of painting, but they have no sensual assurance, and the line and colour emit a thin clamour under the lash of his passionate intentions and exasperated intelligence.

On the other hand, it would be almost impossible for Masson to get into the philosophical muddles and perpetrate the hotch-potch of jejune and sentimental ideas that make Picasso's famous series of one hundred and eighty drawings on the theme of the ageing artist's relations with the model such boring 'reading' when followed page by page in the special number of *Verve*. Rebecca West would have us believe that it is 'the most prodigious artistic event of the century,' but it seems to me to be on the same mental level as his automatic poems and his play *Desire Caught by the Tail*. The sixty-three drawings from the series which have been framed and spaced out on the walls of Marlborough Fine Arts do not impose the same spurious air of profundity, and some of them are reminders that he is one of the world's greatest draughtsmen, 2, though none approach his finest flights.



2

Other shows of consequence or charm can only be briefly mentioned: the superb brown and black abstracts by Pierre Soulages, 3, at Gimpel Fils, like vast, doom-laden letters from a private alphabet; lovely pictures by Bonnard, Renoir, Braque and Derain at the Hanover Gallery; twenty-six large paintings of Spanish subjects by Jack Smith, at the Beaux Arts, including a fine view of Toledo, 4, and some studies of the bullfight made to look homely by the artist's familiar light-brown tonality and stubby figuration: paintings by a well-known American artist, Mark Tobey, at the Institute of Contemporary Arts, which, although they look quite blank at a distance, are



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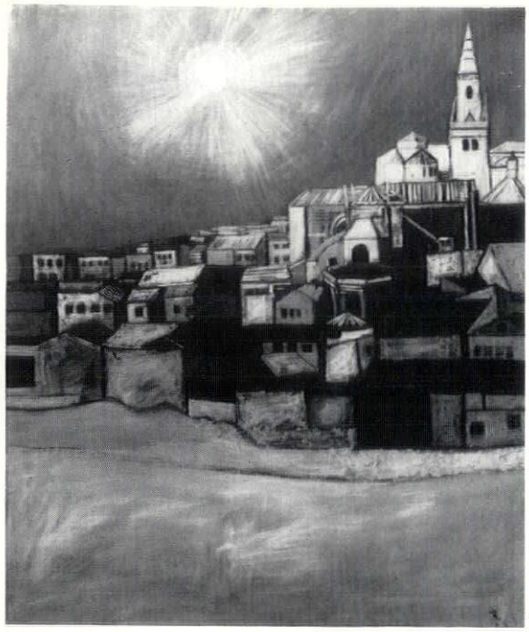

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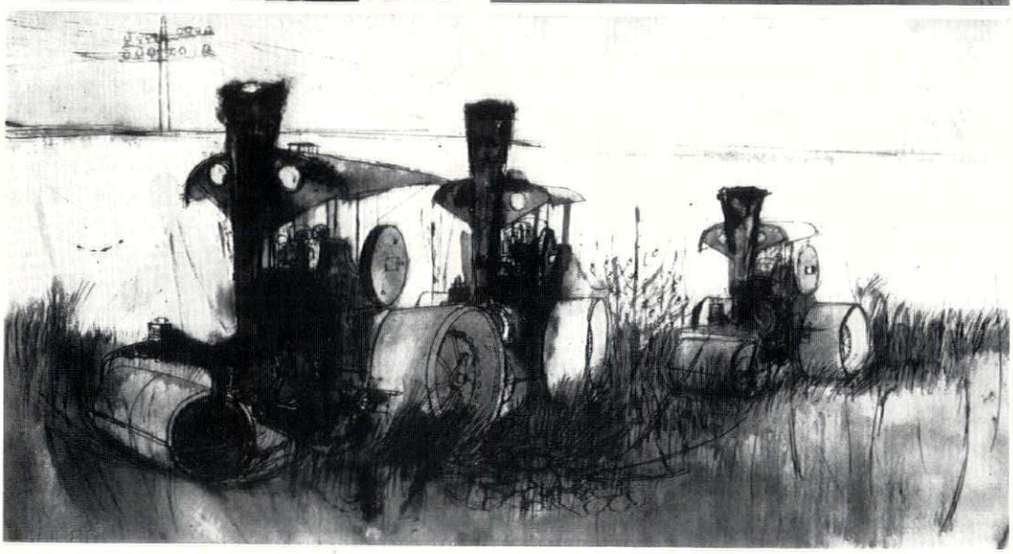

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swarming with exquisite calligraphic fragments, as if Tobey were perfecting his handwriting before composing a poem on 'swarming' or 'teeming' or even 'grace abounding'; delightfully organic steamrollers, 5, and bicycles, in Moroni's show at the Leicester Galleries; and at the Trafford Gallery in Mount Street, drawings of beautiful Italian boys and girls by Anna Salvatore, which depict them being uniformly pensive about the sorrows of adolescence, 6. **Robert Melville**

LANDSCAPE

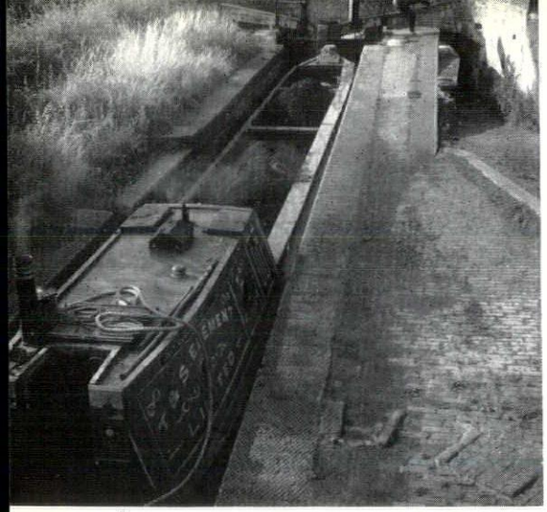
HYDROPHOBIC REPORT

The continuing opposition by officialdom to the maintenance and development of our remarkable network of inland waterway navigations is not rational. It can only be explained in Freudian terms. The latest attack comes in the Report of the Board of Survey of the Canals and Inland Waterways, a body which was appointed in April, 1954, by the British Transport Commission. The Report is a disastrous document—not only misleading and unrepresentative, but defeatist and destructive. It recommends that one third of the 2,100 and odd miles of inland navigations of this country be closed to navigation at once and that 994 more miles be retained as they are for the time being. Only seven canals, totalling 336 miles, says the Report, 'carry substantial traffic and offer scope for commercial development'. It recommends that these alone be developed. Thus, about three-quarters of our inland waterways are seriously threatened with abandonment. It is the old myopic policy of Cutting-out-the-Deadwood.

The canals are losing money and the Board of Survey produces biased evidence to support its recommendations. Now, these recommendations are based on two false premises: (1) that inland waterways have only one function—to make a financial profit for the State from commercial transport; (2) that most of the waterways cannot be revitalized because, in the words of the Report, 'to rehabilitate them to normal traffic standards would involve a vast expenditure.'

As always, the problem is financial. 'The cost is prohibitive'—even though the exact amount of the 'vast expenditure' is not specified and even though money is, in effect, merely a book entry.

We possess a splendid national heritage in our waterway network, which however criminally neglected it has been and however much it requires modernizing, has a number of valuable potentialities. It forms a *whole system* and should always be regarded and treated as such; if too many of its branches are lopped off the trunk itself will eventually die. That system was seriously damaged in the past by the Railway Interest which bought many of the canals and then proceeded systematically to sabotage them. Under National ownership this should not happen and the waterways should be managed with the respect they deserve as an





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1, a lock in the Bratch staircase on the Staffs and Worcester Canal. 2, a cutting near Market Drayton on Telford's Shropshire Union Canal.

essential part of the whole transport network of the country; in fact they are being treated with the same destructiveness now as they were in the days of *laisser-faire* competition, in spite of the evidence that water transport is the cheapest form of transport and in spite of the growing congestion on the roads and the slowness, incompetence and general demoralization of the railways. That our waterways have survived at all is astonishing and is a sign of their value.

The Board of Survey has failed to realize that waterways have other uses than the provision of financial profits from commercial transport. Those other uses are: land drainage, water conservation and distribution, the preservation of wild life, and the provision of landscape amenities and of grounds of a unique character for fishing, tourism and pleasure boating. But beauty and pleasure show no profits that can be stated on a balance sheet and the other benefits are not direct; therefore, to 'practical' bureaucratic minds, they do not exist.

The water level is falling rapidly throughout the country. Lack of water may soon become serious—and this in a land of abundant rainfall. The waterways can help to collect the rains and distribute them before they run away unused to the sea. The Board of Survey ignores this important matter.

Since the waterways were nationalized ten years ago far too little has been done to improve them; the neglect is unashamedly admitted in the Report. No creative long-term policy has been offered by the authorities and no attempt has been made to publicize the advantages and possibilities of inland waterway transport. Is it surprising, therefore, that too few industrialists regard such transport seriously?

The imaginative development of our waterways should be an inspiring activity, for the possibilities are great. Not least among these is the splendid Grand Contour Canal proposed by that modern Brindley, Mr. J. F. Pownall. This creative and practical scheme would provide a great water highroad from the main ports right into the heart of the country, linking organically with the existing waterways and running, without obstructive locks, along the natural canal line of the 300 feet contour. It would not only permit sea-going vessels to penetrate to the industrial centres (these vessels being lifted hydraulically up to the 300 level at the sea ports), but would collect and distribute water on a national grid, thus eliminating the need for wasteful reservoirs.

Perhaps large, official bodies cannot be creative, least of all when bound by current financial restrictions. If that is so, then the individual, responsible citizen, pending reforms, must take action by instituting vigilant organizations to infuse some life into the officials and to see that they do, at least, preserve our heritage and carry out the minimum statutory obligations. In the sphere of waterways, such a body has existed for some years in the Inland Waterways Association. This body has already carried out much valuable work, thanks largely to the initiative of its Founder and Vice-President, Mr. Robert Aickman. The Association is now combating this nefarious Survey Report and is doing its utmost to make waterway revival a political issue. It is rightly calling for the establishment of an independent National Waterways Conservancy and Development Board whose aim would be the revival and development of *every* existing waterway in the country.

The Association deserves the support of all those who have not yet sunk to that state of apathy and of cringing respect for authority which is the worst symptom of our bureaucratic state. But the Association must fight with aggressive determination, for time appears to be short. It must also be able to give a clear answer to the ineluctable and dominant question: 'Where is the money to come from?'

To help them to answer that question I offer one surprising piece of information about our capital-producing potential and also one slogan. The information comes from a recent Third Programme Talk by Mr. Colin Clark:

> 'Work on total capital requirements—that is requirements in transport, housing and all other uses, as well as manufacture—has recently been completed by two young statistical pioneers, R. W. Goldsmith in the United States, and Mr. Philip Redfern in England. . . The industrial capital of the United States, that is to say all forms of industrial and commercial buildings and equipment, including working capital and roads *and other public capital* (my italics), but excluding housing, was found by Goldsmith to be equivalent to only 1.3 years' national product. . . . Mr. Redfern's figures for Britain lead, interestingly enough, to almost the same results. . . . The idea that capital requirements in modern communities, even including housing might prove to be *not much more than two years' output* (my italics), and that this ratio might be rapidly falling, seems to have taken most economists by surprise. . . ."

Our constructive and productive powers are now vast. If it is physically possible to modernize and develop the waterways (and there is no doubt that this is so), then it must be financially possible. To declare that desirable developments cannot be carried out merely because they would incur 'vast expenditure' is idiotic. Pens, ink and paper are in as plentiful supply as automatic digging machines and concrete mixers. The proud claim that 'I don't understand economics' is no excuse for accepting this Vast Expenditure myth, nor for lack of ordinary common sense in dealing with physical realities.

Eric de Maré

WORLD

THE GREAT HALL

Throughout the history of the Modern Movement certain great themes have recurred and, with their recurrence, have called forth authoritative solutions from the architects who have worked on them. Such a theme is that of the Great Hall, the creation of a vast interior space to house some function connected with sport, exhibitions, transport or industry, and a survey of recent magazine publications shows that this theme still works powerfully on the imagination of architects and engineers.

As a building type, the exhibition hall has made great contributions to the Modern Movement, and is still capable of producing buildings which bring out the special qualities which it has evoked in the past. The new hall for the Basle Sample-fair, designed by Hans Hoffmann, of Zurich, and illustrated at length in *Schweizerische Bauzeitung* (May 8, 1954), is a steel and brick structure on a very large scale—each side is 146 metres long—as were the great halls of the last century, and like them it exhibits a solution which has both simplicity and a certain utilitarian elegance. The plan, 1, has an almost



1

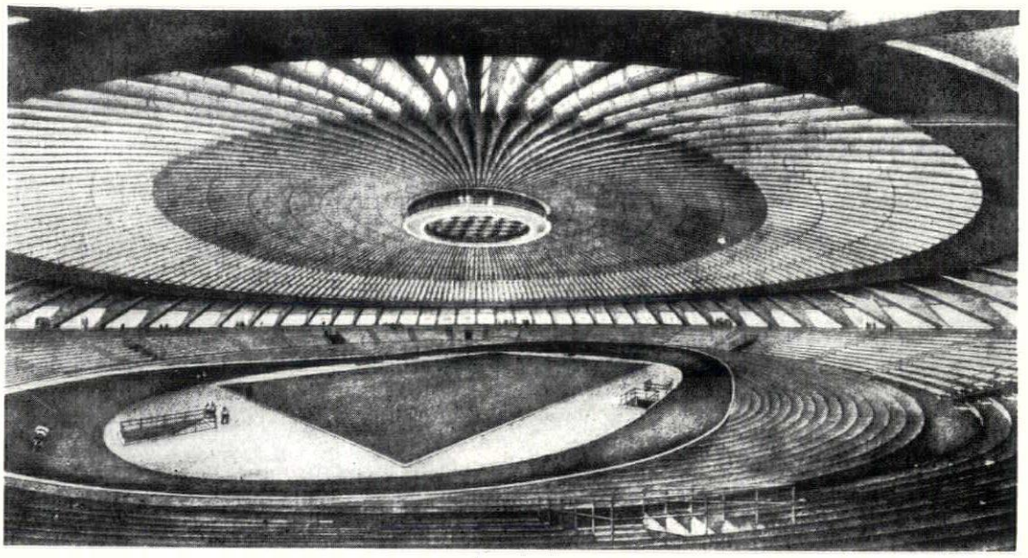
Palladian quality, being symmetrical about the axis of the main entrances and having a great circular well in the centre for circulation and vertical access to the three exhibition floors. The construction is without decoration or pretence, and all services are exposed, but the detailing is so simple and unaffected that a feeling of



2

almost Japanese structural elegance pervades the whole interior, 2.

It was in Stadium designs that Pier-Luigi Nervi first established his world-wide reputation as one of the great constructive geniuses of our time, and his project for the Vienna Municipal Stadium competition, illustrated in *Rassegna Critica* No. 29, shows that this particular field is one in which he is still virtually unrivalled. The main stadium building follows the now-customary circle-over-oval plan which gives the greatest depth of spectator space along the straights of the cycle-track, or the side-lines of the ball-game area, and at the same time simplifies the structure, since the covering member can be built up of identical elements. In this case the dome, 3, is built up from characteristic



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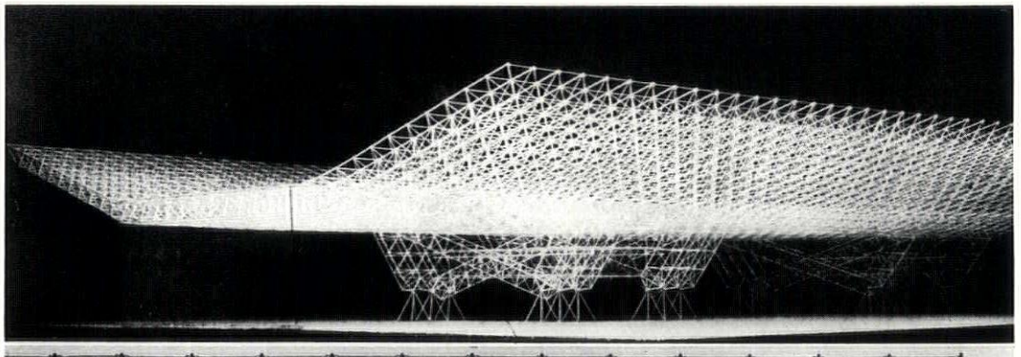
trough-shaped concrete beams, with windows in their depth for natural lighting, and has a circular platform for observation and control hung under its centre. The normal spectator accommodation is 12,000, and ancillary buildings will provide a restaurant, skating rink, offices and bathing pools.

Firmly in the tradition of the *Grands Constructeurs*, the remarkable project for a hangar devised by a group headed by Conrad Wachsmann at IIT is not, alas, to be realized. In fact its publication, in *Architectural Forum* (September, 1954) and elsewhere, marks the fact that it has ceased to be classified information from the security point of view, and the military necessity which led to the elaboration of the project—rapid erection of servicing hangars for the B 36 super-bomber—has now ceased to exist. In form, this immense demountable structure was to have been a butterfly roof cantilevered from a row of central supports, 4 and 5, with its entire perimeter closed off by sliding doors, the aircraft to be pushed in with their noses under the lowest, their tall tails under the highest, part of the roof. Structurally the project called for very few types of components—three diameters of steel pipe, all cut to ten foot lengths, and a standard joiner unit which, though complex in



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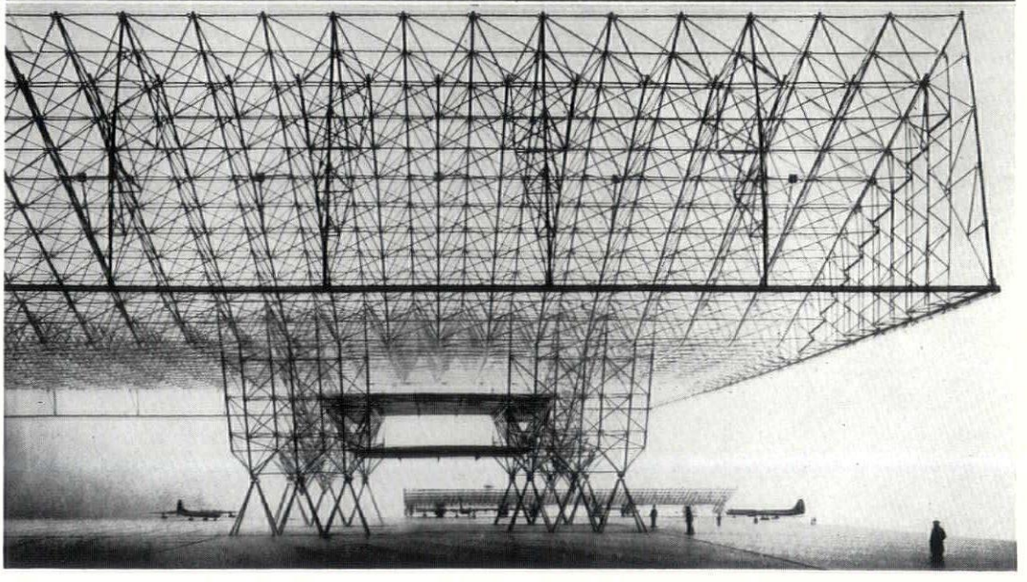

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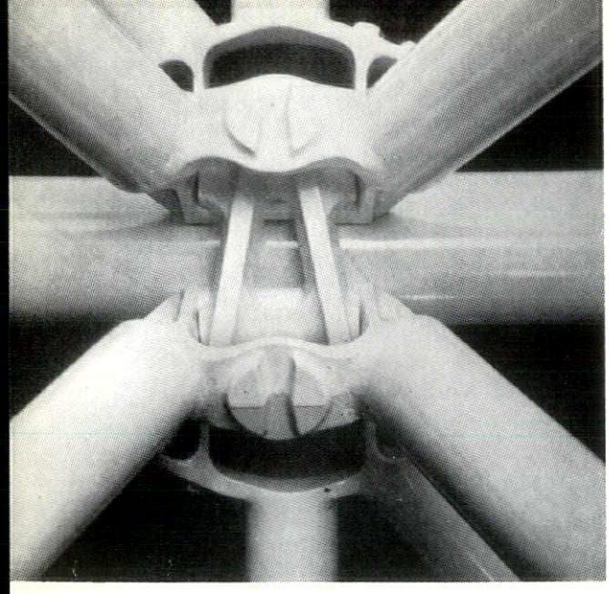


6

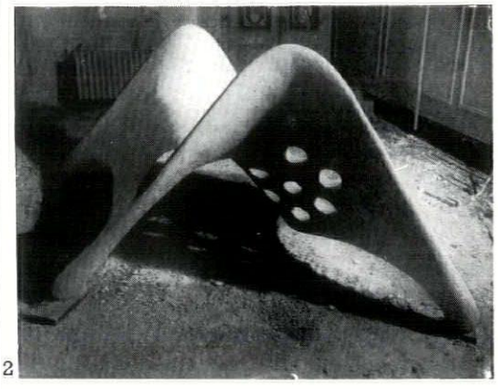
form, 6, could be secured simply by the driving of two wedges with a hammer. From these few simple elements it was proposed to erect this vast and complex space-frame structure. P.R.B.

ART IN USE

SADDLE-SLIDE

Besides being part of the plastic education of the child, a play-sculpture must also give maximum support to the infant imagination. Topologically there must be no dead surfaces, and no dead spaces, inaccessible to the child—from both the didactic and the recreative points of view every part of it should be accessible, in order that the user may most fully experience the artist's intentions, and the sculpture, in return, offer the maximum opportunities for imaginative exploitation.

Saddle-Slide, 1, designed by Mitzi Cunliffe (whose work in the 1951 Regatta Restaurant will be remembered) for the Sarah Lawrence College, Bronxville, New York, shows an excellent appreciation of this need for maximum topological usability. Cast in concrete from a full-sized plaster model it takes the form of a thick sheet, bent into a sway-backed tent-like form. Like a tent it thus functions as a shelter, and the space under it is fully usable, but its upper surface is also completely accessible, 2.



2

Being grounded at only four point-supports, the shell therefore offers no dead edges (contrast the sculptures by Moller-Nielsen, in AR, August, 1954), the upward curvature of the skirts providing marginal access, supplementary to that at the ends. The perforations also extend its topological potentialities, those on one side offering toeholds for climbing, and peep-holes for viewing, while the larger hole on the other side serves demonstrably to unite the outer and inner spaces of the Saddle-slide in a way which does not occur in play-equipment of the drain-pipe type. Henry Moore has long since pointed out the salutary plastic effect of holes penetrating to the inner space of sculptures, but here the possibility of being bodily in occupation of the inner and outer spaces at the same time introduces ranges of imaginative experience which are not open to adults who are only allowed to look at their sculpture, not climb into it. Q.S.C.



1

BOOKS

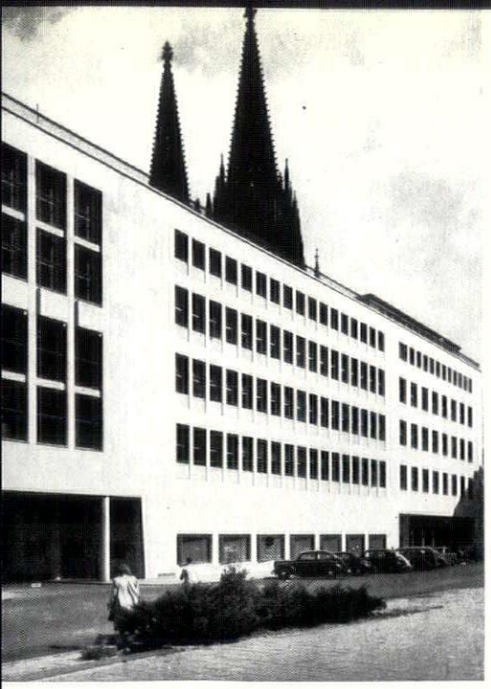
FURNITURE DICTIONARY

ANTIQUE FURNITURE. *By Percy Mcquoid and Ralph Edwards. Country Life—Dictionary of English Furniture.*

First published in 1924–7, this has been the chief work on its subject ever since. Many people must have hoped that one day its scope would be extended at least to the end of the nineteenth century, but during the past thirty years the study of earlier furniture has changed considerably, and this complete revision by Ralph Edwards must have entailed quite enough work, without all the research necessary to include the almost virgin field of Victorian furniture.

The three volumes of the Dictionary contain a series of articles, arranged alphabetically, on the types of furniture made until the early nineteenth century, the main techniques and methods of construction and decoration, and the major cabinet makers; the minor makers, often still only names on trade cards or bills, are a specialist subject and have been left out; there are 43 plates in colour, and more than 3,000 photographs. It is curious that many of the words used in describing furniture are not defined in their place. If, for instance, the beginner were to read a description in a book or catalogue of a table 'supported on lion monopodia,' he would not find monopodium defined in the average domestic dictionary, but would rightly expect to find it in a three-volume dictionary devoted entirely to furniture. In fact, many such words can only be tracked down in the captions under the photographs. This may seem a quibbling criticism of a book which is unapproachable in its field, but a dictionary should surely be as complete as possible.

Certain types of furniture stand up to the constant turning of pages of good pictures much better than others; it is clear that the thing the English do best is chairs. Almost a third of one volume is devoted to them. Some are hideous, of course, but the English genius for the chair almost instantly abandons the false tries; there is little of that camouflaging of a failure with decoration through a half-century's struggle with a basically bad design that is so infuriating in French





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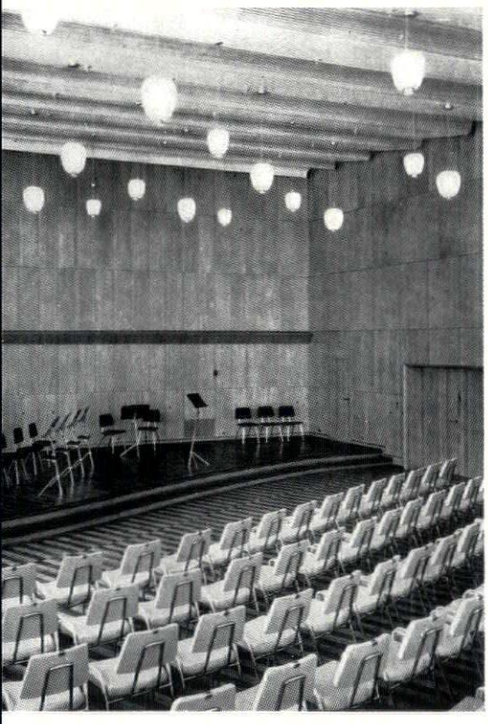


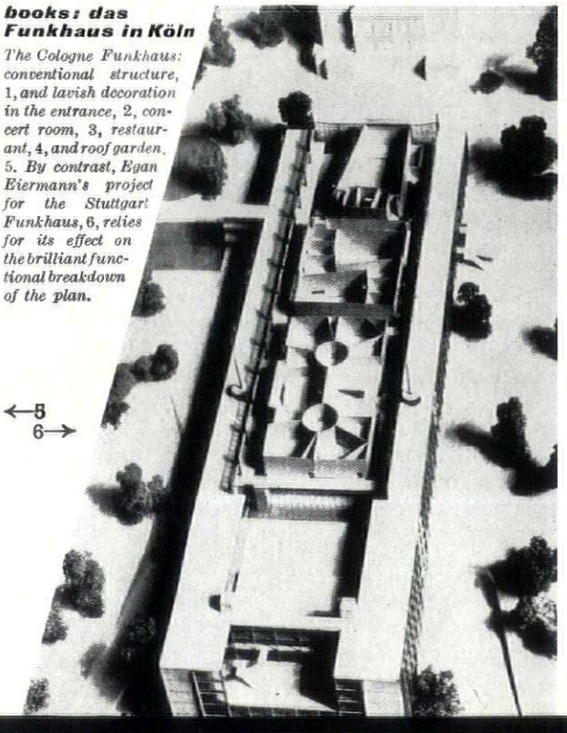


4



books: das Funkhaus in Köln

The Cologne Funkhaus: conventional structure, 1, and lavish decoration in the entrance, 2, concert room, 3, restaurant, 4, and roof garden, 5. By contrast, Egan Eiermann's project for the Stuttgart Funkhaus, 6, relies for its effect on the brilliant functional breakdown of the plan.



←5
6→

furniture. The chair is the most limited piece of furniture, since Europeans are fairly constant in size and sit more or less upright, twelve to eighteen inches off the ground. Within these limits, and mostly within the limits of one method of construction, Mr. Edwards shows us chair after chair of remarkable vitality and perpetual invention.

Tables are less limited and less satisfactory. Beds, limited like chairs as far as basic structure goes, received for centuries such superstructures as would accord with thrones, and, provided the bed could be surrounded by curtains, the designer had a free hand to do what he liked. Some of the beds are gorgeous, most of them surprisingly uninventive. Why? Mirrors, again subjects for a free hand, were wonderfully entertaining. Mr. Edwards rightly comments very little on the quality of design, still less on the sociological and economic aspects of furniture—all conclusions are left for us to draw. One conclusion is inescapable; the English design and make magnificent furniture, perhaps the best. **Barbara Jones**

FUNKHAUS

DAS FUNKHAUS IN KÖLN. *By Franz Berger. Verlagsanstalt Alexander Koch, Stuttgart. DM. 39.*

There are not so many broadcasting houses on this side of the Atlantic that any architect or design-group could hope to build up a body of experience in their design. It is a building-type to which every architect must come as a novice, as far as practical experience is concerned, and must expect to burrow through stray articles in remote periodicals before he can have any idea what the general attitude to radio-house design might be. Koch's sumptuous publication of P. F. Schneider's new broadcasting centre in Cologne—another modern building under the shadow of the Cathedral*—serves a very useful function by summarizing this necessary research, in the form of illustrations and descriptions of ten major metropolitan buildings which house broadcasting services, as a kind of prologue to a full-scale description of the Cologne version.

The word *version* is deliberately used, for Schneider's design is essentially a syncretic one, based on careful study and collation of previous work, rather than a radical attempt to re-think the problem from the ground up, or, rather, from the studios outwards, as in Egon Eiermann's brilliant but abandoned project for the Stuttgart Funkhaus, where the studios and auditoria were carried on an independent frame, under an independently supported roof, between two slabs of office accommodation which insulated them from outside noise. The Cologne building follows the more general course of post-war German design in cramming specialized accommodation into, or under, a conventional frame structure—some of which, admittedly was the legacy of a bombed building which was incorporated in the block. But the syncretic approach comes out equally strongly in the æsthetics of the design, for whereas Eiermann's would form a striking visual image in its own right, Schneider's is a plain ineloquent block

* Cf. Karl Hell's Chamber of Trade Building (A.R., March, 1955).

to which works of art have been added, cautiously on the exterior, lavishly within—stained glass, mural painting, sgraffito work, carved wood, tapestry, wrought iron, bas-reliefs, marble and rich materials are everywhere abounding, and though much of this has some acoustical justification, the total effect is of a kind of Modern-Movement *biedermeyer* Victorianism. **P.R.B.**

STORIED WINDOWS

ENGLISH STAINED AND PAINTED GLASS. *By Christopher Woodforde. Oxford University Press.* 30*s*.

Nobody is so well qualified by his scholarship (I do not say by his aesthetic sensibility) to write a history of English stained glass as Dr. Woodforde, to whose researches in various parts of England we already owe a great deal. But this book is only a forerunner of a promised larger work: though well illustrated (with 81 plates) it is very far from comprehensive. Canterbury is dismissed in under two pages and all English glass up to 1400 in nineteen, while many will find six pages on Victorian glass and two on the twentieth century no less inadequate. Sometimes this brevity can be tantalizing.

'*The windows of the Norwich glass-painters and of the Somerset glass-painters are as different from each other as they are from the windows of the York glass painters.*' Granted, but how? In what respects? We are not told. There is also very little about the technical aspect, about which amateurs of stained glass are always anxious to learn.

For Dr. Woodforde the fourteenth century is the period in which our stained glass 'reached its greatest beauty of colour and design.' The best examples of this period, in Wells Cathedral and in New College antechapel, are exquisite: but is there anything there which begins to compare in dramatic tension, in emotional significance, with that wonderful 'Lot's Wife' panel at Canterbury, for instance? The east window of Eaton Bishop in Herefordshire contains, we are told, 'the finest glass painting of this [in the author's view, the best] period.' The colour of this window, though no finer than that of much early glass at Canterbury and Lincoln, is certainly very rich, but I would invite the reader to examine the foot of St. Michael in the portion of the window reproduced (plate 15) and to decide whether he regards it as even tolerably well painted.

In some directions Dr. Woodforde's aesthetic judgments have a refreshing independence. If he underestimates the value of the early glass, we can at least subscribe without reserve to his views that the great east window of Gloucester has been much overpraised, that 'most of the Fairford windows are disappointing: badly painted, uninspired, and lifeless,' and that the Jervais-Reynolds window at New College represents 'a landmark, if also a low-water mark, in the history of English glass painting.' After this one reads with no more than a lifting of the eyebrow that Douglas Strachan 'had no rival in the use of colour.'

Murrey is cited as a new colour introduced in the fourteenth century: but there is plenty of murrey to be seen much earlier, at Canterbury, as also at Chartres and Bourges. The Jesse window in Dorchester Abbey is placed in the fifteenth century, but it belongs surely to the second quarter of the fourteenth. The windows by William Price the younger are on the north side of New College chapel, not on the south, as stated. Readers of Dr. Woodforde's books will by now be inured to his habit of never mentioning the Virgin Mary (and her name occurs with insistent frequency) without the prefix Blessed. **Alec Clifton-Taylor**

Shorter Notices

FORM IN ENGINEERING DESIGN. *By J. Beresford Evans. Clarendon Press*, 1954. 10*s*. 6*d*.

This small treatise on aesthetics for engineering draughtsmen is the more meritorious because this class of man has never before been credited with such an interest. As the writer points out, a vast category of machine-made jobs owe their final appearance not to the technician who thought them out but to the draughtsman who prepared the production drawings. For in almost any manufactured article there is a wide margin of design factors which are not determined by technical requirements, but which, from the nature of things, must be left to the man on the drawing board to decide. If 'styling,' which is the result of his decisions, has an unhappy ring, this is precisely because the draughtsman has no developed visual sense. Any book, therefore, which sets out to help endow him with this is a book which is at least rightly directed. What is a pity is that this particular essay sets out to make him an 'artist'—a man skilful with the pencil and who knows all the tricks—instead of an alert technician. In other words, it seeks to make the best of the unhappy division between thinking, drawing and making; whereas what is really wanted is to break down this division by building up a common understanding between the three kinds of man involved.

For the architect reader the book has nothing to say on general principles which he does not know already, but it has some good points to make on the detailed designs of handles, meters and fixings. **Lance Wright**

UNE PETITE MAISON. *By Le Corbusier. Editions Girsberger, Zurich. Distributed by Barmerlea Book Sales Ltd.* 15*s*.

This small book deals with the house Le Corbusier built for his parents in 1923 and 1924 on the shore of Lake Geneva. Le Corbusier presents the house as a classic example of the 'Machine à habiter.' The plan was completed before the site was chosen, the most economic use of space was assured through exact measurements for precise functions. When the perfect site was found—a fine view over the lake and twenty minutes from trains to the principal capitals of the world—the plan fitted it like a glove and, on this occasion, the Corbusian enterprise generally enjoyed the co-operation of destiny, though the lake acquired the habit of pushing up one end of the building at high water so that it finally cracked across. The master gravely solved this problem with an appropriate hinge.

His comments dwell on the careful presentation of the stupendous view, the history of the various trees, the wild unexpectedness of the roof garden ('Marcher sur son toit,' he says, 'béatitude réservée jusqu'ici aux seul chats dits: de gouttières.') and even the special steps taken to ensure that the dog should have a good view of the feet of passers-by. But though this is a delightful little book, it does not deal with a very major building, and fifteen shillings may seem a little excessive to all but the very strongest enthusiasts. **J. H. V. Davies**

DIFFICOLTA POLITICHE DELL'ARCHITETTURA IN ITALIA 1920-1940. *By Giulia Veronesi. Milan, Tamburini. L* 1700.

For purely local reasons, which have their origins in the inner contradictions which were Futurism's legacy to Fascism, it has fallen upon the Italians, rather than any other nation, to go to the stake for the cause of Modern Architecture. It is the blood upon the space-frame which is the ultimate authority behind *lo stilo nuovo*, and which confuses critics from other countries where the choices were to build or not build, to build or get out—but never to build or die. In the Triennale of 1951 the Rationalists honoured their dead, and Signora Veronesi's book, which is about the same four architects, could be the beginning of an architectural martyrology, but, as such, it is open to grave moral reservations. The four architects honoured at the Triennale were Raffaello Giolli, Giuseppe Pagano, Edoardo Persico and Giuseppe Terragni, and while the rank of the first three as martyrs is not open to any question, the case of Terragni, who died, ultimately, of wounds acquired while fighting a war of aggression on the Russian front, is extremely dubious. To devote to him an entire chapter, while Gianluigi Banfi is brushed off in a couple of two-line mentions, might perhaps be a fair assessment of their architectural merits (from a rather special standpoint) but it is an eccentric view of their political difficulties. The famous monument, which BBPR designed to honour the dead of Mauthausen, is in a sense a monument to Banfi, and their choice of the space-frame form is a tribute to Persico, the original inventor of the framed display-structure, and the first of the Italian architectural martyrs. And it is Persico, who died in 1936, his health ruined by political tortures, who is the greatest as well as the first. One cannot speak with anyone who knew him, or read the excellent chapter on him in this book, without becoming aware of the essential position which his modest, inventive and conspiratorial intellect occupies in the growth of modern architecture and modern art in Italy. Terragni's monument is the Casa del Fascio, Persico's is a legion of men, a climate of opinion, and a reformist movement in design which has won world-wide recognition. **Reyner Banham**

CAPE SCAPES. *By Rupert Shepheard. Frederick L. Cannon, Cape Town.*

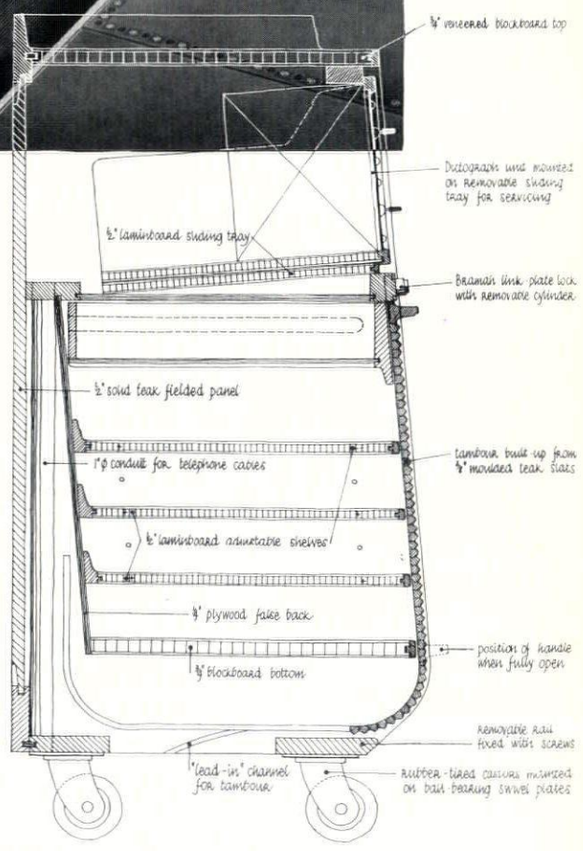
Cape Scapes is an engaging title, and Professor Rupert Shepheard's book is an engaging book. Rupert Shepheard went to South Africa some years ago to reform and develop the Michaelis School of Fine Art in the University of Cape Town. He has made a remarkable job of this and the school is flourishing. The book is a pretty tribute to his new environment—a series of woodcuts of places in and around Cape Town with appropriate doggerel rhyme. The places, needless to say, include the early Victorian Dutch Reformed church at Wynberg ('built in bold black and white/and so right/for its site'). **P.D.**

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry





1, *telephone desk storage unit, shown in section on right.*

1 INTERIORS

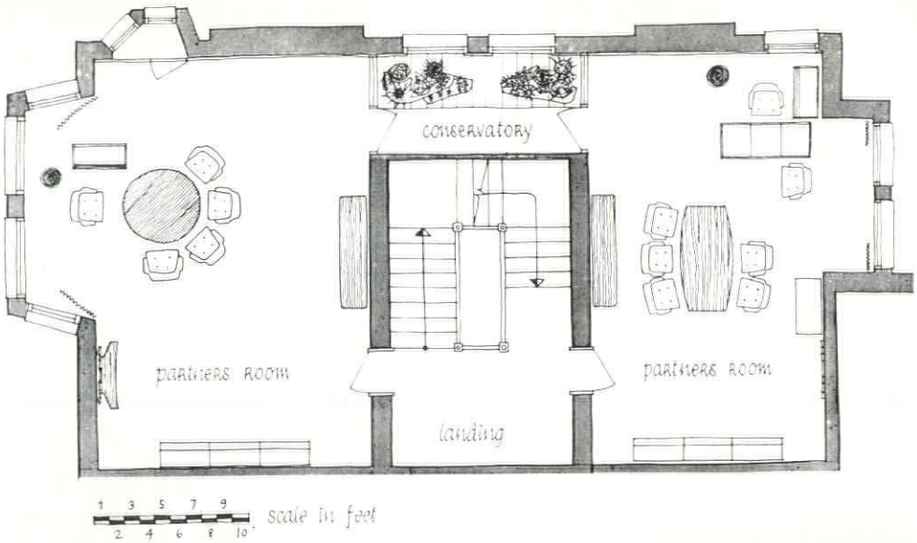
OFFICES IN ALDFORD STREET, W.1

Designer: R. D. Russell

Assistants: R. H. Leigh and Ian Hodgson

The whole first floor of this house, 6, Aldford Street, consisting of two large rooms separated by one small room, was allocated to the offices of the two partners of an advertising agency, C. R. Casson Ltd. The solid partitions dividing the main rooms from the small one were removed and fully glazed partitions each containing a glazed door substituted. The small room became a conservatory passage connecting the offices.

Strongly moulded teak boarding covers





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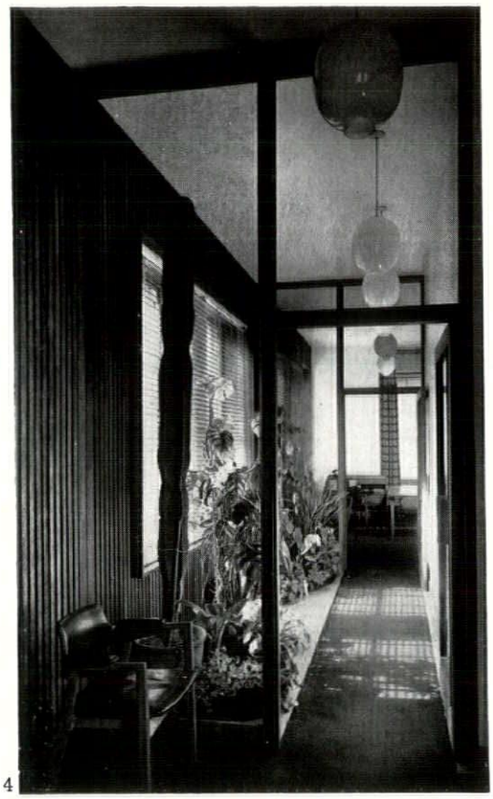

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2 and 3, views of both partners' rooms showing common teak boarded wall and generally similar equipment; 4, the connecting passage which has been enlivened with conservatory plants.

the whole of the one continuous wall shared by all three rooms; the same colours and decorative treatment are used throughout, and much of the furniture in the two offices is identical.

The furniture and joinery are of Burma teak with an oiled finish; the upholstered parts of the chairs are covered with natural grained black goatskin; panels of woven cane hanging from the sillboards cover the radiators.

The triple storage fitting with bookshelves over is common to both offices, as are the chairs, the magazine bench and the telephone desk storage unit. The latter is on large castors; its vertically sliding tambours enclose loose trays for desk gear and papers in use.

In one office a looking-glass in a splendid eighteenth-century Irish carved and gilt frame faces the main entrance; the corresponding position in the other office is occupied by a carved and gilt seventeenth-century Spanish travelling chest on a new teak base; a collection of lithographs hangs temporarily in this room on wall space intended for contemporary oil paintings.

In the conservatory, part of the floor is of polished Derbyshire fossil electrically heated to a controlled temperature: the planting in shaped trays on this marble floor has been designed by Mrs. Maria Shephard.

OFFICES IN PARK LANE, W.1

Designers: Peter Miller and F. H. K. Henrion

This new compact suite of executive and conference offices for Erwin Wasey Ltd. marks a breakaway from the arrangement traditional to advertising agencies in this country, of a sumptuous foyer leading off into a labyrinth of indeterminate offices. The managing director's room had formerly been a library; the panelling had to stay, by order of the landlord, but the bookshelves were replaced by black panels with blown-up engravings of the 'Santa Maria' (the Company's crest). The director's desk is made to be of one piece with the conference table. An informal reception area, with a settee and a cabinet for drinks, is beside the door. The grey carpet is the same as in the

5, managing director's room, showing panels that replaced bookshelves, and directoral desk-conference-table.



5

6, art director's office, with desk containing viewing panel, and special spot-lighting; 7, informal corner of managing director's office; 8, curtain, designed by the art director, of photographically enlarged 17th-century French engravings.



6



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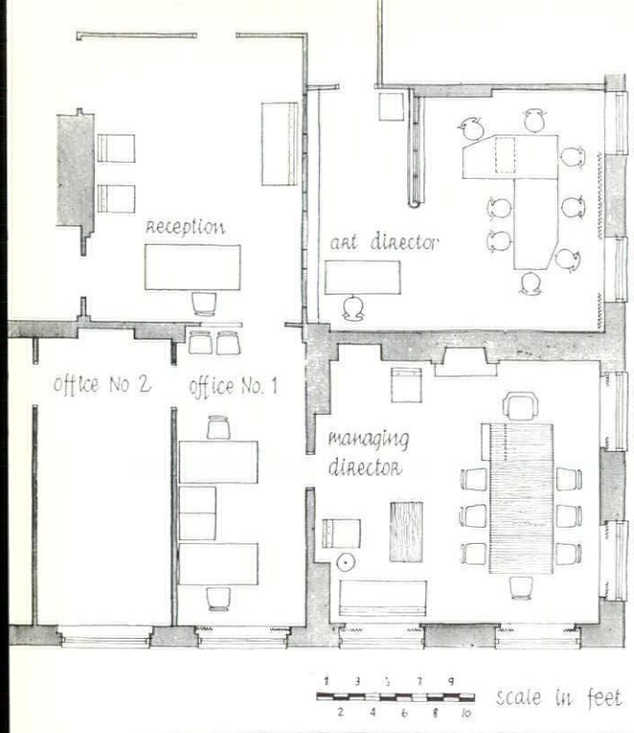
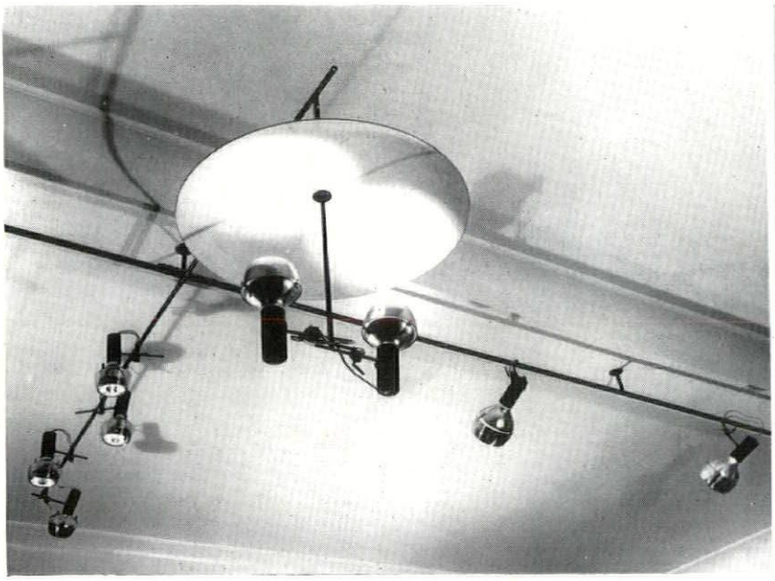


adjacent office and foyer. The Irish tweed upholstery and linen curtains are in black and white or black and green.

A glass partition between the PA and other office was filled in. Upholstery is in yellow tweed, to contrast with the olive green standard steel desk. What were previously borrowed lights from the foyer into a corridor are now showcases which front on to the foyer and are dressed from the art director's office; the hatches when closed have a woven straw design backing. The foyer ceiling is papered in grey; upholstery is black and yellow, and a mural is to be executed on the wall between foyer and PA's office, extending round the double doors. The entrance wall of the foyer, which stands opposite the common staircase, has green-black marbled paper.

The art director's office, unlike the rest of the suite, is carpeted in grey haircord. Available wall space is given to alternating black and bottle-green display panels. Here also is a combined desk and table for (internal) conferences, the central feature being the inset viewing panel at the director's end. The screen, to warn unsuspecting interlopers that conferences are in progress without interruption, is of light steel and tee and channel sections, with decorative glass. From the yellow ceiling hangs the main lighting batten with 150-watt spotlights; and, suspended from it, a subsidiary batten at right angles with 75-watt spots.



9, *close-up of main and subsidiary lighting battens, carrying* 150- *and* 75-*watt spotlights respectively.*



10, *composite drawing-desk for art department.*

OFFICE IN COPTHALL AVENUE, E.C.2

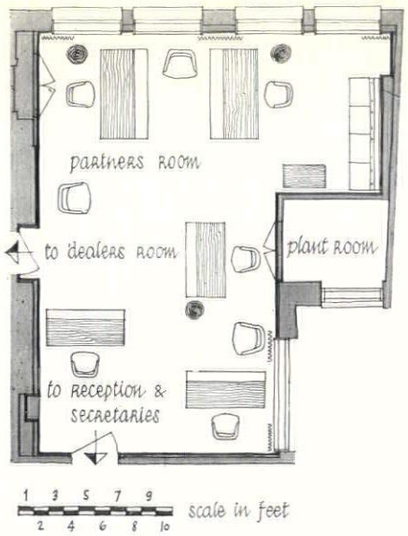
Architects: Farmer and Dark

As part of a general reorganization and redecoration programme, the five senior partners of a young and prosperous firm of stockbrokers required a pleasant modern office for themselves. Their suite occupies part of the third floor in a late Victorian block. Adjacent to and accessible from the Partners' Room is the Dealers' Room where about 25 men (with 120 telephones) quote from the large chalkboard. Sound insulation from this and from street noise was essential. Adequate damping of conversations within the room was also important, and full air-conditioning was required. As a solution one corner of the



11, *two desks and reception corner with green Connemara marble panelling; opposite,* 12, *soundproof door into dealers' room;* 13, *general view from entrance to reception room, showing double doors of plant room on right.* 11

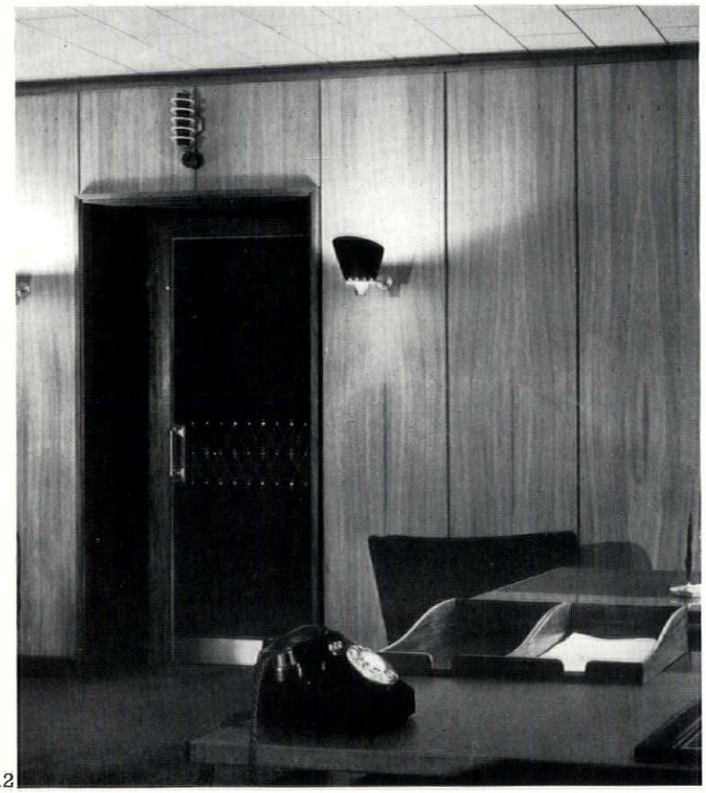
[continued on page 129



continued from page 128]

existing L-shaped room was taken up by the air-conditioning plant, with intake through the external wall, and the chamber was carefully soundproofed with felt, acoustic tiles and bronze draught strip. New sliding aluminium sashes were installed inside the existing windows, with Venetian blinds and deep pelmets incorporating fluorescent lighting.

The ceiling is lined with unpainted acoustic tiles on a suspended framework; walls are panelled with ¾-inch ply-veneer of Lombardy elm, with vertical vee joints and walnut trims top and bottom. Advantage was taken of existing recesses to form cloak cupboards with secret doors, and bookshelves. The short wall forming one side of the reception corner is panelled in Connemara green marble. The carpet is of bottle-green colour and laid on Dunlopillo. The upholstery of the chairs and settees is in a yellow and black tight woven cloth; the curtains are loose woven and in fawn. Desks are in walnut, topped with either bright red or dark green leather.



12



13

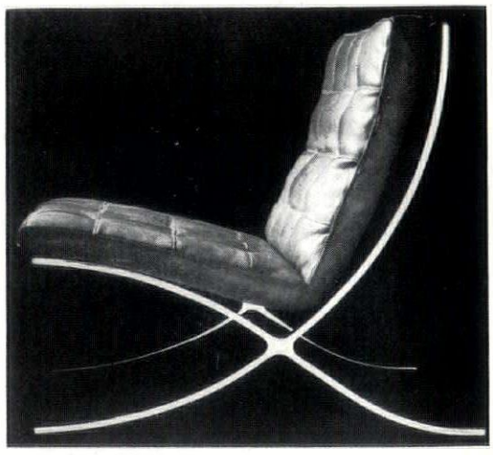
2 DESIGN REVIEW

KNOLL INDEX

The Knoll Index of Contemporary Design has that uncompromising simplicity that is a rebuke for all manner of vagueness, muddled thinking, fringes of velvet bobbles and other minor backslidings from the broad aim of Good Design.

Even on the cover graphic art has been kept strictly to essentials, the five necessary words being embellished simply with a greatly magnified K in primary colours. The foreword states that 'this book is concerned with equipment for contemporary living in terms of human *needs*'. Not human whims.

Indeed why should one backslide? Often for reasons of price. And because the architectural medley amongst which we live has its effect upon all but the strongest. It says much for the power of Knoll morale that we are questioning ourselves, and not the Index. This is an impressive, even a nostalgic, publication. The collection of chairs opens with Mies van der Rohe's Barcelona chair of 1929, 1. Its character is as marked in its antique as it was in its avant-garde role. It is a rare and illuminating experience to see the design of the last twenty years shown as an integrated collection. Here are Saarinen's moulded plastic chairs and



1, *Mies van der Rohe's Barcelona chair.*



2, *Bellman table and Saarinen chairs.*

Bertoia's form-wire design in the same idiom; Saarinen's long chair and Nordstrom's generous upright chair in ply and metal. In the well-covered field of round tables Bellman's large tripod is



3, *Bertoia bench.*

outstanding, 2. So is Bertoia's long strong and elegant-looking bench, 3. The outstanding characteristic of this firm, as put over by the Index, is its determination to stick to essentials. Some pieces could be accused of dullness, none of vulgarity. That Knoll Associates have managed to keep their collection of fabrics within the same exacting bounds set for their furniture is a measure of their achievement.

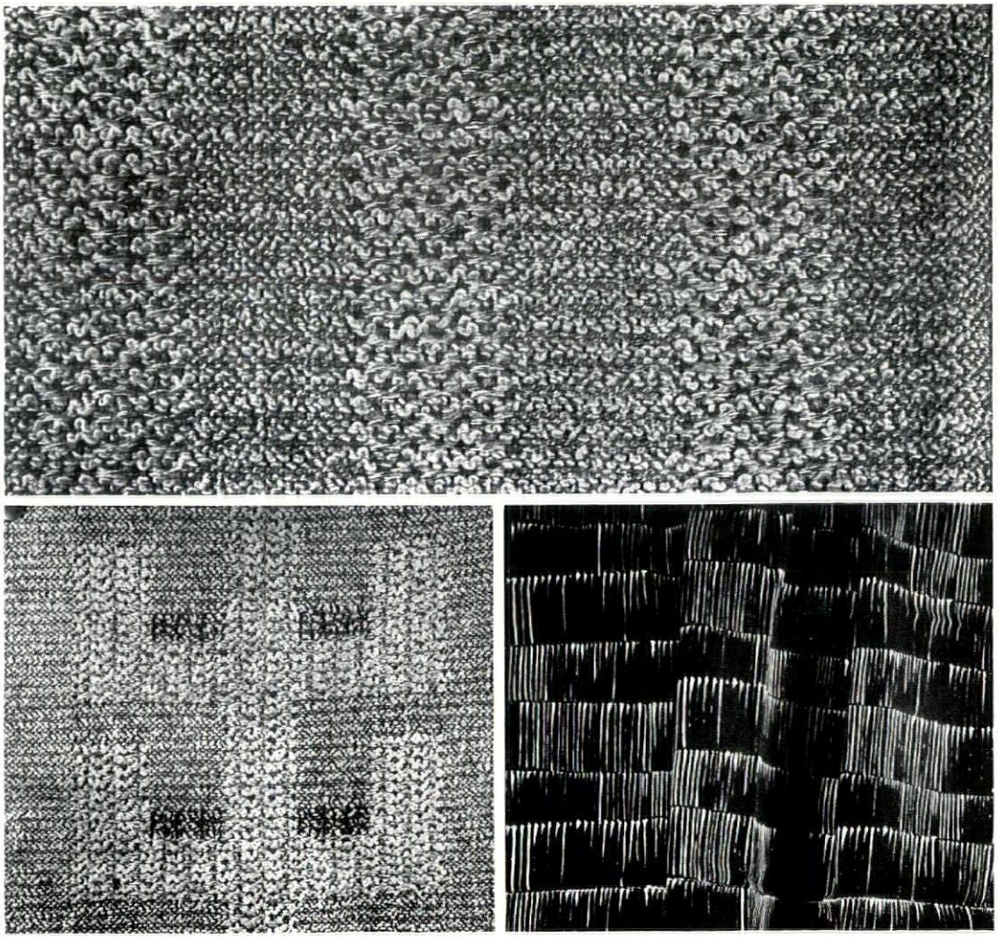
If the purpose of this publication were to convey information, simplicity would have been carried much too far. No prices, only the barest indication of materials, and one cannot rely on photographs to give an idea of workmanship. Its purpose is of course quite other. The wizardry of modern advertising gives the reader of this Index so powerful an impression of simplicity and *quality* that it seems actually to rebuke his way of life. It is the reader's own conscience that delivers him, abject, to the Knoll salesmen.

Diana Rowntree

LIBERTY'S FURNISHING FABRICS

Designers of woven fabrics, who must work to the limitations of thread and loom, are nowadays generally excused from the broader æsthetic aspect of their work. During this century we have become increasingly aware of the beauties of texture. We expect the weave designer to exploit the variations of yarns, and delight us with subtle treatment of colour and texture; and he usually does. The two new Tibor Reich fabrics on sale at Liberty's would be hard to beat in this respect. 'Gallery,' price 32s. 6d., is an upholstery material in cotton and rayon of a convenient weight that allows it to be used also for hangings. One thread of brilliant colour is saved from surface wear by the way it is combined with more hard-wearing threads in assonant hues. In the heavier material 'Keytwig,' luxurious white and tinsel is set discreetly among grey, cream and fawn threads. A complex make-up, cotton, ardil rayon, wool is expressed as a complex texture. Both designs make a double use of texture; to enhance the characteristics of the individual yarns for surface interest, and by contrasting textures to produce patterns on a scale proper to furnishings. For this purpose *Gallery*, 1, reads as a simple stripe, and *Keytwig*, 2, with the pattern its name suggests, further enlarges the scale by making the horizontal repeat twice the size of the vertical. The designer of these fabrics was concerned with subtleties of colour and texture. There is, however, no reason why designers for weave should avoid wide contrasts, and the broader uses of colour. The distinction between the technical approach to weave and print designing must not be confused with the different functions of woven and printed cloth. I see no reason for colour contrasts to narrow in converse ratio to the weight of the cloth. The decorator may want warm, hard-wearing fabric in bold and amusing colours. The uses of a well-textured material are by no means confined to areas that require a gentle monotone. It may indeed be argued that largeness of scale is most likely to be required in heavy fabrics.

One has only to turn to the printed furnishing fabrics of Liberty's own production to see this difference of approach strikingly illustrated. It is almost as though designing for weave were classified as 'Industrial Art' and for printing as 'Fine Art.' The weave designers are preoccupied with their craft to the point where they may lose sight of its end. The print designers are clearly ready and



Three of Liberty's furnishing fabrics: 1, *Gallery*, 2, *Keytwig and* 3, *Combing.*

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continued from page 130]

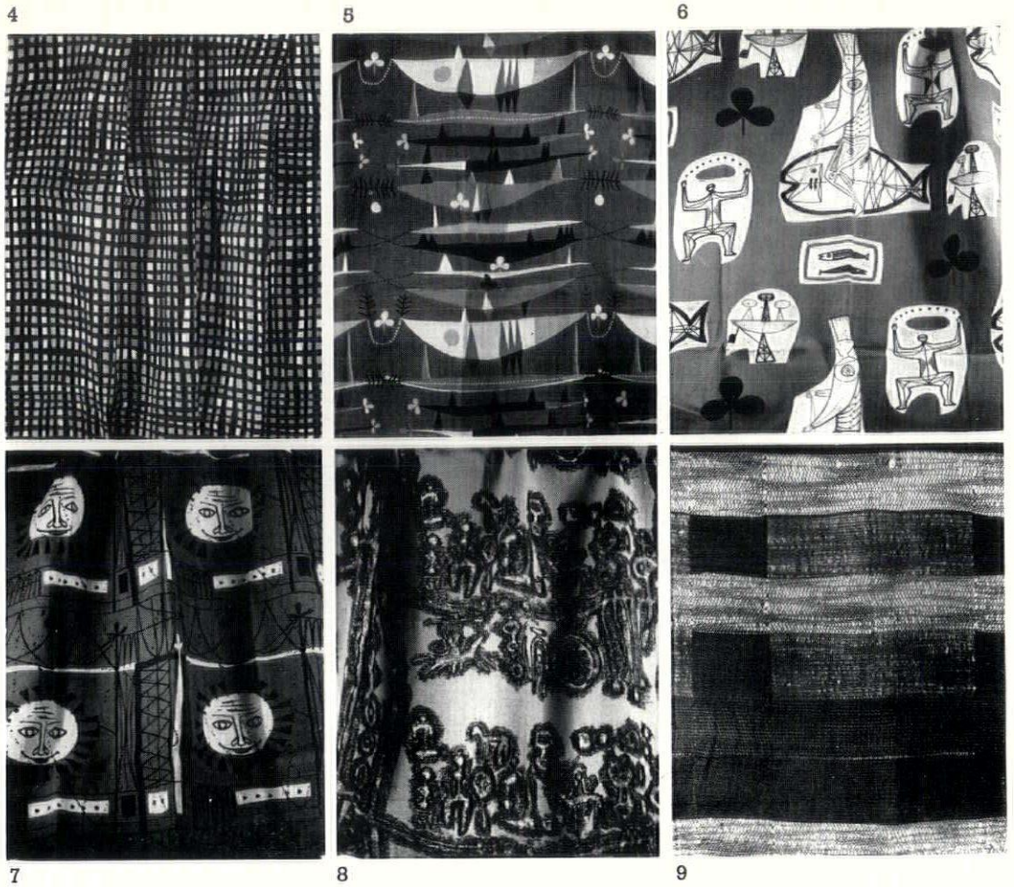
anxious to be amusing, decorative and evocative, but have not always sufficient command of their métier to achieve this successfully. In fact the most successful of the prints, Pat Albeck's *Combing*, 3, is the least ambitious. She has approached the matter in the same way as Tibor Reich, her aim being to produce a texture, though in this case it is very properly the texture of a water-colour wash, and not of yarn.

Generally the print designer, unable to find inspiration in choosing and contemplating the actual threads, tends to look further afield. The inspiration of these fabrics is indeed very varied. In a few it has been literary, that is to say the title of the fabric remains more evocative than the fabric itself. *Books* is an amusing idea, but remains a simplified drawing, which has not been translated into surface interest. John Lacey's *City Lights*, 4, has achieved this translation, but the treatment of the line is rather broad for the very small scale of the pattern.

Raimoult, 5, and Robert Stewart's *Macramanish*, 6, exhibit the most stimulating painterly influences—Picasso, Klee, Keith Vaughan and certain Danish work. But the individual drawings of *Macramanish* and the excellent colour of *Raimoult* remain more memorable than the repeated pattern.

In Stewart's *Sunman*, 7, the drawing is in fact subordinated to the admirably organized design, but the fabric is spoilt by the whimsey of the recurrent face. This is particularly unfortunate because the blue slate colour is not only very beautiful but one immensely useful to decorators.

A later addition to the range of prints is Martin Bradley's *Tampico*, 8. He achieves two characteristics rare and ever sought among furnishing textiles, brilliance of colour and a rich effect. And this with great economy of means. The special character is the result of the skilful relation of the smudgy line like charcoal, and the spongy weave on which it is printed. It seems curious that such homespun constituents should produce sophistication. In fact, though the freedom of the draughtsmanship is uncompromisingly contemporary, the design, particularly in the yellow print, happens to be extremely flattering to classical hardwood furniture. It is a useful print too in the sense that the colour is robust rather than delicate, and looks as though it would stand up to wear. This cotton



Six more fabrics in Liberty's range: above, 4, *City Lights,* 5, *Raimoult,* 6, *Macramanish. Below,* 7, *Sunman,* 8, *Tampico and* 9, *Aleppo.*

fabric has a dignity and scale far beyond its price range, 18s. 9d. per yard.

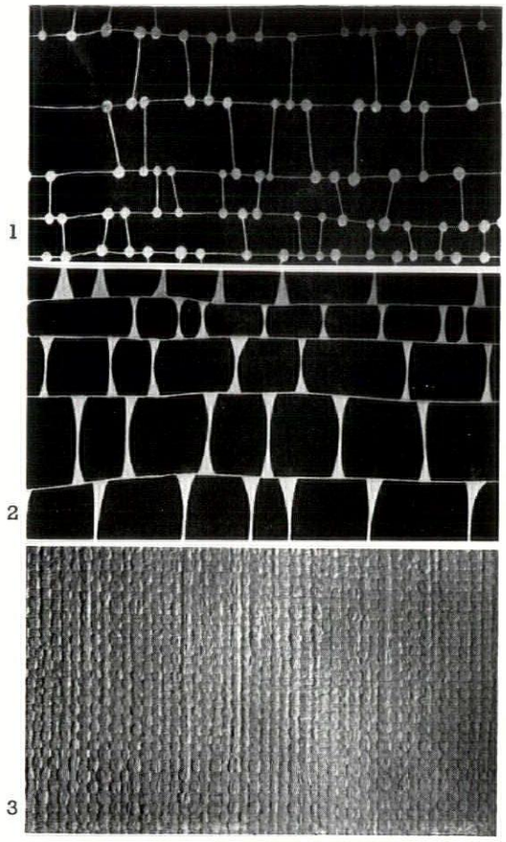
The most notable fabric in Liberty's range Marianne Straub's *Aleppo*, 9, does meet up with the most exacting requirements. This is woven in a cotton-wool-rayon mixture, which one assumes will be warm and lasting, and in the versatile medium weight so kindly to shoppers. The price, 29s. 9d., is rather below medium. The large scale of the design, a plaid with 12 in. by 8 in. repeat is equalled by maximum colour contrast, black-white-yellow. The bright colour is used in small areas, against a dark warp and given its greatest value by the larger areas of very interesting neutrals. One of the most pleasing subtleties of these is the introduction of a warm brown. This is a most impressive weave. Combining breadth of design with depth of textural treatment it obligingly affirms that in asking just that of the designer I am not asking too much.

Diana Rowntree

PLASTIC FURNISHING FABRICS

Synthetic fibres, having no inherent character, should offer designers their most complete and perfect scope. In fact such materials seldom enjoy the services of the best designers. The plastic furnishing fabrics on sale at Primavera are a happy exception. Designed in Germany by Professor Bode, they have exactly the scale and manner that makes a material useful to the decorator, rather than a chic but exacting object, 1 and 2. The range of designs is extremely wide, and though there is an excellent selection in black and grey and white, at present so much in demand, there are many other colour schemes which contrive to be imaginative and useful at the same time. These materials come in two weights. The lighter, for hangings, is retailed from 14s. per yard, 52 inches wide; the heavier upholstery weight at 22s. 9d. per yard.

The modesty which causes a plastic wall-paper, 3, to conceal the novel virtues of its finish beneath an appearance of woven straw seems altogether misplaced. This tough and washable wall surface is in fact a virgin field awaiting the skill and imagination of a designer. The 10 yard roll, 22 inches wide costs £3 13s. 6d.



Three plastic fabrics from the Primavera range.

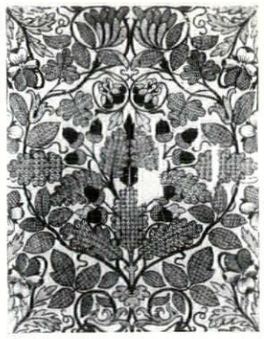
Yak is a plastic fabric finished to an excellent imitation of suede, on a very strong canvas backing. While giving the warmth of suede, it can be sponged without leaving the slightest mark. The price is approximately 51s. per yard 52 inches wide. D. R.

BOOK OF WALLPAPER

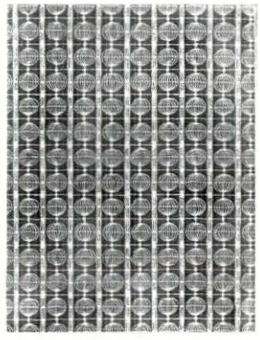
There is a growing public with a taste for wallpaper only too eager for a systematized account of this industry which has had such a close and happy association with art. E. A. Entwisle in his *Book of Wallpaper** uses the historical method. He tells the story of the English wallpaper trade and the influences that stimulated it from the sixteenth century up to the present day. He has made skilful use of quotations and delightful illustrations admirably related to the text, to maintain the excitement of the subject while he proceeds with the full historical account. Particularly alluring illustrations were those of designs deriving from renaissance embroidery, known as 'black and white work,' fragments of paper found lining drawers, and such stately rooms as the marble dining room at Ham House. One is led on to plan expeditions to some of the sources.

The remark here quoted of Owen Jones', 'form without colour is like a body without a soul,' could be taken to apply to a book on wallpaper. Only three of the many illustrations are in colour. But if many more had been, few of us would have been able to afford the book.

Mr. Entwisle has kept firmly to the main highway of wallpaper design, concentrating in the modern section on mass-produced papers for the widest market. His examples from this price level are well chosen. Nevertheless a history of English wallpaper making can hardly be complete without some mention of Cole & Sons (Wallpapers) Limited who are still using seventeenth century blocks. It was Coles who took the initiative in printing the modern designs by Aldridge and Bawden that Mr. Entwisle mentions. This omission raises doubts as to the scholarship of the earlier chapters which I am not equipped to judge.



1, *box lining paper, c. 1615, found in Oxford University archives.*



2, *machine-printed contemporary wallpaper designed by Robert Nicholson.*

Mr. Entwisle shows the relationship between commercial enterprise, technical discoveries and the trends of art very clearly. Unfortunately his very considerable power of historical presentation is greater than his prose style. This becomes stilted as he struggles gamely to a conclusion. D. R.

* *The Book of Wallpaper: a history and an appreciation.* E. A. Entwisle. Arthur Barker. 30s.

3 TECHNIQUES

TWO HEATING TESTS

by John Arkwright

Last winter saw the completion of two tests of two different types of domestic heating equipment which may do much to alter our ideas of heating small houses. The first of these was a three months' test carried out in five maisonettes in Coventry of a prototype combination cooker, hot water heater and warm air space heater which is being developed by Radiation Ltd. The second was a four years' test to establish the relative efficiency of a heat pump as against an immersion heater for providing under floor heating in a bungalow, carried out at Norwich by J. A. Sumner of the Eastern Electricity Board.

The interest of these tests is widely different: the Radiation prototype, which bears the trade name of the 'Heatmaster,' is a piece of equipment which is shortly to come on the market: the issue at stake is whether it is feasible to provide all the heating needs of a small house from one source and whether it can be done economically. The heat pump test, on the other hand, concerns a piece of equipment which is at an earlier phase in its development, though it is likely to be on the market in 1955-56. It differs from the two heat pumps now on the market in that these only aim to provide a reciprocating service of refrigeration and hot water supply.

What these tests have in common is the fact that in their different ways they both provide whole house heating—and hence both permit open planning—at a cost which is considerably less than what we have come to accept.

the 'heatmaster'

The 'Heatmaster' is a solid fuel cooker of the insulated type with an L-shaped boiler and with the bottom length of the flue converted into a heat exchanger. The oven temperature and the hot water supply are controlled by an oven thermostat which varies the rate of burning. The air temperature is controlled by a room thermostat which operates a fan, which in turn forces air through the heat exchanger. Since the warm air output is virtually constant to maintain the preselected room temperature—whatever the setting of the oven—the space heating is independent of demands on the boiler.

The maisonettes at Coventry were small, with a total floor area of only 704 square feet: they were designed (by D. E. E. Gibson, lately City Architect and Planning Officer) with an open plan on the ground floor and with good, though not exceptional, standards of insulation. Four of the maisonettes were tested merely for fuel consumption and tenant reaction; the fifth (which was empty) was tested for temperature distribution. A special feature of the furnace is that it can operate on coal or coke, for it burns on the down-draught principle when using coal and on the up-draught principle when using coke. In both cases the average weekly consumption in therms was 29.2. This when burning coke cost 12s. 6d. per week, when burning coal 11s. 5d. per week. These figures are about two-thirds those which you would expect from the cheapest alternative means now available for producing broadly the same results: namely a daytime temperature of 60–65°F downstairs and of 53–58°F upstairs. A characteristic of air heating is even distribution: at 60°F the horizontal variation throughout the ground floor at 4 feet level was only 1°F and

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the vertical variation between 1 and 7 feet levels was only 5°F.

It must in fairness be pointed out that these tests were of relatively short duration, that they were made by the manufacturers themselves and that we do not yet know the first cost of the equipment. But assuming that no serious deceptions are in store, they should mean that full as distinct from mere background heat plus 'topping up' is in the reach of income groups which are very large and which have never before been able to consider it.

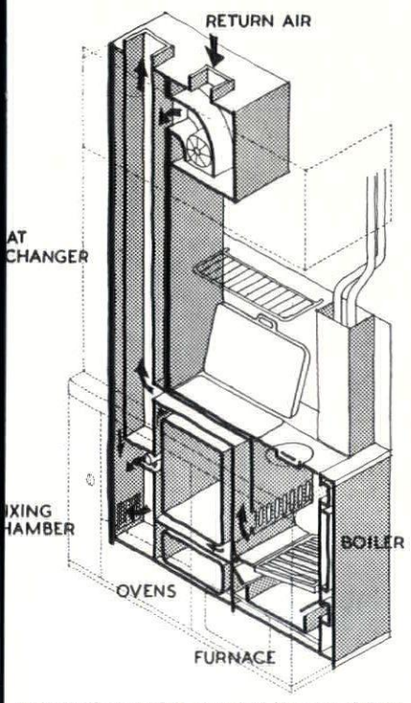
the heat pump

Mr. Sumner's Heat Pump represents a more fundamental approach to the same problem. Mr. Sumner is a pioneer of the development of the Heat Pump in this country: he was the prime mover behind the 'Norwich Heat Pump' which was so much in the news a few years ago. The objective of the Heat Pump is, of course, the conversion of low grade heat—which is present in unlimited supply in earth, air and water—into high grade heat, that is, heat at temperatures which can be used. The energy needed to bring about this change is only of the order of one-third to one-fifth of the energy produced. Mr. Sumner in introducing his paper to the IHVE suggested that the decisive factor favouring the Heat Pump here and now is not its potential cheapness as against solid fuel but the fact that our supply of solid fuel during the next ten years is going to fall so far short of our domestic needs that we will be obliged to find an alternative; and that, pending the harnessing of atomic energy, low grade heat is the only alternative to hand.

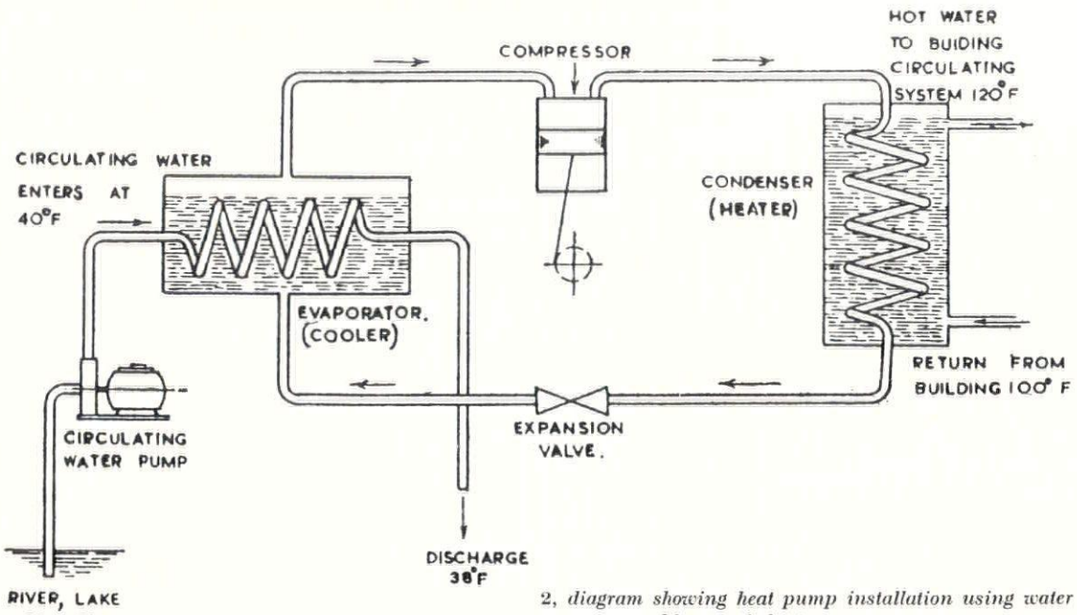
The operation of the pump is as follows: a ground coil (i.e., a pipe passing through the earth, through which an anti-freeze liquid is forced by a pump) circulates a methanol-water mixture at a temperature varying between 20–40°F into an evaporator: within this evaporator is a refrigerant which takes this low grade heat from the anti-freeze liquid and, in doing so, changes from a liquid to a gas: this is then drawn into a compressor (here driven by electricity) when it is compressed to a pressure at which it reaches the useful temperature required (here 125°F): having reached this temperature it passes to a calorifier (or condenser) where it gives up the heat to the water which is the circulating medium. The 'useful temperature' of the refrigerant may vary considerably according to the amount of pressure applied, but the 'reciprocal thermal efficiency'* (R.Th.E.), to use Mr. Sumner's phrase, is greater in inverse proportion to the temperature required. It was this consideration which influenced his choice of under floor heating. A convective system using radiators would require water at 180°F. This, assuming an intake at about 35°F, would give an ideal R.Th.E. of 4.41. Floor panel heating, on the other hand, requires an upper temperature limit of only 130°F which gives an ideal R.Th.E. of 6.21, i.e. is over 40 per cent more efficient. Air heating, which requires an upper limit of 120°F, might have proved even more favourable.

The area of Mr. Sumner's bungalow is 1,650 square feet. It is of ordinary 11-inch cavity brick construction. The under floor heating is of the usual design with $\frac{3}{8}$ inch bore copper pipes spaced 12 inches apart and buried 2 inches down in a 5-inch concrete raft. During the winter of 1950–51 the system was heated by an immersion heater and during the subsequent winters by the heat pump. The test, therefore, was concerned equally with determining what were in fact comfort conditions as with the relative economy of the two sources of power. On this first point we note that after much experiment a room thermostat reading of 61°F was found to be most satisfactory, though it was also found that, so long as the floor temperature was about 55°F, room air temperatures as low as 55°F were often acceptable.

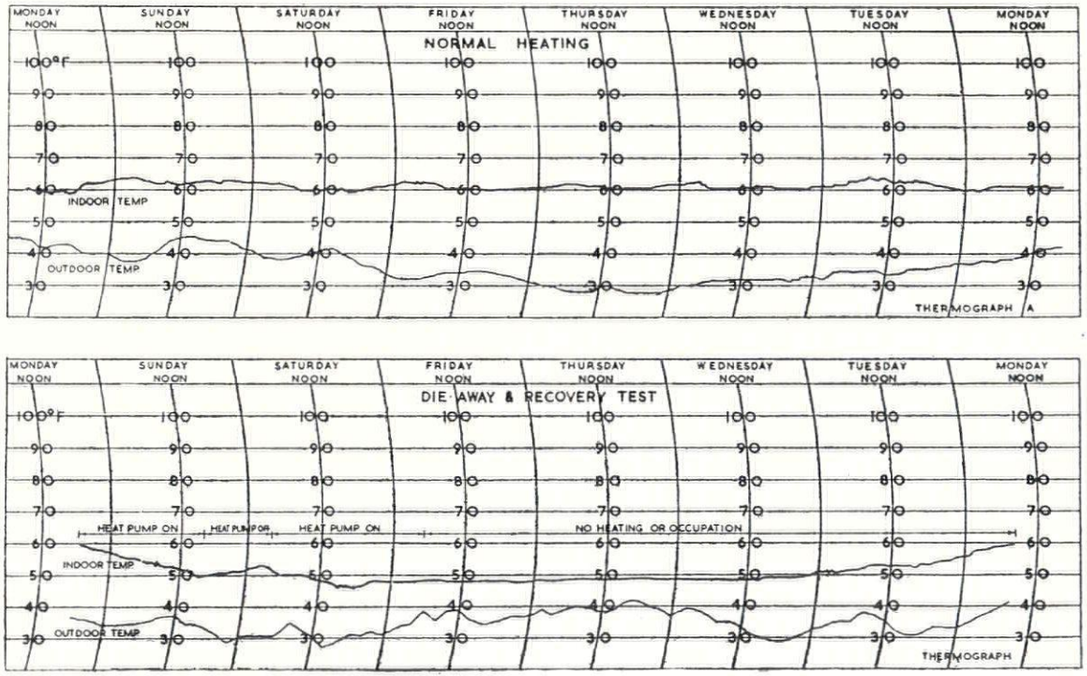
Figures were obtained for keeping the temperature of the bungalow at 60°F and at 65°F throughout a heating season of 196 days. This required 70 and 90 million B.Th.U.s respectively, quantities of heat which



, axonometric sketch showing the circulation f air in the "Heatmaster".



2, diagram showing heat pump installation using water as a source of low grade heat.



3, thermographs comparing indoor and outdoor temperatures in the bungalow, above for normal heating and below for a die-away and recovery test. Both should be read from right to left. The lower thermograph is particularly interesting in that it shows that it takes about 36 hours to lower the indoor temperature from 60°F to 50°F and rather less than 24 hours to raise it by the same amount.

* Reciprocal Thermal Efficiency = $\frac{\text{Max. temperature given (expressed as an absolute temperature).}}{\text{Difference between max. temperature and the original temperature of the low grade heat.}}$

cost £87 and £109 to obtain using the immersion heater, but only £31 and £39 using the heat pump. Mr. Sumner also calculated that the cost using coal or coke at 40 per cent efficiency would work out at £54 and £69.

Of the three heating seasons during which the heat pump was operating, the first two (i.e. 1951–52 and 1952–53) were experimental in the fullest sense: Mr. Sumner tried out the use of air as an alternative low grade heat source and the heat pump itself was being nursed through its teething troubles; heating by the pump was therefore only intermittent. It was only during the winter of 1953–54 that its operation was virtually continuous.

The running cost is, of course, the startling figure. It is no disparagement to Mr. Sumner's test to notice that the running costs of any installation tend to vary so considerably from year to year that even an average figure over four years has only a limited value. Nevertheless it is interesting to compare the figure of £87 per heating season of 196 days for maintaining a temperature of 60°F by means of the immersion heater with some figures given by E. M. Ackery at this year's Annual Conference of EDA. In these it was shown that to provide background heat of 55°F (i.e. 5°F less) in a 1,500 square foot detached house of good construction for a heating season of 210 days—i.e. data roughly comparable to Mr. Sumner's bungalow—would require 24,600 kW hours. This, at the usual rates, would cost £109 18s. This for maintaining an average temperature lower by 5°F. Mr. Ackery's figures also show that a 5° difference in the background heat over a heating season very nearly doubles the kWh (and hence the cost). All this goes to suggest that, Heat Pump or no Heat Pump, under floor heating is a less expensive means of maintaining a steady temperature over long periods than the other means in common use.

Once more the vital missing figure is the first cost of the equipment and (perhaps even more important) the maintenance costs. Mr. Sumner gave it as his opinion that quantity production could bring the cost of the unit down to something of the order of £150–£200. This would certainly be a great advance on the figure of £650 given by Miss V. M. Griffiths of BEDA, speaking to the Institute of Refrigeration last November. Architects will also be interested to notice that Mr. Sumner's labour and materials costs for the under floor heating (including the circulating pump) were only £100. As he points out, this is a third less than the kind of quotations the trade has been giving for installations of this type and size.

conclusion

Fuel is a baffling subject, beset by every sort of contradiction. It is made even more baffling for the architect than it need be by the fact that he is confronted by three public authorities (to whom we must now add the oil companies) all of whom produce convincing evidence to show that their fuel is the most advantageous. The tests we have been reviewing are in reality less concerned with fuel as such than with methods of applying it. For Radiation Ltd.'s whole house heating has been applied equally to gas and to oil, while the heat pump compressor can be operated by other than electrical motors. These tests concern the architect first because they offer him an end product—whole house heating—on terms which appear far more favourable than heretofore, and second because in order to obtain it he must plan for his heating carefully in advance. Architects, therefore, who have small houses or maisonettes to build next year would do well to add these two heating methods to their list of likely alternatives and to start thinking about them from the beginning.

4 THE INDUSTRY

CURTAIN WALLING

The Cape Asbestos Company is a firm which is taking its duties towards architects and towards building particularly seriously. No longer content with issuing a product and with leaving it to others to do their best with it they have been engaged on a long series of experiments with architects ('development work' as we have come to call it). As a result, they have now extended their field of vision to a series of claddings which incorporate their own 'Asbestolux' but incorporate also various other proprietary materials which are required to make a four-square cladding unit.

All claddings have an inner skin of Asbestolux separated by a vapour barrier (of Kraft paper) from a core of 'Rocksil.' When the outer skin is also Asbestolux this is backed by a bitumen-coated sheathing paper to act as a damp barrier. This basic construction may either be compact, when it is described as 'a double skin unit,' or with cavities between each element, when it is described as 'separate skin construction.' But the chief variety in the range lies in the external facing, which may take the form of a finish applied direct to the Asbestolux, a rigid material bonded to the Asbestolux, or a metal tray which becomes a substitute for the Asbestolux outer skin. An interesting variation of the first group is that used at Chaddesden Secondary School (AR, July 1955) by the Architects' Co-Partnership, which comprises a melamine-based stove enamel behind an outer skin of glass (see photo).



Cape Asbestos cladding being fitted to Chaddesden School.

Two materials are put forward for bonding to Asbestolux: aluminium and Plyglass (which last was used, incidentally, at the Loewy offices at Poole by Farmer and Dark); while the final choice is an 18 s.w.g. steel tray with vitreous enamel finish back and front which renders the outer skin of Asbestolux unnecessary. All of these seem likely to offer an enduring front to the weather: more critical is the method of jointing, for no-one knows how long mastic compounds will remain flexible. Long enough, it seems, to justify us in persevering with them. *The Cape Asbestos Co. Ltd.*, 114-116, *Park Street, London, W.*1.

A NEW BUILDING BLOCK

We are repeatedly drawing attention in these columns to new building materials made from pulverised fuel ash. A newcomer to the list is Thermalite, a lightweight building block. It is very characteristic of the present trade conditions that this material was first pioneered not by a manufacturer but by a building contractor. For development work on Thermalite was carried out by the research department of John Laing and Son Ltd., and it is only recently that a separate company, Thermalite Ltd., was formed to handle the material on the general market.

Thermalite is lightweight, weighing only 50 lb. per cubic foot, is load-bearing (with a compressive strength of 750–800 lb. per square inch) and has high thermal resistance (with a K value of 1.4). Delivered in blocks 18 inches by 9 inches by 3, 4 and 6 inches, it has the unusual quality of being easily sawn and shaped. Lending itself to easy and rapid sitework (as you would expect from a material originating with a contractor) it can be laid three times as fast as brickwork. Lastly, it is presented to architects with trade literature which gives them all the facts they could possibly want to know. *Thermalite Ltd., Shepherds House Lane, Earley, Reading, Berks.*

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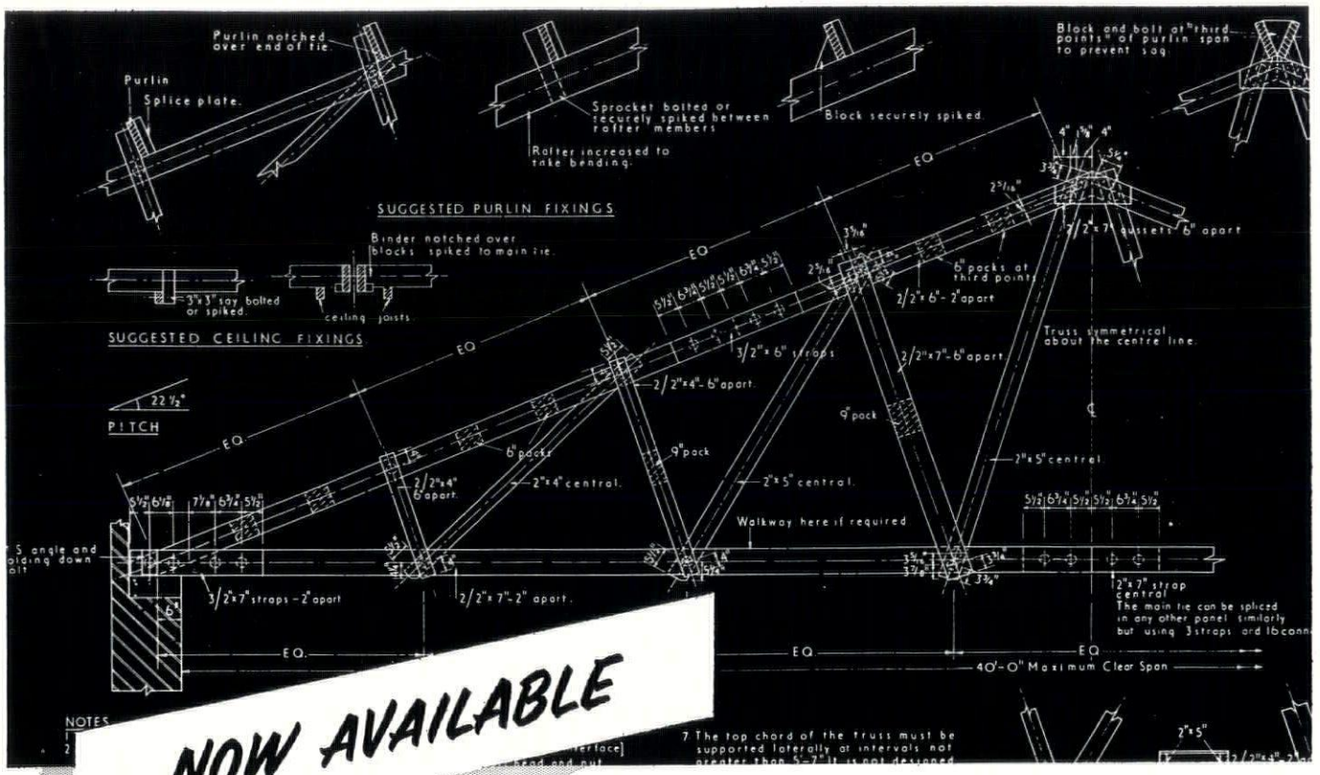

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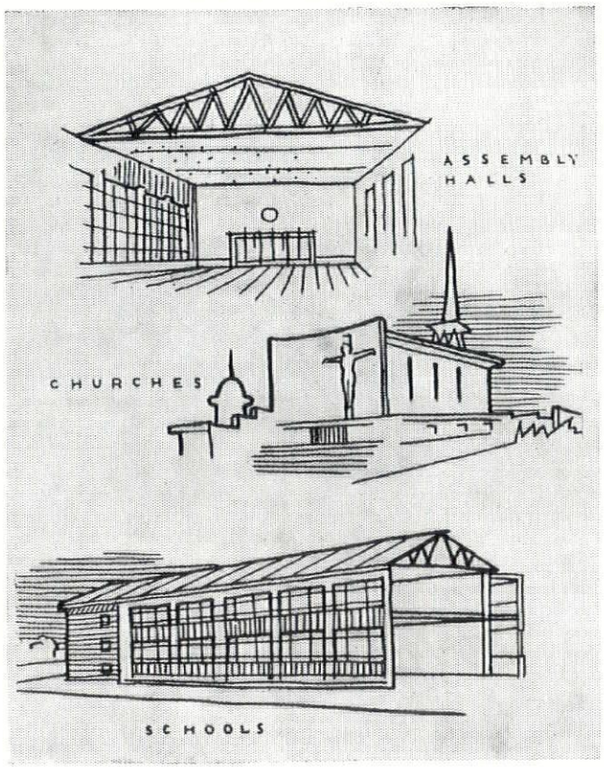

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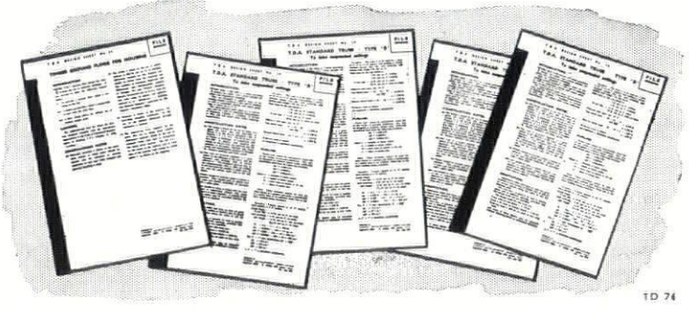

TD 74

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A PENDANT LIGHT FITTING

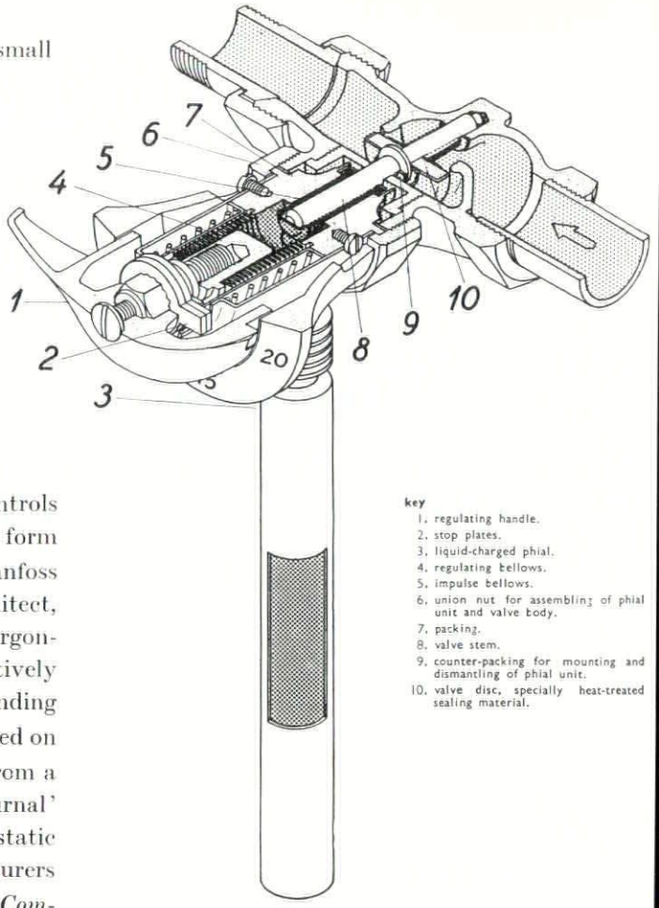
The Ventura 80, designed by the architect Paul Boissevain and manufactured by Merchant Adventurers, is, technically, a convincing attempt to meet the conflicting requirements of the pendant fitting. A translucent plastic diffuser with louvres



at the base shields the bulb from all usual eye positions, yet gives a 45° cut-off angle. Nothing but the minimal lampholder (in satin silver anodized aluminium) keeps light from the ceiling, and the free passage of air through the louvres and through the lampholder itself should ensure cool working conditions and thence long life for the bulb. *The Merchant Adventurers of London Ltd., Ventural Division, 43, Portland Road, London, W.11.*

AUTOMATIC CONTROLS

The technical trade literature of small countries is more easily understandable by the architect (provided it is presented in his language) than our own; the reason being that the absence of specialist consultants compels manufacturers to address themselves to the architect direct. A good example is the trade literature published in the English language by the Danfoss Manufacturing Company of Denmark, who specialize in automatic controls for heating installations. This, in the form of a catalogue, and the quarterly 'Danfoss Journal,' describe to the English architect, by means of careful drawings and jargon-free English, mysteries which are effectively veiled from him in the corresponding literature of his own country. Illustrated on this page is a drawing reproduced from a recent issue of the 'Danfoss Journal' showing the workings of a thermostatic radiator valve. English manufacturers please note. *Danfoss Manufacturing Company, 69, Victoria Street, London, S.W.1.*



key
1. regulating handle.
2. stop plates.
3. liquid-charged phial.
4. regulating bellows.
5. impulse bellows.
6. union nut for assembling of phial unit and valve body.
7. packing.
8. valve stem.
9. counter-packing for mounting and dismantling of phial unit.
10. valve disc, specially heat-treated sealing material.

[continued on page 138



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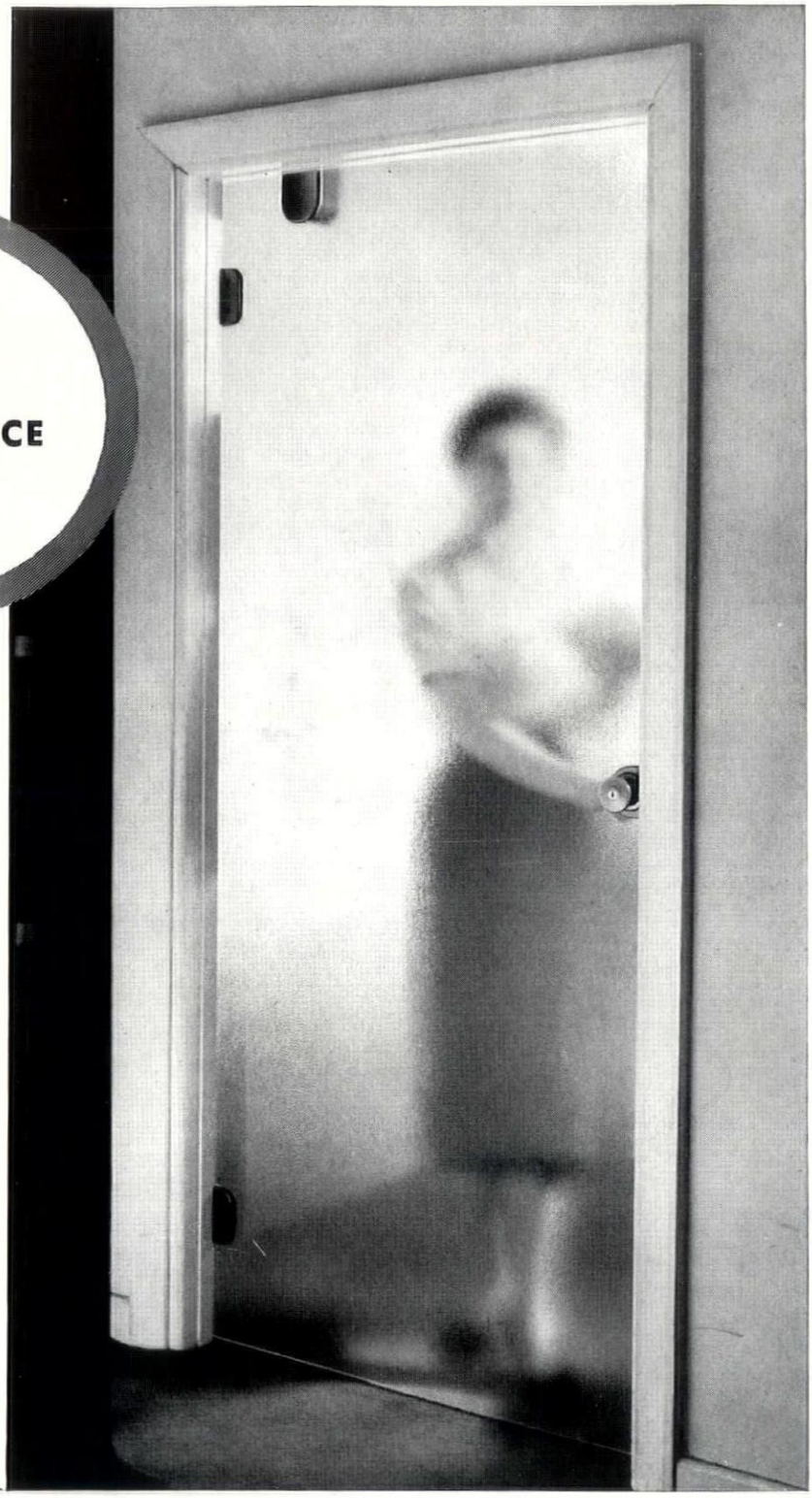

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continued from page 138]

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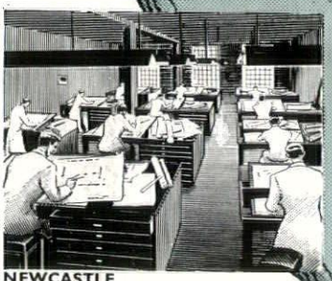

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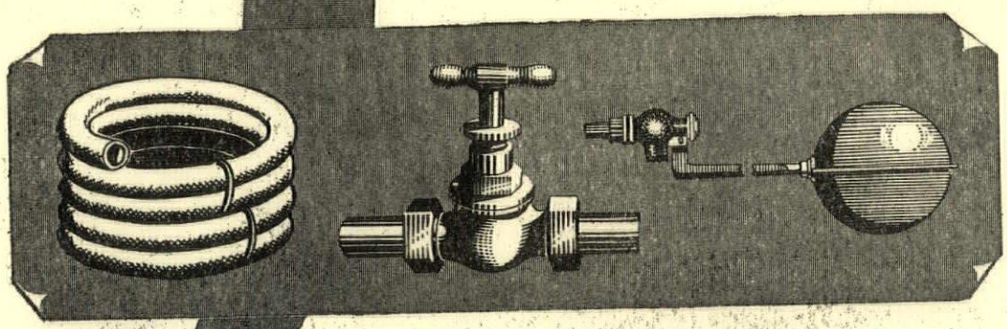

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L.I.

THE ARCHITECTURAL REVIEW VOLUME CXVIII NUMBER 705 SEPTEMBER 1955 FIVE SHILLINGS





MARGINALIA

Outrage and After

Reactions to the trumpet blast in the REVIEW's June issue have varied widely in the Press and elsewhere. To some journalist-readers, here was a nice talking-point; and in their articles they were concerned to point out the deleterious effects of passion upon reason and to show that the REVIEW had o'erflowed the measure in asserting the whole philosophy of urban dispersal to be wrong. . . . 'Existing small and middle-sized towns well placed for expansion—not new towns—will have to receive the required "overspill" from the big cities' (*The Times*). One may ask what it is exactly that makes a small or middle-sized town meet for the sacrifice or, as *The Times* puts it, well placed for expansion. Another and, from the REVIEW's point of view, more pleasing form of reaction was the chorus from the popular Press in Fleet Street, whose voices, if (as some said) the REVIEW's was high-pitched and querulous, were deep and re-assuring. These splendid people made the cause their own; the *Daily Mail* and *News Chronicle* were magnificently profuse; although it is doubtful whether the few million clerks and others whose eyes actually fell on the appropriate pages were much interested or even amused, let alone concerned. For most of them, secure and relatively prosperous, their entry into the Kingdom of Subtopia has been the reward of loyalty and tedious exertion on behalf of a benevolent employer, and is a Pearl of great Price, more than a substitute for romance. Thus the bleating of a few frustrated intellectuals is for them hardly worthy of a half-smile of contempt; it means nothing. (Here we are back at the beginning—'a prophecy of doom' . . .) But we recognize that the support of a cause with so little to bait it for the public in the way of cheap sensationalism was an act of gallant disinterest, calling for our gratitude. The third principal type of reaction in the Press is limited to the provincial newspapers and, because it is the most personal, it is also, perhaps, the most powerful. 'There is to hand a local example of urban tentacles reaching out to the virgin countryside. . . . Reading's once green belt is slowly, but surely, disappearing' (*Berkshire Chronicle*). 'Towns should be urban and the country rural . . . there should be a term set to the no man's land of "Subtopia". That is the point the authors want to bring home . . . and is a problem which has long exercised concern at Bath' (*Bath & Wilts Chronicle & Courier*). 'We are, thank Heaven, still blessed with a fair slice of well-wooded countryside—now looking its best—but the "urban sprawl" is taking an increasingly heavy toll, and the Warwickshire of to-day is not that of ten or twenty years ago. The large airfields at Wellesbourne and Gaydon have in one swoop swallowed up what was once peaceful farm land. . . . Industry has played an even more decisive part in the transformation. Not only does the overspill of Coventry's working population find homes in the villages, but smaller industrial units are set up in localities where alluring wage packets are held out to the unabsorbed farm labour force' (*Leamington Spa Courier*). These writers, especially the last, seem to feel intimately the threat to their own places. The rage and distress of a passing traveller, sincere though it may be, cannot quite equal the feelings of a sensitive man about the ground he has known since infancy, which he sees trampled out of recognition by Brobdingnagians of industry or government. The *Leamington Spa Courier* concludes: 'The answer depends on public opinion, which must be brought face to face with the urgent necessity for demanding imaginative and ruthless planning. A restatement of policy at national level would do much to allay the fears of those who have deep feelings on this question.' Although unrhetorical journalism of this kind may do more than anything to arouse local opinion, the *Courier* is right about the national restatement of policy; and his animadversion has already been answered in the speech of Mr. Duncan Sandys, Minister of Housing and Local Government, to the RIBA on July 20, when he 'declared war on ugliness in every form.' He invoked the British people's heritage of 'historical monuments, pleasing cities and smiling landscapes,' which 'in the name of progress and convenience are everywhere being mutilated or obscured. Every . . . ferro-concrete lamp-post, advertisement hoarding, public convenience, bus shelter or traffic sign must be critically scrutinized. . . . In this connection, it is as well to remember that towns were built *for people to live in and not merely as places to motor through.*' (Our italics.) He adds that guarding against fresh enormities is not enough: 'I must emphatically urge local authorities in distributing funds they have allocated for amenities to earmark at least a small proportion for judicious demolitions.' At this point the REVIEW throws its laurels earned in the fray at Mr. Sandys' feet; we are now fighting his battle, not he ours.

It remains to be noted how effortless and meteoric the ascent of the word Subtopia has been into the empyrean of learned and respectable usage. The other day it was heard in public passing the lips of the Duke of Edinburgh himself. In *The Times* on July 11, we observed this passage in a letter to the Editor: '. . . that the energy thereby saved be expended on resisting the encroachments of subtopia and tidying up . . . etc.' The remarkable thing here is surely not the sentiment expressed, which is admirable enough, but the fact that the word subtopia is begun with a small letter, and with no handle to excuse its novelty; surely the hallmark of acceptance. But the future lexicographer seeking literary authorities need look no further than the text of HRH's speech to the Royal College of Art. The *Birmingham Post* were good enough to describe the word as repulsive: and so it is. Let us hope that the word will become a conventional term of abuse in council rooms, architects' offices and elsewhere, synonymous with many unrepeatable words which will at once spring to the reader's mind. The fact that *The Scotsman* has hurled it back at the REVIEW itself (which it regards as a Subtopian production) dismays but does not discourage us.

CORRESPONDENCE

Oxford Gas Works

To the Editors

SIRS,—At the end of the article on Oxford on page 404 of your June issue, it is said that 'the Oxford Gas Works was an appalling blunder of siting in the 1890s and remains so to-day—yet sixty years of it did not prevent the City from contemplating an extension after the war, and after the Oxford Plan had specifically recommended re-siting, which was only stopped with immense effort.' I have no doubt that, particularly in view of what preceded this statement, most of your readers will understand it as meaning that the extension of the Gas Works to the south of its existing site was a proposal of the City Council. In fact this proposal was that of the then Oxford and District Gas Company and, although at various times great assistance has been given by the University, the Oxford Preservation Trust and the House of Lords, my Council can, I think, claim to have been consistently the principal opponent of the proposed extension and can claim the greatest responsibility for the fact that work on the construction of the new Gas Works at a site in Cowley has now begun.

My Council cannot, of course, take exception to the various criticisms made of it in THE ARCHITECTURAL REVIEW on matters of opinion, but I am sure you will agree that false impressions should not be given of the facts.

Yours, etc.,
HARRY PLOWMAN.
Town Hall, Oxford. *Town Clerk.*

[The Editors write: *The responsibility is shifted; the outrage remains. The relevant clause in the commentary should read . . . 'did not prevent the Oxford and District Gas Company from contemplating an extension.' . . . The facts were obtained verbatim in Oxford, and we apologize for being misinformed. The Bayswater Estate in Headington, the beautified roundabouts and the bargeboarded hut in Broad Street are perhaps reasons why we are unwilling to extend our congratulations—and the houses by the canal (page 402, June AR) have gone already.*]

Outrage and Lamp Standards

To the Editors

SIRS,—I have read the contents of the June issue with growing admiration. The problem of lamp standards is very real, yet much of the criticism applied to concrete lamp standards can, just as easily, be applied to steel standards, so a change of materials does not seem to solve the problem. A car driver finds the light from lamp standards often more confusing then helpful owing to their closeness to his line of vision in perspective. Cars are capable of illuminating their own road area, and headlights serve as an added warning to careless pedestrians; many serious accidents are caused, or made worse, by collision with lamp standards. Pedestrians and pavements are people and things which require strong illumination.

After consideration of these points, it would seem advisable to eliminate lamp standards from roadside positions and set them back to the inner

side of the pavement, away from the curb, in non-built-up areas, and to eliminate them completely in built-up areas by designing suitable lighting fittings to be unobtrusively attached to the walls of buildings. In new buildings, the inclusion of street lights in the elevational design should form part of the initial problem.

Yours, etc.,

P. MICHAEL THOMAS.

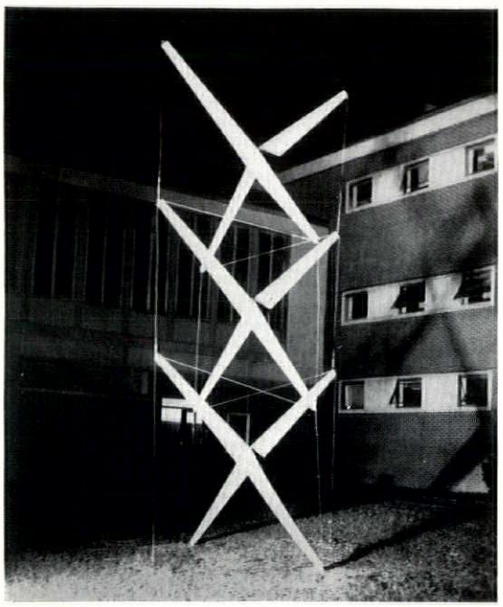
Swansea.

[The Editors write: *The improvement can already be studied in one of the towns on the Outrage route—Chipping Norton—where the market place is studded with the clumsiest kind of concrete standard but the narrow road up to it has neat fluorescent fittings fixed to the buildings. The idea can obviously lend itself to abuse but on balance, one more excrescence on a Palladian front is better than the breaking up of a whole town centre.*]

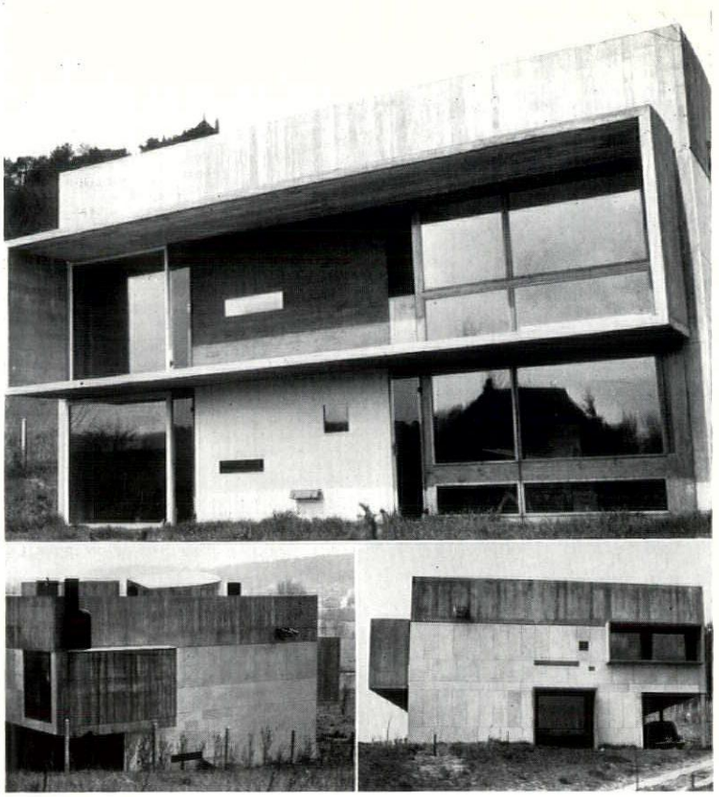
The Functions and Design of Hospitals

The long-awaited Report of the Nuffield Provincial Hospitals Trust* is valuable not only on account of the considerable light it throws on hospital design but for its illumination of the social function of the architect. Among the subjects investigated by Richard Llewelyn Davies' team are: 'Why do outpatients have to wait so long?' 'How big an area should a hospital serve?' and 'What is the likely incidence of disease?'—questions which, one is inclined to say, 'have nothing to do with the architect.' Nor, if we are thinking of the day-to-day professional duties of the ordinary architect, have they. But the fact remains that what we mean by architecture cannot happen unless someone investigates these questions; and of all our technical people only the architect has a sufficiently rounded vision and experience successfully to lead an investigation into them. The chapters of this book, even though they do no more in many cases than open the subjects they treat, represent the architect in this role of interpreter of our needs. To take as one instance the now celebrated study of the hospital ward—this has now progressed from the phase of interrogation—of doctors, nurses, patients, and every sort of expert—to the building of a prototype; so we are now on the way to a conception of the hospital ward which will comprehend all that we severally know. Though the facts presented in the volume are only the beginnings of a body of hospital design information, it is a special mercy that we have them *now*, before we begin hospital building in earnest: for it is terrifying to think of the mistakes we should be about to make had there been no Nuffield Foundation to investigate for us. The work recorded in this volume is an example of the kind of research architecture badly needs, and indeed on which modern architecture must be based if it is to be called functional. It is encouraging news that a similar team, again under Mr. Llewelyn Davies' leadership, is now investigating science laboratories and farm buildings.

* "Studies in the Functions and Design of Hospitals" by the Nuffield Provincial Hospitals Trust. Oxford University Press. 63s.



SUSPEGIC DUOFORM. Playground sculpture for the grown mind, rather than the infant limb, is seen in this recent structural exercise in a quadrangle at Alabama Polytechnic Institute. However the name of the Suspegic Duoform was arrived at, the structural technique is clearly derived from Buckminster Fuller's 'discontinuous compression member' though the Duoforms suffer from bending moments which cannot occur in Fuller's triangulated members. Materials are wood, with strap-iron reinforcement, and ⅛-inch cable for the tension members. A descriptive note from Alabama Polytechnic says: 'This structure moves and twists with the wind, but actually is very stable.'



PETITE MAISON—STYLE CORBU: One of the most startlingly apparent manifestations of a Style Corbu *of the 'fifties, matching that of the late 'thirties, is this new house at St.-Rémy-les-Chevreuses. That it should bear the mark of the Master's influence so prominently is hardly surprising, when it is considered that it is the work of André Wogensky, currently acting as Le Corbusier's* chef d'atelier, *but inspection will show that unlike some earlier exponents of* le Style *Wogensky employs the idiom with a markedly personal accent—the 'randomization' of the windows in the central panels of the garden elevation, above, is quite unlike that of Ronchamp, both in meaning and purpose, and the use of rough and smooth textures, right, and of functional-sculptural elements like gargoyles and chimneys, left, is Wogensky's own.*

Corrigendum

Mr. Alec Clifton-Taylor writes: 'In my review of Dr. Christopher Woodforde's "English Stained & Painted Glass" (ARCHITECTURAL REVIEW, August 1955, page 124) I suggested that the glass in the Jesse window at Dorchester Abbey belonged, like its sculpture, to the second quarter of the 14th century; here I was wrong. This window, which was considerably restored in 1926 contains only sixteen rather small figures, partly made up from fragments, but the glass is undoubtedly of the 15th century. My apologies to Dr. Woodforde.'

Intelligence

Tretol Ltd. have announced an open competition to architects for 'The House for the Professional Man,' costing around £4,250 to build, a departure from the many past competitions for rigidly low-cost housing. Premiums amounting to £500 are offered for the three winning designs and all the entries will be displayed at the 1955 Building Exhibition at Olympia in November. Designs must be submitted to Tretol Ltd. 26 Store Street, WC1, not later than 8th November.

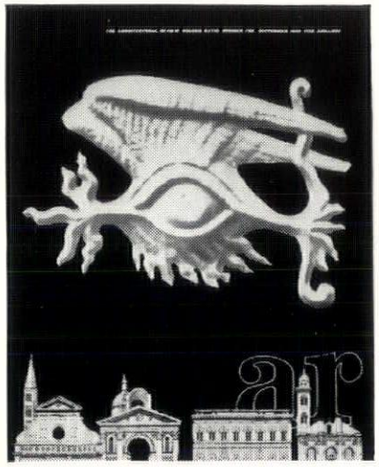
At the meeting in July of the IUA Congress at the Hague, it was resolved that the next meeting, in 1957, should be held in Moscow.

ACKNOWLEDGMENTS

MARGINALIA, page 212: Style Corbu', Robert Browning. FRONTISPIECE, page 214: G. E. Kidder-Smith. MAISON JAOUL, pages 149–150: James Stirling. SCHOOL AT PADDINGTON, pages 153–160: Drake and Lasdun, except 15, Brian Seed; 18, 19, Galwey, Arphot. PEEPSHOW, pages 161–164: 1, 5, Mansell Collection; 2, 6, 14–16, National Gallery; 3, 4, 20, Rijksmuseum, Amsterdam; 7, Fitzwilliam Museum; 9, 10, 12, 13, Jan Terwen; 11, Wallace Collection; 17, Lichtbeelden Instituut; 18, 19, A. Dingjan. COFFEE BARS, pages 169–173: Toomey, Arphot, except page 170, 6, S. Lambert, and page 172, 14, J. S. Pantlin. NORTH AFRICAN SCRAPBOOK, pages 174–185, G. E. Kidder-Smith. CURRENT ARCHITECTURE, pages 186–188: Dartford Technical College, Galwey; House at West Mersea, Toomey. MISCELLANY, pages 189–194: Exhibitions, 1, S. W. Newbery; 4, W. Churcher; Landscape, K. Browne, Arphot, except 7, *The Times*; 6, Sport and General; History, Galwey. INTERIORS, pages 195–198: Galwey, except 7, 12, 14–16, P. W. and L. Thompson. DESIGN REVIEW, pages 199–200: Primavera, Galwey; Crown, Toomey. TECHNICAL, pages 201–210: Arcon, S. W. Newbery.

THE ARCHITECTURAL REVIEW

Volume 118 Number 705 Sept 1955



On the cover, a detail from a medal by Matteo de'Pasti shows the personal *impresa* of Leone Battista Alberti—an eye borne on the wings of a sparrow-hawk—soaring above the four buildings on which his architectural reputation rests; Santa Maria Novella, Sant'Andrea at Mantua, the Palazzo Rucellai, and the Tempio Malatestiano. The precise meaning of the *impresa* is not known, but it seems likely to have been the emblem for 'Justice strikes swiftly', which, taken with Alberti's laconic motto *Quid Tum*? (What then?), might make an excellent precept for architects to bear in mind. But it has a special meaning for this issue of the ARCHITECTURAL REVIEW, for on pp. 161-164 Roger Hinks, in an article entitled *Peepshow and Roving Eye*, considers what happened to central perspective, the mode of vision which Alberti was the first to codify in his *della Pittura*, when it was transported to the pragmatic North, and used, rejected or modified by the townscape painters of the Dutch School.

141 **Marginalia**

144 **Frontispiece**

145 **Garches to Jaoul** *by James Stirling*
The recent re-occupation of the villa at Garches, and the impending completion of the group of two houses for M. Jaoul, focus attention on Le Corbusier's progress as a designer of domestic architecture. By comparing the architectural qualities of these buildings it is possible to indicate a far-reaching change in Le Corbusier's philosophy as a designer, for more has changed than merely the methods of construction. The choice of point-supports for Garches and mass-walling for Jaoul are parts of a complex of reorientations and changes of emphasis which Mr. Stirling sets out to chart in this article. Thus Garches has a quality proper to the Paris region, whereas Jaoul is essentially exotic and anti-urban; space and light flood through Garches destroying internal compartmentation, whereas Jaoul has disparate, box-like (or cave-like) interior volumes; Garches displays the machine aesthetic and proclaims its membership of a technological epoch, Jaoul is anti-mechanistic, traditionalist, earth-hugging; Jaoul is folksy, home-like, cosy whereas Garches demands a continuous house-party of brilliant and extrovert guests; Garches was created for a future which did not quite materialize, Jaoul for a status quo as present and actual as the migrant Algerian labour which worked on it. These contrasts, Mr. Stirling suggests, are parts of a continuous architectural development which has not latterly been supported by any new or revised theories. In contrast to the systematic and programmatic quality of Garches, the feeling at Jaoul is of an absence of rationalistic principles, a feeling that these masterpieces of plastic virtuosity must be read as Art for Art's sake, rather than for the sake of a theory. Jaoul, which is new, is for the present; Garches, nearly thirty years old, is for the future and a continuous aspiration after a braver, newer world.

152 **School at Paddington:** *Architects, Drake and Lasdun*

161 **Peepshow and Roving Eye** *by Roger Hinks* In all acts of human observation time is accommodated to space, or space to time. When the viewpoint is fixed, time yields to space; when the viewpoint is movable, space yields to time. These two postulates, of crucial importance to the architect or urban planner, are also the horns of the dilemma of the representational painter—shall the artist, like Brunelleschi, adopt a fixed peephole viewpoint for the sake of a rational spatial perspective, or shall he register on his canvas the displacements and distortions which inevitably follow when eye, head or body moves. Geometrical perspective may convince for the view of an ideal piazza, but is not likely to do so in the random, close-up interstices of a northern city, and Mr. Hinks's article and illustrations demonstrate how those most persistent painters of the urban scene, the townscapists of the Dutch School, accommodated Brunelleschian perspective to their own needs and situation. His examples are taken from paintings so well-known, in some cases, that they have stamped their author's mode of vision on a scene for ever, and it is necessary to resort to photographic comparisons to see what adjustments have been made to the view.

165 **Espresso** *by Marghanita Laski and Stephen Gardiner* One of the phenomena of the 'Fifties in London has been the sudden appearance of the Espresso bar, with its Italian coffee machine, its spectacular décor, its contemporary furniture and its ability to fill a small gap in English social life—the gap between teashop and pub. In their respective contributions on the Coffee-bar problem, Miss Laski considers the sociology of Espresso, its future, its relationship to other English Dream-worlds for eating in, and its rating among other features of the middle-class day. Mr. Gardiner, however, directs his attention to individual bars and their decor—the use of Authentically English idioms, various exotic styles, and an occasional and genuine eccentric like Roy's Bar with its 'illusions' of Baroque Grandeur. On the whole, Mr. Gardiner finds in favour of the present condition of the coffee-bar, because it introduces a new design element into the monotony of the English scene, while Miss Laski finds against its future because she feels it must inevitably be absorbed into the English Teashop system.

175 **North Africa** *by G. E. Kidder Smith*
North Africa has played a larger part in the development of the modern Movement than is commonly allowed; it has frequently occupied the attention of Le Corbusier, and next year it should be the scene of a CIAM Congress. But it has also a greater general architectural interest than is commonly allowed, and succeeding waves of conquest and occupation have left superimposed layers of culture—Berber, Roman, Arab, French—each finding expression in characteristic building types, constructional methods and conceptions of urban planning. From Morocco across to Tunisia stretches an unexplored terrain full of architectural riches which have hardly been studied or published. Mr. Kidder Smith claims that his photographic tour of this unique region is no more than a skimming-off of the most striking monuments, but even so, it makes a powerful impression of an area of marked architectural characters, and highly interesting individual buildings.

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199 **Design Review**

201 **Techniques: Architect/Manufacturer Co-operation III** *by Noel Moffett*

204 **The Industry** 208 **Contractors, etc.**

Authors *James Stirling*, architect, senior assistant with Lyons, Israel and Ellis. Born 1924, war service in paratroops, then Liverpool School of Architecture, qualifying 1950. Shortest stay on record —5 weeks—in the LCC Planning Department, 1952. Wants the Garches to Jaoul article regarded as an architect's opinion, not a critic's unprejudiced observation. *Roger Hinks*, born 1903, amateur, but incessant, painter; much given to staring when not actually painting. Classical education designed to counteract romantic temperament. Lived for 5 years on the Keizersgracht in Amsterdam. Books include, Carolingian Art (1935); Greek and Roman Portrait Sculpture (1935); Myth and Allegory in Ancient Art (1939); Caravaggio (1953). *Marghanita Laski*, novelist, critic and journalist. Educated at Somerville College, Oxford. First novel, Love on the Supertax, 1944. Lives in the best Picturesque cottage in London—Capo di Monte, Hampstead.

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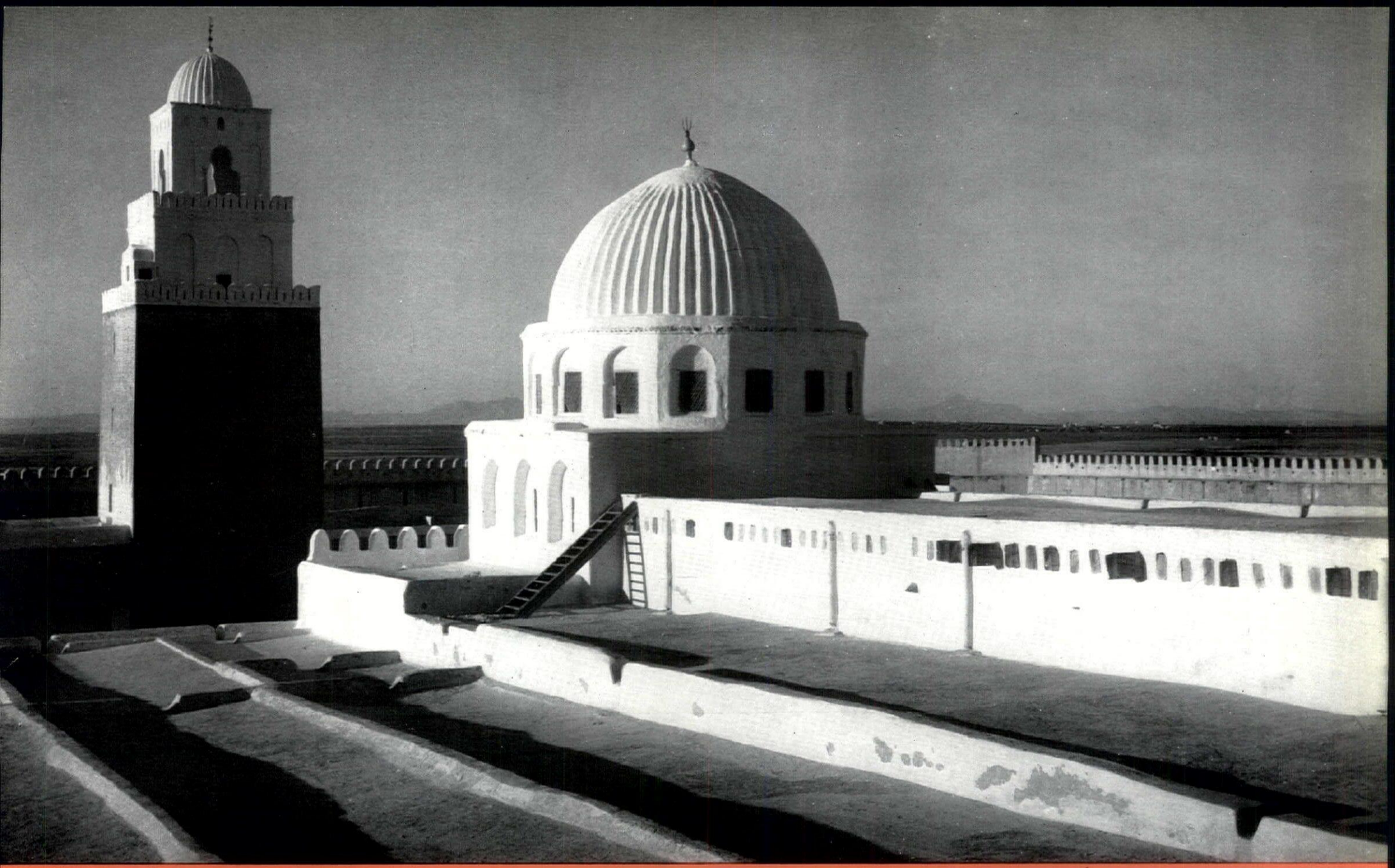
FIVE SHILLINGS



Holy place of one of Islam's holiest towns, Kairouan in Tunisia, the mosque of Sidi Okba is named after the great Muslim leader who founded the town, and the mosque, in the year 671. It stands today as one of the prime masterpieces of the architectural culture brought into North Africa by the Arabs, but its builders were neither the first nor the last of the invading peoples who brought tribute to the architectural treasure-chest of North Africa. From pre-Roman to post-Corbusier range the monuments of Tunis, Algeria and Morocco—an unexplored architectural terrain, almost unknown to the Western student, but surveyed by G. E. Kidder Smith in his *North African Scrapbook*, which begins on p.174.

James Stirling

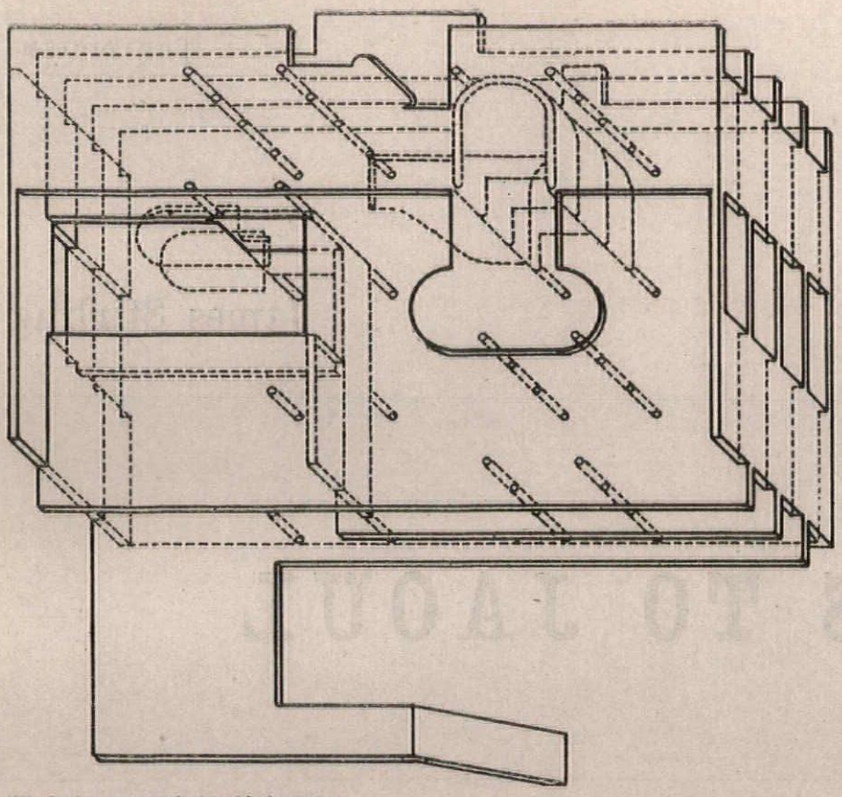
GARCHES TO JAOUL

LE CORBUSIER AS DOMESTIC ARCHITECT IN 1927 AND 1953

Villa Garches, recently reoccupied, and the two houses for Mr. Jaoul and his son, now nearing completion, are possibly the most significant buildings by Le Corbusier to be seen in Paris to-day, for they represent the extremes of his vocabulary: the former, rational, urbane, programmatic, the latter, personal and anti-mechanistic. If style is the crystallization of an attitude, then these buildings, so different even at the most superficial level of comparison, may, on examination, reveal something of a philosophical change of attitude on the part of their author.

Garches, built at the culmination of Cubism and canonizing the theories in "Towards a New Architecture", has since its inception been a standard by which Le Corbusier's genius is measured against that of the other great architects of this century. Inhabited, again by Americans, after 15 years' splendid isolation, it has been painted in a manner more "de Stijl" than the original: walls white inside and out, all structural members black and single planes of primary colour on areas of lesser consequence. It is never possible to see more than one coloured plane from any single viewpoint. On the principal façade, the underside of the entrance canopy is painted sky-blue as the underside of the slab over the terrace. Inside, one wall of the living area is painted yellow, etc.

As with the still deserted Poissy, the deterioration at Garches was only skin-deep; paint decay, broken glass and slight cracks in the rendering; there has been no deterioration to the structure nor any waterproofing failures. Though the landscape has thickened considerably to the rear of the house, trees have not yet grown close against the main façades; where this has happened, at La Roche, Cook and Pleinex, the balanced asymmetry of the elevations, as total compositions, has been grossly disfigured. The one instance among the Paris buildings where trees are sympathetic is the Pavillon Suisse where they have grown the full height of the south elevation, significantly one of the most repetitive façades that Le Corbusier has produced. In more



Villa Garches: axonometric view of basic structure.

extreme examples of additive elevations, as in many American buildings, the presence of trees, naturalistic incidents, might almost be considered essential. The disembowelled machine parts of the Armée du Salut outbuildings have a similar juxtaposition to the neutral backdrop of the slab.

If Garches appears urban, sophisticated and essentially in keeping with 'l'esprit parisien', then the Jaoul houses seem primitive in character, recalling the Provençal farmhouse community; they seem out of tune with their Parisian environment. Their pyramidal massing is reminiscent of traditional Indian architecture and they were in fact designed after Le Corbusier's first visits to that country. Frequently accused of being 'internationalist', Le Corbusier is actually the most regional of architects. The difference between the cities of Paris and Marseilles is precisely the difference between the Pavillon Suisse and the Unité, and at Chandigarh the centre buildings are indebted to the history and traditions of a native Indian culture; even a project for the Palace of the Soviets makes considerable reference to Russian constructivism. Therefore, it is perhaps disturbing to encounter the Jaoul houses within half a mile of the Champs Elysées.

Assuming that the observer has become familiar with the architecture of Le Corbusier through the medium of the glossy books, then the first impression registered on arriving at the Jaoul houses is unique for they are of the scale and size expected, possibly because of the expressed floor beams. Usually, the scale is either greater or smaller than anticipated, that of Garches being unexpectedly heroic.

Differing from the point structure and therefore free plan of Garches, the structure of Jaoul is of load-bearing, brick cross-walls, cellular in planning by implication. It would, however, be a mistake to think of these buildings as models for cross-wall architecture as this aspect is visually subordinated to the massive, concrete, Catalan vaults occurring at each floor level. These vaults are to be covered with soil and grass to resist thermal expansion and the timber shutter-boards have been set to leave a carefully contrived pattern. Internally one-inch solid steel tiles are positioned at approximately fifteen-foot centres to resist diagonal thrust into the brick walls. At the external centre point of these vaults, bird-nesting boxes are formed, and occasionally concrete rainwater heads are projected from the side-beams, though the pipes drop internally. Rising from the underground garage through to the top of each house are dog-leg stairs, cast in situ; they are a development from the Marseilles fire-escape stair, with the treads cantilevered either side of the vertical concrete slab. By English standards, the brickwork is poor, but then the wall is considered as a surface and not a pattern. Masonry, rubble, or, perhaps more

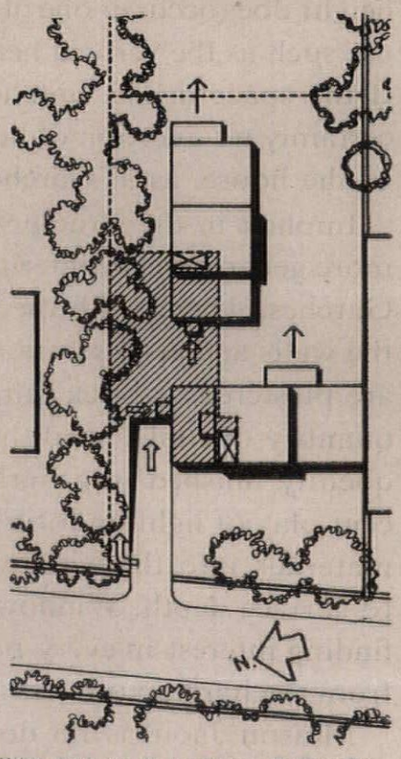
rationally in view of the vault construction, mass concrete walls could be substituted without difference to the principle of design.

Perhaps the only factor that Garches and Jaoul have in common is the considerable influence of the site on both. All Le Corbusier's buildings tend to fall into one of two categories: those in which the peculiarities of the site are a paramount factor in conception—most notably the Armée du Salut—and those where the site is of little consequence, being subordinated to a preconception or archetype, e.g. the Unité. To some extent this may account for the lack of inevitability, sometimes felt with buildings of this latter category, most particularly the Pavillon Suisse where, except as an archetype per se, there seems little justification for raising the building above ground, there being no circulation or view through. If the entrance hall, approachable from any direction, had been under and not to the rear of the slab, the raising of the block would not appear so arbitrary. None the less, the town-planning ideas which generated this form retain their urgent validity.

The exact relationship and planning of the two Jaoul houses have been motivated by the nature of the site. The circulation is on two levels and of two kinds. Cars drive straight off the road into the garage, a large underground cavern from which separate stairs rise through to each house. Walking circulation is above this garage on what appears to be natural ground level but which is actually a made-up terrace on which the houses stand. This level is linked to the road by a ramp. The differentiation of circulation on superimposed levels and the free movement around the houses are reminiscent in another medium of the suspended routes into the Armée du Salut.

At Maison Jaoul the only entire elevation that can be seen from a single viewpoint is to the rear and has to be observed over the garden wall of the adjoining private property. Owing to the narrowness of the plot, all other façades have to be viewed either episodically through the trees or close up at an oblique angle. The solid-void relationship of the exterior does not appear to follow any easily apparent scheme. This is a development from Le Corbusier's earlier work where at La Roche the drawing board elevation also cannot be seen at right angles and the studied balance of window to wall is destroyed. This is due not only to the trees which have grown since but especially to the necessity of viewing the elevation at a sharp angle.

The hierarchic presentation of external elements occurs also in the work of Frank Lloyd Wright, where the most important feature is the corner, and this may account for much of the undergrowth against the façades proper. It may be argued that the only exterior which can maintain interest, as the eye moves at an equal distance around the corner, is the cage or box. The most notable example of this is the Lake Shore Apartments where it would be inappropriate to suggest a 'principal façade'. Poissy almost comes into the category of the box but only on three sides; the fourth, receiving no undercut, becomes a vertical plane differing from the dynamic horizontality of the others. At Garches there is no point in moving around the corner for there is a very definite axis and the side elevations are of little consequence, their window



Maison Jaoul, rue de Longchamps, Neuilly-sur-Seine site plan.

openings positioned functionally make no attempt to arrive at a formal composition. The site boundary lines, defined by tall, closely planted trees, are about six feet from each of these side elevations, making it almost impossible to see them. The long façades, on the contrary, may be seen head on from a considerable distance by the approaching visitor and their balanced asymmetry is masterfully exploited.

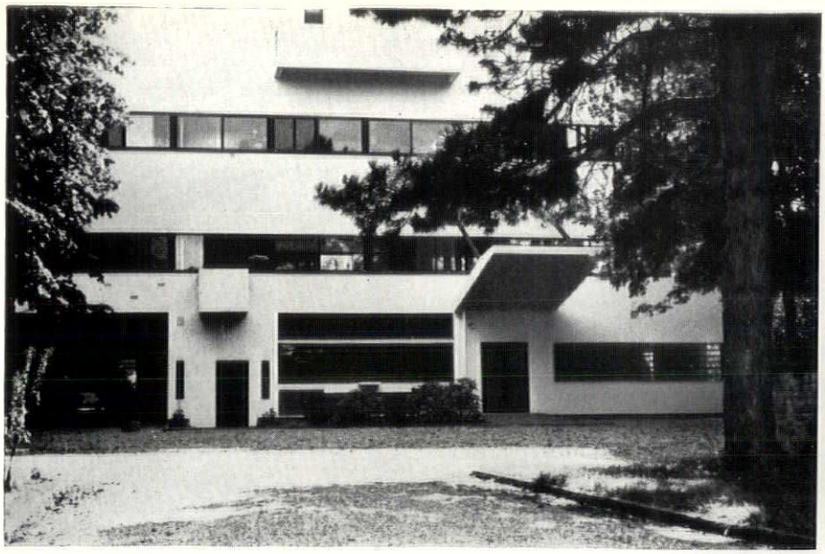
Internally, space departs radically from the structure; an explosion in terms of Cubist space is contained within the four peripheral walls which externally give little evidence of this phenomenon, contained except where it escapes and rushes out along the direction of the terrace, to be finally dissipated in the heavy landscape. However, space is not contrived for the sake of effect only, it invariably has a psychological as well as a functional context. For instance, on passing through the front door, the immediate double height and the presence of a stair indicate that the main floor is above. Similarly, the diagonal spatial stress across the first floor suggests the route through the house.

The main living areas are flooded with an even intensity of light, but, where accommodation and circulation are of lesser consequence, natural lighting becomes more restricted and as one moves through the house a continuous contrast in definition is attained. 'The elements of architecture are light and shade, walls and space.' The natural light which penetrates to the interior of the Jaoul houses is consistently subdued and not dissimilar to that found inside many Frank Lloyd Wright buildings.

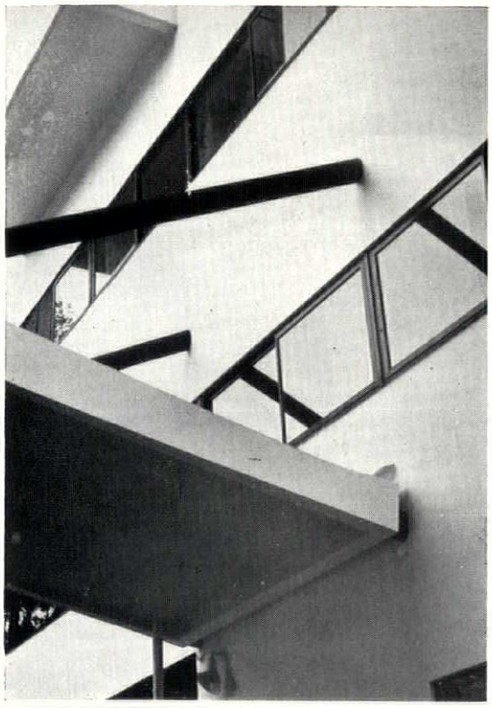
Eventually somebody will have to consider the numerous similarities between Le Corbusier and Wright, and their common differences from the work of Mies van der Rohe. For instance, the pattern of circulation, repetitive on all floors as in the Pavillon Suisse and many of Le Corbusier's larger buildings, becomes in some of his and Wright's domestic works a route so complex and involved, as at Pleinex, that it is with the greatest difficulty that the stranger finds his way out. To a lesser extent, this applies at Jaoul and again, similar to Wright, the spatial effects, though exciting, are unexpected, encountered suddenly on turning a corner or glimpsed on passing a slit in the wall. Where double height does occur in one of the living rooms it appears as a dead area, having no secondary use such as the vertical height of the Unité flats which lights and ventilates the bedroom. If the space inside Garches can be considered dynamic, then here it is static; there is certainly no question of being able to stand inside and comprehend at a glance the limits of the house, as at Garches.

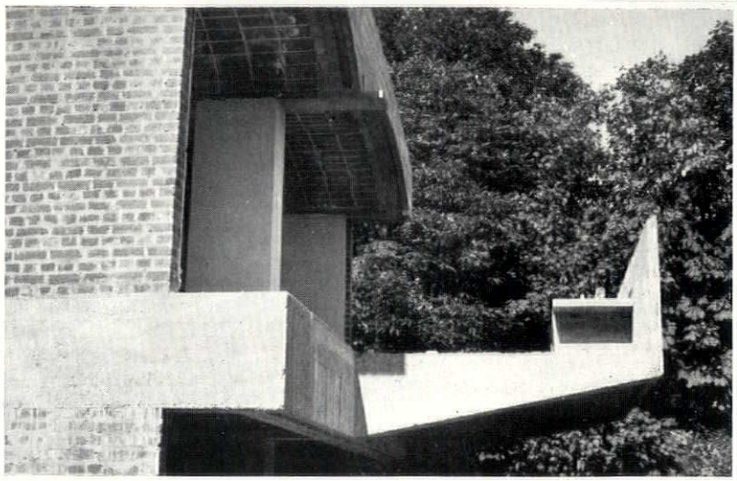
Implicit in the structural system, rooms tend to be small boxes with the living areas more generous. The internal finishes have a greater variety and richness of surface than at Garches, where, with the exception of the floor, the materials, though not the form, of the walls and ceilings are neutralized. Inside Jaoul, concrete is left shutter-marked, walls are plastered or brick fair-faced, floors are tiled and there is a considerable variety and quantity of timber and, most significantly, the ceiling or underside of the vaults is frequently finished in a dark clay tile which cannot be expected to amplify 'the magnificent play of light on form'. The 'fourth wall'—the incorporation of shelving and opaque materials into the window opening—is symptomatic of Le Corbusier's recent attitude to surface depth. Windows are no longer to be looked through but looked at. The eye finding interest in every part of the surface impasto, does not, as at Garches, seek relief from the hard textureless finish by examining the contours and form of the plane.

Maison Jaoul is no doubt dimensioned according to 'Le Modulor', a development from the application of the golden section by regulating lines as at Garches, where it is





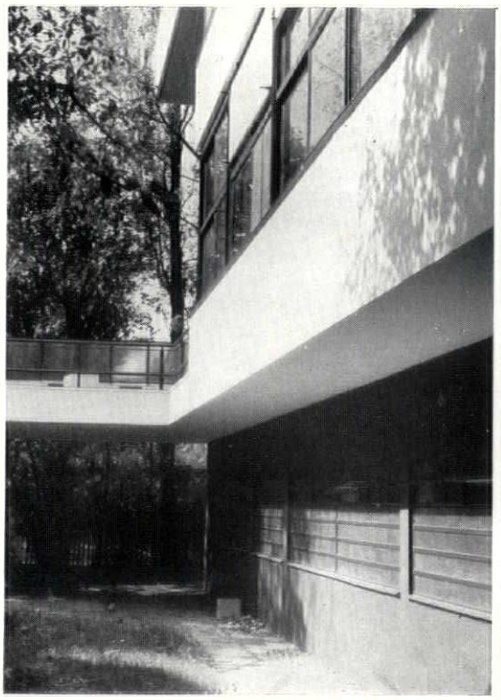


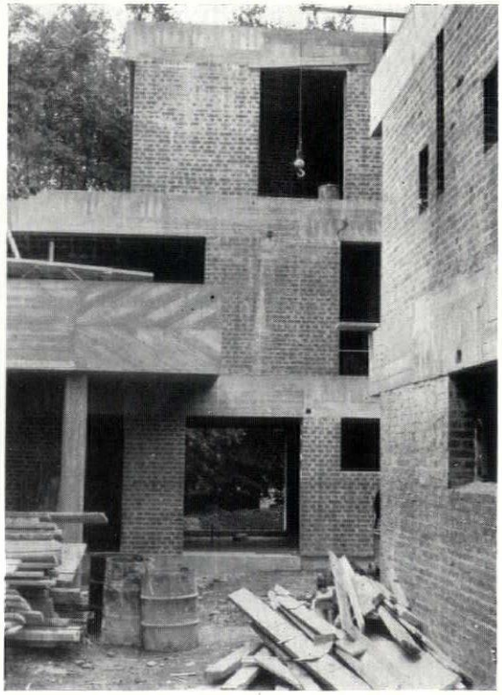


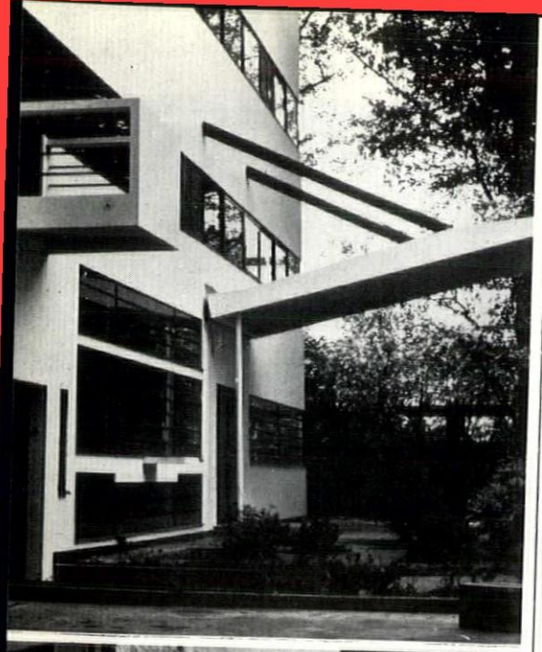
Garches: *Metal saucers to throw water clear and avoid staining are pressed into the rendering under the lower canopy supports. The entire building is detailed with similar foresight.*
Jaoul: *The projecting balcony is an extension of the structure, whereas at Garches the external elements have the appearance of being applied.*

Garches: *The triangulated balance of the projecting elements appearing in front of the wall, is similar to the rear where the complete elevation is divided into three asymmetrically-balanced features: the plinth, the recess and the wall.*
Jaoul: *The adjoining private garden is the only place from which a conventional examination of any façade can be made.*

Garches: *The plinth, on a line with the structural columns, is painted black as are all other principal structural members.*
Jaoul: *The relationships of the façade elements follow no visually apparent geometry.*



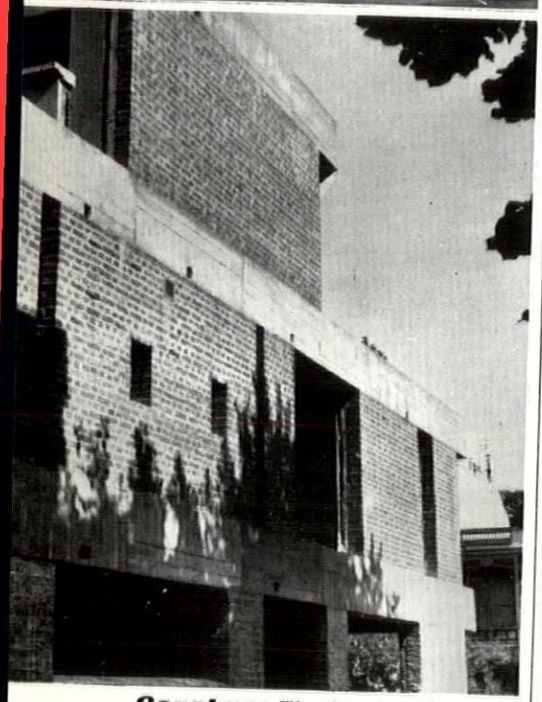




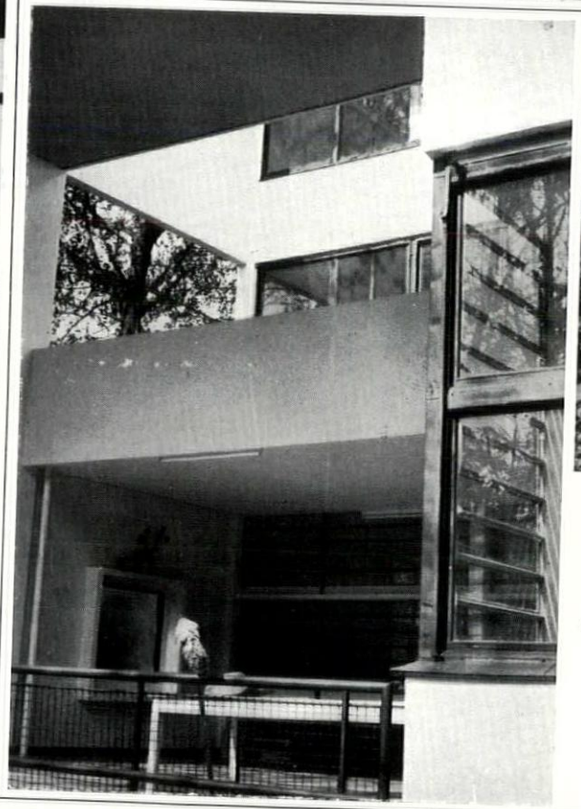
Garches: *In 'white architecture', the shadows cast by trees are positive, similar to the reflections exploited in recent American glass architecture. Buildings exposed to strong sun are fortunate in having a third skin—a sun breaker—either in the form of louvres, brise-soleil, or in this case adjustable blinds. In this country we can only exploit two elements—the window and the wall.*
Jaoul: *View from the road showing garage entrance and platform over. Note the concrete rainwater heads.*

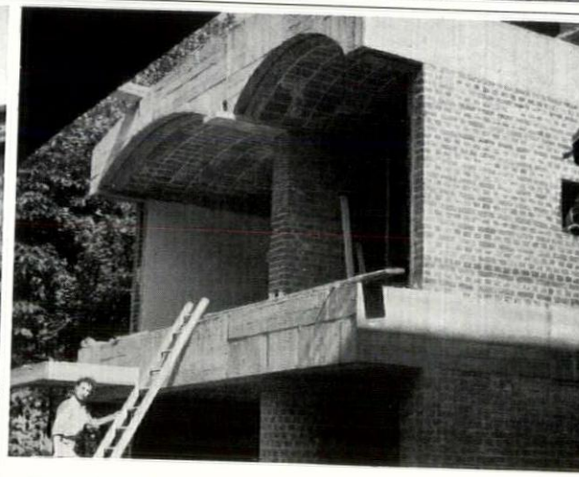






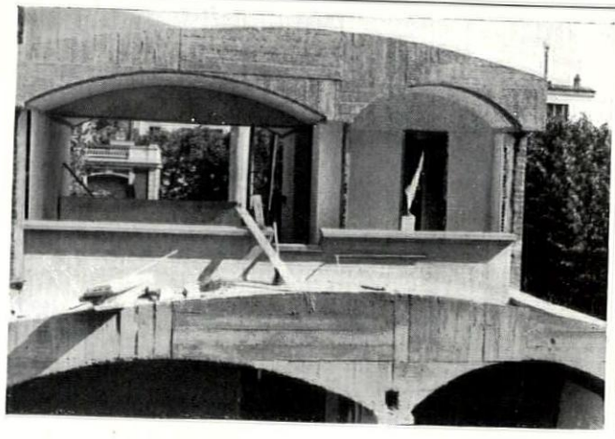
Garches: *The changing relationship of the projecting elements increasingly gains the attention as the observer draws nearer to the façade and the importance of the abstract window-to-wall pattern becomes less comprehensible.*
Jaoul: *Whilst the long elevations rise vertically, the short ends step back in a type of pyramid form. Windows are either 'holes in the wall' or 'fourth wall' units in the larger floor-to-beam openings.*

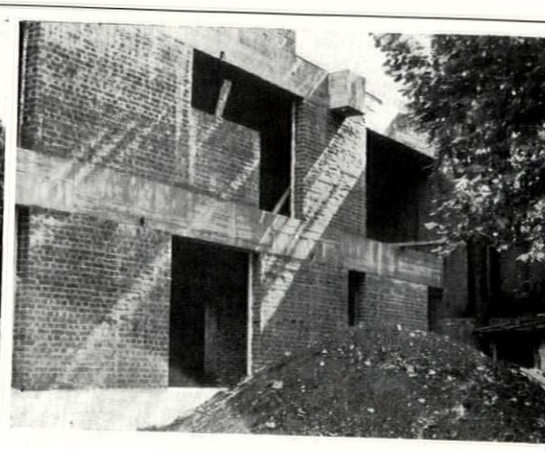




Garches: *'The key to aesthetic emotion is a function of space.'*
Jaoul: *View of the first floor, showing the nine-inch brick cross walls from which the vaults spring.*

Jaoul: *Left, the concrete Catalan vaults are to be covered with soil and grass to resist thermal expansion. In the foreground can be seen one of the bird-nesting holes. Right, by English standards the brickwork is poor, but then it is considered as a surface and not as a pattern.*





possible to read off the inter-relations of squares and sections as the eye traverses the façade and where, internally, every element is positioned according to an exact geometrical hierarchy. In fact, Garches must be considered the masterpiece of Neo-Palladianism in modern architecture, conceived in plan, section, elevation from two proportions which, owing to their particular inter-relationship, achieve an organic or harmonic whole as distinct from an additive total. The variety of dimensions available from 'Le Modulor' are considerable and as Bodiansky* has said 'there is always a figure near at hand to adjust to'. This considerable flexibility may create a visually non-apparent geometry, as at Jaoul, but here the restrictions of the site already mentioned must be remembered when considering whether this is a valid criticism.

Garches is an excellent example of Le Corbusier's particular interpretation of the machine aesthetic. The body of the house, built by quite conventional methods for its time, has skin-walls of concrete block rendered to a monolithic, poured or sprayed effect; an aesthetic for a structural system not yet in being. Yet while Garches is not the product of any high-powered mechanization, the whole spirit of the building expresses the essence of machine power. To be on the first floor is to witness the Mumfordian end product of twentieth-century technology, 'the silent, staffless power-house'. The incorporation of rail-road and steamship fabrication is decidedly technocrat and the integration of architecture to specialist requirements extremely considered as the boiler-house disposed like an industrial engine-room or the timber-strip flooring obviously laid by ship's carpenters. The type of detailing in synthetic materials here and at the Armée du Salut is almost the last of the steam-age period; crude maybe, it is nevertheless powerful. After this date, the number of synthetic materials per building increases, and, as at the Pavillon Suisse, the detailing becomes more refined but somehow less memorable. There is no reference to any aspect of the machine at Jaoul either in construction or aesthetic. These houses, total cost £30,000, are being built by Algerian labourers equipped with ladders, hammers and nails, and with the exception of glass no synthetic materials are being used; technologically, they make no advance on medieval building. The timber window-wall units may be prefabricated but as with technology one suspects that prefabrication must begin with the structure.

To imply that these houses will be anything less than magnificent art would be incorrect. Their sheer plastic virtuosity is beyond emulation. Nevertheless, on analysis, it is disturbing to find little reference to the rational principles which are the basis of the modern movement, and it is difficult to avoid assessing these buildings except in terms of 'art for art's sake'. More so than any other architect of this century, Le Corbusier's buildings present a continuous architectural development which, however, has not recently been supplemented by programmatic theory.

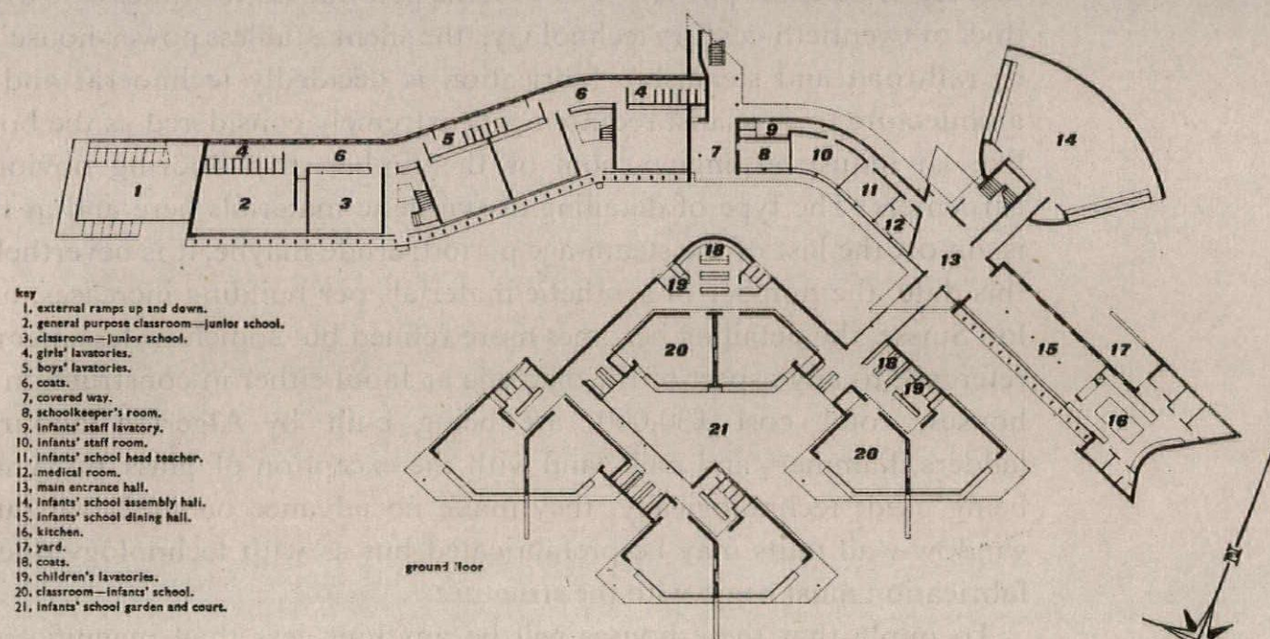
As homes the Jaoul houses are almost cosy and could be inhabited by any civilized family, urban or rural. They are built by and intended for the status quo. Conversely, it is difficult to imagine Garches being lived in spontaneously except by such as the Sitwells, with never less than half a dozen brilliant, and permanent, guests. Utopian, it anticipates, and participates in, the progress of twentieth-century emancipation. A monument, not to an age which is dead, but to a way of life which has not generally arrived, and a continuous reminder of the quality to which all architects must aspire if modern architecture is to retain its vitality.

* The structural engineer for the Marseilles Unité.

The idea of the nursery or junior school as the natural focus of the internal life of a residential neighbourhood has gained wide acceptance since the war—but only as an idea, for even when it is a topographical fact it rarely registers as a visible and architectural fact. The new School in the Hallfield Estate, Paddington, is probably the first which has been designed to appear physically as the natural centre of the area. Its assembly hall thrusts forward into the shopping forum, equidistant between two ten-storey blocks, and its main axes answer to those which govern the planning of the neighbourhood. Thus placed, its design requirements are far too stringent to allow of the minimal diagrammatic planning which has become common practice since the war, for many of Hallfield's inhabitants will be able to regard its plan from the altitude of their high-rise dwellings, and it must present them with a comprehensible visual image, not a loose agglomeration of buildings. But this its general plan does enable it to do, for the architects, in aiming to create a building which should be sympathetic both to teachers and to taught, have evolved the formal solution of a pattern of low infants' classrooms and adjacent courtyards sheltering under the curve of the junior block, as comprehensible from above, opposite, as it is stimulating from within.

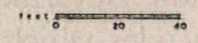
SCHOOL AT PADDINGTON

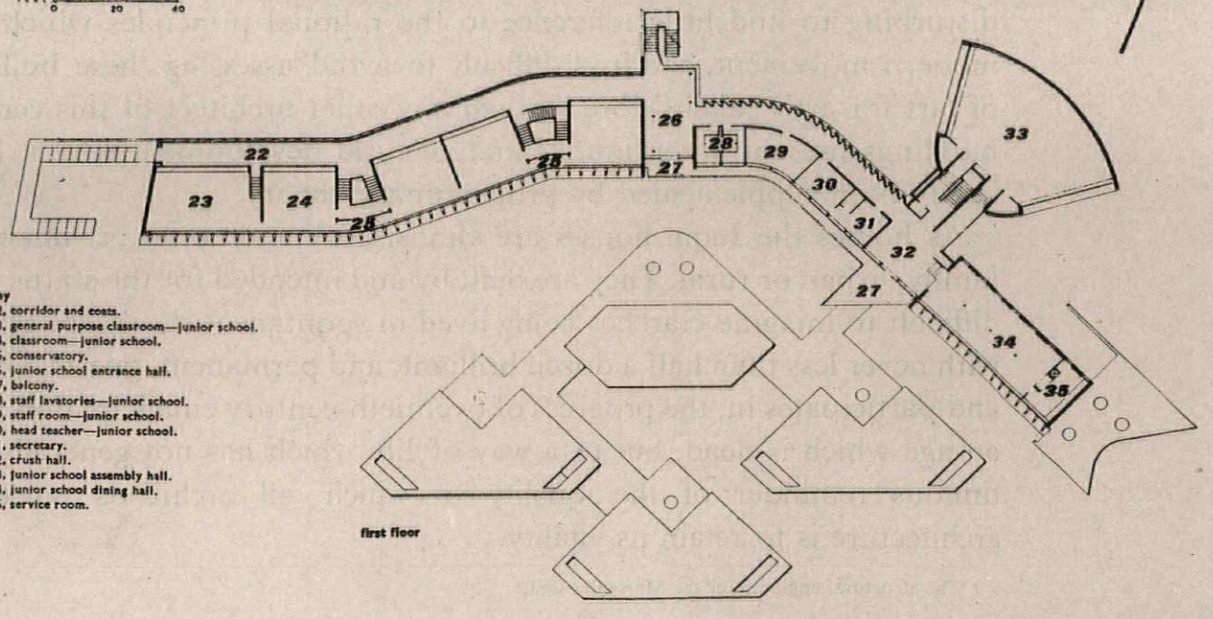
ARCHITECTS	***DRAKE AND LASDUN***
Assistant Architect	***John Shaw***



key
1, external ramps up and down.
2, general purpose classroom—junior school.
3, classroom—junior school.
4, girls' lavatories.
5, boys' lavatories.
6, coats.
7, covered way.
8, schoolkeeper's room.
9, infants' staff lavatory.
10, infants' staff room.
11, infants' school head teacher.
12, medical room.
13, main entrance hall.
14, infants' school assembly hall.
15, infants' school dining hall.
16, kitchen.
17, yard.
18, coats.
19, children's lavatories.
20, classroom—infants' school.
21, infants' school garden and court.

ground floor





key
22, corridor and coats.
23, general purpose classroom—junior school.
24, classroom—junior school.
25, conservatory.
26, junior school entrance hall.
27, balcony.
28, staff lavatories—junior school.
29, staff room—junior school.
30, head teacher—junior school.
31, secretary.
32, crush hall.
33, junior school assembly hall.
34, junior school dining hall.
35, service room.

first floor



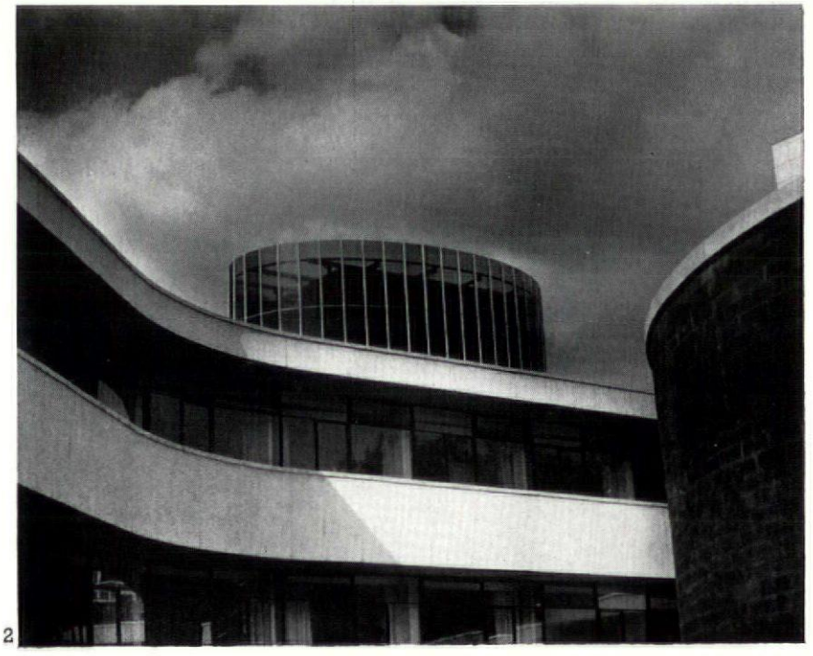
1

SCHOOL AT PADDINGTON

The site of the Hallfield Primary School, which is $2\frac{3}{4}$ acres in extent, was occupied by large Victorian houses and their gardens, containing many fine trees which, where possible, have been preserved. The level of the site is on an average 6 ft. below that of the surrounding roads.

The School is an extension of the Hallfield housing scheme to the north (AR, November, 1954) and its main entrance is from this side. The general prospect of all rooms is southward. The junior school is planned on two floors, but with its administration centre along a corridor on the first floor, with direct access to the juniors' assembly and dining halls; the infants' administration centre and halls are immediately below the juniors', on the ground floor, with access to the independently planned single-storey infants' block to the south. Sixty-five per cent of the children can be fed in two dining-hall sittings; with extra accommodation in the crush halls on the first floor. The assembly, crush and entrance halls are used out of school hours for adult social activities.

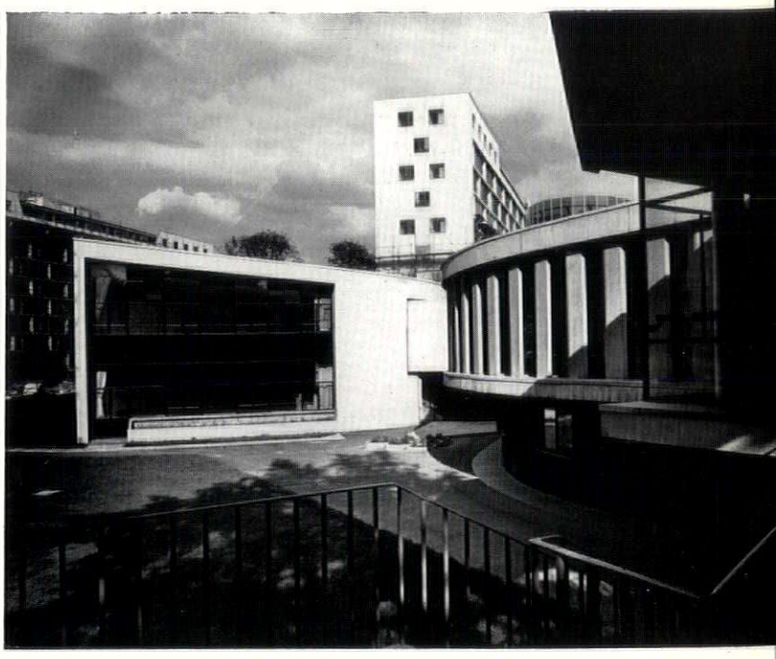
The structural system, resulting from close collaboration between architect and engineer, is an exploitation



2

1, south view of two-storeyed block mainly devoted to juniors' classrooms. The structural mullions are in stone-faced precast concrete. 2, view of water tanks enclosed in blue glass situated above the administrative section. 3, west side of projecting block which contains juniors' and infants, assembly halls, on the upper and lower floors respectively. 4, juniors' classroom block, with Inverness Terrace beyond, seen from balcony which projects over corridor linking infants' block with entrance hall and main building.

of all the possible load-bearing elements, and is best illustrated in the junior classroom block. The dividing partitions between the classrooms are built in 9-in. brickwork, to ensure the greatest noise reduction, and these form load-bearing cross walls at 24-ft. centres. Because this is more than the economic limit for single-span slabs, it was therefore necessary to support the floor on all four sides, thus allowing the slabs to span in two directions. The third support is given by deep reinforced concrete beams which form the division wall between the classrooms and the corridors. By adjustment of the profile of these beams the needed storage space is provided to both areas. The fourth side of the slab is supported by the mullions, which master the continuous external glazing. The mullions, which occur at 4-ft. centres, are free-standing and separated from the superstructure except for the load transfer connections at the first floor



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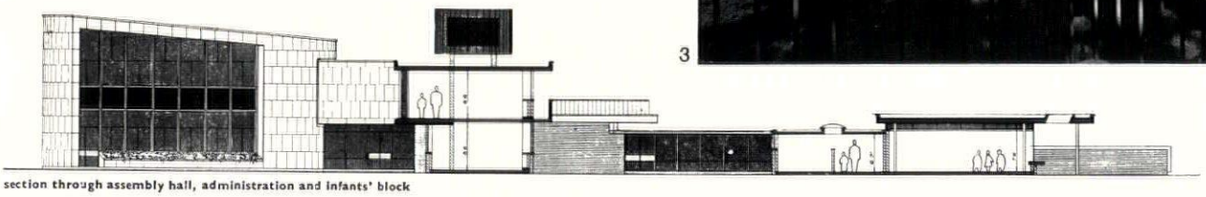
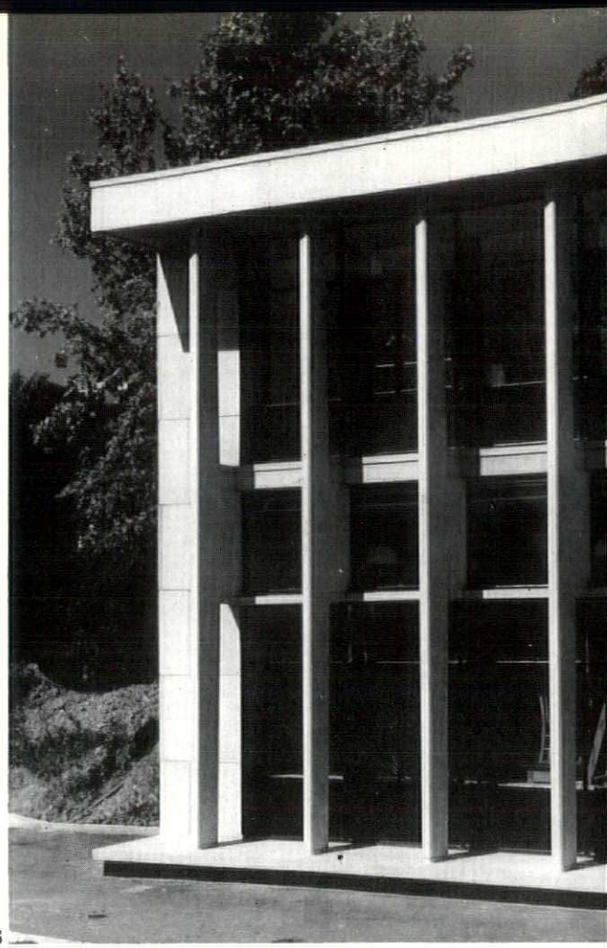


section through assembly hall, administration and infants' block

4



5, detail of juniors' block frontage, showing the continuous external glazing. The mullions are at 4-ft. centres. 6, cut-out of the precast concrete structural mullions and transomes. 7, view from hexagonal window in infants' block looking across to juniors' block. 8, view from N.E. side of school with kitchen in foreground, assembly halls on the right and juniors' block left ; infants' buildings are in the centre. 9, view looking into the infants' garden and court, in a space made by the four pentagonal classroom units.



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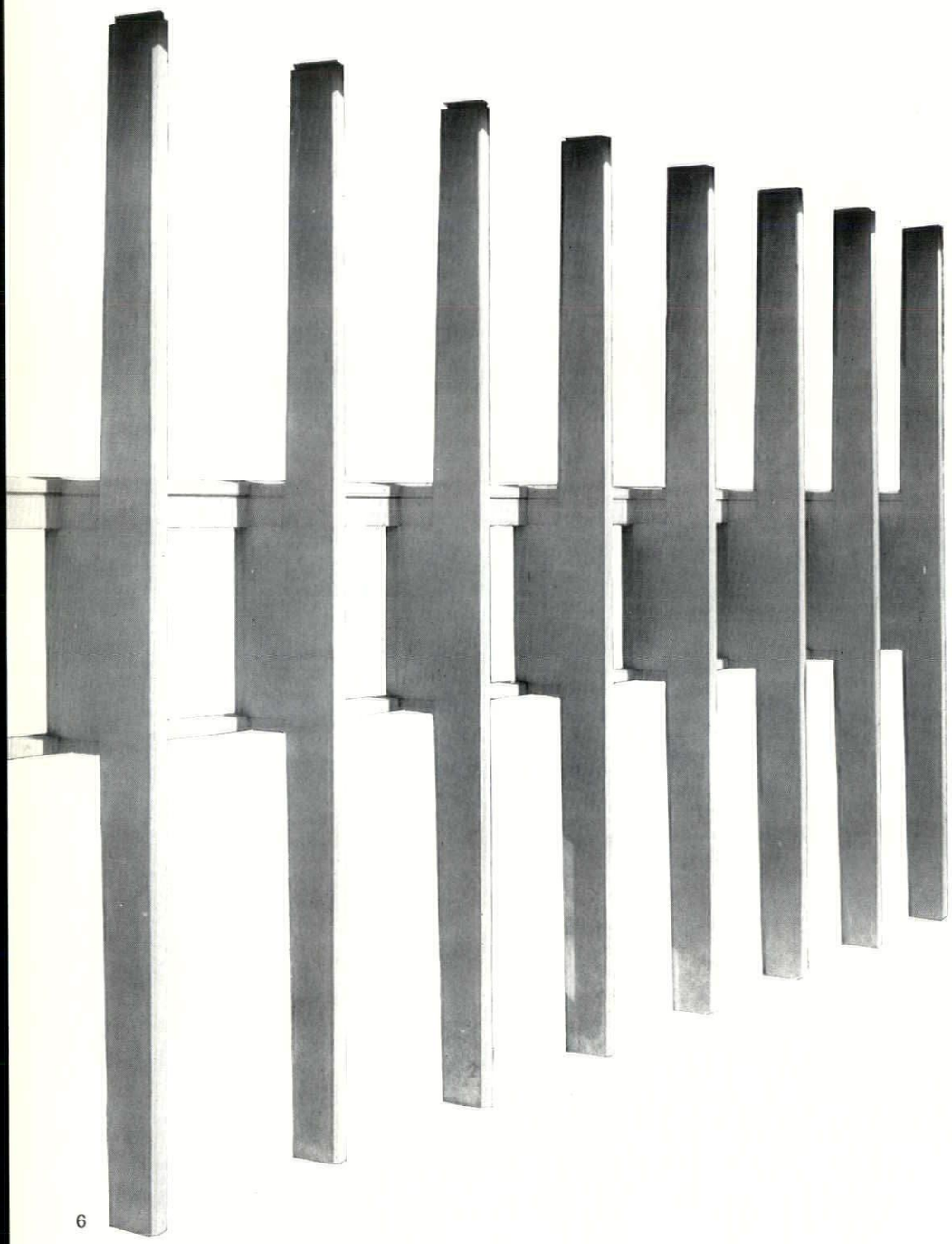

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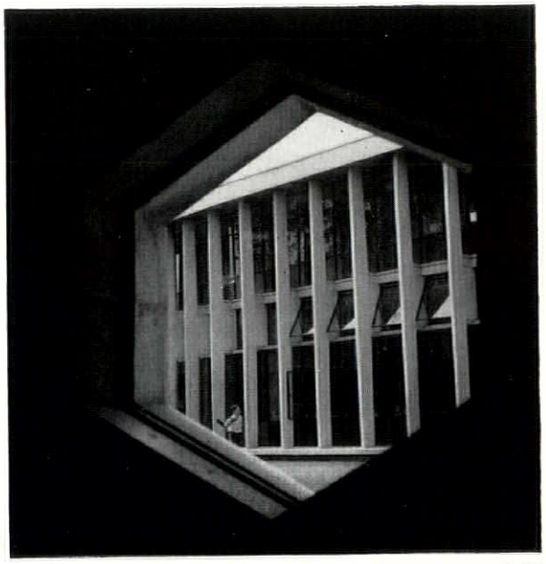

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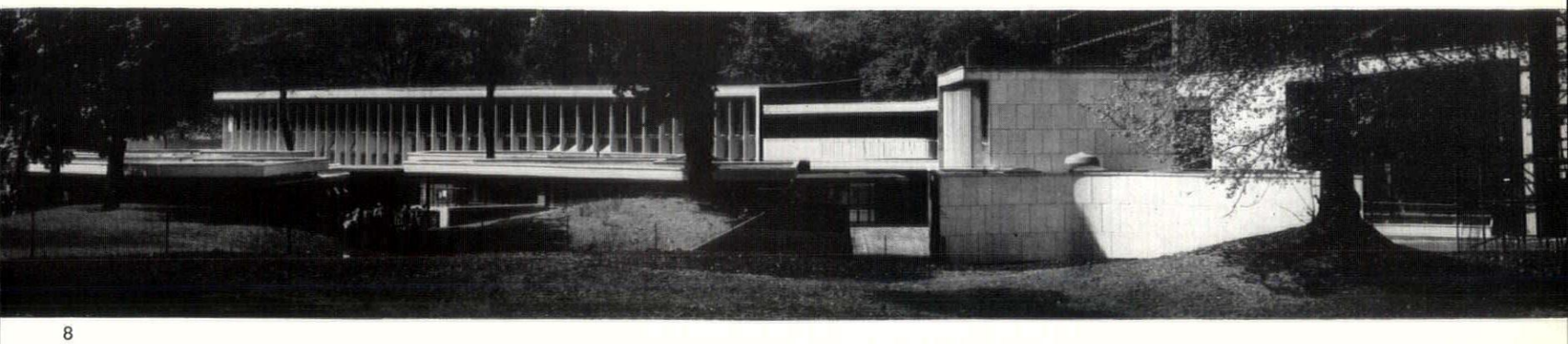


8

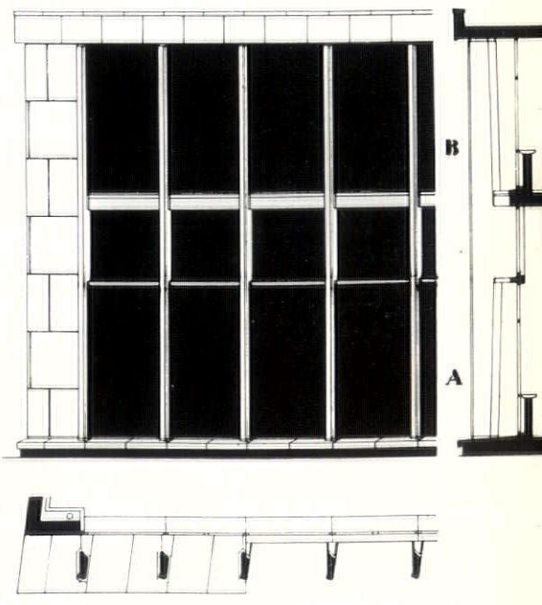
and roof levels. The mullion reinforcement to deal with the direct forces and moments due to the eccentricity of the first floor connection was sufficient for the stresses arising during the handling and erection of the units, although as an additional safeguard cradles were provided during the transport of the units from the factory.

The mullions and louvres are the main features of the elevations of the two-storey buildings. Cavity panels of black brick are used between the mullions on the north side of the buildings. All the structural members are precast concrete faced in Portland stone, or *in situ* reinforced concrete with natural and spatterdash coloured finish. Stone-faced cladding slabs are used as shuttering for *in situ* concrete external walls. The screen to the water tanks on the roof consists of translucent blue glass panels. The lower floor of the administration block and the whole of the infants' section are of black brick load-bearing cavity walls, with liberal use internally of buff sand lime facing bricks. All windows are special sizes of domestic sash and painted black externally. The exterior of the gable walls between the administration block and the junior school and dining halls is painted with maroon-coloured special enamel. Roofs are of reinforced concrete, insulated with foam slag aggregate screeds and asphalted. Hollow pots are used in flush panels between concrete beams in the assembly hall roof and first floor, and in the infants' school classrooms. The lower-level roofs over the infants' school corridors are covered with red marble chips.

Internally, the load-bearing cross walls to the junior school staircases are of pink sandlime bricks. Black bricks are used for the internal panels of the junior school corridors, and white glazed bricks in the children's lavatories. All other walls are plastered and decorated with emulsion paint. Bright colours are restricted to focal points where the eye comes to rest. Doors are faced with Italian poplar and clear varnished. Floors generally are covered in thermoplastic tiles; those in the lavatories and the infants' corridors are in red quarry tiles. There is yellow jointless flooring to the main entrance hall and

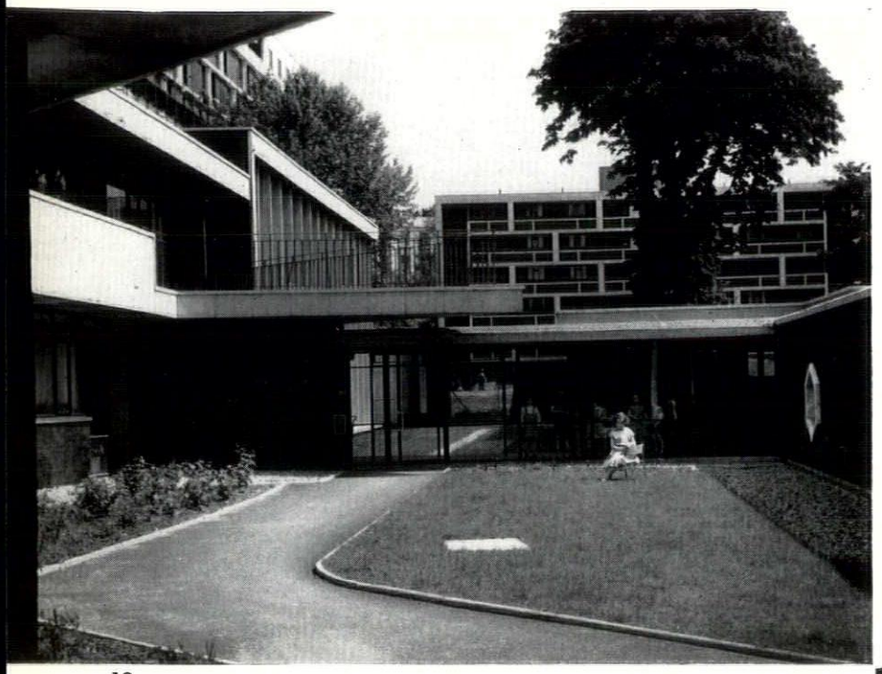


9



PLAN AT A B

south side and part-section of junior school



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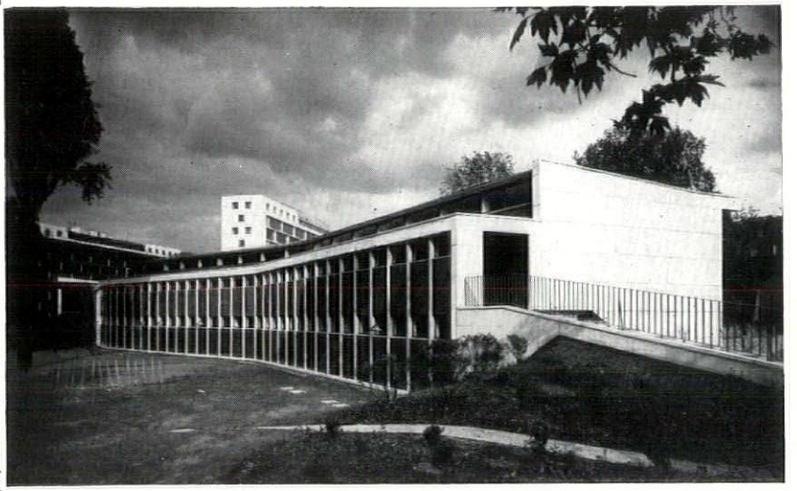
10, corridor between infants' school and administration building with cantilevered balcony over. 11, view of juniors' block from west side, showing the ramp giving access to an internal corridor. Cavity panels of black brick are seen between the mullions.



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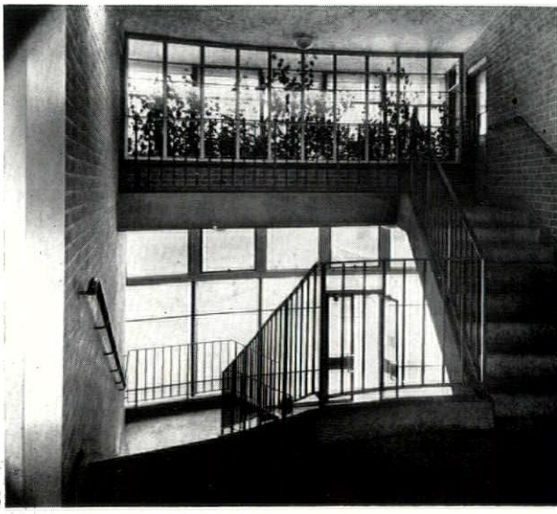
12

12, entrance hall with wall painting by Stefan Knapp, and door beside it leading into passage with administration rooms off. 13, Conservatory on the first-floor landing, joining junior classrooms.



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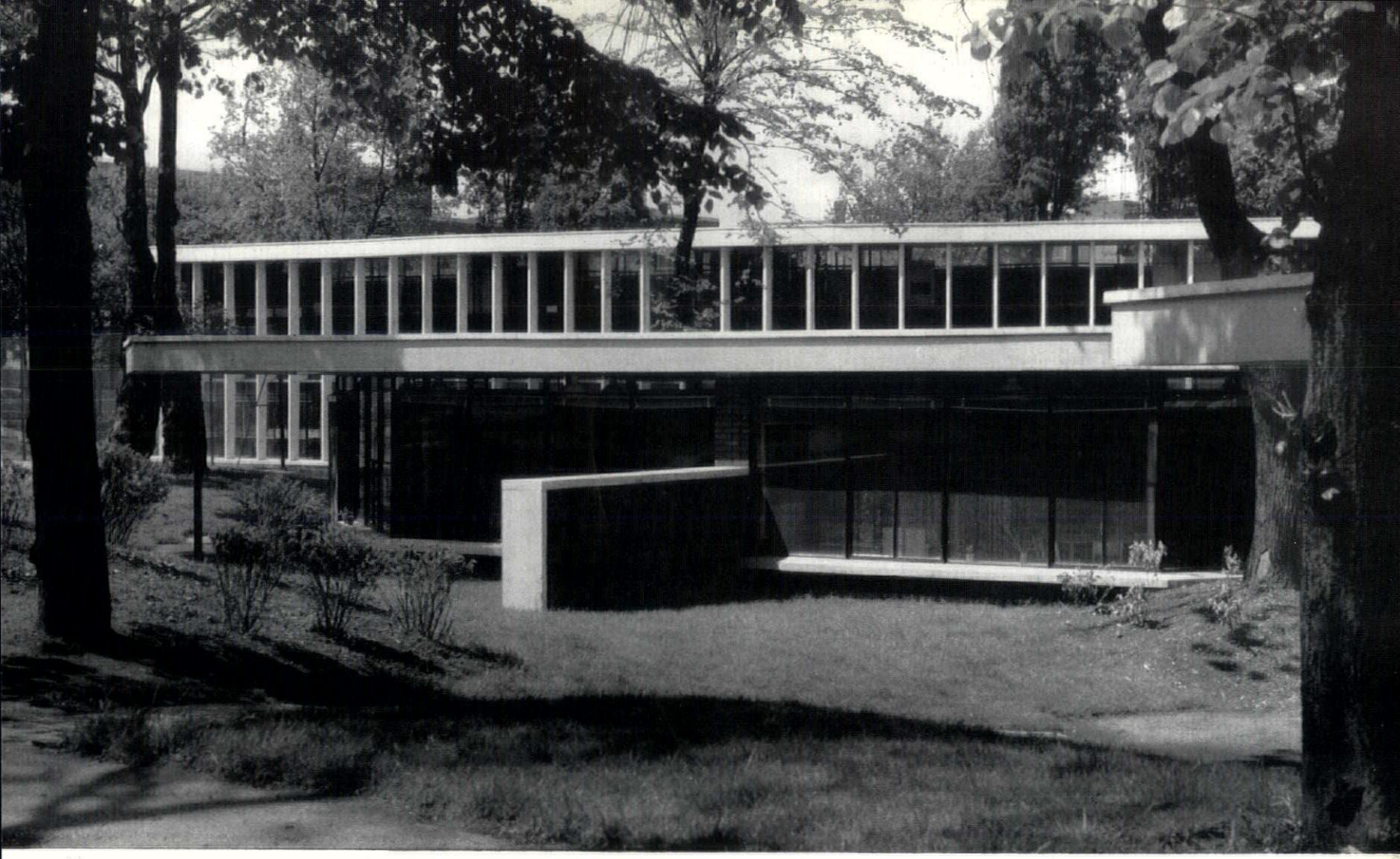

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14, infants' classrooms, seen against juniors' block ; roofs of both are of reinforced concrete. 15, corridor along the north side of the juniors' block, on the first floor, with a continuous row of shoe-lockers placed so as to provide a bench seat. 16, view from the crush hall, on the first floor, looking towards the juniors' dining room.

red in the kitchen. Chipwood floor tiles are used in the assembly halls.

Heating and hot water are provided from the steam mains on the Hallfield housing site by steam-water heat exchange equipment in the school basement. The mural painting in the main entrance hall is by Stefan Knapp. It is on one piece of canvas stuck to the plastered wall surface, and much of the painting was done after the canvas was in position. The interior panels between the mullions in the dining halls are available for mural paintings by the children. The floor area is 42-70 sq. ft. per child and the nett cost of the buildings and playgrounds is within £140 per child. The assistant architects working with John Shaw as architects-in-charge were Kris Kossak and Bernard Kreeger. The consulting engineers were Ove Arup and Partners.



15



16



17



18

17, passage on the first floor between the juniors' entrance hall and the crush hall, looking in the direction of the latter. 18, the same looking in the opposite direction ; the rooms off the passage are offices for the junior school.

Roger Hinks

PEEPSHOW AND ROVING EYE

An artist, looking at a scene he proposes to paint, is theoretically free to imagine himself as either outside, or inside, the space to be represented. That is to say: he may regard his subject as excluding, or as including, the spot on which he stands, the point from which his eye observes. Thus: either his viewpoint is fixed, and his subject is espied as through a peephole; or his viewpoint is movable, and his subject is explored, as by a roving eye.

In all acts of human observation time is accommodated to space, or space to time. When the viewpoint is fixed, time yields to space; when the viewpoint is movable, space yields to time.

In theory, then, the painter is free to choose either viewpoint. In practice, painting is a static art; and its normal function of converting temporal into spatial experience must predispose the artist in favour of the peepshow, must inhibit his eye from roving.

Here, in Europe, visual experience progressed from the spatial-temporal anarchy of primitive representation to the ideal conquest of space by the real sacrifice of time. In the scheme of perspective invented, probably by Brunellesco, in the fifteenth century, space is logical, and constructable; but it is not true to experience, because it takes no cognizance of the roving eye of reality. Contrariwise, the space of experience is not geometrically consistent, and still less geometrically representable. Here is a dilemma, which can only be evaded by subterfuges.

Brunellescan perspective presupposes one eye, not two; in a rigid head, not a movable one; set on a rigid body, not a movable one. The eye gazes fixedly at a vanishing-point; and the lines which flow towards that point are called orthogonals. The space thus conceived is projected on to a plane, arbitrarily interposed between the space itself and the conceiving mind. (This plane may be thought of as the focusing-screen of a camera.) On that plane all the edges of planes parallel to it are themselves parallel, whether vertical or horizontal.

In the perspective of experience we must allow for two eyes, and a movable head, on a movable body. The eye roves—rather, the eyes rove—from one vanishing point to another in an endless sequence; planes become curved surfaces; and straight lines become parabolas.

Brunellescan space is imaginable in the wide piazzas of an Italian city; it is not imaginable in the narrow market places of a Northern city. Italian painting tacitly accepted its limitations; Northern painting impatiently rejected them. The progressive discarding of this strait-jacket is the theme for these variations.



1, Piero della Francesca, Architectural Composition.

1 *A perfect equipoise of masses and forces about a geometrical centre—such is the artist's ambition, in this hymn to the Brunellescan ideal of perspectival unity. But observe that the buildings themselves are not symmetrical, do not repeat each other mirror-wise to right and left. The Renaissance deliberately avoided such exact correspondences: Pius II's little square at Pienza is the classic example of what the Baroque would have called a 'missed opportunity'; Michelangelo's Campidoglio and Bernini's colonnades at St. Peter's represent the extreme limit of architectural symmetry acceptable to the individualistic Italian spirit, and note that the Place des Vosges in Paris, the town of Richelieu, the Plaza Mayor in Madrid, the Piazza in Covent Garden are the products of non-Italian minds.*



2, Gerard David, the Adoration of the Kings (detail).

2 *Long after vanishing-point perspective was known in the North (e.g. to Dirk Bouts, in his 'Last Supper' at Louvain, c. 1460), empirical non-systematic representations of space persisted in late Gothic painting. Here the lines revealing surfaces parallel to the picture-plane are strictly horizontal and, therefore, the scheme is not purely a translation of casual observation. On the other hand, the orthogonals do not seek a common vanishing-point; and the whole conception of space is 'plausible' rather than 'exact'. Gerard David expects the bodily eye of his spectator to rove; to dwell first on the ruined castle and then to wander to the three men and a dog in the village street; and thence again to the perched haphazard roofs and the picturesque towers on remoter eminences. The mind is not intended to organize all this into a visual cosmos; nor does it—like a bee, it flits from flower to flower, sipping, tasting, remembering, anticipating.*

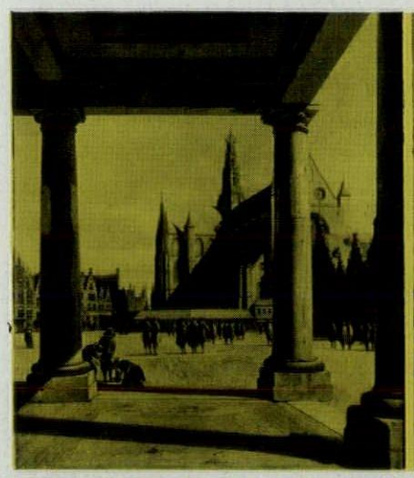




3, Hendrick Aerts, Architectural Fantasy. 4, Pieter Saenredam, The Old Raadhuis at Amsterdam.

3 *The devotee of Brunellescan perspective, like Piero, accepts with a good grace the marginal distortions introduced by the horizontal edges of all surfaces parallel to the picture-plane; but he mitigates them by keeping his vanishing-point as near the centre of the picture as possible. The mannerist, on the other hand, positively enjoys these distortions; and by introducing a vista near one side of the picture, deliberately makes them as glaring as possible. In an artificial capriccio, like that of Hendrick Aerts, the buildings are so fantastic that the sense of probability is not affronted.*

4 *At a first glance, Saenredam appears to perpetuate the late Gothic tradition of a Gerard David. Here there is no unifying sense of space, no foreground, and no distance; there is one little escape down a narrow alley to the left, and to the right there is no cramping repoussoir—only an empty corner. Saenredam's composition leaks away, as it were, at the edges; and his buildings have a cardboard, almost a flimsy quality. This is because he is a victim of two tyrants, whose claims are incompatible; one tyrant is Brunellescan perspective, with its imperative frontality, its insistence on the absolute horizontality of the edges of all planes parallel with the picture-plane; and the other tyrant is the mannerist vista in the extreme corner, and the consequent eccentricity of the vanishing-point. The distortions which Aerts managed to mask by chiaroscuro are exhibited by Saenredam in all their nakedness, and seen at their most acute in the tower, which is twisted all out of shape by the pull-devil pull-baker struggle between the two tyrants.*

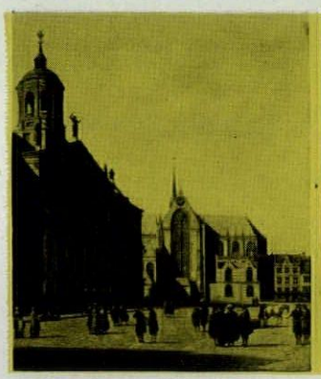




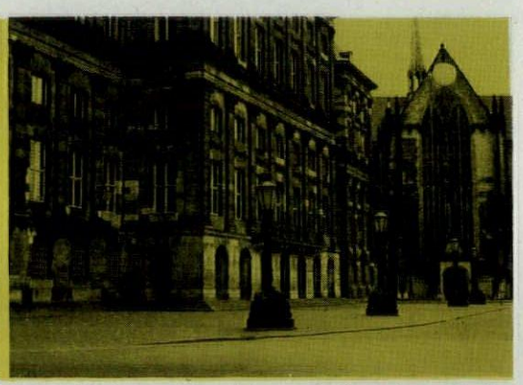
5 and 6, Gerrit Berckheyde, Groote Markt, Haarlem, Fitzwilliam and National Gallery versions.

5 *The problem of composing a relatively small space dominated by a disproportionately large building is to decide whether to mitigate or to emphasize this discrepancy. Berckheyde, one of the most resourceful of seventeenth century topographical painters, tried both experiments. The Fitzwilliam version mitigates it. By taking up his position under the colonnade of the Town Hall he provides an emphatic foreground, and so flings back the great bulk of St. Bavo into a discreet middle distance. By arbitrarily diminishing the size of the three nearest figures, just outside the colonnade, he gives monumental proportions to what is in fact an extremely modest porch; all the rest of his figures are some way off, neutral and stationary, or turning towards the church, so that they, too, play their part in keeping the great building in its place.*

6 *In this version Berckheyde adopts the opposite tactics, and makes St. Bavo completely dominate the square, as it does in real life. The little colonnade of the Town Hall is now pushed into the corner—though by being in the immediate foreground, and in shadow, it can hold its own with the large central mass of St. Bavo. The church, in its turn, is prevented from being too overwhelming by the jagged façade of the Vleeshal, which cuts sharply across the bright sunlit west front. Meanwhile, observe the movement of the bystanders: they are willing agents in the orchestration of space, moving, pausing and pointing exactly where the exigencies of the composition require.*





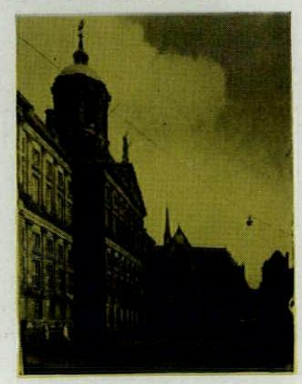


7, Berckheyde, The Dam, Amsterdam. 8, Jan van der Heyden, The Dam. 9 and 10, 'normal' and 'corrected' photographs by Jan Terwen.

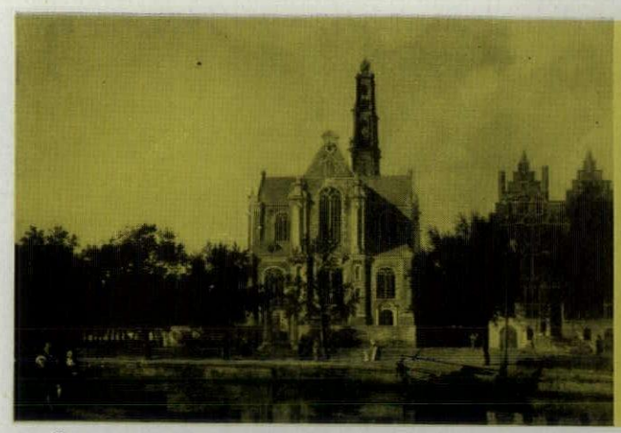
7 *The Dam presents the townscapist with the same problem as the Groote Markt at Haarlem, in that it is dominated by a massive building — the Stadhuis—set at an awkward angle to an adjacent building of almost equal importance, though of less commanding size — the Nieuwe Kerk. Berckheyde balances them by casting the façade of the Stadhuis into shadow and illuminating the flank of the Nieuwe Kerk.*

8 *Taking very nearly the same standpoint as Berckheyde, but using a slightly different section of the visual field, Jan van der Heyden manages to produce a very different effect with virtually identical materials. He chooses a diffused morning light that throws the church and the adjacent buildings into the distance and considerably increases the apparent size of the square; and the whole conception is more monumental and heroic.*

9 *Both Berckheyde and van der Heyden give plausible accounts of the scene, which those who do not know The Dam accept in both instances at their face value. Both suggest that it is possible to stand back and take a comprehensive view of the Stadhuis without much craning of the neck. Mr. Terwen's 'normal' photograph proves that this is an illusion; the spectator sees before him only the lower storey of the building, and at most the south transept of the Nieuwe Kerk. Moreover, he can retreat only into the Kalverstraat, from which any view of the Dam is at once constricted.*



10 *In order to reproduce the views 'seen' by Berckheyde and Jan van der Heyden, Mr. Terwen was obliged to resort to a double artifice. He first tilted his camera to include the cupola of the Stadhuis, and in order to 'reverticalize' the building, had to correct his tilted and distorted photograph in the enlarger. When examined closely, the two pictures and the photograph reveal significant discrepancies. For example, the cupola appears to be elliptical instead of circular. Exactly the same distortion appears in Jan van der Heyden's cupola: which proves that he constructed his picture rigorously on a Brunellescan projection. Berckheyde, on the other hand, looked up; and noticing that the cupola looked circular, drew it so, regardless of the fact that it is thus inconsistent with the other co-ordinates of the perspectival scheme. Berckheyde and van der Heyden are no more 'accurate' than Saenredam: they are only more 'plausible'.*



11, Jan van der Heyden, The Westerkerk, Amsterdam.



12 and 13, 'normal' and 'corrected' photographs of the Westerkerk, Amsterdam, by Jan Terwen.

11 *Anyone who knows Amsterdam well knows the dominant impression of the Westerkerk seen from across the Keizersgracht. In order to see the Keizerskroon on the top of the steeple he must throw his head back and forget what lies at his feet. Jan van der Heyden's version of this view gives quite another impression: a relatively small church in the middle distance, with plenty of space around it. What has happened?*

12-13 *Once again Mr. Terwen has been able to demonstrate the 'normal' and the 'wide-angle' view, as controls for the synthetic interpretation of Jan van der Heyden. The 'normal' view (with a car in the foreground to give scale) shows what the spectator sees straight in front of him across the* gracht. *With a wide-angle lens, and by tilting the camera a little, it is possible to take in as much as the centre of van der Heyden's picture, but not its lateral extension to right and left, without acute distortion. Once again, the Brunellescan perspective scheme, applied to a refractory subject, necessitates adjustments which produce a result acceptable in itself but bearing little relation to the actual view. This is enough, surely, to prove that neither Berckheyde nor van der Heyden used a 'camera obscura' in setting up their* vedute.

14 *On October* 12, 1654, *a powder-magazine exploded and laid waste a whole quarter of Delft. Among the victims of the disaster was Carel Fabritius, already at* 32 *in the forefront of the most progressive Dutch school of the mid-century, the school of which Jan Vermeer was to be the supreme master. In this group of pioneers Egbert van der Poel is admittedly one of the minor figures. He was, in fact, a pictorial journalist. But that is exactly why he is of interest in the present connection: it is, indeed, quite probable that van der Poel actually used a camera obscura in setting out this panorama of the ruins. Delft was at this moment a centre of optical research; and its painters were among the first to profit by the discoveries of the instrument-makers. Samuel van Hoogstraten describes how he saw the camera obscura in use in London and Vienna, and mentions cabinets which, viewed through a peephole, created the illusion of colonnaded palaces. The peep-show box is only a camera obscura in reverse; and there is plenty of evidence throughout the seventeenth century to show that topographers made use of the device. Cornelis van der Meulen, a friend of Vermeer's, painted a view of Stockholm by these means; and Egbert van der Poel's 'catastrophographs' have the haphazard, unplanned look of pictures put together from an outline traced in the dark chamber.*



14, Egbert van der Poel, Delft after the Explosion of 1654.



15, Carel Fabritius, View of the Nieuwe Kerke, Delft.

15 *Two years before the explosion, Fabritius painted a tiny picture which is one of the curiosities of seventeenth-century art. Here we have somthing radically different from the townscapes of Berckheyde and van der Heyden. The violent juxtapositions of the near and the far, the odd foreshortenings, the wilful truncations are still, perhaps, relics of mannerism. But the suggestion of spherical distortion, as in a convex mirror, is something new: the Oude Langendijk is, in fact, straight, but Fabritius gives it a parabolic curve. He implies that you can look down both vistas simultaneously without moving your head: which is, in fact, impossible. And he hints that the church is small and far away, whereas it is large and very near. Altogether one has an uncomfortable feeling of having seen the view through the wrong end of an 'optic glass', or what was then called a 'perspective'. But a close examination of the church alone, restores the building to its proper proportions. This should remind us that the cabinet-sized townscapes of the seventeenth century were meant to be examined at close range: it was the impressionism of the nineteenth century that taught us to keep our distance, and to take in a whole picture at a single glance.*



16, Carel Fabritius, View of the Nieuwe Kerk, Delft (detail).'



17, photograph of the Nieuwe Kerk, Delft.

16-17 *A comparison of the detail from Fabritius' picture with a photograph not only shows his remarkable fidelity to natural appearances, but also reveals his complete freedom from prejudices in favour of Brunellescan frontality. Fabritius suddenly seems like a nineteenth-century painter when you compare the Degas-like asymmetry of his Delft picture with the* vedute *of Berckheyde and van der Heyden. Such visual impartiality, in the mid-seventeenth century, is quite revolutionary: had Fabritius learnt to compose in this way by pondering on the image projected by a camera obscura?*



18, Jan Vermeer, View of Delft.



19, Jan Vermeer, View of Delft (detail).



20, Jan Vermeer, Het Straatje.

18 *Vermeer carries to perfection the detached vision of Fabritius. His views are impartially 'interesting' all over. In the 'View of Delft', Vermeer takes great pains to avoid a focus of attention. The long horizontal line of the roofs is, indeed, parallel to the picture-plane, but it is far away. There is a hint of a vista in the middle of the picture, but it is immediately blocked by the bridge and by row upon row of horizontal roofs. Moreover, the lack of accents, the blurred definition, the incuriosity about texture all suggest that Vermeer has studied his view in a camera obscura.*

19 *It is possible to cut up Vermeer's panorama into any number of vignettes, each more 'picturesque' than the whole picture. The central section, for example, makes a nice 'classical' composition—a sort of seventeenth-century Corot. But to do this is to undo an entirely unconventional scene into something almost platitudinously conventional. One suddenly realizes that Vermeer, unlike all earlier townscapists, intended his picture to be taken in at a single glance, from a convenient distance: like an impressionist, he actively discourages peering. The spectator's eye is not invited to rove.*

20 *It is instructive to compare 'Het Straatje' with Saenredam's 'Oude Raadhuis'. Both represent buildings seen frontally, across a very narrow foreground. Both break this 'flat-on' effect with a little vista which carries the eye just so far, but no further. But whereas Saenredam gets into difficulties by at once revealing a vanishing-point far to the side of his picture, Vermeer exercises all his ingenuity in concealing precisely where his vanishing-point is, by the almost total suppression of his orthogonals! Fabritius, hinting at the use of a convex mirror, advertised his knowledge of optics and his independence of convention. Vermeer, self-effacingly, points to the real solution of the Brunellescan dilemma: not the multiplication of vistas, but the suppression of vistas.*

The paintings in the articles come from the following galleries: 1, Urbino Pinacoteca. 2, 6, 14, 15, National Gallery, London. 3, 4, 20, Rijksmuseum, Amsterdam. 5, 7, Fitzwilliam Museum, Cambridge. 8, Uffizi, Florence. 11, Wallace Collection, London. 18, 19, Mauritshuis, the Hague.

Marghanita Laski

ESPRESSO

The first reaction is surprised delight. It's quite extraordinarily nice to walk into a place of refreshment in England where taste, both gastronomic and visual, is deployed to please. How clever, how pretty, what fun, we say, looking at the blown-up prints from Victorian catalogues, the caged toucans dividing up the open plan, the terrifying Jungian archetype that is an ibex, jewel-bedecked, in a mauve satin frock.

After a round of visits, surprise gives place to recognitions. There's that same machine, apparently made especially for this new market, since 'Milano' at the top is balanced by 'It works without steam' on both sides. Here are the wooden vertical slats, sometimes up the bar-counter, nearly always facing the box on the floor with the green fleshy plants inside. There are those same little taper-leg wicker-seated backless stools—fortunate to be female and get the banquette. And here are the strings of garlic, the periodicals on bamboo racks, the elliptical mock-Picasso dishes, smaller for ashtrays, larger for marrows and gourds; here are the thick glass coffee-cups on the bare inorganic table-tops, the trolley of rich squashy pastries, and there, overhead, the rectangular Something hanging from the ceiling.

At last one can be reasonably sure of the range of variation. In Conspicuous Display, from simple shoestring British, black, white, and a good strong colour or two—rarest, this, but I personally think the nicest—through Italianate to cultural Spanish outposts like little islands of Latin America, these last with dim suggestive lighting in conically concealed glints and not quite soft enough music. Here, too, cunningly wrought iron, not bamboo, supports the ubiquitous aristolochia, and the Special Feature on the wall has obviously cost money as well as thought. Service, always matey ('I don't think you've met ——') ranges from full skirt, black sweater, urchin cut, through jolly bosomy middle-

aged blondes to graceful young men without jackets, sometimes Negro without gaudy outhanging shirts. Remarks overheard range from 'Do you know Jonathan Miller at all?' to 'Do you think I dare say cappucino?'

This last probably marks the present outside limit of the true coffee-bar, for the one in which I picked it up, although including the machine, the slatted plants, the ceiling-sling, the trolley and the Special Feature, also had tablecloths, chairs with backs, waitresses in aprons and a French name. If you hadn't known about coffee-bars, you'd have said it was a teashop.

But what, you may ask, *is* the real difference between a coffee-bar and a teashop, and it's a question that might as well be asked here and now, since whatever difference there is won't exist very much longer. At this moment, you could still make a moderately funny cartoon of the lady who went to El Dildo and asked for a cup of tea; but already at least one has scribbled 'Tea: 6d' at the bottom of its neatly typed menu. Already there is a coffee-bar in Cricklewood; already there is a coffee-bar called Lindy Lou's Parlour.

When the coffee-bar started in England it was, of course, the new refreshment-room dream, the English upper classes having always eaten out in a dream world which may, perhaps, go some way towards accounting for the standard of cooking. 'I dreamt that I dwelt in marble halls', sang the Victorians, and restaurateurs made it possible for them at least to eat in them, whether at Lyons or the National Liberal Club. The eighteenth century, bemused with the Noble Savage, ate in rural Arcadias, and after the first World War a longing for stability and ancestors led first to Tudor, later to Georgian, Trust Houses. Edwardian literary gents, beloved vagabonds all, went to Soho to find consumptive Blanquettes behind the counter and, trellis framed, Italy remembered on the walls.

The last dream comes nearest to that of the original English coffee-bars. Here we sit, the post-war generation, just like characters by Raymond Quesneau or Iris Murdoch, opting out of NATO and commercial telly and Mrs. Dale's Diary and Farm Street, out of Chicken Inns and mandarin lit. and Regency drapes and country-house nostalgia, and here, as we sit, we dream we are sitting among characters by Pratolino and De Sica and Machado Asiz, heirs of the European ages and, more specifically, of Italy, where they do good design.

But already the dream is fading. Here and there, where the right bar is near the right homes, far out in Hampstead or Chelsea, the coteries have formed, the habitués drop in, and in slack periods a cup of coffee may be made to last almost as long as in France. But there's no profit in cups of coffee though you stay open till midnight, and if licensing laws won't let you make money out of drinks, then you've got to do it out of eats; the coffee-drinkers must move up to the bar, leaving the little tables for the more profitable diners. Even the most determinedly Italianate dreamland of a Chelsea coffee-bar looks just like a Chelsea restaurant if you drop in at lunchtime.

And as the coffee-bars draw nearer and nearer to Harrods and Debenhams, the clients, knowing nothing of the dream, impose their familiar patterns. Hairy calfskins may drape the bar, alcoves dimly lit suggest esoteric delights, but nice tweedy knees rub the nap off the skins and the alcove is just the place for the children, tucked out of the way. It's a nice change from the Copper Kettle, say the ladies with the little regimental badges in their hats, and if this is what they call modern I don't think it's so bad, do you?

Inescapably, the coffee-bars receive that accolade which is the kiss of death. They become nice. It's nice to drop in at eleven, between MacFisheries and Boots, nice to meet

the old school-friend there at teatime and ask for two espressi—Oh, you'll have tea, will you, I'm not sure I won't too. It's a nice place to take Mother for lunch when she comes up to see that you really do get enough to eat and that some of the students are really nice people, and nice, your own bottle of wine under your arm, to take the girl-friend to in the evenings and be sure of being recognised. It's nice to have somewhere to go after the pictures, somewhere quiet to talk about love—mostly, it's nice to have somewhere nice.

But there's no new social habit here. Coffee for tea, somewhere to sit down with decent interesting décor, this doesn't add up to a new way of life. What's happened is that a little gap has been filled, a gap that wasn't filled by the pub—too ugly, too uncomfortable, too seldom open, and, if anyone started on spirits, too expensive—or by the teashop, also ugly, also uncomfortable, and nothing nice to taste. There's a protest here, perhaps, against canteens and cafeterias, and almost certainly against mock-American snack-bars, against the corrupted adaptation of an American way of life. The coffee-bar is essentially European, and sad foreign settlers, slim portfolios under their arms, slide in among the regimental badges and the urchin-cuts. And in some measure the coffee-bar is valued for its own sake, because it excites the numbed eye, because it's somewhere to go outside home that isn't hell to look at.

Yet already—with what terrifying speed these things happen!—the coffee-bar is becoming a stereotype, a cliché. A machine, a mural, some stools with taper-legs—leatherette, but we picked them up cheap—some tables without cloths, a trolley and a Latinate name, and the new teashop is off to an O.K. start. Soon it will only need a machine, but before then we can reasonably expect British Railways to mock up a coffee-bar coach.

If the licensing laws had been different, then the coffee-bar might have brought us something really new and valuable. Drink might have ensured profits without meals, drink might have kept the schoolchildren out. With drink, the coffee-bars couldn't possibly have become nice. But with the licensing laws maintained the coffee-bars can only become, as they so sadly, so regrettably are becoming, better-looking, later-opening, coffee-drinking teashops.

Coffee Bars

Stephen Gardiner

The coffee bar as we know it—the shelter from bad weather, dull homes, bed-sitters and ourselves, slick, polished, modern—arrived suddenly in London about two years ago. Like the milk-bar of the 'thirties, it caught on. Unlike the milk-bar, however, its sponsors tossed into the chaos, the suburbanity, the respectability of middle-class teashop design—Kensington tudorbethan, Hampstead cosiness, and Chelsea oriental—a new style which exploded like a bomb, the Espresso style.

And, again, unlike the milk-bar, it did not come from America. The sources are varied. The idea, together with the chromium-plated espresso machine, came from Italy—but that's all. There are no neon lights, no juke-box. The rest is anglicized, and the sophisticated interior to which we have become so accustomed represents a trend (especially in exhibition design) that has been familiar to most architects for many years, and that was apparent to the layman when he first saw the restaurants at the Festival of Britain four years ago. And it is hardly surprising that the coffee bar should adopt the modern outlook—even if the result does amount to, as it so often does, no more than a very chi-chi pastiche—since its purpose, which is to attract, amuse, surprise and ingratiate itself with the customer, needs the versatility and invention that the contemporary designer can provide.

Competition between bars, however, for the most original, most attractive interior shatters immediately any obvious sense of continuity and in this way the fashion forms a kind of parody, perhaps, of the dissension within modern architecture. It is, in fact, by

the dissimilarity of design within a general framework of bamboo, black ceilings, brick wallpapers, string murals, brilliantly clever lighting arrangements and so on that we at once recognize the style. If one coffee bar is in more or less total darkness and the next is brightly lit, it doesn't matter: that's 'contrast' or 'variety,' a different 'approach,' another 'idea': all that does matter is that we know we are in a coffee bar, we recognize the style.

All the same, under analysis, espresso design does fall into fairly distinct categories. First of all one must mention (although it has little or nothing to do with the espresso style) the Italian original—flashy, neon-lit, streamlined—the Moka bar of Frith Street and the Dinos of South Kensington. The second category is what I like to call Authentic English—architect (or semi-architect) designed, severe, sensible, 'tasteful': the Gondola of Wigmore Street, or the Orrery at World's End are among the best examples. The third is what might be termed Authentic English in its decadence—ideas used for the idea's sake, where string ceilings and black walls run wild, where a few old tricks—fourth or fifth-hand—will do, regardless of their original function: into this class I would put the Fantasie and Le Rêve in the King's Road, the Harlequin from the Fulham Road. The fourth category is Theatrical, the Fake—fake modern, fake Eastern, fake Indian, fake night-club, the whole box of tricks in one, a bizarre, sinister, ravishing, bedroomy set-up: El Cubano and the Mocamba of Knightsbridge, Las Vegas of the Brompton Road.

All four types do have, of course, a different and personal appeal. The Gondola is, for instance, most appropriate in Wigmore Street, while the Fantasie fills a gap in Chelsea. Knightsbridge, on the other hand, demands something far more exotic of the designer, something which caters for the night-life of madly gay 'chaps' and their girls returning from theatres and parties: El Cubano suits the mood perfectly. On the whole, however, I would say that El Cubano is more successful than the Gondola: the romantic is more successful than the classical. Architecturally, the Gondola gives you a simple, nicely designed room with a delicate, if devitalized, mural by Humphrey Spender on one wall, a counter and tables with photostated tops and an acoustic tile ceiling: it gives you 'honest-to-goodness' design without any fun. Architecturally, El Cubano gives you nothing. Instead, it gives you lavish décor, mystery, excitement and a sense of unreality: it is completely escapist—an exhibition designer's opium dream. It is impossible to put one's finger on any single idea and say why it's so successful: the toucans in their cages, the exotic chair covers, the bamboo screens, the misshapen sugar pots, orange juice out of coconuts, the shirt materials of the waiters run away, as the furnishings of a house might, with the whole of the architecture.

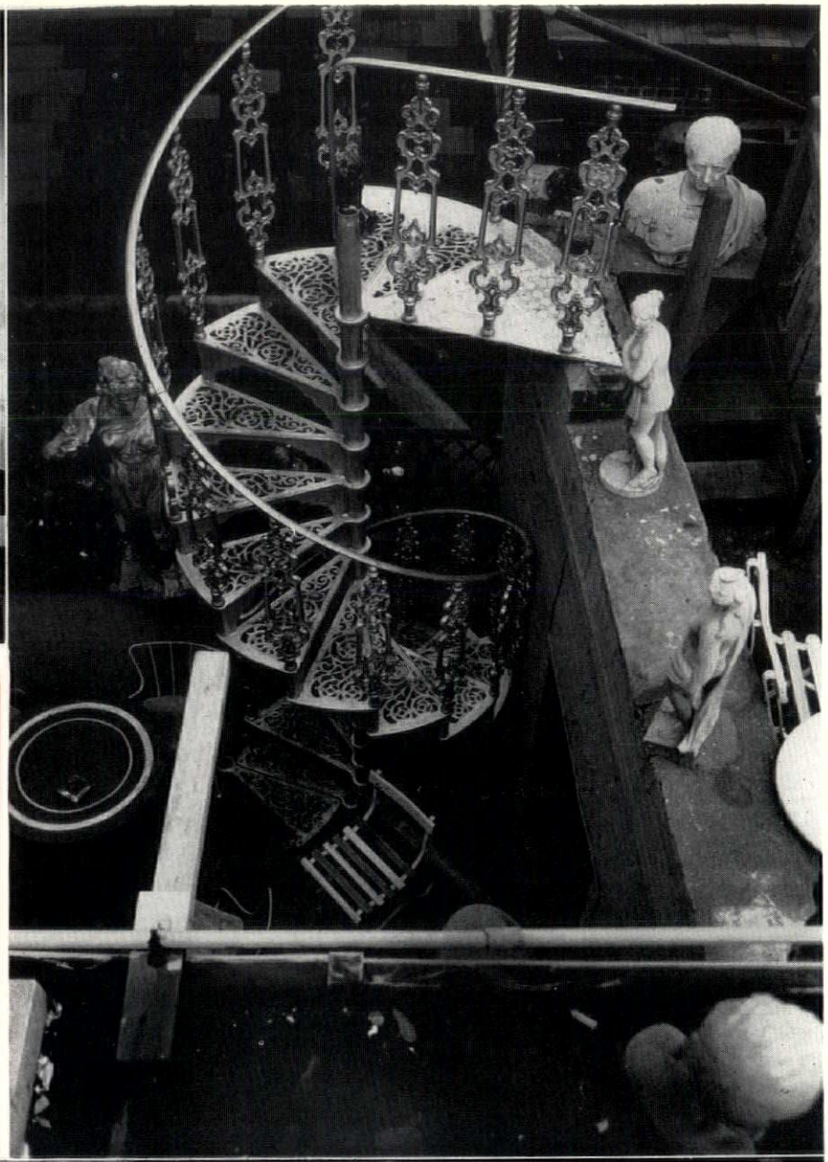
The Gondola, the Sarabia, the Orrery, it seems to me, are more appropriate as a setting for the casual, day-time coffee drinkers, while El Cubano and the Mocamba succeed at night; and since one of the chief features of the coffee bar is to be open after the theatres end, the pubs close, and the cafés and restaurants shut, to succeed at night does seem to be the most important measure of a coffee bar's success as a piece of design. From this it shouldn't be assumed that I mean that the modern architect or interior designer is incapable of designing a good coffee bar: what I do mean is that he does not always understand the problem, and what he has designed—simple, plain, functional—fails because it is essentially humourless. El Cubano, on the other hand, does understand what is wanted and while it may be in some eyes vulgar, flashy and a fake, it does still succeed.

But if I were asked what was my idea of an ideal coffee bar I think I should say that the nearest is one I have not yet discussed—Roy's Bar, in the King's Road. It belongs to no category I can think of and although it shows allegiance to the espresso style, it is like, after visiting a long line of hot, sickly, chocolate and white, paper-brick lined bars, a douche of cold water. It is a coffee-bar with a difference: different because it is, in the first place, hand made, and, in the second, 'highbrow.' Its period, setting, or what you will, is not pre-war Istanbul (the shadow of a spy behind a wicker screen), nor is it Festival Modern (austere and improbable), but Victoriana which succeeds because it is natural, witty, inventive, and *not* mass produced. One may not always agree with it, but then, while one does not always agree with John Betjeman, one invariably listens to what he has to say. So with Roy's Bar: one notices what has been done and why it has been done. On leaving, one carries away, not a blur of second-hand tricks and artificial effects, but an impression of a well-arranged space where the suspense is maintained by some very nice murals, pieces of sculpture, an ingeniously designed centre bar, formica-marble-topped tables and painted-on surrounds and pediments to doors. Again, the whole thing is, in fact, a fake, but it is a very good one and comes off, both on the plane of suitable décor for a coffee bar and also on the plane of taste, because it makes no pretences at being anything but a fake.

So, on the whole, one accepts the espresso style; it means well; it breaks up the monotony of the London scene; it uses (and, therefore, displays) modern furniture, curtain and wallpaper designs; it shows off old materials (in particular, hardwood) in new situations and new materials (aluminium, plastics, etc.) in old situations, and if the coffee-bars are sometimes rather boring or rather flash in their design, this is hardly surprising in so new an enterprise. Given more imaginative planning, given a more economical and authentic use of materials, given more vivid and much better colour schemes (they are, generally, very bankrupt), given freer, fresher, wittier murals (e.g. 'Steinbergs'), given a few more awnings (internal as well as external), and given—perhaps—a greater number of indoor plants, I think these bars would not only be very nice places indeed to see and spend time in, but they would also have a good influence and provide another means to exhibit the importance and sense of modern design in the contemporary world.

1, 2





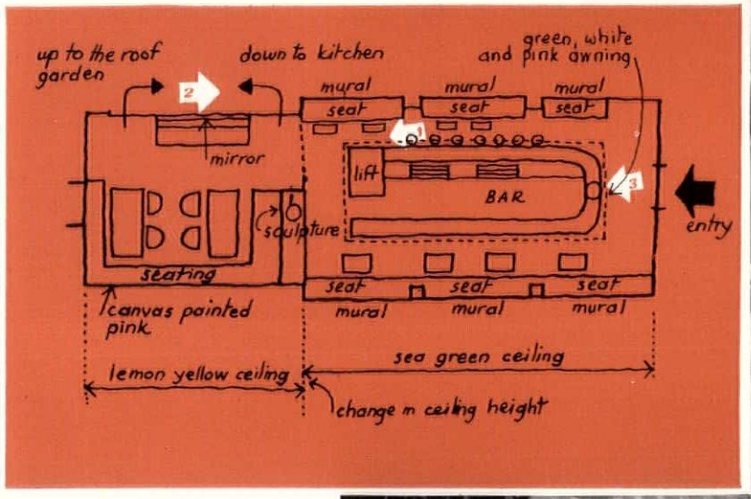
ROY'S BAR

King's Road, Chelsea; designer Roy Alderson.

Floors: Black and white linoleum tiles.

Walls: Dado from entrance to 2nd pier, blue and white stripes.

Furniture: White and yellow marbled plastic table tops. Supports generally timber painted white. Red leather stools.



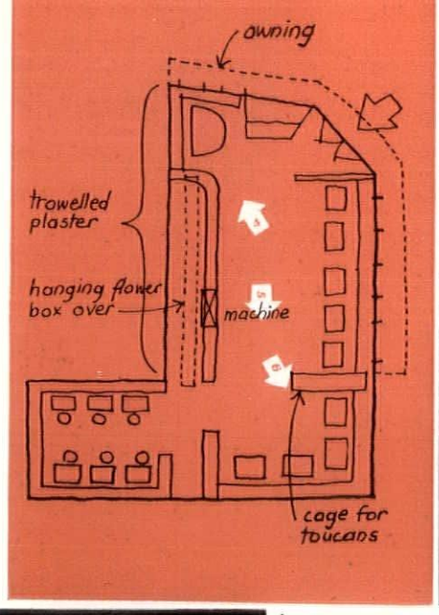


3

EL CUBANO

Brompton Road, Kensington; designer Douglas Fisher.

Floor:	*Black semastic tiles.*
Walls:	*White trowelled plaster and bamboo.*
Ceiling:	*Rush matting in bamboo frame.*
Lighting:	*Over bar, concealed fluorescents in flower box. Wall lights concealed behind striped fawn silk.*
Furniture:	*Banquette seats: black and yellow material on bamboo backing. Stools: straw on black rod supports.*







4

5

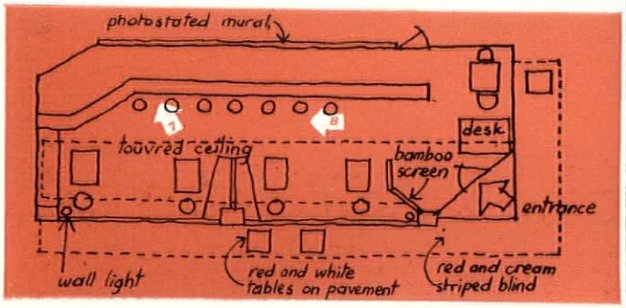
6

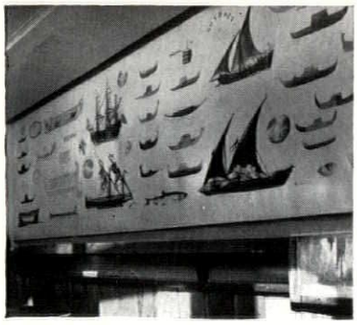


GONDOLA

Wigmore Street, W.1; designers Helen Low & Humphrey Spender.

Floor:	*Grey semastic tiles.*
Walls:	*Lemon yellow.*
Ceiling:	*White acoustic tiles.*
Lighting:	*Mainly concealed fluorescents.*
Furniture:	*Counter stools, red leather. Counter top, photostat drawings of classical motifs. Table tops, marbled plastic and photostats. Tables, hardwood frame, black rod legs. Banquette seats, rust red.*





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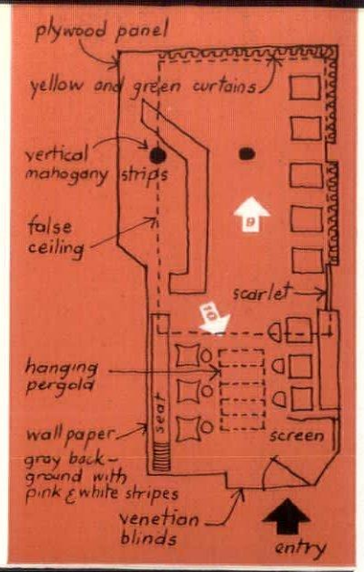
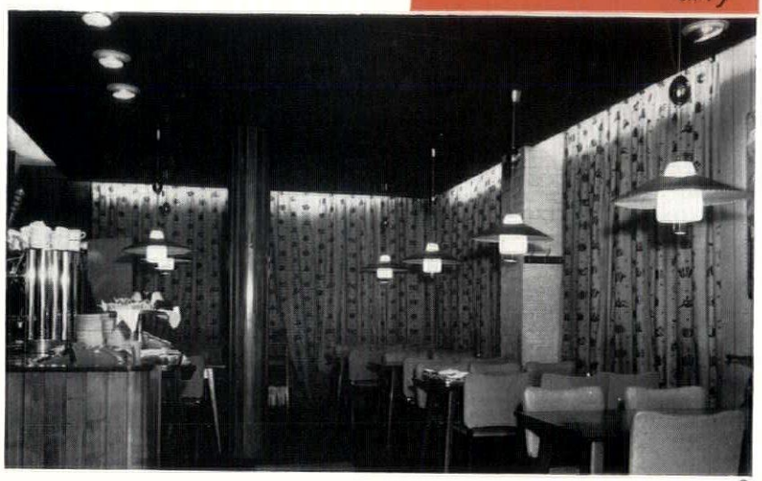
BOULEVARD

Wigmore Street, W.1; designer William Andrews.

Floor: Red carpet around perimeter. White marble sematic tiles in centre.
Ceiling: Lemon yellow. False ceiling, dark grey acoustic tiles.
Furniture: Mahogany counter and table tops. Counter side, vertical mahogany strips.





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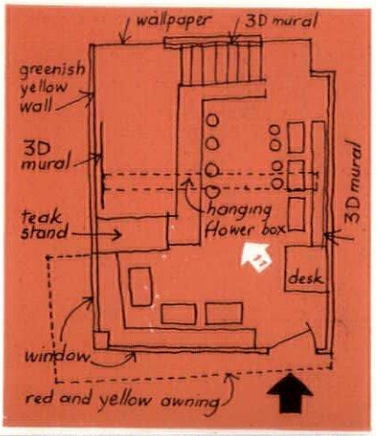
ARABICA

Brompton Road, Kensington; designer G. R. Cole.

Floor: Dark green sematic tiles.
Walls: Grey wallpaper with white irregular lines.
Ceiling: Greenish yellow.
Furniture: Banquette seats, dark green with cream backs, all in leather. Table tops, black and white glazed tiles in chequerboard. Counter tops, teak, with whitewood sides.



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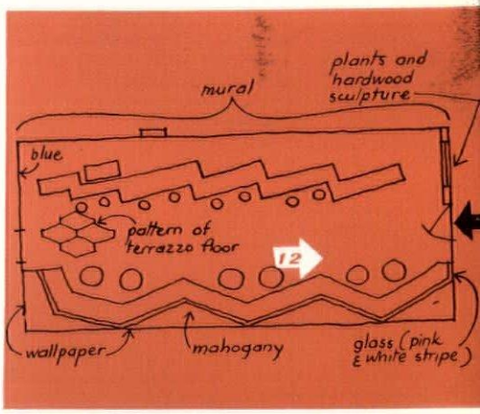
SARABIA

Onslow Crescent, Kensington; designer G. A. Crockett.

Floor: Dark green terrazzo with lozenge pattern of white lines.
Walls: Pink and white striped wallpaper.
Ceiling: White.
Furniture: Counter: teak formica tops, and mahogany sides. Tables: teak plastic tops, black rod supports. Banquette seats: olive green covers with mahogany tops.



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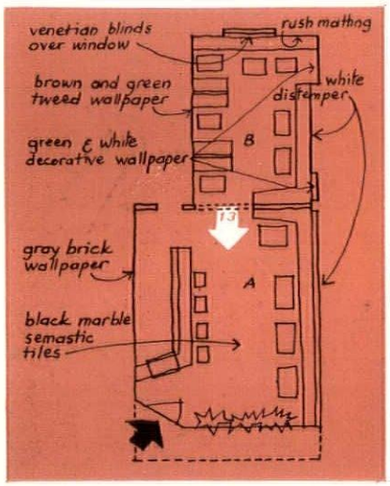
LAS VEGAS

Old Brompton Road, Kensington: designer Jack Williams.

Floor: *Black marbled semastic tiles.*

Furniture: *Banquette seating: green tartan coverings. Stools: straw seats on bent black rods. Tables: timber plastic tops on bent black rods. Counter: mahogany top, grey hardboard side.*





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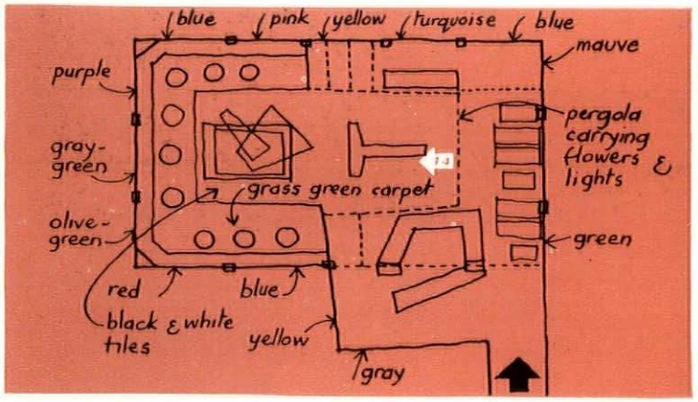
THE COFFEE HOUSE

Haymarket; designer Antoine Acket.

Floor: *Black and white linoleum tiles.*

Furniture: *Pink formica table tops with varying patterns (stars and abstracts). Black table legs. Seats: wax polished deal with black legs. Banquette seats: red plastic covered cushions. Deal backs. Stools: red plastic covered cushions, black legs, polished deal seats. Counter: plastic top, 3 inch deal strip sides. Feature: sheets of coloured transparent plastic mounted on black steel tubes, with water trickling over them.*



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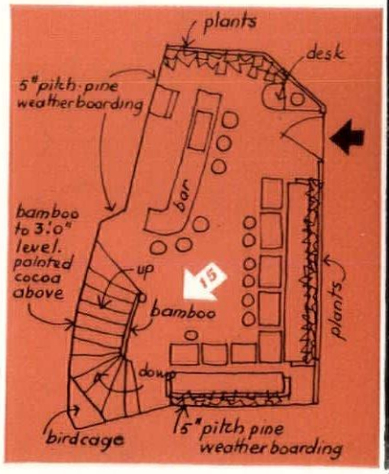
MOCAMBA

Knightsbridge; designer Douglas Fisher.

Floor: Fawn composition.
Ceiling: White plaster.
Furniture: Bar: 3 inch vertical pitch-pine inlaid with black leather and marble. Tables: Lagos mahogany inlaid with blue patterned tiles. Mahogany splayed legs, tapered. Wicker-work stools and bamboo desk.





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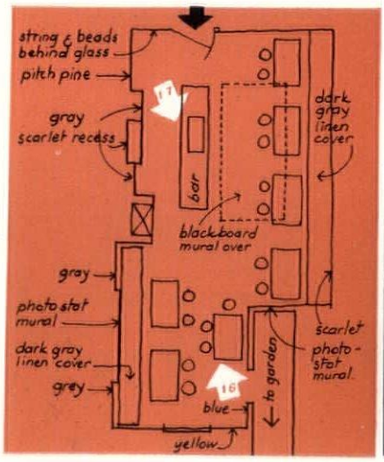
ORRERY

King's Road, Chelsea; designer Terence Conran.

Floor: Grey and cream strip semastic tiled floor.
Walls: Photostat murals.
Ceiling: Plastered and painted light grey.
Furniture: Tables: black and white tiles, in hardwood frame. Stools: Dark green and dark red covers. Lift: Pine faced vertical strips; lift wheel exposed and painted scarlet.



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Though there are surviving building traditions in North Africa which go back to times of great antiquity, architecture as an art was brought there, as to so many territories, by the Romans, who filled the fertile plains and valleys with villas and towns, and ringed their defensive perimeter with cities like Djemila whose ruins, opposite  , *still mark the deepest penetration of Mediterranean urbanism toward the Sahara. The Desert Gates of the Romans, the mud-walling of the Berbers who preceded and survived them, the mosques of the Arabs, and the office-blocks of the French, who succeeded them in North Africa—all are surveyed in George Kidder-Smith's scrap-book of Tunis, Algiers and Morocco, which appears on the following pages.*

NORTH AFRICA

North Africa is not commonly reckoned as one of the cradle-lands of modern architecture, and yet a quick leafing-through of Le Corbusier's *Oeuvre Complète* will show a constant preoccupation with architectural and climatic problems from across the Mediterranean. It was the projected villa at Carthage that first introduced him to the problem of sun control, and around the ill-fated scheme for Algiers there crystallized masterly solutions to local problems—but solutions that were to find equal or greater relevance elsewhere, in the treatment of buildings like the Unité at Marseilles. Since the war Marcel Lods, no longer in partnership with Baudouin, has contributed distinguished buildings to the North African scene (*cf.* AR, November, 1953), and Algiers has been the home of a vigorous section of ATBAT under Bodiansky. Next year, in September, CIAM will be meeting in Algiers, and many of the delegates will be seeing the architecture of North Africa for the first time.

What they will see, through eyes trained in a modern tradition that subsumes Delacroix's views of Algeria, Klee's of Tunisia, and Matisse's of Morocco, will be a landscape where architectural cultures lie thickly one upon the other, and where a native people have preserved a constructive tradition from pre-Roman times. This richness of architectural heritages stems from a succession of conquests:—Roman, Vandal, Byzantine, Arab, Hispanic, Turkish and French—each of which has occupied the progressively less-fertile flatlands and the coast, and left the Berber secure and *sui generis* in the mountainous hinterland. There, the Berber have continued from century to century to construct high-piled skyscraper dwellings of mud-walling whose architectural and social qualities will surely interest CIAM delegates when they come to apply themselves to the problems of *habitat*.

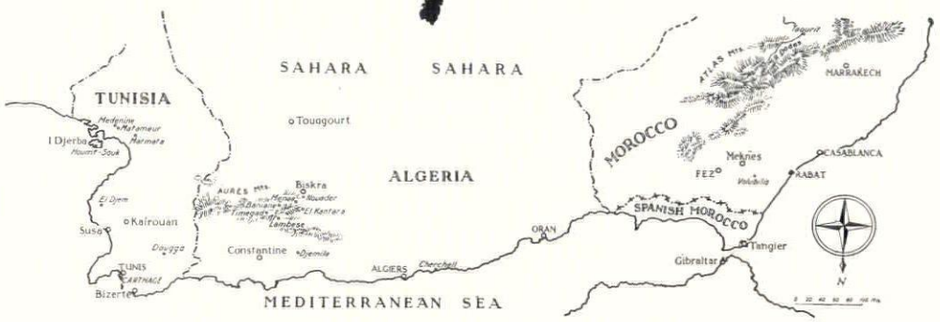
Against these same Berber the Romans defended their great wheatbowl in Tunisia and Algeria with frontier towns on the desert fringe, where ruined Djemila and other cities still preserve their street grids, their fora, some standing columns and occasionally a gate that leads from the desolation without to the desolation within. They built, too, roads, and aqueducts that supported an agriculture that—deprived of Roman water and Roman discipline—made desert of a marginally fertile country. That discipline and irrigation were destroyed by the Vandals, never fully restored by Justinian's Byzantine occupation, and finally re-formed on a new pattern—of life, religion and agronomy—by the Arabs.

The Arabs also established an architectural pattern that was to remain dominant until the arrival of the French. From the foundation of Kairouan by Sidi Okba in 671 to the capture of Algiers by General de Bourmont in 1830, Muslim culture gave an urban pattern of close-knit habitation, green with interior courtyards, and dominated by the domes of mosques; a pattern of flat roofs, blank walls and narrow streets. This was a world which was never out of touch with France and the West, for the activities of the Barbary pirates in one direction were echoed by French trading and fishing interests in the other.

The French finally entered Algiers as unwilling conquerors, and spread across North Africa, from Tunis to Morocco, as settlers whose relationship to the native peoples was politically uneasy and culturally difficult—and appears to be due for drastic revision at the present hour. This settlement, however, was economically successful, and has matched the *souks* and *kasbahs* of the Muslim towns with the office-blocks and *maisons locatifs* of their French counterparts—a vigorous constructional programme which has given exercise to the talents of Le Corbusier's old enemy, Monsieur Umbdenstock of the Bank of Algiers, as well as to some of his most brilliant disciples of the ATBAT-Afrique office.

Thus history has given a pattern of patterns in dwelling and urbanism, form and structure, which awaits not only the eyes of CIAM, but the attention of scholars and historians who must work over these patterns to see which are local and persistent, which imported and transient. A top skimming-off of the enormous architectural richness of this amazing area is given on the following pages in word and photograph by G. E. Kidder-Smith, a motorized survey—'North Africa at 50 m.p.h.' he calls it—of an area which is nearer London than is Athens, yet less well known to us than Egypt.

North African Scrapbook*

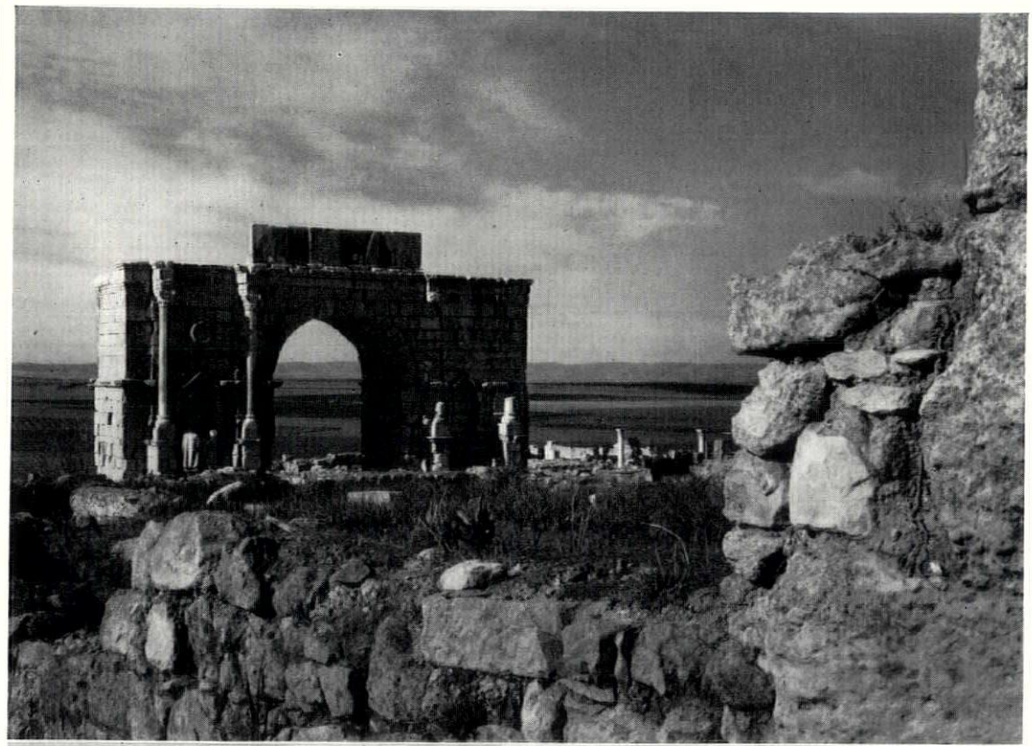


G. E. Kidder Smith

MOROCCO

Morocco, both in architecture and in customs, is the most remote and oriental region of North Africa. It has the highest mountains, is the least explored, and was the last pacified. It is also the richest and fastest-growing.

Although there are traces of Phoenician and Carthaginian remains, the Romans were the first to make large-scale settlements. The farthest point of their advance into Mauretania Tingitana was Volubilis, 1, a remote outpost which reached its height as an olive-oil centre in the second and third centuries, and is the only large Roman ruin in Morocco. The Berbers harried its communications and it fell owing to its extreme isolation. (The Berbers, the indigenous race of North Africa since the dawn of history, still keep their tongue and dress, and permit their women to go unveiled, 4.) The Arab cities which grew up some centuries after the Romans left have prospered to the present day. Of the centres of North Africa, indeed, of all Islam, Fez must be counted amongst the greatest, having been the intellectual and cultural capital of the Sherifian empire which ruled, as well as North Africa, most of Iberia. Fez remains unspoiled, thanks to Marshal Lyautey's insistence that all the old cities of the country should be protected. We



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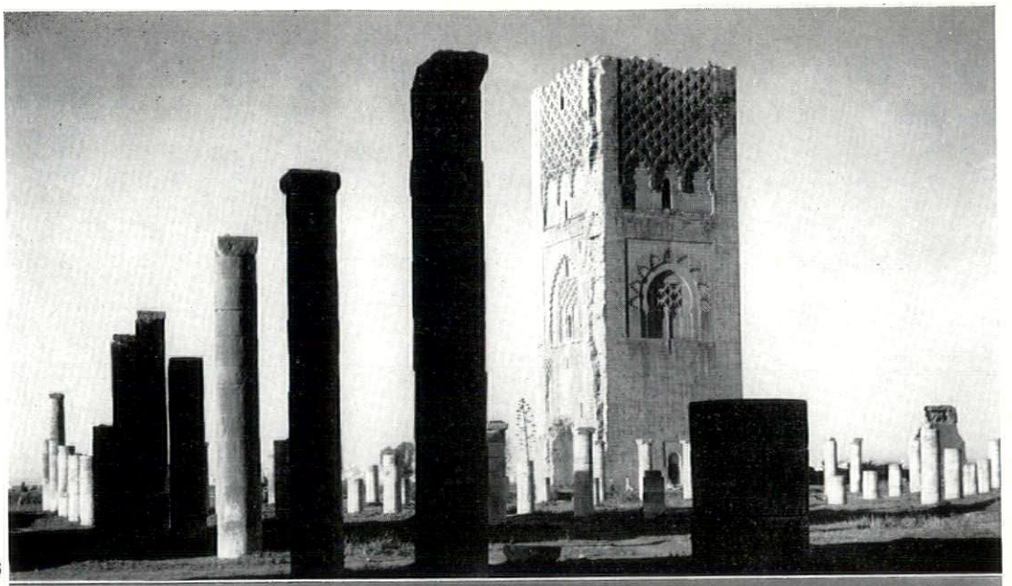
* The tenth congress of CIAM will take place in Algiers next September.

should be doubly grateful that this heritage has been preserved intact when we see what the twentieth century has done to Damascus and Baghdad. The Place du Pacha, 2, can have changed hardly at all since the twelfth century when Fez el Bali (the Old) became a great city under the Almohades. Inside the walls is a labyrinth of broken passages, deliberately calculated to cheat the Evil Eye, which can only see in a straight line.

An hour west of Fez is Meknes, inferior as a town, but graced with several splendid gates, 3, in which it is interesting to see the source of influence on the American architect Louis Sullivan, whose famous Transportation Building at the Chicago Fair of 1893 was so apparently based on Moroccan examples. West of Meknes overlooking the sea is Rabat, the present capital of the country, where the Kasbah gate and wall make a strong composition on the brow of the hill, 5, and where in the twelfth century Jakoub the Victorious set out to build the largest mosque in Africa. Due to lack of money and to Jakoub's death, it was never completed and the great earthquake of 1755 (which destroyed Lisbon), shook down most of what there had been. Of the Tour Hassan, its minaret, 6, we have only a square base with a tracery pattern at the top. The Tour Hassan, the great Koutoubiya in Marrakech, 7, and the Giralda at Seville were all sister minarets erected by Jakoub. The platform of the Koutoubiya is so high that the early muezzins were blinded to prevent them from looking down into the nearby royal harem. Marrakech, where it stands, is the cross-roads of the whole north-west of the continent, as well as being the favourite winter resort of Sir Winston Churchill, where desert caravans arrive and depart, where Bedouin meets Moor and camel meets lorry.

Behind Marrakech, shielded amid the Atlas Mountains, is some of the strangest architecture in the world. The Dadès Valley connected the Sahara with the outside world, carrying the desert caravans mentioned above, and to guard against attack (and to attack the unguarded) arose a hundred miles of fortified towns and storehouse farms. The seventeenth-century Kasbah of Taourit commands the western end of the valley, a battlemented stronghold of some 1,200 people. To penetrate these arcane defences is to discover another world, feudal in both society and architecture. High about one on all sides rise mysterious crenellated walls of battered mud, decorated at the top with roughly incised brick patterns, 8, 9. Construction throughout the region is limited to



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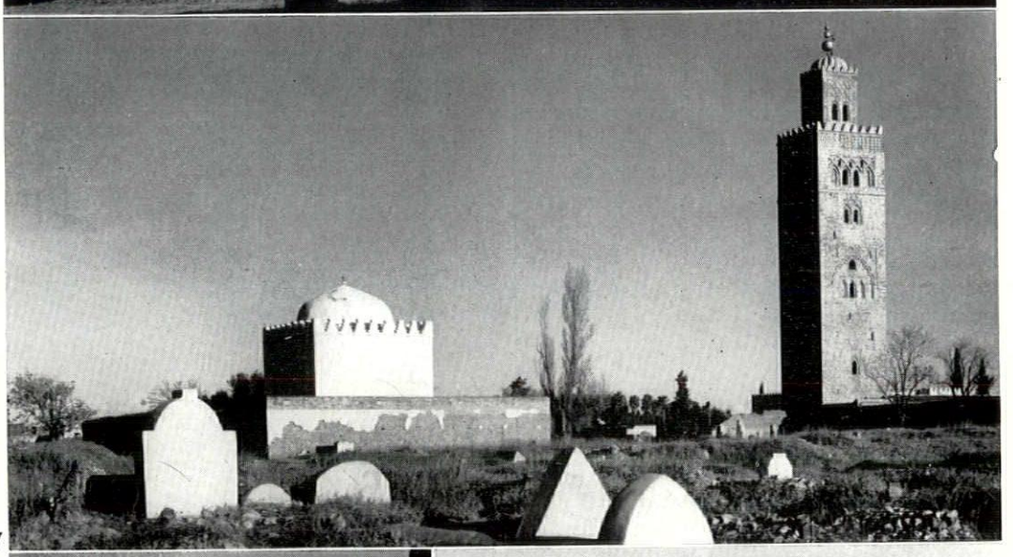

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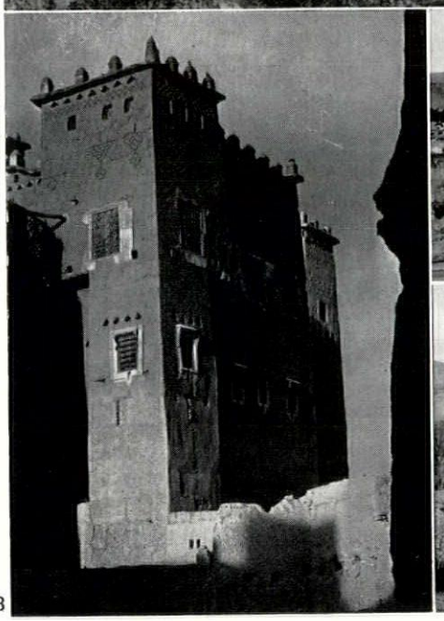

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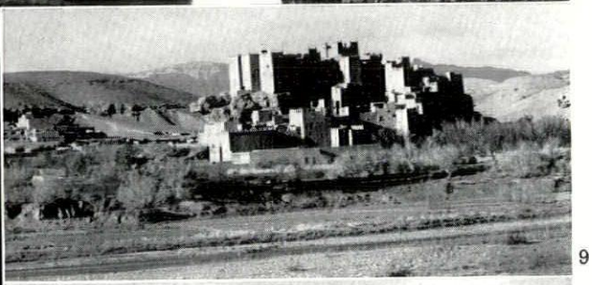

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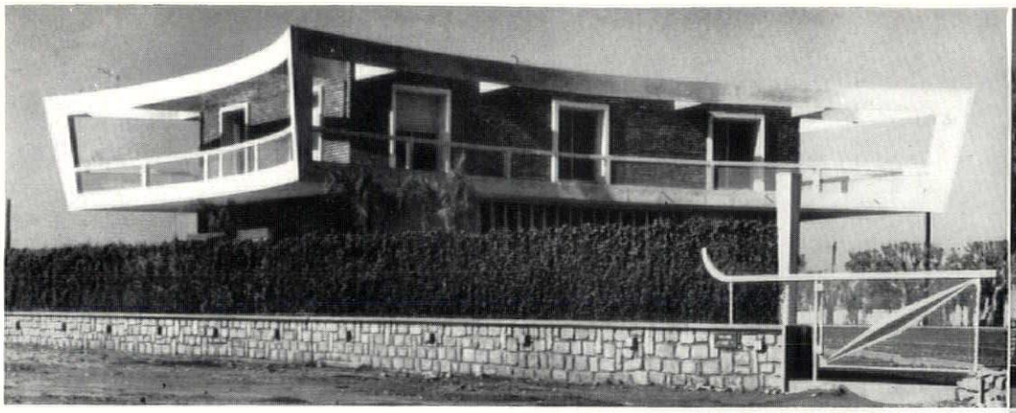

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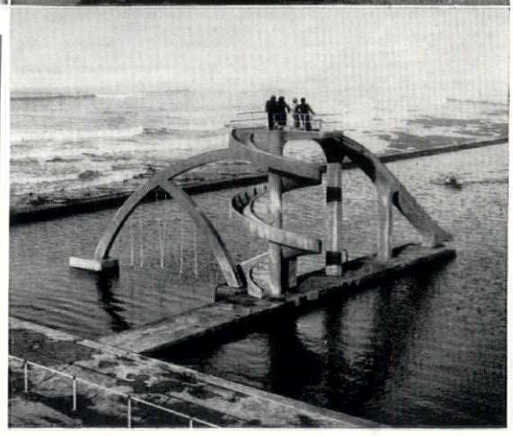


13

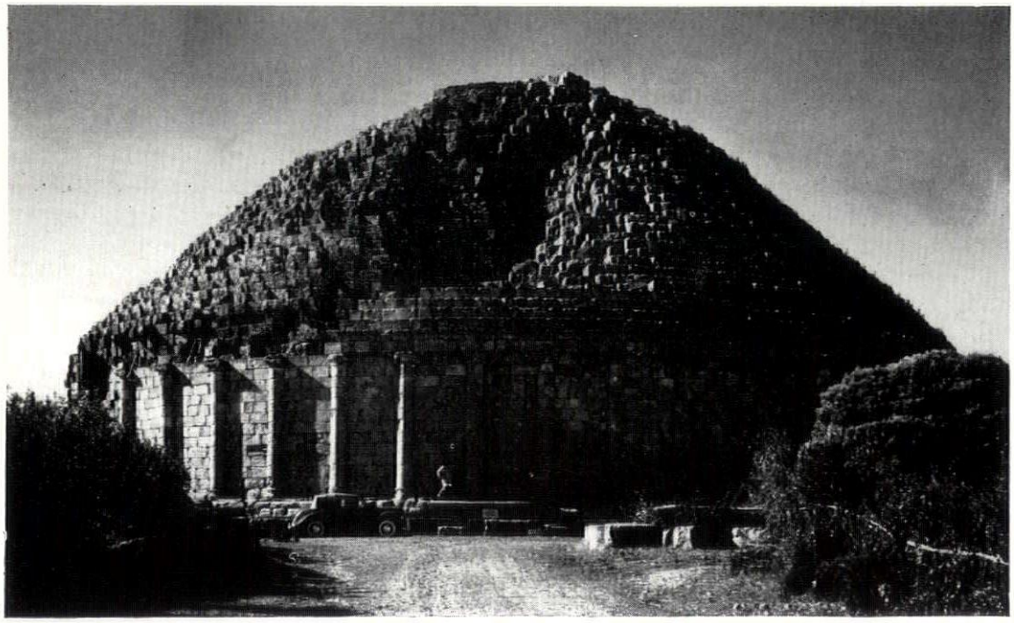
the local clay, straw and pebbles, with an occasional palm trunk for a beam or a lintel. There is no lime, cement or any large-scale structural material, 10. Unfortunately the Atlas architecture is bound to die out as, with French pacification, the whole rationale of this way of life has disappeared.

There has been a good deal of construction since the war, particularly in the mushrooming Casablanca, which is to-day a crowded, uninteresting European city. Besides a potpourri of new apartment houses and office buildings, mostly undistinguished, there has been much social architecture, not only here but throughout the country. A number of the better buildings in Casablanca have been designed by the young firm of Zevaco and Messina, 12, amongst which is one decidedly *outré* compared with the others, 11, which was built for a successful entrepreneur who wanted the most conspicuous house in the town. The flying framework serves the double purpose of *épatant les bourgeois* and supporting the awnings which shield the house from the sun. One small item in Casablanca which deserves attention is the sliding-and-diving platform for the ocean-fed swimming pool, 13, a piece of virtuosity by Georges Brodovitch.

ALGERIA

Algeria is quite different from Morocco: settled longer, it lacks the wild and barbaric quality of the latter, and its geography, people and architecture are all of a milder order. And although its population is about the same as Morocco's, its area is five times as large.

The country has a richly fertile strip along the coast, and a thick spine of the Atlas rising to 7,500 feet behind. To the south lies the Sahara. The Romans were heavily invested in Algeria—they called the eastern part Numidia and the western Mauretania Caesarensis—and built strongholds not only along the coast, but also more than a hundred miles inland. One of the earliest of these settlements was at Cherchell, which Juba II, a Berber prince, who had been taken to Rome by Julius Caesar and given Cleopatra's daughter as a bride, raised to importance and named Caesarea. A little to the east of it, atop an 850-ft. ridge near the coast, is a magnificent example of stereotomy, the '*Tombeau de la Chrétienne*', 14, 210 feet in diameter and originally 130 feet high, a royal tomb which has suffered the double affliction of earthquake and of man's mad search for inner treasure. Two-thirds of the way from Algiers to Constantine, Djemila, 3,000 feet up in the mountains, and often snow-covered in winter, emphasizes vividly by its wildness the extent to which Rome went to control the empire (frontispiece, bottom). This lonely strategic



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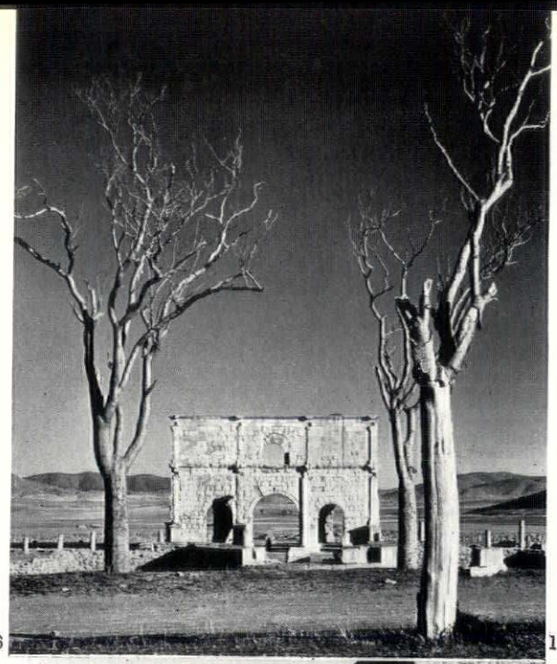
outpost was founded towards the end of the first century A.D., probably by Nerva, but did not reach its prime until the second and third centuries. In 216 Caracalla erected the bold arch (frontispiece, top), in memory of his father (Septimus Severus) and mother. Djemila enjoyed a long prosperity, being later the seat of a Christian bishopric, and reviving politically in the sixth century under the Byzantines. While Cherchell and Djemila are typical of the coast and mountain cities, the broad upland plains of the north Sahara gave rise to the geometrically planned military city, and with it the urban gridiron which has been misused ever since. The most impressive ruins of this kind are Timgad, 15, and neighbouring Lambese, 16. On a plateau higher than Djemila, isolated and alone, these fortified cities were built to check the Berbers of the Aurès mountains. Lambese was built under Hadrian in about 100 A.D., and was never any more than military headquarters for the Third Legion and chief defence post for that part of Numidia. However, Timgad, seventeen miles to the east, and one of the largest of all ruins, acquired a special character not primarily martial: although its first colonies were military, the city, enjoying the protection of Lambese, outgrew its original size many times over with an influx of old soldiers and pensioners who turned it into a place of pleasure and retirement, with as many as eleven public baths. In its prime this area enjoyed a far more favourable climate than it does to-day, as we gather from the Elder Pliny's *Historia Naturalis*. In the first three centuries A.D. the land was fertile, the water supply from the mountains good, and trees abundant; but the trees for increasing miles around every settlement were chopped down to feed the voracious calidaria of the baths and, finally, all natural cover was consumed, and erosion, dust and untempered heat moved in. Today, even if there were enough top soil to plant trees, goats would devour them before they were six inches out of the ground. The Berbers from the Aurès destroyed the Roman city in 535; under the Byzantines it revived, but invading Arabs and the familiar earthquakes delivered the *coup de grace*, and Timgad in the seventh century relapsed into oblivion, 20. Its largest single ruin, the theatre, is quite well preserved, although the Byzantines used many of its well-fitted stones to make a fortress.

Behind Timgad the Aurès mountains rise to a height of over 7,500 feet and then drop away abruptly to the desert. Baniane is the finest village of the Aurès, where, on descending to the river bed, one is faced by the spectacular date warehouses, or *guelaa*, 17, perched on an escarpment of the valley; these are inaccessible from the river side, and protected on the entry side by the inhabitants' and animals' quarters (all the same) built as a wall around them. In the heart of the Aurès, many villages seem as much geological as architectural; Nouader is one of these. The male inhabitants, when not engaged in the zinc, lead and mercury deposits nearby, work as terrace agricul-



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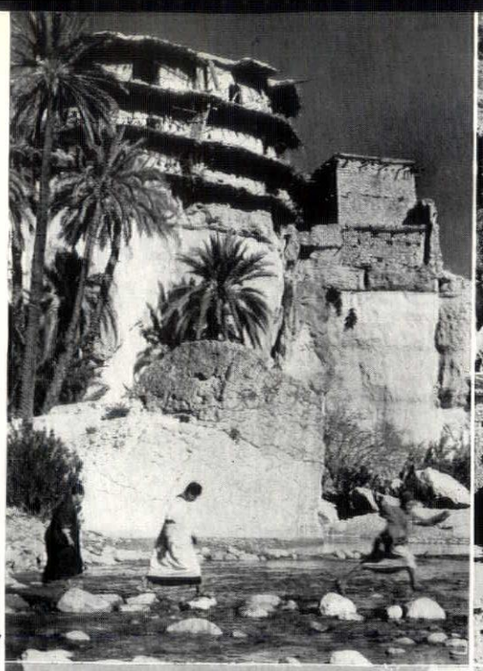

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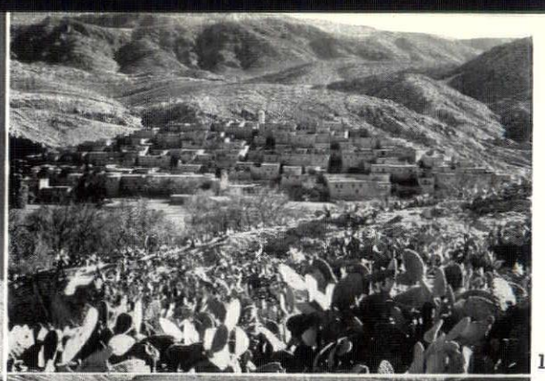

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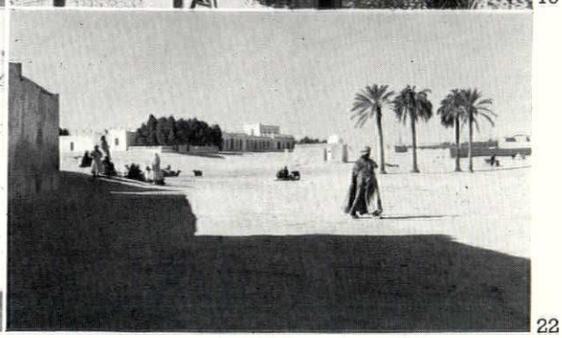

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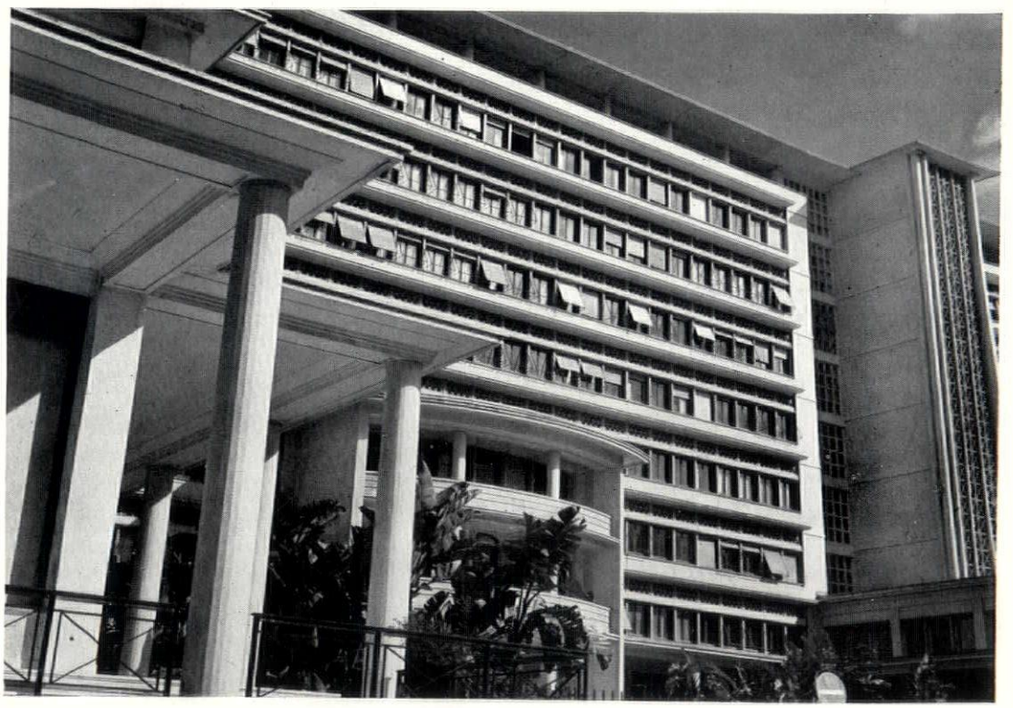

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turalists. The houses are built as field-stone terraces, with roofs invariably flat, being much more than the tops of houses, 19. By day they serve as work-rooms for the women, and in the evening as retreats for the men. Menaa, known locally as City of Orchards, lies across the end of the valley, piled up in *ziggurat* fashion, with the minaret of a small mosque marking its centre, 18.

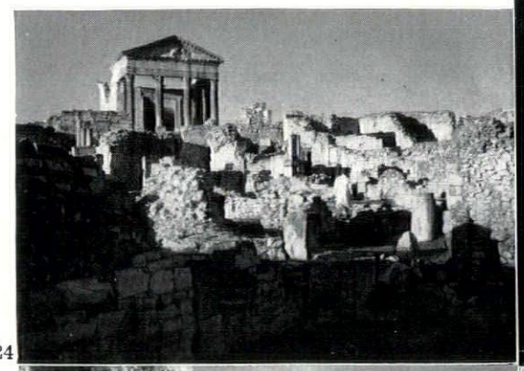
The architecture of the sand Sahara, seen here at Touggourt, 21, 22, is quite different from anything we have yet seen. Sun-dried brick is used here almost exclusively, and the vault appears spanning many spaces. This friable unit material is not the most durable construction even where there is no rain, and many desert towns as the result have a dilapidated, slum-like appearance.

The modern architecture of Algeria is not extensive and the Beaux-Arts traditions dominate what there is. A significant exception is the Government-General building in Algiers, 23, one of the first large-scale buildings of the modern movement. Designed by Jacques Guiauchin and built by the Perret brothers, whose influence can be seen particularly in the detailing, it is an extraordinary achievement for 1930. The best recent building is an administration plant in Algiers by the talented and urbane P. A. Emery for that ubiquitous American concoction Coca-Cola, the first in Algeria (that I know of) to use the *brise-soleil* which Le Corbusier invented for Algiers in his house and apartment-house drawings of 1933.

TUNISIA

Tunisia is more intimate and civilized than either Algeria or Morocco, and its contemporary architecture and planning are the finest in North Africa. One of the handsomest sites in all the Roman empire is Dougga, 28, in the dwindled Atlas west of Tunis. Both the theatre, built by a private citizen in 169, and the Capitoline Temple,24,25, dedicated to Jupiter, Juno and Minerva, are well preserved. Dougga was first a Berber settlement (the Berber word *thukka* means pasture); then Carthaginians, Romans, Vandals, Arabs and French came in successive waves, and now once again it is a Berber village. The most impressive single monument of all Roman Africa is at El Djem, on the east coast—the fifth in greatness of the amphitheatres of antiquity, 26, 27, built in the third century for the inhabitants of Thysdrus, then an important olive-oil centre. Nothing else can now be seen of Thysdrus, and a mean and squalid village now surrounds it. In unsettled times it served as a fortress, notably for Al Kahena, the Berber prophetess-queen who drove all the Arabs out of Tunisia before meeting her death by treachery in 703. Like the Parthenon, it owes much of its present destruction to the Turks, who used it as a magazine, letting the gunpowder blow up with disastrous effect in 1685.

The Berbers have always lived in central and southern Tunisia, before and after the Romans, bending like the reed before the gale, while the mighty oak is uprooted. In the south-east they have created one of the strangest of vernacular architectures. The people of Matmata, an inland village, were (and are still) so destitute that, having nothing to build with, they dug large cylindrical holes in the ground, 29, and hollowed their living quarters and stables out of the sides. This troglodytic system is economical, insulated against the sun, and can not, even though there are 700 holes, be said to mar the landscape very seriously, 30. East of Matmata on the coastal plain are two



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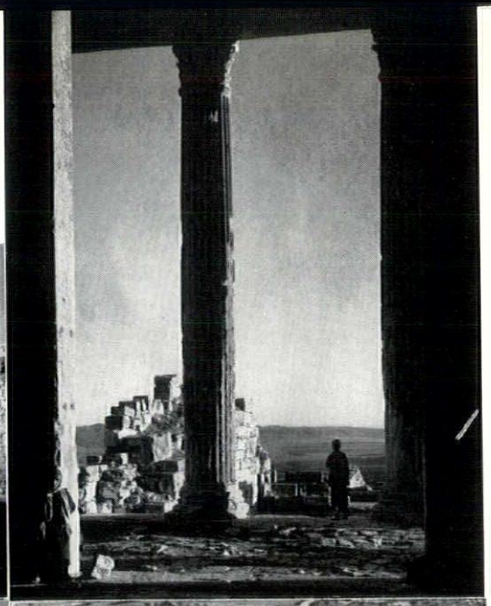

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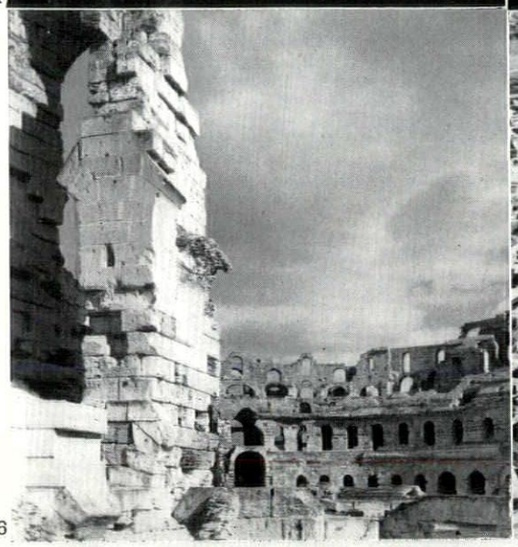

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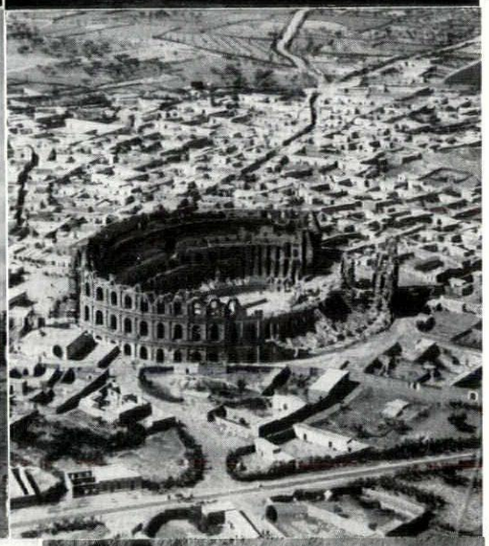

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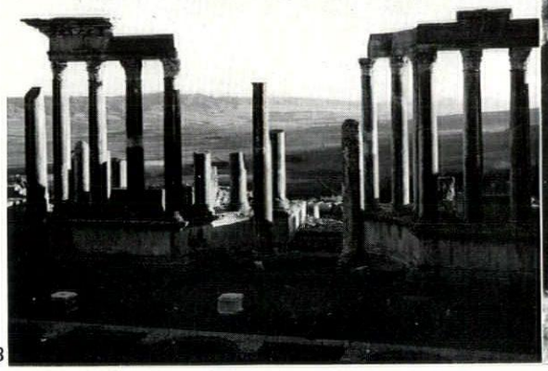

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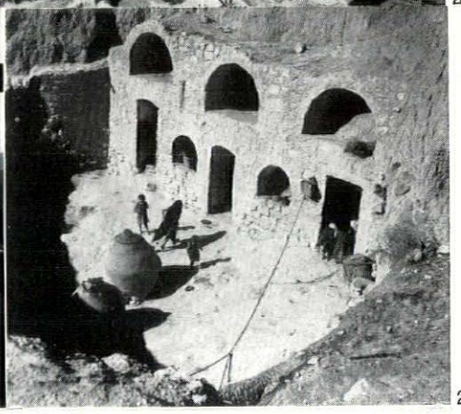

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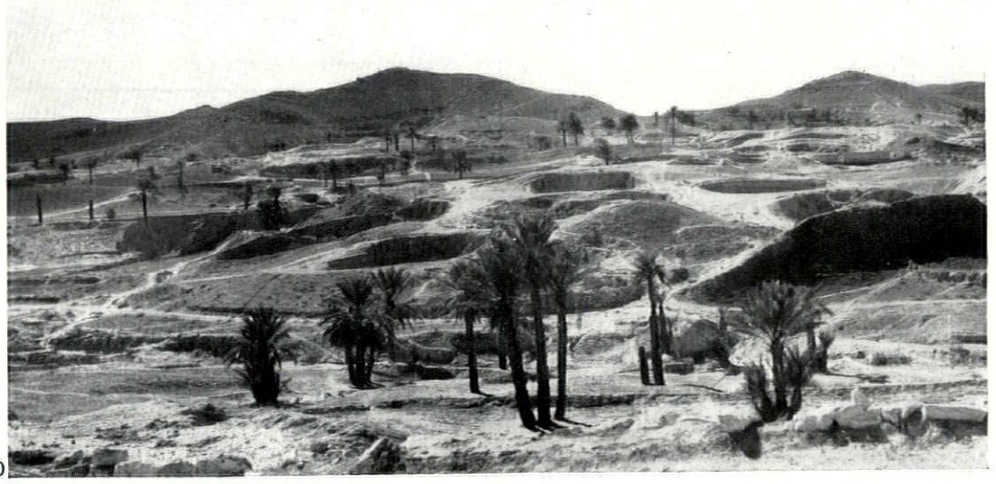


30



31

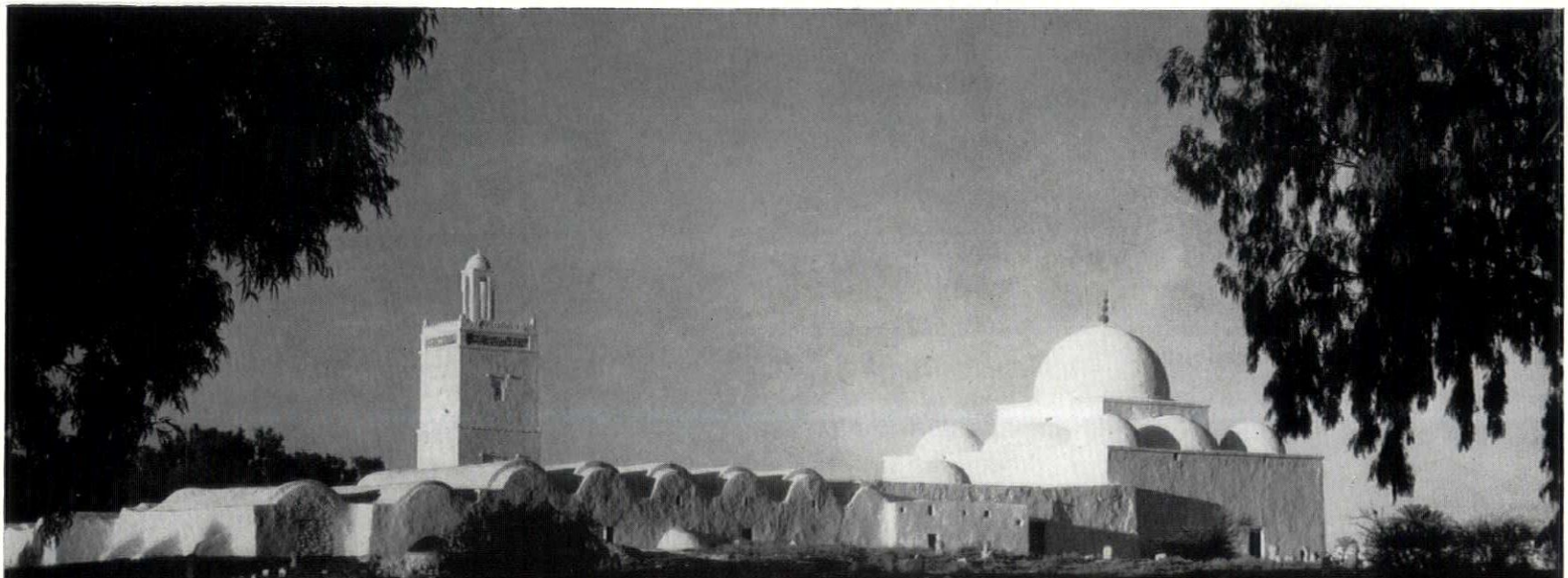


32

indigenous towns, Metameur, 31, and Medenine, with an arresting constructional technique. To guard their grain and crops—and their lives against marauding Tripolitanians, the inhabitants evolved a precursor of the Nissen hut, the *ghorfa*, constructed of parabolic stone, mud and plaster. The village is composed of squares lined with *ghorfas*, 32, stacked up to form four or five storeys, the backs serving as the defensive walls of the community. The fronts have small square openings secured by wooden doors. The upper floors are reached by highly precarious cantilevered staircases. Originally all *ghorfas* were storehouses, and occasionally workshops; but with time their function has degenerated and many have become hovels for the poorest families, while many more crumble into decay.

Kairouan, which Sidi Okba founded on the bleak north-central plains in 671, is one of the 'four gates of Paradise' and one of the holiest cities of Islam, seven trips to Kairouan being equal to one to Mecca. The plan of the Djama Sidi Okba, 34, is the regular one of a prayer room giving on to an open court, the whole inside a high buttressing wall. Supporting the roof are several hundred columns pilfered from Roman sites, an arrangement by which the great mosque at Cordova may have been inspired. Outside the town walls is a collection of Moslem religious buildings, mosque, school and tombs, which form a highly sensitive architectural group, 35. The ribbed cupolas of the Sabre Mosque, 36, inside the city convey a similar feeling for forms in space, a feeling which finds its apotheosis on the Island of Djerba—where Homer found the lotus-eaters and Ulysses repaired after the Trojan War. The vaulted roofs of one of the larger mosques in the Djerba capital, Houmt-Souk, ripple to a climax of explosive domes, 33.

Before taking up the post-war work in Tunisia, we should notice a little-known Le Corbusier house in Carthage, 37, built in 1928, and, although not among the master's masterpieces, one of the first to attack the problem of breaking sun while permitting ventilation. Tunisia is a land of the arch, the vault and the dome; this is true of the past and present and will probably characterize the future. When war destruction, which was much heavier in Tunisia than in Morocco or Algeria, occasioned an enormous rebuilding programme, it was only natural that the new work should reflect local resources and the abilities of local craftsmen. Tunis itself was little touched in the war, but Bizerte, for example, a well fortified and strategic port, was as much as half destroyed. Before any reconstruction was actually undertaken, a master plan was drawn up for the entire area,



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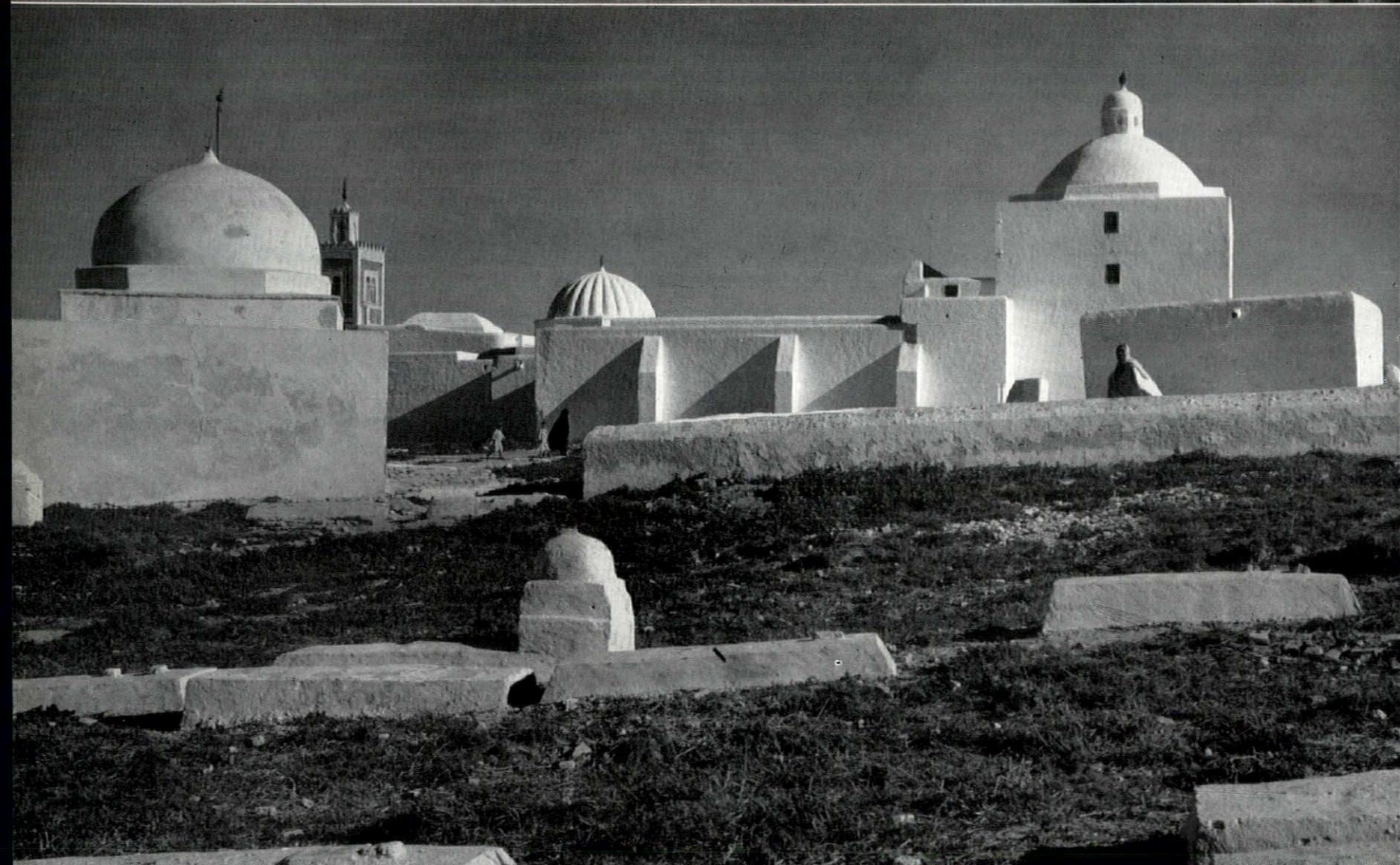

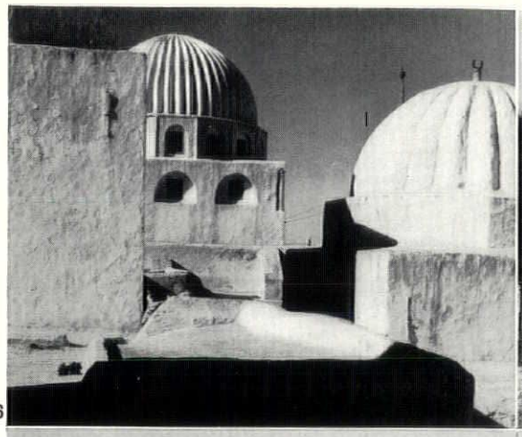

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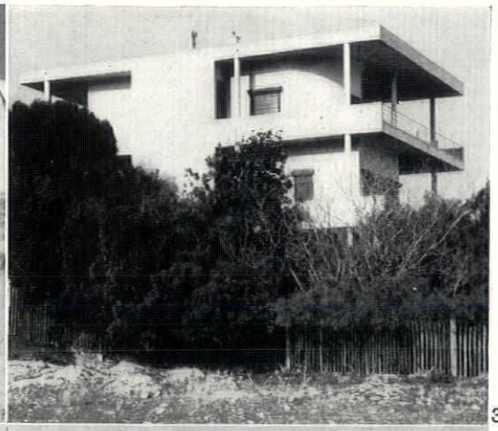

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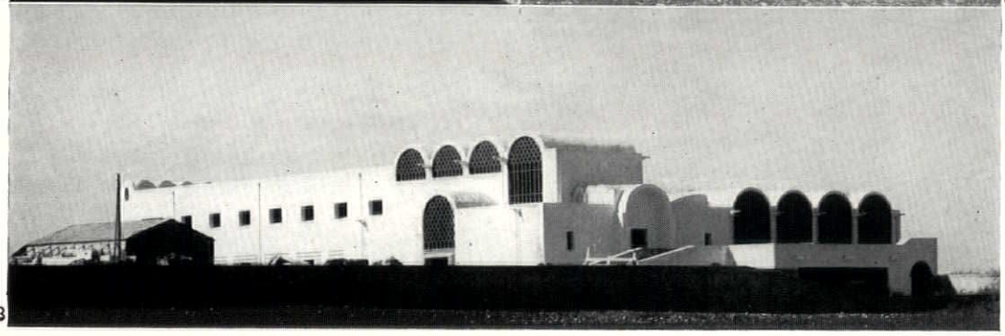
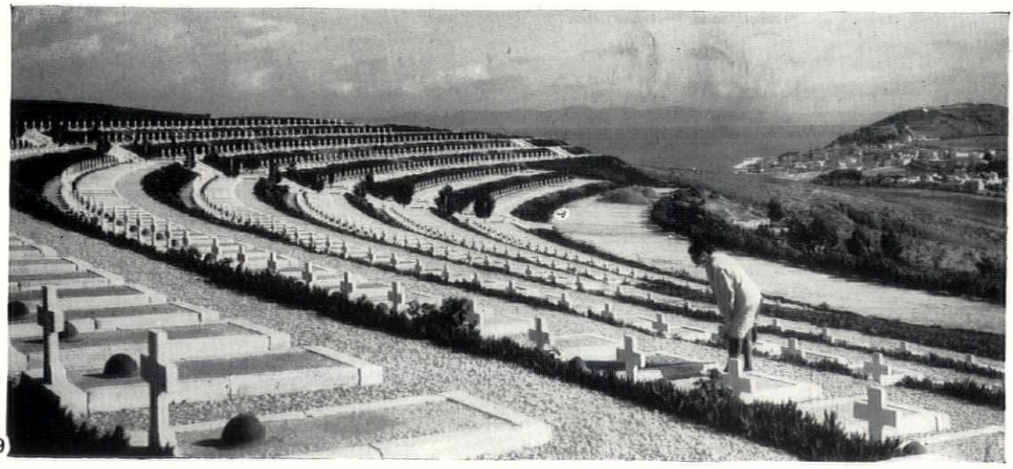


38

after studies had made it clear that the future needs of the city could be better served if the ancient town of Phoenician origin, squeezed in between the port and a steep hillside, could expand across the canal to the level, almost undeveloped ground to the southeast. Hence a new city of great scope, called Bizerte-Zarzouna, was planned: whether it will fully materialize depends on the outcome of the present *malaise politique*. But of the many key buildings which have already been built, the largest and most important is the *Controle Civil Regional*, 38, designed by Jacques Marmey. The architect sought to recall the plastic values we have seen in the mosques. Hollow, locally made tile was used and laid up by the native masons without centering, as their custom has always been. There is some self-consciousness in the *Controle Civil* and a lack of clarity and unity in the disposition of the several main masses. However, it is a refreshing solution that weds local materials and the abilities of local craftsmen with the spatial needs of the mid-twentieth century.

The finest modern architectural design shelters not the living but the dead, namely, the French National Military Cemetery at Carthage-Gamarth, 39, designed by Bernard Zehrfuss and built by the Tunisian Engineer Corps. It stretched in curved stepped terraces across the brow of a hill overlooking the Mediterranean and within view of the broken columns of ancient Carthage, and is the most sensitive and inspired design of its kind I have seen.

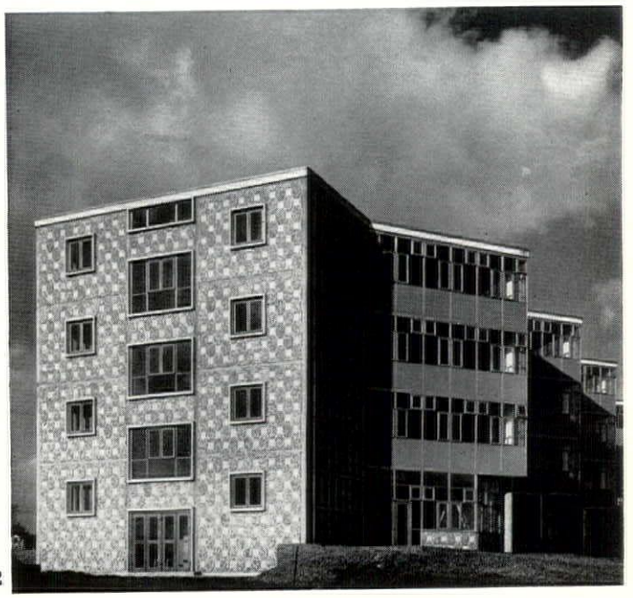


39



1

1, join of the classroom spine and one of the laboratory wings, from the north-west. 2, the classrooms from the south-east.



2

TECHNICAL COLLEGE AT DARTFORD, KENT

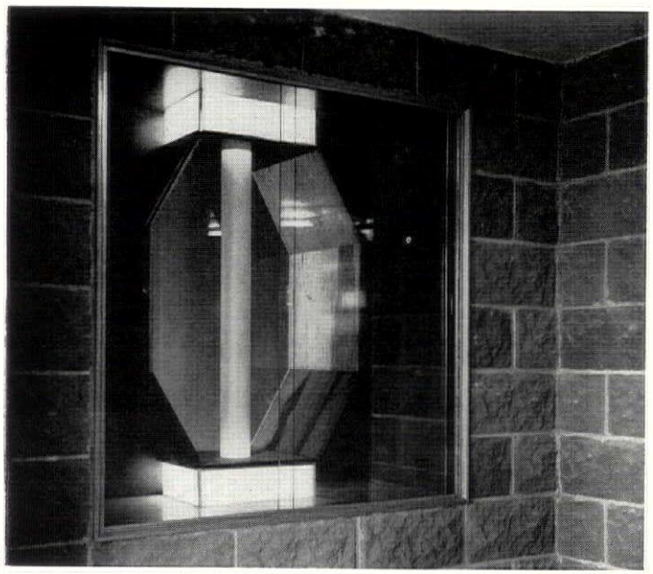
COUNTY ARCHITECT, E. T. ASHLEY SMITH

GROUP LEADER, H. GARNHAM WRIGHT

The completed portion of the Technical College in Miskin Road, Dartford, comprises laboratories, lecture theatres, classrooms, library and ancillary rooms. A labour shortage in the district at the time the college was built led the architects to make some use of prefabrication; but they did not design for a complete use of the module.

The laboratories are contained in a 25-foot structural span, and are oriented north; access corridors, cantilevered from the main structure, face south. Borrowed light between corridors and laboratories give the requisite daylight to the latter. At each of the junctions between the laboratory and classroom wings is a main entrance, with an external non-modular *in situ* concrete screen acting as a visual link. Across the west entrance a canopy is hung from a reinforced steel joist (of the same section as those used in the floor construction) and supported on columns made up of concrete cladding

Technical College at Dartford



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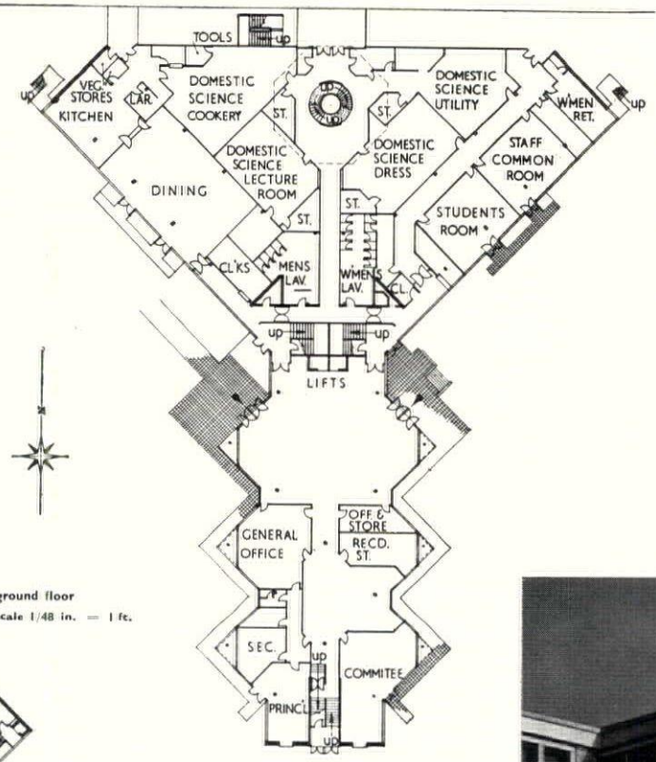
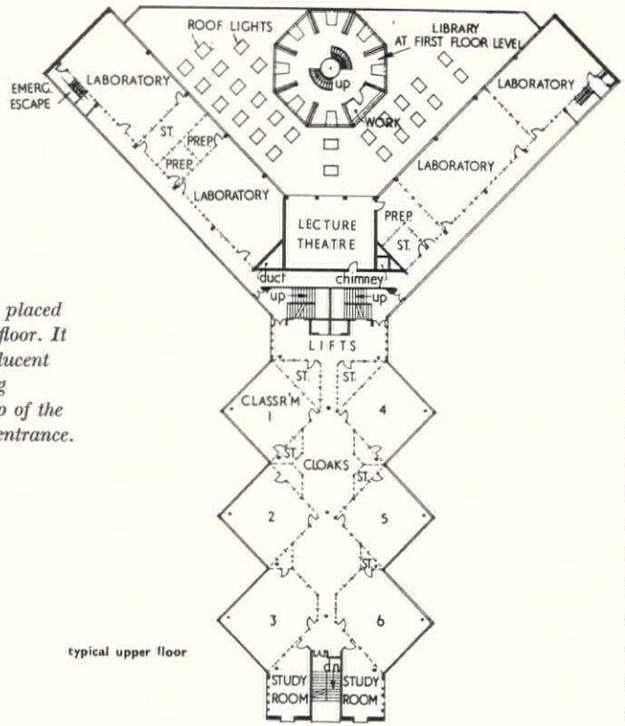


ground floor
scale 1/48 in. = 1 ft.



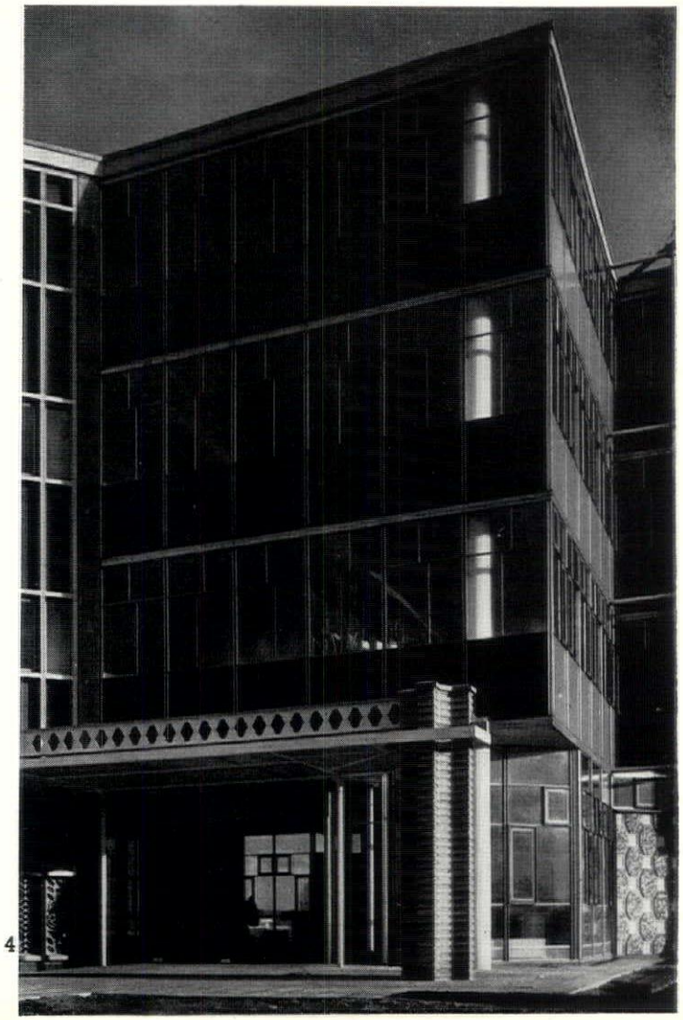
typical upper floor

3, one of the showcases placed on the landing of each floor. It encloses a 4-inch translucent polythene pipe carrying rainwater. 4, a close-up of the canopy over the main entrance.

services can be accommodated in either direction in the cavities essential to this construction.

Vertical extensions are to be built in a later phase; the overall temporary roof is of bituminous felt in layers, laid on compressed straw paper-covered decking without falls. In general, the outer walls consist of non-load-bearing curtain walling—prefabricated assemblies of aluminium alloy frames, glass and cellular laminated plastic infillings. The non-modular end walls are made up of pre-cast concrete blocks, finished in local flint and Kentish rag aggregates, exposed and patterned. Indoors, staircases and ground floor partitions are cavity walls in pre-cast blocks; on all upper floors, partitions are of the same material and finish as the external cladding, and demountable. The amount of applied finish in the form of paintwork has been kept to a minimum; self-finished materials for all parts of the building were deliberately chosen. Internal linings to end walls, walls enclosing staircases and ground floor rooms generally are in yellow-grey wood cement blocks, some smooth and some rock-faced, left as made.

blocks laid horizontally. In the lower panels of the concrete link, concrete screens are inserted, pierced with decorative motifs and filled with coloured glass. The structural plan of the classroom block gives a 25-foot square grid of concrete-clad steel columns. The cladding, also 25-foot square, oversails the structural grid asymmetrically, to give internal corridor space either side of the shared central structural column: this has a special advantage in that no internal cladding need come in contact with a stanchion. Floors are constructed with castellated steel beams at 8 ft. 4 in. centres, pre-stressed pre-cast concrete floor joists at 2-foot centres and pre-cast concrete floor slabs. All



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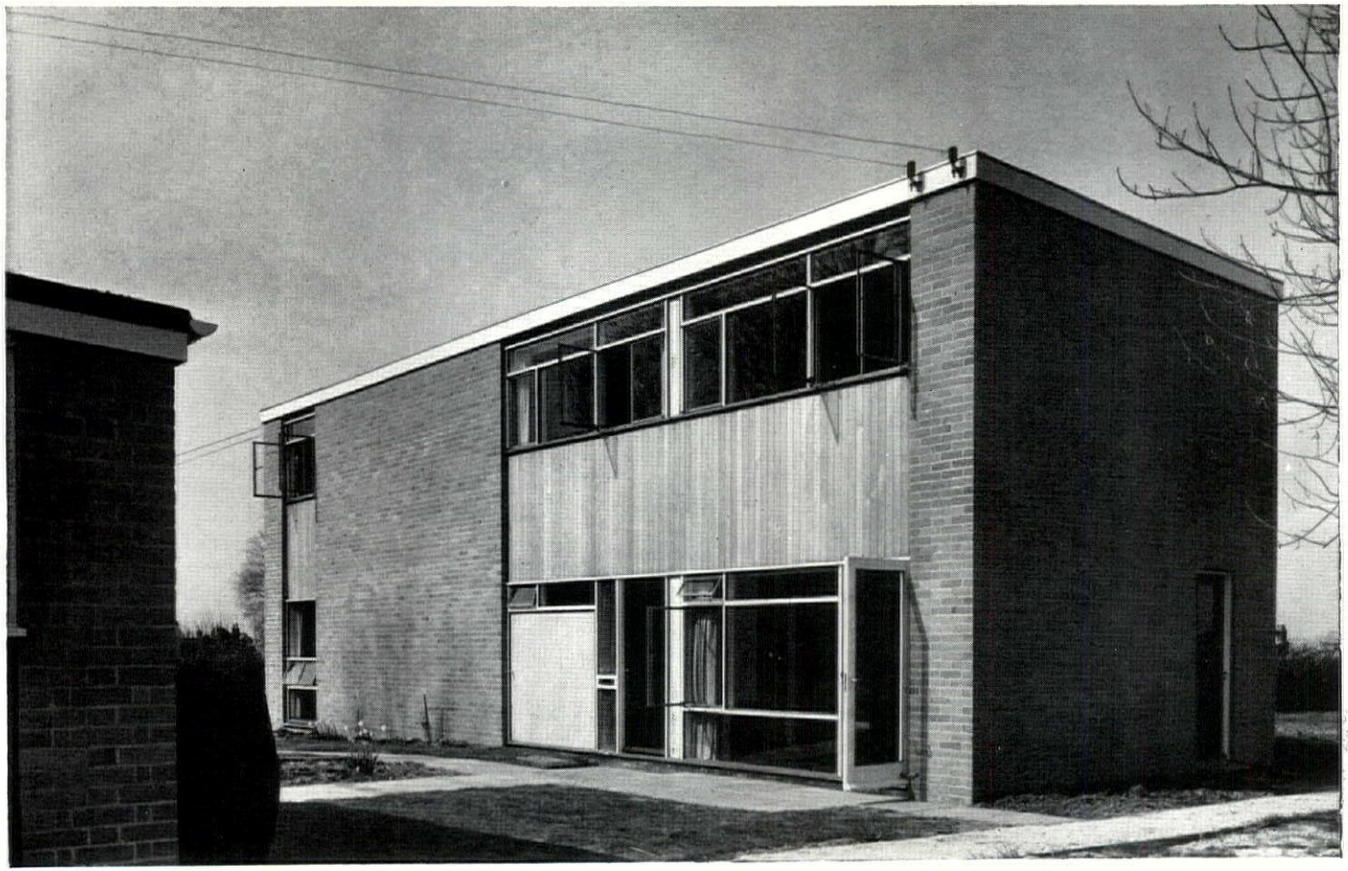


5, *east elevation, with main entrance.*

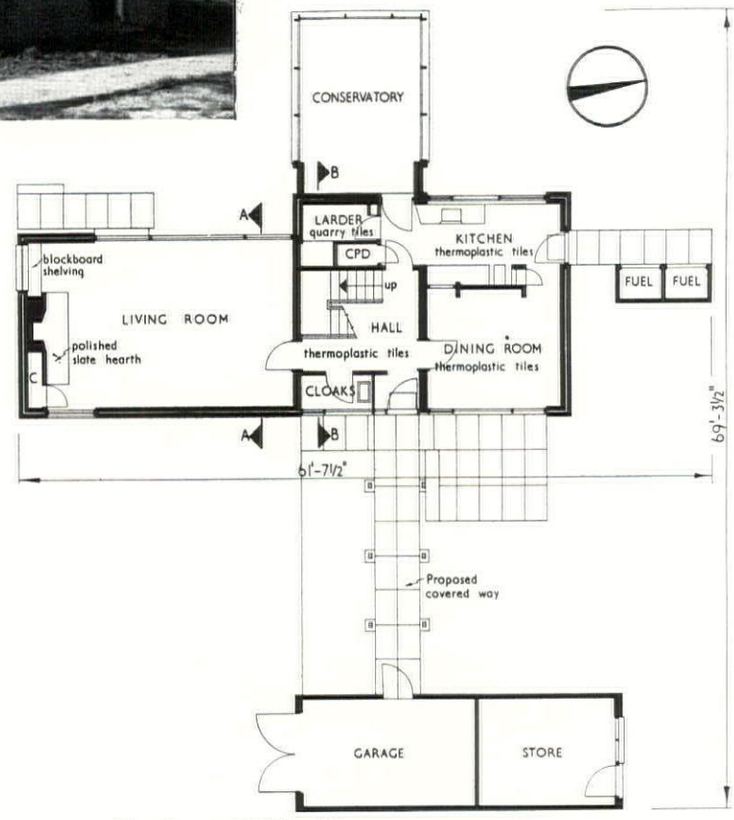
HOUSE AT WEST MERSEA, ESSEX

ARCHITECT, RICHARD FINCH

The west elevation of this four-bedroom house (on a two-acre west-sloping site on Mersea Island) faces marshland and the Pyefleet channel. The external materials and colours were chosen to harmonize with the environment—sailing-boats, lobster-pots, etc. The brickwork is a dark red Essex stock; the vertical weather-boarding between the ground and first floors is untreated cedar. A pergola over the set-back portion of the west front is supported by a mild steel tube, 3 inches in diameter. The two non-load-bearing infills on the east side, surrounding the entrance door, are divided by the end of a transverse loading wall. Standard Z section opening lights are contained within painted softwood sub-frames. The door and the large white panel to its left, which screens the cloakroom, are faced with external ply. The continuous hardwood sills to the first floor window line and above the plinth are oiled. The weatherboarding clads the damp-proof course, softwood framing, glass-fibre insulation and skim plasterboard internal finish. Colouring for fascia boards, the pergola, softwood frames, hardwood door stiles and rails is white gloss; metal window opening lights are dark grey and the external ply panel to the kitchen is grey. Artificial lighting is tungsten: dispersive at ceiling level in the bathroom, kitchen and cloakroom, directional on the wall and ceiling of the living-room, pendant elsewhere.



6, *garden elevation from south-west.*



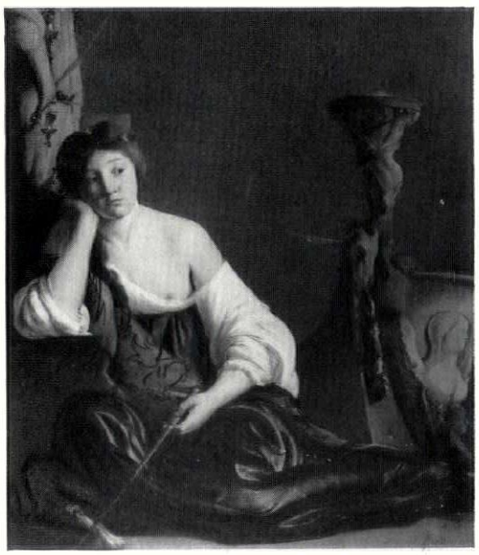
ground floor plan scale 1/16 in. = 1 ft.

EXHIBITIONS

It would be unfair to the organizers of Messrs. Wildensteins' fascinating 'Artists in 17th-Century Rome' to say that its most remarkable feature was the catalogue. With no more than fifty-three paintings and twenty-nine drawings the exhibition succeeded in evoking the avant-garde atmosphere of Rome in the first half of the seventeenth century, and presented the ferment of stylistic changes, contradictory principles and queer personal divergences in a selection which screwed a high-pitched visual excitement from affinity and contrast and three or four masterpieces.

The emotional and intellectual climate of the exhibition juxtaposed Caravaggio's zestful, zig-zagging *Nude Youth with a Ram* and Annibale Carracci's poetically classicist *Christ and the Woman of Samaria*, Bernini's spontaneous Self-Portrait and two of Poussin's deeply considered Ellesmere 'Sacraments': but the catalogue added iconographical explanations and other 'asides' which afforded pleasures and illuminations of a kind which must have thoroughly scandalized those specialists of pure form who would have us believe that a good portrait is as interesting upside down as right way up.

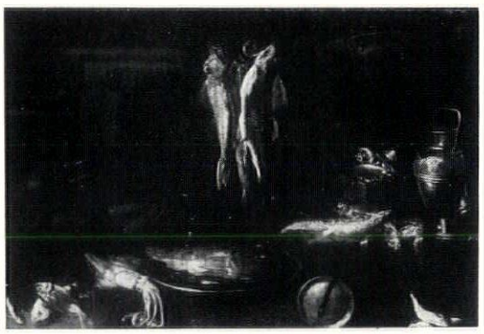
To be told, for instance, that the pose and treatment of the figure in Caravaggio's *Nude Youth with a Ram* was a deliberate debunking of Michelangelo's superhuman nudes in the Sistine Chapel, and that the picture was so well liked at the time, but



1

was so unequivocally sensual that the Roman elite agreed to call it 'St. John the Baptist' to give it respectability, and even found the ram an acceptable stand-in for the cross, the bowl and the lamb, which are the Saint's usual attributes, could scarcely fail to intensify one's awareness of the impudent sprawl of the smiling youth, and the pungency and appropriateness of his unsaintly 'attribute'. Likewise, the note on Paulus Bor's enigmatic picture of a girl holding a wand, 1, gave the iconographical reasons for describing her as an enchantress rather than a sorceress or sybil, and although she would have haunted one in any case, it gave her tedium a kind of grandeur to be able to see her as a plump, bored Circe, awaiting fresh victims without relish and relying with appalling cynicism on one rosy nipple to provide allurement. The pictures have gone back to their owners, but the catalogue keeps the atmosphere of the exhibition intact: it was the joint work of Denis Mahon and Denys Sutton and is an invaluable record of a generous and spirited enterprise.

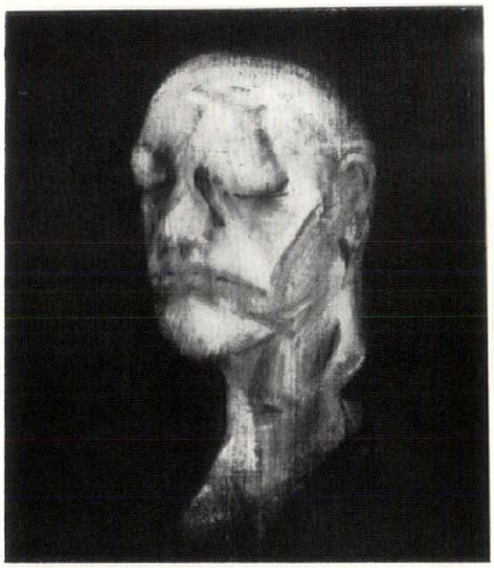
One would have been grateful for the same kind of help when looking at the four extraordinary paintings by a seventeenth-century Neapolitan painter named Giuseppe Recco, included in the exhibition called 'The Flamboyance of Italian Baroque Painting' at the Arcade Gallery,



2

but little is known about this painter beyond the dates of his birth and death (1635–95). His originality lies entirely in his colour sense, and his use of an unnaturally molten looking blue is personal to the point of eccentricity. Three of the paintings depict dead fishes looming out of the dark, 2, and most of the fish are painted in Recco's flashing blue, but one or two in each picture are in an equally unnatural and fulgid red. The fourth picture is a conventional enough flower piece, but the vase is in the tell-tale, transforming, marvellous yet nightmarish blue. These pictures convey as powerful a sense of aberration as the work of Francis Bacon, but the quality of the painting is less subtle and voluptuous.

Two small studies of heads contributed by Bacon to a recent exhibition at the Hanover Gallery are, I think, among his finest achievements, 3. He has based them on William Blake's life mask and obtains two sharply distinct presences from this



3

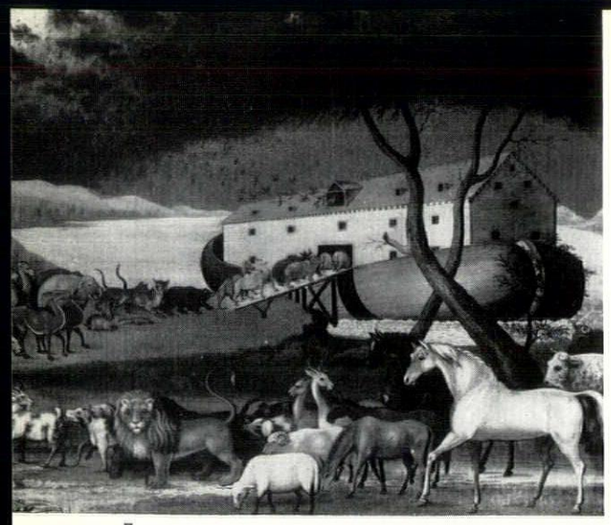
one source, but his primary concern is to create a self-sufficient painterly substance, and the broad strokes of pink and mauve with which he establishes an equivocation between waxen mask and human flesh drag pain and loneliness and imperturbable spirit in their wake as if bits of alien matter had got into his brush.



4

Graham Sutherland's portrait of Arthur Jeffress, 4, exhibited at the Jeffress Gallery, is the fifth example of the strangest portrait convention of our time. These elaborate set-pieces constitute a twentieth-century 'grand manner' characterized by a tense informality and a collage-like relationship between a highly finished facial likeness and a slowly emerging body painted in an impressionistic manner brilliantly derived from analytical cubism.

The Italian-Swiss sculptor Emilio Stanzani who has been holding his first London exhibition at the Beaux Arts, is something of a puzzle. The surface treatment of his bronzes ranges from a cheap showiness to a refinement of colour and texture which



5

rivals the best work of Marini and Manzu. In much of his figuration there is a streak of vulgarity and rather jejune humour, but the exquisitely coloured life-size bronze of a Harlequin, has poise and depth of feeling, and if the shallow virtuosity of his other work could be forgotten one would be inclined to rank it among the best sculptures of our time.

The exhibition of American Primitive Art at Whitechapel Art Gallery contained a large number of early portraits which tended to give a better account of the clothes than the faces, and it was the venturesomeness of the mythological and historical pictures which gave the exhibition its unique charm and pathos. The five paintings which represented the art of Edward Hicks, the most famous of the American folk painters of the early nineteenth century, made it evident that he had no rivals. His work was a persistent and moving vision of peace on earth, and his *Noah's Ark*, 5, is simply another way of presenting his favourite theme, The Peaceable Kingdom, where the lion lies down with the lamb, and William Penn signs a treaty with the Indians.

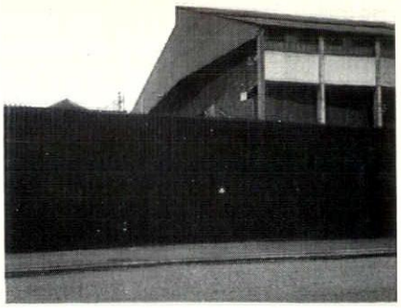
Robert Melville

LANDSCAPE

RECREATIONAL LANDSCAPE

It is a symptom of the watertight compartments of modern thinking that the needs of physical recreation are divorced from those of visual enjoyment. The paraphernalia of sport can be as destructive of the landscape as that of industry and will become more so with the growing use of hard playing surfaces instead of grass and of commercial sport with its opaque fences, 1.

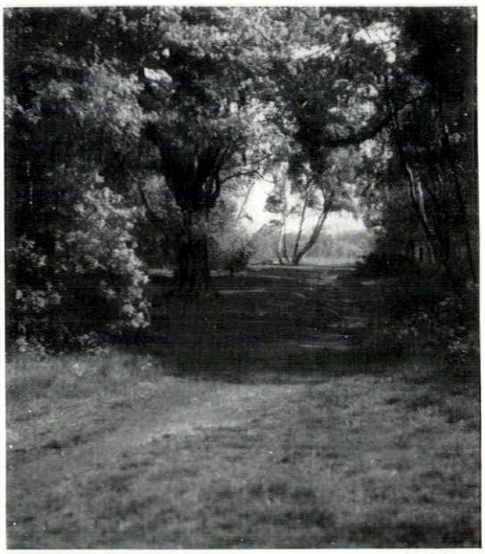
Some recreations make naturally good landscapes: walking and boating should be, 2, 3, but are not always so, 4, 5: golf can scarcely fail to be. But most organized



1

recreational landscape:

1, Football stadium, Brentford. 2, Wimbledon Common and 3, the lake in Regents Park, contrasted with 4, Highgate Woods, and 5, Barking Boating Lake. 6. Cricket at Headingley, Leeds, and 7, on the green at Southborough, Kent. 8, in Holland Park, Kensington.



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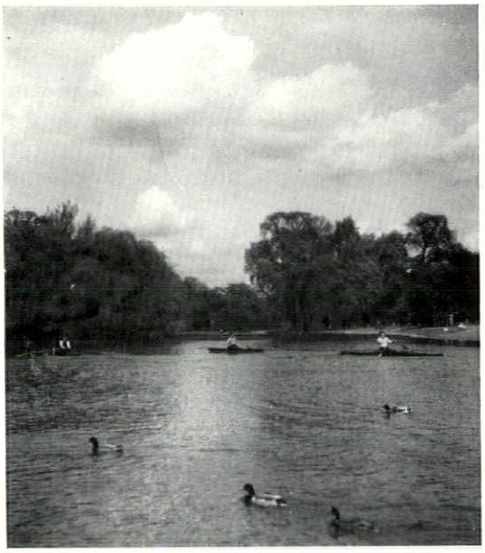

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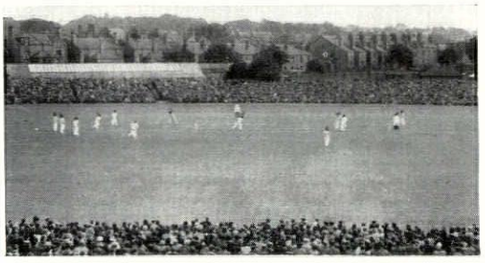

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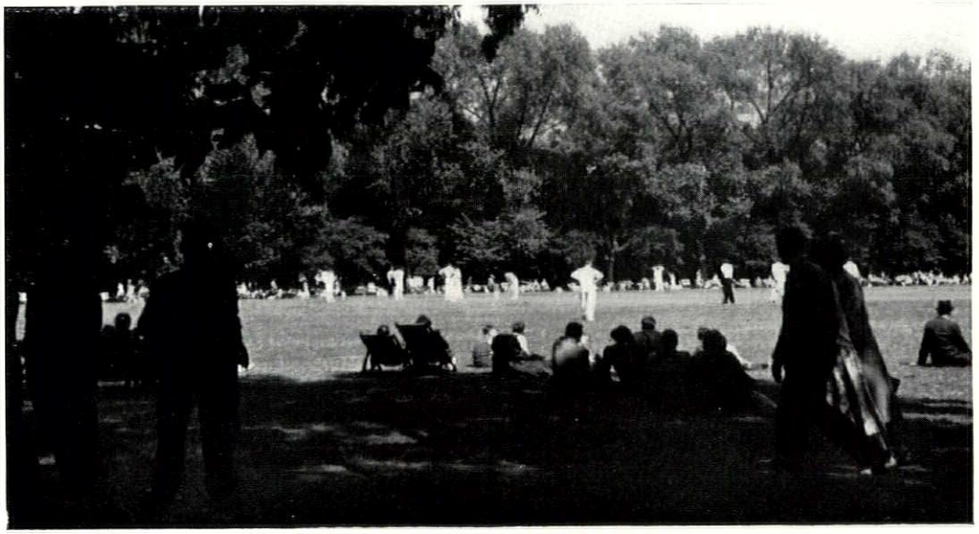

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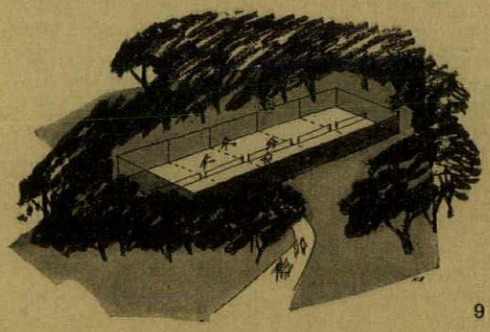
games must be given the right setting if they are to be more than exercising grounds. Football and cricket fields are a good foreground, 6, but they need the background of trees, 7. Hard tennis courts and running tracks have no beauty in themselves and need more drastic treatment, often the best answer being to screen completely by trees whilst keeping



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the perimeter irregular, 9, rather than repeating the shape of the courts or track. The extra land needed to give the setting is grudged, but if sports fields can be combined with the wooded spaces used for the less organized pleasures of strolling, as has been done at Holland Park, 8, they can make one picture with, and add to the pleasure of both. **Sylvia Crowe**

EDITORS ONLY

THE CORNER CHAMFER

One of the commonest and ugliest features of urban Subtopia—and one moreover that seems to have escaped the angry searching eye of author Ian Nairn—is the Corner Chamfer—that curious 45° cutting of the building lines at street corners which is imposed upon all of us—architects, building owners, and citizens alike—by some agency unknown. Colchester High Street has a typical example. At the place in question a church* had once stood on a corner, jutting slightly beyond the general building line. The building line in High Street has since been straightened and, worse still, the corner chamfered. It all sounds harmless enough, but the results will be visually disastrous, and as far as can be seen, functionally no improvement. For what in fact has happened? A misshapen building site has been arbitrarily created. The building owner has lost valuable High Street frontage, and the architect is given an architectural problem which is practically insoluble in three dimensions. The citizen is driven back down the side street in order to cross the road at a reasonably narrow place, the look of the High Street at this point is ruined. . . . And all this has been devised by the local authority, and apparently connived at by the planning consultants, so that the motorist emerging from the side street into the High Street can now take this corner faster than he could before. Who started this horrible game and why do we keep at it? Is the corner chamfer an architectural legacy of Edwardian Baroque, a vestigial detail bequeathed to us by John Belcher or the Leeming Brothers, and ever since embalmed in the bye-laws? Or is it, more probably, a more recent detail imposed upon us by planners and engineers to make life easier for the motorist at the expense (as usual) of good architecture? In any case, let's have no more of it—or if we must have more of it, let us be told why: because of all the limitations—mostly justified—placed upon civic architecture this is surely the most difficult to handle in three dimensions. It would, indeed, be difficult to cite one successful solution in the whole of Central London. All the attempted remedies to be seen—curves, doubled-up angles, enlarged splays—are compromises with the proper answer for a street corner, a direct, strong and simple right-angle. 'Rubbing off the corners' may or may not be a worthy aim in education; it is certainly the kiss of death to civic architecture. **Hugh Casson**

* St. Nicholas, 14th century, and Sir Gilbert Scott; demolished 1954 as redundant, on condition that the site should not be used for the sale of fish and chips.

HISTORY

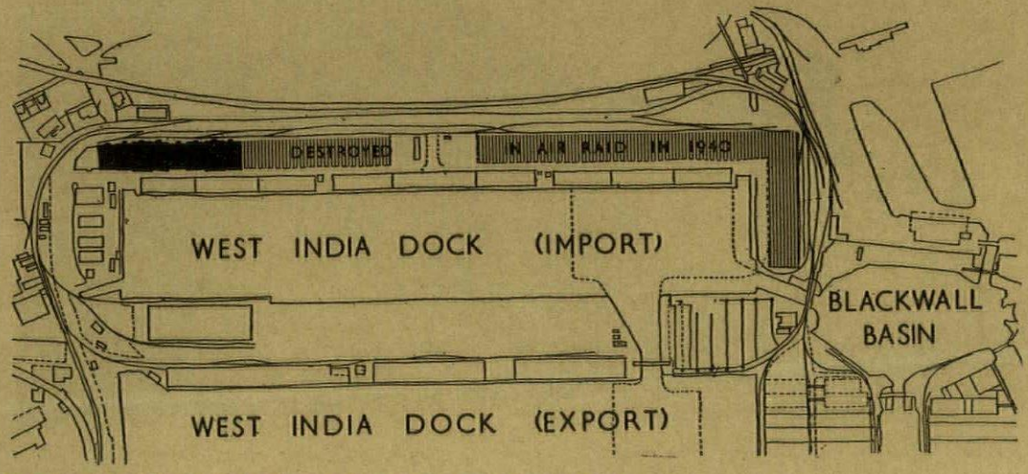
A GREAT GEORGIAN WAREHOUSE

The finest of London's dock buildings were also her first—those of the West India Docks, begun in 1800 despite the stress of war and blockade, and finished in 1802 during the brief lull in the Napoleonic wars after the Peace of Amiens. The biggest warehouses were those along North Quay, on the north side of the West India Import Dock.

Who designed them has long been uncertain. Ralph Walker (the engineer in charge) has been suggested and John Rennie (of Waterloo and Kelso Bridges fame) who was consultant engineer. It was not unnatural to credit engineers with an architectural design, for the functions of engineer and architect were not yet clearly separated. However, from the unpublished Minutes of the West India Dock Company* it appears that neither Walker nor Rennie, but the architects George Gwilt and his son are entitled to the honour. The story is interesting, for great names of the period come into it. It seems that the Company's directors were at once prompt and cautious. Having invited plans for the warehouses and awarded prizes of fifty, thirty and twenty guineas to three architects named Gifford, Mason and Solway, they took second thought and referred to Ralph Walker, who consulted John Soane. These two advised against using any of the prize plans. Possibly they were not practical enough, for we find that counsel was now sought from the Thames Wharfingers. The Dock scheme, novel and bold, had drawn public attention; and famous architects sought the chance of designing for it. Among the ten who came forward were John Nash, John Soane, George Dance and the two Wyatts. They were called to interview the Board; but the Gwilts were preferred to their more renowned rivals. There is no evidence that any brought designs to the interview and the choice may have been merely of those who offered the lowest terms, yet there was nothing shoddy about the Gwilts' design. On April 7, 1800, it was resolved 'that the plans now presented by Messrs. Gwilt and Son of one stack of the warehouses intended to be erected on the North Quay . . . (with some alterations directed to be made) . . . be adopted'.

In less than two years, at least six 'stacks' (that is, blocks) were ready; and eventually there were nine, each having five floors as well as an attic floor. However quickly the work was done, it was supremely well done. In 1921 Sir Joseph Broodbank, writing his *History of the Port of London* was able to

* Preserved by the Port of London Authority.



Plan of the West India Docks; the solid portion shows the length of warehouse remaining today.

say 'after 120 years the buildings show no signs of decay'.

At some time later in the century, the nine separate blocks were joined by brick buildings consistent in design with the original blocks, so that the whole length of warehouses showed as one mass. The size was impressive, in fact unique. Sir Joseph quotes the façade as three-quarters of a mile long, but according to the plan it was a trifle less—just under 3,000 feet, or almost two-thirds of a mile. That is a formidable stretch.† As the Act of 1799 (which authorized the making of the dock) provided that no one should build within a hundred yards of the boundary fence, nothing stood near enough to obscure the view of this astonishing rampart, this veritable fortress of mercantile enterprise.

† It compares with Versailles, 1,320 feet, and Caserta, near Naples, 800 feet. Wentworth Woodhouse, the largest country house in Britain, runs to 600 feet, and even Blenheim only to 850 feet in length, while the great palace of Spalato, built for the Emperor Diocletian, was but 623 feet long.

Mere size alone, however, should not make a claim on our respect. What must earn respect is the high quality of the design. This was a commercial building. Out of the question, then, to spend time, thought and money on decoration, upon efforts to disguise it as something not a warehouse; but equally out of the question for the Georgians not to spend thought on design. One has only to compare any warehouse built after, say, the mid-nineteenth century to realize the falling away in architectural standards.

To achieve design all the elements of good building were invoked. The long façade was not made a dead straight line. It was varied by the slight setting forward, like bastions, of some parts and the setting back of others. The parts standing out were also somewhat higher, suggesting minor towers at intervals along the face of the ramparts. This repeated emphasis served to draw attention to those essential features of a warehouse—the square 'loopholes' at which goods are delivered in and out. Excellent shapes and disposition of the windows vitally, yet discreetly, added to the total effect. Most of those of the first four floors were segment-headed, the fifth-storey windows were semi-circular. These curved window-heads were not only structurally more sound than rectangular ones (in a brick building), but they, as well as the 'towers', served to relieve any monotony of the long horizontal emphasis; and occasional tiers of circular, smaller windows further varied the pattern of fenestration.

Plain strips of white limestone as window sills, another strip making a continuous band above the third-floor windows and one forming a parapet with a modest cornice—all of white limestone—served to enliven, by their clear simple lines, the austerity of the dun-coloured massive brickwork.

At ground floor level the brick walls were made four feet thick. Joists a foot deep sustained the wooden floors which were further supported by wooden cross-members about two feet square, by cast-iron pillars and solid wooden uprights. Year after year for almost a century and a half these floors—often stacked near to the ceiling—carried thousands of tons of bagged sugar and other merchandise, first brought alongside by the old sailing ships (the 'West Indiamen'), until later in the century they were gradually driven from the seas by metal steamships.

It may have been noticed that in this article the past tense has often to be used. The reason is sad: this great warehouse is badly diminished. In September, 1940, two nights of enemy raiding transformed it to a holocaust of blazing beams and sugar. Intense heat made approach almost impossible, and when at last the charred and shattered ruins were cleared, only some six hundred feet—at the western end—were left intact. This part, listed for preservation as a building of architectural and historic interest, is still in full use for the original purpose; and enough remains to recall More's words on his Utopia 'buylded after gorgious and gallante sorte', to prove that the Georgians thought it due even to a warehouse to be built, if not in gorgeous, then at least 'in gallante sorte'.

Mr. Summerson, in speaking of the architecture of the West India Docks, calls them 'warehouses of taste and precision'. He also refers to the 'tough refinement which the early engineers invariably achieved'—a description which could as well be applied to the architect's work. Mr. J. M. Richards has also paid tribute. In his *Modern Architecture* he quotes the early dock warehouses as prophetic of modern functional architecture‡ and as such I wanted to introduce them to the readers of THE ARCHITECTURAL REVIEW under their corrected designers' names.

S. H. Kessels

‡ Those of St. Katharine Dock, by Telford, which he illustrates, have not quite the grandeur of the North Quay series.



1



2

Two views of the remaining fifth of the West India Dock warehouse. 1, *the south elevation facing the dock.* 2, *the north side with railway access.*

BOOKS

STORIA NEO-ACCADEMICA

POETICA DELL'ARCHITETTURA NEO-PLASTICA *by Bruno Zevi. Milan, Tamburini l.*1700; L'ARCHITETTURA MODERNA *by Gillo Dorfles, Milan, Garzanti (Serie Saper Tutto) l.*300.

To those grounded in the all-too-solid methodology of German-American historiographic disciplines, Italian writing on the modern movement in architecture seems year by year to become more and more peculiar, but whether these peculiarities are to be traced to the common inheritance of the Crocean tradition, so difficult to understand from outside its own highly specialized terms of reference, or whether they stem from the personal eccentricities of the Italian school's star performers, is often difficult to decide.

Thus, if Professor Zevi could be written off as merely a critic who had become *engagé* in the disputes between Milanese Rationalism and Roman Eclecticism, the situation would be simple, but with the passage of time it becomes clear that he shares a basic method with other Italian writers—a method which one might call academic from the way in which it attempts to bulldoze men and buildings into tidy scholastic categories. This tendency is only too gracelessly manifest in Signor Dorfles' book, a slim volume intended for a Pelican-type circulation, where the history of the modern movement is reduced to a series of fashionably-whited cenotaphs with the inscriptions *Le Corbusier e il Purismo, L'Architettura Organica e Frank Lloyd Wright, de Stijl e Mies van der Rohe, Architettura Brasiliana e il Neo-Barocco*, and so on *ad ossificationem*—the roaring tale of one of the great adventures of technological man reduced to a series of stylistic labels such as the nineteenth-century academics deployed.

Professor Zevi is far more subtle than this, but the neo-Academic tendency can still be seen grinning through from behind the *engagé* polemics which are the prime disfigurement of a book that badly needed writing. The problem of *de Stijl*, and of Neo-plasticism, its formal æsthetic, is one of influence—how, when and where did it strike the Masters of the 'Twenties, what had it to offer them in 1920, in 1923, and in 1927 ? The answers to these questions can be embarrassing, in the case of the Bauhaus acutely so, and Zevi makes this an instrument with which to discredit *il Razionalismo* by casting Gropius as the demon king in an imaginary pantomime of the Weimar Bauhaus.

That there were personal difficulties between Gropius and Theo van Doesburg there is no doubt, but it can hardly be called good historical method to quote the van Doesburg family version at length, and with justificatory embellishments, while dismissing the Gropius account to an eight-point footnote among the appendices.

Still, these manœuvres are obvious enough, but they are rendered possible only by omitting from the account the personality and activity of Moholy-Nagy, a figure with whom the Italian school is notoriously unable to deal, as it is also with its own Futurist contribution, so vital to the formation of the Modern Movement. The reasons are probably the same in both cases, and can be traced back to the Academic approach mentioned above—the Italian school likes its æsthetics clean and, on the whole, Platonic. Moholy's, like Marinetti's, were dirty and mechanistic, empirical and anti-absolute, and nothing much can be done to disinfect them. Van Doesburg, on the other hand, by selective quotation can be rendered tidy and more *simpatico*.

For all that, the book is not without virtues—its bibliography and its illustrations are full of new material, and its patent bias and absurdity may put a term to the current callow tendency to regard De Stijl as the only important reformist influence bearing upon the Bauhaus, and open the way for a re-examination of the contributions of Malevitsh, Moholy, Lissitsky, the Futurist survivors and other practitioners of dirty, live, mechanistic and un-Academic æsthetics.

Reyner Banham

SOLID DEVON

DEVON (Survey of England Series). *By W. G. Hoskins. Collins.* 42*s*.

A good solid book, as competent and unemphatic as a piece of engineering. All its efforts are directed to fulfilling the programme of the series, and provide a concise and intelligent county history. It has to be a standard work, as the last one was written in 1822, and for this it seems perfectly suited.

The writing is unexciting, although occasionally lit up when facts break out of the well-disciplined pages—for example that twenty-ton vessels were going to the Newfoundland fisheries as early as the 1580s. But it takes a quotation from someone else's prose, even if it is a bit overripe, to bring out all those hundreds of square miles of mid-Devon:—'where all green things are crushed between the hammer of the west wind and the anvil of the yellow clay.' However, the writing has depth which prevents it being dreary, given by Dr. Hoskins' knowledge of and sympathy with Devonshire: and one wouldn't chide the book with failing in what it never set out to do if the author hadn't already made, for example, Leicestershire, come to life with just those facts which seem to immolate him here.

There is quite a lot of architectural information by-the-way; enough to make possible a correlation with the Buildings of England. That would yield no fruit to the searcher after malicious comparisons. The only divergence is among the interminable Victorianized churches, a subject badly in need of a little fantasy. There is also a section on building materials which is first-rate and should be repeated immediately county by county, before rural 'slum clearance' finally removes the evidence.

Ian Nairn

ART AND THE HOUSE OF TUDOR

TUDOR ARTISTS: A Study of Painters in the Royal Service and of Portraiture on Illuminated Documents from the Accession of Henry VIII to the death of Elizabeth I. *By Erna Auerbach. University of London: the Athlone Press.* 70*s*.

The name of Harry Blankston, who did decorative painting at Hampton Court for Henry VIII, has rung a faint bell with students of Tudor art ever since (and only because) Ernest Law quoted some accounts relating to him in his history of the palace, published in 1890. But who was he? Miss Auerbach has found out. He was a German from the Cologne district, lived in Bermondsey and bequeathed a triptych to the church there. His daughter married a son of Galyon Hone and one of his friends was Robert Shynck. Hone, the glazier, and Shynck, the moulder, also worked at Hampton Court ; and Shynck lived at Bermondsey. All were foreigners making a comfortable living down on the south bank by manufacturing 'antyke' work of various sorts for the king.

That is one unsensational and quite typical result of Miss Auerbach's pursuit of truth in the Record Office, Somerset House and elsewhere. There are plenty more—indeed there is scarcely a page without some scrap of fresh investigation, some tiny new discovery. Unsensational they are, these discoveries; the sad thing about research in this field is that however much one may turn up about the lives and employments of interesting people like Blankston or Hone, Lizard or Modena, Scrots or Gower (and Miss Auerbach has something new on all those and dozens more) the stubborn fact remains that their works have, except in a few cherished instances, disappeared. Any general book on Tudor art must tend to have much the same illustrations as any other, and it was, no doubt, this melancholy fact which induced Miss Auerbach to devote a preponderance of space and nearly all her plates to a particular class of Tudor painting which has hardly been published at all—the royal portraits and other compositions painted on official documents. Here, however, time's irony strikes again. The material is present, but where are the artists? Nowhere. Miss Auerbach can describe a whole series of plea-roll initials, some of them remarkable from both the artistic and ideological points of view. But she cannot tell us who painted them. And so, what with the artists whose works are lost and the works whose artists are lost one begins to wonder if there is much hope of ever constructing a solid picture of the arts in Tudor England.

Perhaps there is not. But what certainly can be done—and Miss Auerbach's book is, to say the least, a conspicuous milestone on the way—is to demonstrate almost the whole pattern of Tudor patronage of the arts. If we have been accustomed to think of Tudor painting in terms of Holbein and post-Holbein portraiture against a Wyngaerde background, Miss Auerbach causes us to think again. Heraldic illustration, the devices of the office of revels, the extraordinarily diverse employments of the Serjeant-painters (on whom there is a valuable appendix)—all these show us, even if only in documentary outline, a world in which nothing which was thought worth doing was done without its appropriate formal gesture—a gesture which required the artist's professional help and, of course (or where *would* the art historian be?) the due inrollment of his fee.

John Summerson

TEXTBOOK ON SERVICES

NEW WAYS OF SERVICING BUILDINGS. *By Eric de Maré. The Architectural Press.* 30*s.*

This companion volume to 'New Ways of Building' covers lighting, heating, hygiene and sanitation and interior finishes. The section on artificial lighting is, indeed, the best review of this subject I have yet read. Much of this material is drawn from recent work by the Building Research Station which has not hitherto, as far as I am aware, been published in comprehensive form. The special merit of this section lies in the emphasis it gives to the, as yet, little understood physiological effects of lighting on the human being and in its treatment of lighting as an integrated part of the architectural conception. This subject is, indeed, something of a blind spot in contemporary design and one welcomes a résumé of current knowledge of this calibre.

It would be churlish to judge the rest of the volume by its failure to maintain such a high standard, for the other authors have had no such background of prior research on which to draw. I should like to have seen the sections on heating and hygiene and sanitation dealt with more from the physiological aspect. A good deal of research has been done on the effects of the heating environment on the human being and a résumé on these lines would have made a fitting companion to the lighting section and have provided a more satisfying raison d'être for the book. If one accepts the textbook layout of the remaining sections, however, and the title after all implies a textbook, there is plenty of meat here.

Dex Harrison

STANDARD HISTORIES

ART AND ARCHITECTURE IN FRANCE, 1500-1700, *by Anthony Blunt*; ARCHITECTURE IN BRITAIN, 1530-1830, *by John Summerson.* Both *Pelican History of Art.* 42*s. each.*

It would be both laborious and tedious to review Mr. Summerson's and Professor Blunt's new Pelican Histories in the kind of detail they really deserve; it would also be rather gratuitous in the former case and virtually impossible in the latter. Both are fated to become standard works in their fields, and neither is likely to be displaced for a score of years or more, whatever apparatus of marginals, sidehangers and glosses they may accumulate in the meantime, and whatever private reservations may be entertained by those who know more about some small corners of the fields they survey at large.

But the reviewer can, perhaps, say something about their probable status and utility as standard works—especially now that they have been in use as pedagogic instruments for a year or so. Mr. Summerson's book replaces a squalid platoon of battered veterans which have done noble service but are now played out. Its peculiar virtue is most readily seen by comparing it with its long awaited contemporary and essential complement, Mr. Colvin's *Dictionary.* The latter logs the documentable facts, without regard to their relative historical importance, but Mr. Summerson recounts a historical narrative, and in the interests of his story is prepared to drop a few facts overboard—Sir Henry Wotton, for instance. But one might truthfully say that his historical narrative is the better for this, especially since he thus has room to bring into his narrative certain historical links who are commonly overlooked—such as the part played by the unspeakable Benson in launching the ineffable Palladians. Similarly his chapter on Gibbs tends to rejoin what the partisans of Wren, on the one hand, and Burlington on the other, have seemed determined to keep asunder. For its fluent and comprehensible narrative of English Classicism this book will fit comfortably and instructively into the pattern of architectural teaching.

The field which Professor Blunt sets out to survey is one less well worked even in France, and the need for his book is therefore even clearer. In architecture it replaces Blomfield, and provides a gloss on the boredoms and contradictions of Hautecoeur—and if it did only that it would be worth every penny of two guineas. But in painting, sculpture and the graphic arts it enters a field where there is nothing much to replace. It provides a guide to what, in the minds of most English students, is a blank period in the cultural history of Europe, and many will come upon figures like Bellange, Pilon, Girardon and Desportes with pleasure as well as surprise. But, above all, this is the first of these Histories which achieve their founder's ambition that each volume should treat the visual culture of a period as an integrated whole, and not as a number of independent arts.

Reyner Banham

Shorter Notices

THE FUTURE OF CITIES AND URBAN REDEVELOPMENT. *Edited by Coleman Woodbury. The University of Chicago Press (U.K.: Cambridge University Press)* 1953. 67*s.* 6*d.*

At first sight, this book is promising: it has a list of distinguished contributors: the editor himself, Catherine Bauer, Henry S. Churchill, Richard Dewey, G. Holmes Perkins and others. It also has impressive section headings: 'essays on redevelopments: goals, design and strategy'; urban redevelopment in relation to industrial location, local government organization in metropolitan areas and 'the urbanite'; 'the background and prospects of urban redevelopment in the United States.' The book is supposed to present the findings of that part of the 'Urban Redevelopment Study,' carried out in Chicago from 1948 to 1951, which dealt with general redevelopment problems and their causes, as well as with planning policy. But what was this 'study'? Apparently it consisted of a lot of random reflections, a few of which are brilliant, and many of which are banal; of a collection of miscellaneous facts; of an especially clumsy manner of repeating the obvious, and the inability to call a spade a spade. And where are the results? It is difficult to find them amid the verbosity spread over 764 pages. When the reader comes across leads, he is not able to follow them up; despite its bulk, this tome includes no bibliography, only a few lists of relevant research projects and their findings.

It seems that 'enlightened opportunism', one of the main themes of this book, requires that form of presentation. Although a large part of the Chicago study was supposed to be devoted to questions of policy and value judgments, the book is an apologia for evading such issues. In this frame of mind, it was hardly possible to reach any conclusions. For example, on page 749 Mr. Woodbury finally says: 'Although it may seem trite, I believe it is a true observation that urban communities through their governmental and less formal institutions either make some headway during the next few years toward consolidating gains and developing some over-all conception of their future pattern and objectives, or else they begin to lose ground in many of the sectors in which they have made the most headway during the decades just past.' In other words, the future of cities will either be better or worse than the present.

R.G.

L'ART MOSAN. BIBLIOTHÈQUE GÉNÉRALE DE L'ÉCOLE PRATIQUE DES HAUTES ÉTUDES VI Section. *Edited by Pierre Francastel.*

This is a publication of considerable interest to the art historian. It is the report in over 200 pages of more than twenty papers prepared by distinguished specialists (Grodecki, Hahnloser, Homburger, E. Meyer, Charles Oman, Pradel, Verlet, Volbach, etc.) in connection with a confernce held in Paris in 1952. It deals with a great many aspects of medieval art in the Meuse Valley. Only two papers are about architecture: Paolo Verzone's on Westworks and the cult of the angels and Elie Lambert's on the Chronology of Tournai Cathedral.

N.P.

Books Received

FORTIFICATION IN ISLAM BEFORE A.D. 1250. K. A. C. Cresswell. Geoffrey Cumberlege. 8s. 6d.

BETTER BUILDING BY INSOLATION AND DAYLIGHT STUDIES. 1 and 2. F. Tonne. Karl Hofmann Schorndorf, Stuttgart.

CONSTRUCTIONAL STEELWORK SIMPLY EXPLAINED. Oscar Faber. Oxford University Press. 12s. 6d.

THE LESSON OF JAPANESE ARCHITECTURE. Jiro Harada. The Studio. 30s.

BUILDING—THE EVOLUTION OF AN INDUSTRY. P. Morton Shand. Charles Clore. 15s.

TIME-SAVER STANDARDS. Architectural Record. F. W. Dodge Corporation. $12.50.

THE SMALLEST ROOM. John Pudney. Michael Joseph. 10s. 6d.

SIMPSON'S HISTORY OF ARCHITECTURAL DEVELOPMENT. Vol. II. Cecil Stewart. Longmans, Green & Co. 30s.

SPON'S ARCHITECTS AND BUILDERS' PRICE BOOK. E. & F. N. Spon. 25s.

THE VALUE OF GOOD DESIGN. Editor: Alister Maynard. Council of Industrial Design, Scottish Committee.

NINE ABSTRACT ARTISTS. Lawrence Alloway. Alec Tiranti Ltd. 7s. 6d.

SURVEYING AND LEVELLING FOR STUDENTS. Bernard H. Knight. Contractor's Record Ltd. 18s.

ONE MAN'S VISION. Preface: William Wallace. G. Allen and Unwin. 10s. 6d.

NA-OORLOGSE KLEINE LANDHUIZEN IN NEDERLAND. J. J. Vriend. N.V. Uitgevers Mij, Karmos.

SIR CHARLES REED PEERS. C. A. Raleigh Radford. Geoffrey Cumberlege. 2s.

PHILOSOPHIE DE LA COMPOSITION ARCHITECTURALE Albert Ferran. Vincent, Freal & Cie.

SIR ALFRED CLAPHAM. Walter H. Godfrey. George Cumberlege. 1s. 6d.

ARCHITECT'S YEAR BOOK 6. Elek. 42s.

PEN AND INK DRAWING. Acanthus (Frank Hoar). Studio. 15s.

STORAGE. George Nelson. Whitney Publications. $12.50.

THE STREET DESIGNER'S MANUAL. Charles Gray, Lewis Kent, W. A. Mitchell, G. B. Godfrey. Crosby Lockwood. £2 10s.

FUNDAMENTAL BUILDING. C. Boot. Longmans. 8s. 6d.

CHURCH BUILDING AND FURNISHING. J. O'Connell. Burns Oates. 21s.

THEORY OF STRUCTURES. H. W. Coultas. Pitman. 25s.

IDEAL HOME BOOK OF PLANS. Odhams. 5s.

DESIGN IN BRITISH INDUSTRY. Michael Farr. Cambridge University Press. 60s.

BUILDING CHECK LIST. Ben John Small. Reinhold. 28s.

MATERIALS AND METHODS IN ARCHITECTURE. Edited by R. H. Holmes. Reinhold Pub. Corp. and Chapman and Hall. 80s.

CARPETS AND INTERIORS. James Templeton and Co. Ltd.

SURVEY OF LONDON, Vol. XXV. L.C.C. 40s.

PENROSE ANNUAL. Lund Humphries. 30s.

SCOPE OF TOTAL ARCHITECTURE. Gropius. Harper. $3.00.

SPECIFICATIONS IN DETAIL. Macey. Technical Press. 70s.

HOUSING DESIGN. E. H. Klaber. Reinhold. $8.50.

THE NEW TOWNS. Norma Mackenzie. Fabian. 1s. 6d.

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry



Detail of fibrous plaster ceiling in snack bar, shown above.

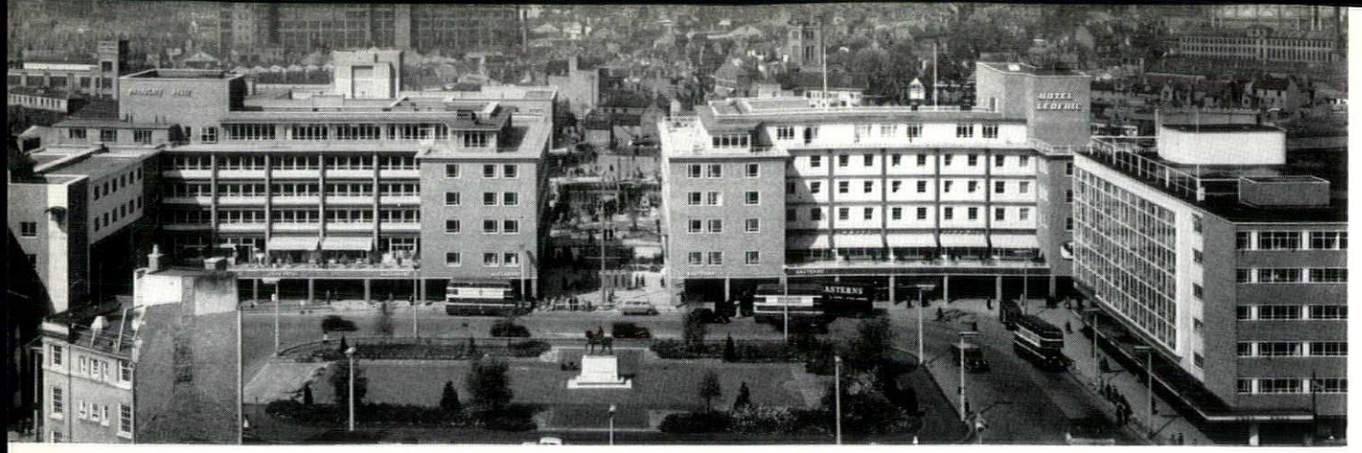
1 INTERIORS

HOTEL AT COVENTRY

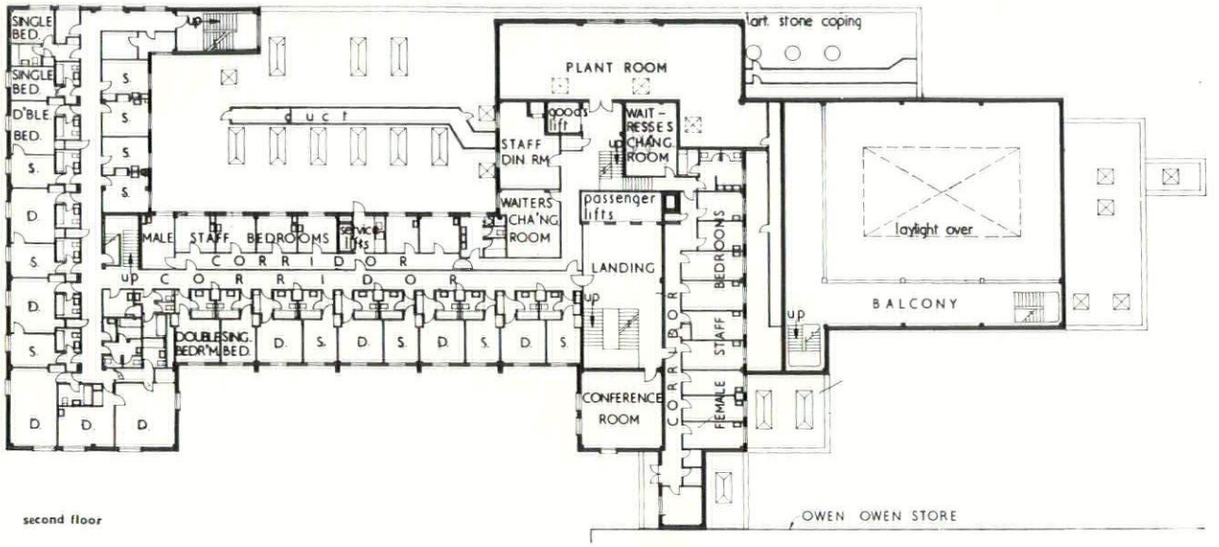
Architects, W. S. Hattrell and Partners in collaboration with W. J. Witham, Chief Architect, Ind Coope and Allsopp Ltd.

The Leofric is the first hotel built with British capital in this country since the war. The Coventry Planning and Redevelopment Committee laid down that its elevations to Broadgate and the Precinct should repeat those of Broadgate House opposite. Some liberty was allowed with window design, but the main structural layout, floor to floor heights, plan set backs and facing materials were to be repeated exactly. The two main entrances are from Broadgate in front, at ground floor level, and from the car park at the rear, at lower ground level; both are in the centre of the long side of the building and open into foyers with lifts and stair-cases giving access to all floors. The main reception area is on the first floor. The 100 guest bedrooms, 70 per cent of which have their own bathrooms, are on four floors. Services are distributed thus: boiler house, cellars

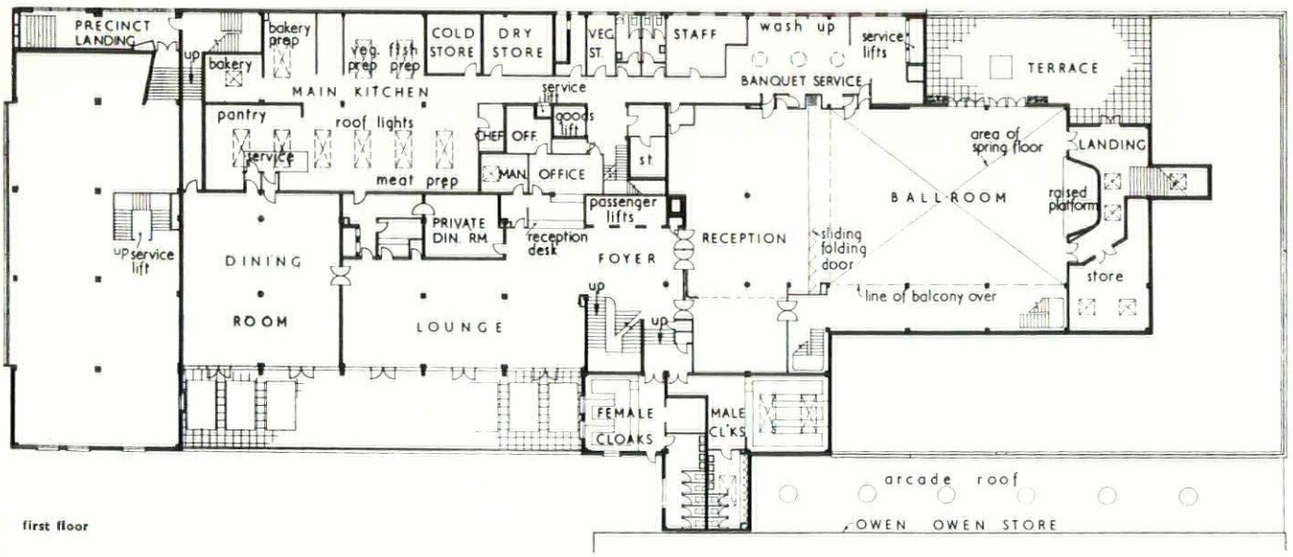
The Assistant-in-Charge for W. S. Hattrell and Partners was G. W. Hammond; Assistants: F. R. Mutch, J. Siedlecki, J. A. Metcalf and R. E. Eckersley. Assistants in the Architects Dept., Ind Coope & Allsopp Ltd., were A. G. Drew, B. R. Davis, D. M. Rickard and R. L. G. Carter. Consulting architects (special bedrooms) Ward and Austin.



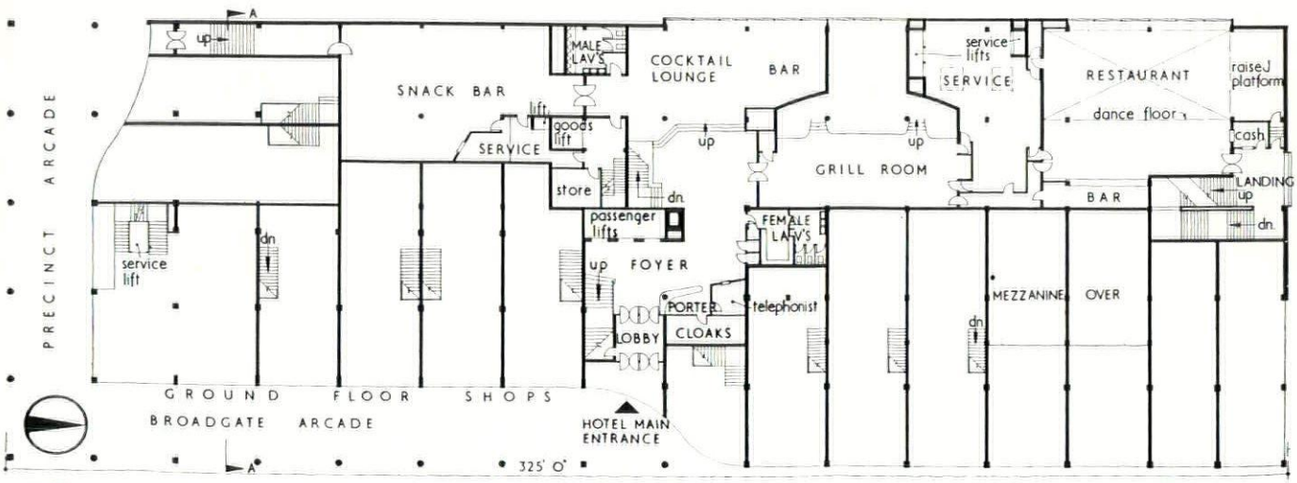
Left, a view of Broadgate from Coventry Cathedral spire. Between the hotel and Broadgate House is the pedestrian way leading to the Shopping Precinct. The only feature of the two balancing façades not essentially similar is the window treatment.



second floor



first floor



ground floor

foyers

Left, the main foyer from the Broadgate entrance doors. Panelling is in solid African walnut, ceiling terra-cotta, floor in cork tiles with a black, blue and grey marble finish. Right, the hotel reception, with lift entrances, on the first floor. The counter has a black hide top with the bedroom plan inlaid in gold; decorative plaques above mask the extract ducts. The ceiling is of heated metal panels, with small lamps to sparkle.

cocktail lounge

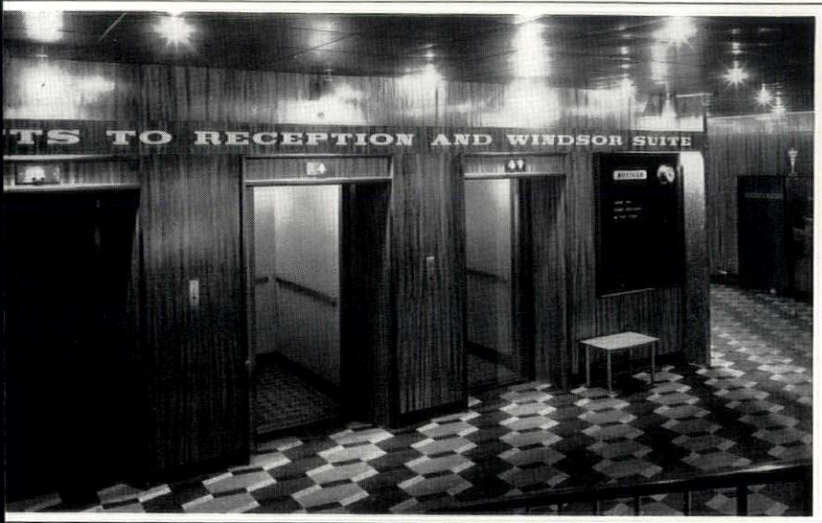
Left, the wall at the opposite end from the bar, bearing Guy Egan's fantasy on Broadgate Square. Right, the bar corner, showing the two-level planning of the room, which extends throughout its length. The counter wall is covered with Roger Nicholson's 'Attica' design, in terra-cotta, sky-blue and lime-green. Artificial lighting has been kept to a subdued level.

grill room

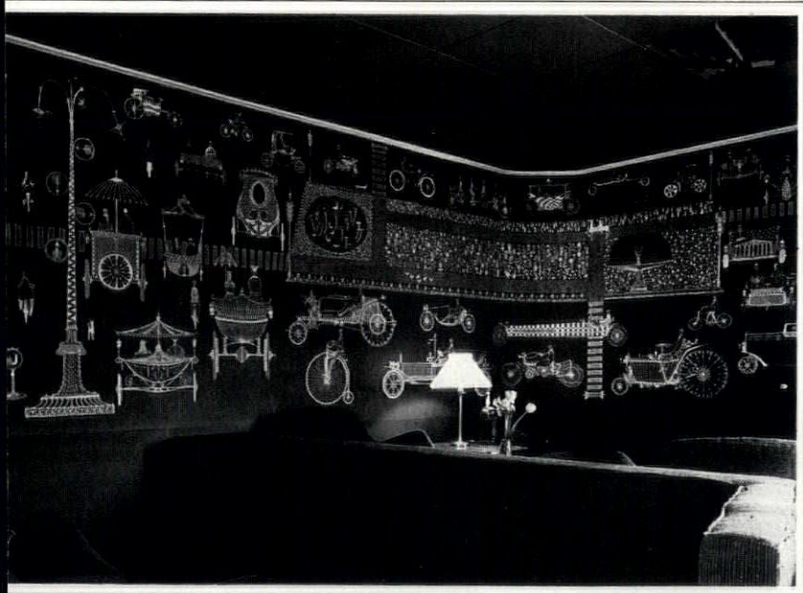
Left and right, views from opposite ends of the lower level. Air vents are inset in the ceiling and over the picture-hung wall. The carpet on the lower level can be removed to disclose a maple floor for small dinner dances. The lower set of balustrade lights are demounted on these occasions.

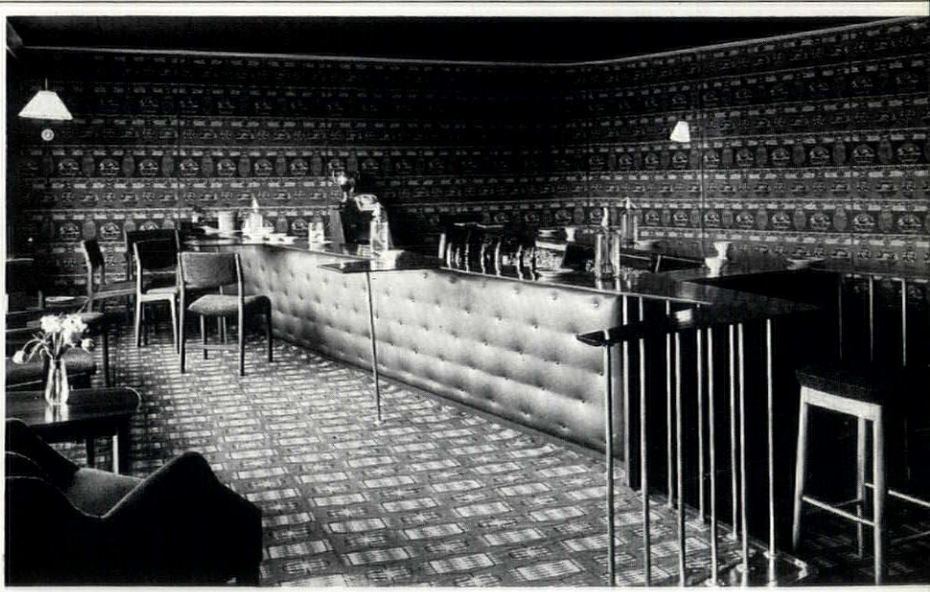
and laundry in the basement; administration, kitchen and staff rooms on the first floor; plant-room, and staff changing- and bedrooms on the second floor, and the lift motor and tank room at roof level. Shops are embodied in the building, fronting on the Broadgate and Precinct Arcades, all occupying two floors, either ground and first or ground and lower ground. At the north-west corner, the lower ground floor contains the revived 'White Lion' public house, the original premises of which were demolished for the building of the Precinct Arcade.

Chief constructional elements are a reinforced concrete frame, with *in situ* concrete floors, staircases and roofs. Cladding and internal walls are of brick. Generally tungsten lighting is used, never hidden but shaded according to requirements. Lighting in public rooms is concentrated in splashes or pools of high intensity, for use or for effect. In the perforated metal ceilings of the ground and



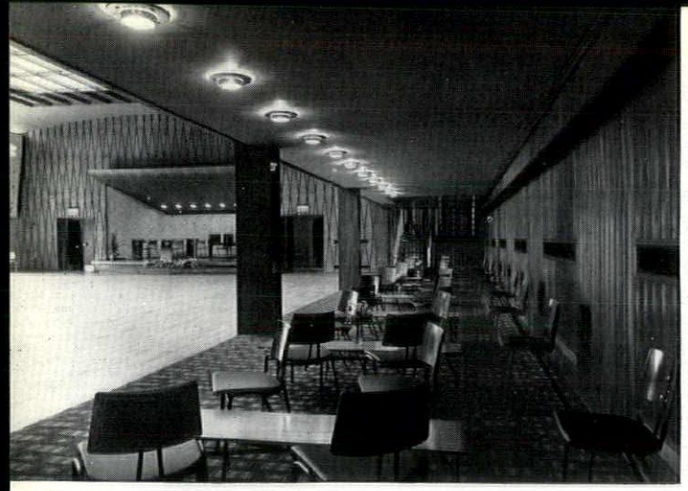








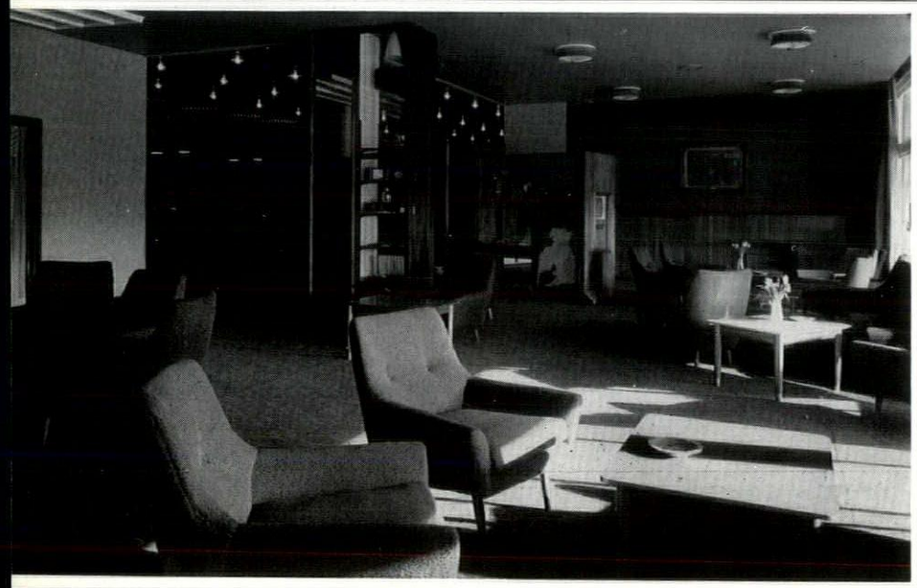


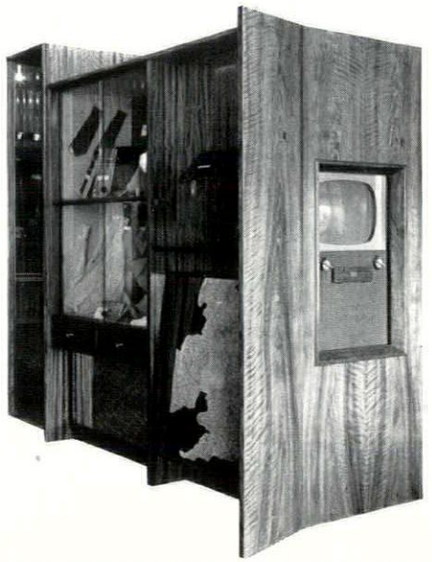




ballroom

Left and right, general views looking towards opposite ends. Panelling is Australian black bean below 8 feet, except around the band platform, which is Gaboon mahogany with Brunswick green diced insertions. The inclined panel is in beech. The laylight in the curved fibre board ceiling is in mahogany and has four-colour lighting battens behind.





lounge

Left, view looking towards the reception foyer. Walls, above African walnut panelling are in mottled grey mural leather cloth. The general colour scheme is a monochrome of grey, the maroon carpet adding warmth. Windows face directly on to Broadgate Square. Right, cutout of a specially-designed cabinet incorporating television and showcases.



dining room

Left, the dining room, or French restaurant. The wall decoration consists of white dished plaster plaques with the edges finished gilt. The receptionist's desk built about the pillar near to the entrance is constructed of African mahogany with silver bronze balustrading.

first floor foyers are 24-volt car head lights. The ballroom is lit, in the main body, by six chandeliers on dimmers, fluorescent cornice lighting and colour battens on dimmers in the lay-light, supplemented by wall brackets in the balcony and semi-flush fittings in the soffit of the balcony. The carpets, except in bedrooms and special rooms, are of one pattern throughout, and made in two colour schemes. Each bedroom floor has a separate 'floor colour,' affecting everything from bedroom doors down to key-tabs, bed-linen embroidery, and w.p.b's; these are, from the second floor to the penthouse, green, red, blue and gold.

In the 'White Lion' public house, an attempt to recreate the cosiness and intimacy of Victorian pubs was behind the beer handles, brass spiral and woodwork of the public bar, and the mahogany, red leather upholstery and copper table-tops of the men's smoking room. The squareness of the lounge has been relieved with a 'dynamic' ceiling, the flat surfaces mushroom and the inclined ones primrose and purple with off-white stripes.

bedrooms

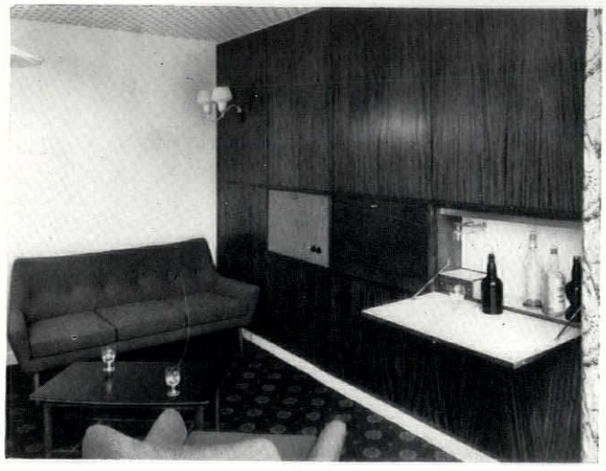
Left, the standard bedside unit with a switch panel for controlling the lights and the wireless. In each case, the telephone is on a wall bracket, leaving the table top clear. Right, a standard bedroom, showing the 7 foot 6 inch cantilevered dressing-table, Carpets are grey and bed-covers mustard; there is one dark green easy chair and one red dressing chair in each bedroom.





penthouse

All non-standard bedrooms and suites are in the penthouse. Lighting is fixed, as opposed to the adjustable wall bracket fitting in the standard rooms. Left, the drinks cabinet is seen open; the closed cabinet to its left contains a writing desk.

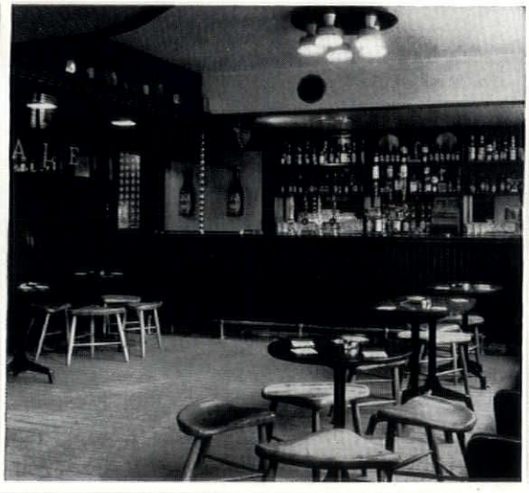




public bar

Left, the specially designed porcelain beer pulls and, centre, the public bar in the 'White Lion' public house. Woodwork is traditional brush graining, the floor finish is cork tiles and the ceiling varnished lincrusta. The built-in advertising matter and decorative lettering, right, behind under-counter glass storage provides splashes of colour.







2 DESIGN REVIEW

CROWN WALLPAPERS

Manufacturers of low-priced wallpapers cannot now afford to ignore what they call contemporary designs. It is to the credit of Crown Wallpapers that their Supplementary Range 1954–55 displays many of the trends that have built up the tradition of wallpaper design—Renaissance, Chinese, Regency and Sentimental—as well as contemporary. The problem of giving the public those modern designs that it is shy of but does not want to miss is essentially the same as the problem of the 1954 presentation of Willow-pattern. The present collection shows an increasing awareness that wallpaper must be designed to form a background, though lightness of treatment is too often confused with the use of pastel shades.

There is one paper of an excellence that should make it a classic. An apparent texture is created by means of line, and a very small repeat. Line and dots are so skilfully used that this machine-printed paper, 1, gives a texture with the richness of a hand print. The pattern is printed in two weights of white on grey, buff, or green. L 46564–6.

2, is an excellent example of simple linear design: it has alternating stripes of ivy and seaweed. The formality of a stripe is modified by the simplicity and charm of the drawing. It is very gay in red and green on white and in grey and green, much less in character in white on a pink background. L 46582–5.

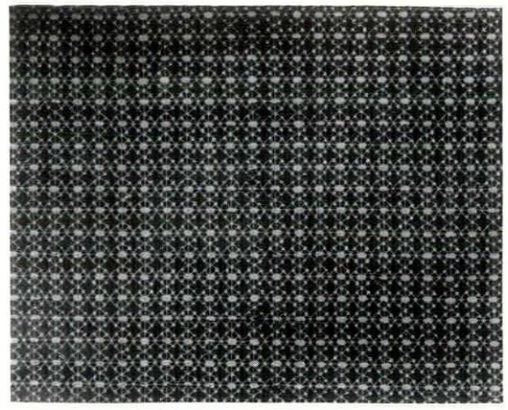
In 3, a pattern in the Flemish strap tradition is carried out in an equally

forthright way in appropriate colours. Wallpaper design is an art that can carry very subtle nuances. It is a relief when the designers are allowed to take a rest from these and produce a simple pattern in one colour on another. Viz., T 71768 which is a narrow white stripe about $1\frac{1}{4}$ inches apart. KW 76904.

4, is an exuberant design of fish and seaplants with washable finish for nursery or bathroom. Different strengths of line are used in masterly combination with the colour blocks to give the maximum interest with the minimum of complication. A 29207.

The version of Willow-pattern, 5, printed in pale (not 'willow-pattern') blue on a white satin stripe, does make the most of a small room in point of elegance, and form a gleaming background for polished furniture. Had the motifs been spaced about slightly further this would have been a distinguished wallpaper. Their close spacing to give an 'all over' effect is, I think, a further example of an exaggerated feeling for the 'contemporary' to use that over-worked word yet once again. The designer overlooks the effect of the satin stripe which had in fact taken care of the close-repeating effect. A 25081.

Diana Rowntree



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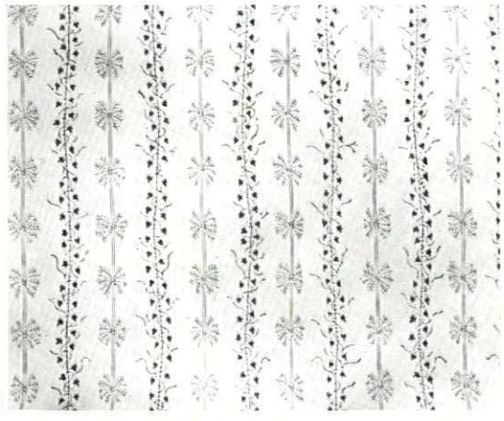

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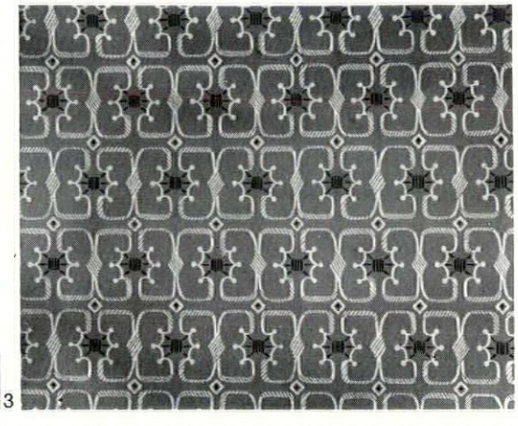

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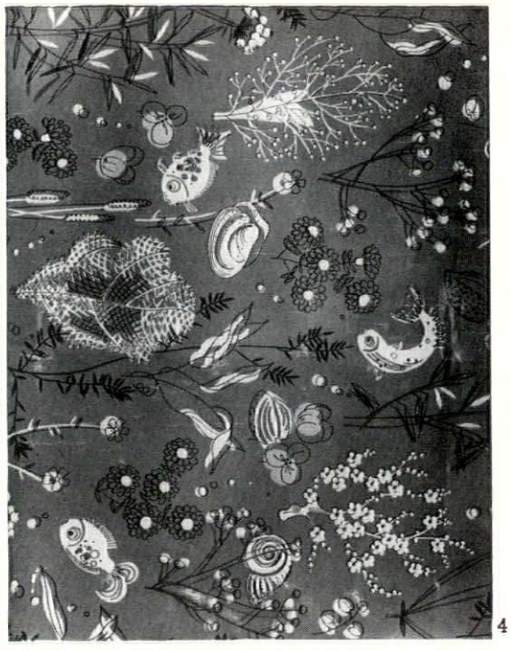

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5

Five papers from Crown Wallpapers' Supplementary Range. 1, L 46564, 2*s.* 11*d. per piece.* 2, L 46582, 3*s.* 3*d. per piece.* 3, KW 76904, 2*s.* 8*d. per piece.* 4, A 29207, 13*s.* 11*d. per piece.* 5, A 25081, 8*s.* 10*d. per piece.*

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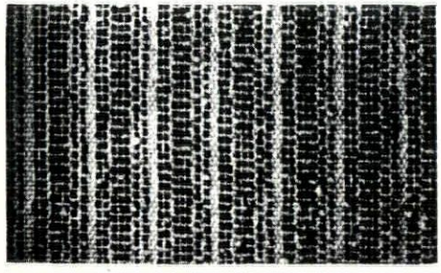

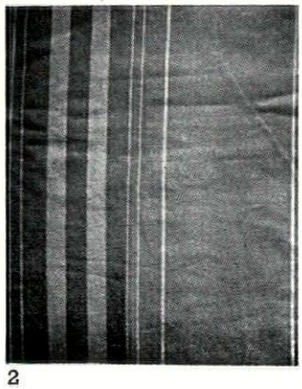

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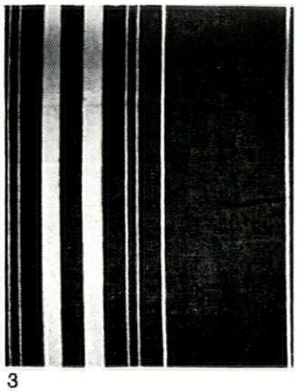

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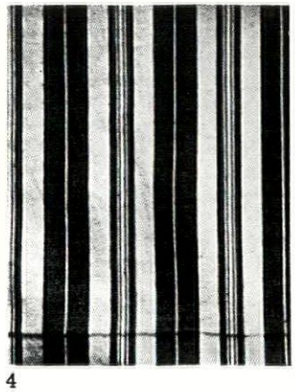


4

Four fabrics from Primavera. 1, *Maxwell, at* 29*s.* 8*d. per yard* (36 *in. wide*). 2, *Rustica,* 14*s. per yard.* 3 *and* 4, *Folklore, showing two of a range of colour combinations,* 17*s.* 2*d. per yard for light colours,* 18*s.* 8*d. per yard for dark colours.*

FURNISHING FABRICS

Mourne Textiles have produced an outstanding weave for furnishing. *Maxwell*, 1, in black, white and yellow, is on sale at Primavera. The strong woven texture is given scale by a vertical stripe, which succeeds in being simple without naïveté.

A well varied range of striped cottons from Holland is also on sale at Primavera and individual materials vary widely in character. *Rustica*, 2, in black and white, has a simple cotton thread texture. *Folklore*, 3, has a warm flannelette finish. It comes in a range of good colours from the downright black and white to gentle yellows and greys, 4. There are more complicated arrangements of stripes in red, white and blue, and other gay colours at similar prices.

D.R.

3 TECHNIQUES

ARCHITECT/MANUFACTURER CO-OPERATION III

by Noel Moffett

Most of the examples of 'development work' carried out between architects and manufacturers during these first ten post-war years have conformed to a certain pattern of initiative. Architects (mostly in public employment) with a large programme of work in front of them have approached individual manufacturers with a demand for a product or a range of products which are to be specially designed to suit their programme. This month we publish the first instalment of a case history which shows a different pattern. Here, in the case of 'Arcon,' an architect (the late Edric Neel) with no programme before him takes the initiative in persuading a group of big and diverse manufacturers that the needs of the moment require that they should work together. This group then instructs its architect consultants to investigate the concerted use of their products in building.

This investigation is usually centred round the design of a specific marketable product, usually something large such as a prefabricated house or a standard tropical roofing system, but it also comprises long-term research into the fundamentals of building with factory-made components. In this first article we recount work done in the end of war period when housing gave the spur to technical development.

The word ARCON is a significant one. It symbolizes the very close collaboration between architect and manufacturer which is characteristic of prefabrication. Originally the word meant 'architectural consultants'; today it is the name of a group of manufacturers—'the Arcon Group'—who collaborate with their two consultants (Rodney Thomas and A. M. Gear) in the design, manufacture and marketing of prefabricated buildings and building components.

The Group was founded in 1943 by an architect—the late Edric Neel—whose objective was 'to show that prefabrication was not only a practical and economic way of building, but also a profitable activity.' It is a tribute to Neel, and to his architect and industrialist colleagues, that before he died 10 years later at the age of 37 his objective had been achieved.

Today members of the Arcon Group mass-produce a great variety of products, all of them architect-designed, and export them to all parts of the world. The members of the Group are:

Imperial Chemical Industries Ltd.
Stewarts & Lloyds Ltd.
Taylor Woodrow Ltd.
United Steel Companies Ltd.
Williams & Williams Ltd.

An advisory committee, composed of the two consultant architects and two representatives of each of the member companies, decides Group policy, reviews progress and controls their joint activities. Thomas and Gear, in collaboration with the technicians of member companies, design everything manufactured by the Group, down to the smallest detail, and carry out a great deal of research work—short-term and long-term — sometimes at the direct request of a Group member and sometimes on their own initiative. Although the architects work closely together, each has his own office, Gear in Manchester Square and Thomas in Chelsea, and each his private practice. Gear employs 40 qualified men—30 architects and 5 structural engineers, as well as several specialists—in costing, plan registry, timber detailing and curtain walling. His work for the Group is divided into four categories: research, development of existing designs, special jobs and technical service. Thomas's office is smaller, and his time is spent chiefly on the design of special structures and on long-term research. He has a fully equipped workshop where he can make full-size mock-ups or accurate scale-models of his designs in wood or metal.

origins of the group

In 1942 Donald Gibson, City Architect of Coventry, was invited by Radiation Ltd. to design for them a totally prefabricated permanent house. Gibson asked Neel, then a young man of 26, to come to Coventry to help him with the designs. Close collaboration was obviously necessary between the designers and the manufacturers of the materials and component parts of the proposed house. It soon became apparent that a Local Authority such as the City of Coventry could not show undue favour towards any one manufacturer, as ultimately open tenders must be called for. Also it was unreasonable to suppose that one manufacturer should put his knowledge, experience and ideas at the disposal of the designer, only to find that, at a later date, these ideas would be incorporated in the design of components for the manufacture of which the trade was being asked to tender.

Experience with Gibson at Coventry thus led Neel to the realization that the problems of prefabrication could only be tackled satisfactorily by a group of firms whose joint interests covered the whole range of the major materials likely to be used in prefabrication.

During the six months that Neel spent at Coventry, Rodney Thomas and Raglan Squire were in practice together in London. Knowing them to be sympathetic to his ideas, Neel got in touch with them. As soon as he had left Coventry the three architects formed a new partnership and opened an office in Hallam Street in April, 1943. War-time conditions, shortage of most building materials, virtual stoppage of all normal building work and difficulty in obtaining licences for the use of traditional materials, all encouraged the new partnership—who took the name of 'Arcon'—to concentrate on the development of their ideas about prefabrication. It is perhaps worthy of note that the first Arcon organization contained no business men or manufacturers, although it was not long before a group of manufacturers was formed to develop prefabrication ideas and to look for a means of using their materials in the immediate post-war era. This group, later to be called 'the Arcon Group,' consisted of ICI, Stewarts & Lloyds and Turners Asbestos Cement Co. Ltd.

The Arcon architects realized from the beginning that two things were of vital importance for the successful development of their ideas: first, that the architect must co-operate directly with the manufacturer of certain materials; second, that this co-operation must be at the highest level, that is with company directors and managers. Arcon decided that for them the important materials were timber, concrete, plastics, glass, paint, cast and sheet aluminium, and tubular, rolled and sheet steel.

Neel had already worked individually with some of the firms manufacturing these materials and knew their directors personally. Contact was re-established between them and the manufacturers became interested in the work of the architects and encouraged them to carry out research into prefabrication, both of complete houses and of component parts, employing wherever possible the particular materials manufactured by their firms. Arcon was invited to act as secretariat and designers to the Group of manufacturers, and it was agreed that they were primarily concerned with the prefabrication of *permanent* buildings.

the permanent house

At the request of Coventry's City Architect, and with Stewarts & Lloyds as sponsors, the Arcon office now prepared a detailed design for a pair of permanent houses, and worked in close collaboration with Stewarts & Lloyds (tubular steel framing), Turners Asbestos and ICI (paint and synthetic materials of various kinds). In collaboration with Gibson and these manufacturers the houses were designed using the following materials: tubular steel framework (with metal trays), precast concrete blocks hung on the steel frame as ground floor cladding, corrugated asbestos as roof covering and first-floor cladding, and metal windows. Early in 1945 a pair of these houses was erected at Stewarts & Lloyds works in Corby, 1.

kitchen-bathroom service unit

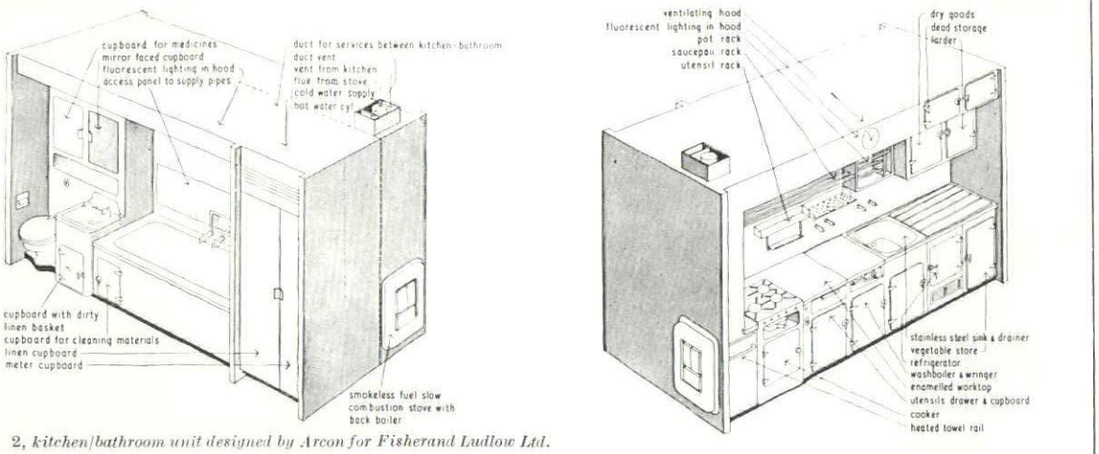
The second Arcon project, designed at the same time as the Corby houses, was a kitchen-bathroom service unit for Fisher & Ludlow Ltd., a Birmingham engineering firm whose chief interest was the manufacture of car bodies for the motor industry. The idea, originally proposed by the American architect Buckminster Fuller, was simply to plan kitchen and bathroom so that all the fittings of the kitchen (sink, cooker, wash boiler and refrigerator) were placed back to back with the service fittings of the bathroom



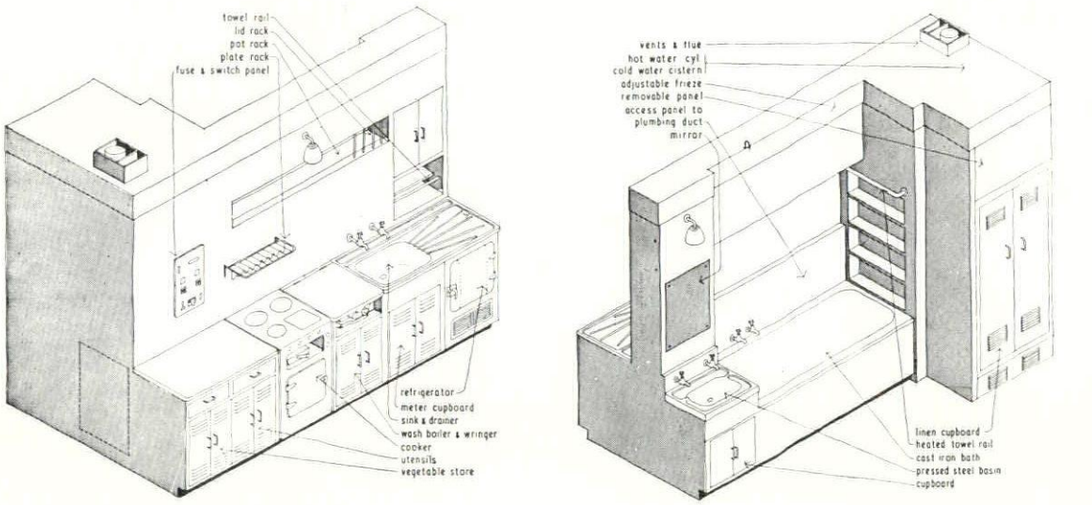
1, *permanent houses erected at Corby*

(bath, lavatory basin and water closet), 2. This compact grouping made it possible to incorporate all these fittings in one transportable unit. Gear now joined the Arcon office as an assistant, and worked particularly with Rodney Thomas on research work of various kinds. Later Gear was to become a partner, and he and Thomas, while remaining in the Arcon partnership, opened a second office in Chelsea so as to concentrate on research.

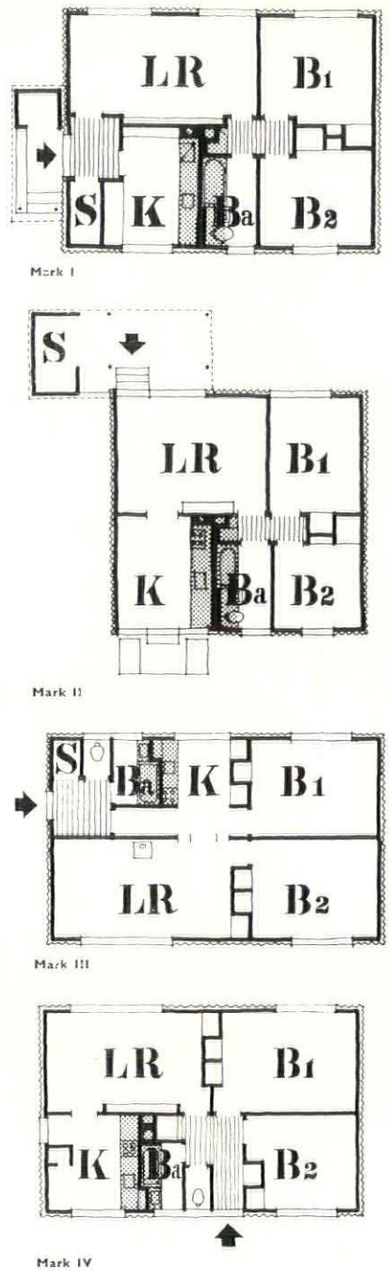
With the help of Fisher & Ludlow, Arcon got in touch with several car manufacturers and attempted to interest them in their designs, with the idea of persuading them to apply their excellent technique and long years of experience of total prefabrication and assembly line methods to the manufacture of the kitchen-bathroom unit, and later on of other house components. But the car firms were not interested. They considered car technique out of place in a house. The service



2, *kitchen/bathroom unit designed by Arcon for Fisherand Ludlow Ltd.*



3, *kitchen/bathroom unit designed by MOW.*



4. *Evolution of the plan of the single storey demountable house. Mark I: drawingboard design only. Mark II. prototype erected at Tate Gallery. Mark III: plan modified to meet MOW requirements. Mark IV: plan again modified to enable occupants to pass from both bedrooms to bathroom without passing through living-room: two prototypes built at Tate Gallery. Mark V: the design which finally went into production.*

unit was put on exhibition by Radiation Ltd. in their gas showrooms up and down the country, but was not popular and was never mass-produced. It is interesting to note, however, that the official Ministry of Works unit, 3, very soon to play an important part in so many of the Government's temporary house plans, appeared at about the same time, incorporating very similar ideas and detail design.

demountable single-storey house

To illustrate some of their research work, and to demonstrate the use of their kitchen-bathroom service unit, Arcon designed a demountable single-storey house, later to become known as 'Mark I,' and of importance also because it was the first plan of the well-known Arcon Mark V temporary house, soon to be erected in large numbers all over the country. The architects' plans and ideas were examined very thoroughly by the Group members, and, after criticism and discussion concerning design, materials, construction technique and cost, a second plan was evolved and given the name 'Mark II.' This house had circular concrete pile foundations supporting a steel channel ground floor framework, stressed skin plywood floors, tubular metal wall and roof framing, double asbestos sheeting as wall cladding (with pressed metal trim), metal windows, and asbestos roof sheeting and gutters. The architects considered that the use of pile foundations was a big step forward in design, as it meant that the house could be rapidly and efficiently erected even on the most difficult site.

At this stage a large firm of building contractors, Taylor Woodrow, joined the Group, chiefly to advise on erection problems. This firm was destined to play a major role in the activities of the Group.

In designing these two houses the Arcon office had carried out a vast amount of research work and had produced several hundred detail drawings. In the spring of 1944 the partners felt that their labour ought to be rewarded in some definite way. The Prime Minister and Lord Portal, Minister of Works, had already spoken publicly of the desirability of erecting temporary prefabricated houses of some kind to relieve the housing shortage. In March Neel, on behalf of Arcon and with an eye for business, wrote to Lord Portal suggesting that total prefabrication on a large scale was the inevitable solution to the housing problem, and that the acute steel shortage meant that the Ministry's steel house—popularly known as the Portal house—could not be manufactured in the large numbers

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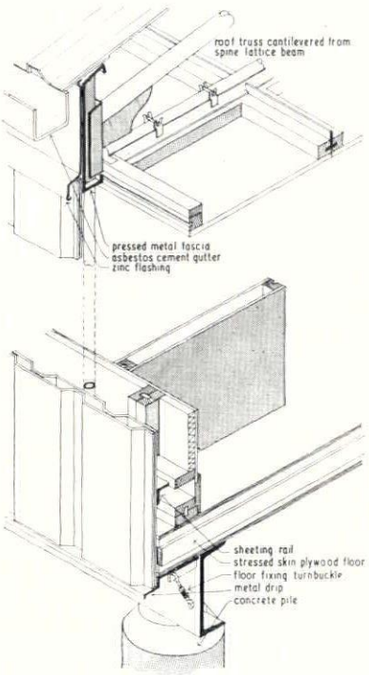
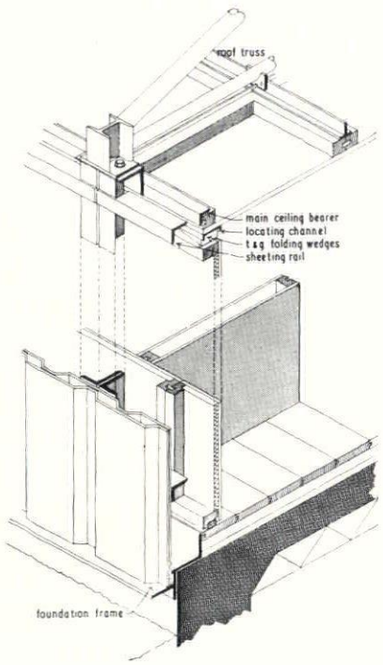
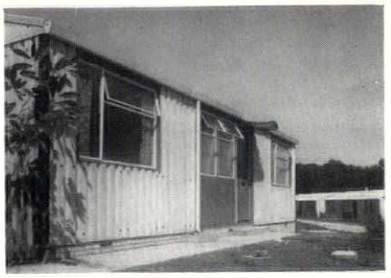


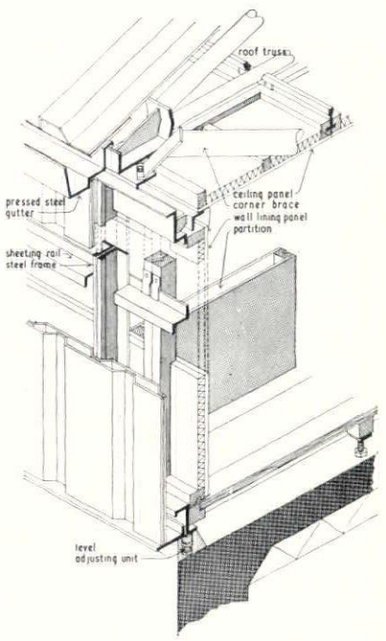
5, The Mark II prototype. Note the concrete pile foundations and the stressed plywood floor. This may be described as the architects' version, i.e. before MOW requirements and the detailed needs of mass production have been taken into account.





6, One of the Mark IV prototypes (the eaves have been omitted to show truss detail). Note the substitution of a concrete raft and traditional t. and g. boarding.





7, Mark V: the design as finally modified for mass production. Note the inclusion of screw jacks to allow levelling on the site.

required. Lord Portal replied asking if Neel and his associates had any experience of designing prefabricated houses using a minimum of steel. Neel invited him to inspect their designs and detailed proposals. Portal visited their office and authorized the erection of a prototype of the Mark II house on a site at the Tate Gallery—a site used by MOW (through their Directorate of Experimental Building Development) for the erection of experimental buildings of various kinds. It is perhaps significant to note in passing that this Directorate had been recently formed by Lord Portal after discussions with some of the industrialists associated with the Arcon venture. Without this Directorate licences for experimental building work and for the necessary materials could not have been obtained. Erection of the prototype house began on July 4, and was inspected by the Minister a fortnight later. The general construction technique was approved, but the plan and the stressed plywood suspended floor were not considered satisfactory.

The Ministry at that time insisted that the plans of all types of temporary houses should conform exactly to that of their own steel house. Arcon now prepared their Mark III plan to satisfy the Ministry. They were unanimous in disliking the plan, chiefly because they considered that it was poor planning when someone wishing to go from a bedroom to the bathroom was obliged to pass through the living room. A revised plan was produced showing how this awkwardness could be overcome by a rearrangement of the rooms, and without increasing the size of the house. Portal and his advisers agreed to the new plan, known as Mark IV. Detailed and accurate costs were worked out, and, at the request of the Ministry, a second prototype Mark IV was erected at the Tate Gallery site alongside the three other types of temporary house sanctioned by the Ministry—the Pressed Steel, the Tarran and the Uni-Seco.

After inspection by H.M. Ministers and by members of the House of Commons, Local Authorities' representatives visited the site and selected the type of house they wished to be erected in their localities. By October the Local Authorities' requirements were sorted and collated by the Ministry, and official instructions were given to proceed with the production of 86,000 Arcon temporary houses.

Structurally Mark IV was somewhat different from Mark II: the suspended floor and pile foundations had been replaced by a more conventional tongued and grooved boarded floor on wood joists on a concrete slab foundation, the number of tubular steel framing members was reduced, steel T columns introduced and structural details generally simplified. Levelling screw-jacks built into the concrete slab ensured the accurate installation of the floor panels and reduced their span.

The placing of this very large order was, of course, a most exciting event in the life of the young Arcon partnership; but their joy was tempered by difficulty and frustration. Very soon MOW requirements, particularly relating to the size of the foundation slab and the standard fittings to be incorporated in the design, were made known to them. Eventually, partly to satisfy these requirements and partly from experience, every component of the house —390 of them—had to be redesigned. Mark IV thus became Mark V.

In this development suitability for machine production had been the dominant consideration. At least one of the partners considered that æsthetics had been ignored, and apart from this the architects' judgment had been set aside in a number of matters affecting planning. The large living-room window, which was an important feature of the design, had to be omitted because it was thought that children would break the glass. Lord Portal insisted on the entrance being placed in the centre of the house instead of at one end as planned. For economy reasons, the entrance step (cost about 5s.) and the canopy over the living-room window (cost about 15s.) were subsequently omitted.

method of working

All this entailed more months of concentrated work. To cope with it Arcon had moved their office from Hallam Street to Piccadilly and increased their staff, which very soon numbered 60 and included, as well as architects and structural engineers, several production engineers, a 'windows expert' from Williams & Williams, and an 'asbestos expert' from Turners. 5,000 drawings were prepared at high speed and under chaotic conditions. The work, however, was interesting and often exciting. Sir Hugh Beaver, Director General MOW, kept in close touch with the office, encouraged, coaxed and coerced them, and later solved difficult man-power problems as they arose. Many of the architects slept in the office and worked day and night. The plans were complete in February, 1945, and a pilot run of 100 houses was erected in March—50 on a steeply sloping site at Croydon and 50 on a level site at Crayford.

As has been pointed out earlier in this article, Arcon considered that they were primarily concerned with the prefabrication of permanent buildings. They nevertheless welcomed participation in the Government's temporary house programme for four main reasons: first, the very large number of Arcon houses ordered would enable full factory-production methods to

be employed; second, the architects would have the opportunity to design, for Mark V, many details which could later be developed and used on other jobs, e.g., 'cover technique' details such as electric power socket outlet; third, the relationship between architect, manufacturer, marketing agent and MOW could be developed and tested; fourth, the Arcon consultant architects could develop their own design organization. Actually, both the architect-manufacturer relationship and the pattern of development (research—design—prototype— pilot run—bulk production) which were established at this time became the standard for all Arcon ventures.

While the architects were attempting to finalize the design of the Mark V house so that preparations for component production could be put in hand, the relationship between them, the Arcon Group and the Ministry was clarified. MOW agreed to pay Arcon's expenses; they were to place, at their discretion, all orders for components, i.e., not only with members of the manufacturing Group, and the completed houses were to be handed over by them to the Local Authorities who had asked for them; at the suggestion of the Group, they appointed Taylor Woodrow as managing contractors responsible for transport, storage and production phasing, and for the training of site erectors. Thus Taylor Woodrow began their liaison work, which they were to continue without interruption in connection with all Arcon's major activities, with the exception of work on components.

In 1945, soon after work began on the drawings for the Mark V house, closer liaison was also established between the architects and the senior members of the Group who guaranteed Arcon's development budget, for three years, to enable them to be free of financial worries.

It is doubtful whether Arcon realized at this time the size of the task they had undertaken. It was not only a question of sitting at a drawing-board and producing full-size detail drawings of 390 components. Before the design of any one component could be finalized it was necessary to agree production methods with individual manufacturers or, in some cases, with manufacturers' trade associations. Manufacturers of raw or semi-finished materials had also to be consulted. Drawing work, discussions and revision of drawings proceeded from October to February, when the design was finally agreed by all concerned and drawings issued for production. Work on the preparation of specifications had proceeded in the same manner.

In a factory-produced house every component is related to other components as regards fit and assembly sequence, as for a motor car. Therefore, as well as the staff responsible for preparing component drawings and specifications, Arcon employed another group of architects and engineers whose sole concern was to report exactly what effect alterations to one component would have upon the erection sequence and upon other components.

This reporting process was continuous. At every discussion with the manufacturers of components or sub-components someone would suggest another and probably a better way of doing the job. The manufacturers, very occupied with their own affairs, expected Arcon to say at once whether or not their proposed improvements could be adopted. Inevitably Arcon could not give a direct answer until their staff had checked and reported. Later, when production began and Mark V houses were being erected in large numbers, the value of this careful checking was fully appreciated.

The character and scale of the organization built up by the Arcon office and Taylor Woodrow can best be appreciated when it is realized that the Mark V house consisted of about 2,500 parts which were made by 145 different manufacturers. Each part, when designed and specified by Arcon, had to be approved by the Ministry of Works. Suitable manufacturers had to be found, and contracts arranged between them and the Ministry. During manufacture each part had to be inspected and tested, and after manufacture transported to storage depots and later on to the site. In the background a mass of paper-work made it possible to keep track of all components, and to watch carefully the progress of the job.

The pilot run of 100 houses was erected several months in advance of bulk production, so as to test the behaviour of what was really an entirely new method of construction and to enable the simplification of erection methods, storage and transport to be studied. Mistakes in design became apparent, and details were redesigned for bulk production. Taylor Woodrow were able to shoot their training films and organize their transport. Theoretical calculations on the deflection of steelwork were confirmed by field tests. The component manufacturers' requests for modifications were reduced in number because they acquired a better understanding of the design as a whole.

Thus the complete pattern of development and erection of the Arcon temporary house was as follows:

Research — design — criticism — revised design—prototype—pilot run —final design—bulk production— storage—distribution—erection.

4 THE INDUSTRY

MOD-X STRUCTURES

For some time architect opinion on the subject of prefabrication has been turning away from the idea of prefabricating whole buildings and towards the idea of prefabricating components. The system put forward by Mod-X Structures, Ltd. (Architect: D. Dex Harrison) is in line with these thoughts and results in buildings which have a very good architectural quality. The alphabet of this system is well set out in a new brochure.

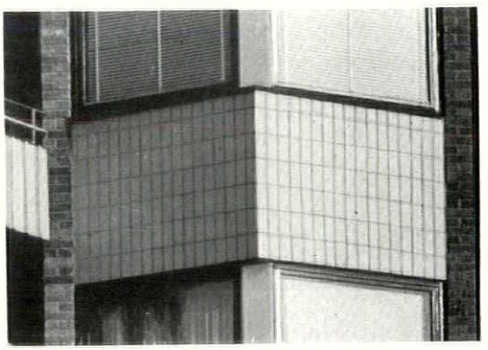
The parts are designed to the 40-inch module and are adaptable to every form of asymmetrical planning, with panels available for five different roof angles. The steel frame can be used for building up to three storeys, and parts are obtainable in a number of finishes, ranging from simple weatherboarding to aluminium curtain wall panels with glazing or other infilling. Components can be framing elements (columns, beams and connectors), cladding elements designed to fit the frame, or even stressed skin elements having both sheathing and load-bearing functions. The system is supplied for erection by semi-skilled labour and is readily demountable, with a recovery value of 95 per cent.

An interesting aspect of this particular service is that Mod-X Structures aim to transport as little as possible. It is an *idea* that they are marketing. When structures are to be built in distant countries they arrange to manufacture the parts as close to the site as possible. This is a very practical application of the idea of regionalism in building and affords a welcome departure in the history of prefabrication. *Mod-X Structures, Ltd.*, 20, *Lowndes Street, London, S.W.*1 (*Belgravia* 3266-8).

MORE TILES

Continuing the exploration of continental tile yards (Trade Notes AR, April, 1955) we find Dennis M. Williams, Ltd., are now marketing IFÖ vitrified ceramic floor and mosaic tiles from A.B. Iföverken, Bromölla, Sweden.

The range includes 18 colours of glazed tiles and 18 colours of matt tiles with usual skirting and moulded accessories. Tiles are obtainable 4 inches square by $\frac{3}{8}$ inches, 6 inches square by $\frac{9}{16}$ inches, and $4\frac{1}{4}$ inches by $8\frac{1}{2}$ inches by $\frac{9}{16}$ inches, with mosaic tiles in the same colours supplied ready mounted on paper in units covering an area roughly $2\frac{1}{8}$ square feet.



Prices vary from 45s. 6d. per yard super for matt mosaic tiles to 32s. per yard super for 4 inches square glazed floor tiles.

The matt finish tiles are of a type rarely seen in this country, and the catalogue itself is a fine example of presentation. Our illustration shows the new students' Hall of Residence at Lund, faced with IFÖ $4\frac{1}{4}$ inches by $8\frac{1}{2}$ inches white vitreous floor tiles. *Dennis M. Williams, Ltd.*, 12, *Kingston Hill, Kingston-upon-Thames, Surrey.*

SPACE HEATING SYSTEM

One of the most recent solutions to the problem of space heating is a simple tubular heater, consisting of a spiralled nickel-chrome element wire in a tough heat resisting glass tube, installed at an approxi-

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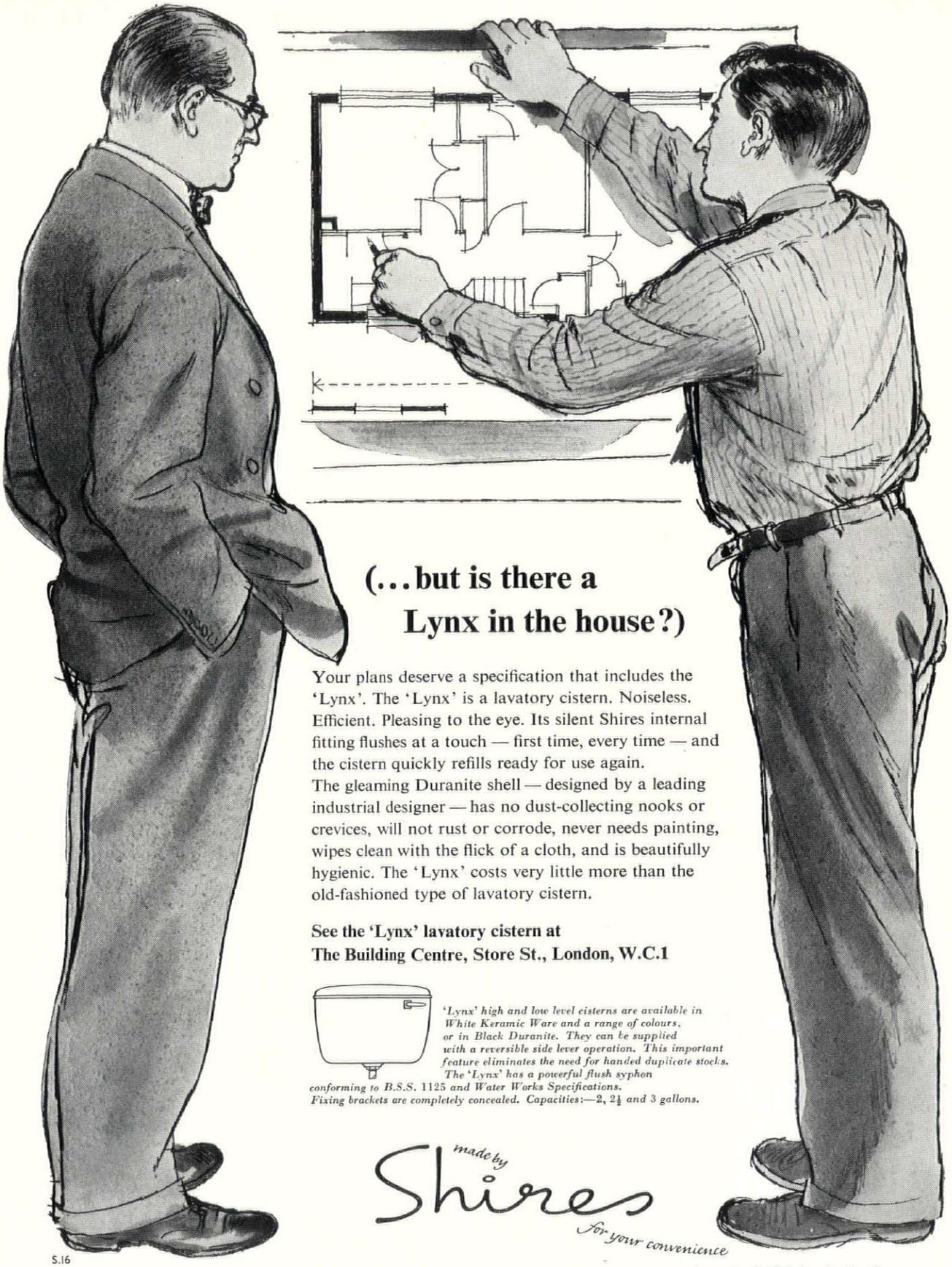

(...but is there a Lynx in the house?)

Your plans deserve a specification that includes the 'Lynx'. The 'Lynx' is a lavatory cistern. Noiseless. Efficient. Pleasing to the eye. Its silent Shires internal fitting flushes at a touch — first time, every time — and the cistern quickly refills ready for use again.
The gleaming Duranite shell — designed by a leading industrial designer — has no dust-collecting nooks or crevices, will not rust or corrode, never needs painting, wipes clean with the flick of a cloth, and is beautifully hygienic. The 'Lynx' costs very little more than the old-fashioned type of lavatory cistern.

See the 'Lynx' lavatory cistern at
The Building Centre, Store St., London, W.C.1

'Lynx' high and low level cisterns are available in White Keramic Ware and a range of colours, or in Black Duranite. They can be supplied with a reversible side lever operation. This important feature eliminates the need for handed duplicate stocks. The 'Lynx' has a powerful flush syphon conforming to B.S.S. 1125 and Water Works Specifications. Fixing brackets are completely concealed. Capacities:—2, 2¼ and 3 gallons.

made by Shires for your convenience

S.16

Shires are the largest manufacturers of moulded cisterns in the country. They also make W.C. pans and seats, flush-pipes and complete W.C. Suites. Leaflets from :—
Division B Shires & Co. (London) Ltd., Greenbottom Works, Guiseley, Yorks.
(Factories also at London and Stoke). Shires (Ireland) Ltd., Stannaway Drive, Crumlin, Dublin.

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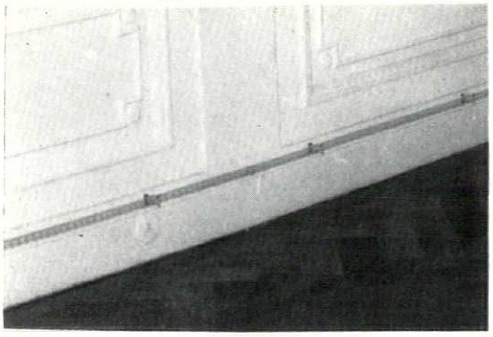


mate cost of 10s. to 12s. per foot run. Heat control equipment is extra and continuous lengths are found to be more economical, as wiring between short sections rapidly increases initial cost. The system may be fixed in almost any position, with the tube mitred or bent, and secured in spring clips. The element operates at black heat, and loading can be varied from 5 feet at 280 watts per foot to about 80 feet at 25 watts per foot. Its versatility is demonstrated by successful application to the underside of an armour plate-glass table on the one hand and as a heater to extensive greenhouses on the other. As a rough guide, the temperature of a room 12 feet by 12 feet can be maintained with an installation consuming one unit per hour. The illustration shows an installation running round the skirting board of a bedroom. *The A. & R. Electric Co. Ltd., 1, Bruce Avenue, Shepperton, Middlesex.*

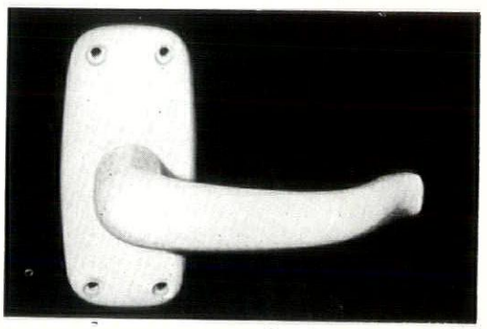
PRE-CAST WALLING UNITS

A further technical development of the Hertfordshire Schools Programme is the 'Superpanel', a plaster faced asbestos cement cored wall unit. The panels, normally 2-foot wide, may be up to 10-foot high and are designed as internal wall panels. They consist of a corrugated asbestos cement core, with a skin of gypsum plaster, the two materials bonded by aluminium cleats attached to the corrugated sheeting and chemically bonded by a special hardener mixed with the plaster. The panels may be site or factory manufactured, hardening sufficiently for use in about 15 minutes. Joints can be simply covered with serim cloth in the case of a wallpaper finish, or filled with gypsum plaster to give an unbroken surface. The hollow core may be used for any services such as cables or wires, and switch boxes may be cast in the face of the panel during fabrication.

The system can be used for either load-bearing or non-load-bearing walls and is made in two thicknesses, 2½ inches and 3 inches. For load-bearing walls the 3-inch units are used, and carry up to 4 tons per foot run. Supply and erection is carried out either by the patentees, Petradene, Ltd., or their agents, and the consultant architects are Brunton, Baden, Hellard and Partners. *Petradene, Ltd., 23-39, Bendon Valley, Garratt Lane, Wandsworth, London, S.W.18.*

DOOR FURNITURE

We illustrate one example from a new range of plastic door furniture which is being marketed by Lacrinoid Products, Ltd. Designed by R. Hooper, MSIA, the chief point to notice is the inward twist at



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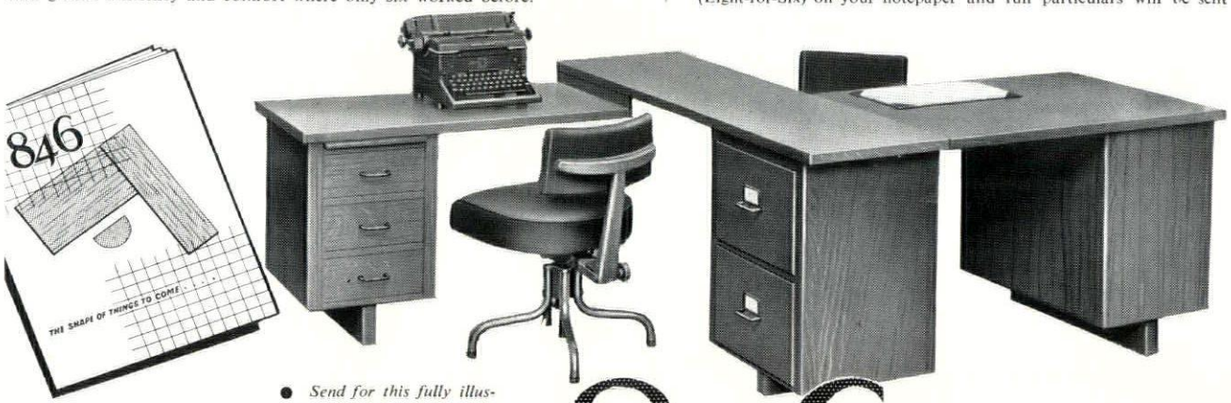
33% floor space saved 25% more desk area

846 (Eight-for-Six) furniture literally applies time and motion principles to the office — whether it is for one person or several hundred (including sound-proofed offices for senior personnel). Thus *eight* people can work with greater efficiency and comfort where only *six* worked before.

And in addition the desk area of each worker is 25% greater. Plan NOW for future expansion—decide to make more of existing space. 846 (Eight-for-Six)) is efficient ! It *looks* efficient too ! Just write "846" (Eight-for-Six) on your notepaper and full particulars will be sent by return.



● *Send for this fully illustrated free booklet showing wide variety of seating plans.*

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System OFFICE FURNITURE

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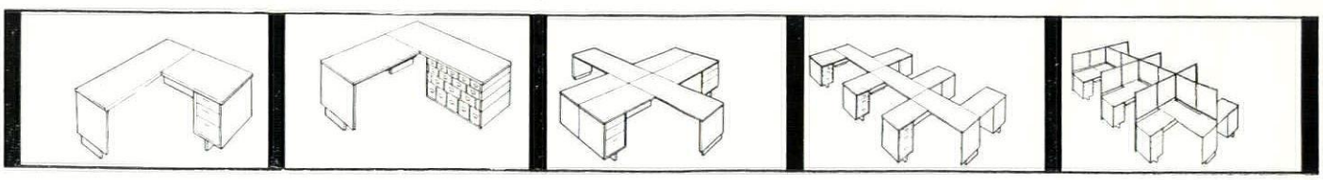

NATURAL MATERIALS— MINIMUM MAINTENANCE

Architects Yorke, Rosenberg and Mardall selected Natural Materials for Causeway Green Primary School to conserve maintenance costs and provide the theme for interior decoration. The Assembly Hall floor, laid by Vigers Bros. in 1" nom. Beech blocks, is typical. The inherent qualities of the hardwood floor are very suitable for the contemporary school hall. Children to-day do work, run, dance, act and sit on the floor. Of necessity the surface must be durable, resilient, warm—qualities possessed by hardwood floors to a marked degree. Add the considerable aesthetic appeal to low maintenance costs and we have the complete answer to floors for Assembly and Dining Halls, Gym, Workshop or Lab.

School at Oldbury, Worcester. Architects: Yorke, Rosenberg and Mardall in association with F. W. B. Yorke and Barker.



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HARDWOOD FLOORS
. . . Made in England

continued from page 206]

the end of the lever which guards against the catching of clothes.

In addition to the example shown (which is designed for a mortice latch) there is a lock set with a keyhole incorporated in the plate. The range is made in black and brown (urea formaldehyde) and in ivory (phenol formaldehyde). *Lacrinoid Products, Ltd., Gidea Park, Essex.*

TIMBER IMPREGNATION

Although creosote is a tried and tested preservative of 100 years standing, its principal drawback has been the problem of painting. To overcome this, several water-borne preservatives have appeared over the last 25 years, and Hickson's Timber Impregnation Co. Ltd. have two useful products in this field: 'Tanalith,' as a general deterrent to decay, dry rot and insect attack; 'Pyrolith,' as a flame retardant. These two have no damaging effect upon the timber, save leaving a slightly yellow stain, and the wood may be painted, glued or worked in the normal manner. Plywood and some hardboards can also be treated, which in all cases is more successful if carried out under pressure.

With much tropical building now being manufactured in this country it should be added that 'Tanalised' timbers have proved resistant to termites, and that 'Tanalith' oil-treated railway sleepers have outlived Burma teak used under similar conditions. Impregnation costs about £11 per standard, depending on cartage, bulk orders, etc.; 'Pyrolith' fire proofing costs about £33 per standard.

'Tanalised' timbers have been recently specified in LCC housing, and in these days of ultra-lightweight sections the small extra cost would seem a worth-while safeguard.

Hickson's Timber Impregnation Co. (G.B.) Ltd., Ings Lane, Castleford, Yorks.

CONTRACTORS etc

School at Paddington. *Architect:* Drake & Lasdun. *Architect-in-Charge:* John Shaw. *Assistant Architects:* Kris Kossak and Bernard Kreeger. *General contractors:* Allen Fairhead & Sons. *Sub-contractors: precast stone faced units:* Wates, Ltd. *Metal windows and doors and water tank screen:* Williams & Williams, Ltd. *Facing bricks, external:* Dunbrik, Ltd. *Facing bricks, internal:* The Sevenoaks Brick Works. *Asphalt roofing:* Permanite, Ltd. *Water steel framing:* T. W. Palmer & Co. *Glazing:* Faulkner, Greene & Co. *Glass domelights:* Pilkington Bros. *Metal balustrades and coat fittings:* Clark, Hunt & Co. *Window ventilators:* Greenwoods & Airvac Ventilating Co. *Fencing:* Durafencing, Ltd. *Tarmacadam:* The Home Counties Tarmacadam Contracting Co. *Turf planting:* St. Marys Contractors, Ltd. *Heating and water supply:* The Norris Warming Co. *Electrical installation:* Norwest Services. *Metal door frames:* Joseph Sankey & Sons. *Terrazzo w.c. partitions:* The Malacarp Terrazzo Co. *Accotile flooring:* Rowan & Boden, Ltd. *Weyroc floors:* Aladdin Services (London) Ltd. *Floor and wall glazed tiling:* Allan & Cairns, Ltd. *Jointless flooring:* The Marbolith Flooring Co. *Partition blocks:* Broads & Co.; J. J. Bassett & Co. *Sanitary fittings:* Dent & Hellyer, Ltd. *Plumbing:* Richard Whittington & Co. *Flush doors:* Allen Fairhead & Sons. *Ironmongery:* Alfred Roberts, Ltd. *Plastering and granolithic:* J. H. Jenner & Co. *Paint:* Nicholls & Clarke, Ltd. *Painting:* Allen Fairhead & Sons. *External paint on concrete:* Inertol Co. *Kitchen ventilating equipment:* Haywards, Ltd. *Kitchen service lift:* The Hoisting Appliance Co. *Venetian blinds:* S. C. Williams & Co. *Curtain tracks:* Tidmarsh & Sons. *Interior plants and boxes:* Stuart Low Co. *Woven wire shoe boxes:* Painter Bros. *Light fittings:* Hume Atkins & Co.; Falk Stadelmann & Co.; General Electric Co.; Holophane, Ltd. *Applied lettering:* Applied Lettering. *Engraved lettering:* The London Name Plate Manufacturing Co. *Stove in schoolkeeper's house:* John Bolding & Sons. *Classroom heaters:* C. A. Dunham & Co. *Radiators:* The Beeston Boiler Co.

Technical College at Dartford, Kent. *County Architect:* E. T. Ashley Smith, *Group Leader:* S. H. Garnham Wright. *Assistant Architects:* G. G. Grylls and W. A. Shirbon. *General*

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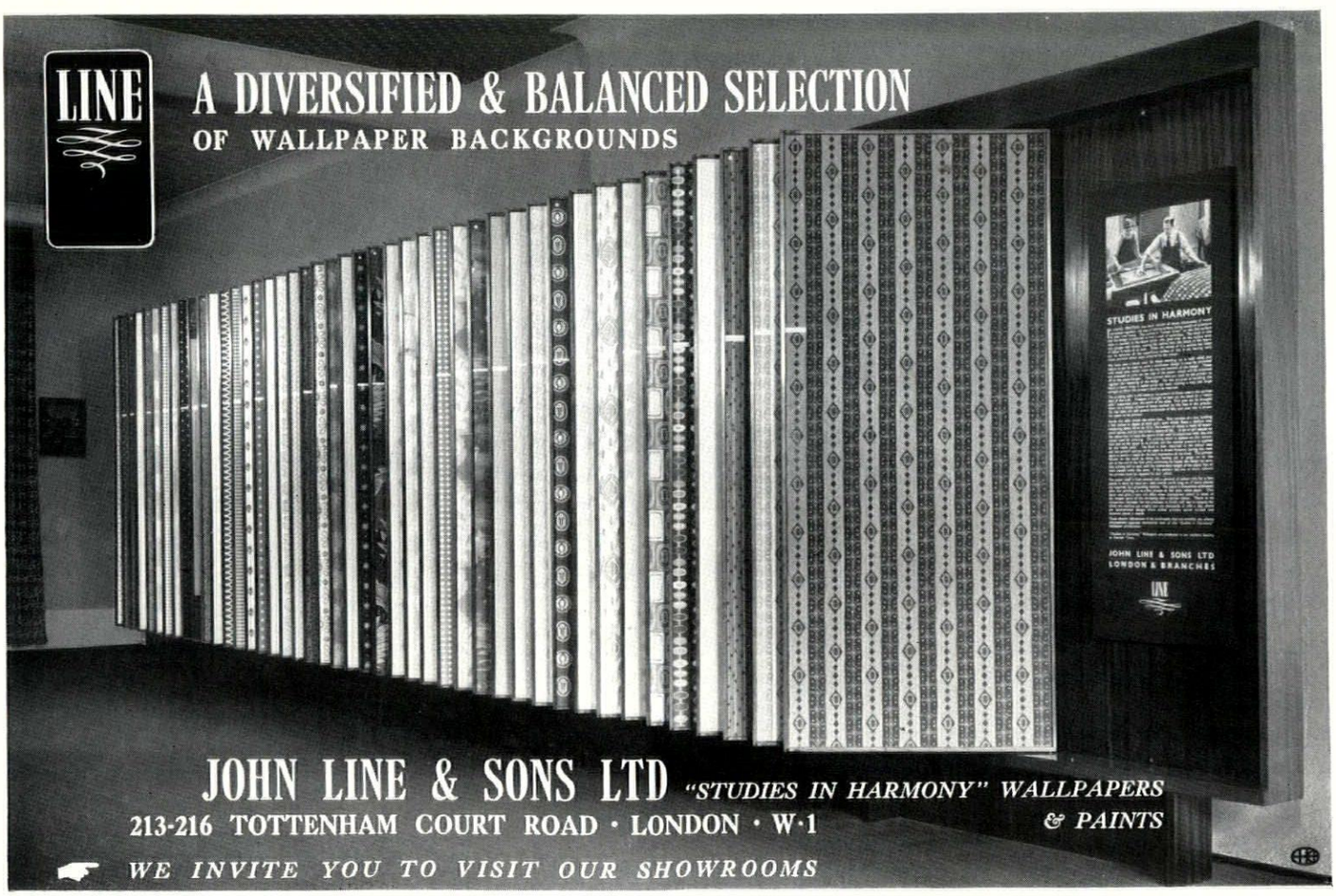

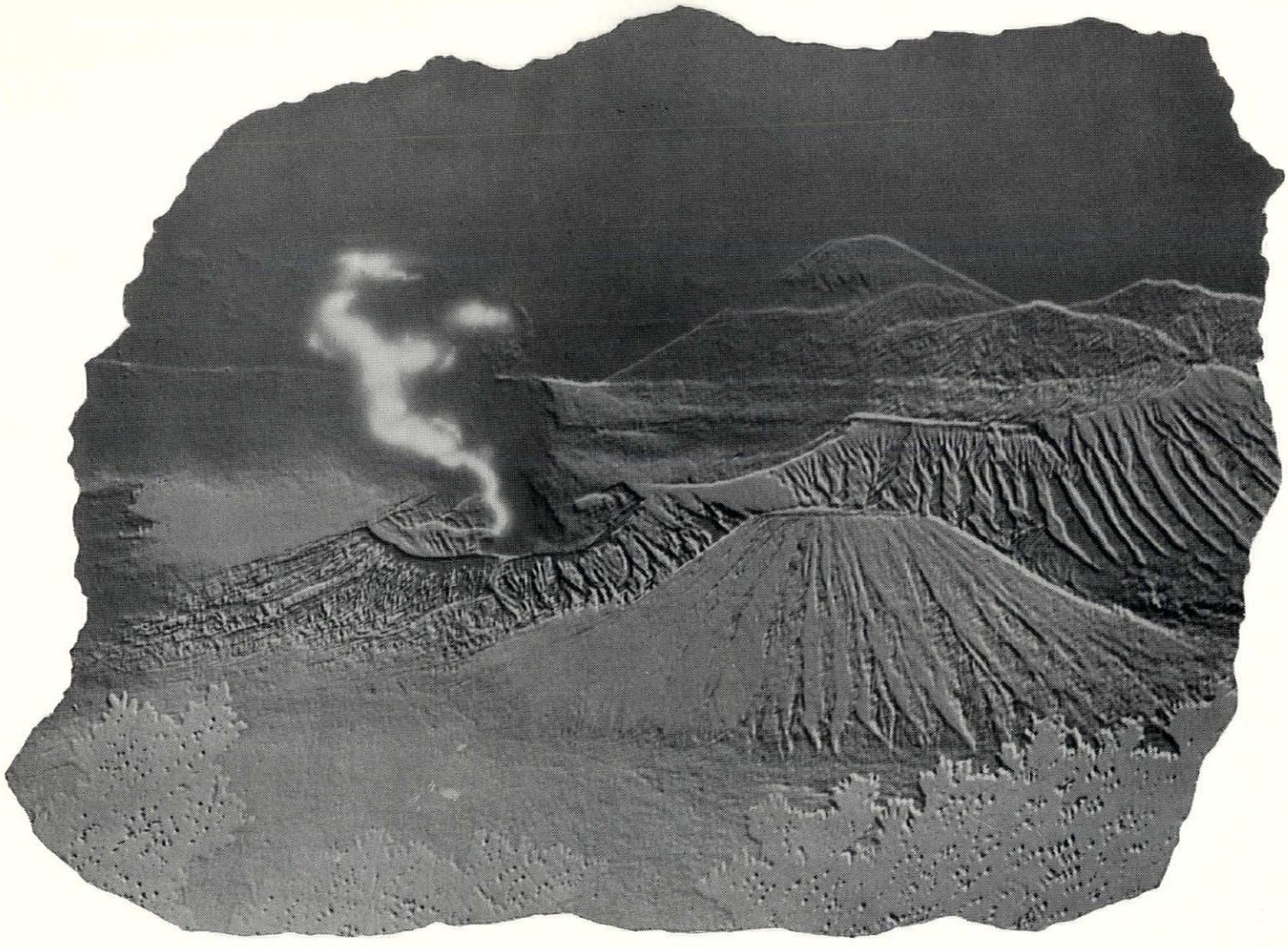

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The Carlisle Plaster & Cement Co., Cocklakes, Carlisle.

continued from page 208]

contractors: William F. Blay, Ltd. *Sub-contractors: mechanical engineering:* G. N. Haden & Sons. *Electrical engineering:* C. W. Gosling, Ltd. *Structural steelwork:* United Steel Structural Co. *Concrete glazing frames:* Lenscrete, Ltd. *Fireproof ceiling blocks and stanchion cladding:* Meta-Mica, Ltd. *External and internal screen wall units:* Holoplast, Ltd. *Electric passenger lifts:* Evans Lifts, Ltd. *Prestressed precast concrete beams and precast concrete floor slabs:* Ferronconcrete (Lancashire) Ltd. *Felt roofing:* Macartney, Ltd. *Roflex flooring:* L. Fishburn. *Precast walling blocks, precast concrete window surrounds and paving slabs:* Atlas Stone Co. *Standard dome light:* Pilkington Bros. *Sanitary fittings:* Teuten-Davis Bennett, Ltd. *W.C. cubicle partitions:* F. Bradford & Co. *W.C. cubicle doors:* S. Brand & Co. *Plasticork flooring:* Whitney-Fairchild, Ltd. *Rubber flooring:* Veitchi Co. *Paint:* Screeton Paintmaker, Ltd. *Special light fittings* (to architects' design): New Era Industries, Ltd. *Standard light fittings:* Troughton & Young, Ltd.

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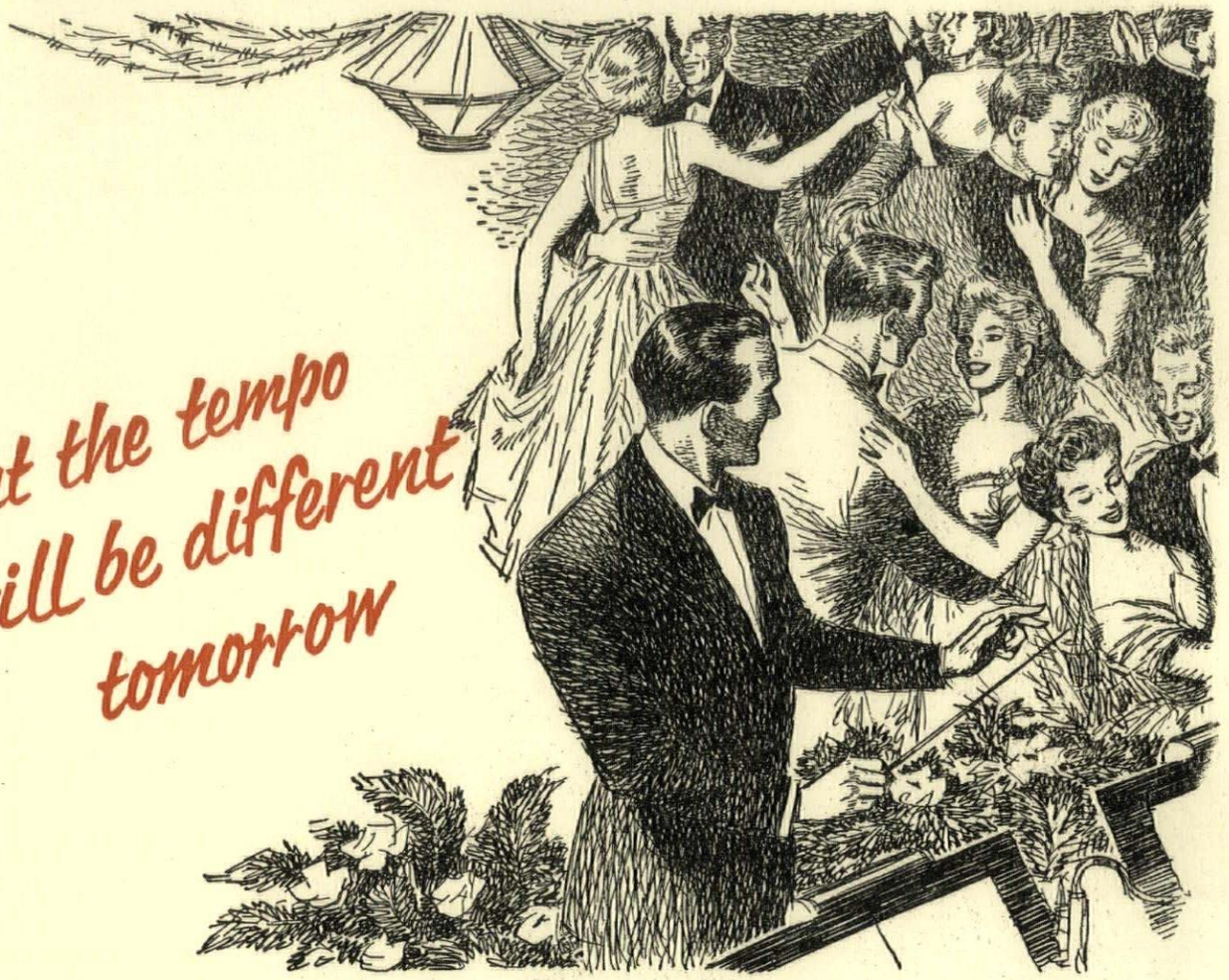

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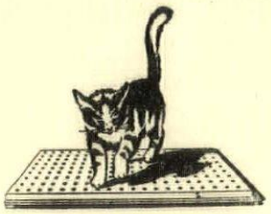

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COUNTY BOROUGH OF BRIGHTON

HOUSING ACTS, 1936 to 1949

AND

THE ACQUISITION OF LAND (AUTHORISATION PROCEDURE) ACT, 1946

BRIGHTON CORPORATION (WICK FARM) COMPULSORY PURCHASE ORDER, 1953

NOTICE OF ENTRY

TO The owner of the land on which this notice is displayed

WHEREAS an Order made by the Minister of Housing and Local Government on the 8th October, 1954, confirming with modification the Brighton Corporation (Wick Farm) Compulsory Purchase Order, 1953 prepared by The Mayor Aldermen and Burgesses of the Borough of Brighton (hereinafter referred to as "the Council") under the Housing Acts, 1936 to 1949 and the Acquisition of Land (Authorisation Procedure) Act, 1946 authorises the purchase compulsorily for the purposes of the said Order of the lands and property described in the Schedule hereto

AND WHEREAS Notice to Treat for the said property has been served upon you

NOW THEREFORE the Council in exercise of the power conferred upon them by paragraph 3 of the Second Schedule to the Acquisition of Land (Authorisation Procedure) Act, 1946 HEREBY GIVE YOU NOTICE that they will upon the expiration of TWENTY-EIGHT days from the service of this Notice upon you, enter on and take possession of the said property.

THE SCHEDULE above referred to

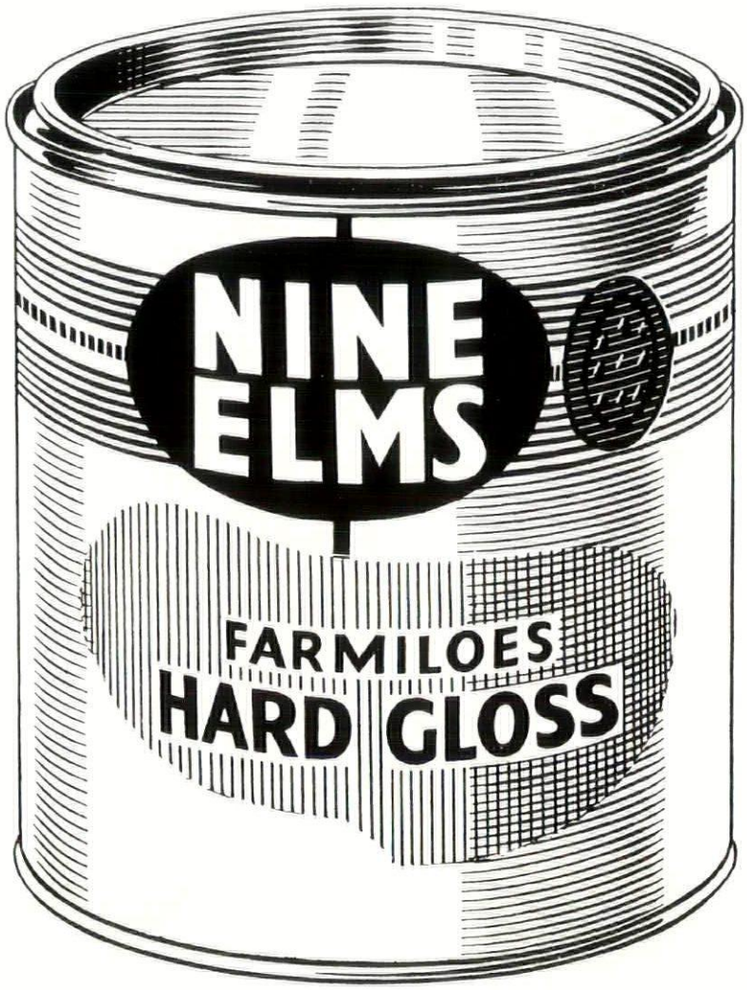
No. on Map	Quantity, description and situation of the land
Private	Land on the north side of Balsdean Road, Woodingdean, Brighton (Area 0.18 acres)

Dated this twenty-eighth day of June 1955

On behalf of the Council

Town Clerk

Town Hall,
Brighton.



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MARGINALIA

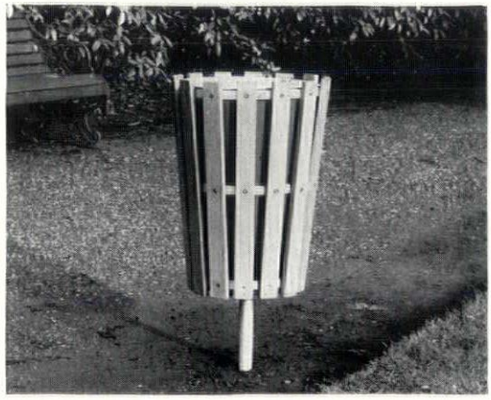
Litter in the Parks

The dropping of litter is so characteristic a gesture of the Subtopian mentality that any study of the litter-problem is valuable for the light it can shed on that mentality as a whole, and the Report of the Royal Commission 'to advise the Minister of Works on ways of encouraging the public to keep the Royal Parks tidy and free of litter . . .' is of double interest, partly for what it reveals of litter-dropping habits on the part of the public, and partly for what it reveals of mental and visual untidiness on the part of official bodies directed to make the public more tidy-minded.

The basic postulates of the Report are admirable, sensible and unsentimental—the hygienic wrapping and attractive packaging of ice-cream, sweets and so forth are welcomed as an essential feature of contemporary life, and blame for their wholesale distribution—when empty—over the Royal parks is laid upon bad habits—bad habits of the entire community, irrespective of rank or class for 'note was taken of the newspapers found on the ground, which revealed a very wide range, including the *Times*.'

The Report, based on experiences of the summer of 1954, does not confine itself to sample analyses of rubbish, however, nor to statistics of tonnage and man-hours (though these are horrifying enough)—its great value lies in the fact that survey was paralleled by action, and a campaign to reduce the proportion of waste-paper which fell on the ground, rather than into litter-bins. This campaign, which reduced the dropped-on-ground percentage from 28 per cent to 14 per cent in a year must be accounted a considerable success, and was conducted with some psychological subtlety. Special techniques employed included moral persuasion by park-keepers, the recorded voice of Gilbert Harding, a new litter-bin design, and re-designed notices.

The litter-bin, 1, is an undoubted success both aesthetically and on its recorded



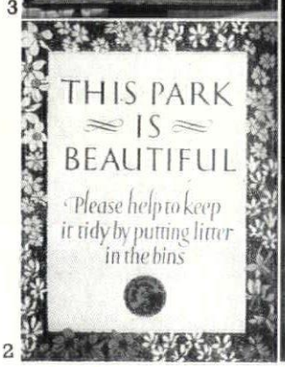
1

performance as a rubbish-attractor, but the special notices, and their manner of display give some grounds for disquiet. The bin was the product of careful research, much taking of advice, and a well-detailed specification—all of which is set out in para. 11, and appendices III and IV to the Report—but of the notice it says only 'was prepared to our requirements.' If its drearily-genteel lettering and clumsily-whimsy floral border, 2, are the product of genuine research into the psychology of English garden-sentiment, all well and good, but comparison with the litter-bin (or even the notice, 3, that it replaces) suggests that this notice is a failure of nerve, a timid Subtopian attempt at keeping-in-keeping.

But, beyond mere typography, the manner of displaying this notice often shows a complete failure on the part of officialdom to understand either its short-term or long-term objects. In Hyde Park, for instance, 4, it appears in unplanned company with four other notices on three posts of different heights—a little jungle of bureaucratic exhortations showing typical signs of Subtopian sprawl. Not only does it increase the squalor of a visually squalid corner, but its unthinking acceptance of the stock siting of notices in parks—at the entrance—will undermine the effect it is intended to have. Even if the right place for detailing bye-laws and band programmes were the entrance (which is arguable) the place for notices about chair charges is, surely, near the chairs, and for anti-litter notices is in places where the litter problem is known to be locally acute.



3



2



4

F. D. Klingender

We are a long way, yet, from fully assessing the effect on our intellectual life of writers like the late F. D. Klingender, who died on July 11 at the early age of 48. He was one of those figures, particularly characteristic of the 'Thirties and 'Forties, whose technical capacity as research students was matched by an equal ability in popular exposition of their findings, whose studies of the past were made immediately relevant to the present by virtue of a political orientation which educed, from dispassionate research, lessons of impassioned consequence in the contemporary state of affairs. Though in this respect his work on early nineteenth century painting was unjustly overshadowed by that of Antal, his work on political cartoons stands alone, and his researches along the fertile seam where art and technology abutted have shaped the taste of a generation that can never have read his pre-war articles in the REVIEW. Here he was a pioneer of exact scholarship, and the work he did on and around the aesthetic consequences of the Industrial Revolution makes him an essential link between the first timid fancy for old engines, visible in the Humphrey Jennings circle, and the all-out coffee-bar Victoriana of the post-war era.

The exact scholarship will probably outlive even the most 'classic' coffee bar, for *Art and the Industrial Revolution* will long remain a basic text, infinitely more readable than most of the subsidiary literature it has fathered, remarkable in its balance between technological and aesthetic points of view, and sure of readership because of its illustrations—contemporary prints, naïve or cunning, reticent or romantic, a delight to the eye, and far more valuable as evidence than any up-to-date photographs of the same bridges, railways and so forth could ever be, because they show us the Iron Age through its own eyes. This book established him as a point of national reference on Cast-iron Iconography—students in many fields consulted him and his unrivalled collection of early technical prints, and his last contribution to THE ARCHITECTURAL REVIEW was, most properly, *Dynasty of Iron-Founders* (March, 1954) a review of Dr. Raistrick's book on the Darbys of Coalbrookdale.

CORRESPONDENCE

Outrage

To the Editors

SIRS,—Your issue of June, 1955, entitled 'Outrage,' represents a critical estimate of the galloping 'Subtopia' which is evidently advancing into the very lungs of Britain. You and Mr. Nairn have indicated by this article that social protest and commentary are far from dead in the Western World. Regrettably, I have not read the article

which appeared in one of your 1950 issues concerning creeping blight in the United States. However, if you were to do such an article to-day, it would be even more apparent that the outrage here is growing and not lessening. A whole issue of your magazine could be devoted to Washington, D.C., and to what has happened to the quaintness and charm which characterized much of that city prior to World War II. There are Things on the Mall. 'Subtopia' has overtaken the suburbs around the Capital to the extent that the city now drifts far out into the country and the suburbs themselves have lost all of their individuality.

In reference to the environment that surrounds Frank Lloyd Wright, a natural wonderland known as Wisconsin Dells lies about 50 miles north of Taliesin. The Dells area is fast being strangled by miles of ribbon 'development' on the main routes leading to the town, and by unprecedented congestion in the town itself. Although the waterways are partially controlled by the University of Wisconsin, 'Subtopia' has made a shambles of the countryside. And this situation is being reproduced and multiplied throughout the nation by the increase in population, automobiles, air transport, motels and highways.

Yours, etc.,

Chicago, Illinois. JAMES ARKIN.

To the Editors

SIRS,—We just have in hand your superb issue on Subtopia called 'Outrage'. I cannot say how impressive a job you have done with this pressing problem. As you can imagine we, too, face many of the same problems which you have touched on in this issue, and I would like to make your book available here to as many people as we can possibly contact in our planning groups. I am for example thinking of our Marin County Citizens' Planning Group and the Mill Valley Citizens' Planning Group which contain several hundred laymen interested in planning problems to whom this issue would serve as an excellent text.

Yours, etc.,

San Francisco, Calif. LAWRENCE HALPRIN.

To the Editors

SIRS,—We have read your special issue of ARCHITECTURAL REVIEW, June, 1955, entitled 'Outrage' with great interest. Beyond the subject matter which we think excellent, your presentation is extraordinarily readable and exciting. Such candid opinion of your special issue might better be understood when you know who we are.

ACTION is the American Council To Improve Our Neighbourhoods, a national, non-profit, non-partisan public service organization whose purpose is to help Americans help themselves to better living. Our objectives are to conserve our good houses, to rehabilitate those which have felt the touch of blight, and to eliminate the rock-bottom slums which have deteriorated beyond hope of reclamation.

We endeavour to accomplish this objective by:

1. Gathering and providing facts upon which constructive action can be based.
2. Generating citizen awareness and motivating individuals to take action.
3. Providing, on request, specific assistance to communities that wish to take action.

We think your presentation is an enlightened, scholarly approach to and a dramatic development of the problem you call 'Subtopia.' For this reason we would like to put your story in the hands of conservation and rehabilitation experts in our country to illustrate by example an outstanding reporting of the problem of encroaching blight.

Yours, etc.,

DAVID C. SLIPHER,
Field Service Director,

New York. ACTION.

Rebuilding the City

To the Editors

SIRS,—To a worker in the City, design in the narrow sense may be secondary—to circulation, for one thing—at 9.15, between 1 and 2, and at 5.30. Whatever one thinks of those shapeless hulks going up near Cheapside, it makes one shudder to think of them regularly pouring their population into Cheapside on top of the recurrent crush there already. Well-designed (individual) buildings would do the same. How can good lines refresh the spirit mangled by animal crowding?

Even if Route 11 rushes the motor traffic through and London Transport digs new tunnels, what about pedestrian traffic—to which no speculator would assign any of his land? When the REVIEW urges urban density has it ever daily elbowed its way, say, from St. Paul's to St. Vedast's at lunchtime? And is there hope that London Transport *can* extend the Underground? It's hard to see now, with trains running every two minutes, how they can cope with the human contents of those new buildings six months or a year from now. Or is the City population merely being rearranged, not reconcentrated and increased?

I know the point has been much made that there are too few green spaces in which to eat a sandwich lunch; the little garden of St. Benet Sherehog, Pancras Lane, is used to park motor bikes in, there are no benches in the garden back of St. Stephen Walbrook, and I wonder if the bomb-site garden on Gresham Street at Foster Lane will be saved—it's one of the potentially lovely oases. Another lunch-hour point: the speculator who builds a super-market where City women workers who are also housewives could do their food shopping (have you seen those queues?) would *make money*.

Space to move about in, in safety and dignity, indoors and out—even the speculator's tame architects can provide that indoors, but can only full Government control provide it out-of-doors? (Not the overspaciousness of New Towns, on this expensive piece of ground, but space on main thoroughfares for pedestrians to *move* in—and more of those pedestrian shortcuts so characteristic of the City.) Good design of individual buildings on *top* of that would of course be so much jam, but let us be sure of the bread and butter.

Yours, etc.,

PRISCILLA METCALF.



Architects and organizers of the Hälsingborg exhibition (pages 222-236). *Left* to *right:* Sven Silow (one of the four chief architects and jointly responsible for the housing section); Arne Ljung (building manager); Ake Huldt (organizing architect); Gotthard Johansson (president of the organizing commission); Torbjörn Olsson (one of the four chief architects and jointly responsible for the housing section); Erik Ahnborg (architect of the children's section); Carl-Axel Acking (one of the four chief architects and responsible for the general design of the pier); Bengt Gate (one of the four chief architects and designer of the restaurants and industrial design pavilions).

Subtopia in Croydon

What is hoped to be the first of several exhibitions about Subtopia is being held at Ebbutt's furnishing showrooms, Croydon High Street, throughout October. It is a compound of photographs from 'Outrage' and parallels found in Croydon itself. Croydon is one of the best towns from which to show the difference between true Suburbia and Subtopia, and this aspect of the exhibition will be discussed in a future issue of the REVIEW.

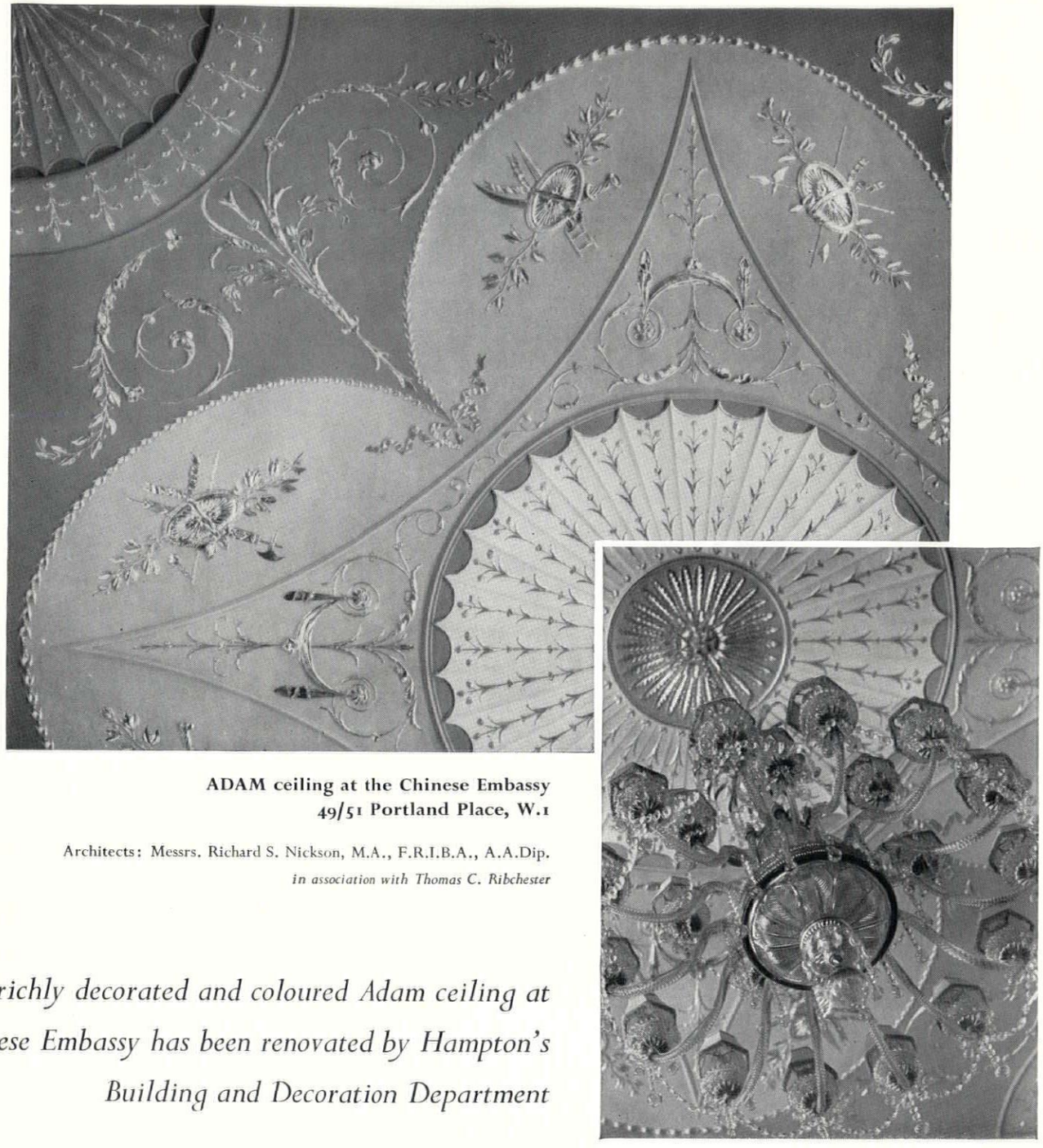
Intelligence

Dr. Edgar Wind has been appointed Professor of the History of Art at the University of Oxford.

ACKNOWLEDGMENTS

The furniture in the House at Hampstead, which was published in the June issue, was supplied by the Modern Interior Department of Woolland Brothers, Knightsbridge, and arranged by Mrs. Eileen Bell.

COVER: Nairn, Arphot. MARGINALIA, page 211: 4, Helen Simpson, Arphot. FRONTIS, page 214: G. E. Kidder-Smith. EAST MOLESEY CRICKET PAVILION, pages 219–221: Galwey, Arphot. H 55, pages 222–236: 14–16, 18, 19, 24, 26–28, COID; remainder, Wahlberg. HAWKSMOOR, pages 237–239: 3, Record Office; 7, NBR. US EMBASSY BUILDINGS, pages 240–247: 9, 12, 13, 17–19, Sundahl, Stockholm; 20, 21, 24, R. Browning; 27, 28, Dorvyne, Paris. ENCROACHMENT, pages 248–254: 13, Aerofilms; 15, COI; 21, J. Allan Cash; 25, Camera Press. CURRENT ARCHITECTURE, pages 255–258: School at Bewdley, Galwey; Hall at Chessington, Toomey, Arphot. MISCELLANY, pages 259–264: Esoteric Architecture, A. C. Barrington Browne; Brighton, Nairn. Exhibitions, 1, 2, Leonard G. Taylor; 3, 4, Arts Council; 5, 6, John Hersey. SKILL, pages 265–274: Interiors, showrooms in Regent Street, Colin Westwood; showrooms in Grafton Street, George Miles; Offices in Manchester, Rex Lowden; German Church Art, 1, 8, 15, H. Rosenhauer; 3, E. Leitner; 4, 9–11, 13, A. Pfau; 5, Ursel Buchholtz; 6, G. Hauck; 7, H. Stock; 12, 20, O. Rheinländer; 14, Erika Fleer; 16, Rh. Museum, Köln; 17, E. Rossel; 18, E. E. Forster; 19, W. Danz; 22, W. Lüden; 24, Werkstätten der Stadt Halle; 25, 26, Ann Bredol-Lapper; Techniques, Toomey.



ADAM ceiling at the Chinese Embassy
49/51 Portland Place, W.1

Architects: Messrs. Richard S. Nickson, M.A., F.R.I.B.A., A.A.Dip.
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THE ARCHITECTURAL REVIEW

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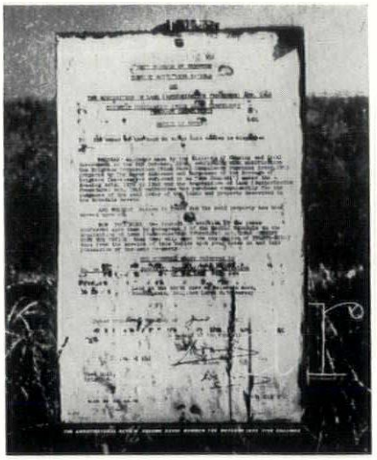

The cover. Compulsory purchase of land is a vital instrument without which no large scale redevelopment would be possible. It can also be a bludgeon used by local authorities to carry out schemes which may be convenient or expedient but are a disaster to national planning. The subject of this month's cover—acquisition of open downland for housing by Brighton Corporation—is such a bludgeon; and the result of similar land-grabs can be seen in this month's Miscellany, in a note under the label "Outrage"—the first in a monthly follow-up of the trail blazed in the June issue.

211 **Marginalia**

211 **Correspondence**

214 **Frontispiece**

215 **The New Patrons** *by J. M. Richards* Though it is generally held that great business houses and public corporations are the natural successors to the aristocrats of the past as patrons of architecture and the arts, their actual worth in these roles has amounted to very little, and with a few memorable, but isolated exceptions, their record is not impressive. However, even the unsatisfactory commercial buildings of the period before the war did show some pretensions of architecture, did attempt to make a show, even if the results were not acceptable by present-day standards of function and aesthetics. The new post-War palaces of commerce have lacked even these misguided pretensions, and seem to have been run up with the aim simply of creating bulk letting-space—and this, as might be suspected, heralds the intrusion of a new and unsatisfactory type of patronage. The field of office-block construction is now dominated by property investment companies, notably the big insurance houses, from whom commercial organizations rent the buildings. Thus, the Time-Life Building and the Westbury Hotel are rented from the Pearl Assurance Company, and the Prudential are about to construct the BBC's new extension in Portland Place. This new way of financing buildings may have to be accepted, Mr. Richards believes; but if it must be, then these new patrons must accept their responsibilities, inform themselves about architecture, and employ the best architects they can secure, under conditions of creative freedom sufficient to ensure that commercial expediency does not become London's architectural norm.

219 **Cricket Pavilion at East Molesey** *Architect, Basil Ward*

222 **H 55** Commemorating the justly-celebrated Stockholm exhibition of 1930 (as the South Bank commemorated 1851) the H 55 exhibition at Hälsingborg, Sweden, concentrated on housing, house-furnishing and industrial design, and suggested that Sweden is somewhat conscious that her leadership of the domestic arts, so secure in the years after 1930, has now been challenged by younger branches of the Modern Movement. Certainly the exhibition afforded the visitor, besides an international cross-section of current thought on housing and interiors, an opportunity to assess the virtues and limitations of contemporary Swedish design. The brilliant siting—on a pier between the harbour and the sea—and the admirable planning and detailing had to be balanced against a stereotyped taste in the handling of those details, and an insufficient use of colour. Nevertheless, there was liveliness and movement, and a stimulating display of domestic design from many countries—fully illustrated and annotated in the latter part of this photographic tour of the exhibition.

237 **Hawksmoor and the Ordnance** *by Lawrence Whistler* The connection between Sir John Vanbrugh and the Office of Ordnance has already been cogently argued by Mr. Whistler in the ARCHITECTURAL REVIEW—a connection which would suggest a parallel arrangement involving Nicholas Hawksmoor. Striking affinities exist between the stylistic qualities of some Ordnance buildings and Hawksmoor's work, but documentary evidence of any connection is lacking. However, drawings made by Hawksmoor for alterations at Ockham Park, Surrey, which came to light recently, greatly increase the circumstantial evidence—notably so in the case of a remarkable clock-tower, now destroyed, which shows a striking likeness to the lantern of the Old Landport Gate at Portsmouth. These drawings also make possible a reasonably certain reconstruction of Hawksmoor's elevations at Ockham, which prove to be fully in the 'Ordnance Manner.' As Mr. Whistler's detailed examination of the various rebuilt parts of Ockham shows, they make it necessary to give a new body of Ordnance attributions to the 'indefatigable though querimonious old master.'

240 **U.S. Embassy Buildings**

Embassy Offices, Copenhagen and Stockholm *Architect, Ides van der Gracht*

Embassy Apartments, Paris *Architect, Alan B. Jacobs*

248 **Encroachment** *by Sylvia Crowe and Kenneth Browne* Encroachment occurs when incompatible elements are introduced into a landscape which cannot absorb them or without the creation of a new landscape pattern. Its prime agents are industry and the motorised holiday maker, and, ironically enough, the latter's encroachments often destroy the very qualities in the landscape which have attracted him in the first place. The needs of industry and the desire of the people to enjoy the natural scene must be met, however, and apart from such large scale and long term considerations as zoning and the preservation of some areas as sacrosanct, the authors examine ways and means by which normal development can take place without becoming squalid encroachment, illustrating their argument with real and imaginary examples of developments in well-known scenic areas.

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Executive Editor Ian McCallum

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Assistant Editors production, Ian Nairn. research, S. Lang. literary, Reyner Banham. Editorial Secretary . . Whi 0611-9

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FIVE SHILLINGS


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The shopping precinct, the pedestrian shopping street, the shopping arcade are all getting increasing attention from city planners as devices for permitting leisurely shopping and sociable promenading out of the way of wheeled traffic. There is plenty of historic precedent for the idea, especially in the glass-roofed pedestrian promenades, lined with shops, erected in the nineteenth century in many cities—most notably, perhaps, in Italy. The most famous Italian example is the Galleria Victor Emmanuel II in Milan. It is shown opposite as photographed by G. E. Kidder Smith for his book, Italy Builds, *which is to be published later this month.* *See also page 260 of this issue.*

J. M. Richards

THE NEW PATRONS

It has been declared *ad nauseam* that the new patrons, replacing the aristocratic patrons of the eighteenth century, are the great business houses and public corporations. That is true in the sense that these are now the people with money to spend on development schemes and with the resources to plan ahead. Their actual worth as patrons of architecture, however, though repeatedly extolled in after-dinner speeches, amounts to very little when judged by the contributions they have made in Britain to the progress of the art, and to even less when judged by what they have done to establish an accepted canon of taste such as the eighteenth-century patrons helped to do.

What specific achievements can these new patrons point to? A chain of underground stations built in the nineteen-twenties and early 'thirties (together with an admirable tradition of equipment-design, poster-design and lettering—which, however, is already either stagnant or dead, having sprung from the imagination of one man, the late Frank Pick), a department store in Sloane Square designed nearly twenty years ago and not improved upon since, a number of up-to-date factories, seen by very few people, some gay but ephemeral exhibition buildings, the enlightened employment of artists and designers by the Orient shipping line, the somewhat unhealthy eclecticism of the Time-Life interiors and—new this summer but too slight to deserve the status even of a single swallow—a prototype at last, erected near Reading, of a decently designed roadside filling station.

As a record of thirty years of enlightened patronage it is not much. And on the other side of the ledger we have Unilever House, Shell-Mex House, the Cumberland Hotel, the factories that line the Great West Road and an infinite amount of further evidence that big business hardly has an inkling of what modern architecture is about, of the benefits its particular qualities could have brought to the more efficient conduct of big business nor of the responsibility of big business to make the most of these same qualities on behalf of the community as a whole.

Admittedly Unilever House and the rest are all pre-war, but no sign of leadership from industry or big business has emerged since the war in spite of the increased power that has been placed in its hands; indeed, since the large-scale construction of offices and commercial buildings began again, there have been all too many signs that if these patrons had their way we should get the monstrous commercial palaces of the 'twenties and 'thirties all over again. Most of what we have got are simply utility versions of those. This is not merely a disappointment but a tragedy, because one of our most difficult architectural problems, which specially calls for the intelligent application of modern ideas, the city office block, is the creation of big business itself, which has fathered this delinquent child without so far accepting any responsibility for its social behaviour.

Big business, in short, whether private or nationalized, has failed us. But one thing on its behalf we can say: what architecture it has been responsible for has contained ideas of a kind. They may be old-fashioned ideas; they may be dominated by the simple-minded belief that the way to gain prestige is to make a display of the trappings that are associated with prestige in the history-books. But the builders of Unilever House and the Great West Road factories and the rest of their kind at least showed themselves interested in architectural effects whatever opinion we may hold of the results, functional and aesthetic, in relation to present-day needs and possibilities. Recently, however, the scene has changed somewhat—and changed undoubtedly for the worse. We now have a new kind of business patron, and one that shows no such interest in architectural effects—at least as regards city buildings. It has no architectural ideas because its interest in the potentialities of architecture is basically limited to lettable floor-space. I refer to the property investment companies, especially the big insurance companies, who without our noticing it have become the principal patrons of present-day city architecture in the sense that they control almost all the available sites and that a large part of the commercial building that is taking place in London is financed by them.

Their dominant position, as compared with the position of the company that puts up its own building, is quite a new phenomenon, and it poses a number of questions about the kind of architecture that is to be the outcome; also about the kind of architect who is to design it, because the peculiarity of the control of building sites and commercial building enterprises by investment and insurance companies is that in most cases they have their own architects who, as it were, go with the site.

For example the much-publicized Time-Life building in Bond Street was not designed by an architect chosen by the Time-Life company. He was nominated by the Pearl Assurance Company, who own the site and who financed the building, of which (or the major part of which) Time-Life are simply the lessees. The same architect also designed the new Westbury Hotel on the other side of Bond Street, having been engaged by the Pearl Assurance Company when they obtained control of the land on which it is built.

This practice establishes an entirely new relationship between architect and client which, speaking generally, can hardly be in the interest of good architecture. In the case of office buildings it means that the building is often designed before the needs of the occupier are known. Indeed there is now hardly a site in central London for which a scheme of development has not been got out by an architect employed by one of these investment or insurance companies; and anyone seeking a site is more or less compelled to accept his ready-made design, a design prepared, it must be emphasized, not to suit anybody's architectural needs but to bring in the maximum return in the way of lettable floor-space.

It also happens that, again speaking generally, and with a very few honourable exceptions, the architects employed for this purpose are not first-rate designers nor men in any way eminent in their profession; they are retained or employed because of some long-standing business connections with the sponsoring companies and as men experienced in building finance. Most of them, judging by the buildings put up and the projects published in recent years, are at best conventional and unimaginative designers; at worst they are quite illiterate. Yet, through the accident of the system of financing buildings that has lately evolved, these are the men who are determining what is to stand for many years to come on some of the most important sites in the capital.

They are employed simply to dress up so many square feet of floor-space with enough in the way of architect-designed elevations to get past the London County Council and the Royal Fine Art Commission. No exercise of an architectural imagination is called for; nor is there any architecturally informed control of their efforts, which are submitted to and approved by the surveyors' departments of these investment or insurance companies. Their surveyors thus become the final arbiters of taste.

Apart from the low standard of architecture resulting, there is also the question of the loss of character and quality due to the separation of the process of creating architecture from the people the architecture is really for. For example, can it be in the interest of good architecture that even the B.B.C., a semi-public body with some obligation to maintain civilized standards in the arts, should cease to be responsible for its own building? The B.B.C. is shortly going ahead with the extension to Broadcasting House on the long-vacant site at the foot of Portland Place. But it is not putting up its own building. The Prudential Assurance Company is putting it up, and will then let it to the B.B.C. The architect is employed by the insurance company; he is not chosen because of the importance of the site and the role played by the B.B.C. in British life.

This is simply a financial expedient, just as the disastrous Lessor scheme sponsored after the war by the Ministry of Works was a financial expedient. It may have economic justification, but are not the architectural implications even more dangerous? These words are being written before any design for the B.B.C. extension has been made public and in ignorance of its nature. It may be that it will turn out to be a masterpiece—at least it stands a better chance of being acceptable than most such enterprises because an eminent architect—Sir Howard Robertson—has been appointed as consultant. But it is the principle that is here deplored; the principle, in this instance, that deprives the conception of British broadcasting of the chance of inspiring an architectural idea, and in other similar instances puts the financial return on the building into altogether the wrong relationship to the architecture. The B.B.C. extension is only mentioned here because it is to serve an important public purpose and will occupy a prominent site. Other prominent sites, like

that of the old Holborn Restaurant at the corner of Kingsway, are being redeveloped on the same financial basis and the evidence so far available of the kind of architecture with which sites like these are to be furnished suggests that one is justified in fearing the worst.

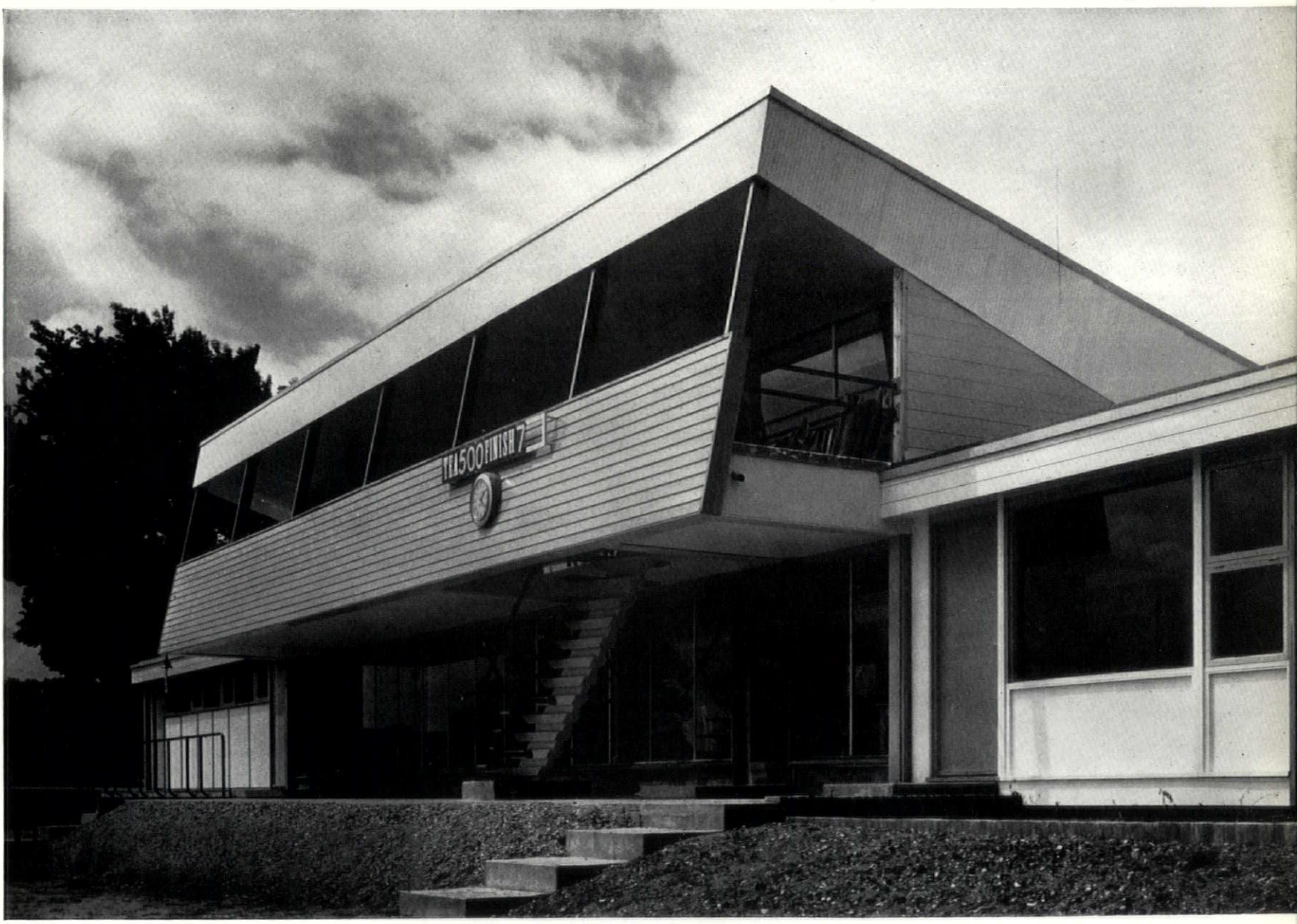
It may be that this method of financing buildings—this grip that a few big investment companies hold on all the important sites—is something that must be accepted; that in future the patron of architecture is destined to be the company with money to invest instead of the firm that owns its own building and looks to it to enhance its prestige. Good architecture in the past has come out of queerer arrangements than this. But if it is to be so, it is all the more important that these investment companies should assume a sense of responsibility and equip themselves with architectural advice that matches up with the important civic role they now play. It is not only a matter of architectural style but of making sure that all the best architectural ideas, technical and functional, are put at the disposal of the community. These companies—the Prudential Assurance Company, the Pearl Assurance Company and the various property investment trusts—have lately become the new patrons of architecture. They have a clear duty to inform themselves about the live architectural issues, seek out the architects best qualified to serve them, and accord them the freedom a good architect deserves. They have power in their hands to advance the cause of good architecture on a scale no-one has had the chance to do for nearly a century. If they do not seize this opportunity boldly and imaginatively the result will be that London will gradually come to accept the commercially expedient and the second-rate as the normal standard for new buildings—which is all she is getting at present—to London's and to the nation's permanent detriment.

CRICKET PAVILION AT EAST MOLESEY

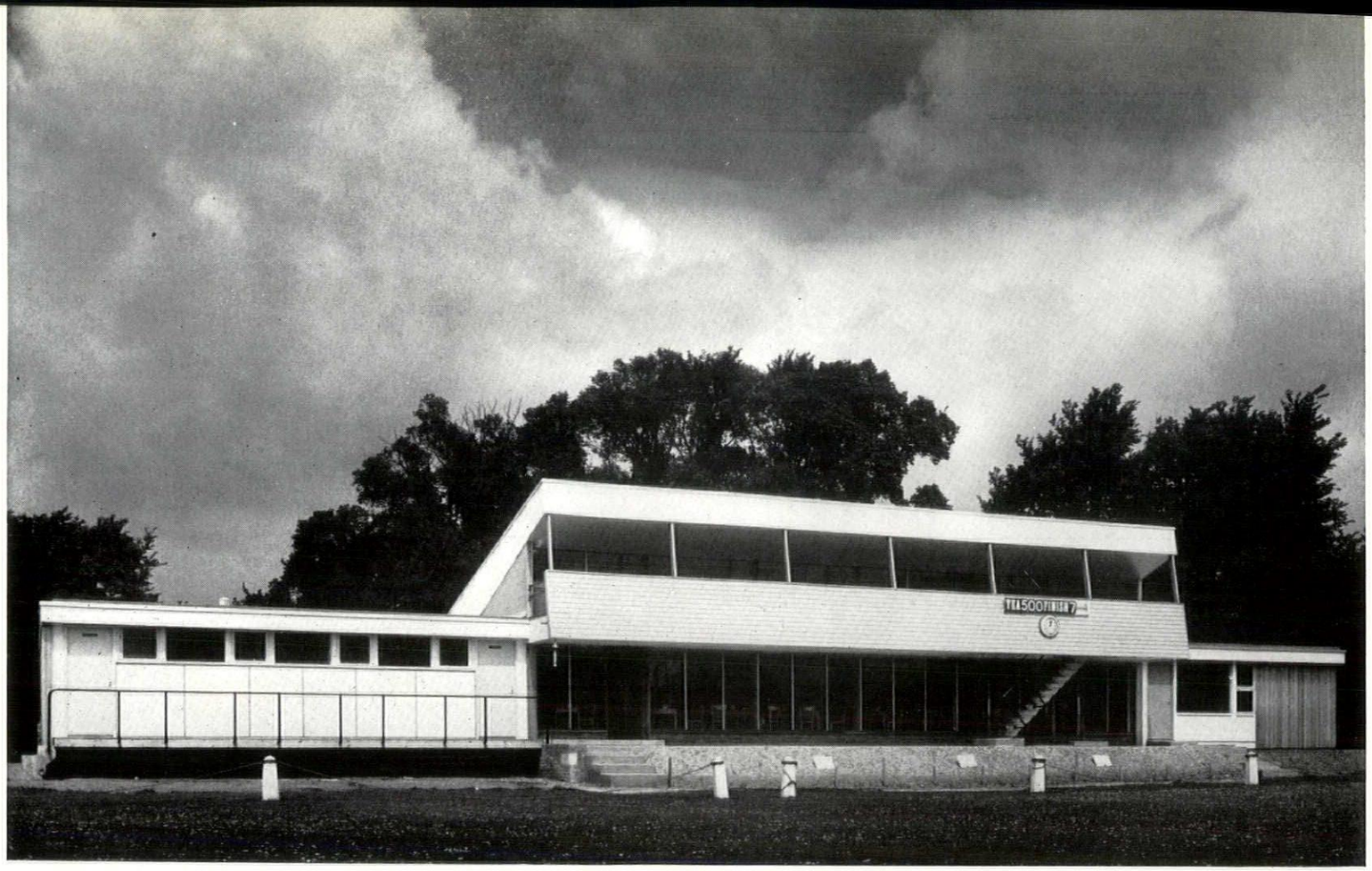
ARCHITECT | ***BASIL WARD (of Ramsey, Murray, White and Ward)***

Assistant-in-Charge | ***George P. Buzuk***

1, the pavilion from below the viewing terrace.



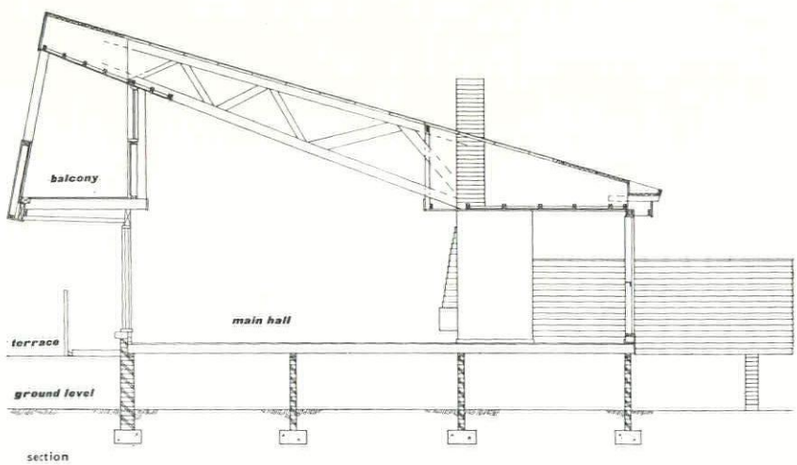
Cricket has been played on or near the East Molesey Cricket Club's ground for 250 years. Towards the end of the war, when there was some danger of it being lost to cricket, the club managed to buy the freehold. The pavilion, which stands on the north-west side of the ground, is a single-storey building with a balcony projecting over the terrace along the central portion of the front. The balcony is reached by an outside stair from the terrace. It is partly cantilevered and partly suspended from the ends of the roof trusses. The one-way pitch



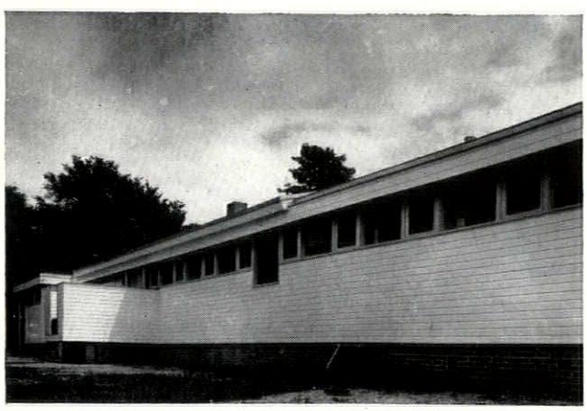
2, the pavilion from the field of play.

roof of the pavilion is caried forward to cover the balcony and to shade the terrace in front of it.

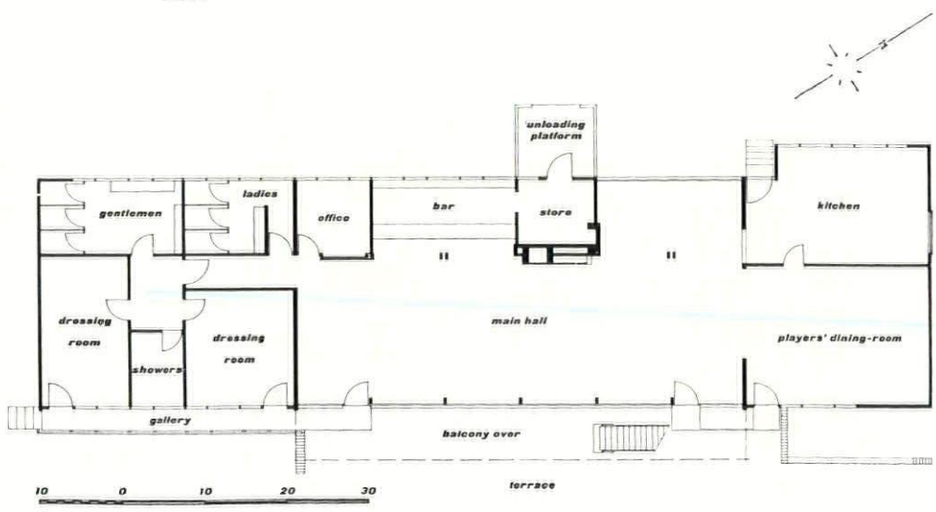
The pavilion contains a main hall 50 ft. long with large viewing windows at the front and a bar and office at the back. At one end are dressing-rooms, etc.; at the other a members' dining-room and kitchen. Construction throughout is of timber, the external walls being weather-boarded and painted white or left to show their natural grain. The solid balustrade to the front of the balcony is painted red. The main rooms have panelling in Australian walnut and silver ash, the timber having been given by the Government and people of Australia, whose Prime Minister, Mr. R. G. Menzies, laid the foundation stone of the building early this year.



section



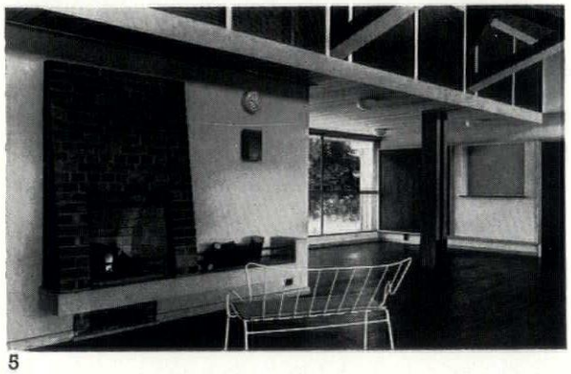
3, the rear of the pavilion, faced with boarding painted white. On the left is an unloading platform for bar and kitchen supplies.



plan



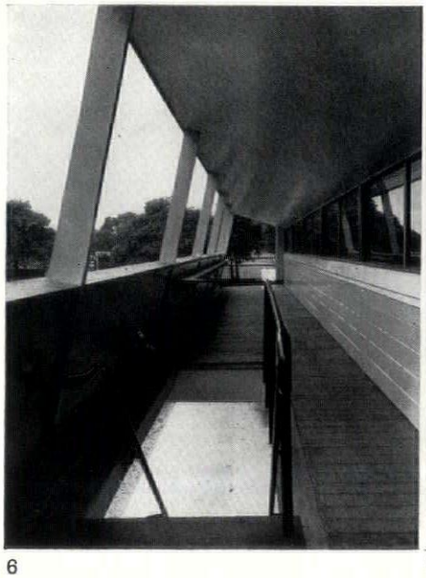
4



5

CRICKET PAVILION AT EAST MOLESEY

4, the interior with its open timber roof. The large windows on the right give a clear view of the play. 5, detail of the fireplace. The 50-ft. room is designed for evening functions also. 6, the balcony, showing the staircase down. 7, the same staircase (with cantilevered timber treads on a single concrete string) from below. 8, the terrace from inside.



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7



8





J. M. Richards

H 55 HÄLSINGBORG EXHIBITION of Architecture, Industrial Design, House Furnishings and Crafts, 1955

The scope of this exhibition, which ran from early June till late August, was much the same as that of London's South Bank exhibition in 1951, although in some ways it was more limited: agriculture was not included, less attention was given to heavy industry and much less to science and to history. More attention, on the other hand, was concentrated on the domestic arts: housing, house-furnishing and industrial design. It also resembled the South Bank exhibition in being a commemoration of an earlier exhibition. The Festival of Britain took place exactly a century after the Great Exhibition of 1851 at which Britain set the fashion for popular shows of this kind and celebrated her pre-eminence as a manufacturing country. The Hälsingborg exhibition—H 55 as it was known in Sweden—took place a quarter of a century after the Stockholm exhibition of 1930, which is still remembered as a landmark in the dissemination of modern architectural ideas.

In the years after 1930 Sweden was in many ways the leading country in matters of architecture and everyday design, but recently there has grown up a feeling that Swedish design, tied as much of it is to handicraft traditions, has no longer the significance it possessed in its pioneer days. Be this as it may the initiative has certainly been taken over by other countries. North and South America and Italy especially have come forward into the limelight, even though the social organization of their architecture remains less advanced than in Sweden. Even in the domestic arts, where Swedish pre-eminence especially lay, many new problems have arisen since the 1930's, and at Hälsingborg, therefore, Swedish design was, if not exactly on the defensive, at least aware that it had a challenge to meet.

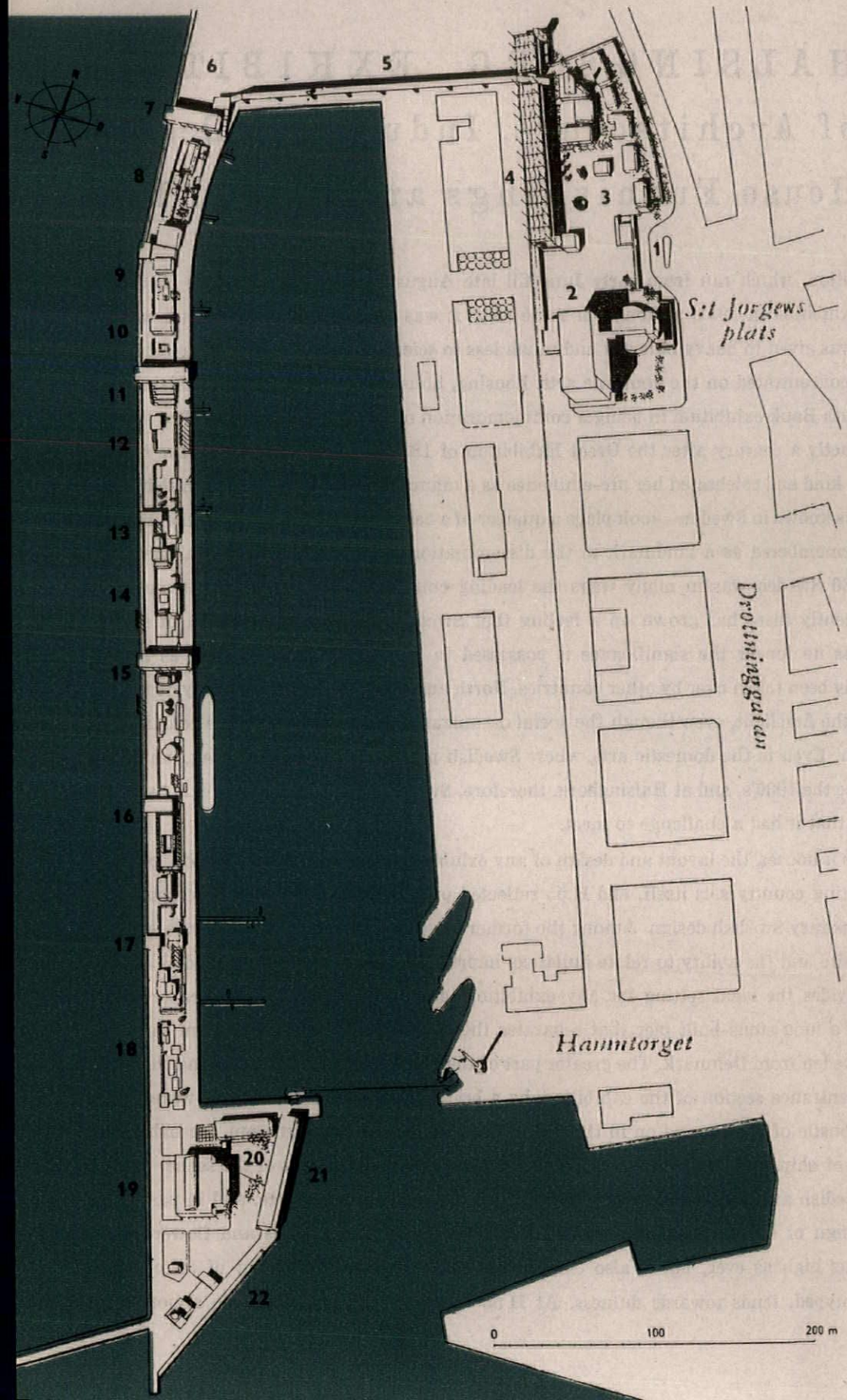
Apart from the exhibits it houses, the layout and design of any exhibition offer a good opportunity to assess the standards the promoting country sets itself, and H 55 reflected pretty accurately the achievements and the limitations of contemporary Swedish design. Among the former have always been imagination in exploiting the possibilities of a site and the ability to relate buildings happily to their surroundings, and H 55 was no exception. Water provides the ideal setting for any exhibition, and H 55 gained immeasurably by its exhilarating situation on a long stone-built pier that separates the harbour of Hälsingborg from the open strait, itself separating Sweden from Denmark. The greater part of the exhibition was laid out along this pier, which was linked to the entrance section of the exhibition by a bridge flying over the docks, warehouses and railway-sidings. The bustle of work going on in the docks, seen across the harbour from the exhibition pier, and the movement of ships and ferry-boats added to the animation and gaiety of the scene.

Another traditional Swedish attribute is the careful detailing of the whole urban scene, and in particular the consistently good design of objects like lamp-posts, kiosks, telephone boxes, seats and flower-boxes. H 55 showed this to be as high as ever, but it also emphasized that Swedish consistency of taste, when allowed to become stereotyped, tends towards dulness. At H 55 this was aggravated by the almost total

The Hälsingborg exhibition was unique in its situation. The greater part of it was built on a stone pier, half-a-mile long, which separates the harbour from the open sea. **1**, *facing, is taken from the bridge which flies over the docks and connects the pier with the entrance section of the exhibition on the mainland.* **2**, *lower picture, facing, is taken looking back from the far end of the pier.*

absence of colour in the architecture, which was nearly all in grey and white, the austere effect of which was not altogether relieved by the variegated crowds on the pavements, the fountains in the water or the occasional groups of flags—effective though these were in their unheraldic colours of purple and orange.

On the other hand there is a great deal to be said on the credit side, as the photographs on the following pages show. The exhibition was skilfully planned, with upstanding buildings spanning the whole width of the pier, raised on columns on either wing to allow circulation beneath, agreeably alternating with small pavilions set in formal gardens which were protected from the sea winds by whitewashed walls. There was much charming design in detail, and a high standard of display. Above all there was liveliness and movement and that judicious mixture of dignity and impudence that all the best exhibitions provide.



key
1, main entrance.
2, concert hall.
3, housing section.
4, international flats.
5, footbridge.
6, fun fair.
7, electricity building.
8, child welfare.
9, children's playground.
10, education.
11, 'Bar 55.'
12, dance-floor.
13, travel bureau, gift shop, etc.
14, post office, etc.
15, shipping building.
16, pergola garden.
17, colour section.
18, rose garden.
19, 'Parapet' restaurant.
20, Scandinavian crafts and industrial design.
21, Swedish crafts and industrial design.
22, religious art.



The description of the exhibition on the following pages takes the form of a conducted tour beginning at the main entrance (drawing above) near the centre of Hälsingborg and ending at the tip of the pier, from which a ferry took the visitor back across the harbour mouth to the centre of the town.

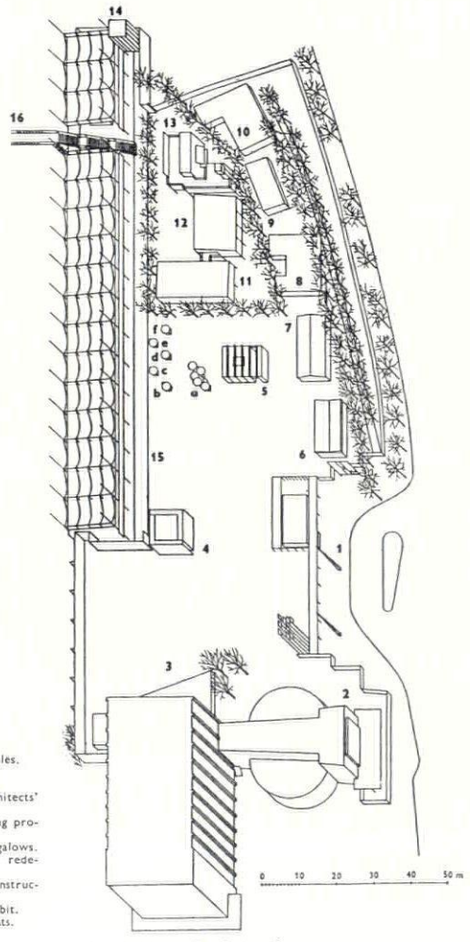
chief architects:

CARL-AXEL ACKING
BENGT GATE
TORBJÖRN OLSSON
SVEN SILOW

entrance section (housing)

The entrance section of the exhibition was laid out on a flat area of ground between the docks and Drottninggatan, one of the main north-south streets, and alongside Sven Markelius's concert-hall. The entrance turnstiles led straight into a large courtyard, 3, the skyline of which was dominated by the cylindrical grain-silos of the dockyard. In the distance can be seen the end wall of the concert-hall. The courtyard was surrounded by the exhibits dealing with various aspects of housing and town-planning, including a colony of Swedish bungalows (see next page) and, under a canvas awning (below the silos in 3), a row of model flats furnished by eight different countries (see pages 226–229).

Introducing the housing section was a small top-lit pavilion with walls of whitewashed concrete, 4, sponsored by the National Association of Swedish Architects and containing plans and models to explain the role of the architect in housing. The square, shallow concrete flower-boxes on the left were used throughout the exhibition. Another pavilion in this section, 5, also top-lit but raised on posts and provided with a gallery round the peri-



key
1. entrance turnstiles.
2. concert hall.
3. open-air stage.
4. Swedish architects' exhibit.
5. students' housing project.
6-10. Swedish bungalows.
11-12. Hälsingborg redevelopment.
13. concrete flat construction.
14. aluminium exhibit.
15. international flats.
16. footbridge.

plan of entrance (housing) section



3


4


5

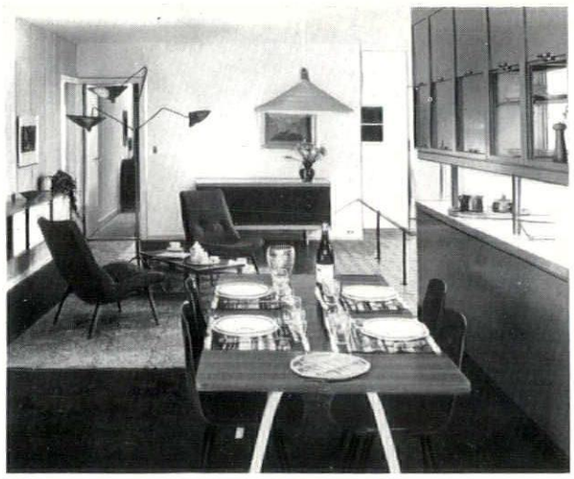
meter, showed redevelopment plans for the City of Hälsingborg, models of new residential areas, etc.

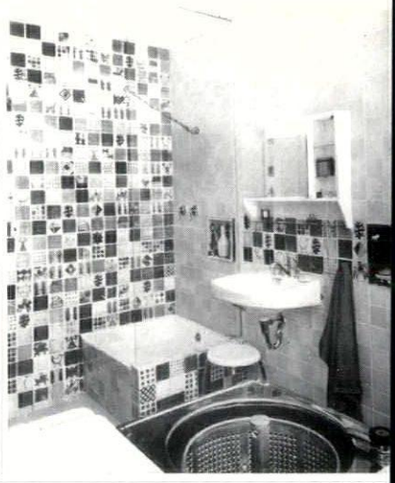
Swedish bungalows

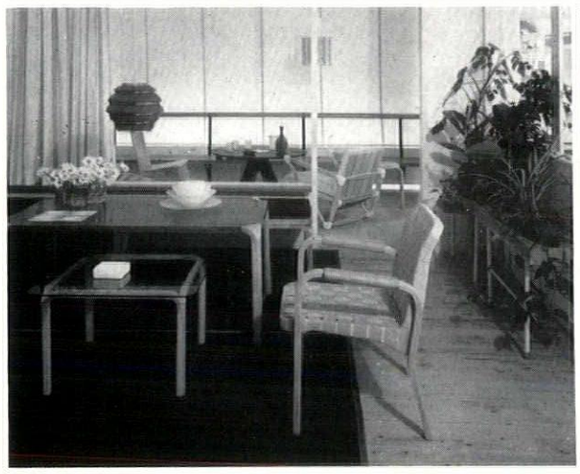
The five specimen bungalows (6–10 in the plan at foot of preceding page) were informally grouped among trees, achieving a surprisingly gay and cheerful effect, as the photographs below, 6–10, show, considering the uneven architectural quality of the designs. Each was chosen to illustrate a different theme, and some also illustrated methods of prefabricated construction. Among the themes were: work and leisure in the home, 8 and 9 (a house planned round a central service core, leaving the remainder adaptable to the work and hobbies carried on by the family); the minimum terrace house, 7, and living with a car, 10 (a suburban pre-fab for a car-owning family, in which garage and workshop are closely integrated with the plan).

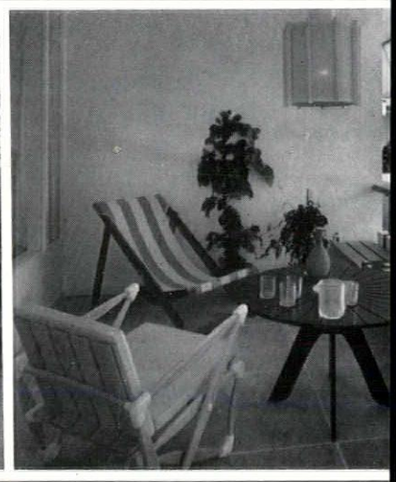
international flats

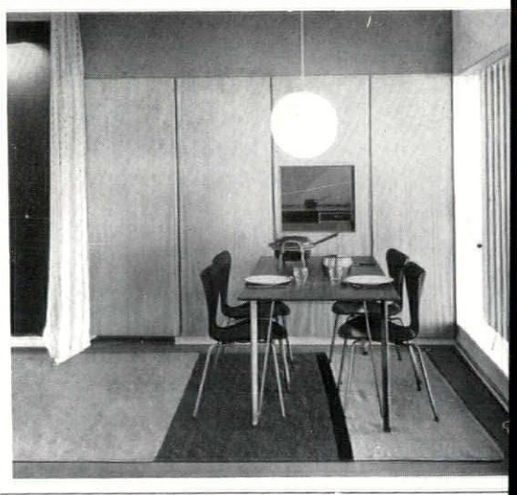
The eight countries participating in this section were asked to provide a typical family flat of about 1,000 square feet and furnish and equip it from products available on the open market. In spite of the fact that some of the countries gave themselves more latitude than others in varying this brief to suit the purposes of an exhibition, they made a fascinating series of comparisons possible. It was regrettable that neither Italy, Holland nor any American countries were represented.

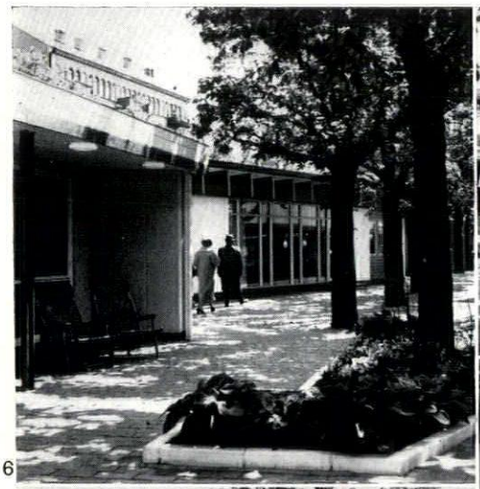












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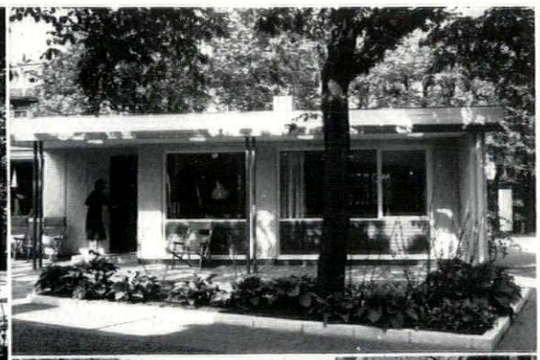

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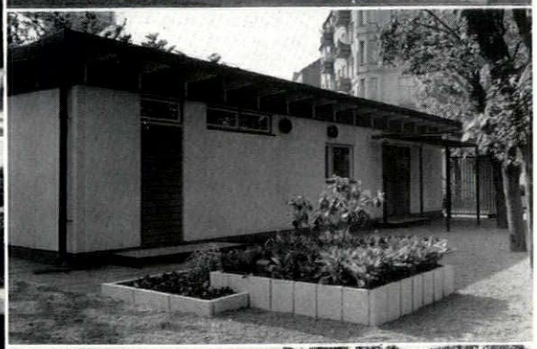

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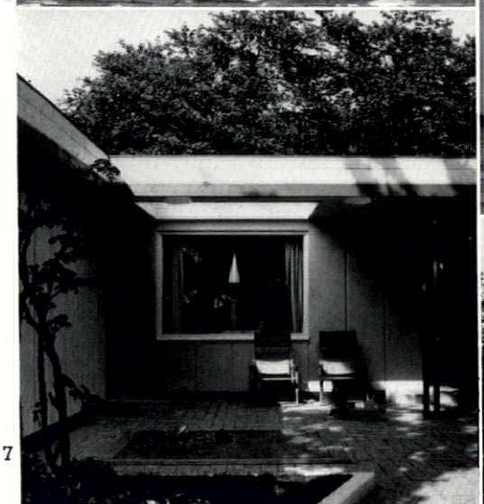

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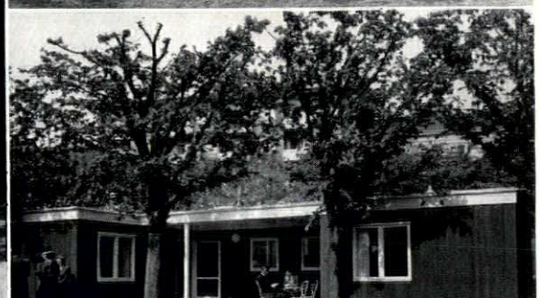

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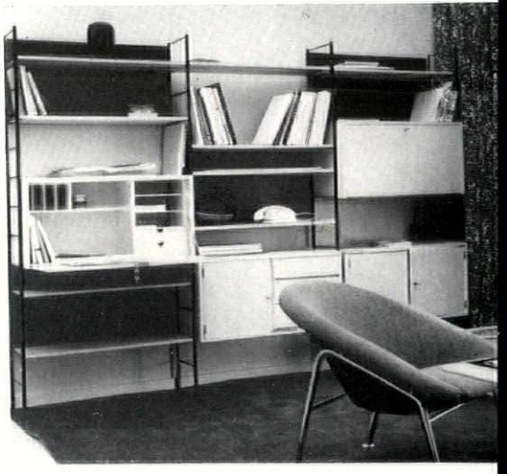
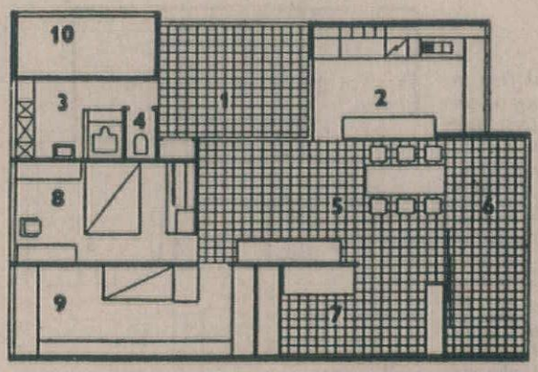


FRANCE



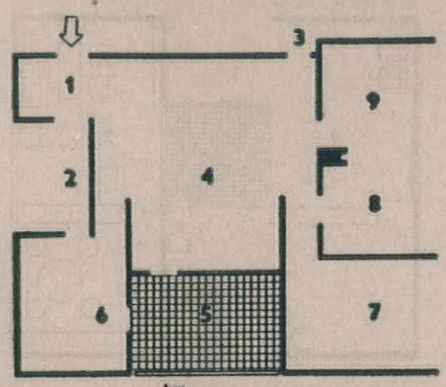
key
1, entrance.
2, kitchen.
3, bathroom.
4, w.c.
5, living-room.
6, terrace.
7, study.
8-9, bedrooms.
10, workshop.

1, 12

The French model flat (pictures on facing page), unlike some, conformed with the rules by being based on a real scheme in the south of France, though the superficial area was greater than asked for: 1,290 square feet, including the terrace. It had a fairly open plan—which the visitor was allowed to explore; in some of the international flats he could only look in through the windows—the kitchen being separated from the dining portion of the living-room, 11, only by a partly open screen of cupboards. The proportions were agreeable; so were the built-in fittings. The furniture showed a surprising inconsistency of taste and included a few examples of the fancy-modernistic, but was on the whole light and simple and fresh in colour—notably in the bathroom, 12, where one wall was faced with gaily hand-painted tiles. Note that in the bathroom space was found for a washing-machine by substituting a shower for the bath.

Exhibitor: Comité Francais des Expositions, Paris. Architect: Marcel Roux, assisted by Hervé de Looze. Interior designer: Marcel Gascoin.

FINLAND



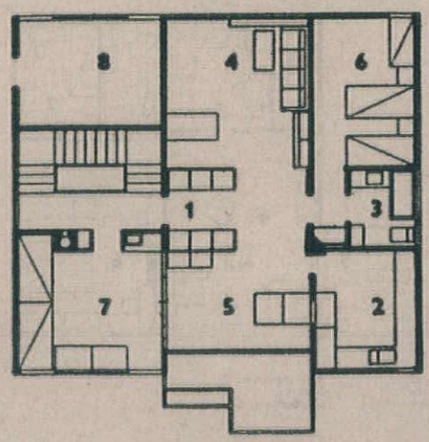
key
1, entrance.
2, kitchen.
3, to bathroom.
4, living-room.
5, terrace.
6, dining-room.
7, 8, 9, bedrooms or nurseries.

3, 14

The Finnish flat was much more of an exhibition piece than a realistic interior and only the living-room, 13, the dining-room and a terrace-balcony, 14, were furnished, and no bathroom or kitchen were exhibited. But it was a real flat in the sense that the plan was based on that of a block of flats now being built by Aalto for the Berlin housing exhibition of 1957. The visitor was not allowed into the rooms, but skeleton walls allowed full visibility from outside—and also, incidentally, gave a somewhat deceptive openness to the plan and prevented the rooms from being apprehended as enclosed spaces. The terrace-balcony was furnished as a complete room to be used for sitting and eating in the summer. The furniture was rather heavier than the Finnish furniture best known in England, and there was very little colour in the flat, which was dominated by the blonde colours of natural wood and a boldly patterned black and white screen. The balcony furniture included a new pattern of chair, seen in the foreground in 14, with joints of white plastic material terminating each member. The effect is unusual but a little clumsy.

Exhibitor: Artek, Helsinki. Architect: Alvar Aalto, assisted by Elsa Aalto. Interior designer: Maija Heikinheimo.

DENMARK



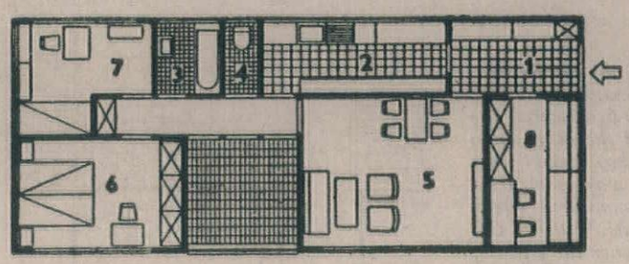
key
1, entrance.
2, kitchen.
3, bathroom and w.c.
4, living-room.
5, dining-room.
6-7, bedrooms.
8, extra room.

5

Another flat which the visitor could not explore but only see into the rooms from outside through extra large windows. It was based on a project, not an executed scheme. The flat of four rooms and kitchen, with a floor area of 1,180 square feet (which, it should be noted, exceeded the stipulated floor-area), was designed so that the extra bedroom (not furnished in the exhibition) could be separated from the rest of the flat and rented independently or incorporated in the adjoining flat in the same block. 15, the dining-room, looking towards the kitchen, showing the serving hatch immediately over the dining-table. The flat was furnished in the impeccably good taste one expects from Denmark, but somewhat perfunctorily, each room being treated as a setting for the display of furniture rather than as a realistic interior shown as it might be lived in. Individual pieces of furniture were of very high quality. A charming idea in display was the representation of the staircase by coloured wooden boards, suspended on wires, occupying the positions of the risers only.

Exhibitor: Landsforeningen Dansk Kunsthaandvaerk, Copenhagen. Architect and interior designer: Finn Juhl.

WEST GERMANY



key
1, entrance.
2, kitchen.
3, bathroom.
4, w.c.
5, living-room.
6-8, bedrooms.

plans of all flats to scale of 1:200

6

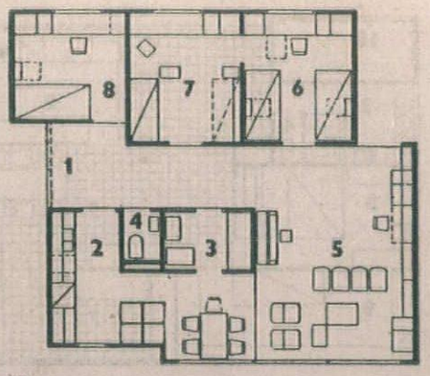
This flat was well within the stipulated floor area (970 square feet including the balcony), but good planning gave an effect of adequate space. The plan was that of one of the flats in a multi-storey block now under construction for the 1957 Berlin housing exhibition. In spite of some ingenious designs for storage units (for example in the living-room, 16), the furniture was strangely clumsy, and garish in colour and insensitive in form. It reminded one, not only because of the frequent use of stainless steel, of the harsher German modernism of the early 1930's, suggesting perhaps that a nation emerging from a period during which all enterprising design has been suppressed must, as it were, live through the phases it has missed before it can catch up with everyone else.

Exhibitor: Rat für Formgebung, Darmstadt, in collaboration with Bundesministerium für Wohngebau, Bonn. Architect: Hans Schwippert. Interior designers: Gunter Hennig and Brigitte D'Ortschy.

SWEDEN

The Swedish was one of the most successful flats. The visitor was free to explore it and could regard it as an interior to be lived in, not simply as an exhibition of furniture and equipment. Its area was 1,076 *square feet, and its plan was based on the findings of a joint survey recently made by the National Association of Swedish Architects and the Society of Industrial Design. It was notable for the large quantity of built-in furniture, which occupied the whole wall of many rooms—for example the long wall of the living-room,* 17. *The choice of furniture showed the very high standard of taste and the sense of quality always associated with the Swedish domestic arts, but also the somewhat austere total effect that is produced by correctness of taste monotonously applied. In this flat the effect of austerity was increased by the absence of strong colour—walls were light in tone and furniture mostly of light woods—and of pattern, and by the formality with which the furniture was placed.* 18, *looking from the kitchen across the dining portion of the L-shaped living-room to the main living-space beyond.* 19, *the kitchen.*

Exhibitor: the Swedish Society of Industrial Design. Architect: Sten Lindegren. Interior designer: Sven Engstrom.



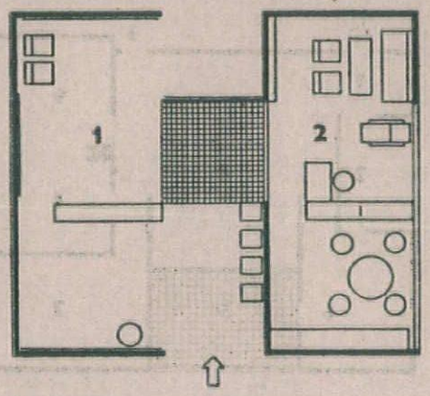
key
1, entrance. 4, w.c.
2, kitchen. 5, living-room.
3, bathroom. 6-8, bedrooms.

17, 18,

SWITZERLAND

This was the least realistic of all the international flats—in fact it was not in any sense a model flat but a model living-room and dining-room, 21, *which was seen through a large window from an introductory exhibition space,* 20. *This dealt with the subject of interior design by means of montage and contained isolated specimens of pottery, glass, textiles and furniture. As a setting for domestic life it could not therefore be compared with the other flats, even the living-room and dining-room not being fully or realistically furnished, and having a rather larger floor area (*409 *square feet—or two-fifths of that specified for a whole flat). When the furniture exhibited comes to be compared with that shown in the other flats, it probably leads them all in purity of taste, but it is the somewhat negative kind of purity we now chiefly associate with the* 1930's *and, for all its virtues, it fails to suggest that it can provide a sympathetic enough background to ordinary domestic life. This, more than the other flats, emphasized the cleavage that often occurs between architects' taste and even the best popular taste.*

Exhibitor: Schweizerischer Werkbund, Zurich (with contributions from Eidg. Departement des Innern, Bern). Architect and interior designer: Alfred Altherr.



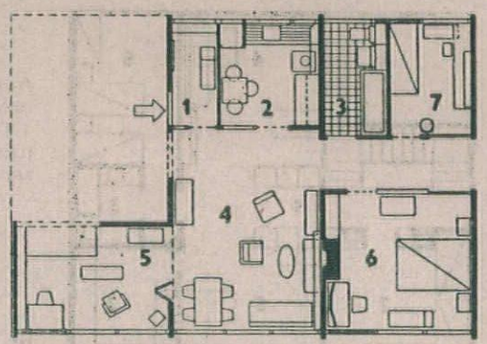
key
1, introductory exhibition.
2, living-room with dining-alcove.

20,

GREAT BRITAIN

The British flat kept the closest of all to the conditions specified. Its floor area was not more than 1,000 *square feet (in fact it was only* 893 *square feet), its plan was based on an actual flat (in a private-enterprise block of flats at Ham Common, designed by Eric Lyons) and it was furnished realistically, so as to represent a liveable interior even though that meant sacrificing some of the appearance of spaciousness achieved in the flats designed and furnished primarily as exhibition displays. The visitor was able to walk through the flat and see each room, and if the illusion of being lived in, and the rich variety of incident the creation of such an illusion demanded, made it seem cluttered-up compared with some, it had more warmth and humanity. The furniture, equipment and finishes chosen were of an excellent standard and the designers were not afraid of dark, rich colours nor of pattern.* 22, *the living-room, looking from the direction of the entrance.* 23, *the study that led out of it, with a built-in fitment occupying the whole end wall.* 24, *the kitchen—the only one to provide space for eating.*

Exhibitor: the Council of Industrial Design. Interior Designers: Michael and Jo Pattrick.



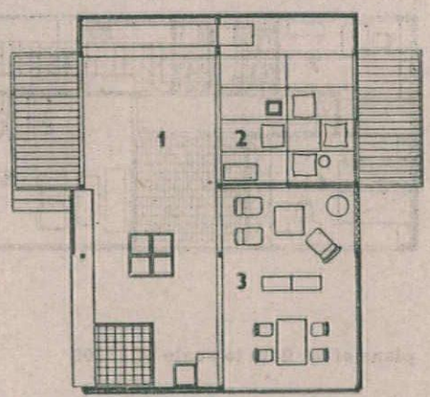
key
1, entrance. 4, living-room.
2, kitchen. 5, study.
3, bathroom and w.c. 6-7, bedrooms.

22, 23,

JAPAN

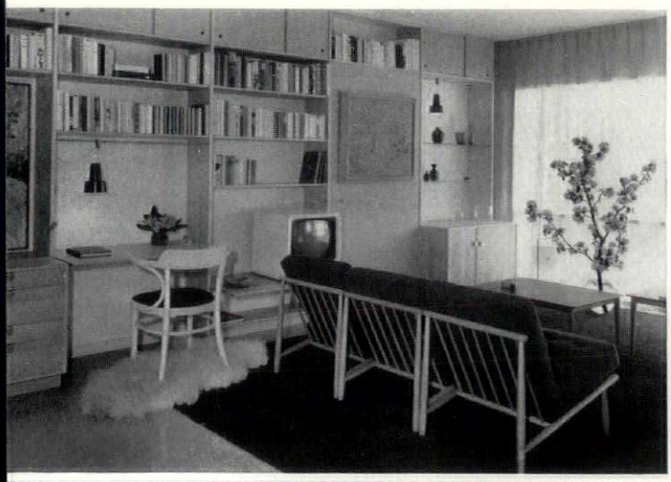
The Japanese flat offered the greatest possible contrast to the British, getting its effect from its sense of space and even of sparseness, and making no attempt to reproduce a liveable interior. There were only two rooms, one furnished as an eating room in traditional style, 26, *and the other as a living and eating room in contemporary style,* 25. *The two rooms were seen across an intervening exhibition space, and the whole was constructed with a traditional type of timber frame with light semi-transparent screen walls. It was in one sense the most beguiling of all the flats, with its impeccable taste and its precise use of every detail to help balance the effect of the whole, yet its very success was due to the glimpse it gave of an exotic way of life. Nevertheless the common ground between the Japanese tradition and the ideals of modern architecture was very apparent.* 26 *shows the traditional type of dining-table, round which the diners sit on cushions. Beneath the table is a pit containing a charcoal oven. The colours in the Japanese flat, besides those of natural wood and grass matting, were mostly black and earth-red.*

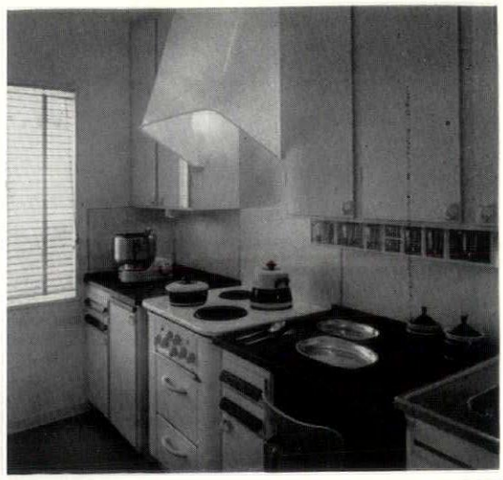
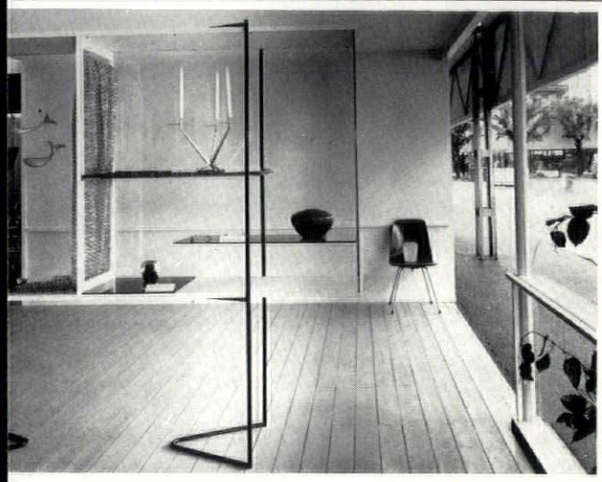
Exhibitor: the Japanese National Industrial Arts Institute. Architect and interior designer: Yoji Kasajima.

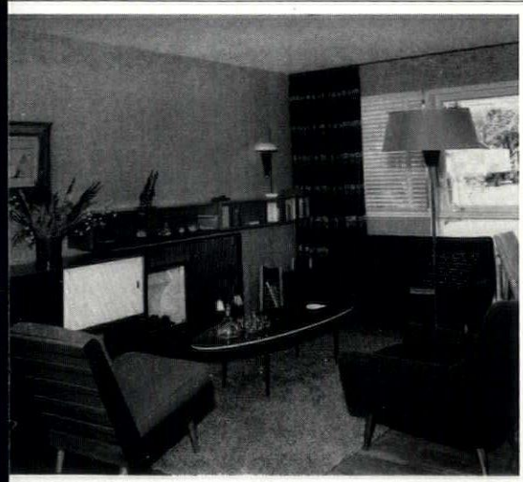
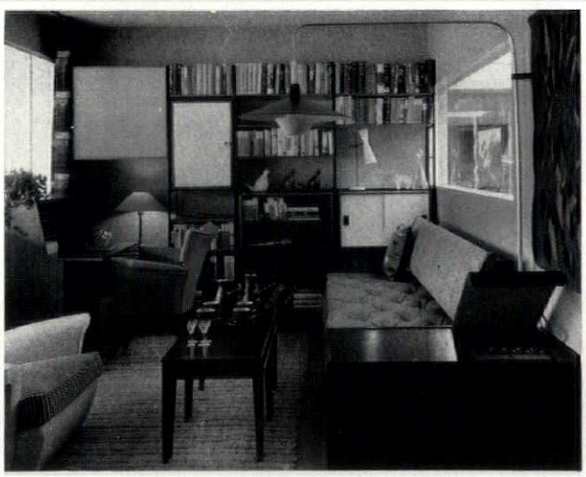
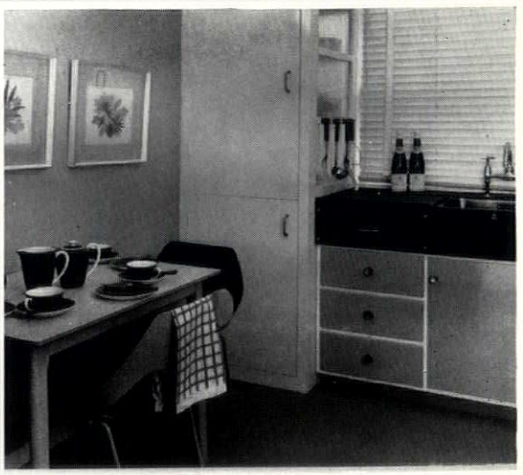
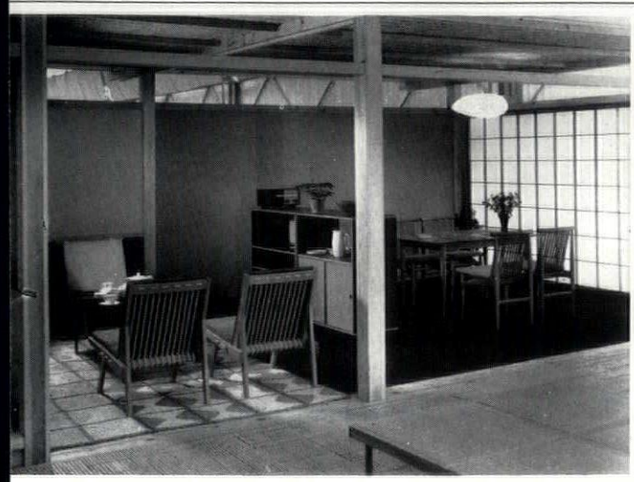
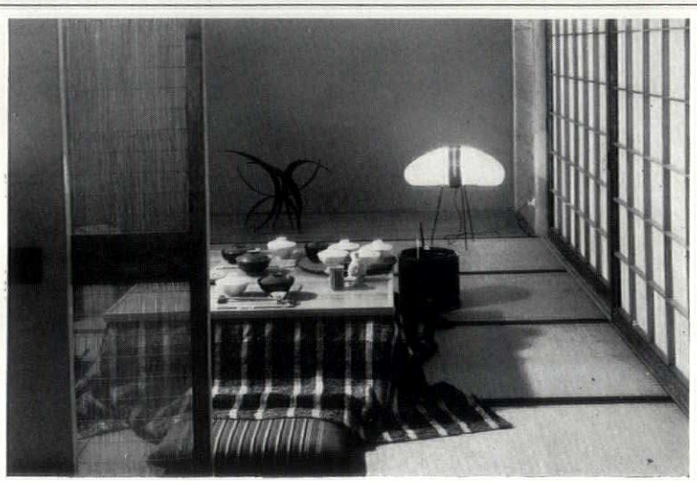


key
1, introduction.
2, room with traditional furnishings.
3, room with modern furnishings.

25,



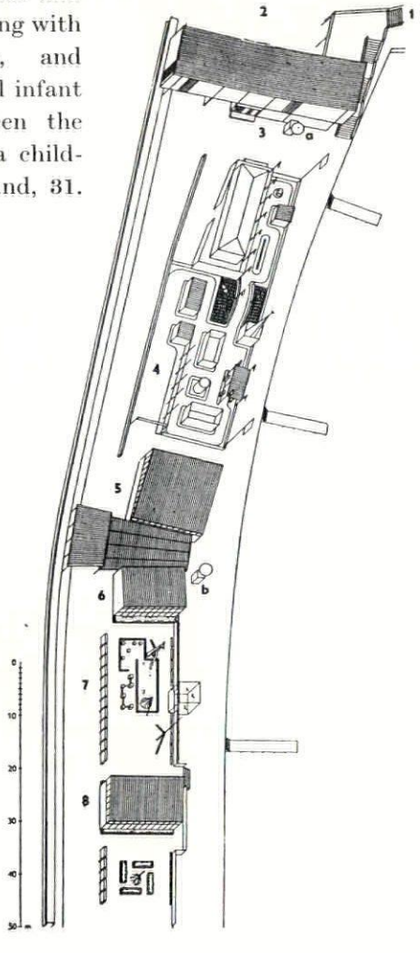
electricity, etc.

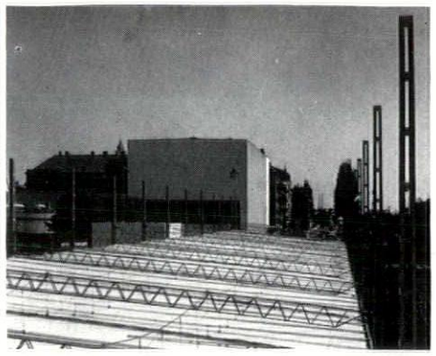
From the entrance section of the exhibition, illustrated on the preceding pages, a slender steel footbridge 220 yards long (built by Swedish army engineers) sprang across the docks and railway sidings to the beginning of the pier along which the remainder of the exhibition was laid out. From the bridge you first looked down on the suspended canvas roof, 27, covering the row of international flats, and then across the water at the view already shown in 1 (page 222).

The first building on the pier was that devoted to electricity, 29, past the flank of which the steps shown led down on to the pier itself. This was one of three almost identical buildings (designed by the chief architect of the pier section, Carl-Axel Acking) which punctuated the length of the pier, the other two being the 'Bar 55' (facing page) and the shipping building. They were light steel-frame structures spanning the whole width of the pier, but open on the ground floor on either flank so that the crowds could circulate beneath.

children

Next was the children's section, consisting first of an amusingly designed miniature road-system, with vehicles the children could ride in, to teach them traffic rules, then two buildings devoted to child-welfare, one, 30, housing a display of children's clothes and the other dealing with school meals, and finally a model infant school. Between the last two was a children's playground, 31.

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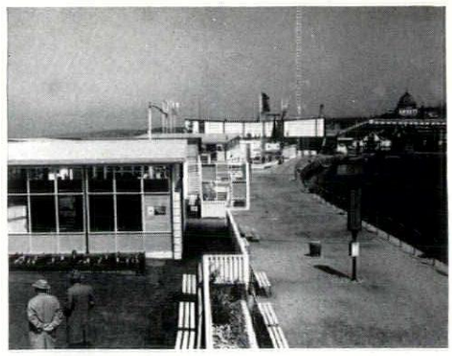
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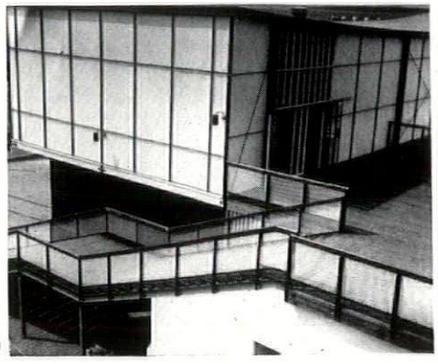
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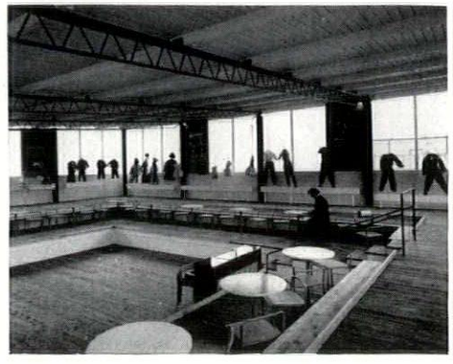
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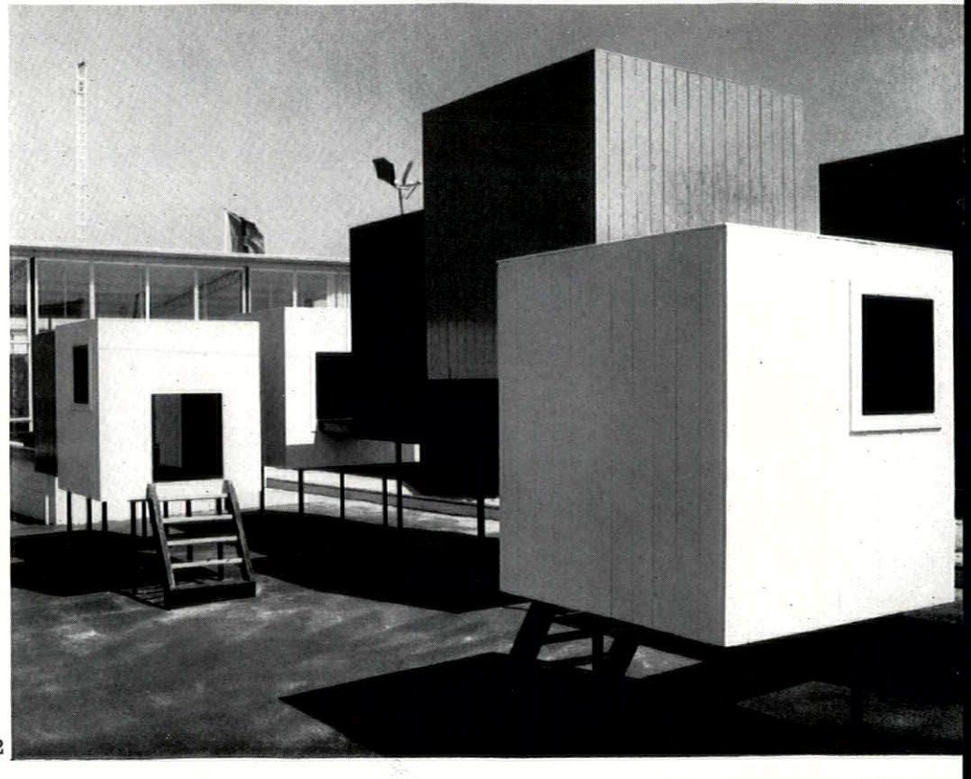
31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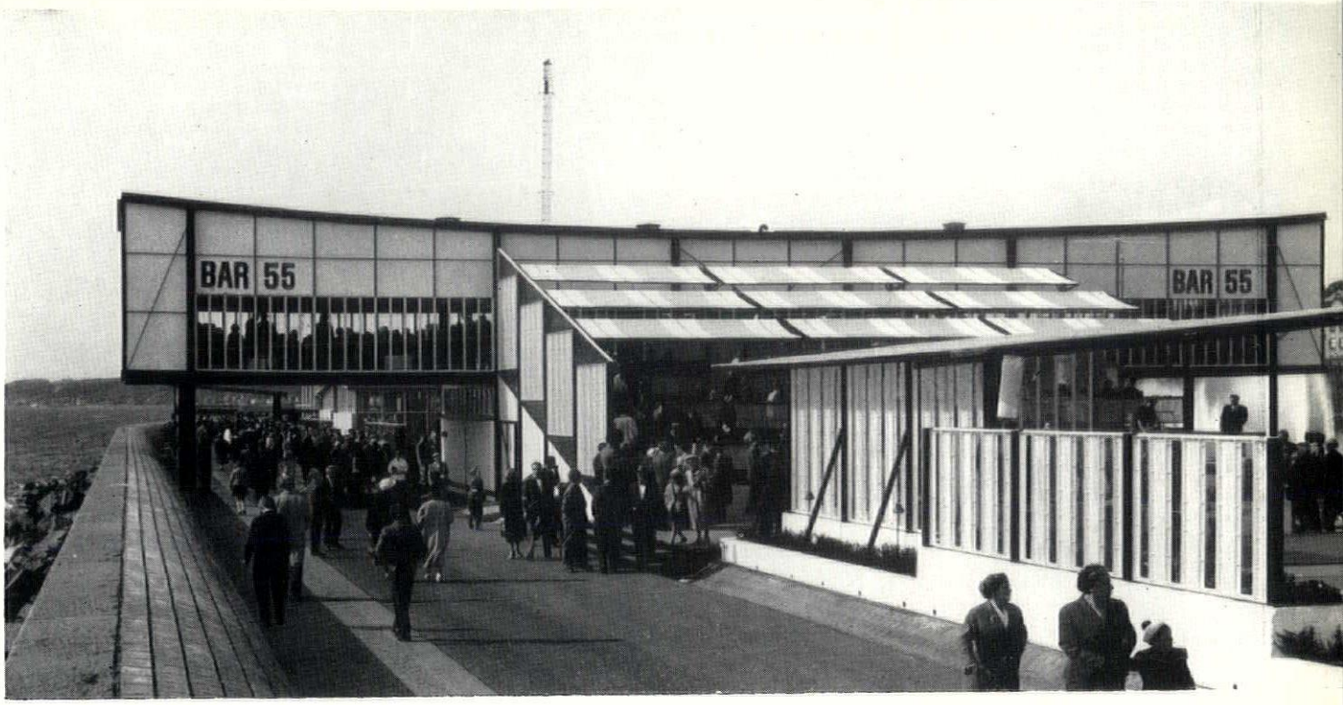

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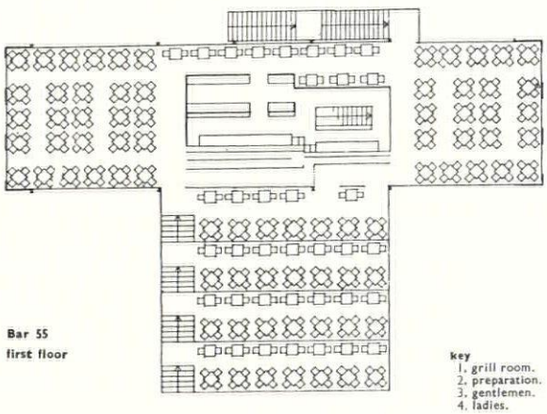
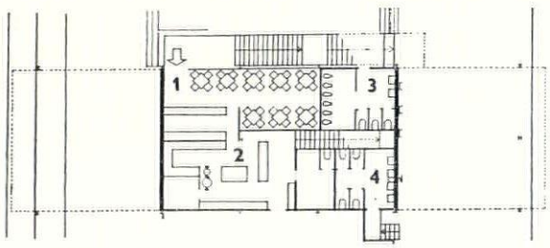


Bar 55
first floor

key
1. grill room.
2. preparation.
3. gentlemen.
4. ladies.



ground floor



34



33

The timber-framed cage contained chickens. It, with its brightly painted panels, and the white-painted wooden fence are typical of the neat workmanlike standard of trim throughout the exhibition. 32 is a close-up of the play-houses, linked by steps and ramps and painted in strong colours, in the children's playground. 28, looking back towards the electricity building. The infant school is on the left.

Bar 55

This is a cafeteria, spanning the pier at the upper level with the kitchens in the centre. On the ground floor are a grill-room, lavatories, etc. From the upper level a series of café-terraces, 33, with striped awnings, step down to an enclosed area containing

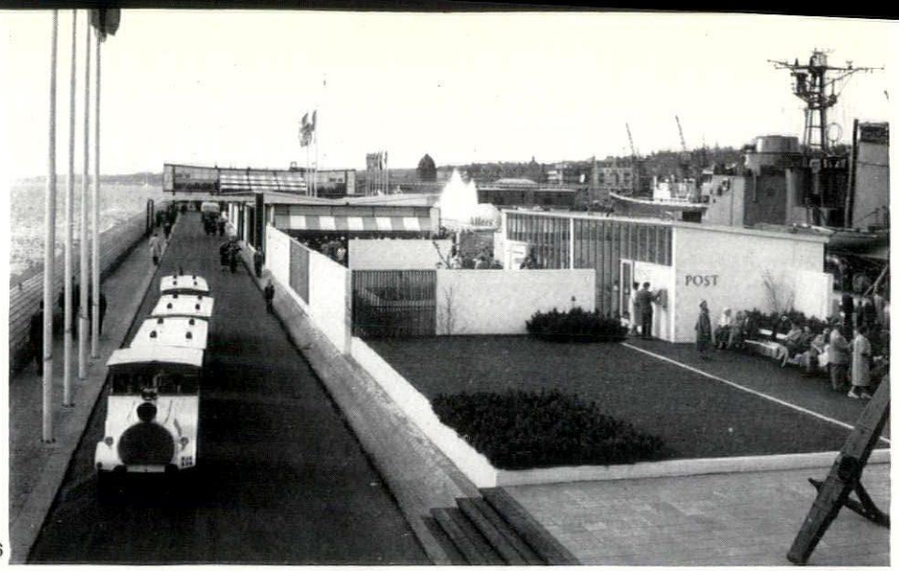
a dance-floor. The entrance front of Bar 55, 34, was adorned with a sculptural object in the form of an inverted tree, 35, a good example of improvised exhibition decoration.

garden pavilions

Farther along the pier, beyond Bar 55, was a series of small pavilions set in formal gardens; information and travel bureaux, a bank, a post-office and the like. This was in many ways the most attractive section of the exhibition architecturally. The simple one-storey buildings were of breeze blocks, thickly white-washed; so were the walls that screened the gardens from the sea-winds. For this section the assistants to Carl-Axel Acking were France Ivansek and Bertil Zeinetz. 36, looking back towards Bar 55, with the gardens on the right and the sea-wall on the left. Note the miniature train that took visitors up and down the pier. 37, inside one of the gardens. The small pavilions included a gift shop, 38 and 39, installed by the Stockholm department store A.B. Nordiska Kompaniet (interior architect, Erik Herlφw). In this part of the exhibition the furniture was notably well-designed; 42, a telephone booth; 43 (facing page), the standard ice-cream kiosk.

shipping

The third of the two-storey exhibition buildings that bestrode the full width of the pier was devoted



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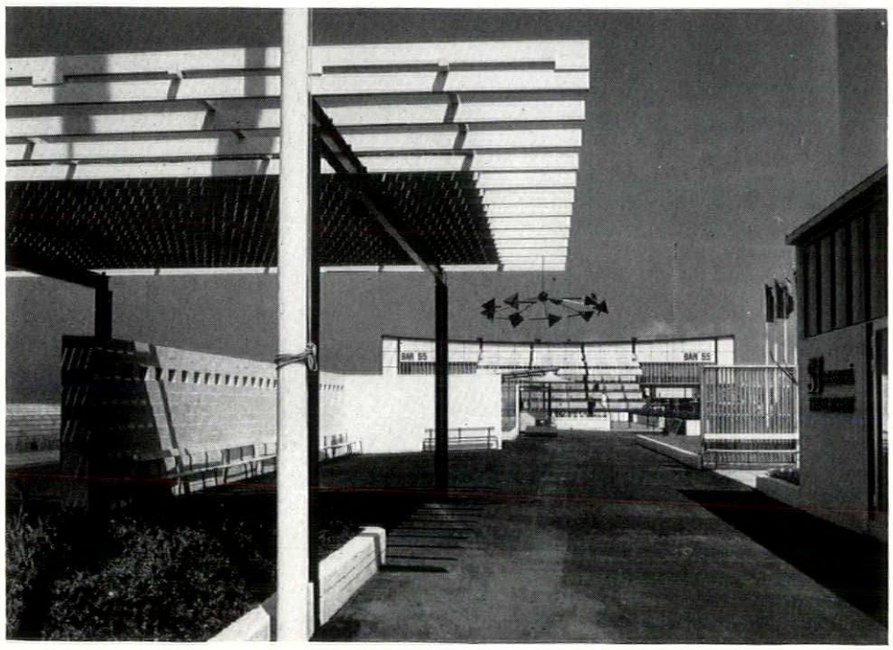

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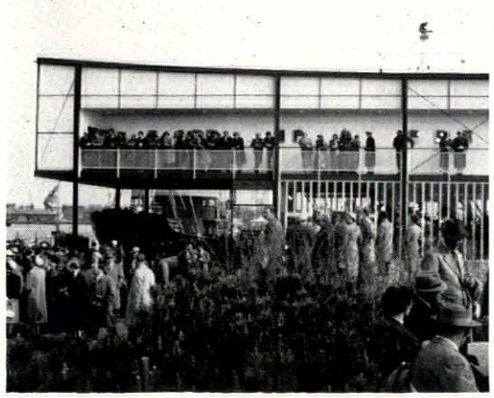
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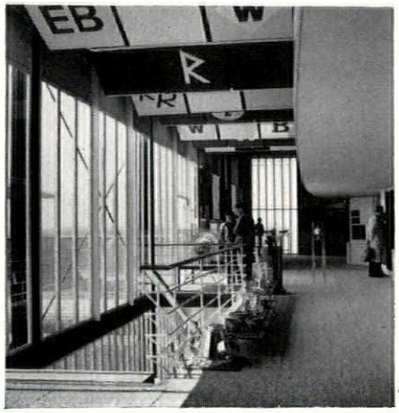

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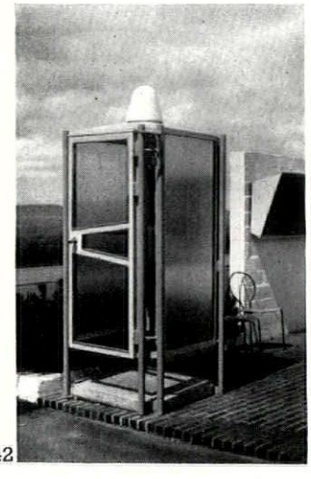
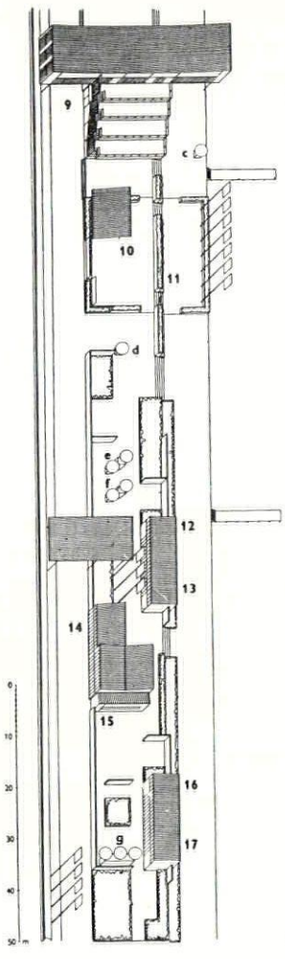
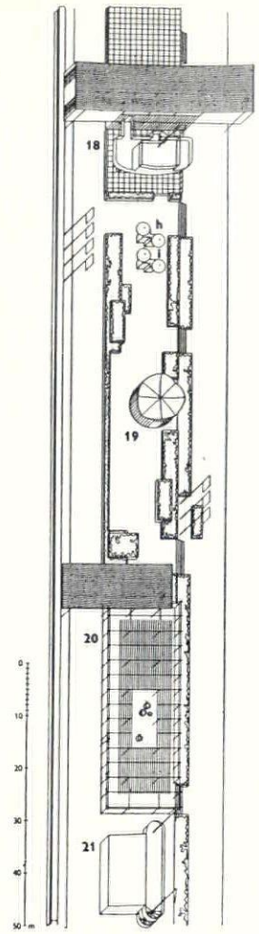

42

key
9. 'Bar 55.'
10. dance floor.
11. mannequin parade.
12. travel bureau.
13. bank.
14. gift shop.
15. display window.
16. reading room.
17. post office.

c. souvenirs.
d. cigarettes.
e. hot dogs; ice cream.
f. sweets.
g. show case.



key
18, shipping.
19, caravan exhibit.
20, pergola garden.
21, refreshments.
h, hot dogs; ice cream.
i, sweets.





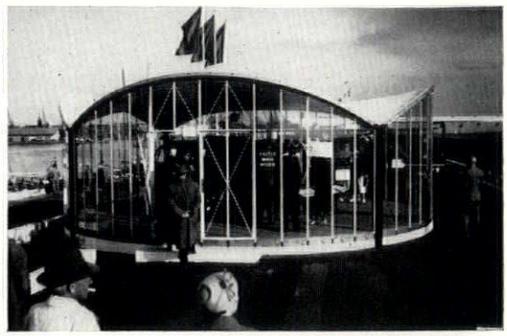
43



44



45



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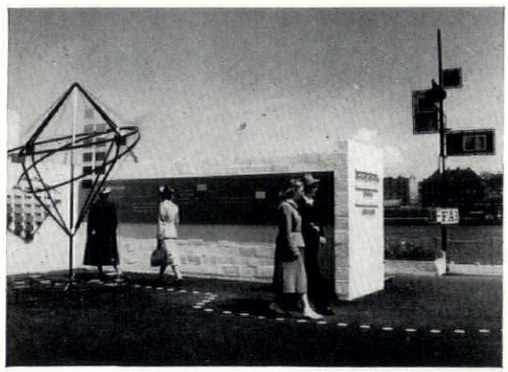


47



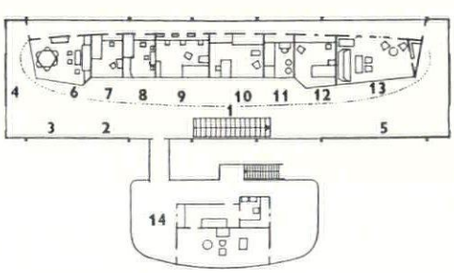
48

to shipping. It was similar in design to the electricity building and Bar 55, but had on the north side a viewing gallery, 40. The ground floor was given over to a model of Hälsingborg harbour, and the first floor, 41 (plan at foot of this page), to ship design, including a series of full-size cabins which fully lived up to the high standard of Swedish ship design. The decorations above the staircase were based on the house-flags of Swedish shipping lines. Assistant architect, Inga Dahlin; montage by Martin Gavler.

colour, etc.

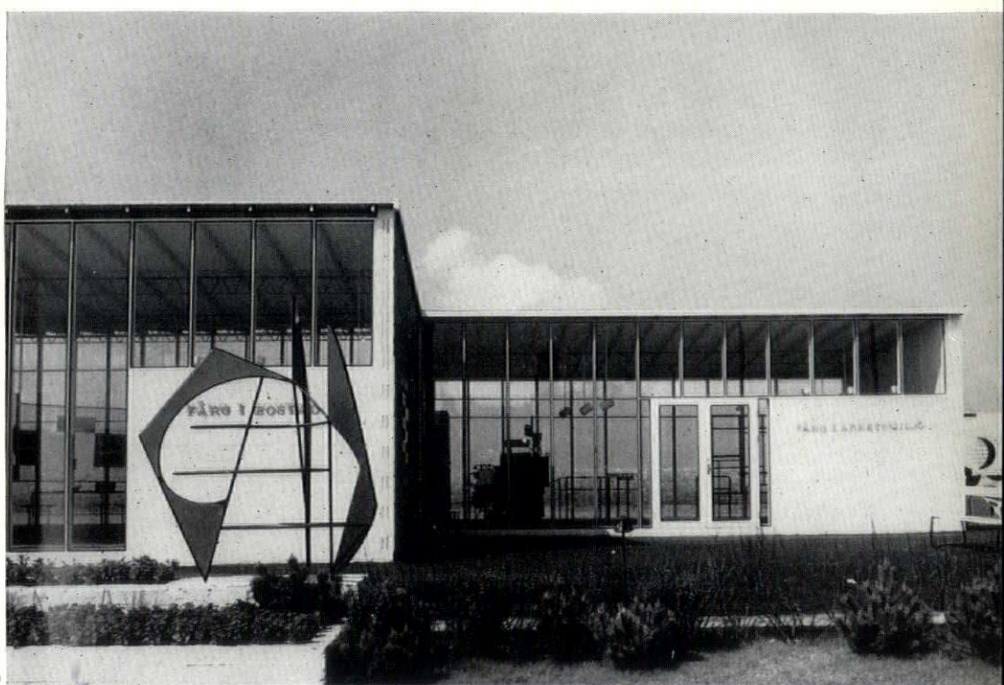
Beyond the shipping building was another series of gardens, including a large paved one, 44, shaded by a series of timber pergolas beneath which exotic plants grew in circular concrete-rimmed beds and winding walks were paved with sections of tree-trunks, 45 (assistant architect Per Åke Friberg). Nearby was a glazed pavilion with a canvas roof stretched on wires, 46, housing a motor-caravanning exhibit (architect, Bertil Zeinetz).

The final exhibit in this section was a somewhat ambitious one simply entitled 'Colour.' It was devised by the Society of Industrial Design and set out to explain the science of colour, the optical rules that govern it, the industrial production of colour pigments, colour in textiles, etc., and finally



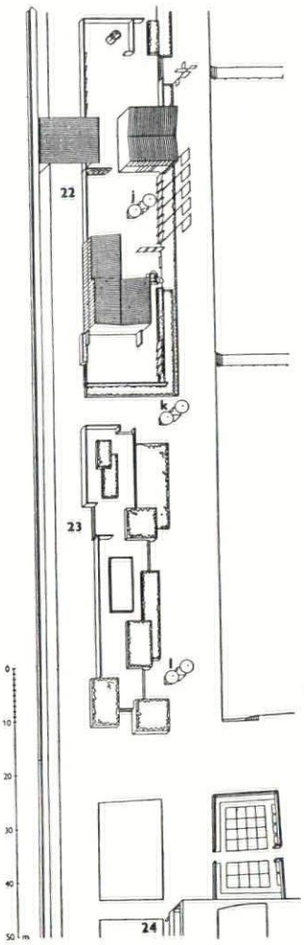
plan of shipping building: upper floor

key
1, ship models.
2-4, Hälsingborg shipping companies.
5, merchant service training.
6, combined dining-room and cabin.
7, tourist cabin.
8, officer's cabin.
9, day room.
10, captain's cabin.
11, boatswain's cabin.
12, first-class cabin.
13, smoking room.
14, ship's bridge.



49

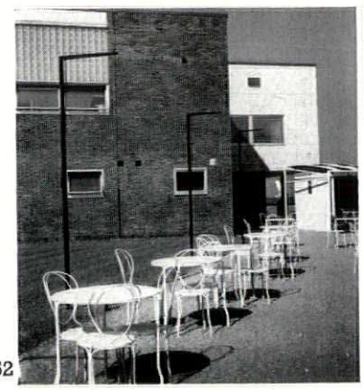
key
22, 'Colour' exhibit.
23, rose garden.
24, 'Parapet' restaurant.
j, information on colour.
k, hot dogs; ice cream.
l, souvenirs.



the application of colour in interior decoration. The last subject was treated in a sequence of exceptionally well-designed and well-lighted pavilions, 49, and the scientific displays (which demanded a far higher level of education from the public than the rest of H55) were set out on the walls of a sequence of courtyards formed by the ubiquitous white-washed walls and enlivened by masts and abstract sculptures, 47 and 48, illustrating colour ranges and groupings. It was the work of a team of designers led by Erik Berglund.


50


51


52

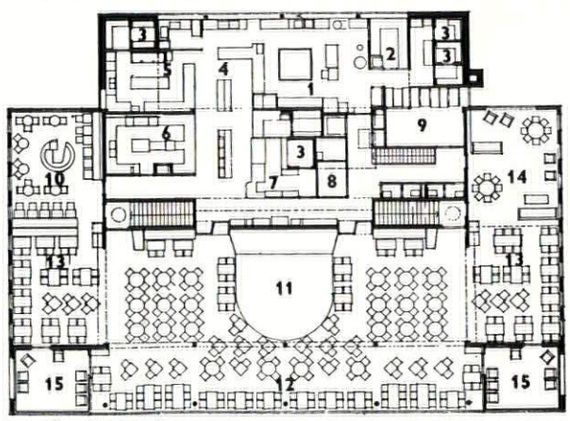

53

restaurant

At this point the pier widens out and in the centre of the large triangular site was the main exhibition restaurant, the 'Parapet,' which is to remain as the exhibition's permanent contribution to the amenities of Hälsingborg. Designed by Bengt Gate (assistant, Lennart Gustafsson; assistant for the interior, Heinz Glaser), it is raised up to make the most of the view, the ground floor consisting of a wide loggia, entrance lobby and cloakrooms. It seats 450, is built of concrete, and is faced with violet-brown Hälsingborg brick and white Ekeberg marble. 50, corner of the restaurant from the formal garden on the north side, showing the open balcony. 51, the side facing towards Öresund strait and the Danish coast. The panels between the aluminium windows are faced with blue glass. 52, the back of the restaurant where, during the exhibition, there was a small refreshment kiosk. 53, inside the restaurant. 54, from the end of the pier.

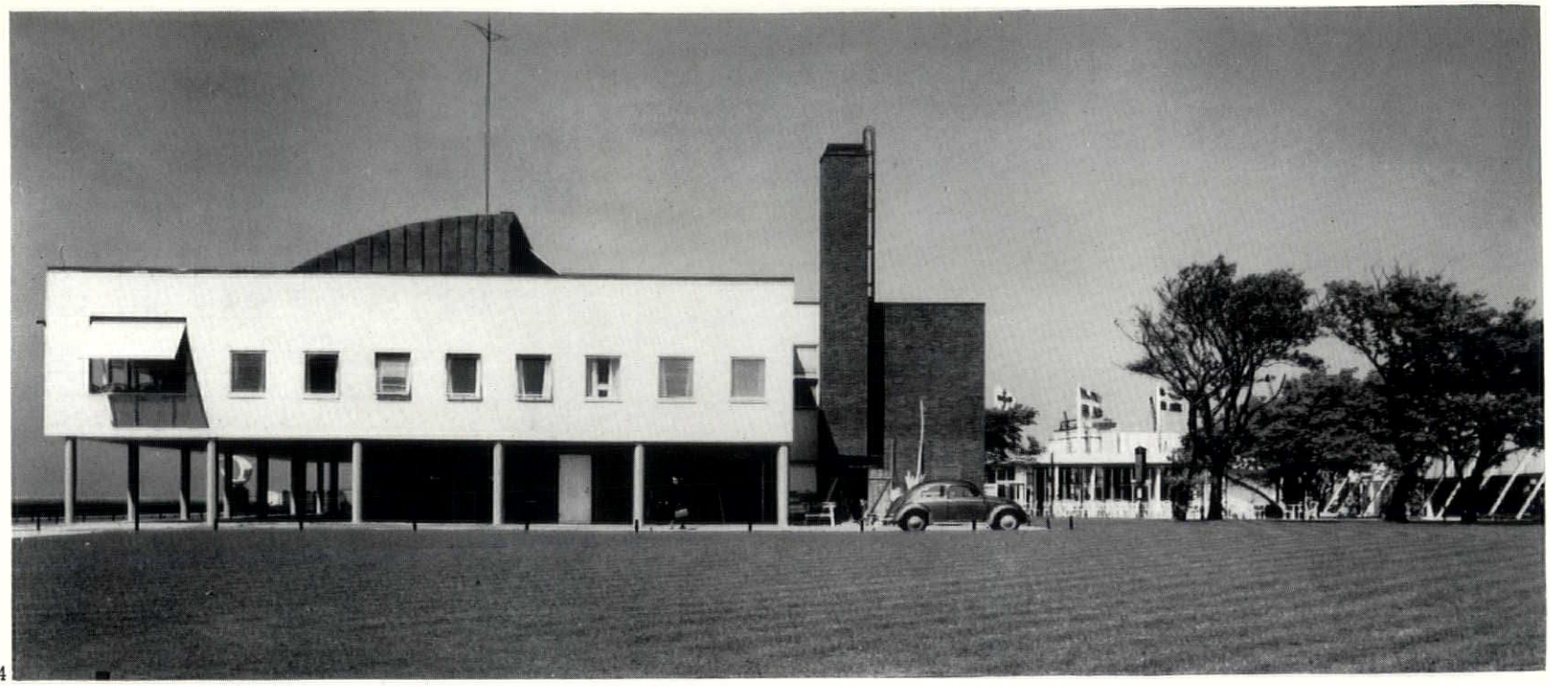
industrial design

Between the 'Parapet' restaurant and the harbour mouth was a group of buildings housing the industrial design exhibits—for the Swedes at least the climax of the show. These buildings enclosed a tree-planted courtyard (on the right in 54). At the



upper floor of restaurant

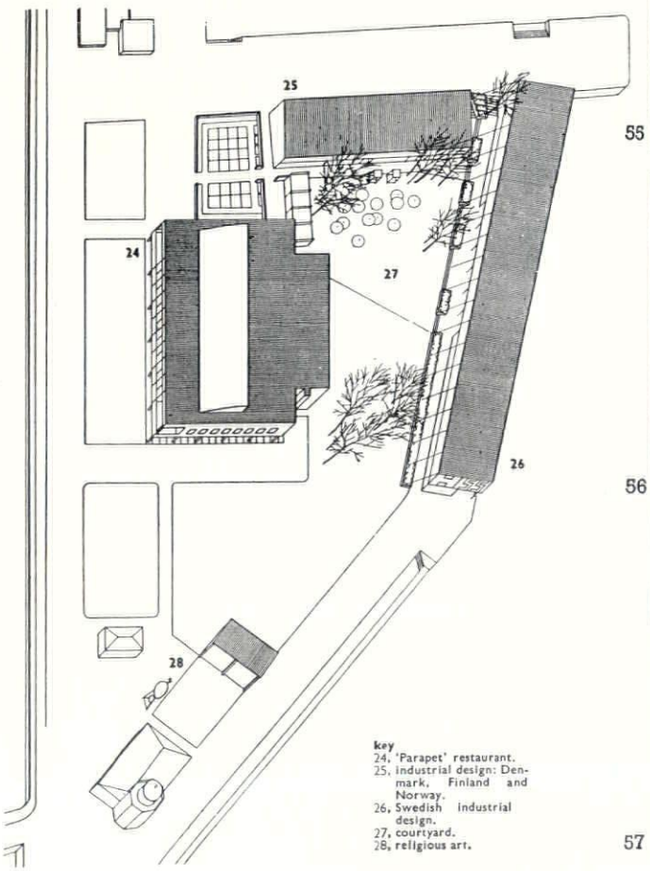
key
1, main kitchen.
2, wash-up.
3, cold stores.
4, service.
5, cold foods.
6, scullery.
7, cashier.
8, control.
9, staff canteen.
10, bar.
11, main restaurant.
12, veranda.
13, banqueting rooms.
14, lounge.
15, balcony.



54

far end of the courtyard (see plan below) was a row of single-storey pavilions in steel and glass, 55, devoted to the crafts and industrial designs of Denmark (architect, Arne Jacobsen), Finland (architect, Timo Sarpaneva) and Norway (architect, Bernt Heiberg). 56, inside the Norwegian pavilion, showing the large windows with the view of the harbour beyond. 57, inside the Finnish pavilion.

The courtyard contained refreshment kiosks and a bandstand. Its other side was closed by the main



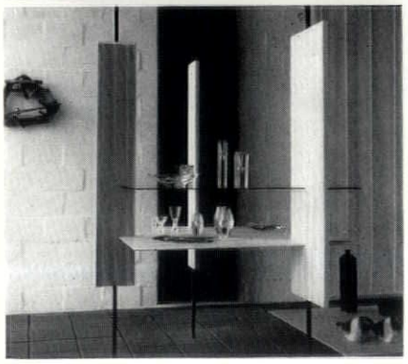
key
24, 'Parapet' restaurant.
25, industrial design: Denmark, Finland and Norway.
26, Swedish industrial design.
27, courtyard.
28, religious art.



55



56



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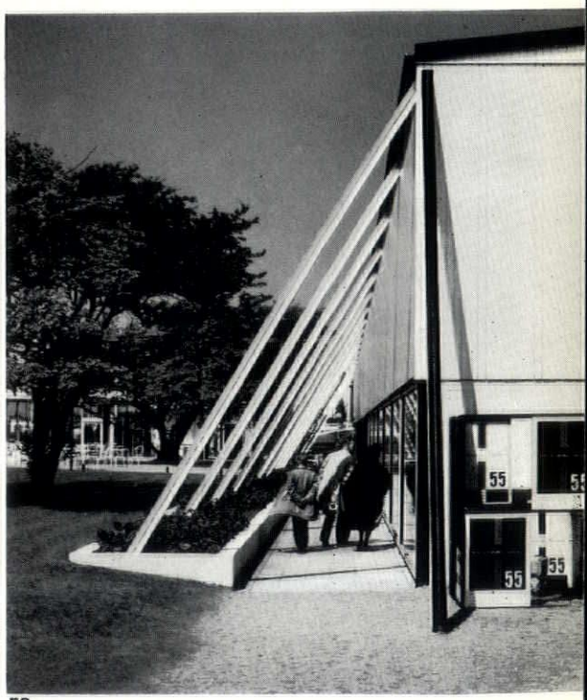

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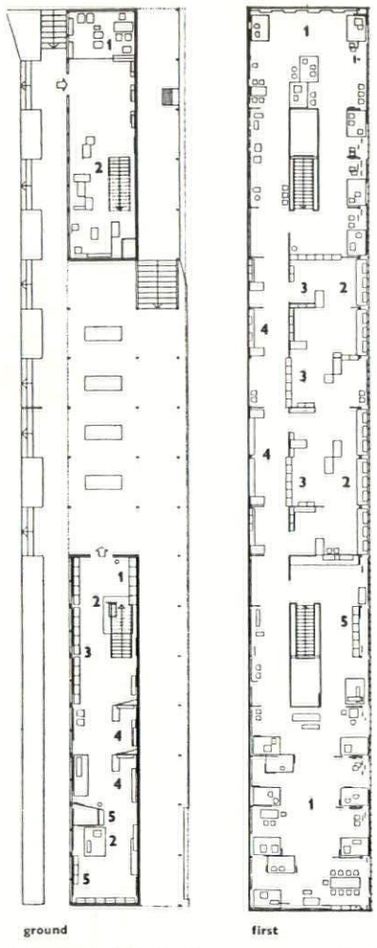
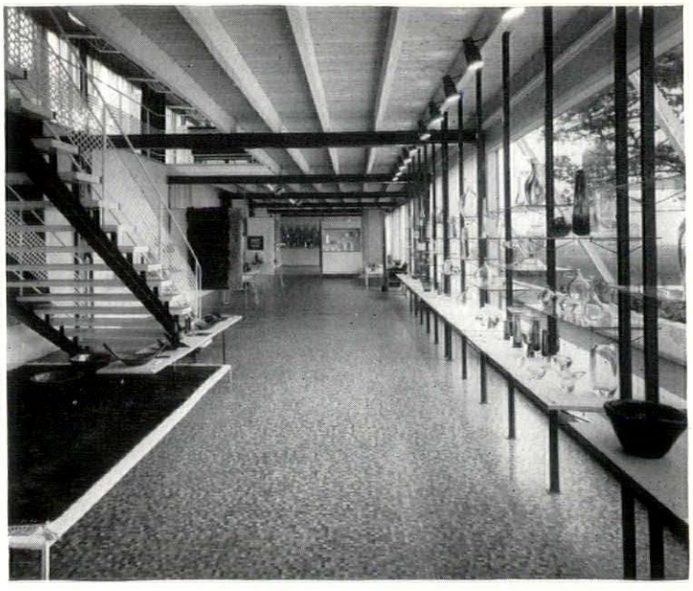


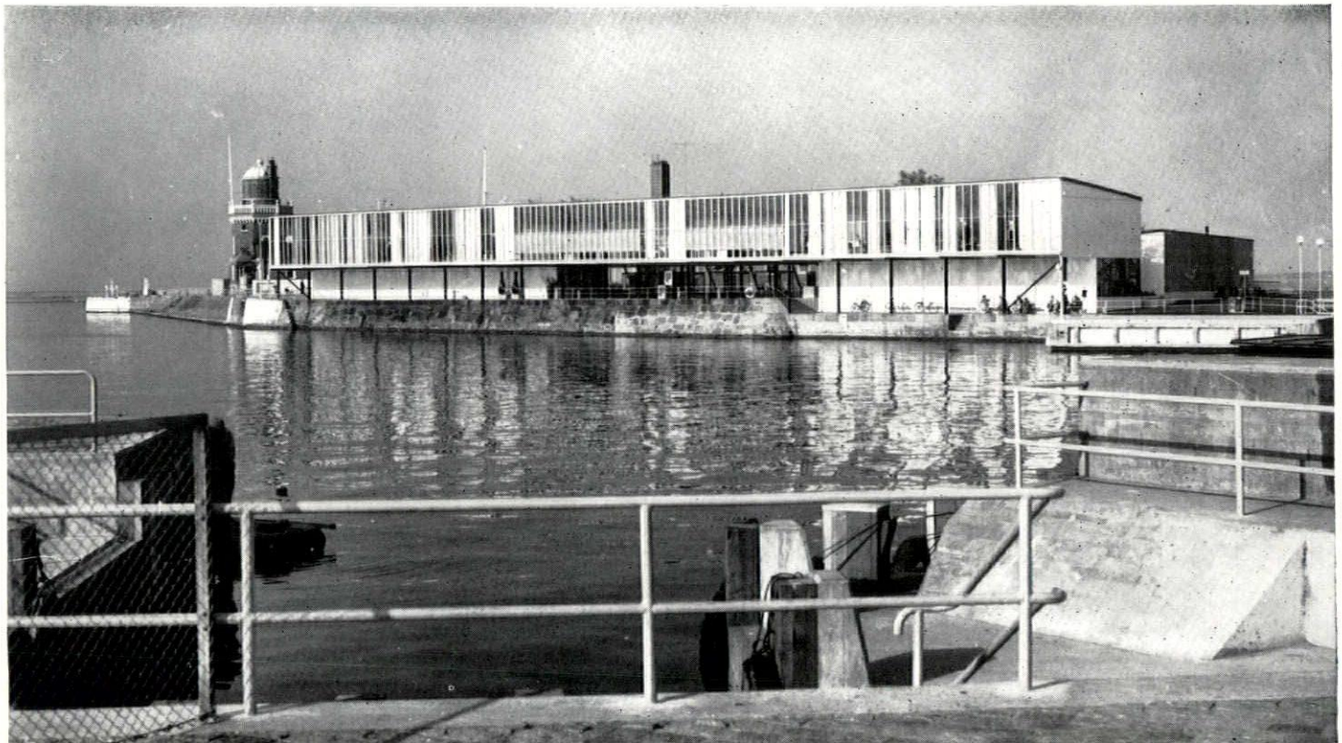


59



60

Swedish pavilion of industrial design, 58, perched on the very edge of the water, a two-storey steel and glass building by Bengt Gate, assisted by Gustaf Rosenberg. The ground floor was partly open (see plans above) allowing views through to the river. 59, part of the ground-floor galleries, devoted largely to handicrafts. 60, the first-floor devoted entirely to objects of everyday use. 61, the building from across the harbour-mouth. A ferry at this point returned the visitor to the centre of the town.



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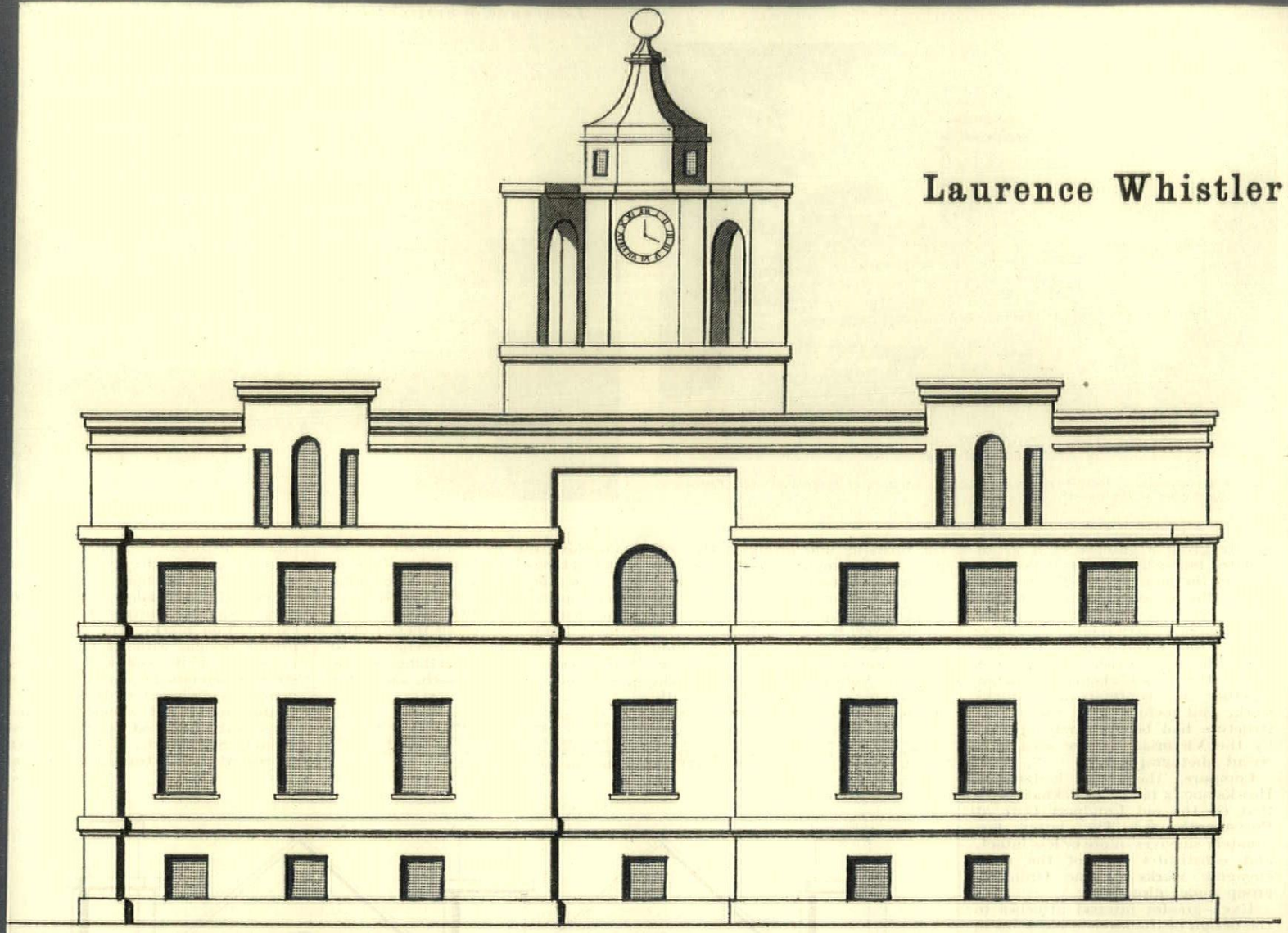


HAWKSMOOR AND THE ORDNANCE

Laurence Whistler

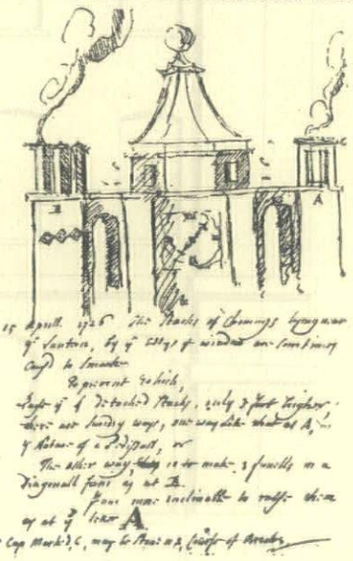
In THE ARCHITECTURAL REVIEW for December, 1952, an article appeared by the present writer, entitled 'Ordnance Vanbrugh'.[1] It dealt with a large group of architectural designs, very much in the Vanbrugh-Hawksmoor manner, which were made for the Office of Ordnance, c. 1716–1725. Most, if not all, of these designs appear to have been carried out, and many survive to this day as actual buildings, visible, though largely hidden away, in the dockyards of Chatham, Portsmouth and Plymouth; at Upnor Castle; in the barracks of Berwick-on-Tweed; and, above all, at Woolwich Arsenal.

No contemporary document has yet come to light connecting either Vanbrugh's or Hawksmoor's name with this widespread activity in military building, which possibly resulted from the 1715 rebellion, and was a Hanoverian precaution against further Jacobite adventures of the kind. But, in the article referred to, it was shown that evidence for the connection is substantial. Thus: both architects were on friendly terms with the principal officers concerned. Thus: a drawing of a Vanbrugh Temple at Stowe has been found among Ordnance elevations. Thus again: the great archway which forms to this day a magnificent entrance to the Royal Naval Dockyard at Chatham, is almost identical in design with Vanbrugh's own archway (now demolished) to his private estate at Greenwich—only twice as big.

Equally marked is the stylistic affinity of many of the designs with Hawksmoor's work. To give but one illustration: a proposal for the gateway at Berwick barracks immediately recalls his proposal for a north gateway at Blenheim. And Hawksmoor, too, was a valued protégé of the Duke of Marlborough's at this time, and a friend of Brig.-Gen. Michael Richards, who, as Surveyor General of the Ordnance under the Duke, was the man nominally responsible for the design of all Ordnance buildings.

It can now be added that evidence strongly supporting an Ordnance-Hawksmoor connection may be found in the designs for Ockham Park in Surrey.

Ockham, on the Guildford road near Ripley, was the country retreat of Lord Chancellor King, whom we find, in 1724, seeking Hawksmoor's advice over improvements to his Jacobean mansion. Presently, Hawksmoor was proposing a magnificent reconstruction of the house. But in the end he was restricted—such is the common fate of architects—to more modest alterations, chiefly concerned with the original entrance front, and with the hall. These alterations were sufficient, however, to have been of much value to-day, at a time of increased interest in Hawksmoor. Unfortunately, the house was burnt to the ground in recent years, and is now demolished: there remain only the kitchen and stable building, both converted into flats. Hawksmoor's designs came to light a few years ago, bound up between boards; and the whole project was briefly described by the present writer in *Country Life* for December 29, 1950—thanks to the kindness of Mr. Rupert Gunnis, to whom the volume belongs.

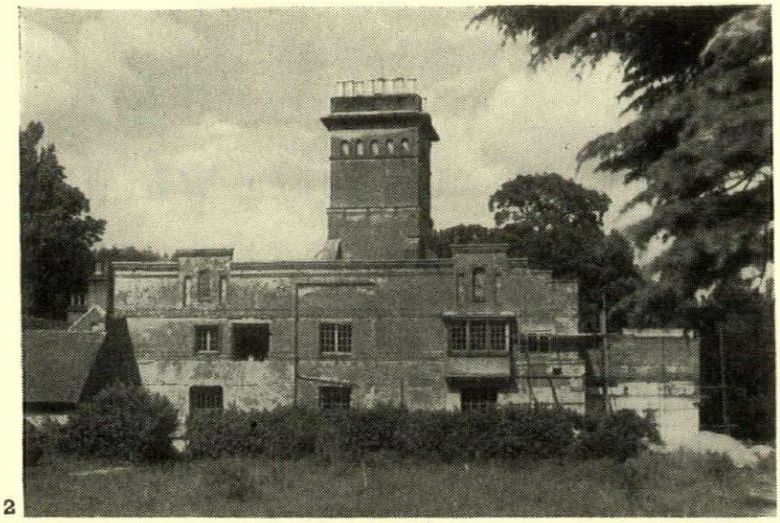


1

Titlepiece, the kitchen block at Ockham; a reconstruction by the author. 1, above, Hawksmoor's sketch of the chimney tower on the kitchen block.

The first undertaking at Ockham appears to have been the removal of the offices from the house, and their installation in a large new kitchen block built of red brick alongside: square in plan and several storeys high, titlepiece. On top of this was raised a remarkable superstructure, consisting of a clock tower and lantern, linked by arches to four chimney-stacks, projecting diagonally, the whole slightly reminiscent of the chimney-towers at Blenheim. In the spring of 1726 this tower had been but recently completed. For on April 26, Hawksmoor made a sketch of it, with an explanatory note; and his paper was endorsed by someone, 'Mr. Hawksmore to prevent the Smoking of the New Chimney', 1. The feature survived for about a hundred years, and

[1] Derived from the writer's book, *The Imagination of Vanbrugh and His Fellow Artists*, since published by Batsford.



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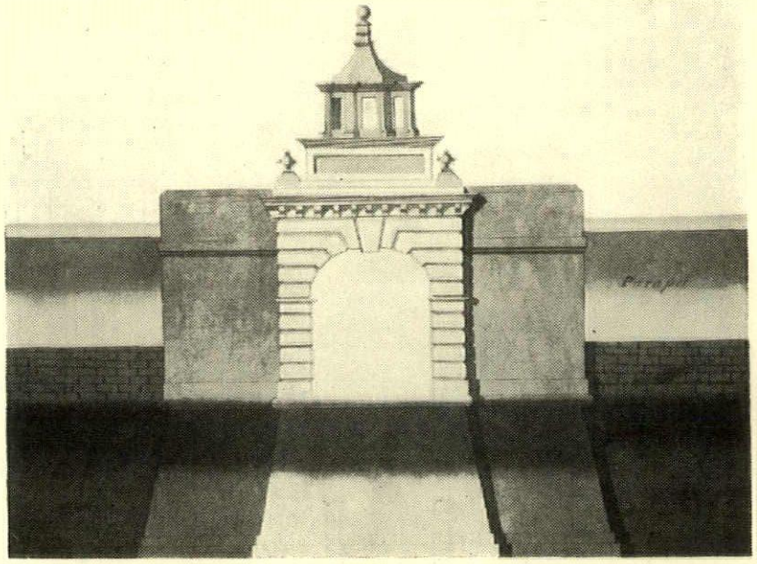


3

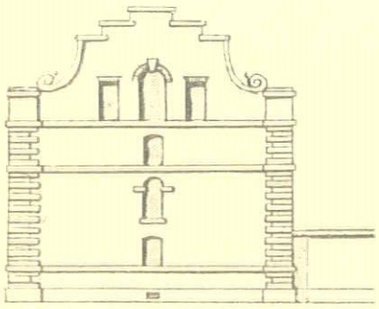
2, a recent photograph of the kitchen block at Ockham. 3 (right), an eighteenth-century drawing of the Landport Gate at Portsmouth.

we are given a glimpse of it in an undated but early nineteenth century view of the house by G. F. Prosser,[2] where the diagonal stance of the chimneys is more apparent than in Hawksmoor's hasty sketch. Examination at roof level suggests that the base of his tower exists at the present time, the flues being gathered together in contemporary brickwork. But before 1843 the superstructure had been entirely replaced by the Victorian feature seen in a recent photograph, 2.

Compare, then, the lantern of Hawksmoor's tower at Ockham with that on the old Landport Gate at Portsmouth, 3.[3] The latter fortunately survives, more or less intact, and constitutes one of the most engaging works in the Ordnance group under discussion.

Even greater interest attaches to the design of the kitchen block itself; much disfigured though it is to-day, with many of the original windows blocked up, and others inserted at random. From recent photographs, and the original plan in the Ockham book, it has been possible to reconstruct the elevation of the two principal fronts. For these were built to the same design, though with minor discrepancies in detail.

This design is entirely in the Ordnance manner. Observe the sunk



4, the barrack-block at Berwick-on-Tweed.

panel in the centre, and the ponderous courses of projecting brickwork, dividing the front into horizontal strips. Observe the buttress-like pilasters at the corners, boldly projecting, and with the courses breaking out around them. Observe the breaking and lifting of the cornice, to give emphasis to the top-floor windows. Observe especially the form of those windows. They are Venetian windows stripped of all enrichment whatsoever: Basic Venetian.

All these motifs may be found again and again in the Ordnance designs. Consider the front of the storekeeper's block at Portsmouth, where similar courses, corner pilasters and Venetian windows appear, 5.[4]

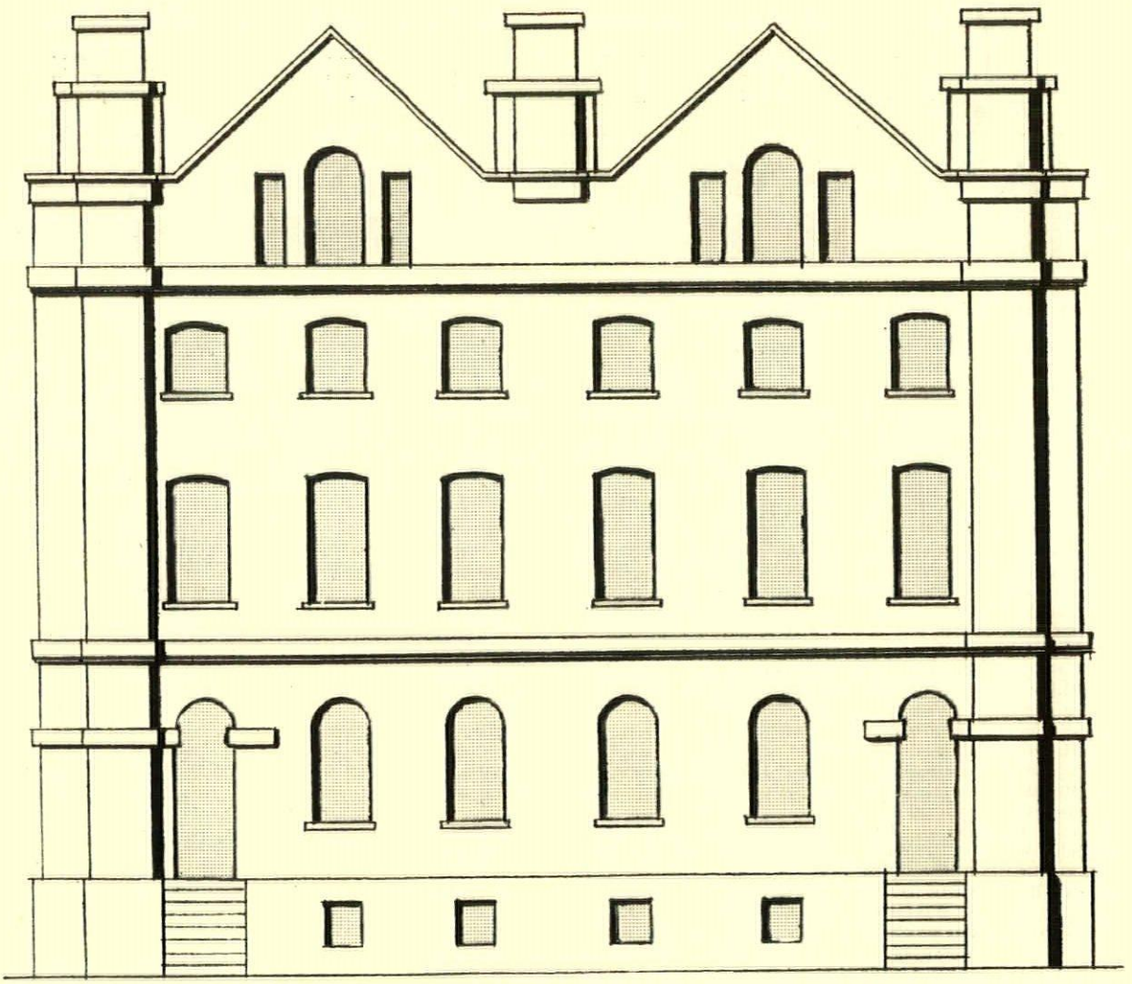
Consider the end elevation of the barrack-block at Berwick-on-Tweed, 4.[5] Consider, finally, the astounding centrepiece to the old Royal Military Academy at Woolwich Arsenal, the most impressive of all these works, 6. Here the Basic Venetian motif has been used on something like the scale of a triumphal arch, and in the process distorted; so that the centre light becomes a deeply-sunk panel, and the flanking lights are reduced to mere slits of shadow, answered by dots of shadow above—like inverted exclamation marks. The whole surprising design, with its plurality of planes, and its conflict of forms, straight and circular, has a sculptural quality reminiscent of Hawksmoor's church towers. It should be compared with the west front of Christ Church, Spitalfields, 7. It may even be regarded as a translation of that

[2] Manning and Bray's *History of Surrey*. Special illustrated copy of 1847 in the B.M.: Vol. XVIII.

[3] Drawing by an Ordnance cadet, 1781. P.R.O. M.P.H. 15.

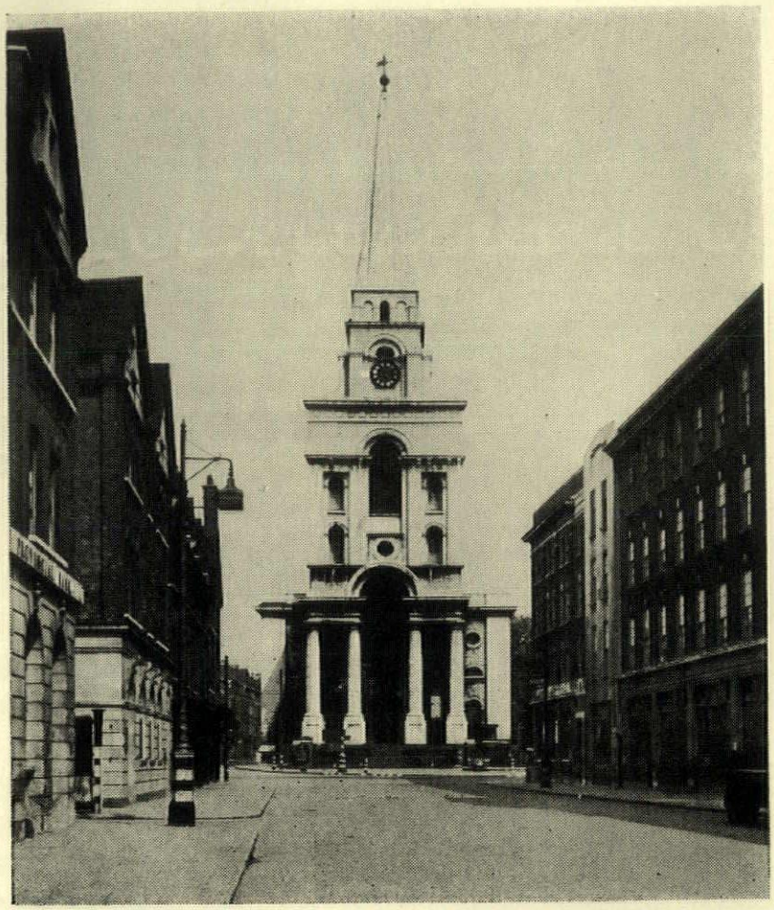
[4] Redrawn by Laurence Whistler from the elevation, dated 1717, in the B.M. K. XIV. 42.

[5] Ordnance design in the B.M. K. XXXII. 47.h. A corresponding block at Plymouth displayed similar features—including five central windows of Basic Venetian form, but these have been replaced.



5, storekeeper's and clerk's houses at the Gun Wharf, Portsmouth, 1717: redrawn by the author from the original design.





6, *centre-piece of the Old Royal Military Academy, Woolwich Arsenal*, 1718. 7, *Christ Church, Spitalfields, the west front.*

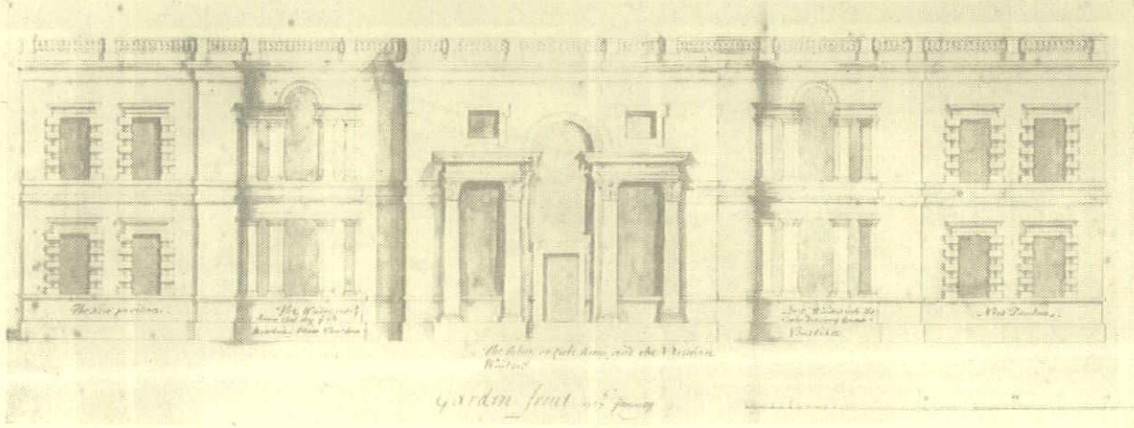
church front into the language of unadorned brick.

As the French influence waned in English architecture, and interest was focused anew on Italy—partly in obedience to the new fashion set by Lord Burlington and his associates—both Vanbrugh and Hawksmoor made obvious use of Italian motifs, such as windows with their own entablatures, or with architraves broken by block-rustication, or with both. Though neither had set foot in Italy, they shared these motifs with Gibbs and Kent, who had. And it is—in certain contexts—very difficult, if not impossible, to distinguish between Vanbrugh's use of them and Gibbs's. Of the Venetian window they made almost as much use as the Burlingtonians, though, as one might expect, in a less conventional and more personal manner. Vanbrugh introduced it at Seaton Delaval and Grimsthorpe, and Hawksmoor even more conspicuously in his grand design for enlarging the house at Ockham. For here (according to one proposal) the motif would have appeared no less than nine or ten times over, on the two principal fronts. The most striking use of it would have been in the centre of the garden front, where the high saloon would have been lit by a single combined Venetian window and door, twenty-seven feet high in the centre, and framed by four Corinthian pilasters, 8. Vanbrugh's fine window at Eastbury, removed from the demolished house and rebuilt in the wing, is little more than half as big.

This repeated use of the theme on the house itself at Ockham was presumably linked in Hawksmoor's mind with the use of the little Venetian windows in the kitchen block close beside it. We have seen how that rudimentary form appeared in the Ordnance buildings. And it may be added, now, that all the other correspondences also—that is, between the kitchen block and the Ordnance buildings—are reflected in Hawksmoor's authenticated work. The heavy string courses, the sunk panels, the boldly projecting corner pilasters: these are devices employed over and again in his designs for the London churches and for Greenwich Hospital. Consider the exteriors of St. Mary Woolnoth and the two East End churches. Equally characteristic is the diagonal linking of the four chimney-stacks to the kitchen block lantern. Hawksmoor's churches, and indeed, many more of his designs, reveal unmistakably that he rejoiced, as no other architect, in the disturbing or invigorating effect of the square form set out on a diagonal from the central mass.

Next to the Ockham kitchen block, and at right angles to it, stand the stables. This layout, and the date on the rain-water heads—1724—suggests that the two were planned together. The stables, however, are somewhat more conventional in design, though also displaying string courses of a dominant character. The most that one can say, here, is that the architect was not inconceivably Hawksmoor, and that the gabled side-elevation recalls some of the simpler Ordnance designs in the British Museum.

It needs, however, to be pointed out, now, that the only documentary evidence for Hawksmoor's authorship of these office buildings at Ockham is his sketch of the recently built chimney tower on top of the kitchen block. There seems to be no doubt that provision was made for such a tower in the first designing of the block, with the necessary concentration of the flues. Nevertheless, the possibility of other authorship cannot be ruled out finally. If Hawksmoor did not design it, who did?—may be reasonably asked. And the mystery of the unknown Ordnance architect would only be deepened by our knowledge of an extraneous building at Ockham, which, for some reason, he was called upon to provide, so short a while before Hawksmoor appeared on the scene. The existence of such a person may be doubted. It is, surely, the hand of Hawksmoor that we detect, both at Ockham to-day, and in the particular Ordnance buildings under discussion. Thus a new body of virile inventions may be credited to that indefatigable though querimonious old master. Granted the soundness of this conclusion, the problem thereupon assumes a more familiar form. It is, to establish the nature and extent of Vanbrugh's contribution.



8, *Hawksmoor's proposal for rebuilding Ockham House: the garden front.*

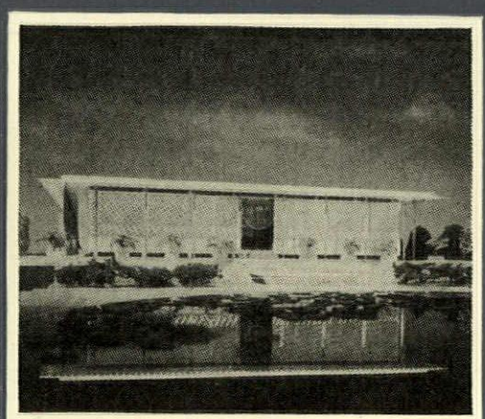
U.S. EMBASSY BUILDINGS

The United States Government has a big programme of buildings abroad for such purposes as embassies, consulates, living quarters for embassy staff and embassy offices. The programme was the subject of an exhibition held last year in the gallery of the American Institute of Architects, in which twenty schemes were illustrated, mostly in the form of projects, for places as far apart as Canberra, Addis Ababa, Frankfurt, Leopoldville, Tokyo and Panama. Since then a number of the projects have become realities. Four of these —all in Europe—are illustrated here.

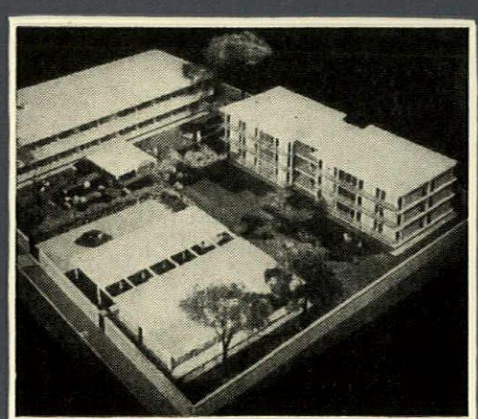
The programme is directed by the Foreign Buildings Operations of the Department of State (Leland W. King, supervising architect; later succeeded by Nelson A. Kenworthy). Some of the buildings are designed in the department; others are by private architects working in conjunction with the department's regional directors. The private architects include firms as distinguished as Skidmore, Owings and Merrill and Harrison and Abramovitz. In the case of the buildings illustrated here, the architects, Rapson and Van der Meulen, were Government employees, working under the F.B.O. regional director.

Since the programme was launched a number of administrative changes have brought about changes of policy and delayed some of the projects, but architecturally the progressive spirit in evidence at the A.I.A. exhibition does not seem to have been lost. Although a few of the schemes are semi-traditional or nondescript in style, the majority (including the completed schemes illustrated here, and projected or completed schemes in Tokyo, Rio de Janeiro, Havana and in several cities in Western Germany) are of a standard that provides a good advertisement for the enterprising nature of contemporary American architecture. And several new projects, below, have more recently been published, including a consulate at Kobe (by Yamasaki and Hellmuth), a legation at Tangier (by Hugh Stubbins) and an embassy at New Delhi (by Edward D. Stone), which set an equally high standard.

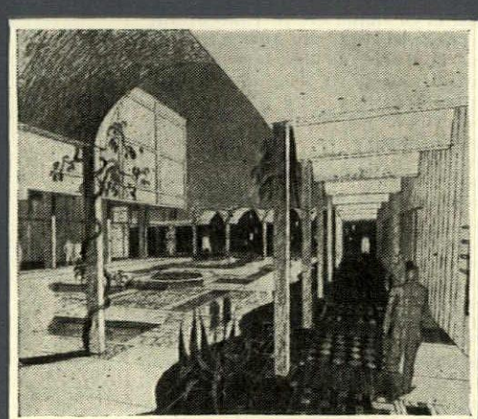
Buildings put up for the British foreign service provide no such advertisement for British official design. In fact they make an unhappy contrast. The best that one can say is that since the outcry seven years ago against the neo-Palladian British Embassy in Rio, the Ministry of Works has made some cautious steps in a more intelligent direction (e.g., the new High Commissioner's residence in Ceylon). The Ministry has shortly to face a challenge on a bigger scale (e.g., the vast new office block for the Washington embassy) and will do well if it can approach near to the standard of the best American designs.



New Delhi



Kobe



Tangier

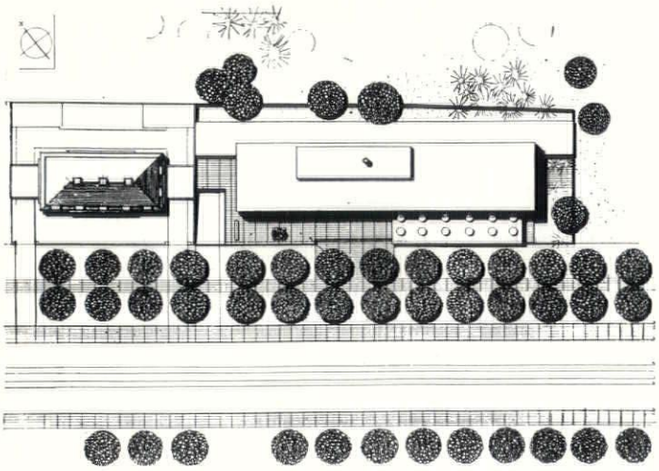
EMBASSY OFFICES, COPENHAGEN

ARCHITECT	**IDES van der GRACHT (Regional Director, U.S.F.B.O.)**
Associated Architects	**Rapson and van der Meulen**

The site faces the Osterbrøgade, an avenue connecting the centre of Copenhagen with its northern residential suburbs. The city plan called for a building in traditional style to accord with the Canadian Embassy next door and to the War College beyond, but approval was given to a more contemporary design on condition that the existing cornice-line was maintained and that the main block was set back 23 feet. This imposed a compact style of planning on the available area of the site.

The ground floor houses those sections of the Embassy that require frequent contact with the public: the consular, visa, press, information, film and student exchange sections. These are all reached from the main entrance lobby. The U.S. Information Service reading room and auditorium are reached through a small garden court at the east end of the site. From here there is direct access to the Information and Press Departments and to a staff lunch room below, which is also used for meetings in connection with U.S.I.S. activities. This section of the Embassy can be used as a self-contained multi-purpose unit, directly accessible to the public. The Ambassador's offices, the political section of the Embassy and the offices of the military and other attachés are on the upper floors. Structural provision has been made for the eventual addition of yet another floor.

The building has a reinforced concrete frame. Circular columns, set back from the walls, support the main beams, which run parallel to the main front. Smaller joists at right-angles are spaced at approximately 4-ft.



site plan



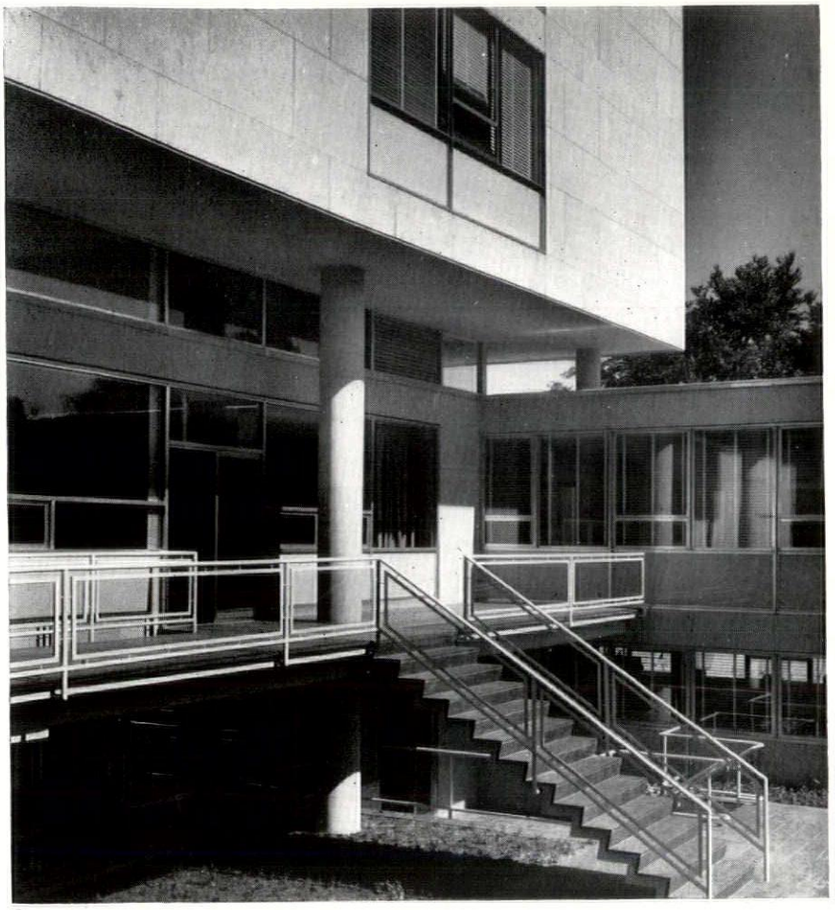
1

1, end view of the central office block, rising above the public part of the embassy spread out at ground level.

intervals. In the upper blocks the windows and spandrels form an aluminium and glass skin, the floors being marked by a thin line of granite. To preserve flexible use of the office floors, there is a ventilating system which avoids trunk ducts and dropped ceilings along the normal corridor line. Instead, riser ducts at circulation and service centres lead to distribution plenums between the joists, and tubular ducts, cast in the floor slabs, supply washed and heated air at each window. From every two 4-ft. bays a return duct recirculates the air to the risers and fans, so that no room is without the supply and return of air. Radiators under each window permit temperature control of individual rooms.

Suspended ceilings are of sound-absorbent perforated plaster tile, backed with fibre glass and aluminium foil. Offices have fluorescent lighting tubes set in louvred recessed troughs interchangeable with the ceiling tiles. The aluminium external wall sashes run from slab to slab, and the windows have sealed double glass. All office windows, except those facing north, have aluminium venetian blinds. Partitions are in wood and glass, in units that allow easy rearrangement. Floors are of marbleized plastic tiles.

The consulting architect was Anders Tengbom, of Stockholm, and the consulting engineers were also Swedish: Sven Tyrén, structural; Harry Bremfors, mechanical, and Gustav Magnusson, electrical. The Danish supervising architects were Suul Moller and Erik Herlow.



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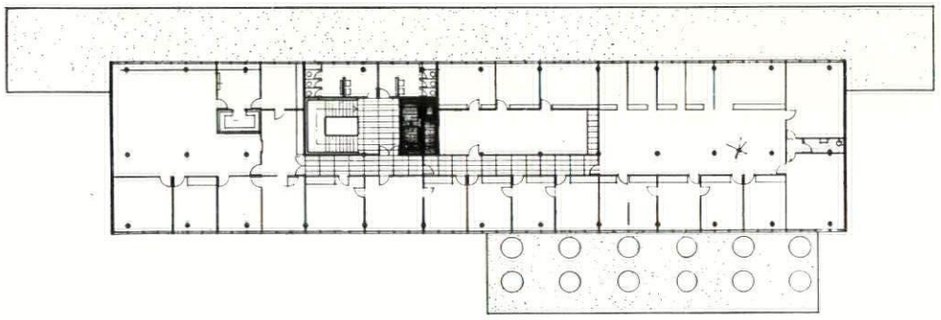
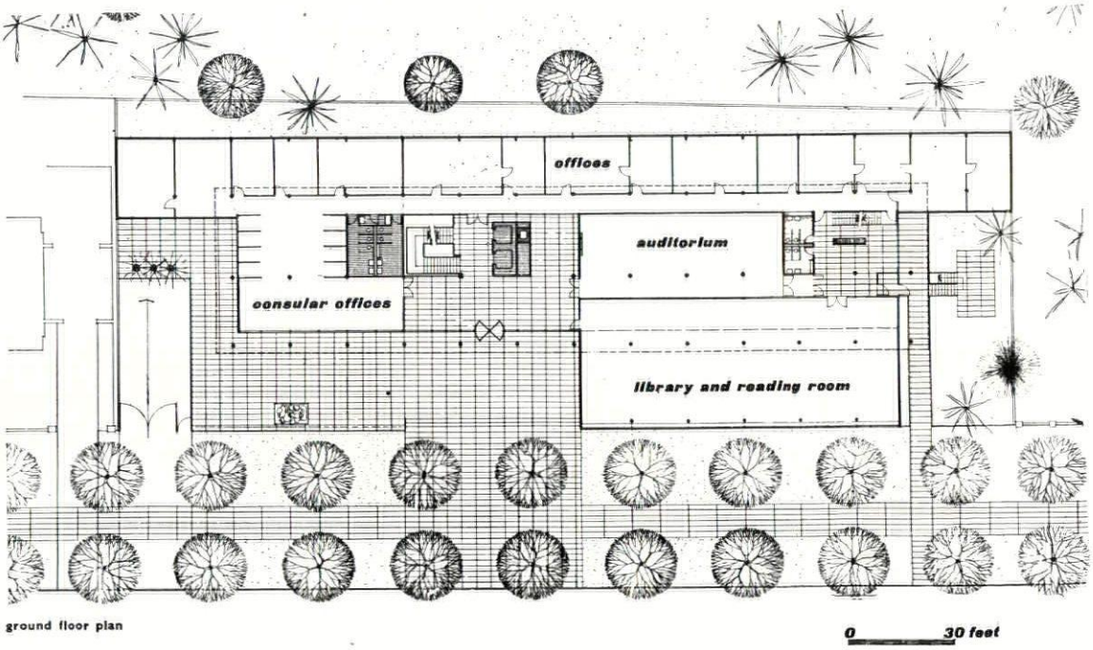


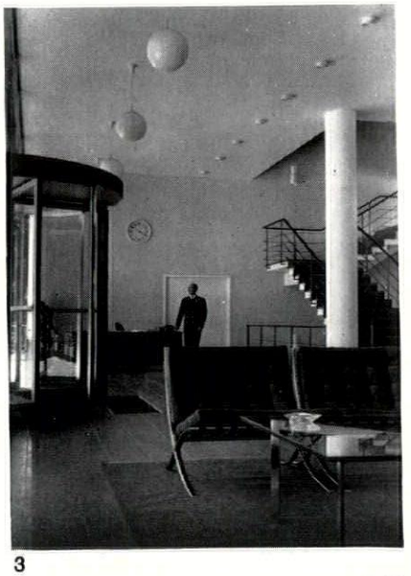
typical upper floor plan



ground floor plan

EMBASSY OFFICES, COPENHAGEN

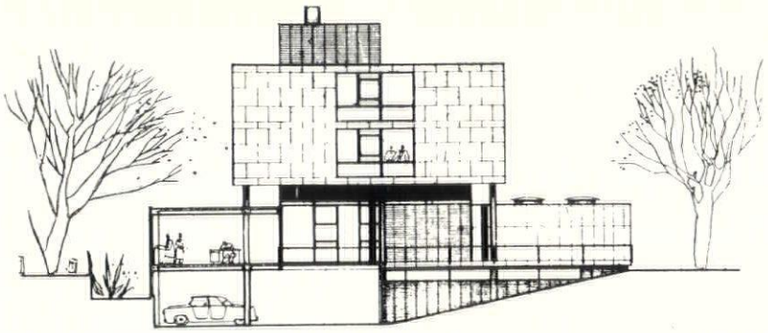
2, the public entrance to the reading room and auditorium from the garden at the side, with the ground-floor office wing beyond. 3, the main entrance hall. The consular and visa sections are straight ahead and on the right is the staircase to the office floors.



3



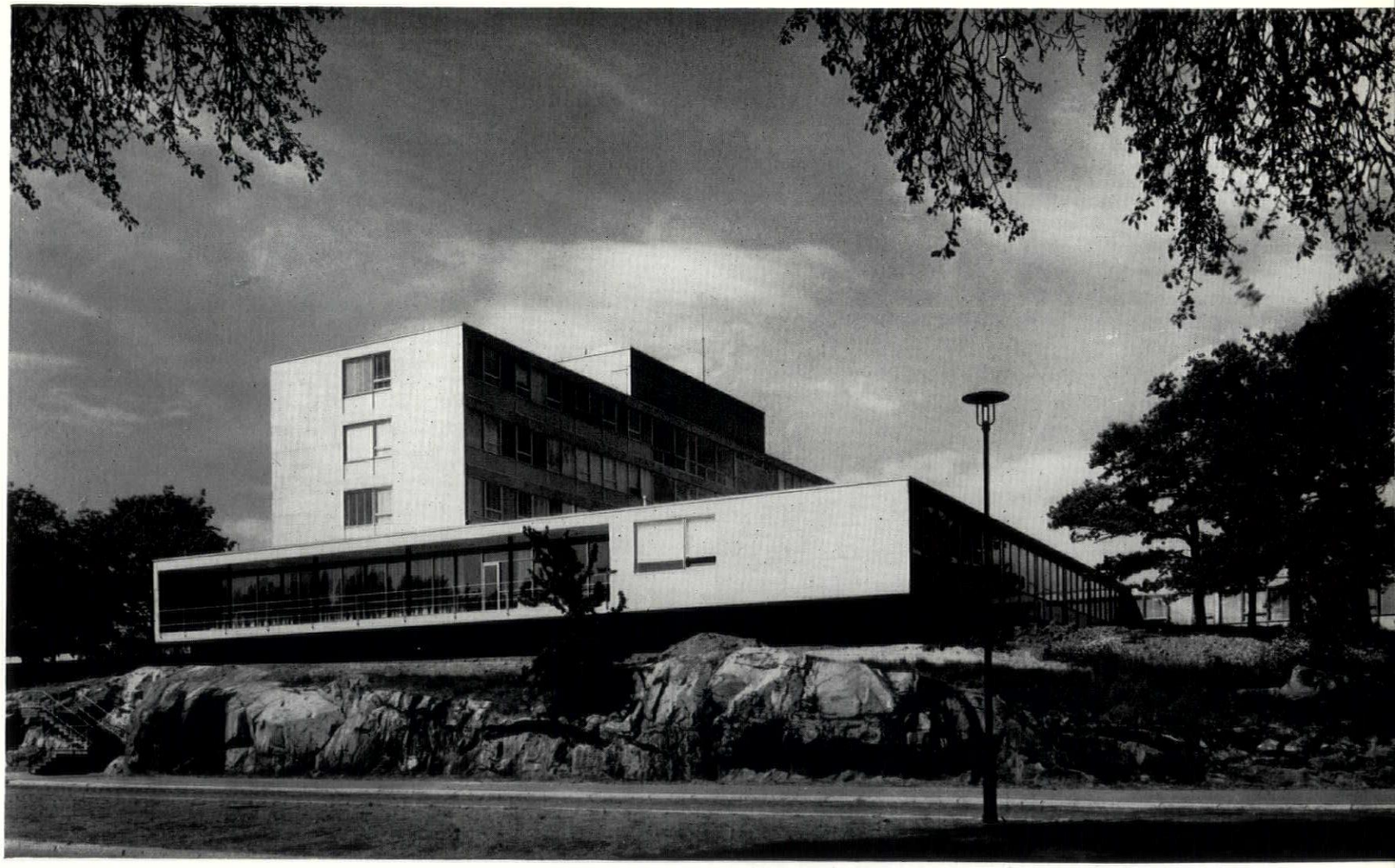
4



4, the building from across the avenue. The main entrance is on the left and the garden entrance to the public part on the right. Above, transverse section showing basement garage.

EMBASSY OFFICES, STOCKHOLM

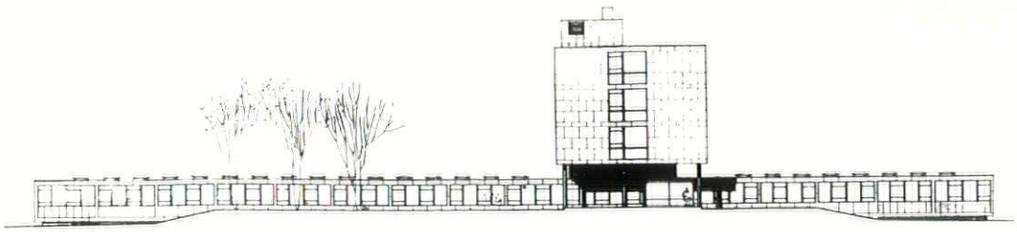
ARCHITECT	**IDES van der GRACHT (Regional Director, U.S.F.B.O.)**
Associated Architects	**Rapson and van der Meulen**



5

5, from the south, showing auditorium, public offices, etc., planned round a garden court and office block rising beyond.

Located on an open hillside along the Strandvägen in the eastern part of Stockholm, facing an inlet of the Baltic. The site is part of a park-like area reserved for foreign embassies, but is largely residential in character,

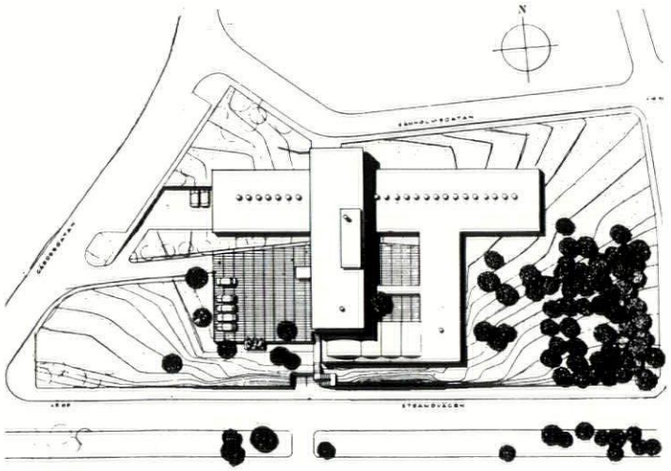


north elevation

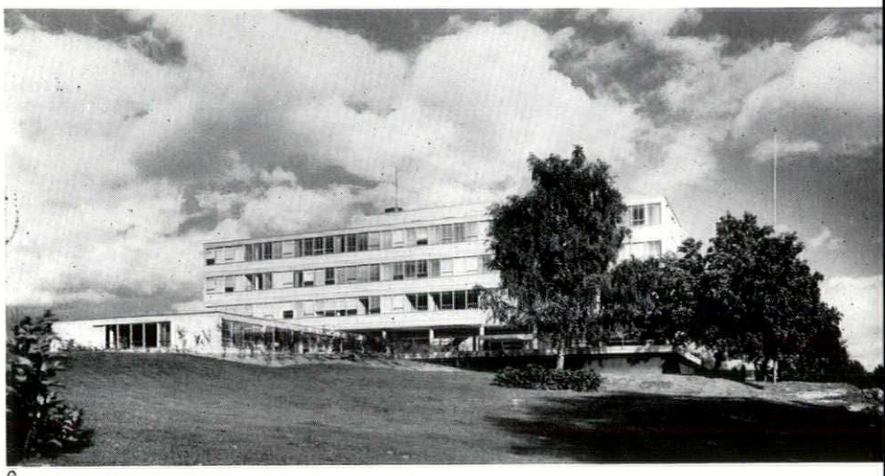
and to prevent this large building from overpowering its neighbours most of it has been confined to single-storey height and has been planned round a landscaped garden court, the central three-storey portion covering only six per cent of the site.

Access was complicated by the fact that the building is raised on a rocky ledge above the level of the boulevard. The entrance drive rises to a large platform where visitors can leave their cars and which is also reached by a stair from the bus-stop on the boulevard. In addition to housing the various Embassy offices, the building includes an auditorium, with film-projecting facilities, seating 80 people, a cafeteria adjoining it and an underground garage. The auditorium and cafeteria can be combined into one large room seating 160. The free-standing upper office block shelters a transparent aluminium and glass entrance lobby. Beyond is a garden court, surrounded by the one-storey portion of the building. Within the entrance lobby are the main stairs and lift shaft, forming a central core visible through the glass walls the full height of the building. On the ground floor are the offices most frequented by the public: the consular and visa section, the information and educational sections, and the economic, administrative and fiscal sections. The Ambassador's offices, the political section and the offices of the military and other attachés are on the upper floors. The office block can be expanded if necessary by extending the north wing to the east. The public reception hall to the south of the entrance lobby (used also as an exhibition gallery) and the auditorium, etc., to which it leads, together with the garden court, can be completely segregated from the rest of the Embassy.

Structure, materials, ventilating system, etc., are the same as in the Copenhagen Embassy offices described on the preceding pages. The local consulting architect was Anders Tengbom, working with Swedish consulting engineers—Sven Tyrén, structural; Harry Bremfors, mechanical; Gustav Magnusson, electrical.



site plan



6

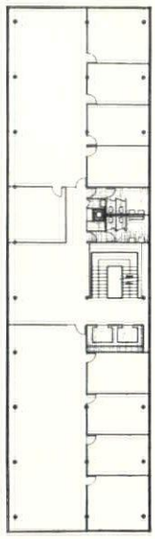
6, from the east. 7, the main entrance on the west side, giving on to a level platform which cars can reach by a drive up from boulevard level.



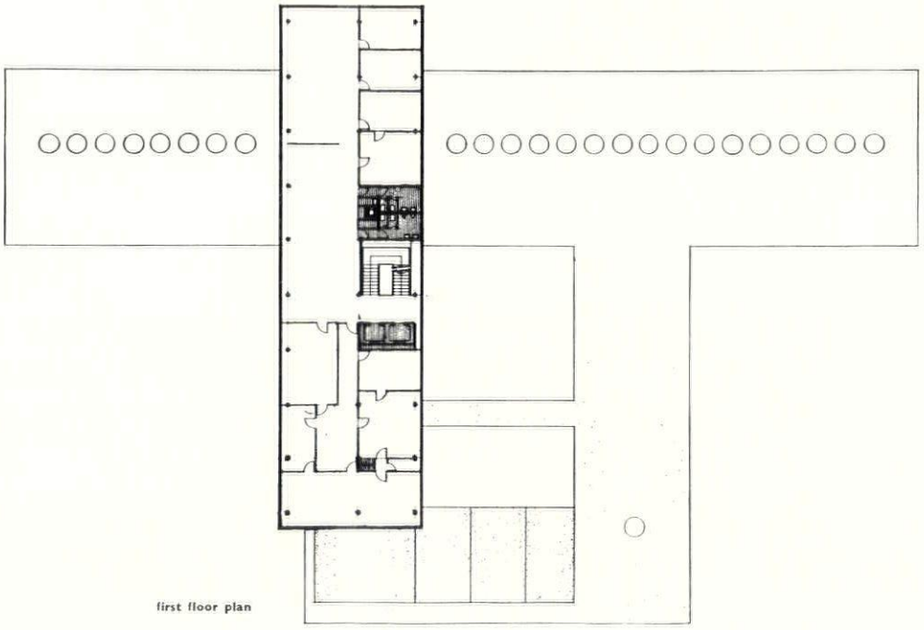
7



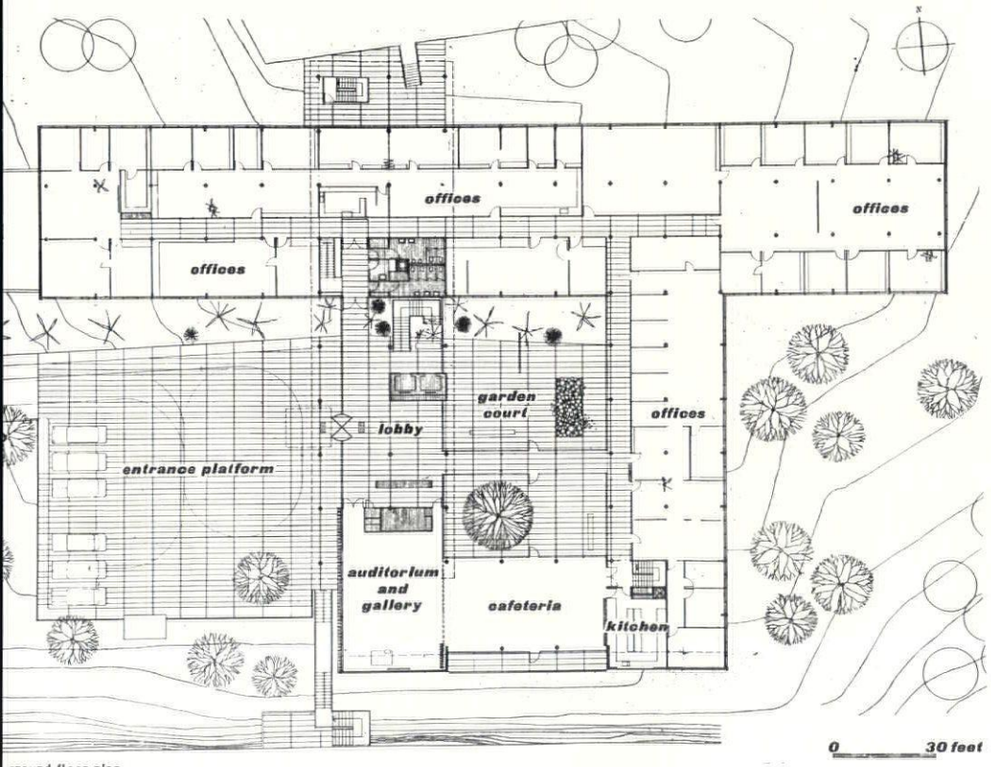
8



typical upper floor plan



first floor plan

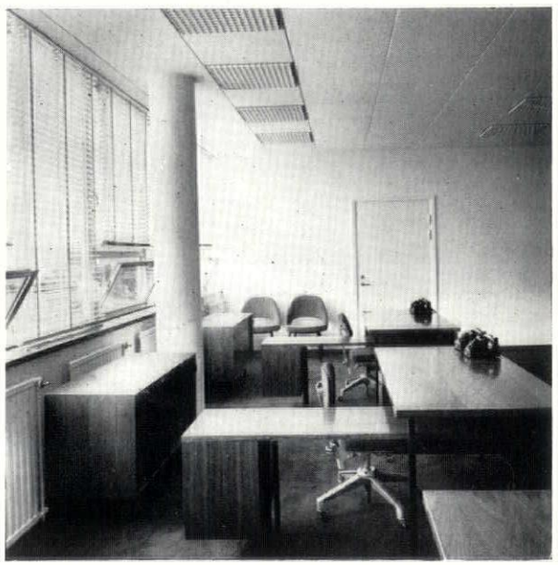


ground floor plan

8, the main staircase hall, looking into the garden court enclosed by the ground-floor offices and public rooms. 9, the garden court looking along the flank of the high office block. 10, a typical office interior.



9



10

EMBASSY APARTMENTS, PARIS

ARCHITECT — **ALAN B. JACOBS (Regional Director, U.S.F.B.O.)**

Associated Architects — **Rapson and van der Meulen**



11

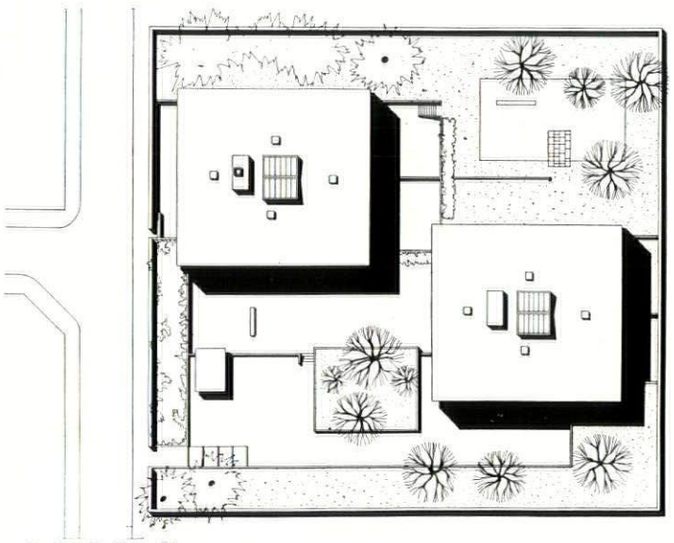
These provide living quarters for American personnel working at the American Embassy in Paris or its attached organizations. There are two sites, one at Boulogne-sur-Seine containing three blocks of apartments and one at Neuilly-sur-Seine containing two, but all five blocks are identical in plan and construction, which enabled economies to be made by standardizing details, fittings, etc. The Boulogne site is on the waterfront road close to the Bois de Boulogne and Longchamps racecourse, with views across the Seine to St. Cloud. The Neuilly site is in a more crowded residential area, and height restrictions were imposed by the local authority.

The disposition of the blocks on the two sites was

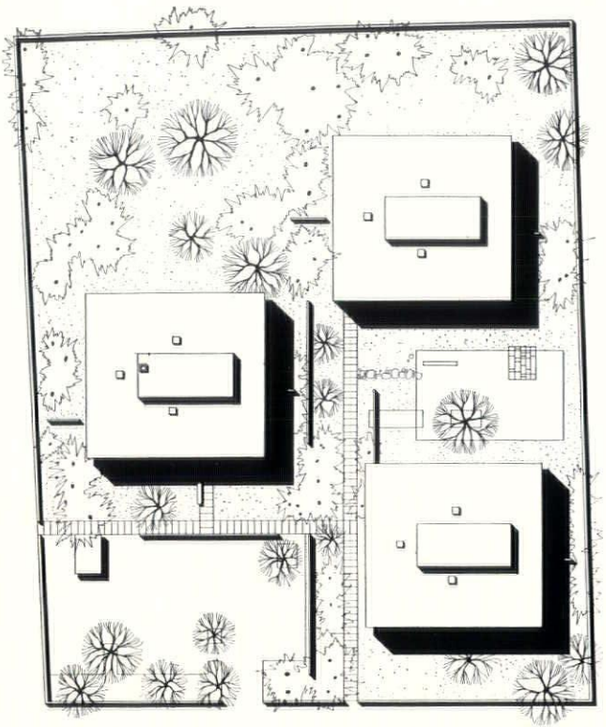


12

11, Neuilly-sur-Seine, showing the two blocks with identical plan and orientation. 12, side view of one of the blocks.



site plan: Neuilly-sur-Seine



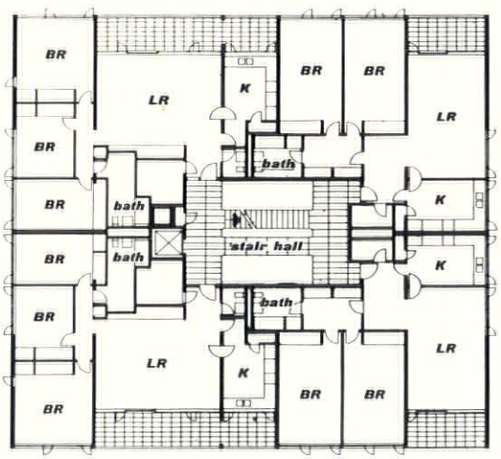
site plan: Boulogne-sur-Seine



13

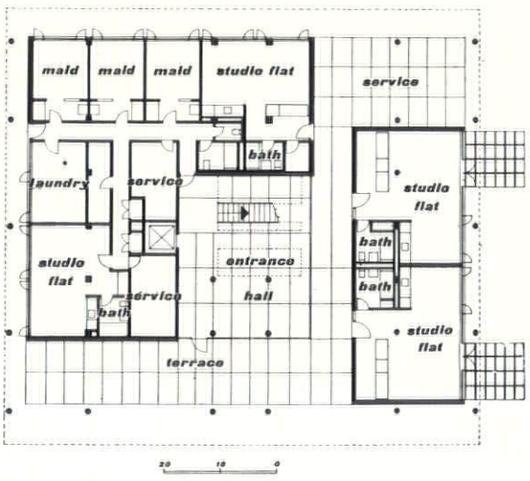
governed by the positions of existing trees. They are orientated east and west so as to get sun on the balconies at the opposite ends of each block. They have no basements. On the ground floor, besides an entrance hall and service area, are studio apartments; on the upper floors (three at Boulogne and four at Neuilly) are four apartments surrounding a central stair hall and lifts, so that each has cross-ventilation. Each has a balcony, and these are staggered vertically to give pattern to the elevations. Direct vertical stack plumbing serves all kitchens and bathrooms.

The structure is a concrete frame, the front block at Boulogne resting on piles, the remainder on normal foundations. Walls and partitions are of hollow tiles, faced externally with artificial stone. There are metal windows and sliding glass doors. Floors are covered in linoleum throughout except in the bathrooms which have small ceramic tiles. Internal walls are plastered and finished light grey, bright colours being provided by curtains and furnishing fabrics. Heating is by radiant heat floor panels. There is one central boiler-house on each site.



upper floor plan

13, one of the three identical blocks at Boulogne-sur-Seine.
14, a typical living-room interior, photographed in one of the Boulogne blocks. The flats are the same on both sites.
15, the wide balcony, looking into the living-room.



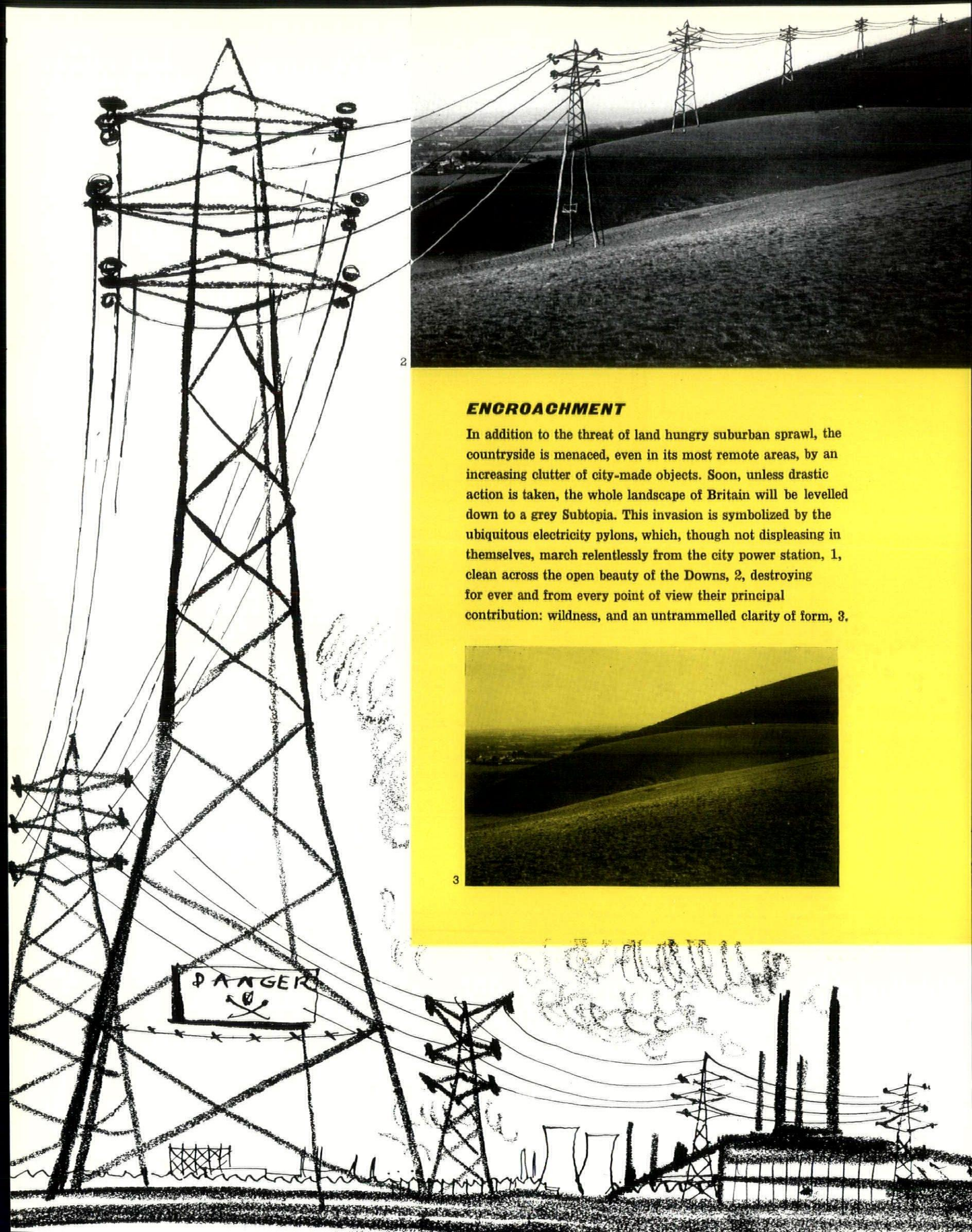
ground floor plan



14



15



2

ENCROACHMENT

In addition to the threat of land hungry suburban sprawl, the countryside is menaced, even in its most remote areas, by an increasing clutter of city-made objects. Soon, unless drastic action is taken, the whole landscape of Britain will be levelled down to a grey Subtopia. This invasion is symbolized by the ubiquitous electricity pylons, which, though not displeasing in themselves, march relentlessly from the city power station, 1, clean across the open beauty of the Downs, 2, destroying for ever and from every point of view their principal contribution: wildness, and an untrammelled clarity of form, 3.

3

Sylvia Crowe and Kenneth Browne

The whole Outrage issue of the REVIEW *could be seen as a study in multiple Encroachment—an examination of the disease in its last stages, where the whole structure of the countryside has been broken down by continual and conflicting encroachments to a random heap of elements. As the article below indicates, some basic research is needed into the capabilities of each landscape in Lancelot Brown's sense, to provide rules of thumb about what can go where—where, for example, to put atomic power stations: Cumberland coast, Essex marshes or Caithness. Such a thing has never been done, yet without it the best efforts of landscape architects may be useless—one well-landscaped scheme in the wrong context could still be an Outrage. And although the final rules of thumb might be simple, the research behind them would need to be very complex indeed: English landscape is the world's trickiest jigsaw. Kent, cited below as a civilized intimate landscape, also contains the twin paradoxes of the Isle of Grain where the oil refinery fits an open landscape spendidly without any camouflage at all, and a small scale landscape (the North Downs near Hartley and Fawkham) where even spasmodic and demure suburban building—because of the way one house manages to figure in each vignette of field and copse—destroys rurality over the whole area more effectively than would one big housing estate.*

Encroachment

Crowds, buildings and the gadgets of industrial civilization have brought squalor to many parts of the landscape during the last century. We are inclined to blame overpopulation for the disease in this country, under the plea that so many people and their needs cannot be accommodated in this small island without sacrificing the landscape; a sacrifice which is often too easily accepted in the face of competing demands. Yet, although the problem is made more difficult by congestion, it is not the root cause. The U.S.A. with all their space suffer severely from encroachment, while Denmark, with its acute land problems, has gone a long way towards overcoming it.

What constitutes encroachment? Not necessarily change of use, nor more intensive use, for these are natural to the development of any civilized landscape. It is when the changes are thrust into a landscape with which they are incompatible, and which is not given an opportunity either to absorb them, or to create with them a new pattern that the disruption occurs.

How far they can be absorbed depends partly on their own scale and character and

partly on that of the landscape in which they are sited. For every landscape has its own character which reacts differently to the incursion of crowds and buildings. Holiday-makers and their cars which would destroy the wildness of mountain scenery can be absorbed unnoticed in forest-land. Buildings which would be an intrusion in wide open country may fit quite happily into the civilized, intimate landscape of Kent. A dam which, set amongst great mountains, may emphasize their grandeur, in small-scale mountain scenery may dwarf the hills and dominate them, turning wild mountain scenery into a landscape of civil engineering.

All buildings and all engineering works can make good landscapes, either sub-ordinated to the natural landscape or forming the nucleus of man-made compositions, but some of the more trivial impedimenta are equally disruptive and lack the power to create new landscapes. Although industry is guilty of a litter of poles, wires, shacks and mining erections, yet, ironically, it is the people who come to enjoy the country who are the worst offenders. The selfishly sited house or hotel can ruin miles of wild coast, refreshment shacks cheapen the most famous view-points, while caravans and parked cars bring the worst elements of the town into the best parts of the country.

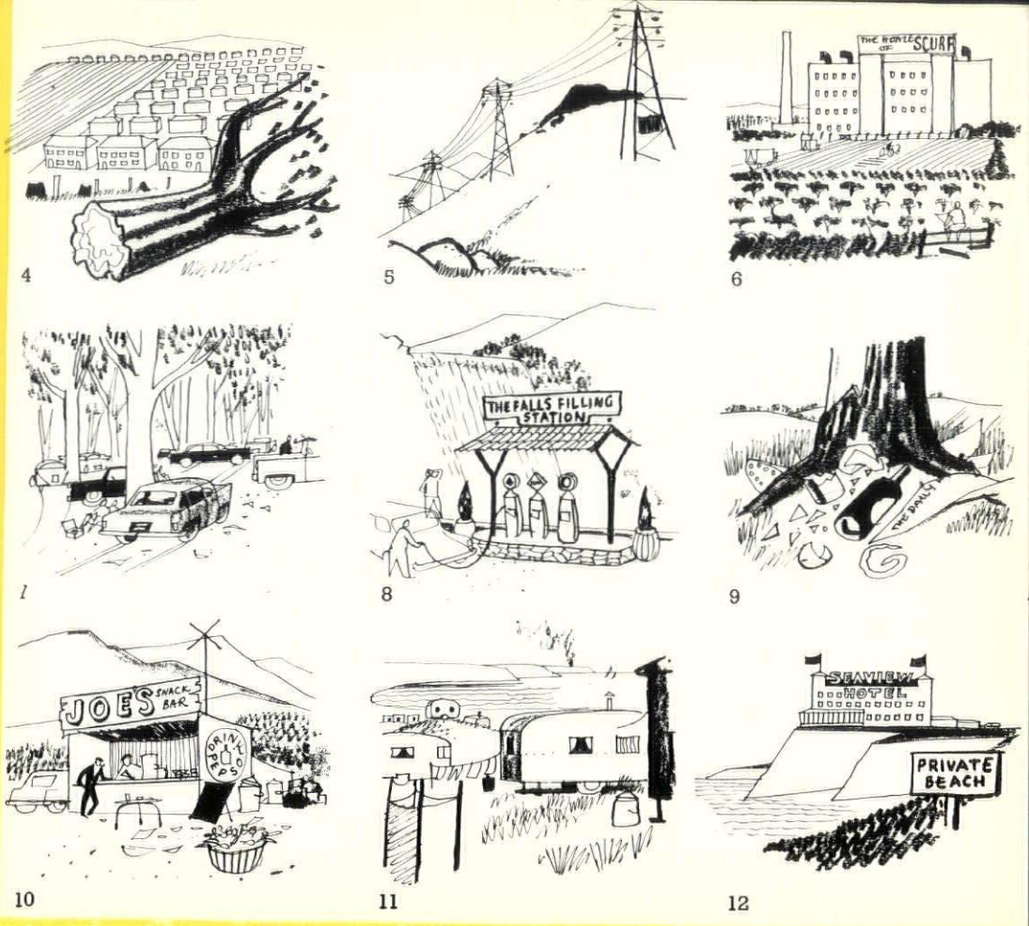
The needs of industry and the desire of the people to frequent the most beautiful parts of the country are facts which must be accepted. How can people be prevented from destroying that which they come to enjoy?

First, unless the nation is prepared to lose, piece by piece, all the finest examples of landscape dominated by nature, certain areas must be regarded as sacrosanct. It is for the nation to decide how much it is prepared to sacrifice in order to keep some part of the landscape free from civilization, and, having decided, to guard it absolutely from the demands both of industry and of the mechanized holiday-maker.

Having secured these reserves it remains to accept and absorb the cars, the crowds, the caravans, the dams and all the other paraphernalia of modern civilization into the remaining landscape, ensuring that they are either sited and designed in sympathy with each particular landscape, or, where their nature makes this impossible, that the landscape is redesigned in sympathy with them.

agents of encroachment

may vary in size from an ice cream carton to a power station. Typical examples are: meanly designed housing estates spreading like locusts over the countryside devouring all trees and open space in their path, 4; electricity pylons which by their association ruin the remoteness of wild landscape, 5; the monster factory or power station dumped down in a man-sized rural landscape where its bulk destroys the scale, 6; sightseers' cars, littered all over a beauty spot, as at Burnham Beeches, with a car to each tree, exhaust fumes for air and a portable radio drowning the birdsong, 7; badly sited rustic petrol stations well placed for their own advertisement, but spoiling the landscape, 8; the litter of broken bottles, paper and orange peel left by the sightseer, 9. Cafés cheapening a fine view, 10; caravans dotted thickly like cream coloured beetles along the seashore, 11, and the blatant hotel selfishly sited to command the finest aspects on the coast and wreck the view for everyone else, 12.

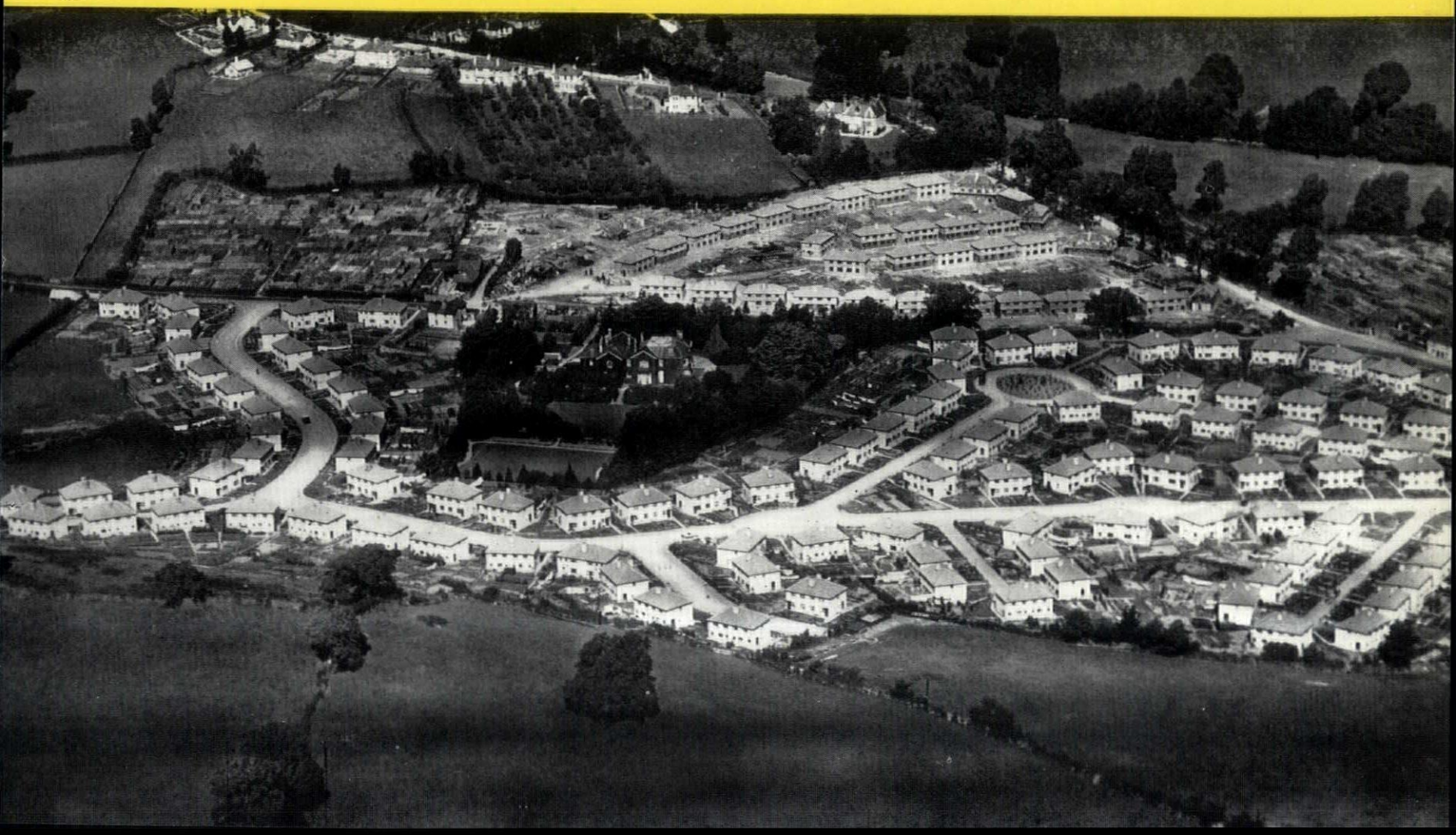


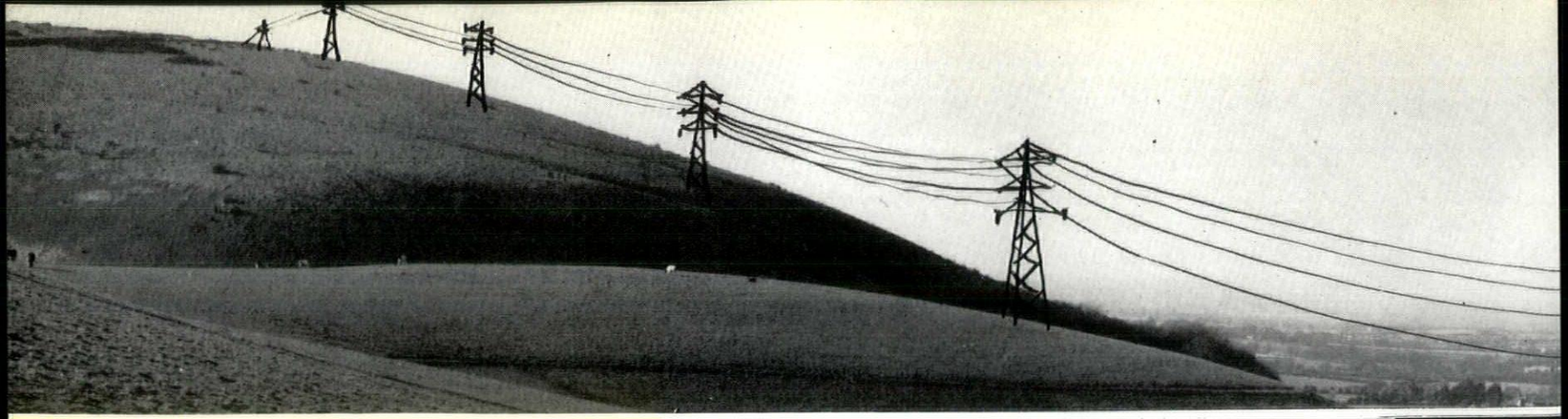
4 5 6 7 8 9 10 11 12

encroachment

. . . in marginal country on the outskirts of our towns the subtopian sprawl of identical semi-dets. fans out, eating up the unresisting farmland and encircling pockets of resistance such as country houses, 13, which are left like isolated museum pieces until eventually squeezed out of existence.

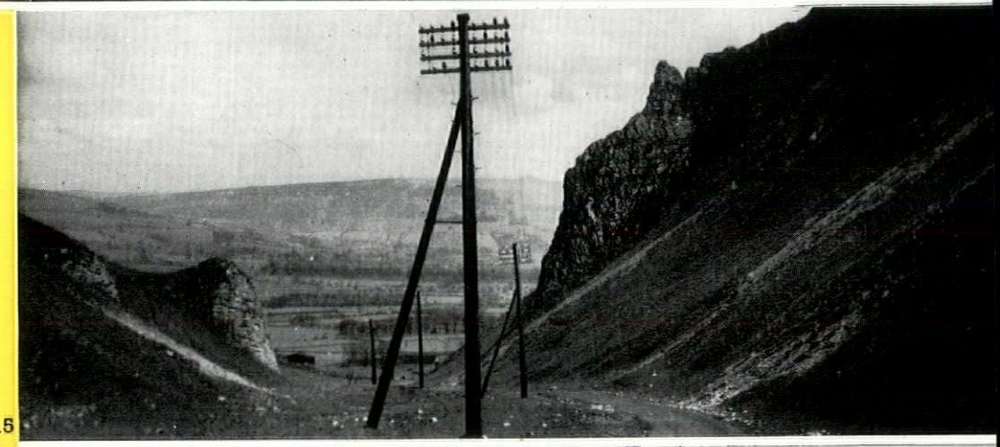
13





14

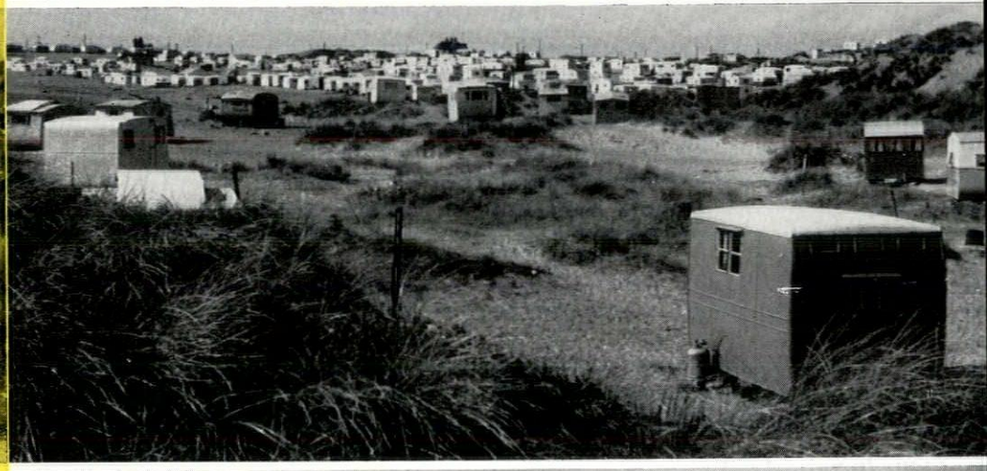
. . . in open country encroachment changes the character completely. There is no cover to afford concealment and every man-made object stands out like a pimple. Windswept, treeless downs or moors cannot be straddled by pylons, 14, or telegraph posts, 15, without losing their essential value: their barren beauty in contrast to the congestion of our towns. The same goes for our coastal scenery where even remote sandhills, 16, are often



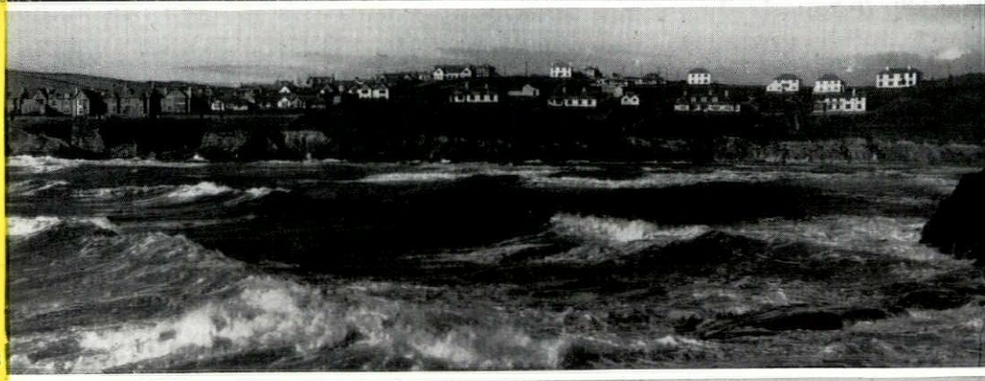
15



16, 17



covered by a rash of caravans, 17, and where headlands are ruined by selfishly sited hotels and houses, 18. In addition the car-parking problem grows more acute all the time, and it is essential that parks for both cars and caravans be planned so that the vehicles are concealed from any distant view, 19, and not permitted to park indiscriminately on open hillsides, 20.



18

19, 20

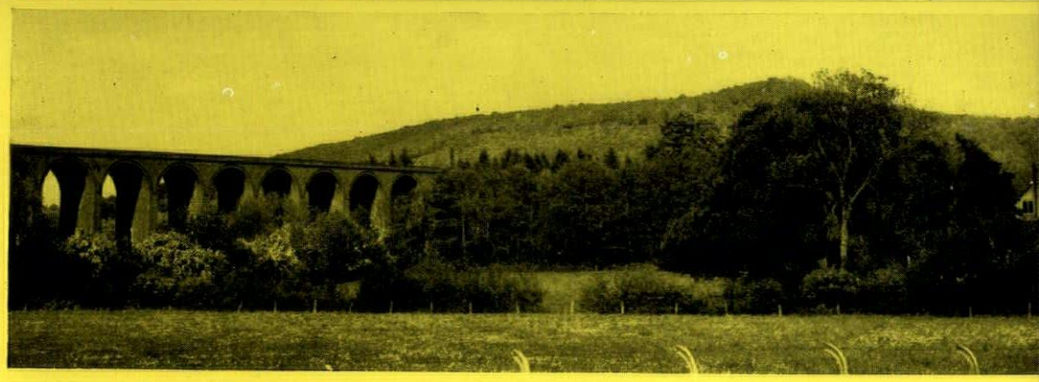






21

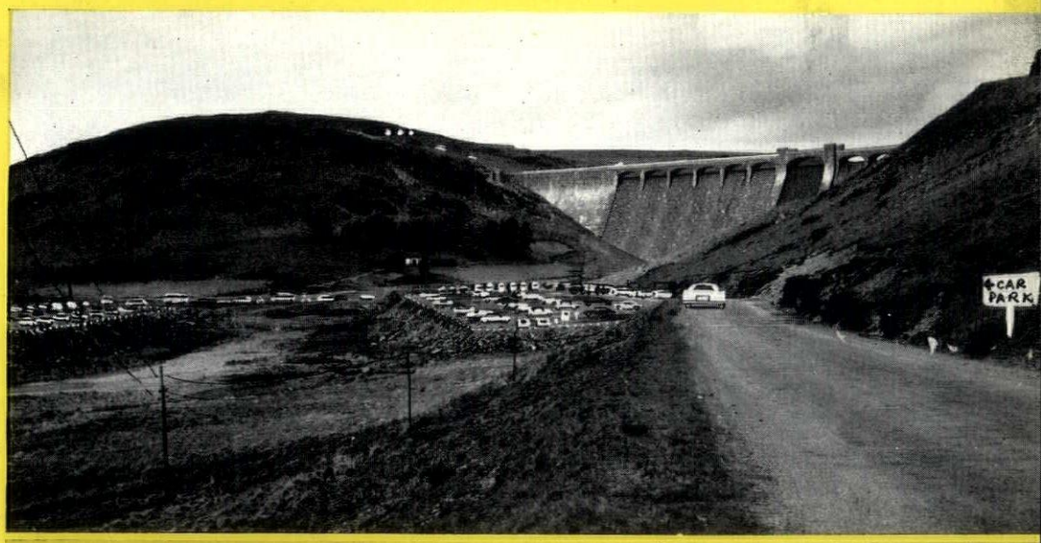
. . . in an intimate landscape of small scale detail, 21, a certain amount of encroachment can be absorbed which would prove fatal to a more open landscape. The strong disruptive pattern of field and copse helps to conceal intrusion and anyway this is a man-made landscape. However, even here much care is needed, for large crudely designed buildings cannot be absorbed and will break up the landscape's scale. Railway viaducts, 22, are often good examples of a happy relationship between a large man-made construction and a small-scale landscape. The construction is large but is lightened in appearance and given movement by the rhythm of arches through which the land-form can be seen.



22

scale

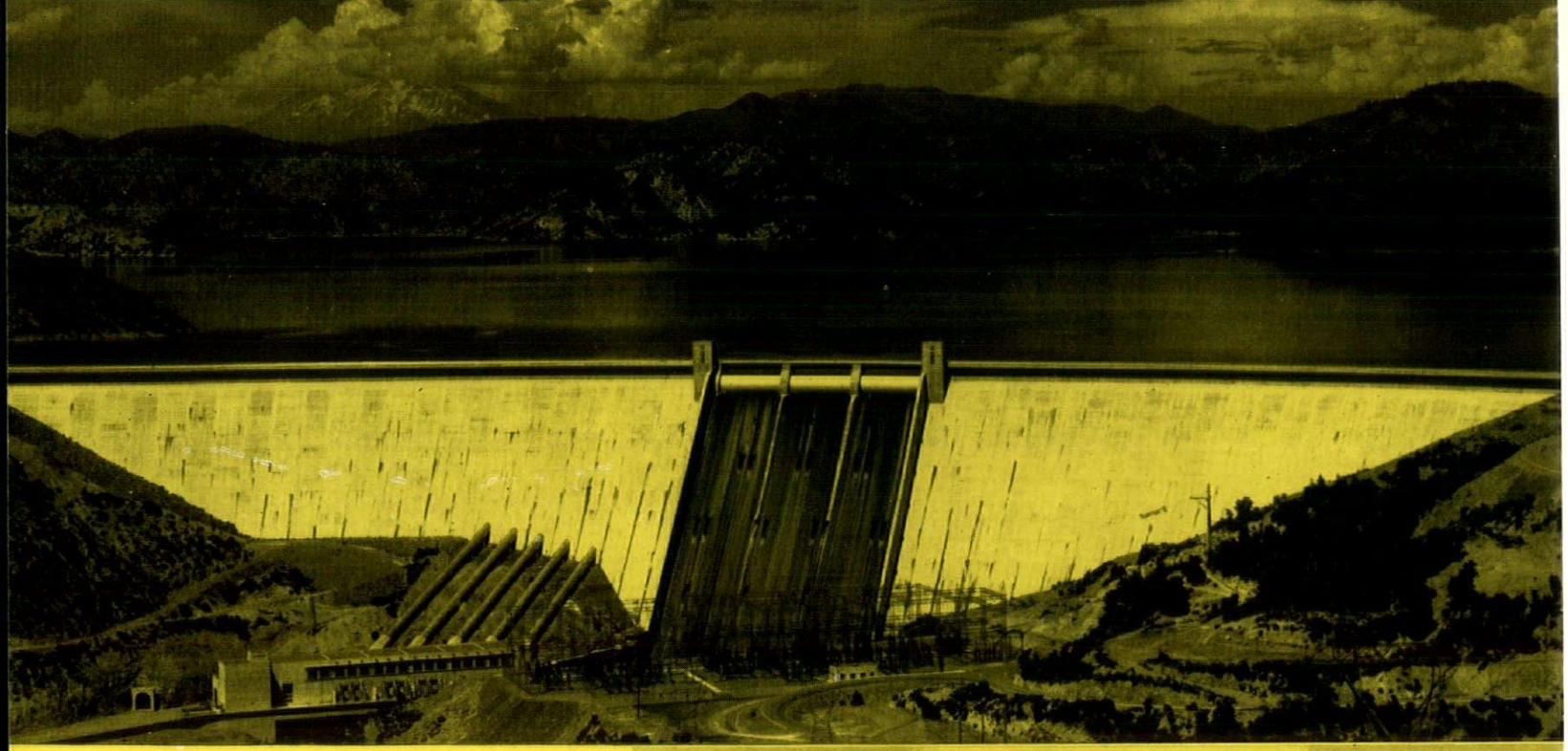
is an aspect of encroachment which needs very careful consideration, for even the mountain landscapes of Britain are comparatively small and the introduction of any huge construction cannot fail to smash the existing scale. It is here that much judgment is necessary, for in some cases, as at Caerwen for example, the forms of the mountains are rather dull and there is a case for a redesigned landscape. Here the scale has been wrecked anyway by the size of the new dam and its feeling of remoteness by the crudely exposed car parks holding hundreds of cars and charabancs, 23. By judicious planting in a natural manner, as opposed to serried coniferous rows, the landscape could be unified and the intrusion of cars and wire concealed, 24. However, it must be emphasized that this only applies to landscape where encroachment is accepted. On the other hand areas of special beauty should not be subjected to change or their value will disappear. The Lake District, for instance, depends for its appeal on a very delicate balance of scale.



23



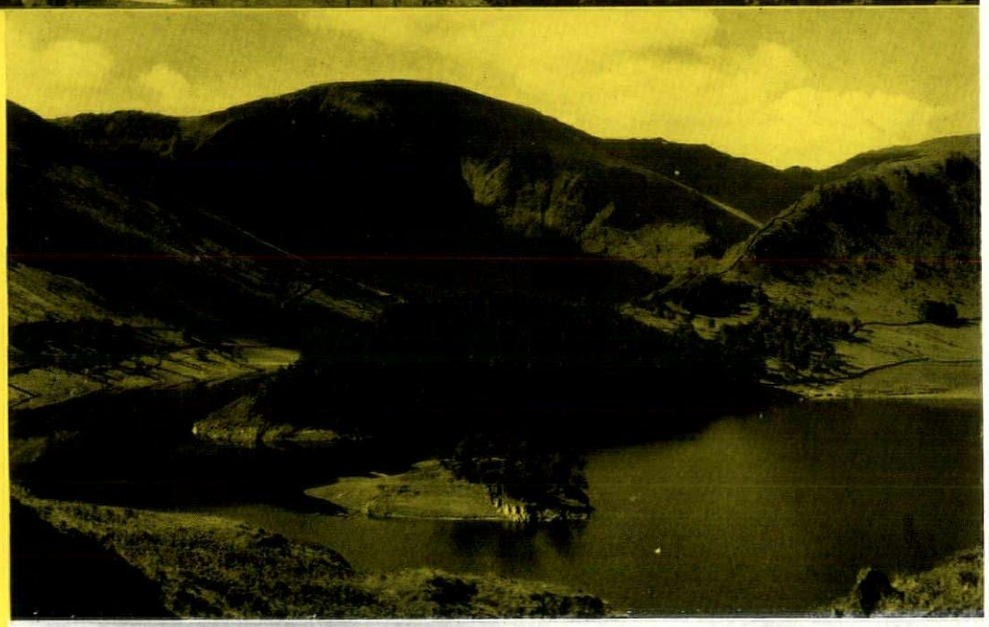
24



25

scale (continued)

Small in area, the Lake District forms a mountain landscape in miniature where the size of a tree or height of a stone wall is all-important in giving scale. A large-scale dam which looks magnificent against the vast arid backcloth of California, 25, where detail is nothing, could not be inserted into the landscape of the English Lakes, 26, without ruining the existing scene entirely. The result, 27, would make nonsense of it all: a Lakeland scene turned into a landscape of engineering.



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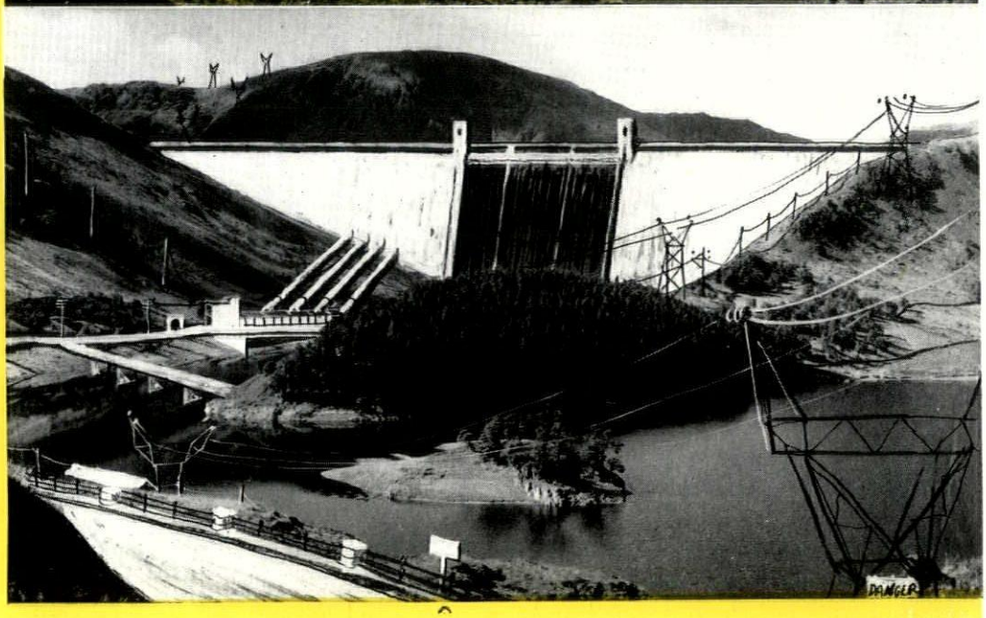

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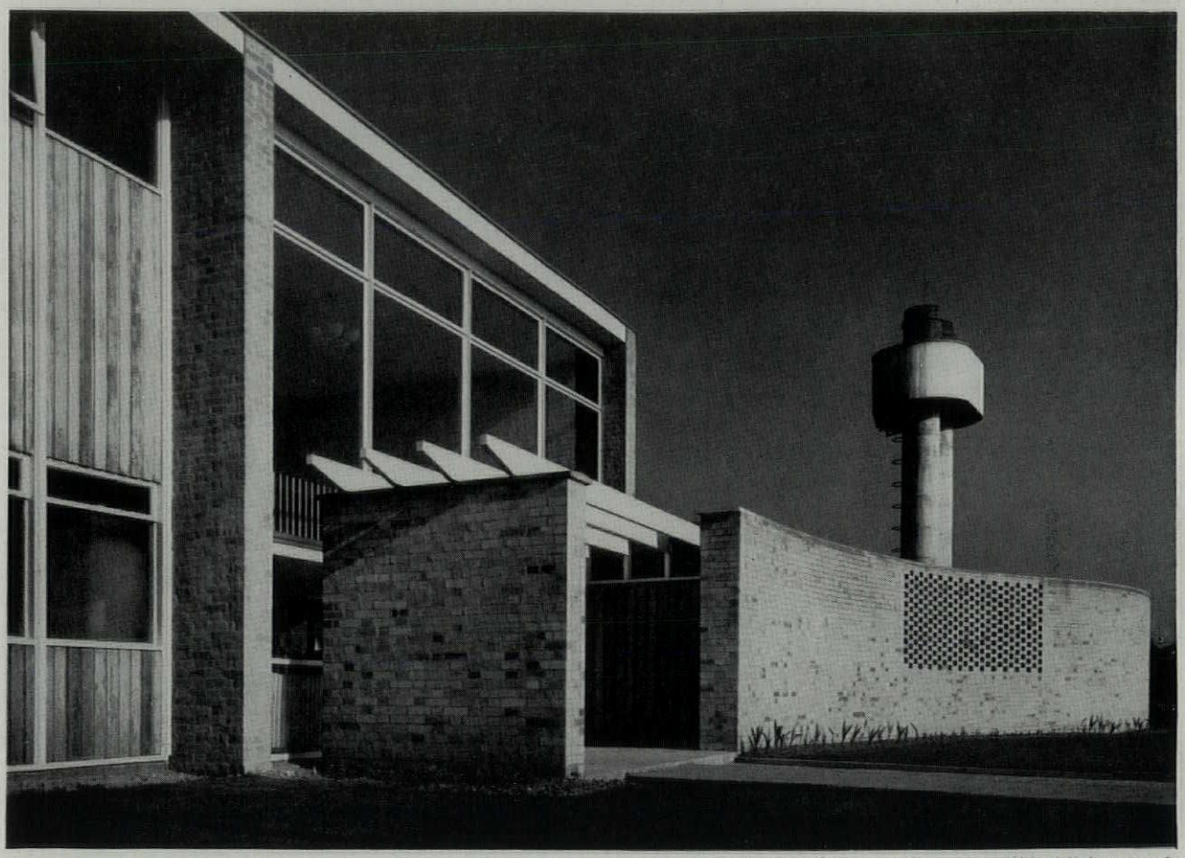


1, *main entrance and screen wall to kitchen yard.*

SCHOOL AT BEWDLEY, WORCS

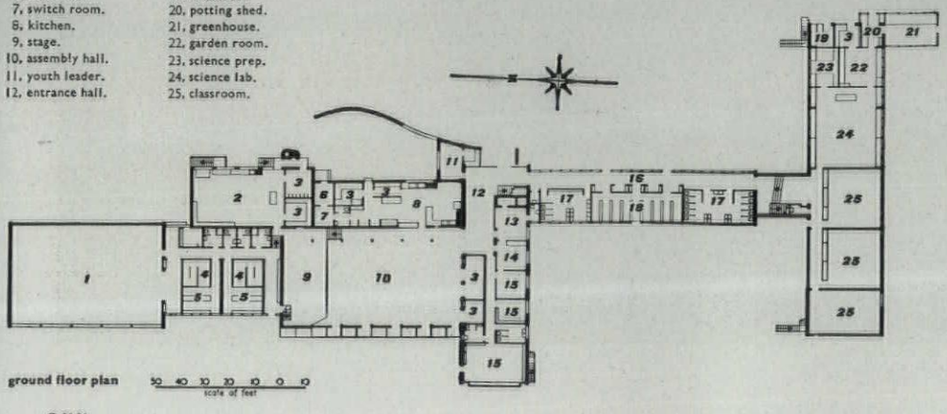
ARCHITECTS, YORKE, ROSENBERG AND MARDALL
ASSISTANT ARCHITECT, J. SOFAER

The site of the school is at Wribbenhall, on the east bank of the Severn between the Bewdley-Stourport road and the river, and commands magnificent views to the west and south. The school was therefore placed on the south-west of the site near the river, but above flood level, allowing the remainder of the site to be developed economically for playing fields. The ground between the school and the river is kept open as a lawn, the school garden being on the south slope to the tributary stream and adjoining the science wing. The paved playground is on the east side of the school. Near the road is a caretaker's cottage.

Almost all teaching rooms and staff rooms face south or west. With the extended type of plan required by this site some circulation space was necessary, but the total area per child has been kept down to about 70 square feet. The boiler house is under the handicraft room with fuel delivery from the yard, and being only partly dug in has natural lighting and ventilation.

The centre block and assembly hall are constructed of timber and the remainder in reinforced concrete and load-bearing brick; a local red-facing brick is used. All roofs are three-layer built-up felt over boarding, laid on hardwood joists. Internal partitions and the inner skin of external walls are 4½-inch brick or hollow pot, plastered or rendered generally, but left fairfaced brickwork where suitable. The gymnasium and assembly hall have hardwood strip floors, the teaching areas asbestos resin tiles, circulation and lavatories coloured concrete tiles, and the entrance 9 inch by 9 inch quarry tiles.

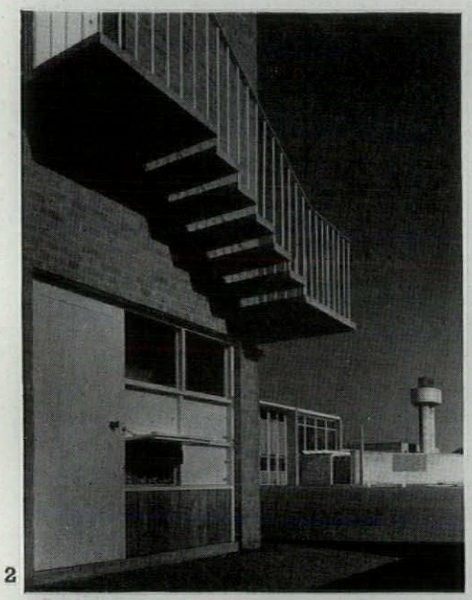
key
1, gymnasium.
2, handicraft.
3, store.
4, showers.
5, changing room.
6, caretaker.
7, switch room.
8, kitchen.
9, stage.
10, assembly hall.
11, youth leader.
12, entrance hall.
13, rest room.
14, secretary.
15, headmaster.
16, cloakroom corridor.
17, lavatories.
18, cloakroom.
19, livestock.
20, potting shed.
21, greenhouse.
22, garden room.
23, science prep.
24, science lab.
25, classroom.



ground floor plan

School at Bewdley

2, outside escape staircase at the east end of the science wing. 3, the similar staircase at the west end of this wing, from the north-west. 4, prefabricated mural in the assembly hall, designed by Michael Rothenstein. 5, the east side of the school from the north, and 6, the west (river) side from the north-west: from left to right the taller blocks are gymnasium, assembly hall, classroom block and science wings.



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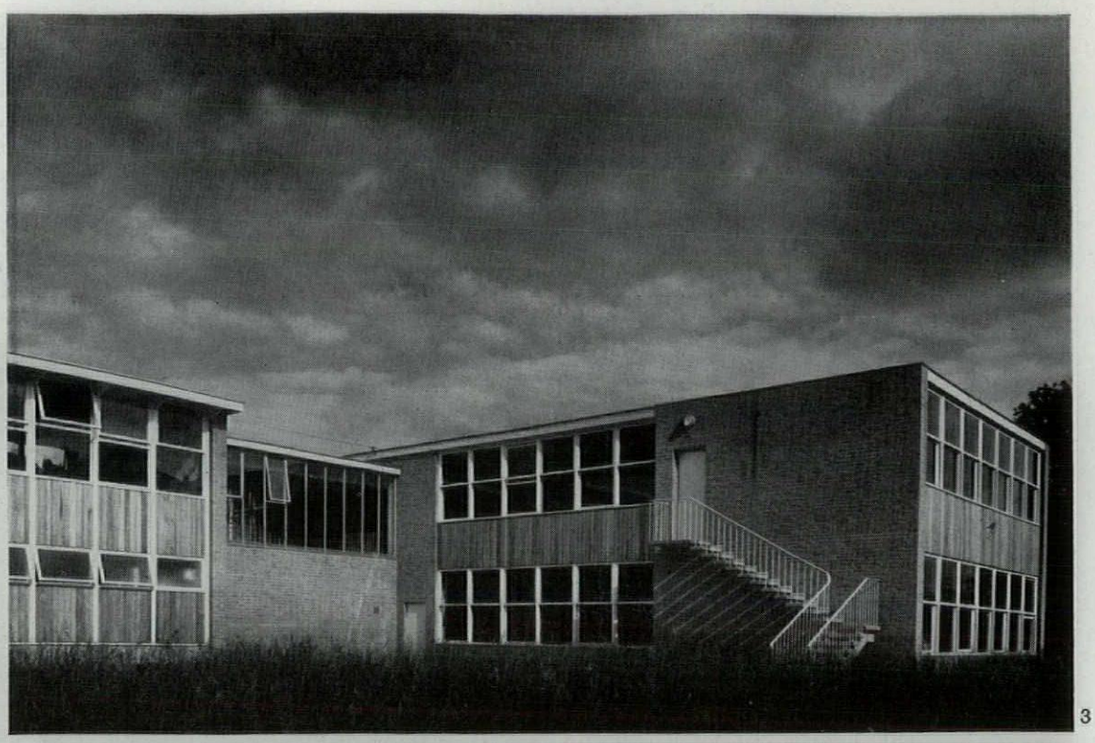

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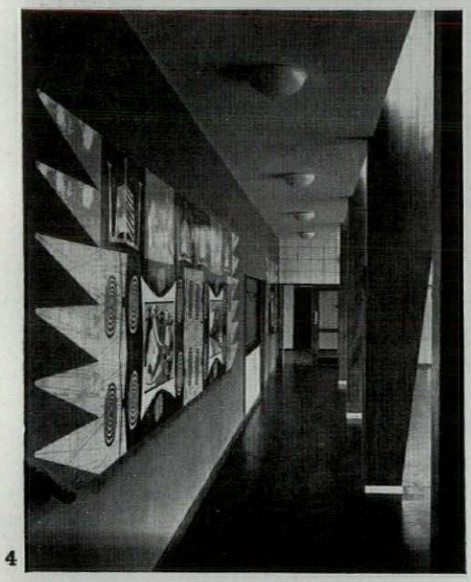

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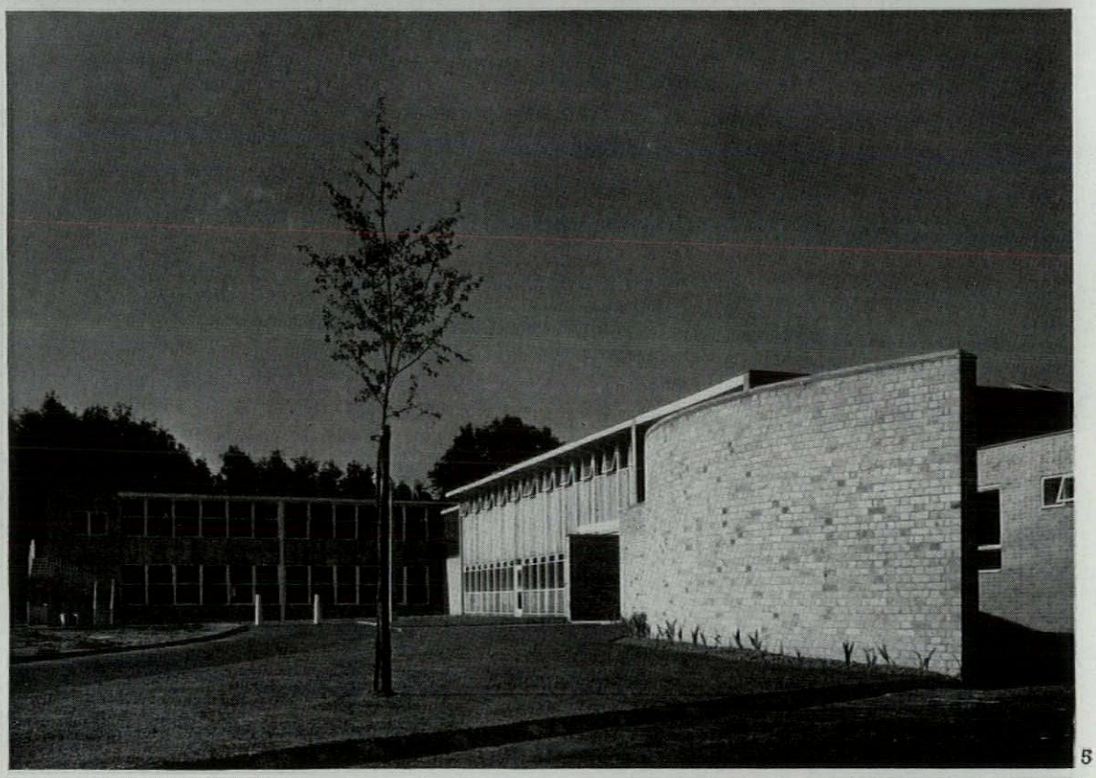

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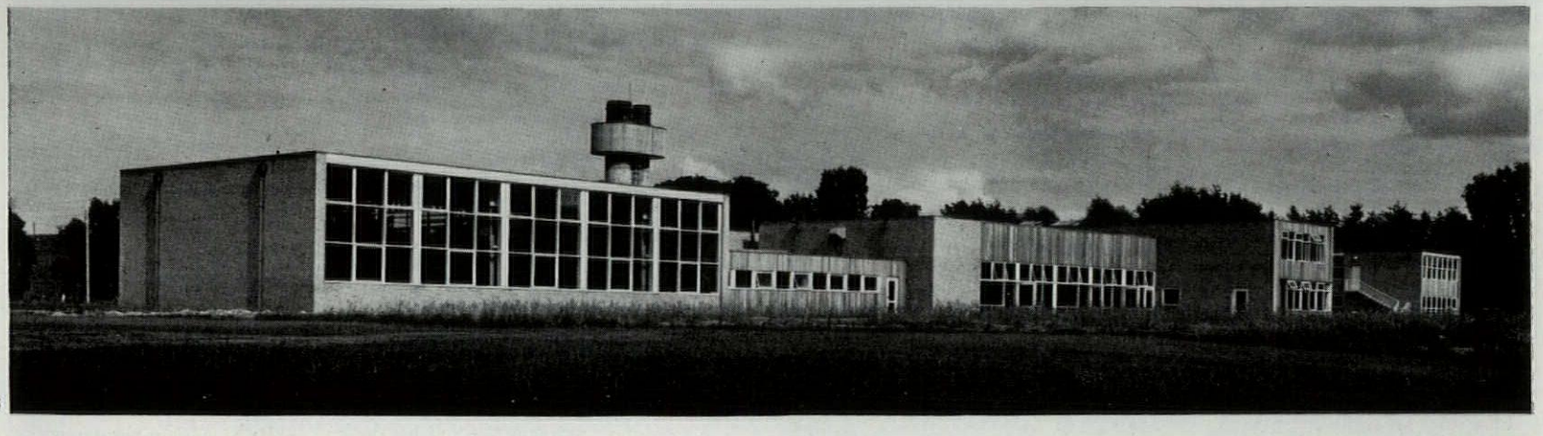


6

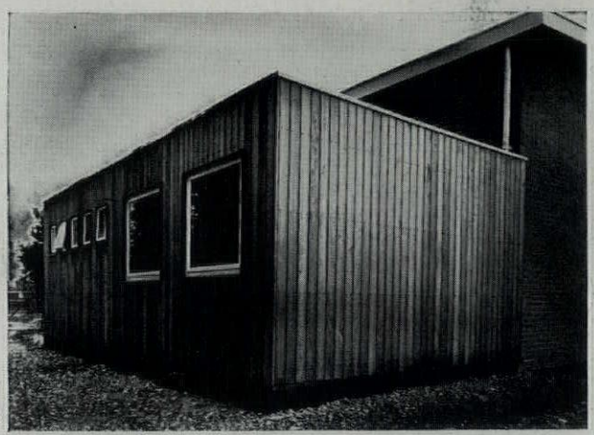


7

CHURCH HALL AT CHESSINGTON, SURREY

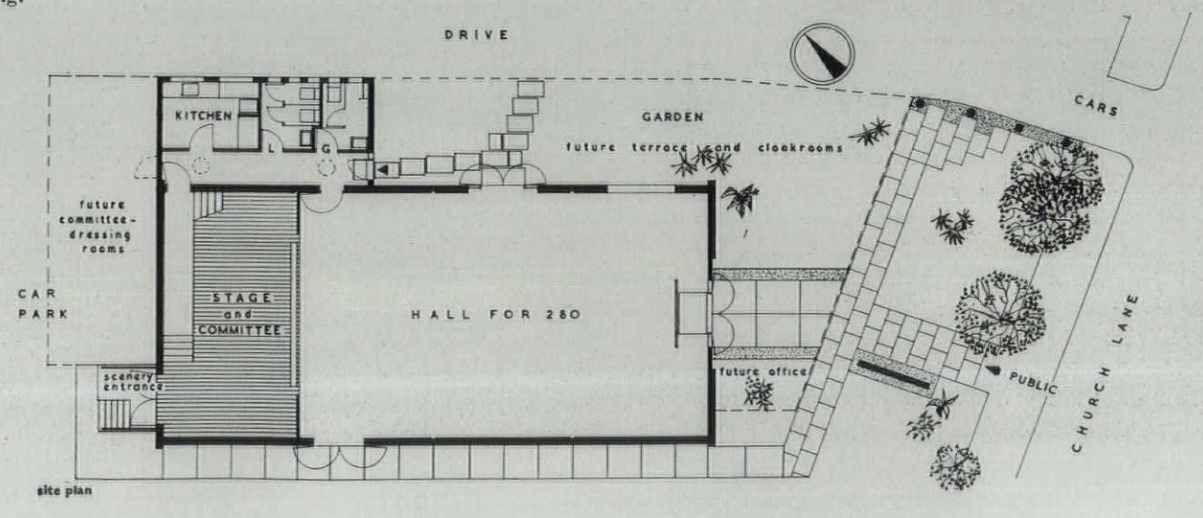
ARCHITECTS, KENNETH WOOD in association with HENRY BLYTH

The hall, in Church Lane, Chessington, serves a parish south of Kingston-on-Thames which has become an outer London suburb since the war. It was required to seat 250 to 300 and be high enough to be used for indoor games. It contains a stage, kitchen and lavatories, with a committee room and new cloakrooms as proposed extensions: when these are carried out cedar boarding at present cladding the kitchen will be partially removed and re-used to conceal the junction between old and new work. The construction is timber framed; brick load-bearing end walls and light prefabricated timber roof units supported on three composite hardwood frames 16 feet apart. The foundation is a reinforced concrete perimeter beam, as there was a dewpond on the site. The hall is finished in fairfaced brick, the kitchens and lavatories with cedar boarding on battens. The roof is asbestos board and three-ply bituminous felt with green and white spar surfacing: the floors are in-situ thermoplastic. The hall has gas radiant heaters suspended from the ceiling, with stove-enamelled plates above to prevent staining.

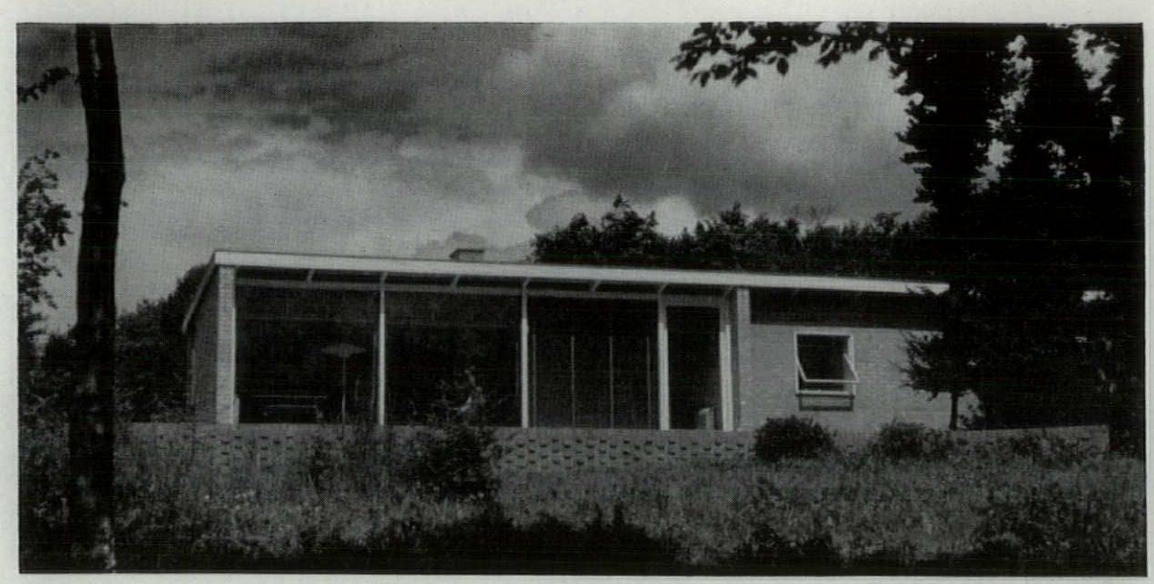


8

7, the hall from the east. The porch is a timber framed canopy carried on 2 inch mild steel tubular supports. 8, the kitchen and lavatory extension from the north.



site plan

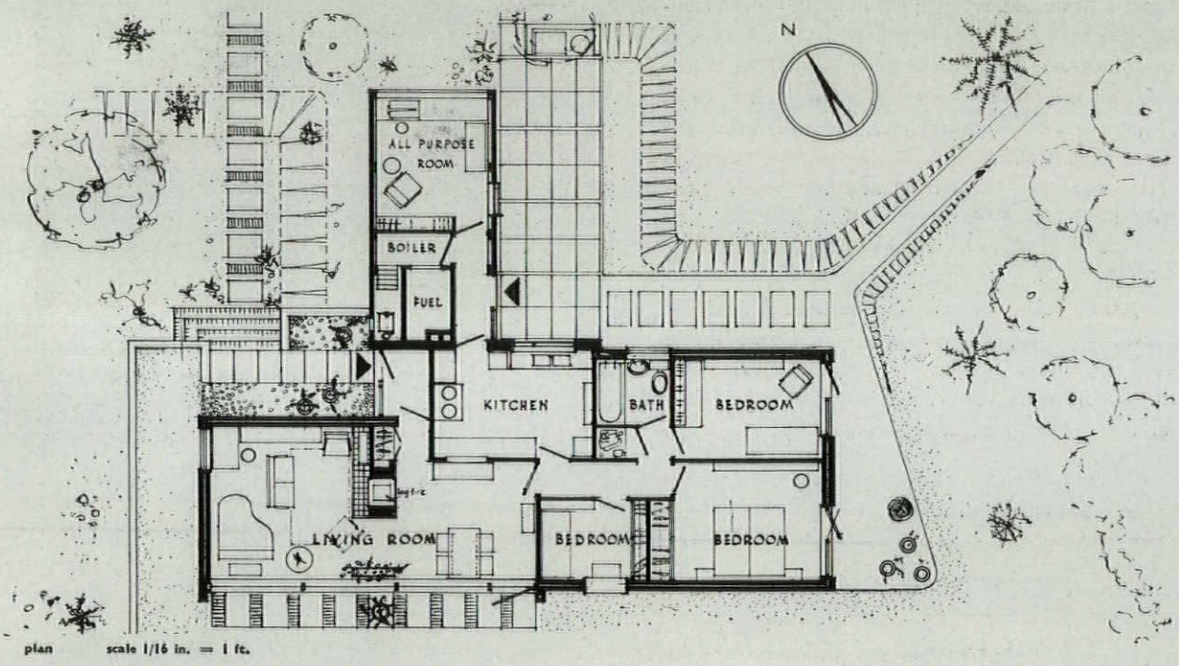


9, *the house from the south west.*

HOUSE AT TEWIN, HERTS

ARCHITECT, VERNON H. LEE

The house faces south-west on the highest point of a sloping site in mid-Hertfordshire woodland east of Welwyn. The construction is load-bearing brick, with exposed timber roof-joists at 4-foot centres—a dimension which has controlled the lengths of the rooms—supporting asbestos roof decking units. The external finish is brick and panels of 2½-inch cedar boarding; internally the brick walls are plastered with cedar boarding in the living room and white glazed tiles on bathroom and kitchen walls. The floor is a concrete slab with damp-proof membrane laid on hardcore.



plan scale 1/16 in. = 1 ft.

BOOKS

WHO DID WHAT—CLASSIC

A BIOGRAPHICAL DICTIONARY OF ENGLISH ARCHITECTS 1660–1840. *By H. M. Colvin. John Murray.* 63*s*.

So here it is. For some years everyone concerned with the history of English architecture between the Restoration and the Victorian Age has been aware that Mr. Colvin was working on it. Indeed, most writers on the subject have sought Mr. Colvin's assistance in settling questions of attribution more than once, and Mr. Summerson called him 'the lexicographer of English architects,' in a book published two or three years ago. Yet it would certainly be wrong to include *A Biographical Dictionary of English Architects*, 1660–1840, in the category of long-awaited works: for one thing, Mr. Colvin's generosity with his discoveries has been such that no-one in need of information already possessed by him has had to wait more than a post or two; for another, seven years (or whatever the precise period may have been) is in all conscience a short enough time for one scholar to compile, largely from manuscript sources, a biographical dictionary of over 800 pages and 1,726 entries. Especially when one considers that he was engaged in teaching medieval history and writing a standard work on one of the ecclesiastical orders at the same time.

It is well known—or notorious, if you prefer—that in England the study of the visual arts has been more often the province of the connoisseur than of the historian. Why this should be so is debatable. Some have held it to be due to English empiricism and suspicion of general ideas, though it would seem equally reasonable to put it down to the historical accident of our long tradition of collecting, since the market value of portable works of art is to so great a degree dependent on the connoisseur's judgments as to aesthetic value and (above all) authorship. Whatever the cause of this emphasis on connoisseurship, a result has been that in England architecture has, on the whole, been subjected to a rather less exact scholarship than the other arts. The financial incentive to connoisseurship is lacking in the case of architecture: no-one pays any less for a house because Mr. Hussey has shown that it was not designed by Vanbrugh, or any more because Professor Richardson has attributed it to Henry Holland. Consequently, the study of English architecture has emerged from what one might call its pre-Morellian phase only very recently. Even the editors of the Wren Society volumes were somewhat over-enthusiastic in attributing buildings to the master, and though Mr. Geoffrey Webb demonstrated, in 1927, the absurdity of attributing to John Webb all mid-seventeenth century buildings that could not be attributed to Inigo Jones, it took Mr. Colvin to produce the correct alternative for some of them just twenty-five years later.

1954, with the publication of Mr. Summerson's volume in the Pelican History of Art and now of Mr. Colvin's *Dictionary*, is likely to be remembered by the student of English architecture as something of an *annus mirabilis*. Mr. Colvin's biographies of architects go as far beyond those in the Architectural Publication Society's *Dictionary of Architecture*—splendid work though that is, and still to be treasured and consulted for information on scores of subjects that do not come within Mr. Colvin's purview—as Mr. Summerson's concept of historical development goes beyond Sir Reginald Blomfield's. Moreover, Mr. Colvin, as those who have read his articles in the REVIEW know, is far from being a mere cataloguer of facts. Many of the architects of whom he treats were minor men indeed. Nevertheless, they had their place in the scheme of things, and a most valuable part of Mr. Colvin's book is the two introductory chapters in which, under the headings of 'The Building Trades' and 'The Architectural Profession' he explains what that scheme of things was. At a time when the architectural profession, in common with other professions, is in some danger of becoming solidified within its own secretions of rules and codes of practice, this introduction, showing as it does how many kinds of men have had a right to the title of architect, should be compulsory reading in all the schools. My only complaint is that Mr. Colvin might have told us more about the institution and development of the practice of paying architects on a percentage basis.

A dictionary's usefulness can be increased in various ways. The usefulness of Mr. Colvin's is much increased by an appendix listing the public offices held by architects, in the King's Works and elsewhere, and by indices of persons—mostly clients, that is—and of places. It is to be hoped that future editions will indicate more often when a building has been destroyed; but it is up to those who already owe Mr. Colvin so much to make it possible for them to do so.

Marcus Whiffen

WHO DID WHAT—GOTHIC

ENGLISH MEDIAEVAL ARCHITECTS: A Biographical Dictionary down to 1550. *By John Harvey, Batsford.* 75*s*.

Mr. Harvey's dictionary deserves respect as well as gratitude and is a worthy companion to Mr. Colvin's. We are lucky to have both; no other country can boast of as much. Thieme-Becker is by them made redundant for English architecture—at least for the periods covered. Unfortunately a gap remains between Mr. Harvey's end, about 1550 and Mr. Colvin's beginning, about 1660.

Mr. Colvin's must have been a happier task, Mr. Harvey's strikes the user as thankless over many stretches. For Mr. Colvin's architects or masons are for the most part persons whose character and style one can follow and even appreciate. Mr. Harvey's are bound to remain shadowy in forty-nine cases out of fifty. That is through no fault of his. He made up his mind to undertake the formidable task of collecting all the evidence he could on all masons, carpenters and the like who appear in English mediaeval documents. He has patiently spent many years on this task, and we who are going to use his results ought not to carp.

Yet one problem must be touched upon, even in a short review. Mr. Harvey starts his Preface thus:—

> 'The study of mediaeval architecture in England has been greatly handicapped by the gratuitious assumption that it was anonymous, and that the master craftsmen who designed our great buildings were not architects, but worked as members of a group inspired by a collective tradition as dominating as the instinct of the hive-bee. Few fallacies at once so ridiculous and so firmly held can have beset the course of serious historical research. Historians of architecture working in Germany, France, Spain and other countries have suffered under no such artificial handicap, and it is due largely to the impact of discoveries made abroad that this extraordinary notion has at last been relegated to an occasional appearance in a correspondence column . . .'

Being myself one of these who believe in the essential anonymity of mediaeval architecture, I would comment on these sentences of Mr. Harvey's as follows. Of course it is perfectly true that the designer of a mediaeval building was not a hive-bee. No-one would deny that the designers of Chartres in 1194, of Wells about 1185, of Lincoln in 1192, were men of personal genius and if, as in the case of Lincoln, we know their names we are grateful to fate, and we apologize to Mr. Harvey if in the treatment of such buildings they have been left unnamed. On the other hand it is equally true that collectivism was a stronger tie in the Middle Ages than in the Renaissance. For instance, who would feel confident to say whether the change from the transepts to the nave at Wells or from the transepts to the nave at Lincoln was within the capacity of one man or not? Individual character was not as pronounced before the late Middle Ages as after, and where the designer's individual character does not come to life, we need not be more interested in his name than was his own period. It is after all eminently telling that the twelfth and thirteenth centuries, and even the fourteenth, cared so little for commemorating architects' names. Mr. Harvey says that in France and Germany architectural historians take more notice of names. But that is not true. Lasteyrie, Dehio, Focillon and others write history of style, even if they mention names. And it is right and proper that mediaeval architectural history in England should also remain history of style rather than become biographical

history—until we reach 1500. Then, thanks first and foremost to Mr. Harvey, names really begin to mean something. So anonymity in the Middle Ages is not absence of designers, but either absence of sufficient information for designers to come to life as personalities or absence of a sufficient demonstration of personality to make names essential for an understanding of style.

I wanted to say this to clarify my position, not to detract from Mr. Harvey's achievement. He is almost unique today in England for his close study of building documents, and this monumental outcome of his study is something he can be unqualifiedly proud of.

Nikolaus Pevsner

Shorter Notices

MICHAEL RYSBRACK, SCULPTOR. *By M. I. Webb. Country Life.* 42*s*.

To Pugin the eighteenth century monuments of Westminster Abbey were 'incongruous and detestable,' to Ruskin 'ignoble and incoherent,' to Morris 'monstrous and ghastly.' Mrs. Webb's book on Rysbrack is a sober book; she does not say in so many words—as well she might have done—that Rysbrack's portraits are as good as the best done by any European sculptor of his time. Her book joins those by Mrs. Esdaile on Roubiliac (1926), by H. Faber on Cibber (1926), by W. G. Constable on Flaxman (1927) and by C. F. Bell on Banks (1938), and it is one of the best of them. All these books belong to the last thirty years. Such is the change of taste, first in architecture, then in sculpture. In architecture, the outcome of this change has been a Georgian Revival amongst the conventional-minded. But in sculpture even the most daring clients of Lutyens would not have favoured obelisks, Roman costume and Fames with a trumpet. Why is that so? Or, in other words, why was English sculpture in the eighteenth century so Baroque, English architecture so Palladian? Is it only because the one was practised by foreigners, the other by the British-born? That alone will not suffice; for not only can Mrs. Webb detect the contrast of classical and baroque within sculpture as well, but sculptors such as Rysbrack worked quite extensively to the designs of British architects. That is for the architectural reader perhaps the most interesting point in Mrs. Webb's book. Gibbs designed funeral monuments, Kent did, Robert Adam did. Rysbrack's superb rhetoric, a rhetoric never abandoning restraint, fitted in with them all.

Mrs. Webb points out convincingly (and illustrates) the Belgian sources of Rysbrack's style and iconography—he was born at Antwerp and came to London at the age of twenty-six. It is all the more admirable how he succeeded in merging them with the *genius loci* of Georgian England. Mrs. Webb's book is of a high standard of scholarship, it is well illustrated by 49 plates, and she has added to it a catalogue of more than three hundred works. It must have been a formidable task to compile it from such diffuse and scattered evidence.

N. P.

WORLD GEO-GRAPHIC ATLAS. *The Container Corporation of America: Aspen, Colorado.*

It occasionally happens that a rich commercial company decides to step outside its usual field for reasons of prestige or of sheer interest in an idea, and when it does so no pains are spared to implement the idea as perfectly as possible. This most handsomely produced atlas is the result of years of study and research on the part of its editor and designer, Herbert Bayer. Though it has been privately printed, a small edition is to be sold through the Container Corporation at a price not yet determined.

It runs to 280 pages, size 15½ inches by 11 inches, printed in many colours, plus another 90 pages of gazetteer. Being intended for American use, it gives over 100 of the 280 pages to the United States, with a map for each State and, facing it, a page of diagrams, text and pictorial statistics, packed with information about produce, fauna and the like. The maps of other countries are similarly supplemented, the only defect of the arrangements being that these information pages are so complicated in their layout that they are by no means easy to refer to. In other respects the volume is a model of its kind in its printing and typography and in the thoroughness with which every detail has been studied. The preliminary sections, dealing with the geology, climate, population and economics of the world are especially praiseworthy.

J.M.R.

CASTLES: AN INTRODUCTION TO THE CASTLES OF ENGLAND AND WALES. *By B. H. St. J. O'Neil. Her Majesty's Stationery Office. Price* 3*s*. 6*d*.

It is to be hoped that this book will become widely known—which is not always the case with Stationery Office publications. As Mr. O'Neil says: 'Much . . . is attempted in special guidebooks at particular monuments, especially those in charge of the Ministry of Works. But too often the visitor may miss certain points for lack of a general understanding of the purposes of castles. It is with this in mind that these pages have been written.' They amply fulfil their purpose. Much information is concentrated in 24 pages, and there are in addition 12 plates, all of familiar buildings, and 28 plans. The text is clear and competent, though it is a pity that it limits itself to England and Wales. Foreign relations and dependences are not quite given their due. To page 10: Has not the keep at Bamburgh an original groundfloor entrance, and the keep at Edlingham a vaulted hall of c.1350? 3s. 6d. is a remarkably low price for so valuable a book.

N.P.

TOWNSCAPE

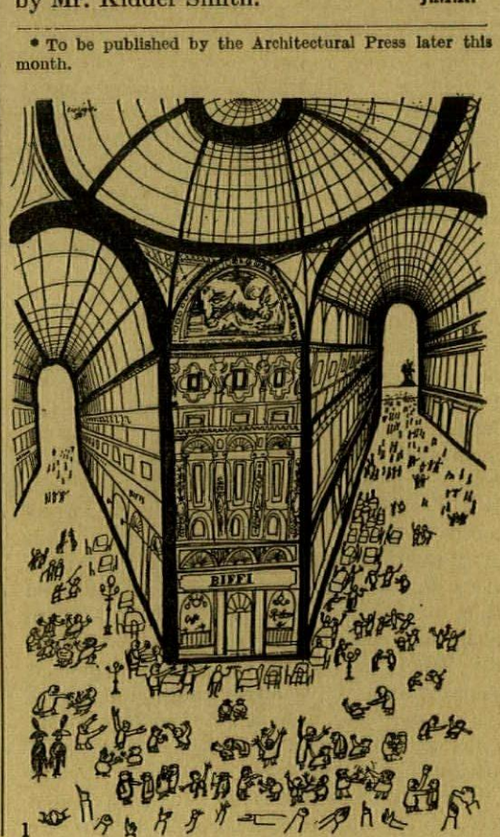
THE GALLERIA

The shopping arcade has been regarded, until lately, simply as a charming device that we have inherited from the nineteenth century, but now it is taken more seriously as a subject for study by city planners, being closely related to the pedestrian streets and the shopping precincts that the growing domination of ordinary streets by fast-moving traffic necessitates in our towns. Although the arcade is by no means foreign to England, it is in Italy that it can be studied most profitably, for there it has been developed on the largest scale and has become a focus of social life in many towns. In his forthcoming book, *Italy Builds**, Mr. Kidder Smith gives a chapter to arcades and galleries and picks out the Galleria of Victor Emmanuel II in Milan as 'one of the finest town-planning and architectural creations of the nineteenth century.' A latin cross in plan with arms 645 feet by 345 feet, each 47 feet wide, it links the Piazza del Duomo with the square facing La Scala Opera House. It was designed in 1867 by Giuseppe Mengoni who ten years afterwards fell to his death from the portal which faces the Piazza del Duomo.

Mr. Kidder Smith refers to its origins as being clearly traceable to the Royal Opera (1790) and Burlington (1819) Arcades in London, to Fontaine's Galerie d'Orléans in Paris and to the still-standing Galleria De Cristoforis in Milan, but, he says, 'Giuseppe Mengoni . . . gave it a breadth, a space, a nobleness never achieved by any predecessor.' Ever since it was finished, Mr. Kidder Smith says, the Galleria of Victor Emmanuel II has been 'the natural spontaneous core of Milan, the meeting place for friends, the "business house" for commerce, the parade ground for the fashionable. It is London's Bond Street, Paris' cafés, New York's Fifth Avenue during Easter Parade, Amsterdam's Bourse—a formidable combination —every afternoon.' Here it is as depicted by Saul Steinberg, 1. On the frontispiece of this issue it can be seen as photographed by Mr. Kidder Smith.

J.M.R.

* To be published by the Architectural Press later this month.



1

OUTRAGE

BRIGHTON HOUSING

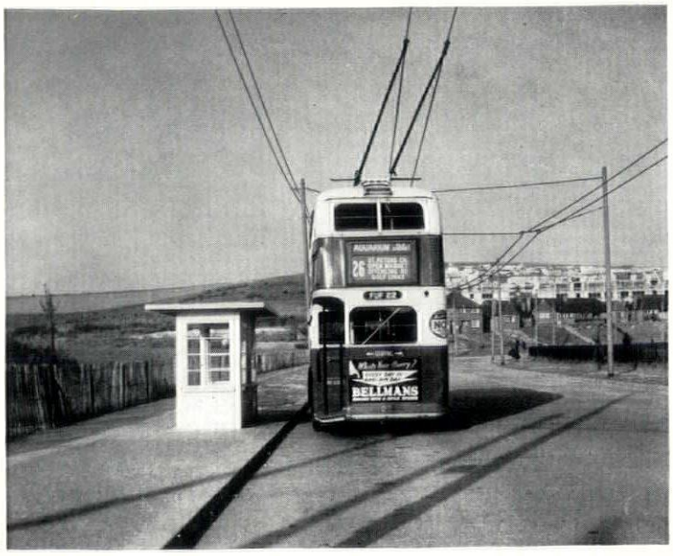
Our post-war hells have more good intentions to their name than any of the earlier hells we have created. One after another can be seen to be the result of a chain of well-intentioned planning decisions which, although admirable when considered separately and out of context, became disastrous when applied by rule and without co-ordination—and, most of all, when applied by one authority without looking to see what the others were doing.

These nine views from Outer Brighton certainly qualify to be called a visual hell; doubly so for having defaced one of the noblest and most monumental sections of the South Downs. A spatter of houses, without form and without focus, tied by their trolley-bus umbilical cords, they were never intended to have a separate identity themselves and they have obliterated the original rural identity: one more fragment of the English countryside lost to Subtopia.

So much for that—the photographs speak for themselves anyway.* But how has this come about? Apparently entirely through a chain of good intentions.

The borough of Brighton includes a lot of downland—nearly up to Pyecombe in the north, as far as Saltdean in the east, altogether five miles deep by seven miles wide, eaten into by careless pre-war building, but not beyond repair. In the post-war planning it seems that the most up-to-date practice was followed: 'green belts' and 'satellite towns' were created—but in miniature, and all within the borough boundary; and apparently without a look outside to see how absurd the effects were in a downland or Sussex sense. So now Brighton has its centre with the familiar gaps, its green belt, rather tatty, very narrow, at about the radius of Roedean, and these extraordinary agglomerations out in the open country.

The photographs show two of them—Patcham and Woodingdean. Patcham, 1–3, was open downland before the war,



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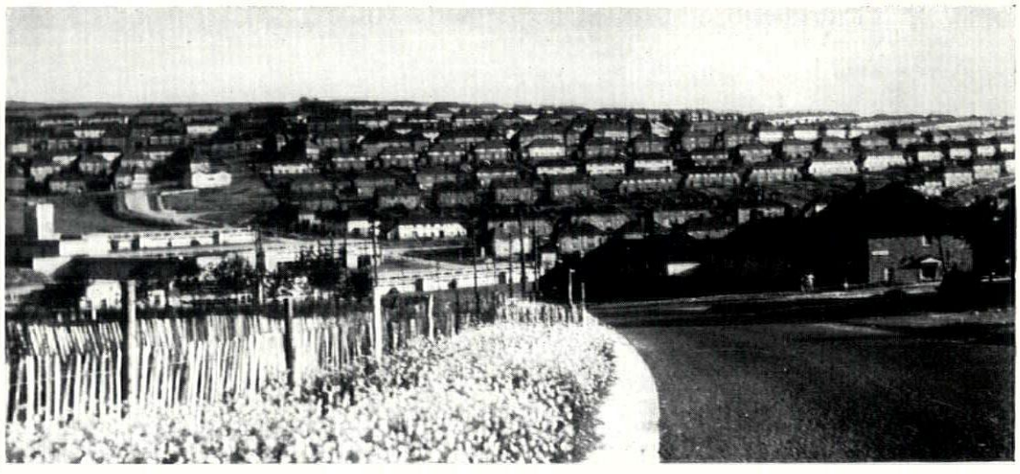
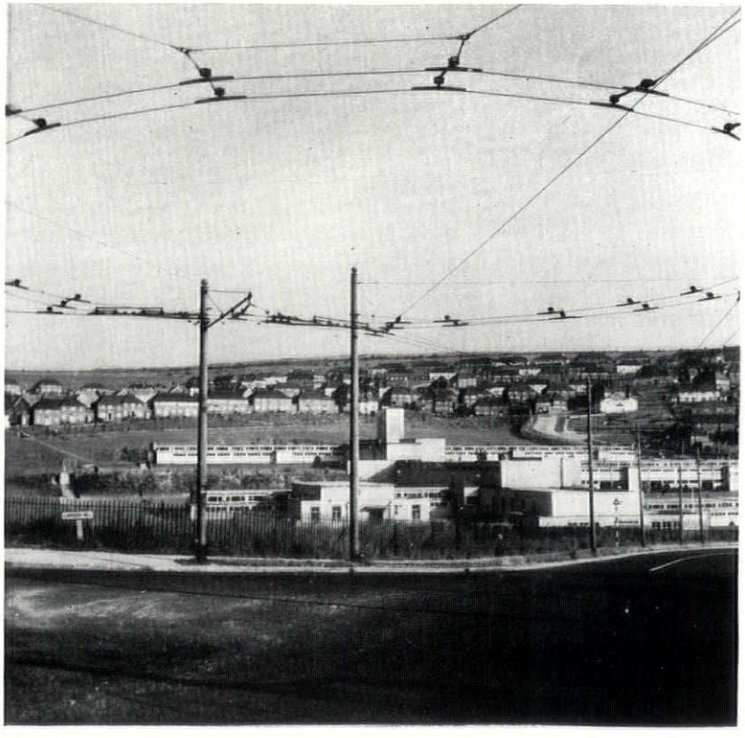


2

1-3, housing and associated services on the Corporation estate at Patcham, north of Brighton. 4, newly cut roads for an extension on the crest of the downs to housing at Woodingdean. 5, land for sale at Saltdean which, if built on, will spread housing up to the skyline.



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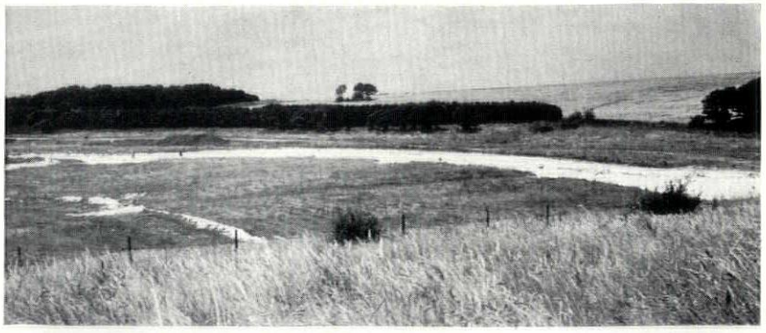
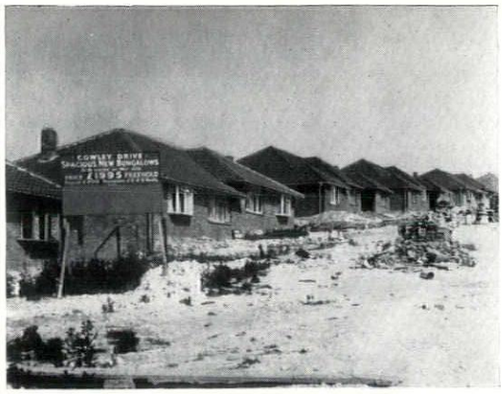


4



5

* If the prefabs in photographs 8 and 9 are objected to as unfair may it be said that *when* they are removed—and there is no sign of this at the moment—the services and roads will remain. The temptation to erect houses on the same site and to the same layout will then almost certainly prove to be too strong.



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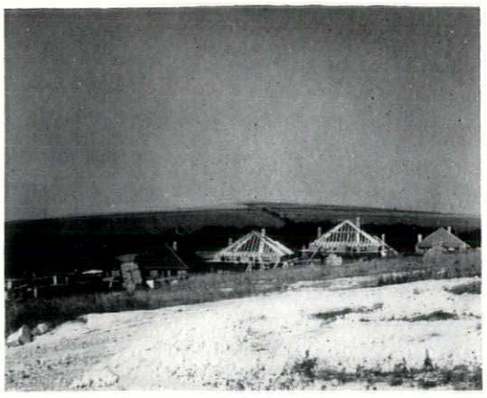

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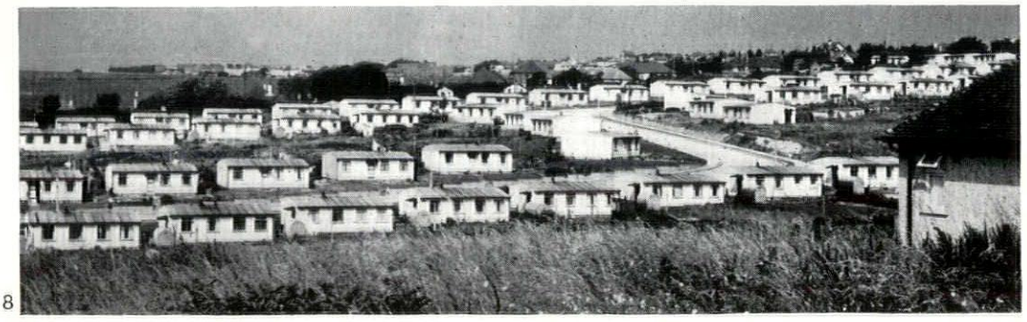


8



9

6 and 7, private housing on the edge of the Corporation estate at Woodingdean. 8, a prefab estate at Woodingdean, and 9, the same estate seen in relation to the downs around it.

Woodingdean, 6–9, had a scatter of private houses—and here the second bunch of good intentions has operated. According to the book it should have been rounded off and infilled, and this is what has happened; in the circumstances—open downland, not too much housing, key position between Brighton and Lewes—it should have been frozen and treated as countryside.

The mistake was made, and the prefabs and a huge combe-full of council houses were erected—with sad irony, they are well designed houses, in small stepped terraces; if only they had been put into slum Brighton. The damage has been multiplied by permitting private housing like 6 and 7 to grow on the fringes, and the corporation themselves are preparing to extend right up to the crest of the downs, 4 (and see also this month's cover), neither in-filling nor rounding-off but grabbing-extra; a ripening crop goes to waste while the roads are being cut. At Saltdean, 4, the lack of control is even more marked: a house here and a house there, nearly all post-war, have devalued the hillside and 'Land for Sale' may spread the mess over the crest, to join up with Woodingdean.

And, in fact, if Brighton had only looked a mile over its boundary it would have found Peacehaven, which has already gone too far to attempt anything but building up, with as many vacant sites as Patcham and Woodingdean put together. These would have had to have been subtly and carefully used—no over-all grandiose estate plan, just simple honest building to tidy up a mess: Basildon New Town shows how it could have been done to the benefit of both parties. But it wasn't done, and so the non-partisan observer is left angrily declaiming after the event, as usual, when a detached eye (and a pair of red-tape shears) might have saved it all in 1946 or 1947.

Ian Nairn

EXHIBITIONS

MONDRIAAN AND OTHERS

The most important exhibition of the summer season was a retrospective of the art of Piet Mondriaan (hitherto known as 'Mondrian' outside Holland), who was probably the finest of the pure abstractionists and certainly the greatest Dutch painter since Van Gogh. It was held at Whitechapel Art Gallery, and from time to time someone put on a discreetly muted gramophone record by one of the virtuosi of boogie, to celebrate the monotonous brilliance and self-destructive optimism of Mondriaan's last series of decorative panels, painted in the favourable atmosphere of New York.

His fame as an innovator rests on the serene intransigence of the compositions made with straight lines and primary colours to which he devoted himself from 1920 until 1944, the year of his death, and the exhibition would have been important enough if it had been restricted to this private poster campaign for the liquidation of the natural world, but its value was immeasurably increased by the presence of many works painted during the eighteen unstable years of pictorial sensibility which preceded the long period of invulnerability. Although the early works were



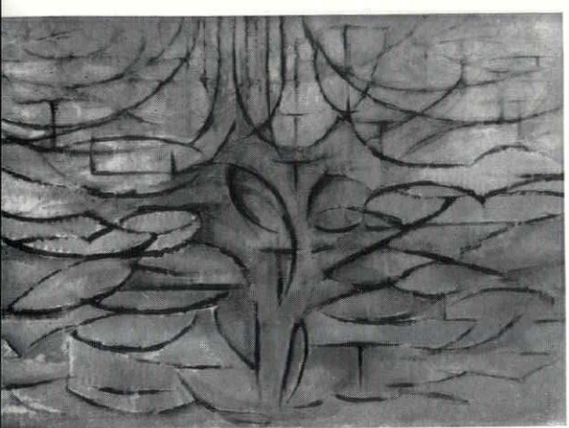
1

included to prove that his development was a model of consistency, they seem to suggest that his renunciation of nature was neurotic rather than courageous, representing the out-manœuvring of a creative artist by a suppressed Calvinist.

His creative powers were never more richly exemplified than in the picture called 'The Grey Tree', 1, completed in 1911. It is one of the masterpieces of cubism and probably the only cubist landscape that ranks with the still lifes of the same period by Picasso and Braque. In the same fateful year, Mondriaan painted an abstract version of this picture entitled 'Apple Tree in Blossom', 2, which obviously fails to maintain the vital equilibrium of the other. They hung side by side in the exhibition, like a 'before and after' advertisement, and he must have been eminently satisfied with the emasculated version, for he seems never again to have 'looked back'. In the first version he resists the pressure of nature; in the second he beats a retreat. The one would appear to have brought the career of a great painter to an abrupt but glorious conclusion. The other is, perhaps, the initial step in Mondriaan's second career as a maker of visual aids to universal equilibrium.

I take strong exception to a remark made by the Director of the Gallery in his preface to the very handsome catalogue. 'The English', he says (as if he himself had turned into a Serbo-Croat or something) 'have failed to appreciate Mondriaan's "position as a great prototype figure in the history of art" because they prefer "diluted evocations of an earlier and more familiar art style." ' If we prefer 'The Grey Tree' to the compositions in red, yellow and blue it may be because we sense that the latter are only beautifully wrought texts—highly refined substitutes for those compositions in veneer which used to announce over mantelpieces that God was Love.

If Mondriaan's own essays on the theory of 'pure plastic art' are anything to go by, he must have considered 'The Grey Tree' to be descriptive; but nothing could be further from the truth. The content of this picture is an energetic calligraphy inhabiting a painterly substance in a way that reminds us of a tree branching through space. His sense of the vitality of a complex natural structure has mingled with his creative imagination, and the result is a work of marvellous coherence, no more 'pure' or 'impure' than a living organism.



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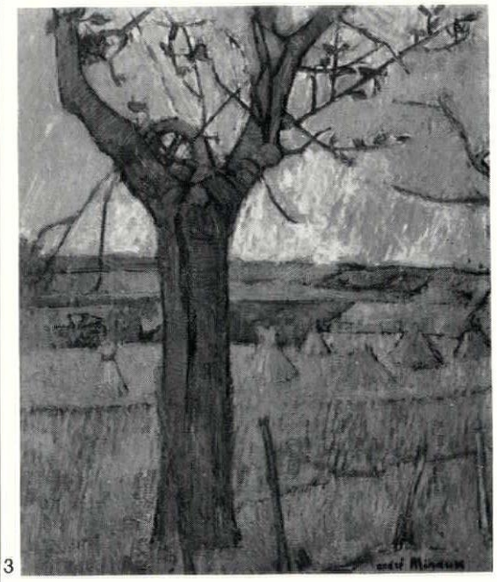
Before discovering that they had been chosen by Mr. Quentin Bell, I hoped that the works by the four French 'realists' recently honoured by a Tate showing, might be sufficiently descriptive to afford us the pleasure of a good shudder, but I regret to say that for the most part these painters are only interested in art, and proffer 'diluted evocations of earlier art styles', with an air of authority distinctively French. Ginette Rapp aims at Courbet and achieves a forlorn Victorianism. Roger Montané paints endless replicas of a large, listless woman who looks like a moronic version of a female figure whose life is strictly confined to the canvases of Renoir. To judge by his best contribution to the show, 3, André Minaux has been doing some exploring of Van Gogh's private world, and although, naturally enough, he does not feel as strongly about it as Van Gogh himself, he manages to convert a great deal of yellow paint into a very pleasant golden haze. Jean Vinay, who is older than the other three, is also more interesting. He is quietly obsessed by flat inland water, and by nothing else, and is the kind of painter who, in another age, might have been commissioned to paint rivers and canals in other men's pictures. He is indifferent to the objects in his pictures, and they are there only to sharpen our sense of the density of the water and its powers of expansion and encirclement. It is really a dream about water, for although a separate visual experience may have been the starting point for each picture, one suspects that no canvas comes right for the artist until he has made the water a whitish green and conveyed the hint that it is secretly but steadily rising, 4.



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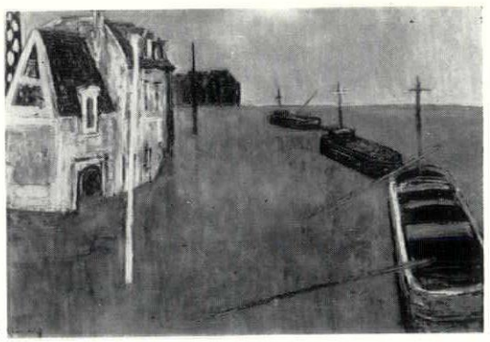

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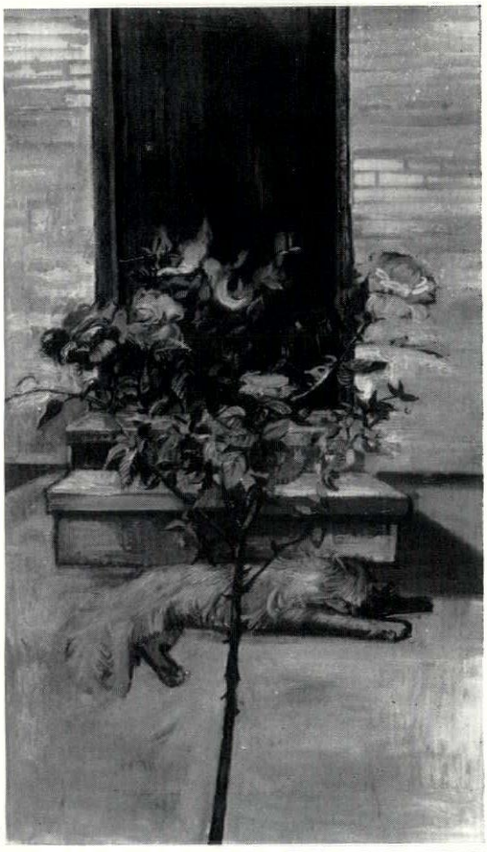
The English realists in the Beaux Arts summer show are far from being indifferent to objects, but they appear increasingly to feel that they are under some moral obligation to Art to resist their sensitivity to the personalities of things. The cat in the



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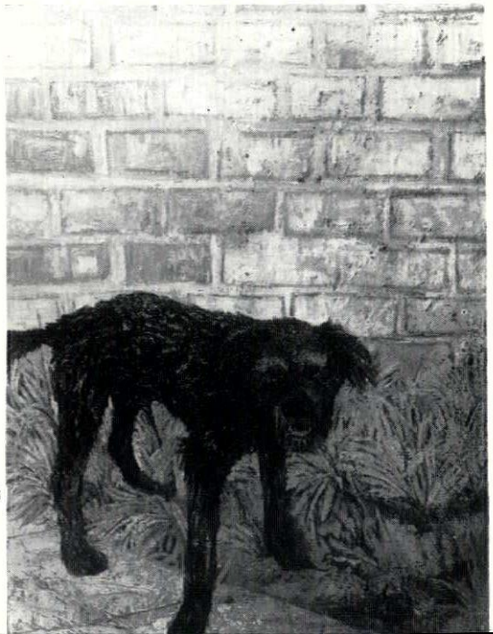

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picture by Edward Middleditch, 5, is only a pawn in the well-contrived game of turning the 'ordinary' into the 'lyrical', but Derrick Greaves is still aware that the ordinary becomes terrifyingly strange and unreasonably significant if stared at for its own sake. His unfaltering gaze has made his image of a rather wretched and bad-tempered dog, 6, carry the full burden of existence. All the same, the wall in the background must have disappeared when he was out-staring the dog, and its reappearance as a weakened version of actuality is a pictorial irrelevance.

Robert Melville

HISTORY

THE OLD PRISON IN LINCOLN CASTLE

The loss of America as a dumping ground for convicts coincided with the eighteenth century humanitarian movement which brought about the Prison Reform Act of 1778. To implement this act new county gaols had to be built all over the country to provide accommodation for prisoners serving long sentences of penal servitude for crimes previously punished by transporation or death.

Convicts were now segregated in classified groups, which proved a corrupting and demoralising system and had to be changed half a century later. An amending Act of 1839 advocated the single cell principle, after which, even if they did not all get the full privacy recommended, prisoners could at least be sure of a separate bed. Most of the prisons incorporating these reforms are still in use, though much altered, but they are not, of course, open to sightseers.

Lincoln prison is an exception. It was begun in 1787 in the enclosure of the ancient castle which stands on the precipitous hill above the city near the cathedral. It was remodelled in 1845–46, but thirty years later it was too small for the growing population and as the site did not permit much extension, it was abandoned in 1878 and the prisoners transferred elsewhere. The disused prison was left intact, and to-day remains as though the doors had just been unlocked and the occupants released.* Nothing but the accumulation of pencilled graffiti over every inch of walls and woodwork marks the passage of the intervening eighty years. The discovery of these gruesome Victorian buildings provides a peculiar shock to the parties of unsuspecting excursionists who, after looking round the cathedral, cross the way to explore the castle ruins.

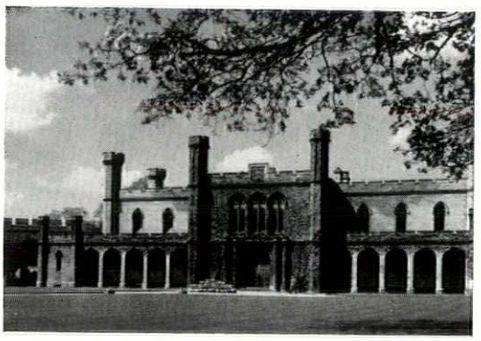
The first building to be seen after passing under the gatehouse is the Governor's residence, 1, which looks like the eighteenth century seat of some country gentleman. Only on closer inspection do the barred windows betray the cells for debtors, who



1

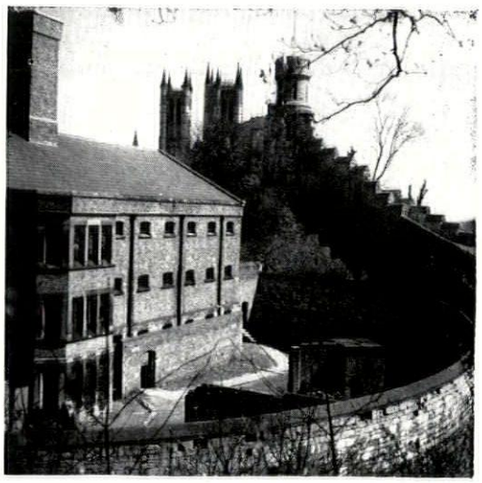
lodged in reasonable comfort on the second floor. The house has now been altered to accommodate offices, and at either end is a petty sessions court.

The Assize Courts, 2, built by Robert Smirke in 1827 in the Tudor revival style, are still used. They are handsome examples of their kind, with all their panelling and fittings still intact. The main prison build-



2

ings, 3, are behind the Governor's house. They consist of two similar ranges for male and female prisoners, enclosed by a high semi-circular wall which runs just inside the mediæval fortifications, with the Observatory tower and cathedral visible to the east, and the main keep, or Lucy Tower, which became the prison cemetery with its pathetic nameless graves, to the



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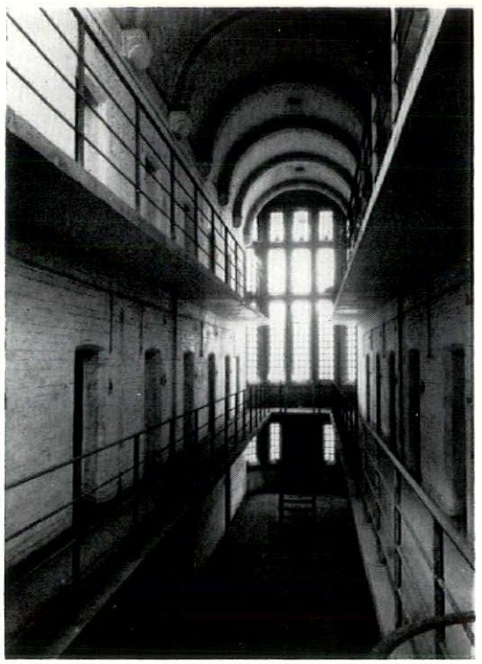
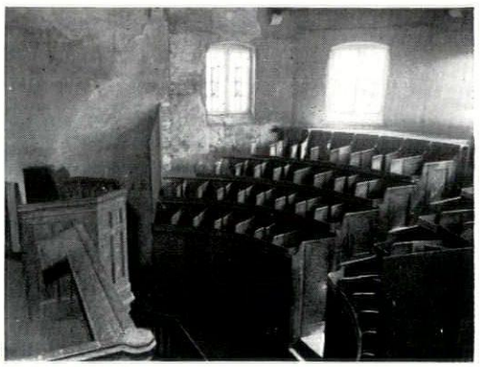


4

west. The exercise yard had walls radiating from the bow windows of the warders' rooms. The interior, 4, is arranged in three tiers of cells, with galleries either side, and warders' rooms on each floor.

This accommodation seems surprisingly humane with its elaborate heating system of concealed hot air channels, and its signals for summoning a warder, rather like those of modern hotel bedrooms. It was in the chapel, 5, that the prisoners must have felt most completely incarcerated. This is one of the most extraordinary christian places of worship ever



5

devised. It is built like a semi-circular cock-pit, with the altar placed at the bottom and a pulpit for the chaplain directly above. This arrangement enabled each prisoner to follow the service from his screened stall without being able to see, or be seen by, any of his fellows. This restricted view, prevented surreptitious communications, while allowing the warders, from a point of vantage at the back, to supervise every stall. The debtors worshipped from a side gallery where they were screened from the convicts by a large curtain hung from the ceiling, and the Governor and senior prison staff had places beside the chaplain.

Emily Peckover

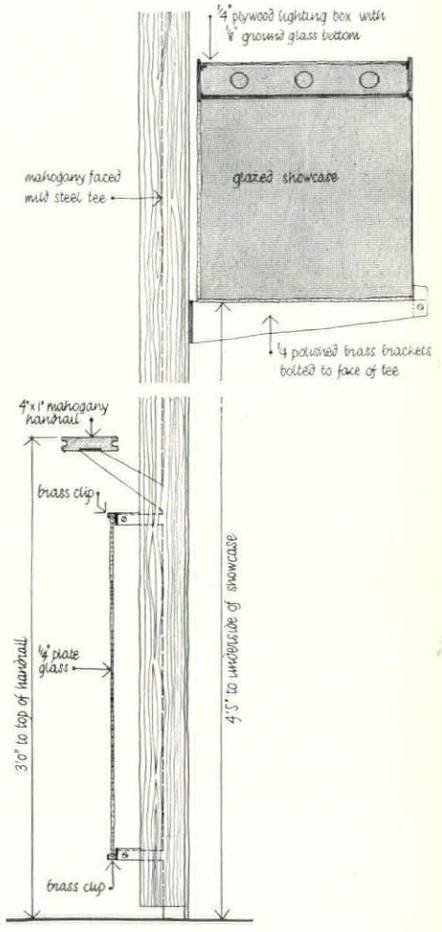
* It is reported, however, as this note goes to press that the prison is to be converted into a records store.

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry





1

1 INTERIORS

TAILOR'S SHOWROOM, REGENT STREET, LONDON.

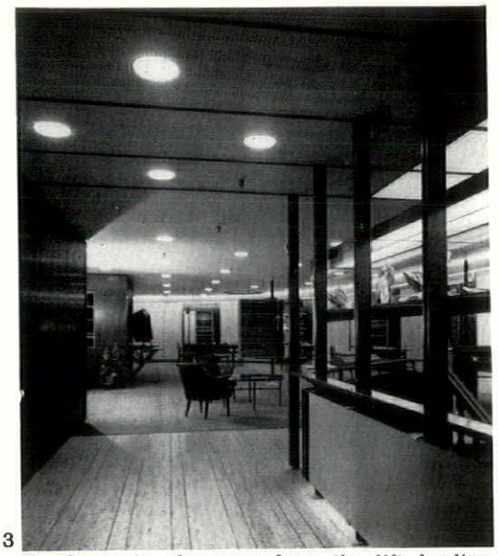
Architects: Westwood, Sons and Harrison (partner in charge: Norman Westwood)
Assistant Architect: Alan Irvine

This is for the bespoke tailoring department of Messrs. Austin Reed, and occupies the sixth (top) floor of their Regent Street shop. Fitting rooms, cutters' room and pressing room had to be provided on the same floor. The requirements included ample display space for cloth, hanging space for suits being tailored, a table or



2

1, *lift landing showing eye-level showcase over stair-well. The balustrade is ribbed timber and glass.* 2, *the showcase from below.*



3, *the main showroom from the lift landing. The showcase illustrated overleaf is on the right.*

bench, with good natural lighting, for choosing cloth and reblocking, three tables at which customers could sit while particulars were being written down and a desk with space for filing records, with cash system and telephone nearby.

This being the top floor of the building, sprinkler pipes, electrical services, etc., were below the existing ceiling level and a false ceiling below that reduced the floor-to-ceiling height to 8 ft. 1 in. The curve of the Regent Street façade, which determined the character of the main floor space, has been accentuated by the shape of the continuous curved ceiling light-fitting. The main approach by customers is by the lifts, and the position of these and the stair-well gave a natural division between the work-rooms and the showroom illustrated here (see plan). Opposite the lifts is the eye-level glass showcase, overhanging the stair-well, shown on the preceding page.

The panelling is of Honduras mahogany, solid ribbed and veneered. The main showroom has wall surfaces of light yellow-green leather. The floor is covered with a specially designed grey worsted carpet with yellow and white spots. The floor of the landing is Italian travertine. Ceilings are fibrous plaster painted white.



4

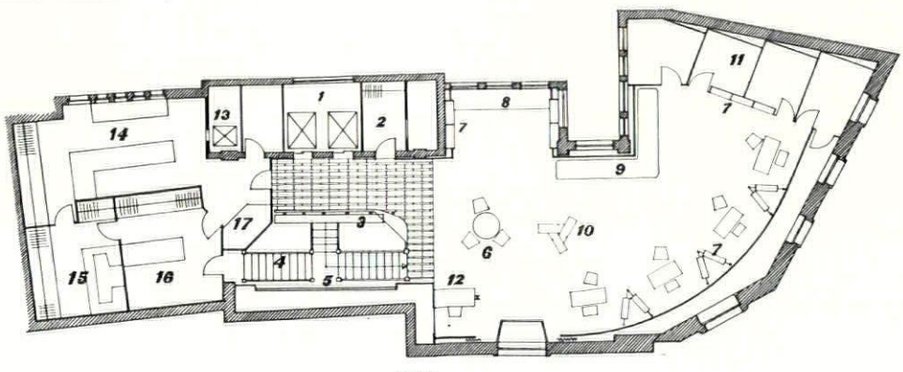


5



6

4, cloth storage rack, of wych-elm, with steel supports with gunmetal lacquered finish. In the background is the yellow leather panelling. 5, shelves for cloth set into a mahogany veneered wall at right-angles to the window. The shelves and surrounds are of wych-elm. 6, general view; on the left is a revolving cloth-rack (10 *on plan below*).



key

1. lifts.
2. pattern bunches.
3. glass display case.
4. existing staircase.
5. mural.
6. waiting space.
7. cloth storage racks.
8. view window and table.
9. cloth blocking table.
10. revolving cloth rack.
11. fitting room.
12. reception desk.
13. goods lift.
14. cutters' room.
15. pressing room.
16. alterations room.
17. packing bench.



7, *corner of the table (9 on plan) provided for choosing cloth and re-blocking. It is of wych-elm. Behind it is some of the ribbed mahogany panelling.*

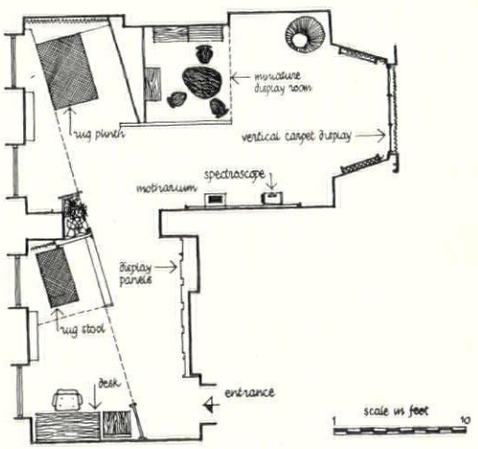
SHOWROOM IN GRAFTON STREET, LONDON, W.1.

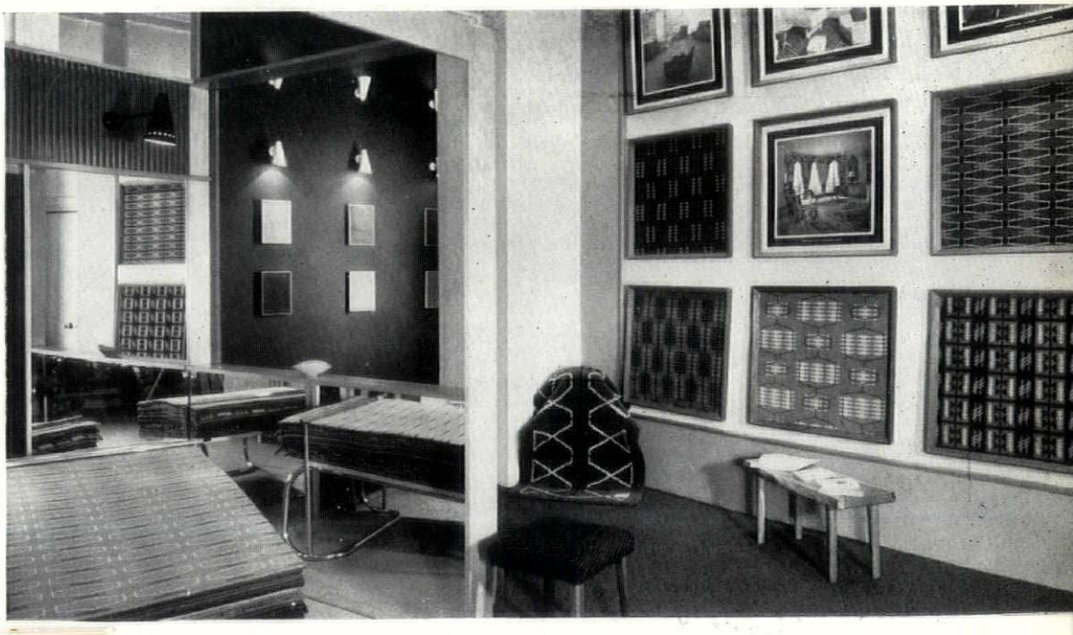
Architect: Roy L. Moorcroft

The first-floor front room of a late Georgian house was turned into a contemporary showroom to supplement the traditional showroom of S. J. Stockwell & Co. (Carpets) on the ground floor. Carpets shown are the patterned lines marketed by Stockwells, with additional display of patterned rugs of various shapes. There are also facilities for viewing coloured '3-D' photographs by means of a 'spectroscope', and a display of moth-proofing.

In planning, account was taken of the 'L' shape and the height of the room. A reception area had to be incorporated near the door so as to have control of visitors. Access from the rear offices to the storerooms was required not to interfere with the showroom and this restricted the display to the outer alcove in the long leg of the room. Due to the plaster surfaces being on laths away from the structural walls, wall display has been kept to a minimum, except where new framing could be introduced for fixing. The showroom is divided into visual sections; reception, patterned carpets, rugs and a 'mock-up' room displaying carpets in a furnished setting.

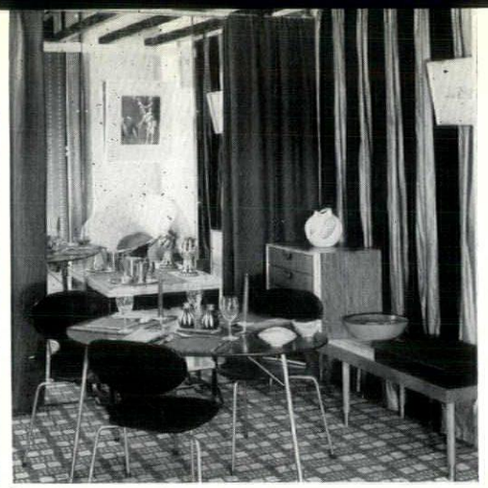
The display of large photographs is provided by nine large frames which may also be used for new or variant patterned or coloured samples. Rugs are displayed on stools, carpets on stools and on vertical 'ladder' units. Some carpet samples are shown on a stool, around which are two fixed mirrors at right angles to each other and the floor, enabling samples to be seen four times their true size. A module of 27 inches was used for the display units, to take standard carpet widths. Lighting is directed on to all display areas and on to the ceiling. Plants are illuminated by concealed





8, *from the reception area looking towards the main showroom; the display units are of standard carpet width.*

strip lights. Since the room has to provide a background to suit all colours, walls and ceilings are white; display frames are generally of parana pine and teak, and reeded hardboard, all materials being oiled or waxed in natural finish. The carpets on the floor are chosen to set off the rug display, in the main gunmetal with Grafton grey to define the circulation route. The chief visual stop is a large black painted screen, with parana pine framing on which colours of the range are displayed in small panels of plain carpet 8 inches by 4 inches. The seating consists of small stools upholstered in a black and white striped wool fabric.



9, *the model room at the inner end of the showroom, furnished by Liberty's. Other firms stocking Stockwell carpets will make similar displays in this area later. The carpet shown was designed by Ronald Grierson.*

9

OFFICES IN MANCHESTER

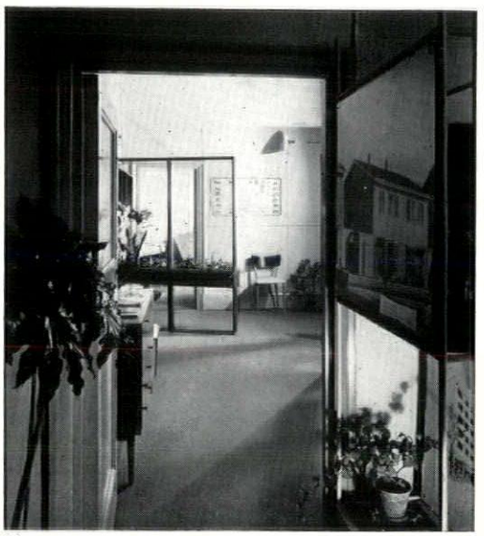
Architect: Alan Buckley

The firm, an advertising agency, occupies front suites on two floors (the fifth and sixth) with a Conference Room on the fourth floor, of number 11, Piccadilly, Manchester. For internal purposes, a back staircase connects the offices, but both the fifth and sixth floor suites have their individual entrances by the lifts at the front. The principal problem on the main (fifth) floor was the bad proportion of the rooms, with large windows placed high on the walls in the Managing Director's office.

This was solved by raising the greater part of the floor to permit a view from the windows and building false beams to hide the ugly ceiling, which appeared to reduce the height of the wall opposite the windows. This false ceiling also conceals the formerly exposed electric conduit, etc.

A layout bench, cupboards for papers, cloaks and also a small bar cupboard are built into one wall and a cork pin-up board is incorporated. The Secretary's desk was specially made, other furniture being purchased from normal sources. The window wall has book and magazine shelves built in; these conceal the radiators below them. Colours are blue-berry wall and ceiling, red carpet, white false stone wall with the remainder in grey.

The reception on this floor suffered from lack of natural light and an extremely ugly irremovable piece of ducting. Little could be done with the lighting except to use borrowed light above door height in the office partitioning. The whole of the



11, *the reception area, showing use of open timber screens carrying plant-troughs.* 12 *(below), close-up of a pair of the same screens.*

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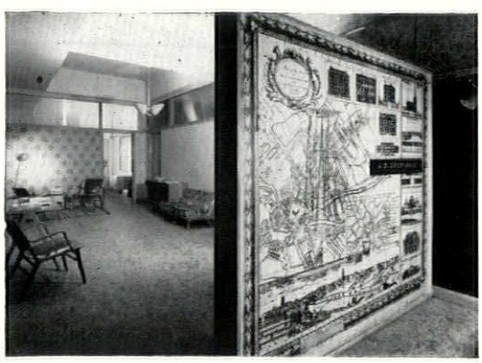

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10, *the reception area seen from the entrance. The screen, consisting of an old map of Manchester, enlarged, contains space on its reverse side for staff cloaks.*



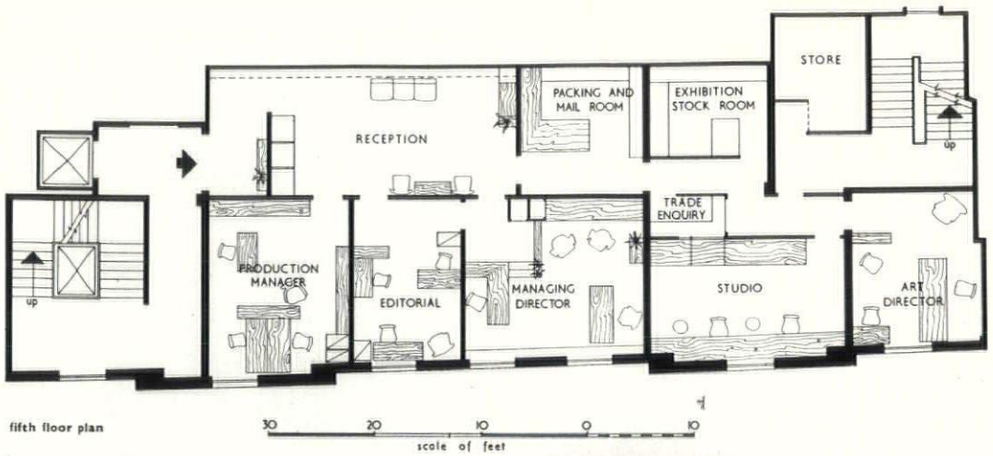
12

long wall has been hung with split cane matting which hides the ducting and provides useful storage space economically.

A screen immediately inside the entrance doors is covered by a photographic enlargement of an old map of Manchester with, superimposed on it, an initial letter 'K' built up of ¼ inch welded rods which was designed in the first instance as one of the company's own prestige advertisements in the *Manchester Guardian*. On the reverse side of this screen wall are fitted wardrobes for staff cloaks. No attempt has been made to disguise the traditional ceiling mouldings, but each office door is cellulosed in individual bright colours. Light fawn linoleum covers the entire floor.

On the sixth floor an awkwardly shaped area with only one window was divided into entrance, waiting area, and working space for the receptionist, by glazed screens carrying plant troughs.

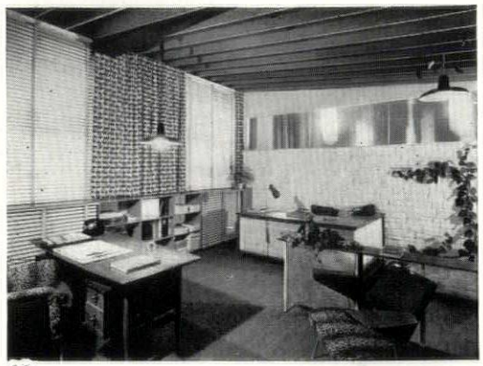
The general colour scheme is pale grey with strongly printed curtains and wallpapers. Both the office and a part of the reception have dark fawn carpet, while the remainder have linoleum.



fifth floor plan

With the fourth floor Conference Room the problem was again a badly proportioned area with high ceiling and only one small window off centre in the wall.

The room has been divided by a door-height partition forming an entrance area with built-in book shelves for research and reference. To reduce the apparent height there is a floating panel which carries the two light fittings and has panels of split cane as an infilling, and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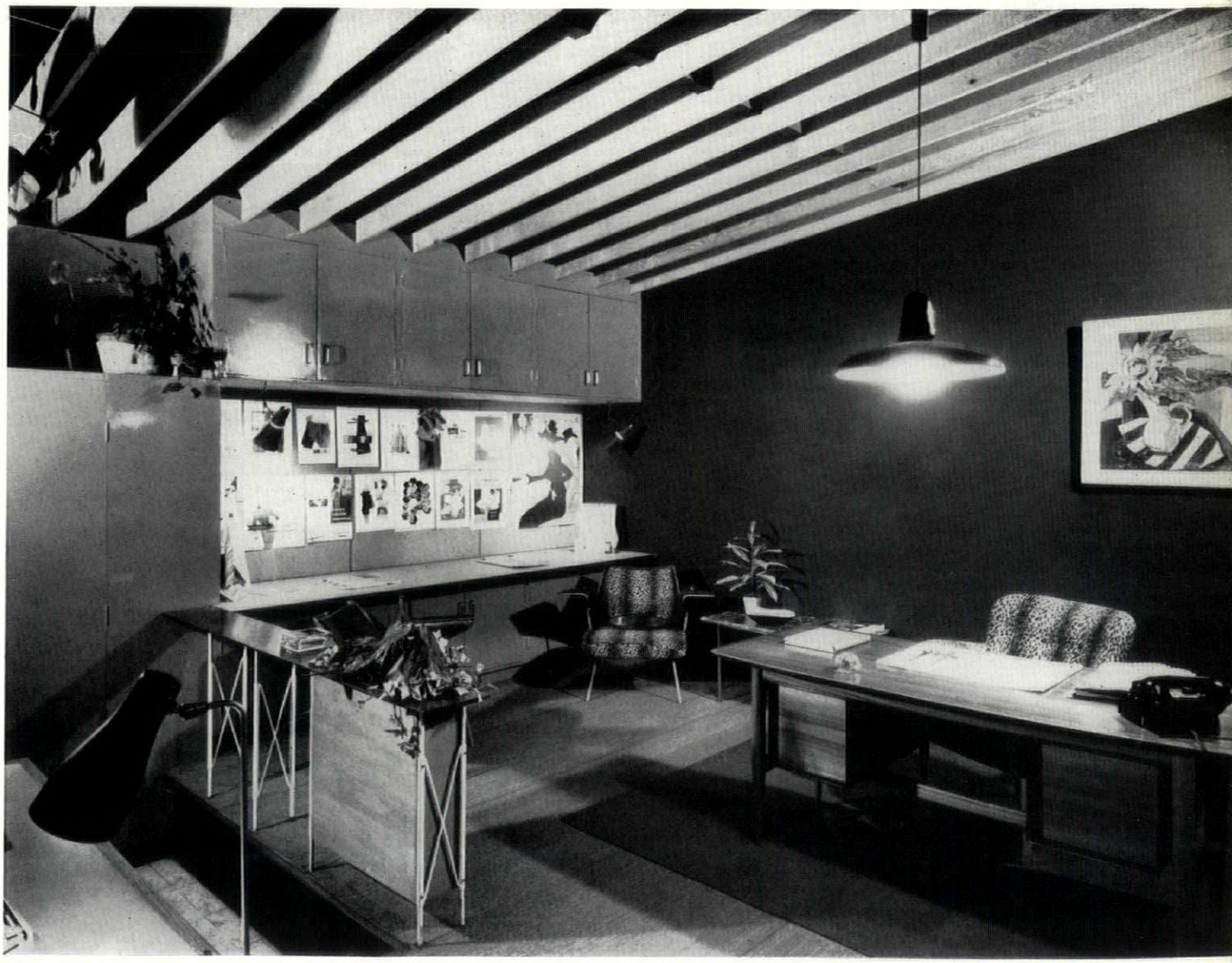
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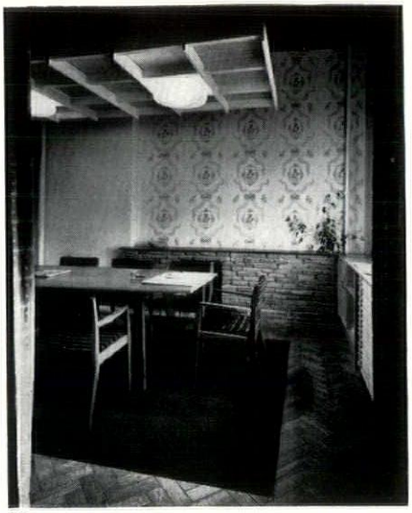
13, *right, and* **14**, *views of the managing director's office, in which the floor was raised to afford a view out of the windows, and false beams were added to hide an exposed electric conduit and reduce height.*

which together with a carpeted floor also helps to reduce noise, the ceilings and floors being of concrete construction.

The floor is in wood blocks with red carpet. Walls are covered in grey, pale yellow and white wallpaper. The ceiling is deep blue. Curtains are in pale blue, black and yellow.

15 and 16, two views of the conference room, showing floating panel, carrying light fitting, installed to reduce the ceiling height; the ceiling itself is coloured deep blue.



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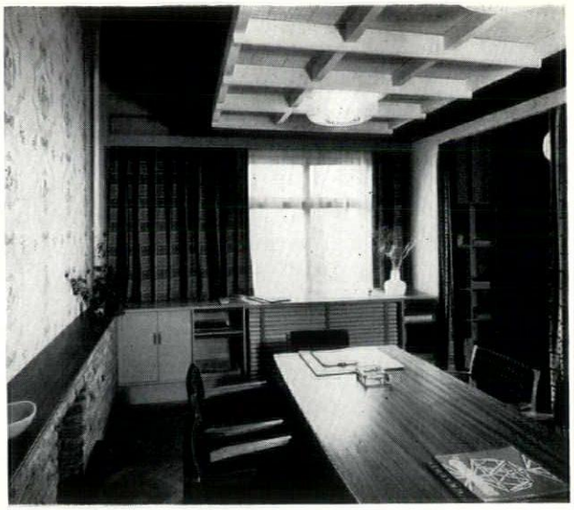


16

2 DESIGN REVIEW

GERMAN CHURCH FURNISHINGS

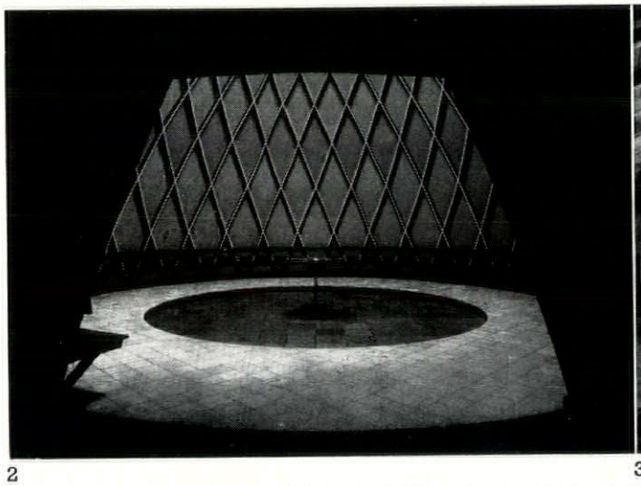
The problem of art in the church today is the same as that of modern church architecture. A building serves a purpose and at the same time tries to be pleasing in grouping and proportions. In addition, for certain buildings the architect may be able to express their purposes in his choice of grouping, of proportion, and also of decoration. Grouping and proportions are inherent, decoration is added. The snag about a building like the Trades' Union Headquarters in Great Russell Street is that it is impossible to decide what kind of grouping and proportion, that is what specific æsthetic qualities in its architecture, would be relevant to its purpose, and what kind of decoration would be—short of something as trite as Labour Triumphant. The difficulty arises from the fact that the Trades' Union Building is essentially just another office building, and office buildings, like blocks of flats also, have no spiritual function.

If good modern church buildings are rare today the reason is the very opposite. The utilitarian function of the church is easily satisfied. To express the spiritual function of the church in the twentieth century is hard and seems to many believers and many architects impossible. Has it changed since the Middle Ages?



1, the chapel in a students' Hall of Residence, Frankfort-on-Main, by Hans Rosenhauer.

2, baptistery built at an exhibition in Berlin in 1927 by Otto Bartning (font by Richard Winkmayer), a design from which the architects of emergency churches after the war learnt much. 3, emergency church, Münster, 1949, by Otto Bartning.



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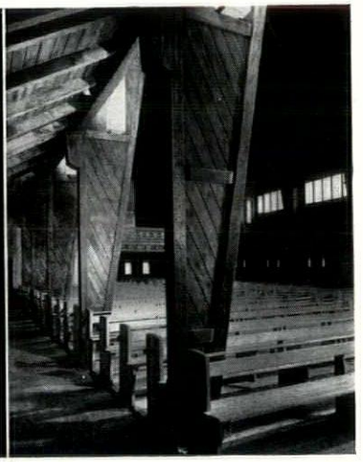

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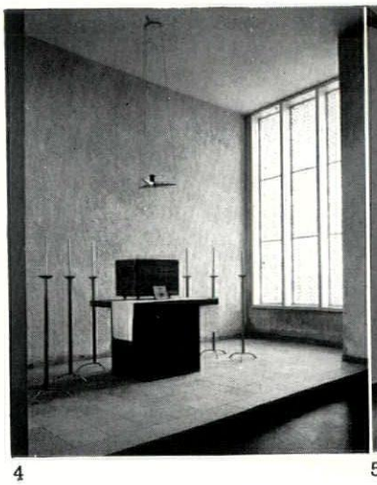
altars *4, side altar, church of Maria-Hilf, Frankfort, 1952, by Giefer and Mäckler. 5, altar in a vicarage at Potsdam, by Rudi Wagner.*



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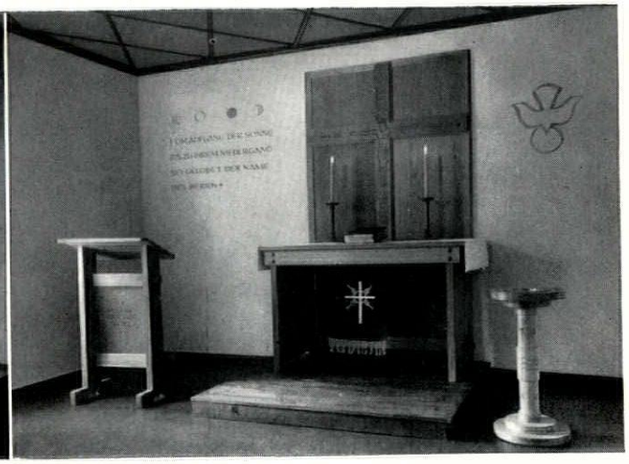

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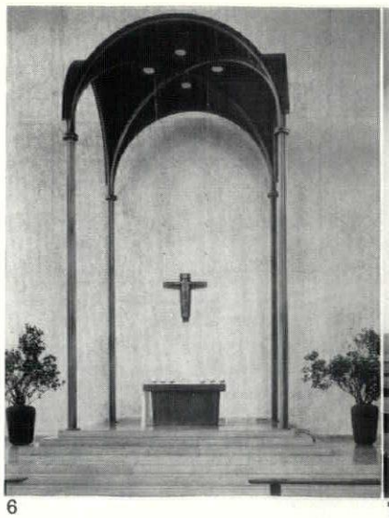

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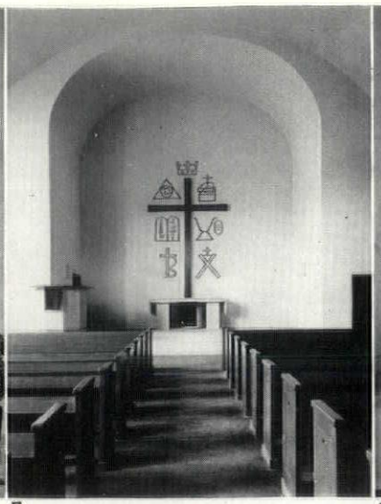

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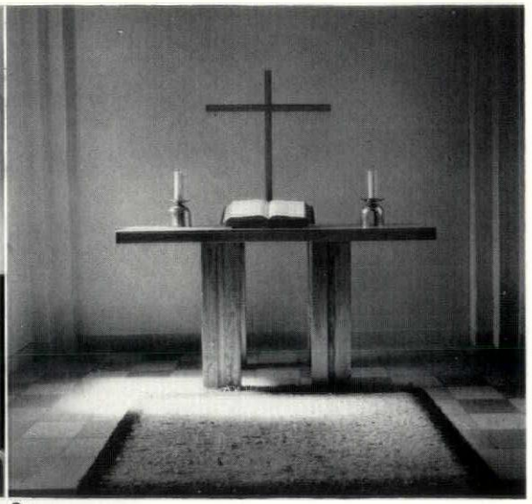

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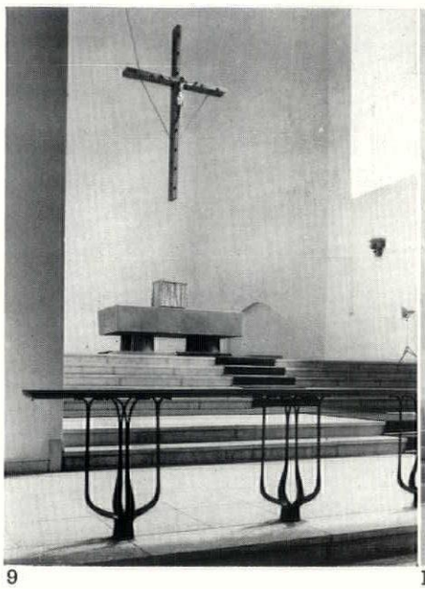

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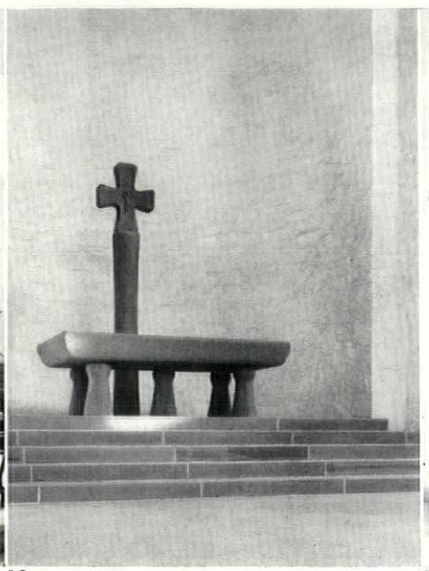

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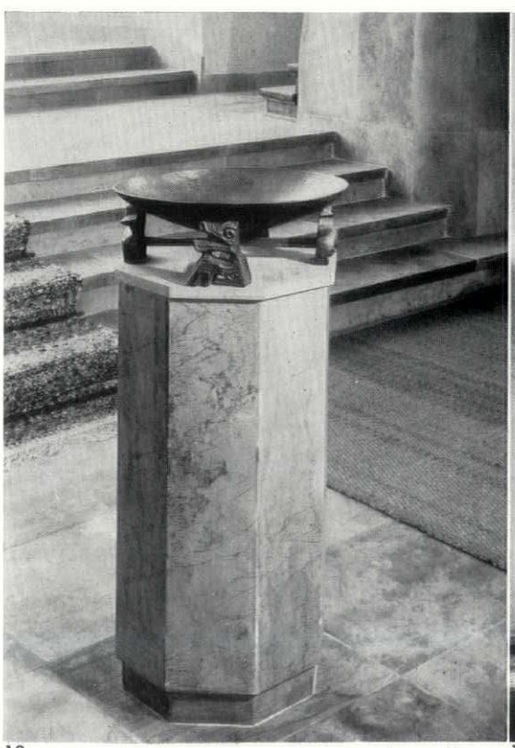
altars 6, *high altar, church of Maria-Hilf, Frankfort,* 1952, *by Giefer and Mäckler.* 7, *Friedenskirche, Offenbach, by Herbert Post.* 8, *Offenbach, by Hans Rosenhauer (plate by the Metalwork Department, Offenbach School of Decorative Art).* 9, *St. Mary Cologne-Kalk, by Rudolph Schwarz.* 10, *Johannesberg, by Rudolph Schwarz.* 11, *St. Mary Cologne-Kalk, by Rudolph Schwarz.*

The majority seems to be convinced that it is essentially the same and derive their architectural standards from this. The church building must appear under the protection of some accepted religious style of the past, the older the better—Georgian only with reservations, Gothic freely in all its incarnations, and also Romanesque, Byzantine or Early Christian.

However, there is a fallacy here. If the architectural idiom of today is unsuitable for religion, then the fault may lie as much with religion as with architecture. The vitality which was necessary to create a new architectural style after a century, or perhaps one should say four centuries, of imitation of the past is undeniable. If that vitality cannot penetrate the church building, is not the most probable explanation timidity and vacillation in the church? But we should have sympathy with the trembling church councils. Medieval styles started in the church and expanded into secular buildings. The modern style started undeniably in the

fonts 12, *Christ Church, Wolfsburg,* 1951, *by Gerhard Langmaack (basin by H. Uhrig).* 13, *church of Maria-Hilf, Frankfort, by Giefer and Mäckler.*



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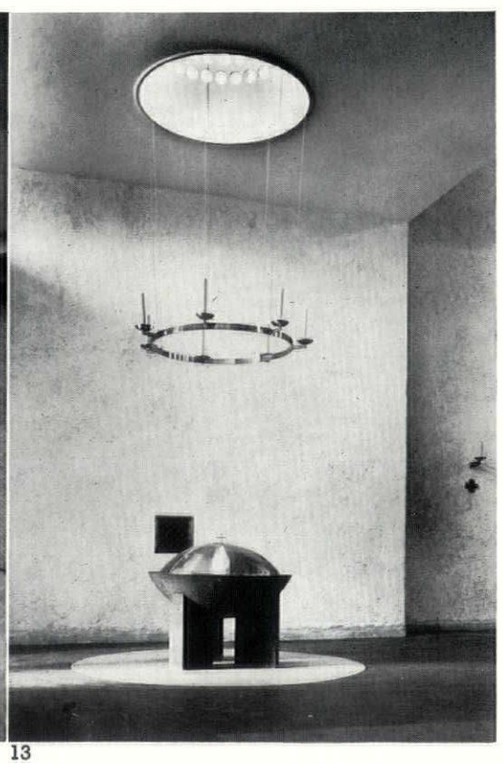

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field of secular architecture. So perhaps translation into terms of Christian religion is really something of a problem, the problem of how to ward off instinctive associations between certain new forms or attitudes to form and certain secular purposes.

All the same, the church remains the greatest challenge of the present day for the architect. There are only a few other possibilities for him to serve the spirit, to express spiritual themes. The concert hall is one, the assembly hall of a university is another, certain theatres might be yet another. All these architects have proved capable of mastering. Must the church remain inaccessible?

In Britain to this day it seems so. In other countries solutions exist which unite a twentieth century style with the emotional demands of either Protestant or Roman Catholic churches. The Church of England must be specially hard to satisfy. Protestant clarity and purity alone appear not to be enough and Catholic flights of fantasy not admissible.

However, these particular difficulties of English tradition and character need not arise in the case not of building a new church but of supplying individual fitments, an altar, a font or a pulpit, or stained glass or plate. Yet here also England has so far refused to accept the forms of today. It is in church furnishings more than in architecture that foreign examples may be of interest.

The examples on these pages are all taken from Germany, and with one exception from the years since the end of the war. Other countries might have been chosen instead, but Germany, owing to the war, has needed an exceptional amount of new work, and, since modern design has a tradition in Germany of more than forty years and, moreover,

14, *font at Geesthacht, near Hamburg. The stand is a fifteenth century timber font found in the moors. The bronze bowl is by F. Fleer.* 15, *pulpit in elmwood by Hans Rosenhauer.*



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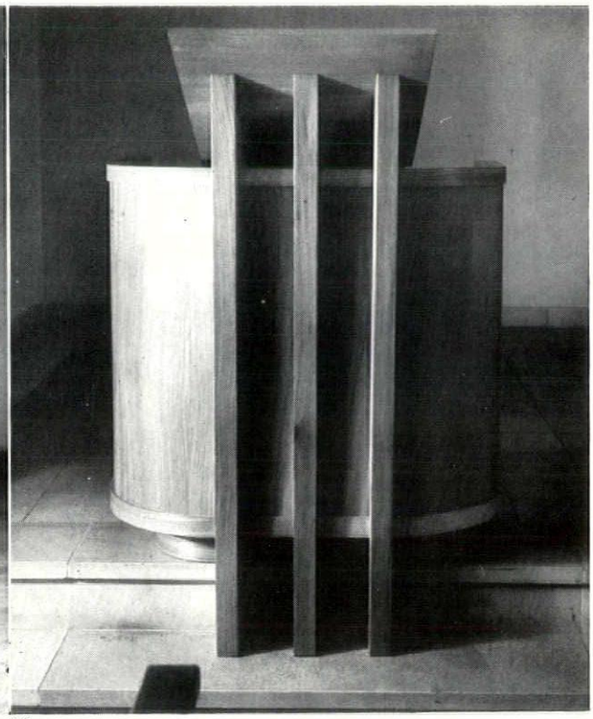

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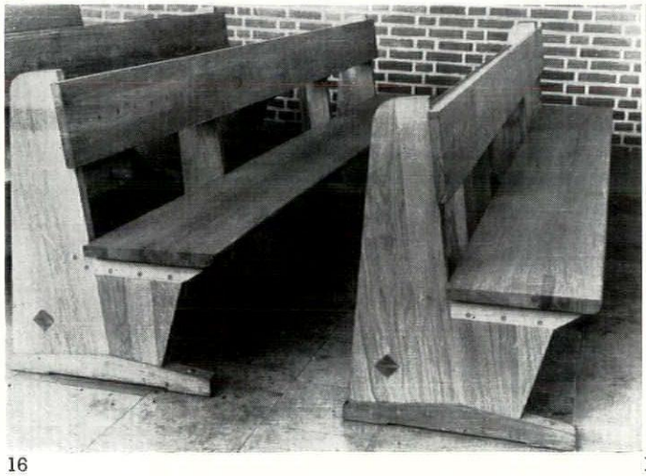
16, *pews in the Anglican church at Cologne-Marienburg, by Rudolph Schwarz.* 17, *hymn board, Hall of Residence, Frankfort University, by Hans Rosenhauer.*



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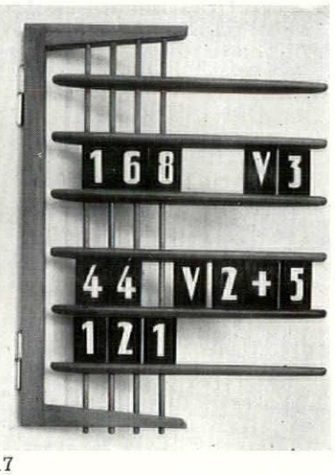

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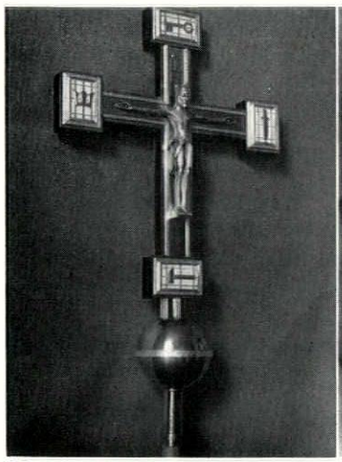
crosses and candlesticks 18, *processional cross, Fellbach, near Stuttgart, in brass and silver wire, by E. E. Forster. The figure is silver-plated and the ends enamelled.* 19, *altar cross in bronze, by Karl Müller.* 20, *altar cross by Bernhard Hopp.* 21, *candlestick in brass and niello by Carl Dittert.* 22, *candlestick, St. Catherine's church, Hamburg, by Bernhard Hopp.*



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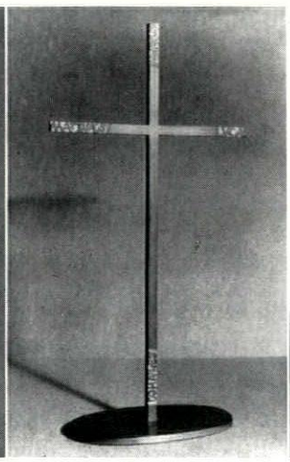

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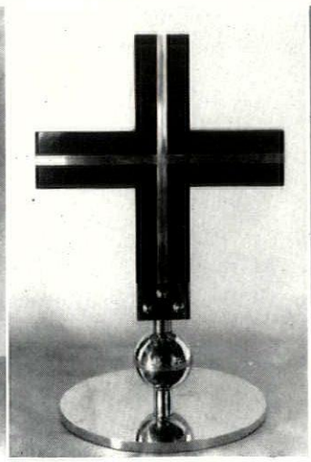

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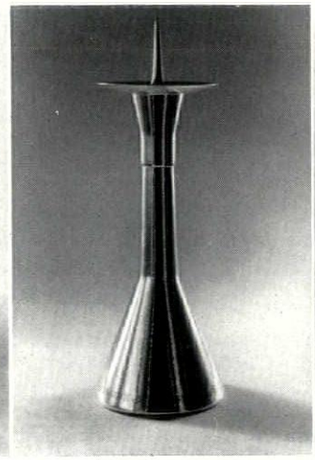

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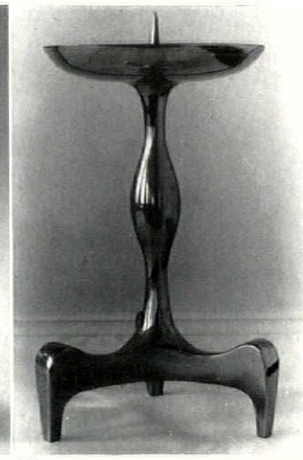

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National Socialism never crushed modern design as consistently as it did modern architecture, the acceptance of a twentieth century idiom is specially widespread. The pieces illustrated would not all be acceptable in this country. There is occasionally an embarrassing touch of Hengist and Horsa in them, neither suitable for this century nor for Christian worship. Not infrequently also the gospel of honesty of craftsmanship is demonstrated by visible pegs and the like. But some of the best pieces of craftsmanship for churches in Germany are proof of faith and courage, of substantial seriousness without pomposity, and of the possibilities of replacing applied decoration by sheer fine materials. As such they may help to inspire artists, architects and the church here.

Nikolaus Pevsner



28, *antipendium of linen, embroidered with the lamb and flag, at St. Charles, Cassel, by Bärenreiter-Werkstatt.*



23 24 25 26

plate **23**, *silver-gilt chalice by Carl Dittert.* **24**, *silver chalice, church at Halle-Nietleben, by Karl Müller.* **25**, *silver-gilt chalice, by Fritz Schwerdt.* **27**, *silver-gilt chalice with rock crystal, by Fritz Schwerdt.* **27** (*below*), *church plate in silver by Rolf Koolman.*



27

3 TECHNIQUES

THE PANEL

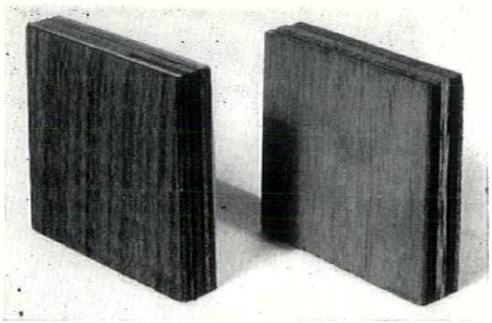
by John Norgate

Recently, the firm of William Mallinson & Sons opened a new showroom for the display of panel materials. From this it is evident that the range of products available and the future possibilities of sandwich panels are perhaps wider than architects realize. We thus present here a brief survey of some of the panels available—not all of which were developed for building purposes.*

The idea of the panel—as we use the word now—seems to have taken root among architects sometime in the 'thirties. It was part of that reaction against the heavy 'plastic' materials that appeared so unseemly in an industrialized age; part of the search for a more self-evident articulation of purpose in our construction. 'Frame and panel' became a statement of belief before industrial resources were geared to realize it. We visualized structural members performing only the function of support, and, distinct from them, the panel, itself constructed for precisely defined functions. We set our faces against the amorphous plastered brick wall—serving all purposes indifferently in all situations. The idea of differentiation went hand in hand with the idea of analysis, and suggested some form of *laminated* panel—each layer exactly suited to a particular purpose. According as the analysed functions varied so the material of the layers was to vary. But differentiation was primarily an æsthetic idea. 'Fitness for purpose' we assured ourselves, not realizing then—such was our isolation—that fitness for manufacturing economics would be the most difficult and protracted problem of all. Yet in two ways the panel notion has proved well grounded. First, it allows a relatively demountable construction appropriate to the more rapidly changing uses of buildings. Second, it allows the more exacting and intricate stages of construction to take place away from the rough and ready conditions of a building site.

Lamination is older than most of us imagine. Plywood was first produced at the turn of the century, its earliest use being for tea chests, but the development of aircraft in the first world war greatly expanded its manufacture. It was after this that the less expensive grades—as distinct from veneers in high quality joinery—began to enter the building trade. One associates it with development of that other low-price sheet cladding—corrugated iron. Early plywood was not always a satisfactory

* 130/150, Hackney Road, London, E.2.



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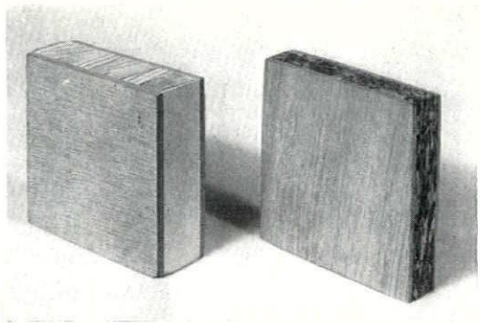

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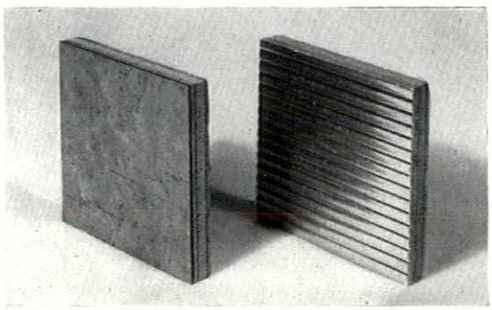
1, *resin bonded plywood (W.B.P.). Material: faces usually of gaboon, utile, sapele and khaya with cores of mahogany-type redwoods of similar characteristics to those of the face woods. The glueing process is covered by BS.*1203 *and gives a product that is water and boil proof (W.B.P.). Adhesive: Phenol formaldehyde. When one face is covered with a decorative veneer—which is usually* 1/36 *inch thick—the other side has a 'compensating' veneer of a less expensive wood similar in thickness and 'pull' to the face wood. Sizes and prices per square foot: 3 feet, 4 feet and 5 feet wide. 7 feet and 8 feet long. Larger sizes made by scarfing.* $\frac{1}{8}$ *inch:* 11*d.* $\frac{1}{4}$ *inch:* 1*s.* 1*d.* $\frac{3}{8}$ *inch:* 1*s.* 8*d* $\frac{1}{2}$ *inch:* 2*s.* $\frac{3}{4}$ *inch:* 3*s.* 1 *inch:* 3*s.* 4*d. Thicker boards than* 1 *inch are available. Uses: Groundwork for veneered panelling and doors. Shuttering—for work of smooth finish or in large sizes where weight of the shutter is significant. External fascias, timber buildings, ships' bulkheads, waterproof packing cases, bill hoardings.*

2, *left, Laminboard. Material: a core built up from* $\frac{1}{16}$ *inch softwood battens, glued together and all rift sawn to minimize movement, with hardwood facing both sides, usually Gaboon. Sizes and prices per square foot: up to* 5 *feet* 7 *inches by* 16 *feet* 9 *inches. Mainly* $\frac{3}{4}$ *inch: from* 3*s.* 1 *inch and thicker from* 3*s.* 6*d. Uses: groundwork for veneer or plastic sheet, used for panelled doors, table tops and so forth. For panelling in very large sizes where stability is important,* $\frac{3}{4}$ *inch Laminboard might be appropriate. For W.B.P. qualities, resin bonded plywood. For furniture using small sizes, Finnish or Russian birch, mostly in thinner thicknesses: would also be cheaper than the other groundwork materials. Lydneyboard is relatively cheaper as thickness increases and very stable.*

Right, Lydneyboard faced both sides with gaboon. Material: selected wood particles with a resin adhesive added are formed into sheets under heat and pressure. Only mahogany type woods are used which make a much more stable board than if different kinds of wood with different moisture movements were mixed together. Sizes and prices per square foot: veneer faced: 2 *feet* 8 *inches wide,* 4 *feet* 8 *inches long. Without veneer:* 2 *feet* 9 *inches wide.* 4 *feet* 9 *inches long. Veneer faced:* $\frac{3}{8}$ *inch:* 1*s.* 4*d.* $\frac{1}{2}$ *inch:* 1*s.* 5$\frac{1}{2}$*d.* $\frac{5}{8}$ *inch:* 1*s.* 7$\frac{1}{2}$*d.* $\frac{3}{4}$ *inch:* 2*s.* 1*d.* $\frac{7}{8}$ *inch:* 2*s.* 8$\frac{1}{2}$*d. Without veneer:* $\frac{1}{4}$ *inch:* 6*d.* $\frac{3}{8}$ *inch:* 7$\frac{1}{2}$*d.* $\frac{1}{2}$ *inch:* 9$\frac{1}{2}$*d.* $\frac{5}{8}$ *inch:* 1*s.* 1$\frac{1}{2}$*d.* $\frac{3}{4}$ *inch:* 1*s.* 8$\frac{1}{2}$*d.* 1 *inch:* 2*s.* 1*d. Uses: groundwork for veneer or plastic sheet or itself as a decorative material for table tops, roof linings, and so forth. Used also for printers' block mounts which have to be machined to a tolerance of plus and minus* 0.002 *inch. Lydneyboard is also used as a core material for laminated bends and shapes—for example, chair backs. Special moulds would have to be made for this purpose, the cost of which must be spread over the number 'off.'*



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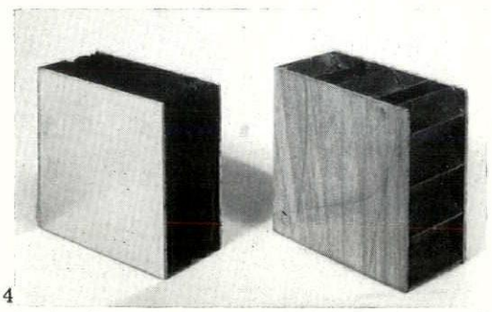

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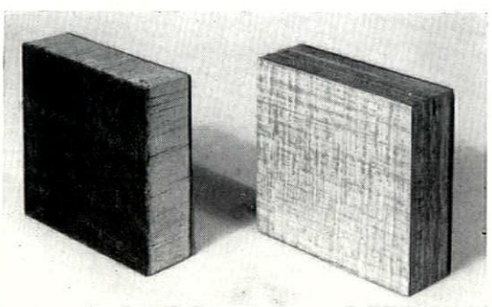
3, *Armourply. Material: resin bonded plywood faced on one or both sides with sheet metal: galvanized steel, aluminium, copper, gilding metal (a bronze type alloy), stainless steel, monel metal and zinc. Sizes and prices per square foot:* $\frac{1}{16}$ *inch and upwards, including door thicknesses.* $\frac{1}{4}$ *inch galvanized steel, up to* 8 *feet by* 3 *feet:* 3*s.* 3*d.* $\frac{1}{2}$ *inch ribbed, embossed or anodized aluminium, up to* 10 *feet by* 3 *feet:* 4*s. Plain aluminium up to* 10 *feet by* 4 *feet:* 3*s.* 9*d.* $\frac{3}{8}$ *inch copper, up to* 6 *feet by* 3 *feet:* 9*s.* 6*d. Sizes are controlled by dimensions of the sheet metal—which for larger sizes of panel can be jointed in various ways. Uses: in 'tough' situations generally: w.c. cubicles, bodywork of commercial vehicles, doors, counter tops, canteen fittings, exterior fascias, railway containers, fish vans, or where the decorative finish of the metal—anodized aluminium for example—is required.*

4, *left, insulating composite panels. Material: compressed cork or fibreboard or expanded rubber cores with* 22 *s.w.g. aluminium or hardboard or plywood facing. Sizes and prices per square foot:* 1 *inch cork, aluminium facing: from* 5*s.* 6*d.* 1 *inch cork,* $\frac{1}{16}$ *inch plywood both sides: from* 4*s.* 6*d.* 1 *inch cork,* $\frac{1}{8}$ *inch hardboard both sides: from* 3*s.* 6*d. Insulation board cores would be approximately the same price; expanded rubber more expensive. Uses: primarily for thermal insulation and in some constructions for external claddings. These panels are used with one face perforated for demountable acoustic ceilings. Thermal insulation values (U): facing, both sides:*

	1 inch cork	1 inch fibre-board	1 inch expanded rubber	Overall thickness inches
aluminium	0.22	0.25	0.17	1 1/10
$\frac{1}{16}$ inch W.B.P. plywood	0.20	0.23	0.15	1$\frac{3}{4}$
$\frac{1}{4}$ inch hardboard ...	0.21	0.24	0.16	1$\frac{1}{4}$

Right, Honeycomb core panels. Material: paper folded and glued in hexagon formation and faced with $\frac{1}{16}$ *inch aircraft grade plywood. Sizes and prices per square foot:* $\frac{1}{2}$ *inch and upwards.* 4 *feet wide,* 8 *feet long. With commercial grade plywood facing in standard sizes (see resin bonded plywood) the cost would be from* 6*s. Uses: developed primarily for aircraft where high strength and low weight outweigh cost considerations.*



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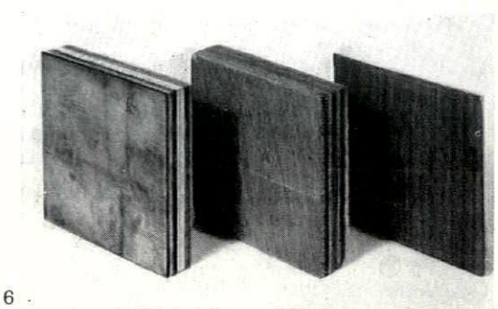

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5, *left, Balsa core panel. Material:* $\frac{5}{8}$ *inch end grain balsa core (in direction of thickness) with* 1/32 *inch facing sheets of phenolic resin impregnated asbestos felt. Sizes and prices per square foot:* $\frac{1}{4}$ *inch and upwards. Up to* 4 *feet wide and* 8 *feet long from* 15*s. Uses: Developed as partitions, tables, bulkheads in aircraft. The face material is extremely tough and can carry high compressive and tensile stress, the balsa core providing a lightweight resistance to 'web buckling' and shear. The panel illustrated will, simple supported over* 18 *inch span, carry* 1,300 *lb. per square foot and weighs* 15 *oz. per square foot. Balsa core with plywood or metal faces is also used. Similar constructions, not aircraft grade, are used for lightweight packaging, flush doors and insulating purposes.*

Right, plastic faced plywood. Material: Resin bonded plywood, as described above, with a plastic facing one side and compensating veneer the other. Sizes and prices per square foot: $\frac{1}{4}$ *inch: from* 10*s.* 6*d. Uses: working tops, counters, draining boards, etc. Plastic sheet can be fixed to a wood ground more satisfactorily during manufacture than by the builder, because of the critical glueing process and the need for compensating veneers to 'balance' the movement characteristics of the plastic. Also fixed to Laminboard, Lydneyboard and blockboard.*

6, *left, copper faced armourply. Centre, lead core plywood. Material: sheet lead sandwiched between two sheets of plywood. Sizes and prices per square foot: Up to* 3 *feet wide and* 8 *feet long: from* 18*s. Uses: as a protection against X-rays in hospital and laboratory work. Lead thickness depends on intensity of radiation. Sizes of panels limited by weight in handling.*

Right, veneer faced aluminium sheet. Material: $\frac{1}{8}$ *inch s.w.g. aluminium with a decorative veneer glued to it. Sizes and prices per square foot: Up to* 4 *feet wide and* 6 *feet long: from* 4*s., according to the value of the veneer. Uses: notions of architectural morality have relaxed now, but formerly we might have looked askance at this as a 'false' material. It is used for column casings, lighting troughs and so forth, and can be bent to shape against a mould after the fixing of the veneer to the metal.*

material and the laminates came apart and sheets warped badly, mainly for lack of an adequate adhesive. The modern high-grade plywoods have been made possible by the development of synthetic resin adhesives—urea and phenol formaldehyde. Previously phenolic adhesives were spirit soluble which prevented their use in mass-production. After the last war, water soluble phenol adhesives were produced which made possible a British plywood which is weather and boil proof.

Since the 'thirties, and more especially since the war, industry has responded to the panel idea and put on the market sheet and panel materials so numerous and so varied that the architect is in need of a catalogue raisonnée to survey what is available and to guide his choice. But this first response, although enriching the architect's resources, has revealed acutely the dimensional problem in manufacturing economics. Publicly, manufacturers take pride in a made-to-measure service, but privately they long for some co-ordinatory discipline. While this problem remains unsolved, and while technical possibilities are in a fruitful evolutionary stage, the catalogue raisonnée ought perhaps to be postponed. But some useful spade-work towards it can be done by way of limited collections of particular classes of product.

We thus present a range of some of the panels produced by William Mallinson & Sons Ltd. Two things about it should be emphasized: first, that not all the samples shown are stock products. Many were developed for customers' specific needs, although all are available. Second, that the firm does not cater only for the building industry; it serves the needs, among others, of ship and boat builders, aircraft constructors and vehicle manufacturers. For example, the balsa-cored panel (Fig. 5, *left*) was made for aircraft floors where high strength and low weight are vital. Likewise the honeycomb panel (Fig. 4, *right*), where the shaping of the impregnated paper core and its end fixity by gluing to the face plywood provides an astonishing degree of stiffness. This panelling has thinner plywood than is common in building work and is used for aircraft partitions and fittings.

It is not only the requirements of use that give rise to new kinds of product. For example, Laminboard (Fig. 2, *left*) is an alternative to traditional joinery framing and panelling, to provide large areas. But being made up from small size battens it also allows more economical use of timber. Lydneyboard achieves a similar end by using small wood particles which are made from the waste of ordinary plywood production. Early experiments with this kind of reconstructed wood proved that a mixture of wood gave an unstable finished product, so now only woods of the mahogany type are used. Lydneyboard is produced under heat and pressure, the synthetic resin providing the binding medium.

The purpose of this article is not to provide a comprehensive examination of all panels, but to present one particular range. For this reason we have not embarked on fixing or edge treatment problems. It is sufficient to record that the makers have evolved solutions for these problems. The prices given are only approximate, as they will vary according to size of panel, quantity and any preparation for fixing or edge treatment that is required.

[continued on page 276

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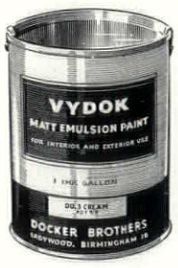

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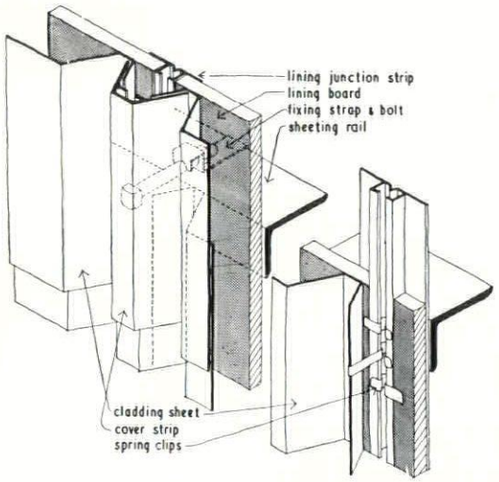
4 THE INDUSTRY

'KYNALOK' SECRET FIX CLADDING

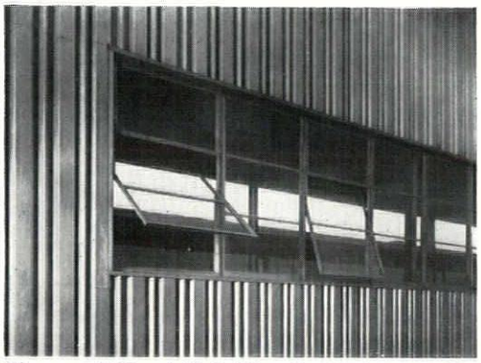
One of the great advantages of the 'Kynalok' (K.S.F.) secret fix system is that the sheets require no drilling and that the absence of bolt holes makes them 100 per cent reclaimable on dismantling.

The system comprises an insulation board, set in lining junction strips, with a profiled aluminium alloy cladding sheet.



Isometric of 'Kynalok' secret fix cladding. 'Edge treatment' for sills and ridge cappings is also made.

The deep profile creates an almost continuous 2 inch air space between aluminium and insulating board, giving a U value of 0.171 B.T.U./square foot/hour/°F.—much lower than the 0.3 of an 11 inch (unventilated) cavity wall. The K.S.F. system can be used with any framed structure, either metal or wood, and a full range of accessories such as eaves fillers, flashings, ridge cappings and sills are manufactured.



Close-up of 'Kynalok' cladding showing incorporation of standard factory windows.

Patent glazing, industrial sash windows or specially profiled 'Perspex' sheets may be incorporated. Our illustration shows the neat finish to a factory window opening. Sheets are designed to span 7 feet 6 inches on roofs, 10 feet on walls and to interlock with a simple lap joint.

The K.S.F. system is marketed by *Imperial Chemical Industries Ltd., Metals Division*, under licence to approved roofing and building contractors.

CARPET LAYING

Now that it is becoming the rule, where before it was the exception, for architects to specify carpets for large contracts, it does not seem out of place to remark here on a new method of carpet laying. Until recently there were two methods of laying: either with tacks which are always unsightly, or with ring and pin which is expensive. The new method, which comes to us from America, employs a spiked batten which is laid round the edge of the area to be carpeted. The spikes, which are inclined towards the outside edge, project far enough to grip the warp of the carpet but not far enough to be felt by people walking above. Apart from the saving of unsightliness this method has the advantage that it enables a carpet to be laid tight, which in

[continued on page 278



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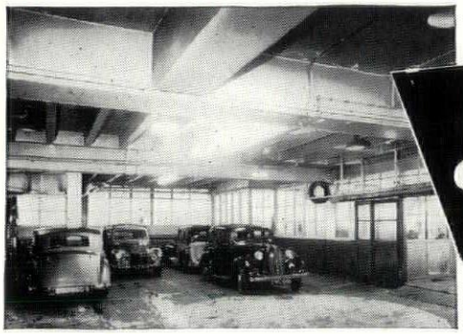

See-

HOW THE SCENE CHANGES

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TGA L7

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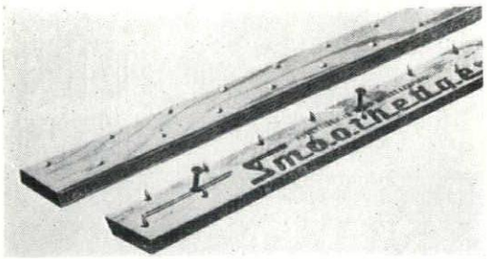
turn reduces wear. This is particularly valuable on staircases, where carpet life is much shortened by the 'play' which is inevitable with the use of traditional stair rods. 'Smoothedge,' as it is called, avoids



Top and bottom of 'Smoothedge' plywood strips.

the use of rods and enables the carpet on each tread to be drawn tight. Laying with 'Smoothedge' is more expensive than with tacking (though less than with ring and pin), but it looks far neater and the long term saving should be considerable.

Smoothedge Ltd., Bury Mead Road, Hitchin, Herts.

CONTRACTORS etc

Cricket Pavilion at East Molesey, Surrey. *Architect:* Basil Ward, of Ramsey, Murray, White & Ward. *General contractors:* George Wimpey & Co. *Sub-contractors: excavations, foundations, dampcourses, reinforced concrete, partitions, grates and gasfitting:* George Wimpey & Co. *Bricks:* Oxshott Brickworks, Ltd.; J. H. Sankey & Co. *Roofing felt:* F. McNeill & Co. *Glass:* Pilkington Bros. *Gas fixtures:* Ascot Gas Water Heaters, Ltd. *Electric wiring and electric light fixtures:* Troughton & Young, Ltd. *Plumbing:* Newman & Watson, Ltd. *Sanitary fitters:* B. Finch & Co. *Door furniture and window furniture:* N. F. Ramsey & Co. *Rolling shutters:* Dennison, Kett & Co. *Joinery:* Wm. Mallinson & Sons. *Bar counter and furniture:* Courage & Co. *Public address system:* The Westminster Chassis Co. *Water supply:* Metropolitan Water Board. *Paint:* F. & J. Pilling. *Formica:* Thos. de la Rue & Co.

H 55 Exhibition—British Flat. *Architect:* Eric Lyons. *Interior designers:* Michael & Jo Pattrick. *Entrance: paint:* Walpamur Co. *Fittings: lockset:* Josiah Parkes & Sons. *Door handle:* Comyn Ching & Co. *Cabinet knob:* Dryad Metal Works, Ltd. *Cupboard top:* Thos. de la Rue, Ltd. *Floor coverings: floor tiles:* The Glazed and Floor Tile Mfrs. Assn. *Furniture: what-not:* Procanta Manufacturing Co.; Tibor, Ltd. *Hat rack:* Hiscock Appleby & Co. *Blinds and fabrics: venetian blind:* Venetian Vogue, Ltd. *Light fittings: wall bracket:* The General Electric Co. *Study: decorations: wallpaper:* Arthur Sanderson & Sons. *Fittings: radiator:* The Beeston Boiler Co. *Furniture: bureau:* L. M. Furniture, Ltd. *Desk chair:* R. S. Stevens, Ltd. *Storage units:* Magpie furniture. *Bedsettee:* Dunn's of Bromley. *Chair: bench:* H.K. Furniture, Ltd. *Nest of tables:* Gordon Russell, Ltd. *Occasional table:* Herbert Berry Associates. *Radiogramophone:* Alfred Imhof, Ltd. *Light fittings: wall standard light fitting:* Troughton & Young (Lighting) Ltd. *Table lamp:* Francis Mackmin, Ltd.; Geo. Forrest & Son. *Cushion:* Heal & Sons. *Living Room: fittings: fire:* Allied Ironfounders, Ltd. *Floor coverings: rug:* S. J. Stockwell & Co. (Carpets). *Furniture: dining table and chairs:* W. G. Evans & Sons. *Settee and low back chair:* The Buoyant Upholstery Co. *Sideboard, fireside unit and wall fittings:* Conran Furniture. *Occasional table and occasional chair:* S. Hille & Co. *Light fittings: rise and fall light:* Oswald Hollman, Ltd. *Kitchen: floor covering: linoleum:* The Linoleum Mfrs. Assn. *Furniture: built-in fitments:* E. & H. Grace, Ltd. *Refrigerator:* Electrolux, Ltd. *Gas cooker:* Cannon (G. A.) Ltd. *Washing machine:* Hoover Ltd. *Table:* Kandya, Ltd. *Light fittings: wall light:* Merchant Adventurers, Ltd. *Ceiling lights:* Courtney Pope (Electrical) Ltd. *Passage: Wallpaper:* Cole & Son (Wallpapers) Ltd. *Bathroom: fittings: bath, pedestal washbasin, w.c., taps and towel rail:* Shanks & Co. *Floor covering: cork floor tiles:* Armstrong Cork Co. *Decorative panel:* Warerite, Ltd. *Bathroom cabinet:* Roanoid, Ltd. *Boys' bedroom: decorations: wallpapers:* Wallpaper Manufacturers, Ltd. *Furniture: chair:* Andrew Pegram, Ltd. *Fabrics: curtains:* David Whitehead, Ltd. *Parents' bedroom: Floor covering: Wilton carpet:* Ian C. Steele & Co. *Furniture: bedroom suite:* Loughborough Cabinet Manufacturing Co. *Fabrics: curtain fabric:* Edinburgh Weavers, Ltd. *Garden: terrace armchairs:* J. Collins & Son. *Rocking chair:* Ernest Race, Ltd. *General acknowledgements: contractors of prefabricated window units:* Wates, Ltd. *Makers of the above:* Leslie Bilsby, Ltd. *Internal kitchen partition:* Henry Day (Merton) Ltd.

Secondary Modern School at Bewdley, Worcs. *Architects:* Yorke, Rosenberg & Mardall. *General contractors:* Y. J. Lovell & Sons. *Sub-contractors: dampcourses and roofing felt:* Wm. Briggs & Sons. *Asphalt:* Constable, Hart & Co. *Bricks:* S. & E. Collier, Ltd.; Witney & Hardwick Lime Co. *Structural steel:* Power's & Deane, Ransome's, Ltd. *Patent glazing:* Williams & Williams, Ltd. *Woodblock flooring:* R. W. Brooke

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Church Hall at Chessington, Surrey. *Architect:* Kenneth Wood, in association with Henry Blyth. *Consultants: structural:* W. H. Willatts. *Electrical:* M. W. Bayley. *General contractors:* Thorogood & Sons, *Sub-contractors: dampcourses:* Ruberoid Co. *Bricks:* Uxbridge Flint Brick Co. *Load bearing blocks:* Thermalite Ltd. *Stressed skin ply-faced timber boxbeams, laminated mahogany columns:* Elliott's of Reading. *Roofing felt:* Permanite, Ltd. *Glass and rooflights:* C. Clifford Ltd. *Patent flooring:* Torginol, Ltd. *Cedar boarding:* Hazelby & Co. *Drainage conduits:* Key Engineering Co. *Central heating (radiant gas), gas fixtures and fittings:* South Eastern Gas Board. *Electric wiring:* Meredew & Sons. *Electric light fixtures:* Merchant Adventurers of London Ltd.; Simplex Electric Co.; Universal Metal Furring and Lathing Co.; Phillips Electrical Co. *Door and window furniture:* A. Roberts. *Gas heaters:* Radiant Heating Ltd. *Sanitary fittings:* Builders' Merchants. *Joinery (windows) and trofdek roofing:* Newsums & Sons. *Textiles:* Dryad, Ltd. *Furniture:* Remploy, Ltd. *R.c. concrete, bollards and cantilever steps:* Cooper Wettern. *'Veelap' ceiling lining:* Merchant Trading Co. *Sign writing:* Clifford Clark. *Paint:* T. Parsons & Sons. *Foundation stone:* F. Roberts. *Muntz metal nails:* J. Stone & Co. (Deptford).

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Correction

In the articles on Hurlfield and Chaddesden Schools, published in July issue of the AR, 'Asbestolux' ceiling panels were referred to as 'asbestos gypsum plaster boards'. These should have been referred to as 'Asbestos Insulation Board'.

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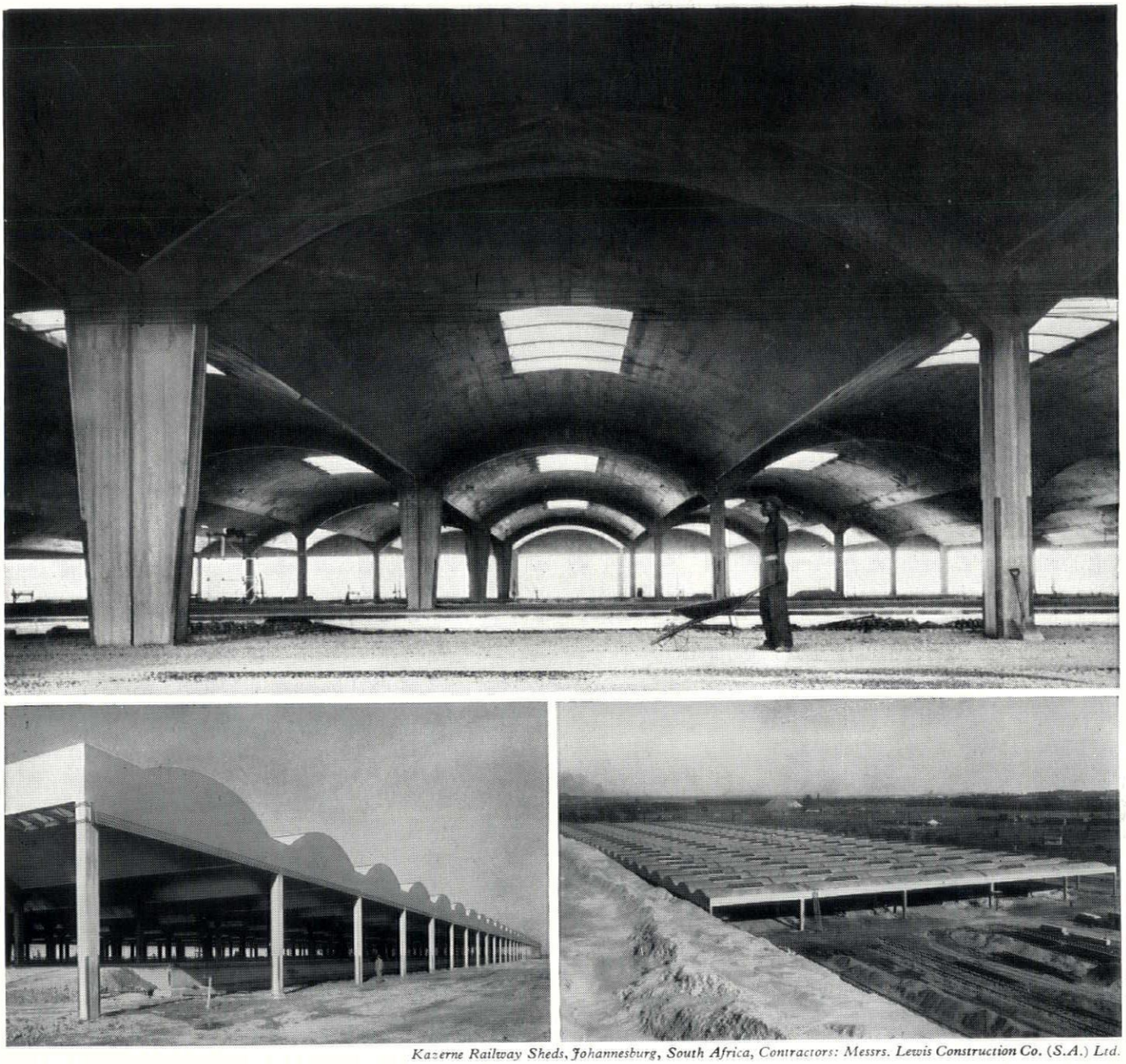

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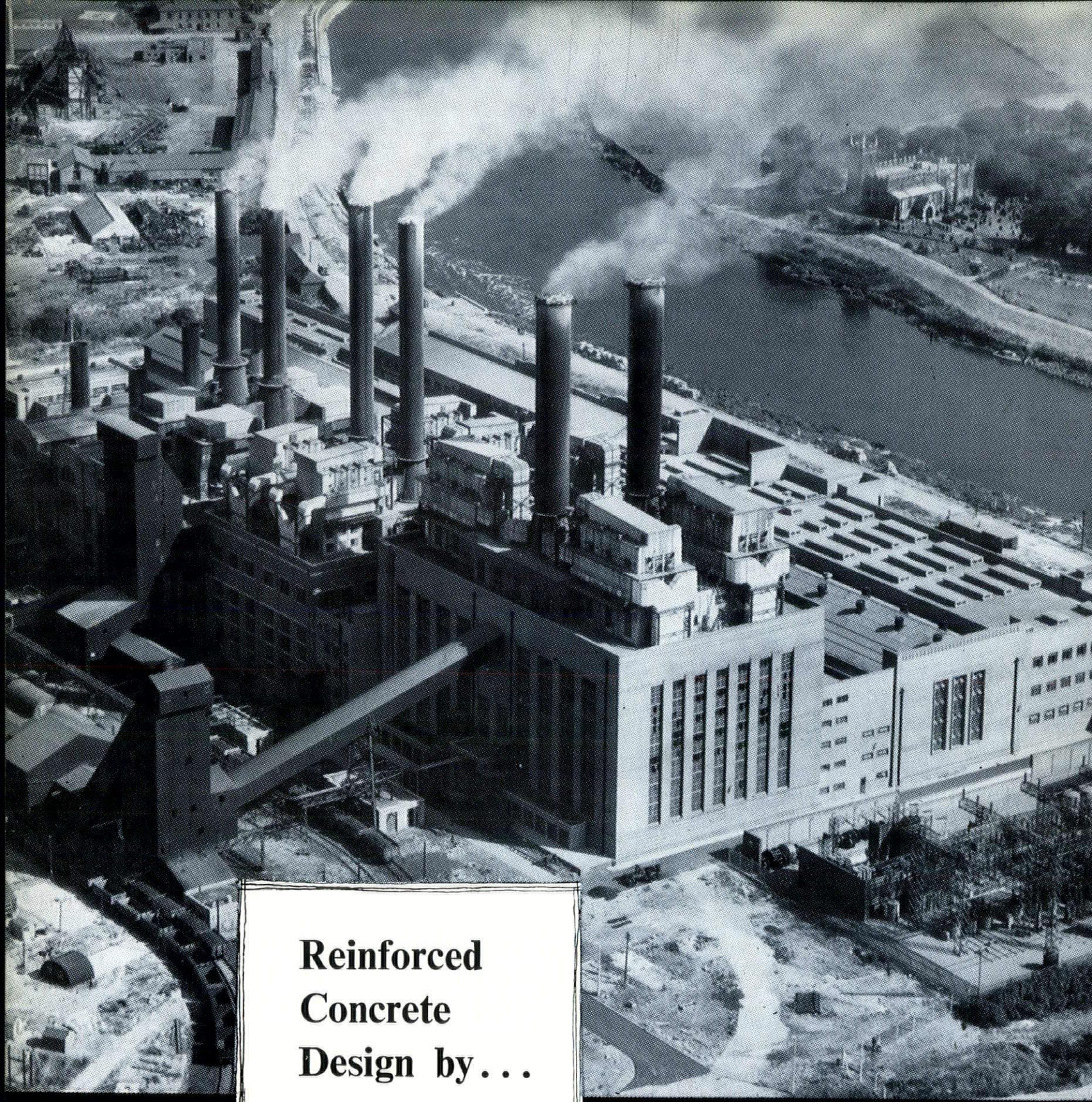

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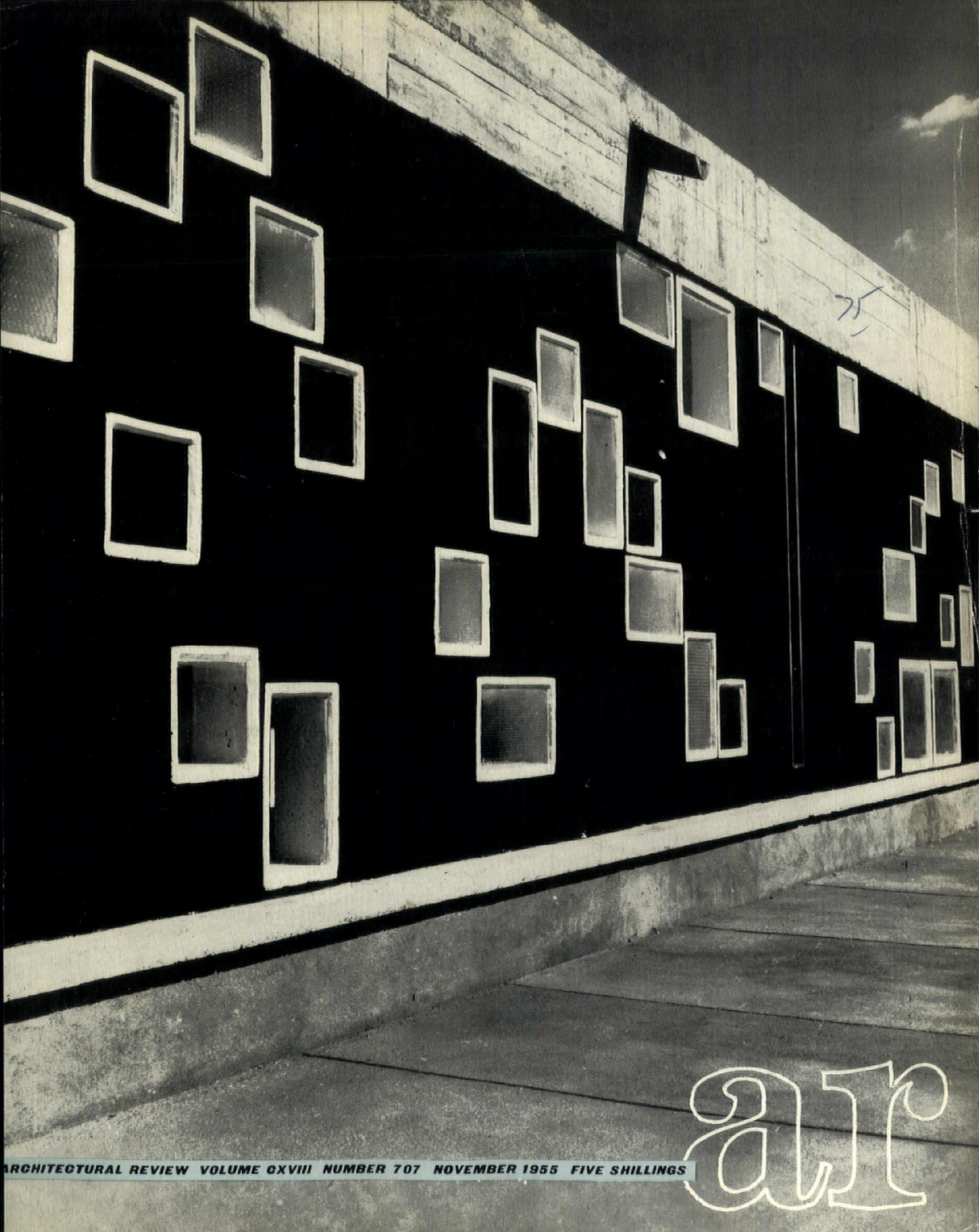

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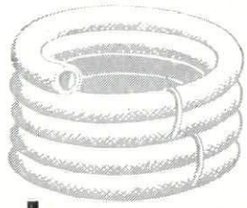

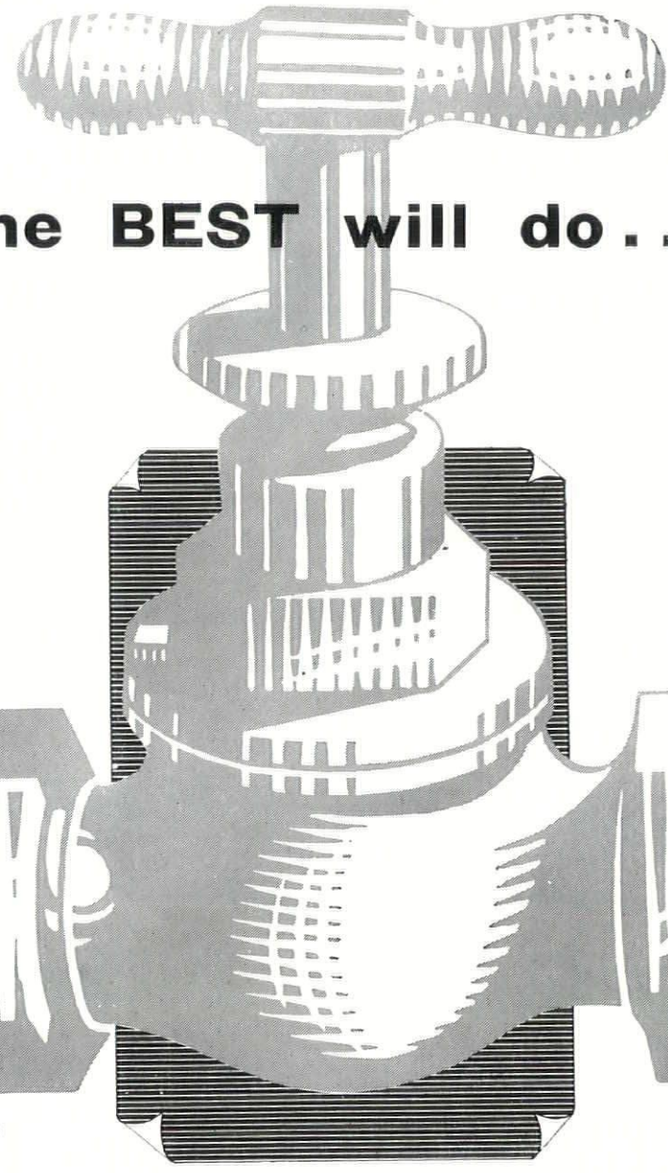

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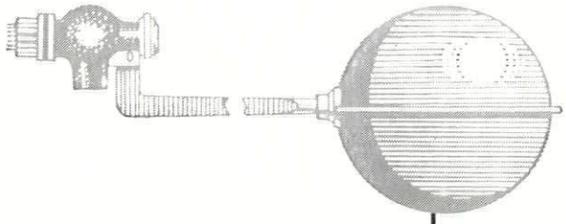

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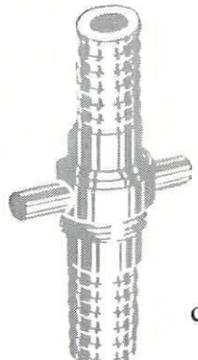

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MARGINALIA

Srubluk

'We have no right to waste our energy on worn-out tackle,' wrote Le Corbusier. 'We must scrap, and re-equip.' And, of course, every true son of the Pioneers agrees with him. But as is so often the case with large and all-embracing moral imperatives, it is not as simple as all that, and a certain amount of the tackle which we have inherited from the nineteenth century has now reached a condition of marginal obsolescence which is embarrassing for all concerned. The most widespread body of sufferers from marginal obsolescence are the minor distributaries of British Railways, country branch lines which don't quite pay their way, don't quite justify their staffing and upkeep.

British Railways' normal solution to this situation is surgical—the service is amputated from the time-table. But this, of course, merely leaves the static equipment of the branch—lines, bridges, stations, etc.—rotting in Subtopian neglect, and a big gap in the social life, employment pattern and transport grid of a rural district. Often, however, the exercise of some administrative imagination would be sufficient to lift an ailing line into a condition of marginal prosperity, and it is to promote action of this kind that the Society for the Reinvigoration of Unremunerative Branch Lines in the United Kingdom (SRUBLUK) has been formed.

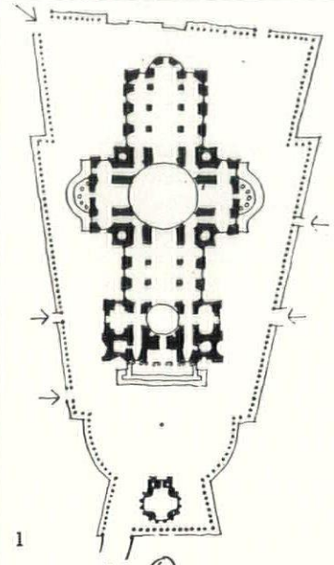
Unlike many organizations of the kind, SRUBLUK does recognize that the first task is to prove that such lines can be made to pay. This is a great advance on the Titfield-Thunderboltery and Quixotism which has rendered other organizations of this sort suspect in the past, and promises a sane and progressive approach which, astutely pursued and widely supported, could render a useful service to the mechanical equipment of rural areas and keep busy large-scale capital investments like bridges and embankments which have another century or more of use in them. Further information on SRUBLUK may be had from the Secretary at 156, Strand, London, W.C.2.

Fernand Leger

Fernand Leger, who died in August at the age of 74, was more closely involved with the Modern Movement in Architecture than any other painter of the School of Paris. Associated with the Ecole de Puteaux (the more 'intellectual' wing of Cubism) before the 1914 War, he was quite as interested in geometry as Juan Gris, quite as interested in machinery as Marcel Duchamp. The war provided him with an experience of solidarity with the French people, and of machinery at first hand. 'J'ai découvert là le peuple français. Dans le même temps, j'étais ébloui par une culasse de canon de 75 ouverte en

a plan for St. Paul's precinct.

Gordon Cullen's proposals for the rebuilding of the area around St. Paul's were described at length in the ARCHITECTS' JOURNAL for 18th August. Here they are set out in essence, with one example chosen out of the several Mr. Cullen illustrated in his historical survey—the Wren (some say Hawksmoor) piazza plan, which has much in common with his own.



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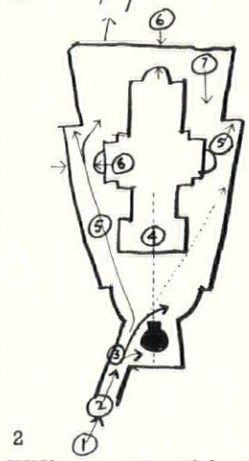
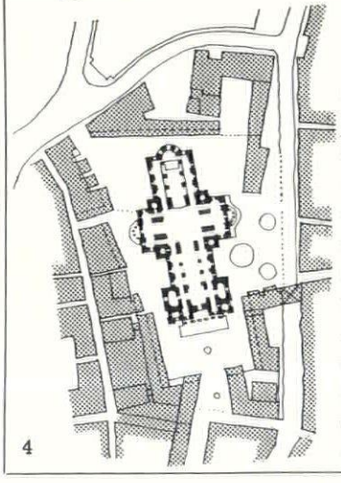


2

KEY: 1, non-axial vista. 2, sense of uniformity established. 3, development: north wall continues, south wall stops and reveals cylinder. The scene is progressively unfolded round the drum. 4, establishment of axis. 5, closure. Projection placed behind portico thus suggesting continuity. 6, narrows. Portico and east end used to articulate spaces not as focal points for vistas. 7, false perspective accentuates size of precinct.



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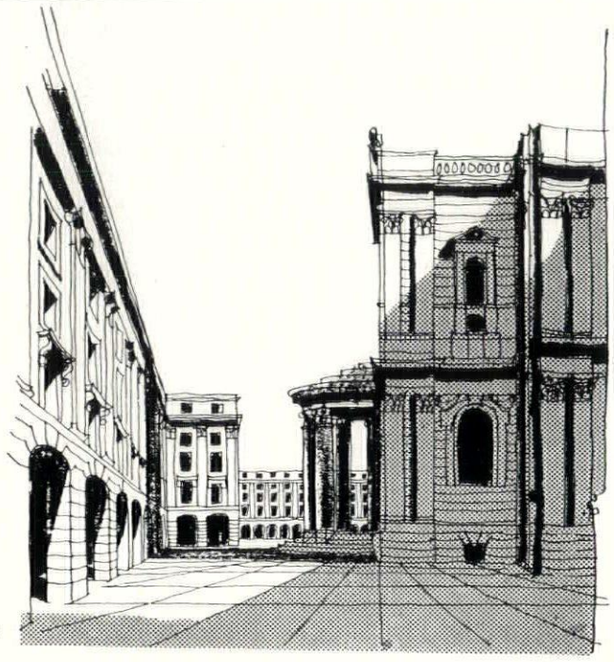

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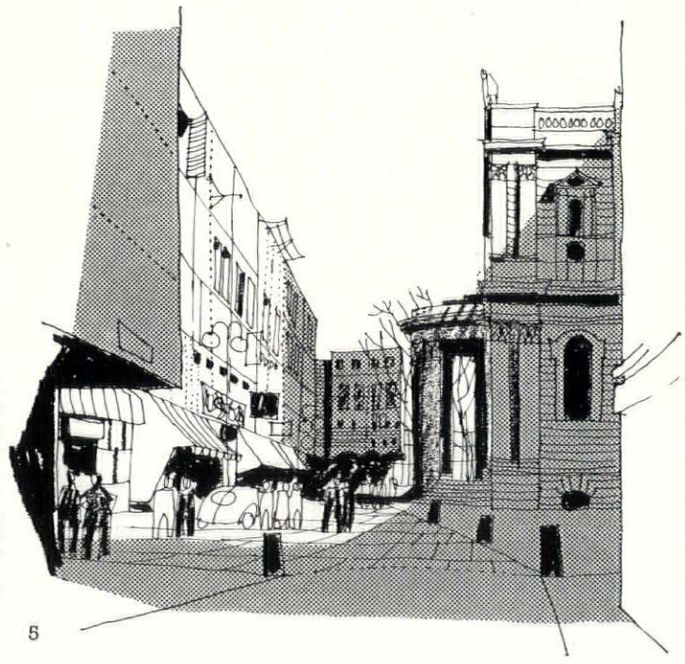


5

Wren's plan for St. Paul's precinct, or piazza, 1. Note the absence of axial vistas and the intimacy of scale. As compared with his well-known plan for the City of London this scheme marks a counter-resolution in that the fixed viewpoint system of the Italian renaissance is abandoned in favour of serial vision—the unfolding of views as one moves through the City. The diagram, 2, shows how this operates inside the precinct. In 3, a view along the north flank of the building, we see how spaces are articulated one from the other by the device of closure.

Gordon Cullen's plan for St. Paul's precinct, 4, seeks to embody this same visual drama in a new setting for the building. To bring the precinct to life, variety of function is added to spatial fluctuation. 5, again the north flank of the building, shows a busy shopping area which lies between the formal forecourt to the west and a tree-planted garden to the east.

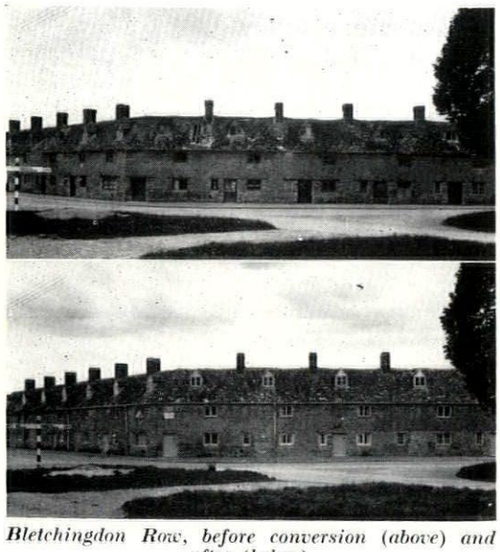
plein soleil, magie de lumiére sur le métal blanc' (as he later wrote) and he emerged from the war with a vision of common mass-produced objects as exemplars of the laws of form—a vision which was to make him a sympathetic collaborator of Le Corbusier and Ozenfant.

These two, on the threshold of *La Peinture Puriste*, he met immediately after the war through the shortlived revival of 'La Section d'Or.' They were fellow exhibitors at Leonce Rosenberg's, and Leger was one of the very few artists allowed to exhibit among the works of non-art in the *Pavillon de l'Esprit Nouveau* at the exhibition of 1925. This manifesto of the Corbusian ideal of the machine for living in, admitted paintings on the same basis as it admitted anything else—on purely functional grounds. Works of art being defined as *Dispositifs pour Emouvoir*, only those designed to give maximum reliable performance were acceptable—a classification which admitted Lipchitz, Gris and Leger's formal arrangements of objects of Common Beauty.

He came away from this experience with a definite bent for mural decoration, and a body of ideas about the effect of colour on space. His subsequent evolution of a vision of a simplified humanity—noble savages of an industrial epoch with their bicycles and their wholesome girl friends—has kept pace with a not dissimilar humanization of the work of Le Corbusier, though there has been very little in the way of further formal collaboration. He has been responsible for the mosaic façade of the Chapel at Assy, for the mural panels in the UN General Assembly, and has contributed works to the remarkable campus buildings at Caracas. But his real monument is probably the massive, simplified plasticity, and strong, positive colour of Le Corbusier's church at Ronchamp.

'Unfit for Repair'

Among this year's housing medals was an award to Thomas Rayson for his conversion of The Row at Bletchingdon, Oxfordshire. This is a pleasure, especially welcome to REVIEW readers, for this Row was to have been demolished by the Ploughley RDC—whose work was illustrated on page 384 of the 'Outrage' issue—and was only saved after a public enquiry, with the help of a grant from the Pilgrim Trust. Now that it has been proved that such a conversion can be achieved without magic, could the Council follow the lead of the Oxfordshire Housing Association and give first aid to the similar but less well-known Row at Bucknell before it is too late?



Bletchingdon Row, before conversion (above) and after (below).

More Light on Adam

The slow extension of our knowledge of the intimate workings of the Adam Brothers' office, of their personal relationships, the formation of their office style, has been taken a stage further by the discovery of over a hundred letters written by Robert Adam in the course of his Grand Tour of Italy, together with a notebook which seems to have been a private Debrett of useful contacts, significantly entitled *Acquaintances made during my travels with people at different places*. . . . These letters have been published in an intriguing article by John Fleming in the current number (1004) of *The Cornhill*, and cover the whole of his Continental excursion except (maddeningly enough) the vital first months *after* his meeting with Clérisseau, though the meeting itself, in Florence, is recorded. Even so, there is enough Clérisseau material here, including some rather shady manœuvring to keep his services without letting him steal Robert Adam's thunder, to reopen the problem of Adam-Clérisseau priority (ARCHITECTURAL REVIEW, April, 1955) and carry us a little deeper into the problem of the creation of Neo-Classicism in architecture.

Mr. Fleming's presentation of this material covers more than just the Clérisseau problem, of course, and records a remarkable change of personality, from a tuft-hunting young sprig in black velvet to a serious student of Roman remains, in green silk and ungartered stockings, working at his drawing board or notebooks from seven in the morning till six at night. It is an invaluable insight into the making of a genius of design, for which Mr. Fleming is to be congratulated on the discovery, and *The Cornhill* for the publication, for this kind of historical study is an adventurous break from that magazine's normal diet of travellers' tales and stories of *liaisons difficiles*.

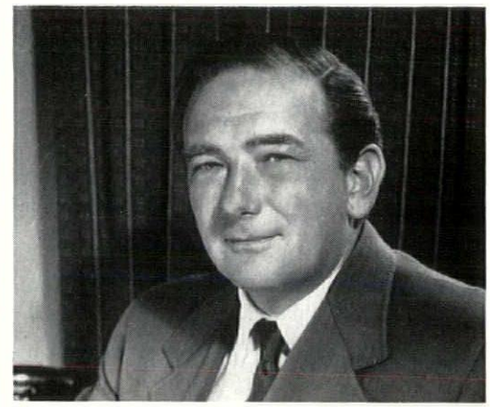
Memorial Exhibition

An exhibition of the work of the late McKnight Kauffer is at present being held at the Victoria & Albert Museum. It was opened last month by Mr. T. S. Eliot and will stay open until the 27th of this month.

Lectures this season

The following lectures and courses are being given in London during the coming months. London University extension courses (sessional): *Mediaeval Architecture and Decoration*, at the National Gallery, by A. Clifton-Taylor; *20th Century Architecture*, at Richmond Institute of Further Education, by R. Banham; *English Architecture*, at Goldsmith's College, New Cross, by A. W. Mauduit; *English Architecture*, at Leighton House, Kensington, by R. Furneaux Jordan; full details from Department of Extra-Mural Studies, Senate House, W.C.1. Free evening lectures, V and A Museum: *Early Victorian Taste*, by Winslow Ames, November 2; *The Rock Churches & Mediaeval Art of Ethiopia*, by Beatrice Playne, November 9; *Bavarian Castles*, by Prince Franz zu Wittgenstein, November 14; the *Chinese Taste in England*, by John Lowe, December 14. Free lectures, RIBA: *Brompton, London's Art Quarter*, by H. S. Goddhart-Rendel, December 6; *The Motorway and its Environment*, by Sir Owen Williams, January 10, 1956; *Ritual and Architecture in Megalithic Monuments*, by Stuart Piggott, March 6; *Colour in Buildings*, by D. L. Medd and H. L. Gloag, April 17; *Modern Church Design*, by Basil Spence, June 19. Chadwick Public Lecture: *The Centenary of London's Main Drainage System*, by J. Rawlinson, 90, Buckingham Palace Road, November 17.

Architect of the Assembly Hall at Rangoon. Raglan Squire trained at Cambridge School of Architecture for one year, left as he thought there was too little emphasis on the practical side of building, and spent the next year with Holloway Bros., working through their joinery works and stone masons' yard, and gaining site experience on such buildings as the Bank of England, Cumberland Hotel, etc.; considers this one of the



best things he ever did. Qualified at 25, having gained sufficient practical experience to start his own practice. During the war served in the REs and returned to become a partner in Arcon, working mostly on prefabricated buildings. Parted company with Arcon in 1948, and since then has been slowly building up the firm of Raglan Squire and Partners.

ACKNOWLEDGMENTS

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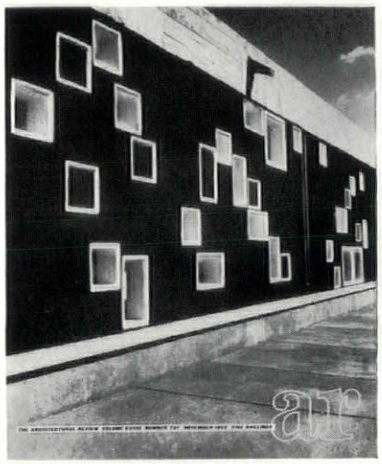

This month's cover is a view along the side of the crêche on the roof of Le Corbusier's recently-completed *Unité* at Nantes-Rezé. The black-painted wall, pierced by a random pattern of windows filled with glass of different textures, colours and degrees of obscurement, is another earnest of the Master's increasing interest in romantic surfaces to which James Stirling drew attention in THE ARCHITECTURAL REVIEW for September, 1955. But this wall also produces a characteristic optical glitter which contrasts forcibly with the matt, regularly-gridded surface of the block as a whole and may be, as is suggested on pp. 327 to 329, a variant of Le Corbusier's classic procedure of contrasting the roof structures against the rest of the block by purely geometrical means (impossible here for functional reasons).

281 **Marginalia**

284 **Frontispiece**

285 **Flaxman Bi-centenary** *by F.J.B. Watson* The English played a far greater part in the rise of Neo-Classicism than is generally realized for, in spite of the activities of the Comte de Caylus in Paris, the first works of classicism according to the prescriptions of Winckelmann were produced in Rome in the seventeen-fifties and sixties, either by English artists or at the instance of English patrons. The most highly regarded of the English Neo-Classicists was of a younger generation—John Flaxman, who did not reach Rome until 1789, yet rapidly acquired a reputation greater than that of any other European Neo-Classic. While his English reputation, and his standing in art-history, will always depend on his work in sculpture, and for Wedgwoods, his great reputation among his Continental contemporaries depended on his illustrations to Homer and Aeschylus. The resounding success of these engravings is to be traced, Mr. Watson suggests, to their place in the development of the Neo-Classical vision. With David's *Oath of the Horatians* this mode of vision had been lifted out of the naïvety and sentimentality of its first phase, and elevated to a new level of austerity, but this purification of the mode of vision could not be halted even at this stage, and as Mr. Watson traces the ensuing developments, a desire to purge the pictorial arts of even colour and chiaroscuro appears. The Homer illustrations, published in 1793, appeared at exactly the right moment to fulfil and consummate this development, exhibiting not only the 'true principles of composition' as learnt from ancient sarcophagi, but also 'the simple line of the antique', and thus summed up, for Flaxman's generation, exactly what classical art meant for them.

290 **Hotel in Istanbul:** *Architects, Skidmore, Owings and Merrill, in association with Sedad H. Eldem*

297 **Sullivan and Wright** *by Grant Manson* Because of its importance in the history of architecture, the association between Louis Sullivan and Frank Lloyd Wright has been much discussed and much studied, but it becomes very insubstantial at close range. When Wright joined Sullivan in 1887, the *Lieber Meister* was already a legend and a cult around whom disciples gathered. But he had only been practising his characteristic style for eighteen months or so, following the impact of H. H. Richardson's work, and was in fact, still only thirty-one. This comparative newness of Sullivan to his position of eminence may go some way to account for Wright's sudden rise in the office hierarchy, and the acquisition of a room of his own to work in when the office moved into the Auditorium Building in 1889. In addition there is evidence that Wright did more and more of the work on private houses, which did not interest Sullivan, even before the Charnley House of 1891, an admitted work of Wright and the building which marks his début as an independent genius. Under such circumstances, the master-pupil relationship seems unlikely to have been of the usual order, for there is also evidence of a back-influence from the house-designer on the designer of public buildings, and between 1891 and 1894 there persistently appear in Sullivan's larger commissions usages and details which contradict the general tendency of the design and seem much more apt to the world of domestic architecture. When Wright left the office, these deviations ceased, and the Guaranty building of 1895 resumes the natural line of Sullivan's pioneering development. Professionally speaking, Wright and Sullivan were not a team, but a collision between two self-confessed Celts.

301 **College at Pershore:** *Architects, Richard Sheppard and Partners*

304 **Dereliction** *by Kenneth Browne* There are vast areas of desolation and industrial blight in England in spite of the present pressure on land. These areas, still growing, represent a wastage which it is nobody's business to prevent, and ludicrous situations arise where, for instance, a factory cannot afford to dump its waste in a derelict hole next door, but must go some miles to dump on cheaper, virgin land. Among the rare instances of authorities trying to do anything about this tragic wastage, that of Lancashire is particularly praiseworthy. The Local Planning Authority encourages the reclamation of land for housing, schools and new factories, and by organizing co-ordinated tipping schemes is ensuring the reclamation of some selected areas where excavations and subsidence have led to flooding. One such area on the outskirts of Manchester will thus become riverside parkland (its original condition) in about twenty years, and to demonstrate the possibilities of this method and the manner in which it can exploit the existing features of blighted areas, the authors have selected an area at Leigh, near Wigan, and shown how it could be converted into a fine lakeside park with an arresting skyline, in an area whose normal condition is one of unrelieved flatness.

312 **Laboratories at Rangoon:** *Architects, James Cubitt and Partners*

318 **Assembly Hall at Rangoon:** *Architects, Raglan Squire and Partners*

322 **Current Architecture**

Miscellany

325 **Exhibitions**

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333 **London Airport Passenger Handling Building:** *Architect, Frederick Gibberd*

340 **Design Review**

342 **Techniques: Building Exhibition** *by John Voelcker*

348 **The Industry** 348 **Contractors, etc.**

Authors *F.J.B. Watson*, assistant director of the Wallace Collection and assistant surveyor of the Queen's works of art, was born in 1907 and educated at Cambridge. He has published a book, 'Canaletto', and his catalogue of the French furniture at the Wallace Collection is about to appear. *Grant Manson*, a past contributor to the AR (June 1953), has lately become Vice-Dean of the School of Fine Arts, University of Pennsylvania.

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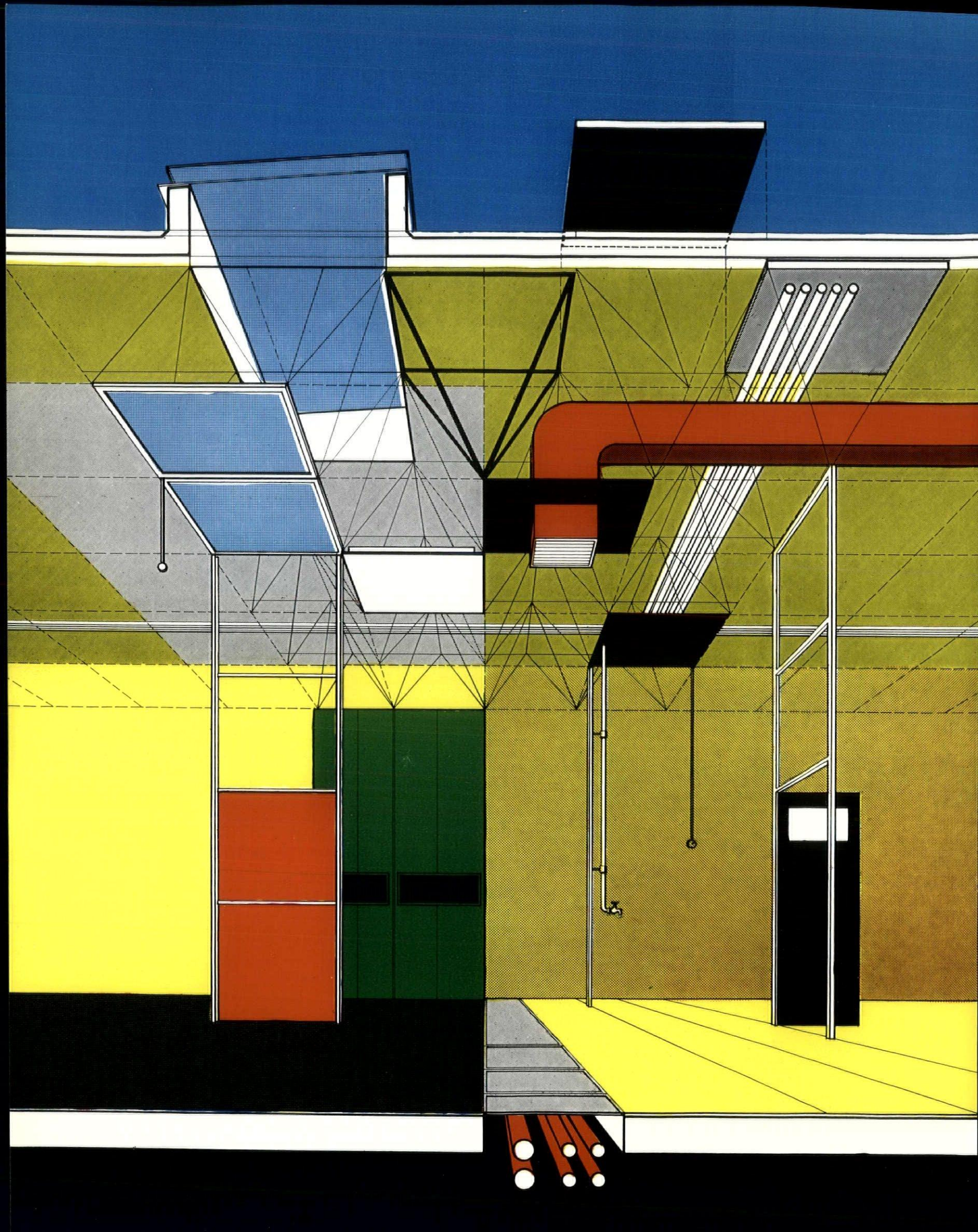


The geometrical elegance attainable in a rigorous evaluation of the structural requirements of a complex functional programme is admirably demonstrated by the new buildings for Burma Pharmaceutical Industry, designed by James Cubitt and Partners, and shown opposite  *in a diagrammatic capriccio by Gordon Cullen. The basic unit is the inverted pyramid, and the repetition of such units, their lower points connected by tension members, gives a space-frame deep enough to provide thermal insulation and ample room for service runs. On its upper and lower surfaces, this space frame presents a square grid on a four foot module, on which roofing may be laid, and to which ceiling panels can be clipped, but—in the nature of the geometry of the frame—a unit square of the lower surface cannot coincide on plan with one on the upper surface, so that daylighting is automatically indirect. The lower bosses of the pyramids are also drilled to support partition units, service drops and suspended machinery as shown, but the coloured plans in the background are not to be taken as actual walls. This ingenious design is fully illustrated and described on pp.* 312-317.

F. J. B. Watson

FLAXMAN

THE BI-CENTENARY OF AN ENGLISH NEO-CLASSICIST

English artists and patrons played a far larger part than is generally recognized in the revolution in European taste which took place round about 1760 and which brought about the classic revival. Neither here nor abroad, for example (except for the lone voice of Fiske Kimball crying in the wilderness), has Robert Adam been given the credit due to him for anticipating by several years almost every innovation of the Louis XVI style in furniture design and interior decoration. It is true that in Paris, even before the middle of the century, that "*antiquaire acariâtre et brusque*" the Comte de Caylus had been urging French artists to abandon the gallant themes beloved by Boucher and his emulators in favour of more truly classical subjects. His *Tableaux d'Homère et de Virgile* (1756) was designed to provide such a new series of subjects for artists just as his *Receuil d'antiquités égyptiennes, étrusques, grecques et romaines* (seven volumes, 1752-1757) was intended to provide them with a fresh repertory of decorative models. But Caylus's propaganda campaign only began to bear fruit when his especial *protégé*, the painter Vien, exhibited his *Jeune Corinthienne ornant une vase de Bronze avec guirlandes de Fleurs* at the Salon of 1761 and followed it two years later with his much more famous *Marchande d'Amours*. But a faded aroma of rococo sensuality and prettiness clings to both paintings in spite of the fact that the latter is inspired directly from a famous Pompeian fresco.

It was at Rome, the capital of the ancient world and the centre from which the neo-classic movement really spread through Europe, that the first truly classical paintings *à la* Winckelmann were created; paintings which anticipate David's *Oath of the Horatii* by more than twenty years. And in the forefront of this *avant-garde* movement was a group of young English artists led by Gavin Hamilton and Benjamin West. Between 1758 (when Lord Northampton seems to have commissioned a painting of *Andromache weeping over the body of Hector*) and 1775 Hamilton executed a whole series of paintings of subjects drawn from the Iliad or from Roman history. A few years later with his *Pylades and Orestes*, West embarked on the first of a similar group of paintings. Even Mengs, generally thought

of as the high priest of neo-classic painting, only produced his first work with a purely classical subject, the *Augustus and Cleopatra*, in 1761 and even then the commission came from an English patron, Sir Richard Colt Hoare of Stourhead, who selected the subject and laid down the programme of the picture himself with the greatest care. These English works awoke the liveliest interest in Rome and evoked enthusiastic praise from the most learned protagonists of classical art such as Winckelmann and Bottari. In these paintings there is none of the sentimental moralizing and rococo prettiness of Vien's far more celebrated works. Their composition was based on the principles of design of classical bas-reliefs; great care was taken to get details of costume and settings archaeologically accurate. If to us they seem dry and empty, to their contemporaries they appeared, in words William Beckford was to use a few years later, "to breathe the true spirit of Corinth and Rome." Their influence was widespread, for Cunego's engravings after them immediately found a ready market throughout Europe. As an instance of the impression they must have made and continued to make on contemporary artists of the first rank, it is worth comparing Hamilton's *Andromache weeping over the body of Hector* of 1762 with David's painting of the same subject. The French painter has taken the figure of the dead Hector direct and quite unchanged from the engraving after Hamilton's picture painted exactly twenty-one years before.[1]

It is not, of course, to be contended that either Gavin Hamilton or Benjamin West is a great artist, *sub specie aeternitatis*. When Hamilton's rare surviving canvases are found, dirty, darkened, sagging loosely on the stretchers, and forgotten, banished to the back staircase of some great English country house, it is very apparent that their present day interest is purely archaeological; and few visitors to Kensington Palace feel drawn to linger before West's *Regulus returning to Carthage* (1769) or his *Wife of Arminius brought captive before Regulus* (1772). Both artists were, however, catalytic agents who played a key role in bringing about a change of taste which affected the art of every European country profoundly. If they are all but forgotten today in their native country, they are even less remembered elsewhere. If any figurative artist is widely thought of as the English representative of neo-classicism, it is neither of these but John Flaxman who was only 7 years old when Hamilton was creating a sensation in Rome with his *Achilles dragging the body of Hector round the walls of Troy* and who lived into the era when Turner and Constable, Bonnington and Delacroix had already firmly laid the foundations of nineteenth century romantic painting.

[1] On the influence of English painting on the French neo-classical style see J. Locquin: *Le Retour à l'Antique dans l'Ecole Anglaise et l'Ecole Française avant David* (Le Renaissance de l'Art Français et des Industries de Luxe, 1922, p. 273ff.). Since this article was written Professor E. K. Waterhouse's Henriette Hertz lecture for 1954, *The British Contribution to the Neo-Classical Style in Painting*, has been published and adds very materially to Locquin's pioneer work.

The neo-classic style was well established by the time Flaxman began to develop as an artist. When, as a boy, he received his first commission, it was for a group of drawings of classical themes, and the subjects of many of his earliest exhibits at the Free Society of Artists exhibitions had already been chosen from classical history when in 1775 he first began to work for Josiah Wedgwood.[2] In undertaking work for the Etruria factory, he found himself in the employ of a man who was absolutely obsessed by neo-classic taste. At first Flaxman was required to model small-scale reliefs for application to pottery, often based on classical prototypes such as the well-known *Apotheosis of Homer* (after an antique relief now in the Colonna collection), or the more sentimentalized classical designs of contemporary artists such as Cipriani's *Sacrifice to Hymen* or Clodion's celebrated *Wine* and *Water* vases. But although his work for Wedgwood may have proved an excellent discipline, it provided little scope to develop his own artistic personality.

[2] Flaxman was brought to Wedgwood's favourable attention a good deal earlier than this. In a letter to Bentley dated September 7, 1771, he writes: 'Mr. Freeman of Schute Lodge in Wilts . . . is a great admirer of young Flaxman and has advised his Father to send him to Rome which he has promised to do. Mr. Freeman says he knows young Flaxman is a Coxcomb, but does not think a bit the worse of him for it *or the less likely to be a great Artist.*' (*Letters of Joseph Wedgwood* (privately printed 1903), Vol. I, pp. 427–8.)



1, *Gavin Hamilton*, Andromache bewailing Hector, *engraved by Cunego (detail)*.



2, *David*, La Douleur d'Andromaque (*detail*).

In these early years, Nollekens, who did not like Flaxman, complained that he was 'always talking of the simple line of the antique,' adding 'why, he has never been at Rome; he has never been over the Alps, he has never been up at the top of Mount Vesuvius where I have washed my hands in the clouds; what can he know about the matter?' Thomas Banks, to whom these querulous remarks were addressed, replied, 'Well, well, we shall see; he will be going to Rome one of these days.' The long promised opportunity for this came relatively late in Flaxman's life, in 1789, when, with the encouragement of Romney (whose significance as a neo-classic artist has been almost totally overshadowed by his fame as a portrait



3, *Flaxman, the Iliad*, Vulcan and Chares receiving Thetis.

painter) and the assistance of Wedgwood, he set off for Italy. Flaxman took what this turn of fortune offered with both hands, throwing himself with enthusiasm into the study of classical antiquity and to a lesser degree of early Italian painting and the work of his contemporaries in Rome. His letters to Romney show the passionate enthusiasm with which he was studying buildings, sculpture, Etruscan vases, Roman sarcophagi and all the debris of the Ancient World. To help maintain himself he was supervising a group of artists who were reducing and adapting models from the antique for the Etruria factory, and at the same time executing various commissions for classicizing sculpture of his own, commissions received from his countrymen visiting Rome on the Grand Tour. Amongst these last, the most important was the commission from the Earl-Bishop of Bristol-Derry to execute the huge marble group of *The Fury of Athemas*. The unhappy history of this work is well known, though if it brought Flaxman much loss and unhappiness it at least caused him to prolong his stay in Rome from the two years originally projected to seven, and thus put him in the way of the commission which earned him a European reputation.[3]

Sometime about 1792 he was asked by a Mrs. Hare-Naylor (grandmother of Augustus Hare, the well-known author of *Walks in Rome* and numerous other favourite travel guides of the Victorian age) to make a series of drawings illustrating the *Iliad* and the *Odyssey*. These outline drawings were engraved by Piroli and issued in Rome in 1793; two years later they were re-issued in London with the plates of the *Odyssey* re-engraved by Blake to replace the original set lost at sea. Success was immediate, not only in England but also elsewhere. A French edition quickly followed (or may even have preceded) the London edition. Meanwhile Flaxman had received a further commission from the Dowager Lady Spencer for thirty-one illustrations to

[3] It is worth remembering that in fact the Earl-Bishop kept faithfully to his part of the bargain, paying in full the price demanded which Flaxman, in the excitement of receiving so important a commission, had grossly underestimated.



4, *Flaxman, the Odyssey*, Apollo and Diana discharging their arrows.

the tragedies of *Aeschylus* which were also engraved by Piroli and issued in Rome and London almost simultaneously. A German edition of the *Aeschylus* appeared in 1802 and was followed by the *Odyssey* and *Iliad* two years later. Flaxman found himself suddenly a figure of European fame. Before he left Italy he was elected a member of the Academies of Ferrara and Florence. Three years after his return to England he was elected an A.R.A., and in 1800 made a full Academician.

To understand the reasons for the sudden and resounding success of these Homeric illustrations it is necessary to consider the development of neo-classic aesthetics since 1760. By 1790 neo-classic theory and practice had travelled far since the inception of the movement. With David's *Oath of the Horatii* of 1785, one of the great climacterics of the movement, neo-classic painting had passed far beyond the slightly naïve historical approach of Hamilton and West or the sentimentalized classicism of Vien, Angelica Kauffman or Clodion. In the succeeding twenty years art had turned its back firmly on rococo frivolity and adopted a very consciously austere attitude. Ideal Beauty, deprived of all accidental elements, was the aim of art, which was also expected by its practitioners to convey a moral message and in David's view, at any rate, it ought to instil the political morality and values of Republican Rome. After freeing himself completely from the influence of Boucher, his first master, David developed a hard, unsympathetic method of painting, deliberately eschewing any appeal in the handling of his paint such as had accounted in part at least for the success of a Fragonard or a Chardin. But by 1790 it was beginning to be felt in advanced circles, especially in Rome, that even this disciplining of the physical character and ethical content of art had proceeded insufficiently far. Even the austerity of Davidian classicism itself needed purifying and academic theory must be pushed to its logical conclusion. Ideal beauty must be generalized, all accidental elements, such as colour and even shadow must be reduced to a minimum, or, if possible, eliminated. As early as 1785, Volpato and Morghen were already priding themselves on their engravings after antique statues '*in simplici contorni con poche ombre.*' But antiquity itself had provided artists with better models for this 'silhouette' art in the Greek vases that were being dug up in such quantities in South Italy and were being collected with such avidity, especially by the English.

The catalogue of Sir William Hamilton's first collection of these 'Etruscan' vases (as they were then called), issued in 1767, had been sumptuously produced, the greater number of the illustrations being in hand-coloured facsimile. Neither pains nor expense were spared, and the result is still one of the most beautiful examples of book production of the second half of the eighteenth century. When the time came for a catalogue of the second collection which Hamilton formed after disposing of the first to the British Museum, a different type of reproduction was decided upon. Tischbein, the friend of Goethe and head of the Academy at Naples, undertook to illustrate it by outline engravings. In doing this, Tischbein felt that he was not only purifying art, 'reviving the noble simplicity of drawing,' but rendering a service to his pupils at the Academy by providing them with a repertory of antique costumes, furniture, etc. The first of his five volumes appeared at Naples in 1791 and was an immediate success.

There can be little doubt that it made a great impression on Flaxman just at the moment when Mrs. Hare-Naylor's commission provided him with an opportunity to do some original work of the same character as Tischbein's vase copies. We have already seen that he had long been talking of 'the simple line of the antique,' and we know from his letters to Romney that he had been studying Greek vases assiduously whilst in Italy. To the same correspondent he writes: 'The ancient Sarcophagi present a magnificent collection of compositions from the great poets of antiquity—Homer, Hesiod, Aeschylus . . . the study of these will give the young artist the true principle of composition.' The Homeric drawings are the fruit of such studies as these; for they are tributes to 'the simple line of the antique' and 'the true principles of composition' as found in antique sarcophagi. They exactly hit enlightened public taste of the moment and it was they, together with his later series of outline drawings from Aeschylus (and subsequently from Dante), which brought Flaxman a reputation which lasted almost a century and was continuously fed by new editions in almost every Western language. The reason for their popular success is not hard to seek. It is all very well to say, as has a modern writer, that they exhibit 'the forms of classic art less as an embodiment of the classic than as a means to express the sentimental refinement which was the mark of the age.' As Anatole France reminds us, '*chaque generation imagine à nouveau les chefs d'œuvres antiques et leur communique de la sorte une immortalite mourante.*' To say, as the writer of the above quoted passage does, that 'the enthusiasm for classical antiquity which filled the air was not particularly robust,' is to miss the point and read history backwards from an unwarrantably superior standpoint of our own. Flaxman in his line drawings summed up for his own generation exactly what classical art meant to them.

The Homeric illustrations are not, of course, the aspect of Flaxman's work which appeals to us to-day, and for which we value him. And it was not for these works that his English contemporaries came to esteem him. Sculpture was, after all, the main concern of his life; the line drawings were only, in a sense, pot-boilers. After his return from Rome he devoted himself for the rest of his life to sculpture and principally to memorial sculpture. It is on this that his real and permanent reputation must rest. But in these his neo-classicism takes a new and specifically English turn; consequently they hardly concern us here. The sentimentalizing side of neo-classicism played an increasingly important part in Flaxman's memorials. Sir Thomas Lawrence justly said of him, 'though the master of its purest lines, he was more the sculptor of sentiment than of form.'

There are a number of reasons why English sculpture and painting diverged markedly from French in the years between 1795 and 1815. David became the virtual dictator of French art during the earlier stages of the Revolution. With the rise of Napoleon and the establishment of the Empire, the austere romanizing

side of David's art received new impulse, art became an instrument of propaganda and was used to underline the parallels between Napoleon's European Empire and that of Imperial Rome. This very fact alone made it anathema in an England at war with Napoleon. The reverse proposition was not true, however; for David himself admired Flaxman, and on seeing the Homeric illustrations remarked, '*cet ouvrage fera faire des tableaux.*' But when Flaxman, like so many artists, visited Paris during the short Peace of Amiens, he refused to meet the 'atheist and King-murderer,' although David indicated that he would have liked to know him personally.

When he died in 1826, the *Gentleman's Magazine* wrote that Flaxman had 'acquired a higher reputation than any artist of our country excepting Sir Christopher Wren and Sir Joshua Reynolds,' and although the comparisons give an exaggerated eminence to Flaxman as an artist, the statement is probably not too unfair as an estimate of his international reputation. Even so romantic an artist as Ary Scheffer could write as late as the 1840's that every young artist '*veut avoir son Flaxman, comme chaque veut avoir son Albert Durer, son Rembrandt, son Goya.*' And speaking to a friend of his masterpiece, *Francesca da Rimini*, he said: 'If I *have* unconsciously borrowed from ANYONE, in the design of the *Francesca*, it must have been from something I had seen among Flaxman's drawings.' But amongst Continental artists there were a few for whom he was more than merely the author of the Homeric illustrations, especially in Italy where his first resounding success had been achieved. Canova greatly admired him as a sculptor, and other Italian sculptors thought highly of him as well. Perhaps the most remarkable tribute ever paid to him by a fellow artist was made by the Italian sculptor Bartolini. A year or two before Flaxman's death, in the course of a letter to his father, the future Prime Minister of England, young Benjamin Disraeli, reported a conversation he had had with Bartolini:—

Florence, Sept. 29, 1825.

'There are some clever artists and sculptors at Florence, among the latter, since the death of Canova, Bartolini is reckoned the most eminent in Italy. He is a man of genius. I had the honour of a very long conversation with him, of course, upon his art. He is a friend of Chantrey, but the god of his idolatry and indeed of all the Italians, is Flaxman. Bartolini said that he considered Flaxman had revived the taste of Europe, that he was a classic, and that he thought a young man might study his works with as much advantage as the treasures of the Vatican or the Tribune. He asked me to explain the reason for the indifference of the English to this great man, and expressed his surprise at finding him almost unknown to the great number of our travelling countrymen, and little esteemed even by our great artists. He mentioned Wilkie's opinion of Flaxman with his eyes up to the sky. It seems the English Teniers is no great admirer of one whom Bartolini says is the greatest poet that ever lived, though he never wrote a verse.'[4]

Tributes to English art and artists from Continental sources are sufficiently rare to make this little-known one worth quoting at length in the year which marks the second centenary of Flaxman's birth.

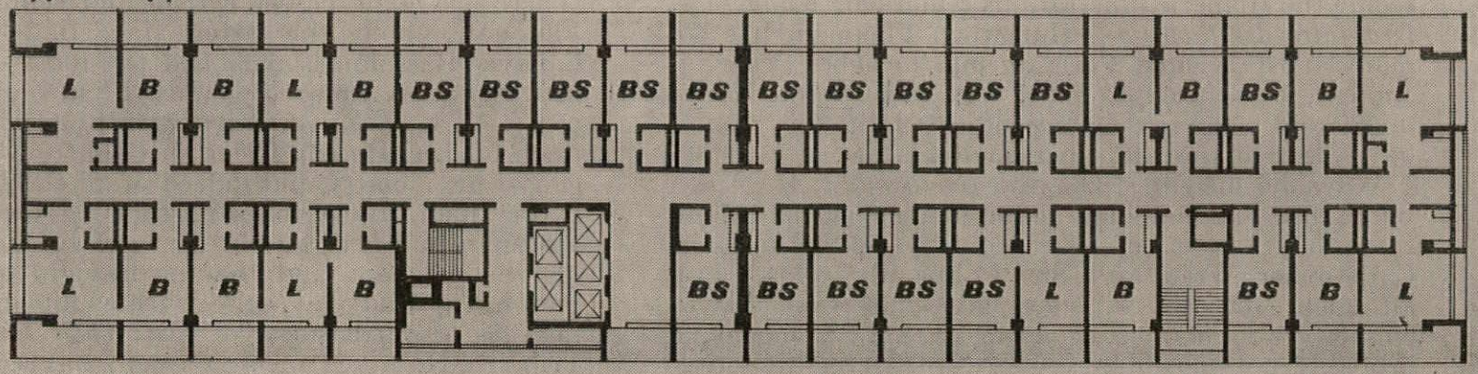
[4] *Life of the Earl of Beaconsfield*, by W. F. Monypenny (1910), Vol. I, p. 107.



5, Flaxman, self-portrait.

HOTEL AT ISTANBUL

typical upper floor



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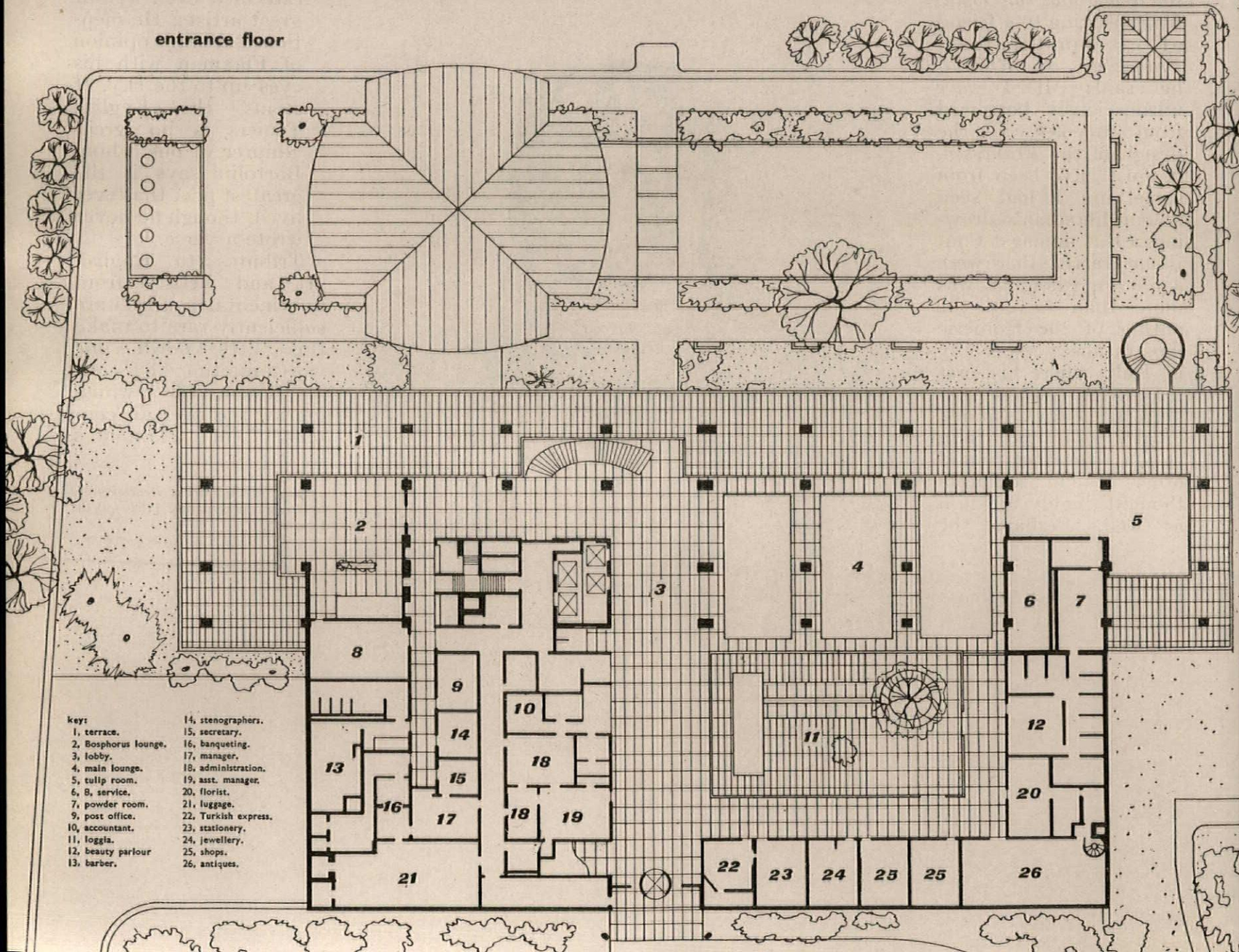
entrance floor



key:
1, terrace.
2, Bosphorus lounge.
3, lobby.
4, main lounge.
5, tulip room.
6, 8, service.
7, powder room.
9, post office.
10, accountant.
11, loggia.
12, beauty parlour
13, barber.
14, stenographers.
15, secretary.
16, banqueting.
17, manager.
18, administration.
19, asst. manager.
20, florist.
21, luggage.
22, Turkish express.
23, stationery.
24, jewellery.
25, shops.
26, antiques.

HOTEL IN ISTANBUL

ARCHITECTS | **SKIDMORE, OWINGS & MERRILL**

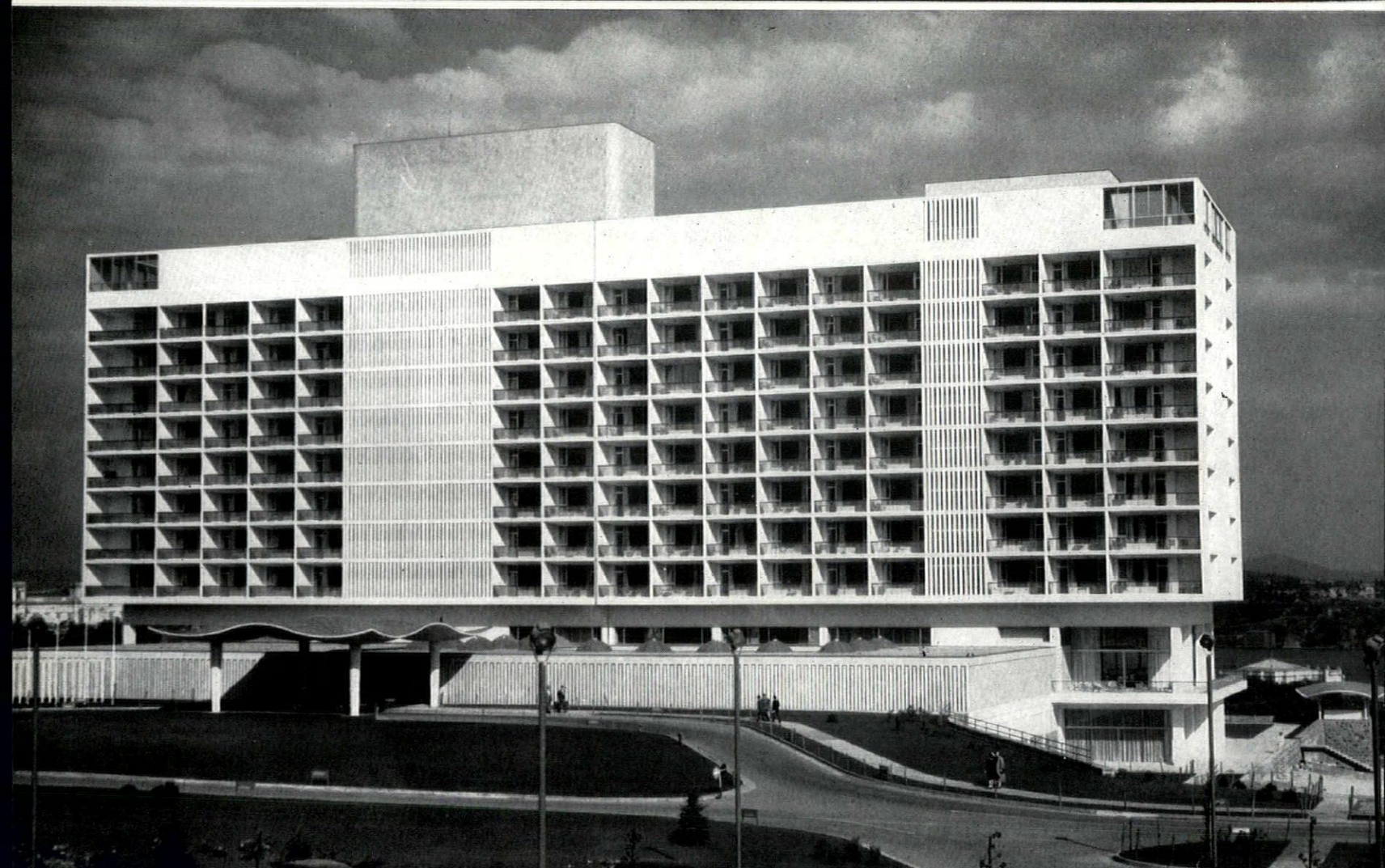
in collaboration with | **Sedad H. Eldem**

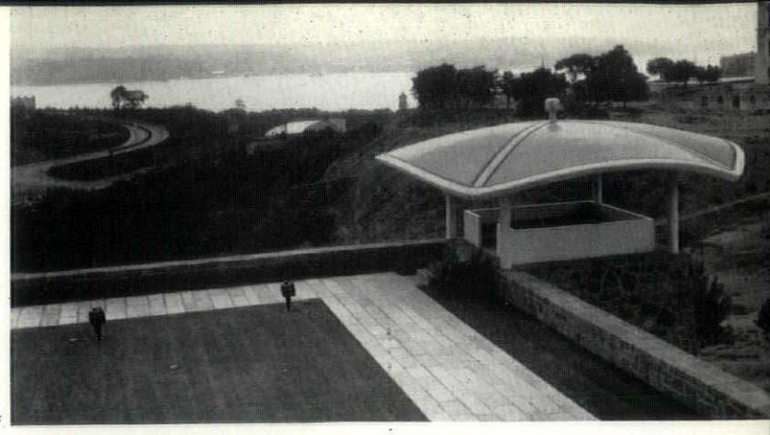
1, view of Istanbul Hilton from the south-east ; the hotel entrance is on the extreme right. The Bosphorus is behind, with the old city on the further shore.



The Istanbul Hilton Hotel is the fourth hotel to be opened which is operated outside the United States by Hilton Hotels International Inc., the others being in Madrid, Puerto Rico and Chihuahua, Mexico. In all four cases, the building was financed locally and Hilton Hotels are lessees. Five others are under construction,







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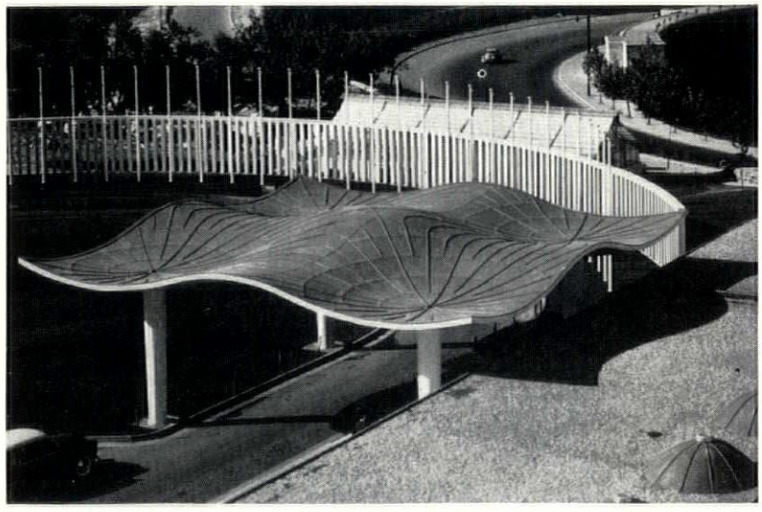
On facing page, 2, above, the hotel's front to the Bosphorus and, 3, the west (entrance) front. The block rising from general roof level is the building's service core. The large canopy, right of 3, encloses the Sadirvan supper room. 4, closer view of small terrace canopy, also seen in 3, with a mosaic roof.



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while more are under contract or at the 'discussion stage'.

The Istanbul Hilton is on a high promontory overlooking the Bosphorus, occupying 20 acres of a public park. It has 11 storeys and contains 300 rooms and suites. The structure is of reinforced concrete standing on continuous footing beams. Beams throughout the building are over-sized, to economize in steel and to lessen the danger from earthquakes. The main block contains the bedrooms and follows the plan of most tourist hotels ; the lower floors, however, are extended to provide lounges, restaurants, shops, private conference and banqueting rooms, all opening out on to the gardens. The entrance floor contains the main lounge which has two long walls of aluminium-framed glass, one overlooking the enclosed landscaped patio, the other overlooking the garden and reflecting pool, with the Bosphorus beyond. The canopy over the entrance on the north-west side, inspired by a gate of the Old Seraglio, characterizes the chief decorative motif of the hotel ; cupolas crowned with pinnnacles are incorporated in the lobby and shop ceilings. The south wall of the lobby is constructed of turquoise Kutahya tiles decorated with traditional Turkish motifs. The lobby furniture is all contemporary in style in contrast to that of the adjoining 'Tulip room', where wooden grilles, silk draperies, low couches and old and modern painted furniture are combined to create an oriental atmosphere.

A reinforced concrete marble-faced staircase descends to the garden-level floor ; here the Terrace restaurant, which seats 500, has folding floor-to-ceiling panels which can divide it into several individual entities ; and the ceiling is of perforated aluminium panels. Three walls are oak-panelled ; the fourth, facing the Bosphorus, is



7

5, the patio on the entrance floor surrounded by the lobby and a number of shops. The two cupolas seen beyond are part of a series which stud the lobby roof. 6, the reinforced concrete canopy shie ding the hotel entrance, based on the Gate of Felicity, which forms the entrance to the inner courtyard of the old Teraglio. 7, a reinforced concrete stair, leading from the main terrace to the garden below ; the stringcourse is faced with travertine.

8, above, the main lounge, looking from the entrance towards the long window-wall facing the Bosphorus. Cupolas are seen in the ceiling. 9, right, entrance to one of the lifts ; the surrounding wall is faced with marble strips.

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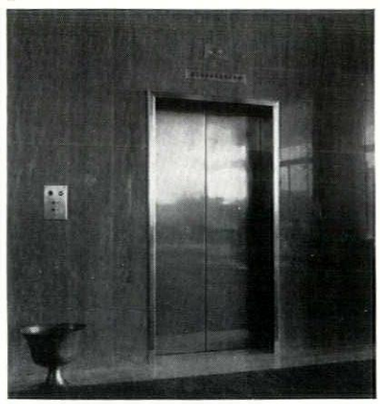
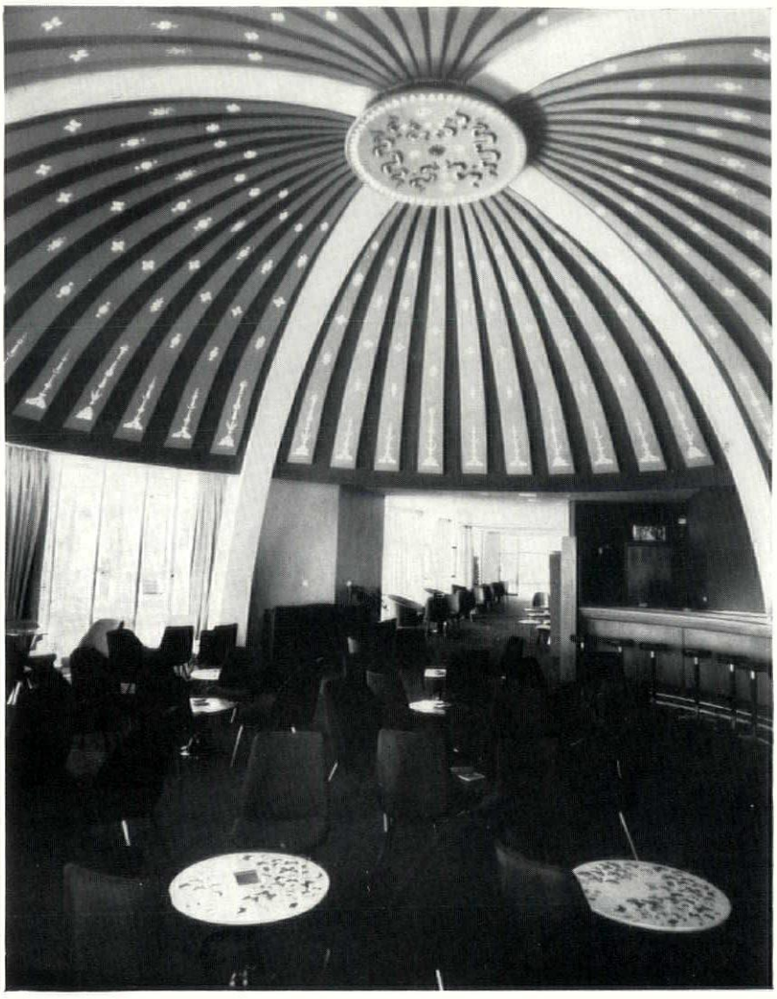


HOTEL IN ISTANBUL

glass. A covered way leads to the 'Sadirvan' (fountain) supper room, with a large cupola ceiling and a sprung floor. The small 'Karagoz' bar, between the two last-mentioned rooms, is decorated with karagoz (puppet theatre) figures. On the hotel roof is the Marmora bar ; its domed ceiling has decorated fins radiating from a central medallion, the whole lit by hundreds of small concealed lights. An adjacent roof-garden has facilities for dancing.

All guest rooms have a bath and shower and a private balcony. Access to the balcony is through an aluminium-framed glass door forming part of the window wall running the whole length of the building. All the bedroom furniture, except the chairs, has been supplied to



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10, interior of the Marmora bar, situated on the hotel roof: the 40 fins and the central medallion in the cupola are decorated with motifs abstracted from Turkey carpets. 11, a typical bedroom interior, showing the English-made teak furniture and a wall panel designed by Piero Fornasetti. The radio cabinet has a perforated formica front. 12, the Terrace restaurant on the garden-floor level. The ceiling is aluminium. Removable folding panels are capable of dividing the room into several more intimate sections. 13, the main lobby, looking from south to north.

Hilton designs by an English firm, and is in teak with a dark oiled finish. The same English firm also supplied the furniture in the managerial offices, following its own standard design.

All the hotel's 15,000 sq. yds. of carpeting were hand-woven at Konya, a leading modern Turkish carpet centre. The kitchen and bar areas were designed in New York. There are separate 'walk-in' refrigerators for meat, fish, poultry, cold meats, vegetables and dairy produce. Six strategically placed ice 'flakers' and 'cubers' keep all areas constantly supplied. The garbage is also refrigerated. The main cooking ranges are gas-heated supplemented by small charcoal and electric table grills for *à la carte* service.

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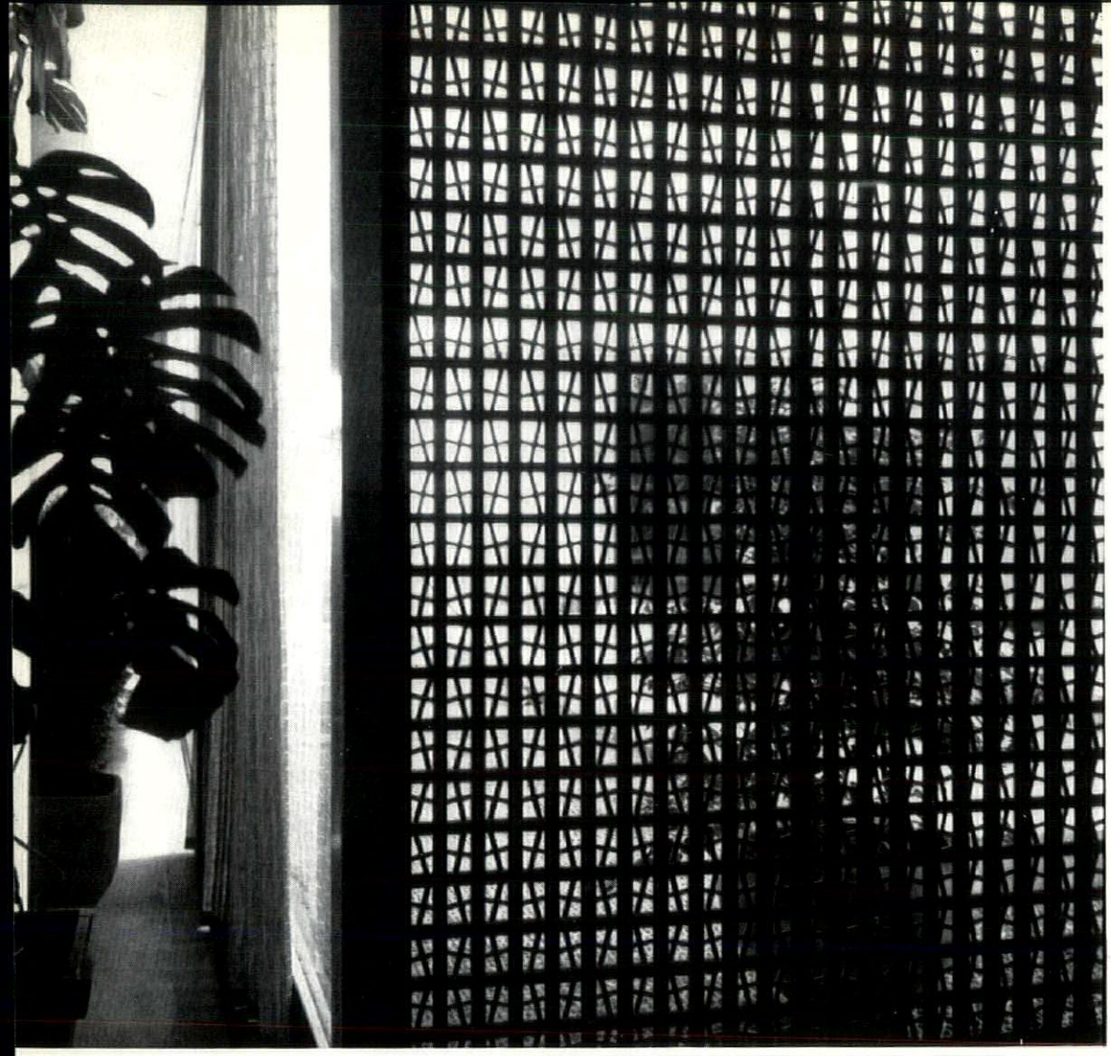

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15



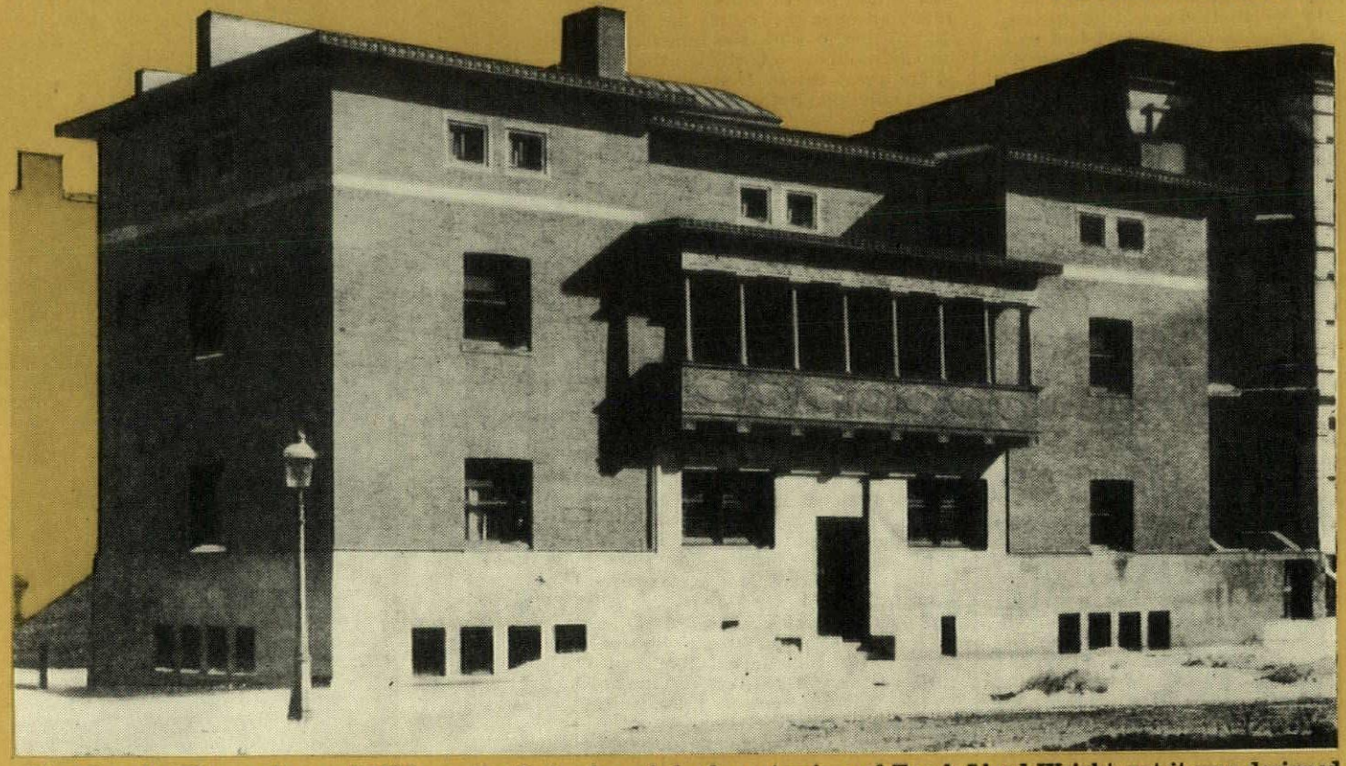
16

14, a teak and bronze *kafe*, or screen of traditional Turkish design, in the Tulip Room, adjoining the main lobby, and 15, also in the Tulip Room, banquettes and a pedestal ashtray. 16, above, a standard dressing table of English manufacture, of teak with brass feet and handles.

SULLIVAN AND WRIGHT

AN UNEASY UNION OF CELTS

Grant Manson



The Charnley House, above, of 1892 was the first acknowledged masterpiece of Frank Lloyd Wright, yet it was designed in the name of the Adler and Sullivan office. In the article below, Grant Manson examines the position of Wright in an office that was primarily interested in public buildings, and throws new light on his legendary discipleship with Louis Sullivan.

Much has been said and more has been inferred concerning the association of Louis Sullivan and Frank Lloyd Wright. Because of its importance to the history of architecture, it is a relationship that deserves every attention; yet, like a mirage, it grows less substantial as it is approached. We find that we are dealing, not with a case of artistic cross-influences in the ordinary sense, but with the interplay of two creative Celtic minds in transient and (by definition) unstable union.

In the muscular young prairie metropolis of Chicago of the '80s and '90s, Louis Sullivan was a towering force. There was no sign in him of that spiritual weakness which was ultimately to bring about the tragic defeat and retirement in which he passed his later years. He attracted many disciples, to whom he was 'der Lieber Meister.' All those younger architects, including Wright, who can claim membership in the ranks of the Chicago School, responded without reserve to Sullivan's challenge, each according to his gifts. It was a cult, and none has more eagerly acknowledged allegiance than Wright, who, ever since his first public statement of admiration for Sullivan in 1908,[1] has steadily developed and elaborated the theme of Sullivan's influence upon him.

Among the adherents of Sullivan, Wright occupies on many scores a separate place. He alone survived the break-up of the Chicago School; and he has gone on to attain a position of world-wide eminence. Great as the generalized impact of Sullivan's work may have been upon his evolving genius, he simply cannot be classed as a disciple, much as he would like to be. It is obvious that Wright and Sullivan were of equal stature; and, indeed, as we go a little more deeply into the relationship we begin to ask ourselves whether, if there actually was an exertion of influence, it did not flow as much in Sullivan's direction as in Wright's. We begin to look upon Wright's maintenance of the master-disciple attitude as nothing more than an amiable *idée-fixe*.

George Elmslie, a member of the Chicago School in his own right, and who may be presumed to have had as detailed a knowledge of these matters as anyone, once said[2]: 'A fine sense of camaraderie existed between those two men [Sullivan and Wright] at that time. . . . Wright even then bore all the marks of what he has become, the outstanding figure of our day . . . Sullivan did not, of course, need Wright; while the latter has emphasized in glowing terms the benefits he received in communion with his master. Wright, however, would have come into his own if he had never met Sullivan. Sullivan did not make Wright in any sense, each was *sui generis*, and both marked men of the ages.'

This statement has the ring of authority and is probably very near the truth. Nevertheless, it cannot be denied that Sullivan, in some manner or other, gave Wright's career its first marked stimulus; the contact cannot be dismissed as an episode of only legendary or peripheral value to either man concerned. It was a day to be reckoned with, therefore, when, late in the year 1887, Wright applied at the office of Adler & Sullivan for a job.

Wright had been employed for several months in the office of Joseph Silsbee, an architect of rather better taste than usual for the time who, although he specialized in domestic architecture, had occasionally undertaken an eccentric commission for the Lloyd-Jones clan.[3] Wright tells in 'An Autobiography'[4] how he learned from a fellow-draughtsman at Silsbee's of the opening at Adler & Sullivan's, and how anxious he suddenly was to fill it. He had already grown weary of the pleasant picturesqueness of Silsbee's modified 'Queen Anne' houses, and he craved the excitement he felt he would find at Sullivan's. Wright managed to see Sullivan for a few minutes on the first try; a subsequent interview was arranged, and Wright stayed up late for three nights preparing a sheaf of drawings to take along. It is interesting to see how he went about this: 'Some of Silsbee's own drawings of mantels and ornament I took, and drew

[1] Frank Lloyd Wright: *In the Cause of Architecture*, First Paper, March, 1908.

[2] George Elmslie: *The Chicago School of Architecture; Its Inheritance and Bequest*, paper read before the Illinois Society of Archts., Nov. 28, 1939.

[3] Silsbee designed a church on Chicago's South Side for Wright's uncle, the Rev. Jenkin Lloyd-Jones (a Unitarian minister of considerable influence in his day), and some school-buildings at Spring Green, Wisconsin, for Wright's aunts, the Misses Nell and Jane Lloyd-Jones, who founded a liberal boarding-school.

[4] Frank Lloyd Wright: *An Autobiography*, Longmans, Green & Co., New York, 1938, pp. 88-91.

them my own way, directly and simply with clear definition. Not sentimental and "sketchy." Silsbee's way was magnificent, his strokes like standing corn in the field waving in the breeze. So I imitated his style in some few drawings just to show I could do that. Then I improvised some ornaments such as I had seen, characteristic of the Adler & Sullivan buildings. I had studied them a little since I had learned of their work. . . . Another evening I took the onion-skin tracing of ornamental details I had made from Owen Jones,[5] mostly Gothic, and made them over into "Sullivanesque".' We learn that Sullivan inspected the drawings during the interview and that his reactions were caustic; but he hired Wright at twenty-five dollars a week. At this moment, Sullivan was in his thirty-first year, Wright in his eighteenth. The youthfulness of the protagonists was in the best Victorian tradition.

When Wright reported for duty, Sullivan was working on the Auditorium designs. It is easy to imagine how the sight of these plans exhilarated Wright and made him feel that he was at last in the main currents of contemporary architecture. But, as a matter of fact, Sullivan was himself a newcomer to these currents. He had only begun to make architectural history about eighteen months before, a condition of some significance to the understanding of the Sullivan-Wright relationship. The Master, having passed through a period of awkward dependence upon such cumbersome 'Styles' as the 'Egyptian'[6], had just become aware of the work of Henry Hobson Richardson, whose terminal masterpieces in both commercial and domestic architecture had been erected in Chicago between the years 1885 and 1887. Through this awareness, Sullivan had abruptly come into his own.

Wright describes Sullivan's awakening in wry terms, and with the advantage of long hindsight[7]: 'Richardson at this time had a decided effect upon Sullivan's work, as may be seen in the outside of the Auditorium building itself, the Walker Wholesale, and other buildings. The effect is unmistakable, although he [i.e., Sullivan] seemed to hold Richardson in no very high esteem.' The Marshall Field Warehouse, the Glessner house, and the MacVeagh house were brilliant examples of Richardson's final phase—a phase characterized by unparalleled penetration and freedom in the handling of American nineteenth-century architectural requirements. Their superficial quality, their 'Romanesque Style,' was to go on exfoliating in the work of Chicago architects for two decades; but Sullivan distilled from these now famous buildings their true meaning and permitted it to crystallize that drive toward experimental architecture in which he was to be engaged, and with which he, in turn, inspired Wright. Among other things, it was no accident that Sullivan first introduced into his designs in the year 1886 that curious, personal ornament which has come to be known as 'Sullivanesque.' Almost overnight, it seems, Sullivan decided to claim his right to express an innate canon of taste, similar to Richardson's only in its independence, and to develop out of it a 'philosophy of ornamentation.'

[5] Owen Jones: *The Grammar of Ornament.*

[6] Or, perhaps better, 'Egyptoid' to denote the debased character of the forms used, as in the Rothschild Store, the Ryerson Building, the Blumenfeld house, etc.; see Hugh Morrison: *Louis Sullivan*, Norton, New York, 1935, plates.

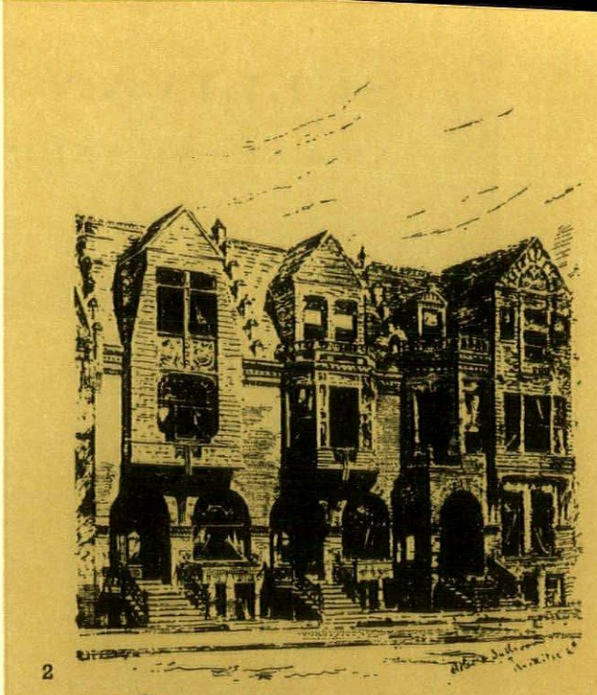
[7] *An Autobiography*, p. 101.

Once established in the office of Adler & Sullivan, Wright rapidly rose to a position of importance. When he first joined the staff, the firm was housed on the top floor of the Borden Block on Randolph Street, an Adler & Sullivan design of 1880; but upon the completion of the Auditorium in 1889, the firm moved into splendid new quarters in the loft of the great tower. Here a separate room adjoining Sullivan's, and of the same size, was set aside as 'Mr. Wright's Office.' It is extraordinary that such a distinction should have been accorded anyone not actually a partner in the business, let alone so young an apprentice as Wright; it is understandable only in the light of Sullivan's early acceptance of Wright as a fellow-artist and prodigy. One of the responsibilities that fell to Wright under Sullivan's tutelage was private-house commissions; these were decidedly not courted by the firm, but had to be accepted from time to time in the interests of diplomacy. It is now believed that the houses erected by the firm of Adler & Sullivan after 1887 were largely the work of Wright, designed in Oak Park after office-hours. They progressed steadily in discipline and individuality, and culminated in 1891 with a genuine masterpiece whose authorship is universally acknowledged.

The houses which Adler & Sullivan turned out prior to Wright's incumbency were indistinguishable from the general run of domestic architecture in Chicago at that time. Many of them still remain along the former residential avenues of the near South Side, now a blighted area, inexpressibly tawdry in their old age. It was the moment, before the healing touch of the Chicago School had been felt in the realm of house-design, of unbridled whimsy, of the determination to elevate the importance of the mass-produced row-house by loading its pinched façade with rich irregularities. The Kohn dwellings (fig. 2) are a fair example of the class; although they bear the imprimatur of the firm of Adler & Sullivan, they are no less distressing than their neighbours.

In the year 1888[8], the firm erected a set of four party-wall houses for Victor Falkenau (fig. 3). This design constitutes the turning-point in the quality of Adler & Sullivan's domestic architecture. In plan, the houses, like the Kohn group, adhere to the standard box-cars scheme, but their façades are in definite contrast. 'Queen Anne' has been replaced by 'Romanesque,' thus echoing in a small voice the radical alterations in the Auditorium designs which had been brought about by a long look at Richardson. But it is possible to feel that in the Falkenau design there is another personal element that is neither Richardson's nor Sullivan's. The façades are surprisingly clean, the inevitable bay windows are tailored and simple in form, much of the ornamentation is styleless, almost abstract, and there is a certain quiet horizontality resulting from the device of alternately projecting stone-courses. Whether or not we may construe such details as these as evidence of a fresh, independent architectural mind at work, the Falkenau houses can be regarded in retrospect as the first step toward a domestic architecture that is to be wholly new and that is soon to be revealed. In the lower right corner of the pen-drawn perspective of the Falkenau houses there is a name neatly lettered: 'Frank L. Wright.'

[8] The date of 1890 ascribed by Morrison to the Falkenau houses is contradicted by entries in Chicago trade publications; the design was published in the *Inland Archt.*, Vol. 11, June, 1888; also, the Chicago city building-permit was issued June 2, 1888.



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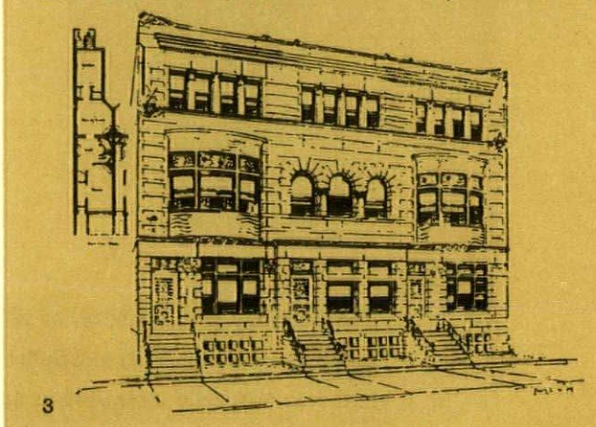

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2, the Kohn dwellings, Chicago, by Adler & Sullivan before Wright's incumbency; 3, a set of houses for Victor Falkenau, 1888, marking a turning-point in the firm's domestic architecture: the signature 'Frank L. Wright' appears in the bottom right-hand corner of the drawing. 4-6, on the facing page, views of the Charnley house interior.

The Charnley house on Astor Street in Chicago was erected in 1891 (fig. 1). Although it must stand officially as an Adler & Sullivan design, it is in reality the first great monument of Frank Lloyd Wright's career. That it is Wright's work, and Wright's alone, has long been accepted. Apart from the internal evidence, it is known[9] that the first time the design was seen in the firm's office was the day when Wright brought the completed quarter-scale drawings from his home in Oak Park.

The Charnley design was in every sense a miraculous performance. Wright justly says of it, 'It is the first modern building.' Even to-day it remains clean and challenging among its outworn neighbours, a manifesto of a brand-new architecture. It is a design that owes nothing to anyone but its creator; it is a piece of domestic architecture upon which much of Wright's later work is based, and upon which the whole development of house design in the Chicago School relies. It eschews every whimsy, every complexity, every 'style.' The designer clearly says, 'Let us begin from the beginning.'

It was not as if the unfortunate limitations of the row-house were, as they had been before in the half-dozen Adler & Sullivan domestic commissions undertaken by Wright, a constraining factor. The Charnley property was a corner lot of average dimensions upon which any sort of eclectic caprice could have been built; but the house that Wright built was so simple and apparently effortless as to be revolutionary. The straightforward disposition of interior space finds direct expression on the exterior, an implicit statement of confidence in function. Other than an intensification here and there of the building's natural rhythms, there is little ornament. The openings are severely cut rectangles, admirably placed within wall-surfaces unbroken by mouldings and given the finest texture that dressed limestone and Roman brick can achieve.

The overriding effect of the house is repose, accentuated by contrast with the thrusting pomposities of the 'period' houses all about. Everything —the plain dado, the long balcony, the oblong windows, the wafer-thin bricks, the unipartite cornice, the wide, low chimneys—conspires to produce the level line, the line which Wright hit upon as the *leitmotif* for his celebrated domestic style that was to flower a few years later in the developed Prairie House. Indeed, the Charnley house is a first statement of absolute conviction. This is perhaps the most astonishing thing about it; and, in our astonishment, we overlook its features which, from the viewpoint of Wright's career as a whole, are archaic. But the Charnley house, for all its innovation and portent, has a

[9] Information contained in a letter written by George Elmslie (once a draftsman in Sullivan's office) to the author.

fault which Wright must have realized, and which he soon proceeded to correct: it is closed, resistant, self-contained. The concept of interrelation of structure and atmosphere had not yet taken shape in Wright's imagination. At this moment, he was too concerned with formulating and expressing his other principal contribution, namely, the idea of architecture as geometry.

Inside the Charnley house there is a generous amount of developed Sullivanesque ornament spilling over golden-oak doors, bookcases, mantelpieces, and newel-posts. Otherwise, the rooms forecast Wright's later treatment of inner volumes in the easy, open relationship of the three main spaces—living-room, hall, and dining-room—and in the staircase, enclosed in a cage of square, attenuated oaken spindles, and making a conscious, abstract play of its vertical and horizontal planes (figs. 4-6).

There was no counterpart of the Charnley house anywhere in the world in 1891. Its design was a spontaneous manifestation of a new and unfettered concept of architecture. Certainly, Sullivan acted as the catalytic agent in the matter, but he could have offered little or nothing of practical value toward the realization of the Charnley design. He had devoted his entire attention to public and monumental structures, and to the working out of his 'philosophy of ornamentation'. And his later career, as well, confirms the theory that he had no flair for, nor did he seek, the designing of private houses. From 1893, when Wright and Sullivan parted, until his death in 1924, Sullivan built only two residences, and these are a strange amalgamation of Wright's later domestic style and Sullivan's own vernacular derived from the world of impersonal public architecture.

Sullivan was at bottom a mystic, a frustrated poet. George Elmslie, who knew him so well, once said: 'I have in my possession some of his unpublished literary work; one of the group is a volume called *The Master*. It is a prose poem and a very remarkable document indeed . . . it is himself in the deepest mood he has ever expressed, his inner responses to the outer world.' How revealing this information is! Wright is likewise a romantic, a druid, a latter-day Taliesin. He differs from Sullivan in this respect only by virtue of his hard and indestructible vitality. So in the association of Sullivan and Wright we deal with the communion of two self-confessed Celts, an Irishman and a Welshman, and there is probably no hope of knowing, nor of analysing to a nicety, what passed between them. Sullivan was given to such credos as 'the artist is like an orange tree—bearing continually flowers and ripeness at every stage—pendant golden thoughts—fruits of all that sap we call imagination. . .'[10]. There are stories of conversations between master and 'disciple' that lasted throughout the night[11], conversations about Whitman, Wagner, Richardson, Herbert Spencer. 'I believe,' Wright says, 'the master used to talk to me to express his own feelings and thoughts, regardless, forgetting me often. But I could follow him. And the radical sense of things I had already formed got great encouragement from him. In fact the very sense of things I had been feeling as rebellion was—in him—at work.'

Just as it is hard to translate into terms of brick and mortar the consequences of such an intimacy as this, it is hard to escape the thought that, even then, there might have been something a little contrived and out of focus in the accepted master-disciple behaviour pattern that had become established. It is hard to avoid the suggestion that, while Sullivan's solution of the office-building problem could not have been of any real assistance to Wright in evolving new forms of domestic architecture, there were certain contributions of Wright's to the domestic problem that did exert an influence on Sullivan's public architecture—specifically and deleteriously. It must not be thought that Wright dealt only with the domestic commissions at Adler & Sullivan's; these were usually done by him at home in his own time. During the working day, Wright took an ever-increasing part (ultimately as head-draughtsman) in all the work which passed through the office. This work consisted chiefly of office buildings, theatres, hotels and warehouses. Its quality reached a peak in the epochal design for the Wainwright Building in St. Louis, erected in 1891, the first tall commercial building for which an original and appropriate aesthetic had been formulated. But from 1891 to 1893 this phase of Adler & Sullivan's work shows a steady progression toward smooth wall-surfaces, oblong openings, and unipartite cornices of heavy projection that find precedent nowhere except in the firm's designs for private houses—and notably the Charnley house. The Dooly Block, the Pueblo Opera House, the Seattle Opera House, the St. Nicholas Hotel, and the Schiller Building are cases in point. Of the design of the Schiller Building (fig. 7), Wright says, '. . . owing to Sullivan's love for his new home in the South [his cottage at Ocean Springs, Mississippi], it had been more largely left to me than any other'.[12]

The tall buildings in this group are all hampered by too many inorganic horizontals that purposelessly obstruct their rise from the ground—which is, in any case, stopped abruptly by the massive cornice. There is a comment on this[13] in which Wright gives the impression that Sullivan had invented the jutting unipartite cornice expressly for the Wainwright Building; yet, admitting its complete inappropriateness to such a structure, he goes on to say, '. . . the extension of the roof-slab says emphatically "finished!" The slab had no business to say "finished," or anything else, so emphatically above the city streets, but that was a minor matter soon corrected.' Be that as it may, the roof-slab continued to speak its piece in design after design, each of which wears its heavy crown of cornices or porches uneasily, as if aware of the fact that they belonged somewhere else. Morrison says of them that they are 'picturesque but topheavy,' and the choice of words is significant; for the 'picturesque' was a style originally derived from domestic design of the '80's, and that which is top-heavy in these public buildings of Adler & Sullivan's is the porch-and-cupola motif borrowed from that source and raised to monstrous proportions.

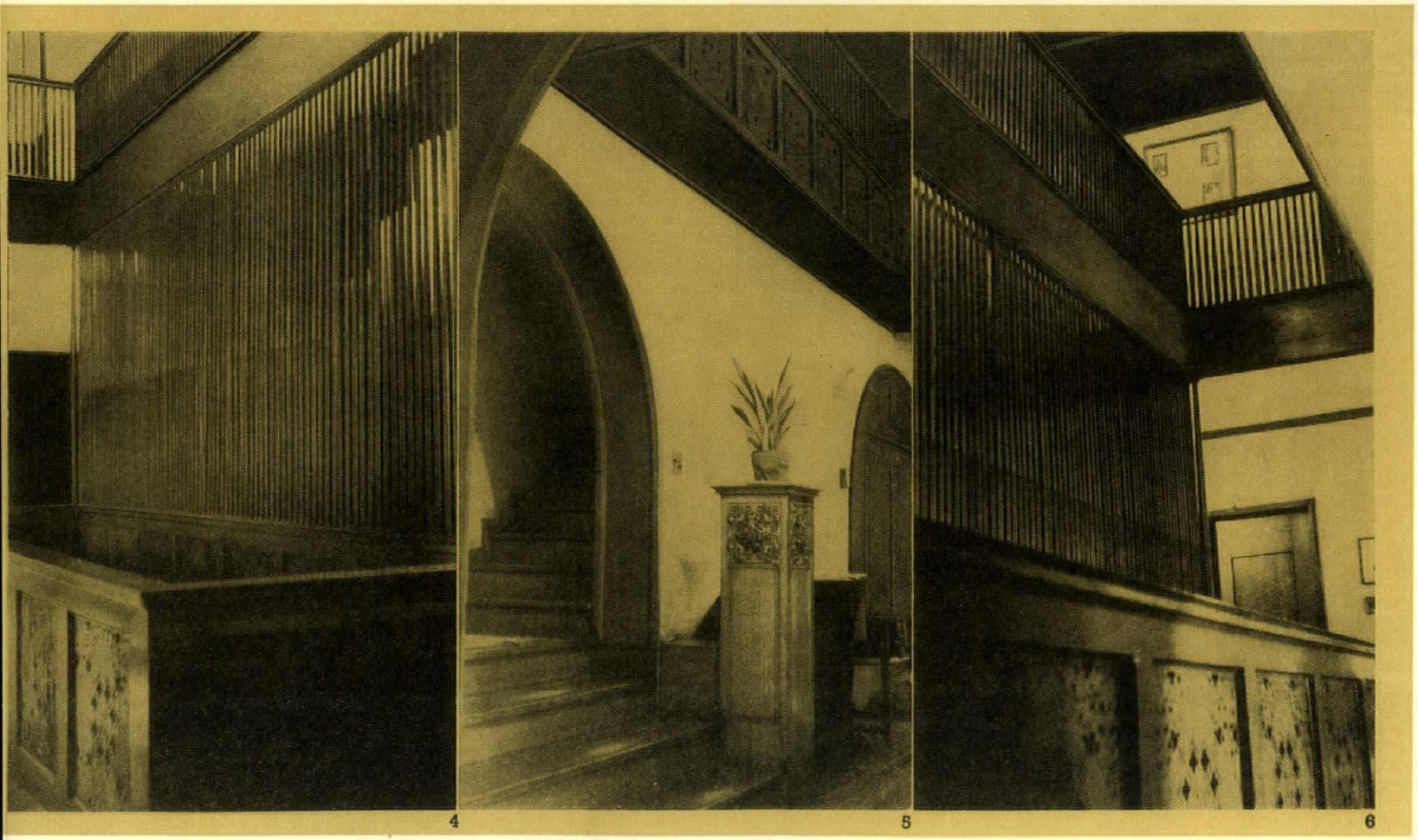
The conclusion appears to be this: the conflicting elements that marked Sullivan's designs in the early '90's, and the disturbing effect of misplaced horizontality and busy-ness that they produced, signalize the intrusion upon the course of his career of another strong personality destined for initial success in the field of domestic architecture; this success was to be gained primarily through the cultivation and dramatization of the extended level line and the free interpenetration of solids and atmo-

[10] Louis Sullivan: 'The Artistic Use of the Imagination,' *Inland Archt. & News Record*, Vol. 14, Oct. 1889, p. 38.

[11] *An Autobiography*, pp. 101-2, 104.

[12] Idem, p. 121.

[13] Frank Lloyd Wright: *In the Cause of Architecture*, Princeton Univ. Press, 1931 pp. 85-86.



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7, the Schiller Building, Chicago, built in 1891-2, *when Adler & Sullivan's large-scale work was showing a steady progression towards smooth wall-surfaces, oblong openings and heavy projecting cornices, which find precedents only in the firm's private house designs, and notably in the Charnley House, for which Wright was responsible.*

sphere. These were qualities alien to the natural bent of an architect whose gifts were leading him toward an answer to the aesthetic problems involved in the steel-grid building. It is significant that not until the time of the Guaranty Building commission in 1894, after Wright had left his shop, was Sullivan again free of motifs that had no rightful place in the skyscraper and could resume his uninhibited pioneering in the realm of the tall public structure. Conversely, Wright's houses from 1893 until the turn of the century are often marred by elements too ambitious or too impersonal for domestic architecture. The Charnley house was a design in which Sullivan, effectively, played no part—it was a major success; the Schiller Building *et al.* were designs in which Wright played too great a part—they were aberrations in Sullivan's career. Professionally speaking, then, Sullivan and Wright were not a team. Together they made not a blend but an unstable emulsion of which the ingredients foreign to each party separated themselves out in the course of time. The confusion of purposes in the Schiller Building was due to the clash of two geniuses whose ultimate destinations were opposed, and who went astray when they allowed themselves to be literally influenced by each other. We come back, in brief, after a long detour, to Elmslie's concise statement of the case.

The association of Sullivan and Wright had been formalized in 1889 by the drawing up of a five-year contract binding Wright's services to the firm of Adler & Sullivan in exchange for financial benefits that would enable the younger man to launch himself in life. Although the contract was ostensibly a straightforward business arrangement, it was prompted by an access of old-fashioned paternalism on Sullivan's part. Sullivan was unmarried,[14] and there is the suggestion of a compensatory impulse in his interest in Wright's domestic life. By 1889 Wright was engaged to be married. He wanted to build a house; he needed practical assistance, and the contract was the answer, since it enabled him to draw advances on his salary. It was also, ironically enough, the cause of the undoing of the Sullivan-Wright relationship.

As for Wright's establishment of a home and studio in Oak Park that were to be the centre of his activities for so many important years to come, it is enough to say here in extenuation of what happened to the contract that both Wright's establishment and his family grew rapidly. It became necessary to augment his income, and he began to accept commissions for houses which he designed privately by stretching out his nights and week-ends. These 'bootlegged houses," as he refers to them, amounting to some nine or ten in all, were not a violation of the letter of his contract with Adler & Sullivan —but they were certainly clandestine in the sense that Wright did not mention them in Sullivan's presence, nor were the contracts listed in local building-journals under Wright's name. Inevitably, however, Sullivan found out about them, and regarded them as an act of treason. One day in the Spring of 1893 there was an angry scene. Wright walked out of Sullivan's office never to return. As for the five-year contract, it was simply permitted to lapse; but it took a number of years for Wright to obtain the deed to his Oak Park house, and then it was not Sullivan but Adler who made it over to him. The 'bootlegged houses' were thus a milestone in Wright's independent career, and the mechanism of release from an association that had fulfilled its curious destiny. Wright did not see Sullivan again until sometime after 1910.

[14] Sullivan's one marriage did not occur until 1899; it was without issue and terminated in divorce.

COLLEGE AT PERSHORE

ARCHITECTS | **RICHARD SHEPPARD & PARTNERS**

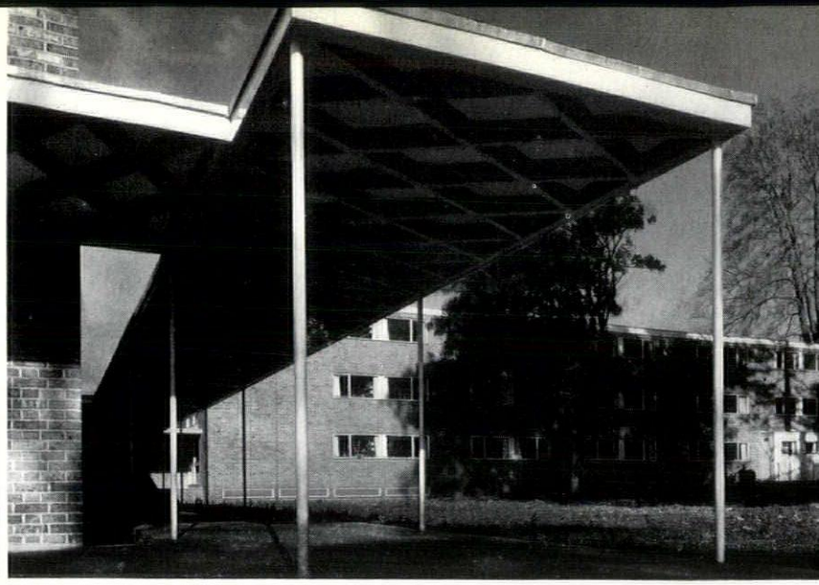
Architect-in-Charge | **Deirdre Downer**

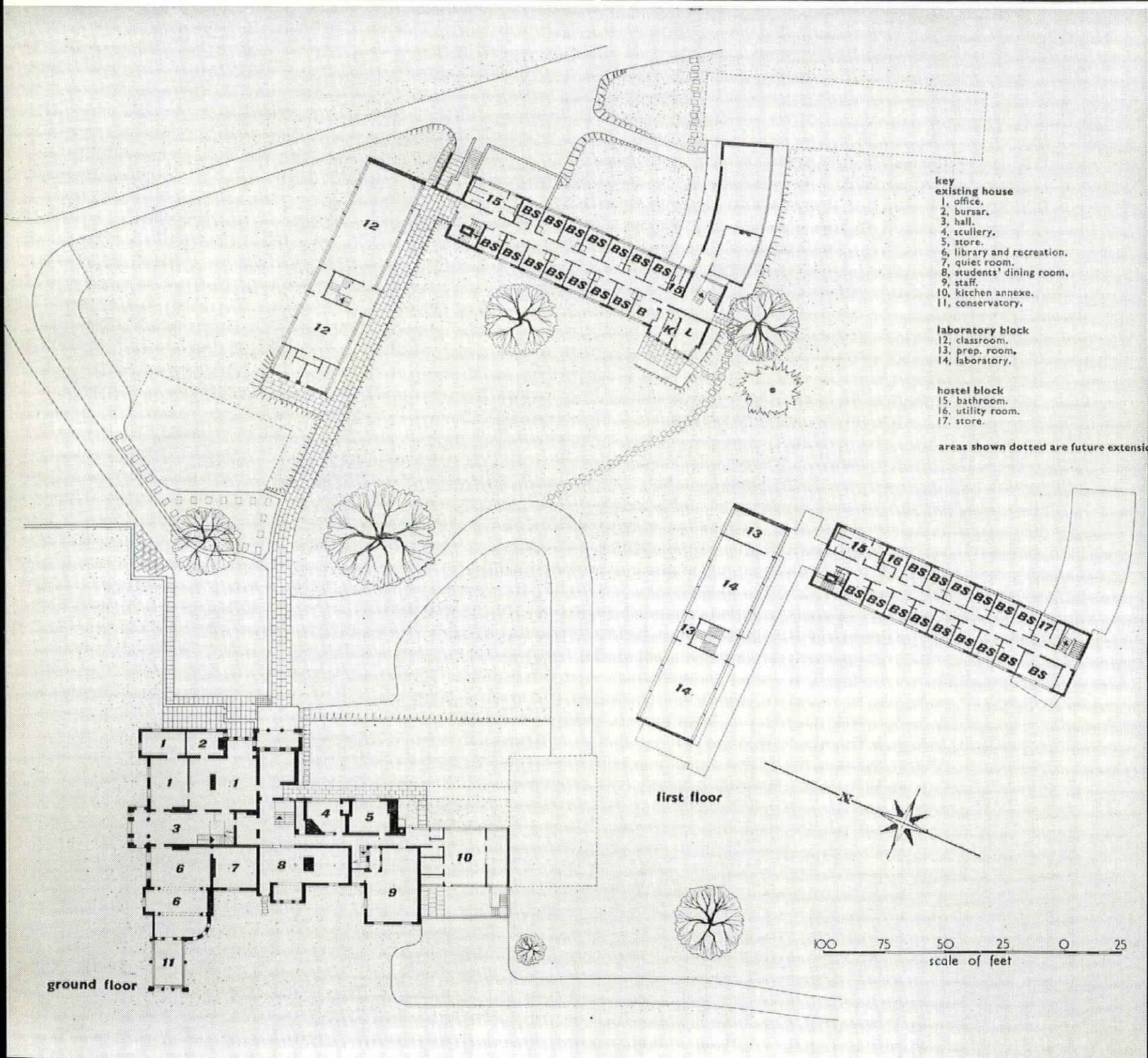


1, view along covered way on the north (entrance) side of the laboratory block; beyond can be seen the entrance to the house "Avonbank". The earth between the paving and the wall is to be planted.

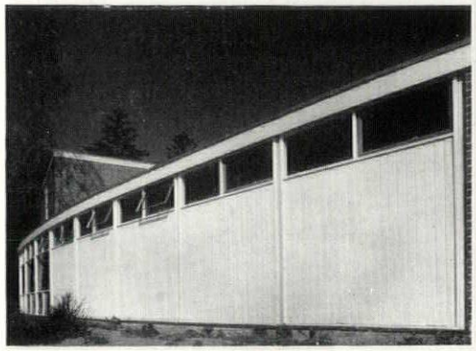
This Horticultural Institute, which is being built in three stages, is designed to accommodate ultimately one hundred and twenty students taking a one-year course in horticulture and also to give short-term training courses, of which some will be open to non-residents. The layout and equipment of the buildings allow for anything






key
existing house
1, office.
2, bursar.
3, hall.
4, scullery.
5, store.
6, library and recreation.
7, quiet room.
8, students' dining room.
9, staff.
10, kitchen annexe.
11, conservatory.
laboratory block
12, classroom.
13, prep. room.
14, laboratory.
hostel block
15, bathroom.
16, utility room.
17, store.
areas shown dotted are future extensio
ground floor
first floor
100 75 50 25 0 25
scale of feet

On facing page, 2, left, common-room in the curving, one-storey link block connecting the completed hostel building with another still to be built on the east ; 3, right, west view of the hostel with laboratory block in the foreground.



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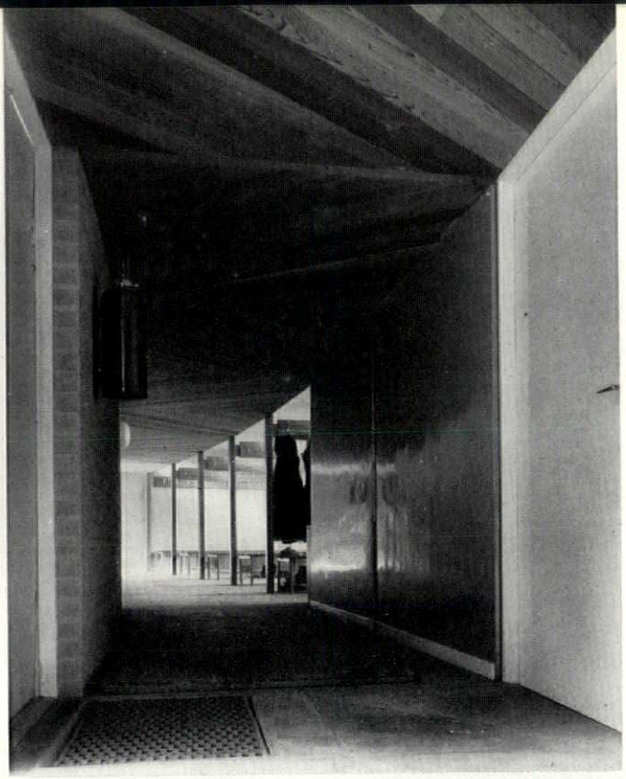
from a comprehensive course in farming to care of agricultural machinery. In this stage accommodation has only been provided for fifty students. The site of the College, one hundred and twenty acres on rising ground adjoining the River Avon on the Pershore/Evesham Road, was very well timbered and planted and included a Victorian mansion, which had to be retained. Living accommodation was required for students, farm and permanent teaching staff, in the form of hostels, houses and flats, with administration, dining and recreation facilities.

The siting of the buildings was determined by agricultural considerations, as it was important that the new buildings should not encroach too much on valuable growing land—the best, containing some fine trees, being near the existing house. All services between buildings are, therefore, in ducts to avoid obstructing the cultivation of land. The acre of greenhouses had to be on a level, easily drained site, with no overshadowing. The general farm buildings were required to be central on the road system in order to provide easy access for vehicles to the land. Land not required for extensive agriculture is to be grassed and buildings for livestock are placed near. The position of the farm workers' cottages is related to greenhouse maintenance and the care of livestock. Both hostel blocks, including the present one, are double banked and are, therefore, placed on a north and south axis. Laboratories and the future assembly hall are related to the existing house, Avonbank, and to the future extension of this house, which is planned in the third stage.

The main buildings are in facing bricks with either flat or very low-pitched roofs. The facing bricks used were Surrey multi-coloured hand-made stocks for the houses and the pump-house, common bricks for the farm building and greenhouses, and blue brindle semi-engineering for the hostel, laboratory and kitchen blocks. The walls of the cottages and the principal's house are 11 in. cavity brick with some rendered panels and vertical weather boarding, with roofs in light timber trusses, finished with felt on wood-wool. The hostel has 13½ in. and 11 in. external cavity walls and 6 in. and 4½ in. internal partitions, with r.c. ground-floor slab and first and second floors in prestressed beams with hollow pot infilling. Roofs are wood-wool on timber joists, asphalted. The laboratory block is similar, but with 13½ in. solid end walls: panel infilling, 4½ in. brick, 3 in. breeze blocks.



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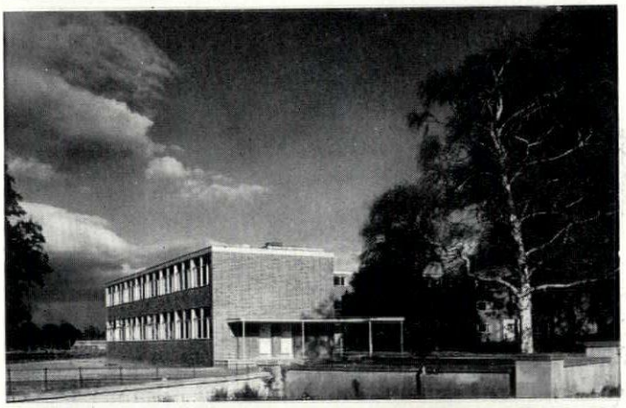

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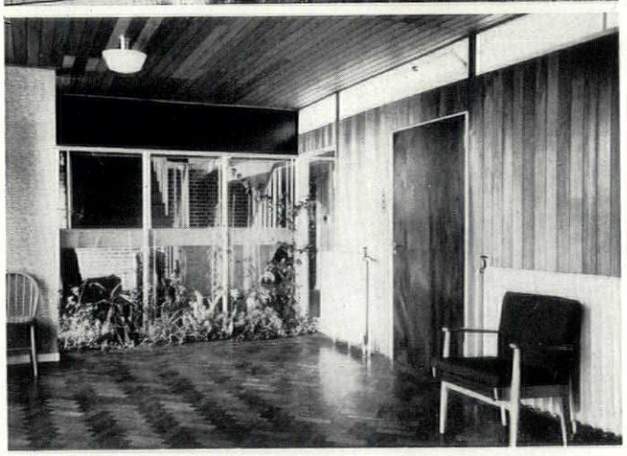

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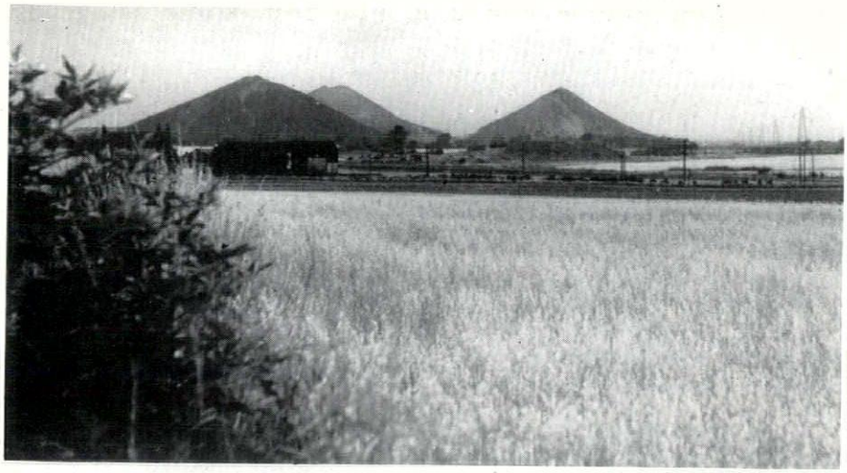
4, south wall of the link block ; the vertical boarded section contains the changing room, seen, 5, from outside the common-room in the corridor ; 6, laboratory block from the north-west, looking across the site of the future assembly hall ; 7, interior of common-room, with clerestory windows rising above the roof of the corridor ; 8, the principal's house.



8



Large areas of this country lie sterile and useless, a sordid reminder of the industries that, having raped the land of its mineral wealth, moved on leaving behind a ruined landscape; a squalid no man's land of waste tips and subsidence littered with rubbish, 1, below. This land can be reclaimed but in doing so the planners (who are already at work) should not overlook the fact that some of the traditional 'eyesores' could be the elements of fine landscape, 2, left.

Kenneth Browne

There are few instances of anyone tackling the problem of land reclamation on the really large scale which it demands, an exception being in Lancashire which contains some 10,000 acres of man-made dereliction, mainly caused by coal mining, and forming perhaps a tenth of the total dereliction throughout the country. Here, the County Planning Authority, whose drive and enthusiasm deserves the widest possible public recognition, has made a detailed survey of the extent of dereliction, carried out pioneer experiments in planting grass and trees on colliery spoil and embarked on a large programme of reclamation as a follow-up to its development plan. On the following pages Kenneth Browne illustrates some of the work already under way and makes suggestions which will be commented on next month by the Lancashire County Planning Officer.

Dereliction

No one is likely to dispute that in a country as small as ours it is essential that every acre be put to its best use, for production, housing or recreation, yet in fact there are vast areas of desolation which serve none of these. Thousands of fertile acres have been rendered useless in the past by the indiscriminate tipping of waste materials, by mining subsidence, which has left the land crumpled, sunken and waterlogged, by unfilled excavations, and by the ruined buildings and equipment of abandoned workings. This tragic misuse of land is still going on, a continuing wastage accelerated by the use of modern machinery, when, properly planned, the same machinery could be used to facilitate the restoration of the land instead of its destruction. For example, the National Coal Board, to save cost, continues to surface tip when by stowing spoil underground the tips would be avoided and subsidence greatly reduced.

Whilst huge areas lie waste and abandoned, industry and housing go on eating up good agricultural land, the market price of which bears no relation to its true value to the country as amenity. At the same time, the Ministry of Agriculture has no powers in return to reclaim derelict land for farming. The criminal folly of the position can be appreciated from the fact that in tight-packed industrial areas where disposal of the great quantities of waste produced is a major problem, a hole in the ground often becomes the most valuable land there is, since the owners of excavations or sunken land which needs filling are not slow to cash in on the situation and charge up to 5s. a ton for tipping. In consequence, though there may be a hole right next door it is often found cheaper to buy up good land farther away and tip on that. By contrast, in outlying areas,

the owners of sunken land are unable to get filling to level it up unless they are prepared to pay. This ludicrous situation is due largely to the fact that there has been no national policy of reclamation in the past, and problems were tackled piecemeal by the local authorities, often in a blinkered, shortsighted way.

The recent detailed survey of dereliction carried out by Lancashire revealed some startling facts: one area near Wigan, for instance, was found to be 40 per cent. derelict whilst in other areas it was discovered that nearly half the land not used for agriculture was not used for anything. That physical dereliction is accompanied by moral dereliction is suggested by the phenomenally high incidence of crime in the ruined areas. Lancashire's policy seeks to check further dereliction through control of new development, requiring stripping of topsoil and eventual reinstatement, and, with existing workings, tries to persuade mining industries and tipping authorities to co-operate.

The priority for reclaiming land is given to urgent housing and school projects, followed by industry, where the aim is to revitalize stricken areas by bringing in new industries. Other sites are earmarked for public open space, agriculture and afforestation. As an instance of the scale of some of the projects now in progress, there is a 150-acre site on the outskirts of Manchester, once riverside parkland, which is now a scene of incredible desolation. This one site contains, in addition to a large, flooded subsidence flash and power station and council refuse tips, a worked-out sandpit, a sludge settlement tank, an abandoned colliery and an old sewage works seen against a towering backcloth of colliery tips 130 feet high. By agreements with the British Electricity Authority and the National Coal Board, the Planning Authority has arranged that all future tipping will be co-ordinated to an arranged plan and has thus ensured that within 20 years this dreary scene will become parkland and playing fields, with trees and grass growing in good soil built up from its own resources. Here, as in so many other parts of industrial England, there exists the opportunity to create out of chaos a fine new landscape; but to do this will demand the highest degree of skill in order to realize the inherent possibilities of each site. At present, these derelict areas are at least free from Subtopia and it will be necessary to ensure that when reclaimed they are not added to its territory by being loosely built over with meanly designed buildings.

When considering the appearance of the new landscape, it is important that hatred for traditional 'eyesores' should not blind the planners' eyes to the possibilities inherent in some of the forms produced by past industrial workings. In South Lancashire, for example, some of the colliery spoil tips are as much as 200 ft. high, finely shaped and often forming the only points of interest in an otherwise flat and uninteresting landscape. They give a sense of place and are local landmarks. Others, flat topped, break the monotony of an endless vista of slate roofs and mean housing and parcel the landscape into man-sized areas. It is not the tips that are evil but the squalor for miles around them; abandoned buildings, rusting machinery, rubbish, flooded and sour earth. It would be stupid to remove the tips only to plant screens of trees which would do the job less effectively. Rough grassed, they could look magnificent and would be valued as scenery were they ancient earthworks instead of tips. In addition many of the reed-edged lakes formed by subsidence and quarrying are very fine and should be retained in a future landscape. Already they are the haunt of extensive wild life and are much used for fishing and boating; to fill them all in would be miserably unimaginative. These are the accidental good things left by industry which should in many cases be retained and used.

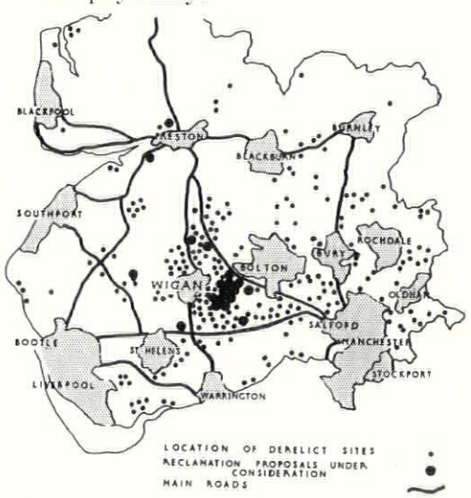




4

the problem in Lancashire

The South Lancashire landscape is one of contrasts; on one hand the densely packed industrial towns, 3, on the other, only a few miles away, first-rate farm land, 4. Here, however, we are concerned with the 10,000 acres of derelict land which is neither one thing nor the other. East of Wigan (*see map*) the sites are so numerous that they overlap—mile upon mile of squalor, 5. These are areas that have become derelict sociologically as well as physically.





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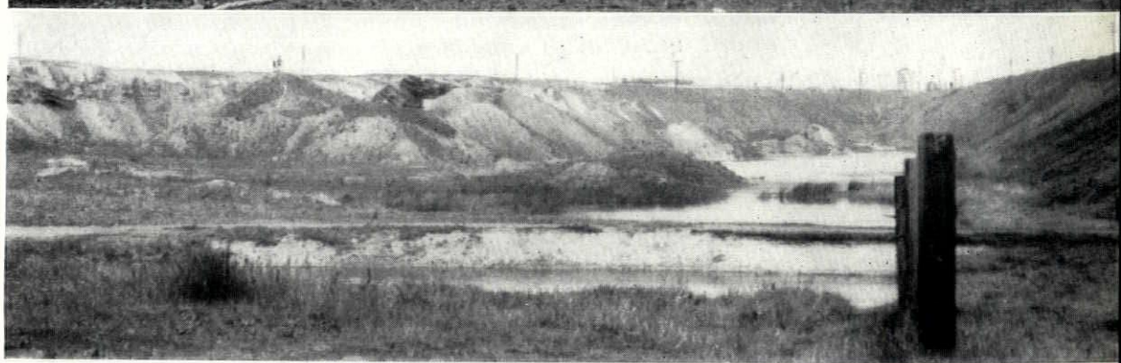


6

cause of dereliction

The main cause of dereliction here is coal-mining, the chief evidences being:—

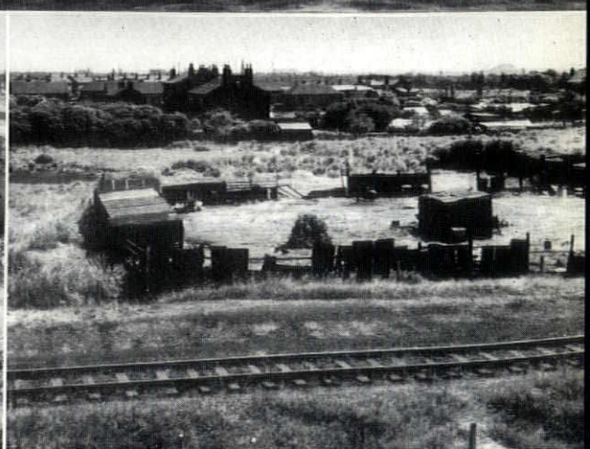
subsidence of the land due to underground extraction of minerals leaving the land below drainage level, crumpled and unusable, 6. There is one area south of Leigh where sinking has resulted in as much as 160 acres being under water.

indiscriminate tipping where enormous areas are covered by colliery spoil tips; some conical, others flat-topped according to the method of tipping employed. The latter often stretch for half a mile or more from the pithead



7





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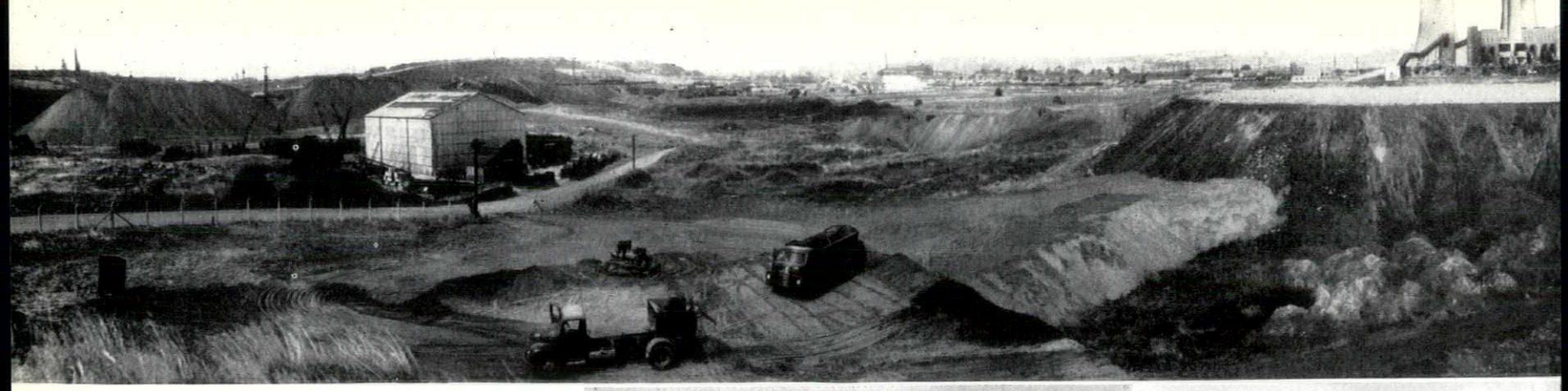

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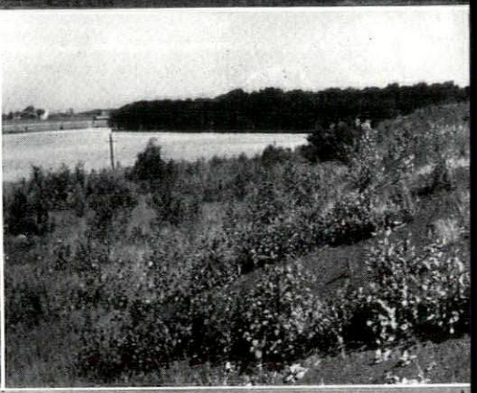
burying useful land from which in the past the valuable topsoil has never been removed. They encroach on the farming land like a slow moving lava stream, 7.

Secondary evidences which increase the squalor are *rubbish dumps* not correlated to any programme of reclamation, as they should be, but planted haphazard, 8. Also shanty growths which spring up on every derelict site, 9.



11



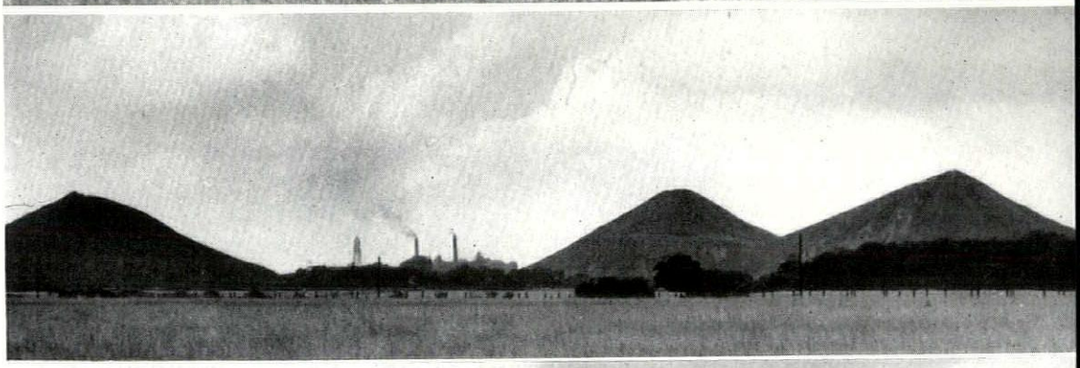
12

what is being done?

A very praiseworthy drive is being made by the County Planning Authority to bring derelict land back into use and stop further dereliction. Much land is being reclaimed for housing, schools and factories, and also for public open spaces. For instance, at Agecroft, 10, a site of 150 acres north-west of Manchester, the tipping of power station ash (*right*) and colliery spoil (*left*), together with refuse, is now co-ordinated to a plan for the site's eventual return to parkland. At Skelmersdale, 11, colliery tips are being graded down for badly needed playing fields adjacent to a new housing estate, thus saving the farm-land opposite. Extensive experiments have been made in tree planting, 12, and grass growing on tips, and cows now graze in a large field, 13, which a few months ago was a waste of colliery spoil.



13



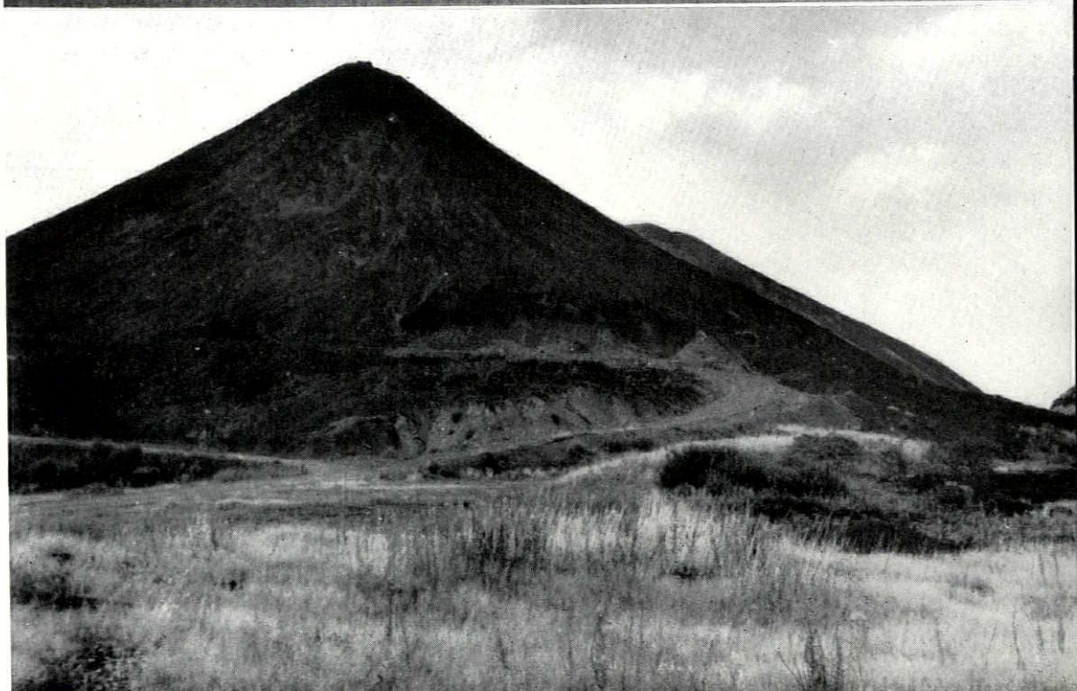
14

visual assets

Making a new landscape is much more than just engineering and some of the traditional 'eyesores' can have value as features worth incorporating in it.

For instance:—

spoil tips are generally regarded as blots on the scene which, if humanly



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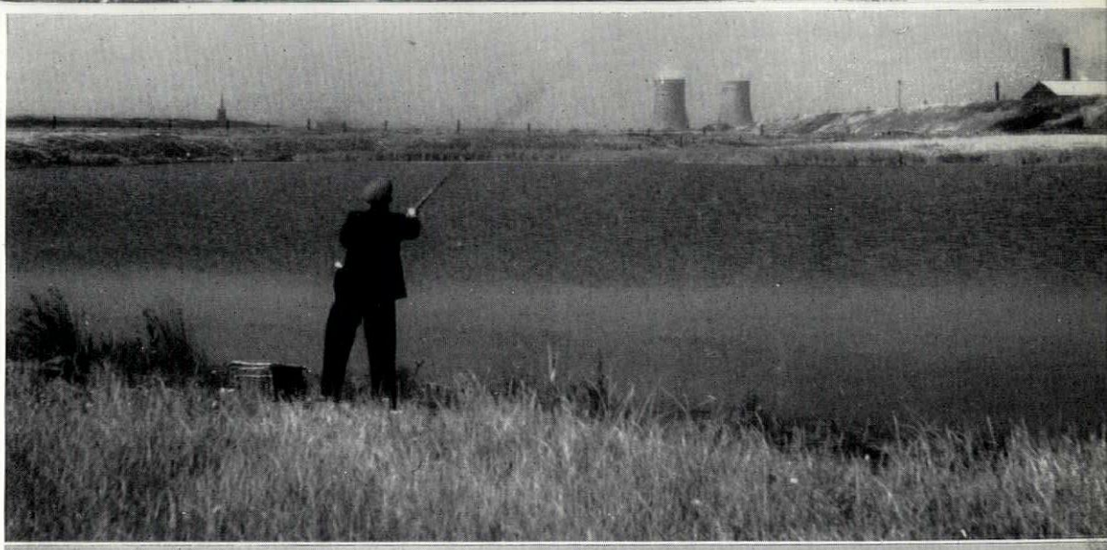
16

possible, should be removed or, failing that, camouflaged by trees. These tips vary in size and shape considerably and some of the larger conical tips, as much as 200 feet high, give a sense of place and have real value as *landmarks* in an otherwise flat and rather uninteresting panorama. 'The Three Sisters,' for instance, 14, 15, can be seen for many miles around Wigan and to remove them, even if economically possible, would be a loss to the landscape. There is surely a case for accepting many of the finely shaped tips and leaving them rough grassed with perhaps trees massed at the base, 14, rather than smudging their shape with all-over afforestation.

The spoil tips also perform the service of masking inhuman vistas of endless streets of identical housing, 16, and parcelling the landscape into man-sized areas.

lakes are often formed in worked-out quarries and subsidence flashes, 17, and some of these have a beauty well worth retaining, a beauty it would be hard to attain with purpose-made ponds. They are already the haunt of heron, swans and gulls and, despite the squalor all round, they are used extensively as recreational areas by the local inhabitants for walking, fishing and boating. It would be very short-sighted to fill in all subsidence lakes on principle.

sculpture in the landscape Mining and quarrying activities have left a considerable amount of accidental rock sculpture, 18–19, which adds considerable drama to a too flat landscape and should be allowed to continue to do so. Whilst it is essential that the waste land be reclaimed there is a danger in over spring-cleaning and throwing away. Obviously one doesn't leave it all but a discerning eye should be kept on the scenic possibilities.



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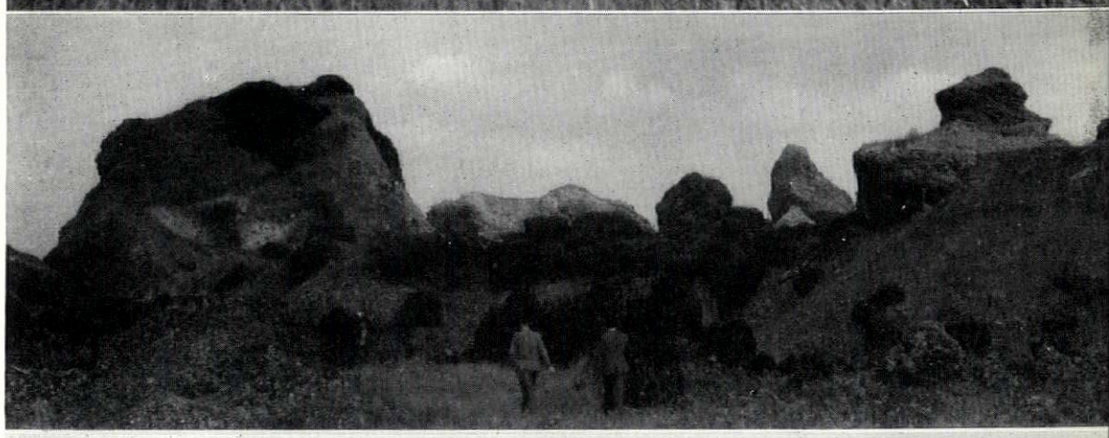

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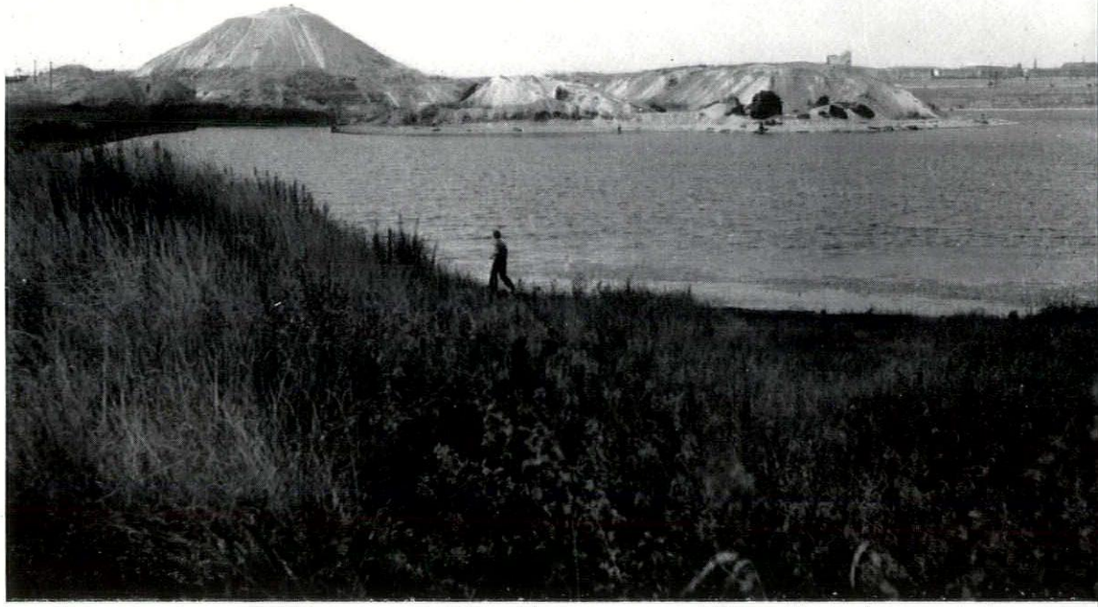
19

a derelict site examined

20



At Leigh, between Wigan and Manchester, there is a large piece of waste land, 400 acres or so, which lends itself to the creation of park and farmland, with the previous agricultural land on the site re-established. It is used a lot now for recreation, but most of it is sunken, boggy and rubbish-strewn. The focal point of a new landscape here could be the conical colliery tip with its promontory jutting out into the large existing lake, 20. The area should be kept free of buildings other than those for farms and recreation and it should form a complete contrast to the closely built housing and textile mills which adjoin the site. The distant flat-topped tips on the left, planted, would mark the

22



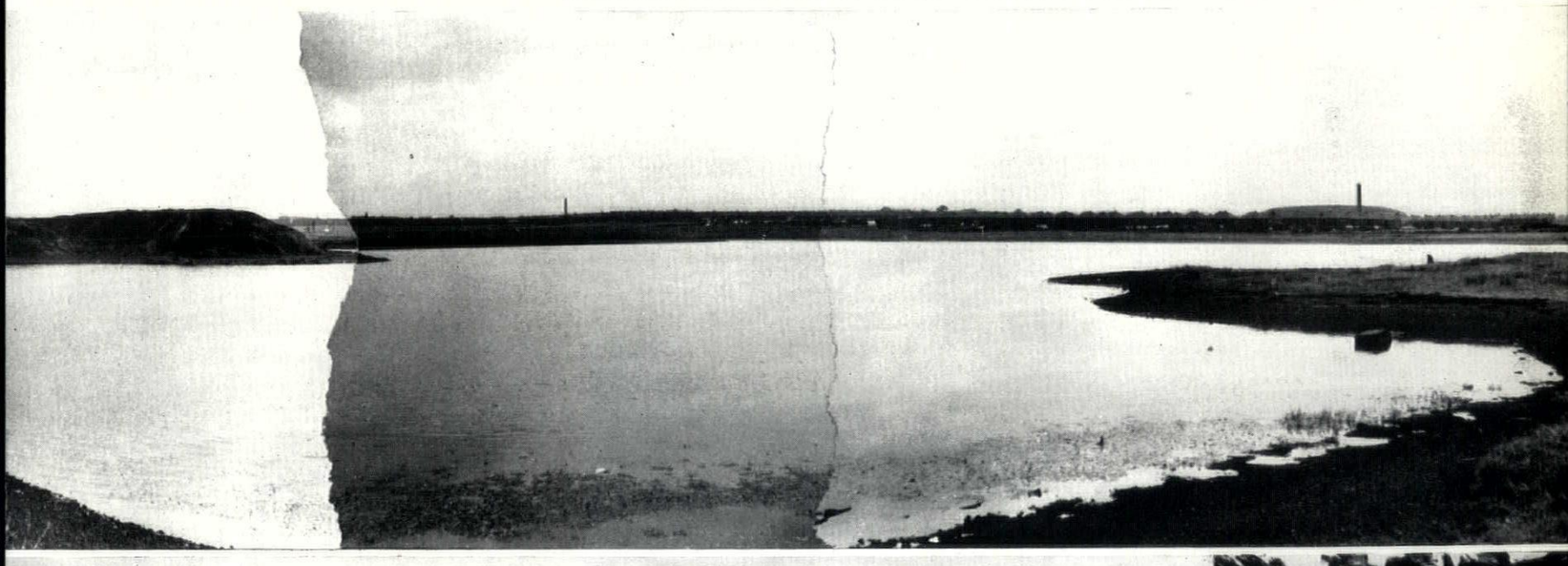


23

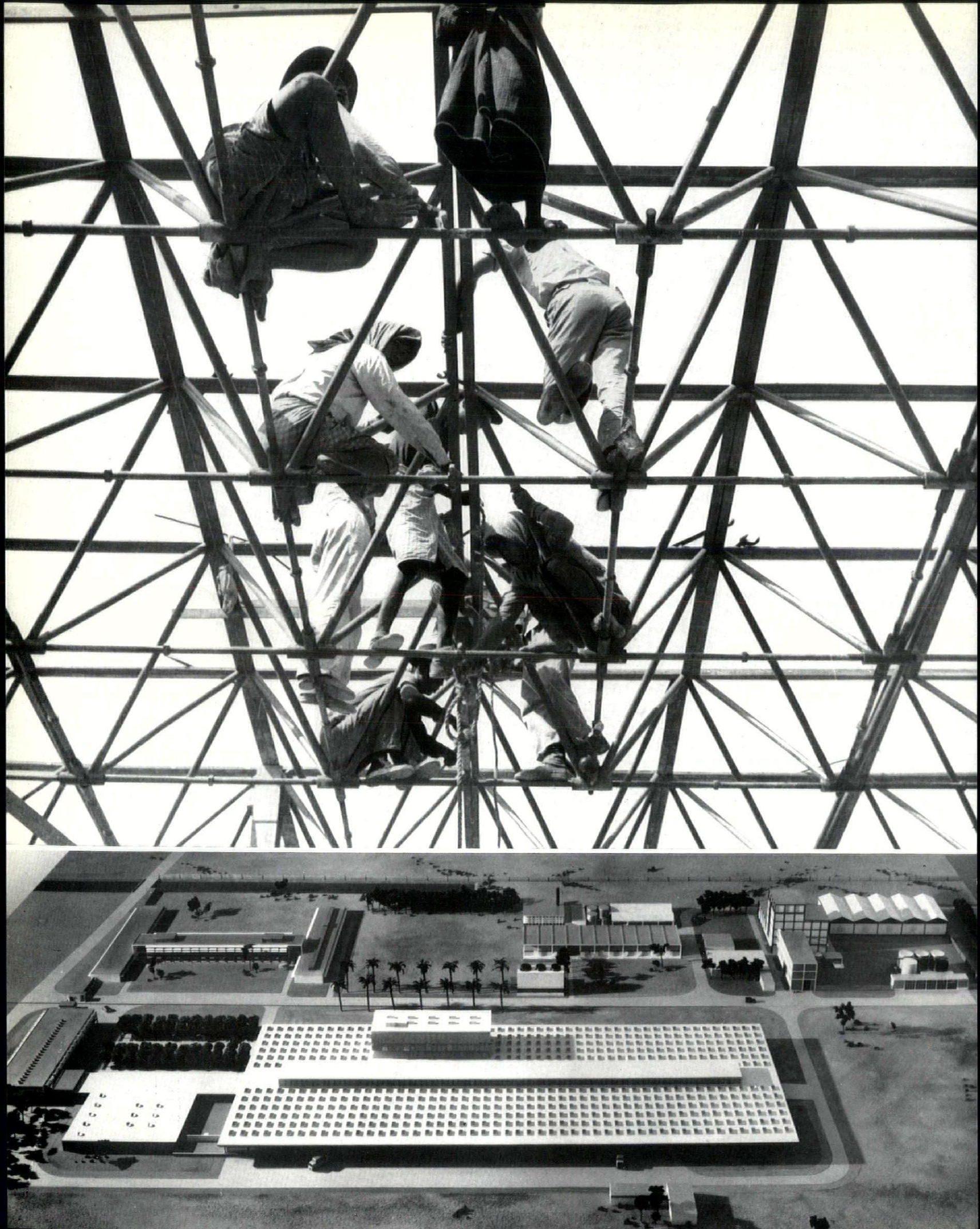
boundary of the park. Deciduous trees should be introduced, not to cover the conical tip, but to act as a foil to it, 21, and to screen the distant housing. They would be planted to act as windbreaks to the farmland and in hedgerows and copses, and thereby step up the trees in a vastly underwooded part of the county. The site already shows the making of an interesting landscape, 22, and 23, by means of drawings superimposed on the same photograph, shows how. With reclamation of the sunken ground by controlled tipping (but leaving the lake), by tree planting, and by the introduction of boathouses and a jetty, and possibly an artificial island, this could be made into a fine park. It is only one of many such large sites which could be used to provide lungs to the industrial areas, where they are so badly needed.

21









Opposite photograph, above, a progress of the space-frame erected and ready to receive the aerated concrete roof slabs. Below, an air view of the model from the east.

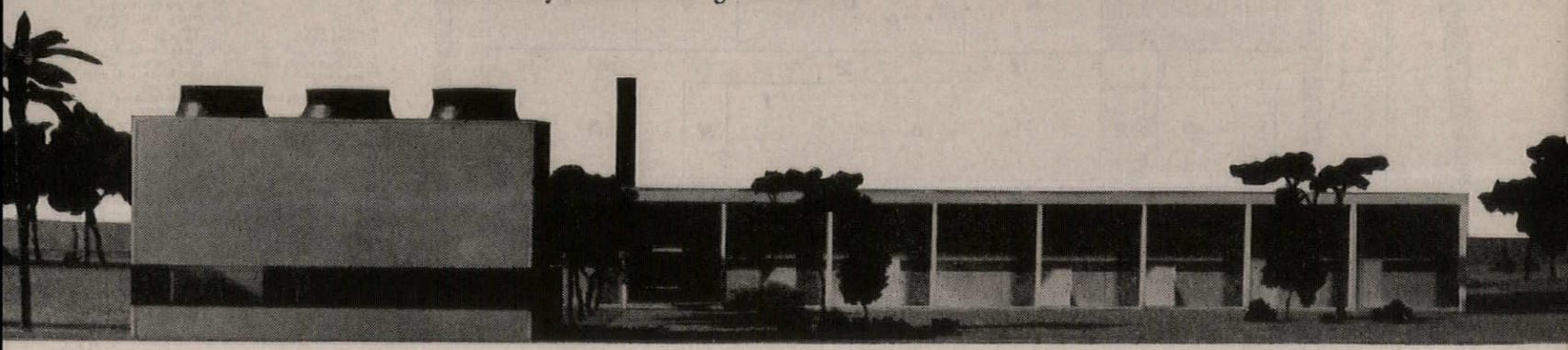
LABORATORIES AT RANGOON

ARCHITECTS | **JAMES CUBITT & PARTNERS**

This project for pharmaceutical laboratories is in the new industrial zone north of Rangoon; buildings and engineering services (except the manufacturing plant) should be complete by the autumn of 1956. The site of 140 acres was chosen, despite difficult subsoil conditions, as it was level, having formerly been paddy fields, and is near both to Rangoon, thus providing good transport facilities, and to the Hlaing river for the discharge of effluent. The industry is divided into three main sections: the main pharmaceutical production building, the alcohol and yeast vitamin plant, and the biological institute; in addition to these there are the administration block, canteen and cloakroom facilities, and service and workshop buildings.

Owing to the scarcity of skilled building labour in Burma, factory-made building elements and dry pre-cast construction have been extensively used, resulting in very rapid erection above slab level—an important factor where building operations are affected by monsoon rains for nearly half the year.

It was found most suitable to provide a single building for all the production processes. The plan provides a central trucking corridor with storage for raw materials, bulk packing and despatch on one side of it and the production departments on the other. In the storage half of the building there is complete flexibility of floor space, the unloading bays covering about two-thirds of the length of the building. The production side constitutes a totally air-conditioned envelope, within which there is almost complete flexibility of movement, the exception being the drug grinding tower, providing the gravity feed to the tincture department immediately below it on the ground floor.



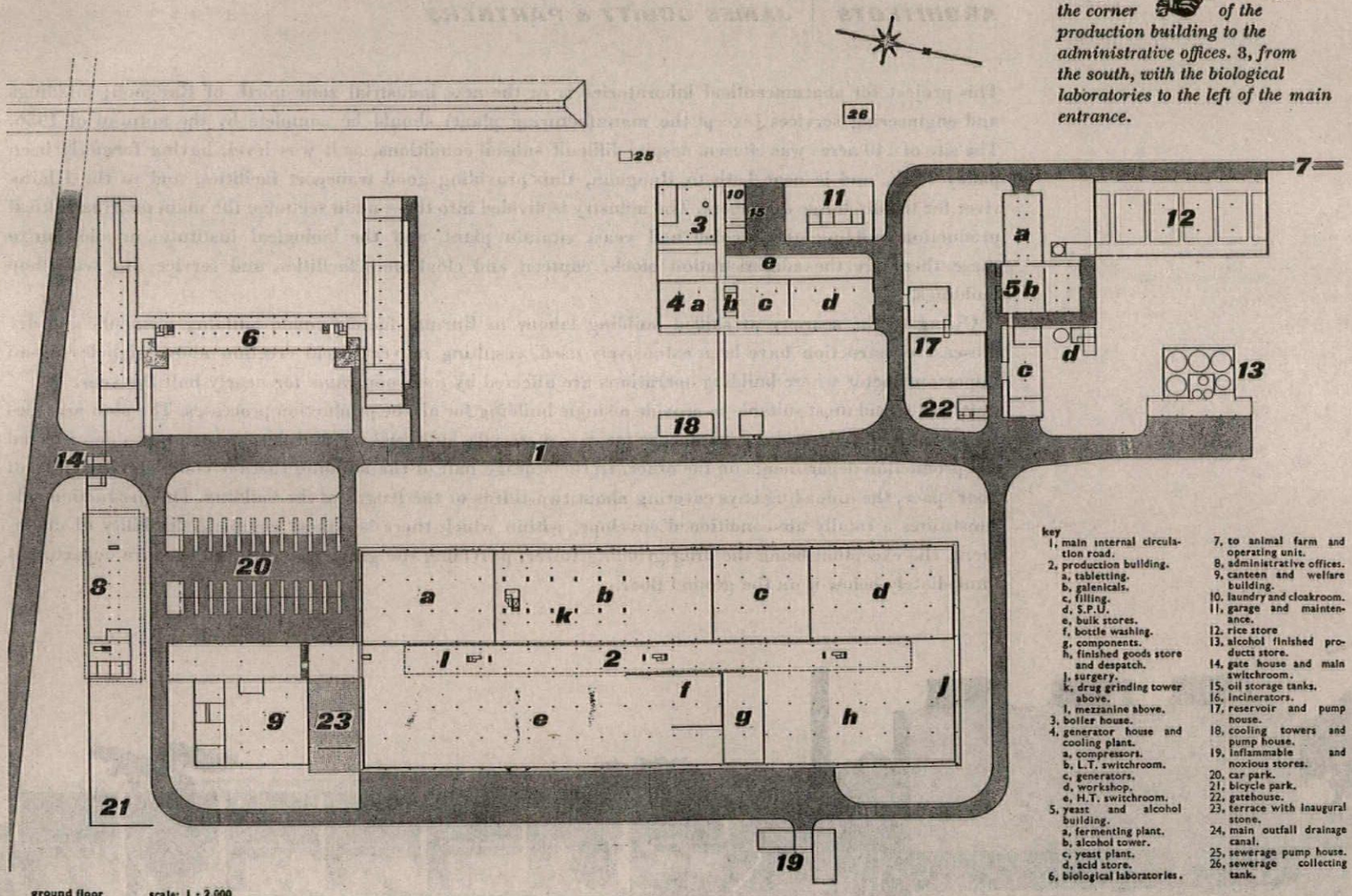
1, *pump house and generator house from the east.*

The structural system is a space frame built up on the site from prefabricated units in the form of inverted pyramids. The deck so created is supported on a column grid 32 feet by 24 feet. A complete bay of the roof is built up on the ground and hoisted into position by mobile crane; the boss of each unit provides a threaded fixing for either partitions or the suspension of conveyors, etc. Individual units measure 4 feet square in plan. Each unit receives a precast waterproof aerated concrete slab, which is covered with a 4 in. screed of mortar and a membrane. Finally the whole roof is covered with solar slabs of the same lightweight aerated concrete. The ceiling is formed by 4-foot square asbestos sheets clipped to the tension members of the space frames. The building is clad externally with an aluminium and fibre glass sandwich. A horizontal strip window is provided at eye level, glazed with non-actinic glass. The mezzanine of the central trucking core is clad with power-operated louvres, filled with laminated fibre glass sheets. Roof lights at frequent centres, shielded by non-actinic laminated fibre glass sheets, provide glare-free diffused lighting at working level. The lay lights under the roof lights have been offset by some 6 feet to avoid direct sun penetration.

The drug grinding tower is of reinforced concrete, owing to the extremely heavy loading; as it has been calculated that differential settlement between this and the surrounding single-storeyed structure will amount to $7\frac{3}{4}$ inches over 50 years, the feet of the glazing mullions around the base of the tower have therefore been designed to slide into grease-packed shoes. The superstructure of the tower is clad with asbestos and laminated fibre glass. The alcohol production plant will manufacture alcohol from damaged and broken rice. The alcohol tower constitutes a straightforward steel frame clad with asbestos and laminated fibre glass. The yeast fermentation buildings are placed on two sides of the tower, as the yeast production process is closely allied to the manufacture of alcohol. The biological institute consists of laboratories, animal farm and operating unit; the structure is designed in pre-cast concrete units, with curtain walling protected by continuous sunbreakers. The administration building is raised on pilotis, which allows for a shaded car-park, lavatories and air-conditioning plant room underneath. The structure is similar to that of the biological institute.

Some 725,000 cubic feet of space will be air-conditioned, and 15 air-conditioning plants will be installed, together with numerous individual room cooler units. A central mechanical refrigeration plant of 890 tons capacity will serve the cooling equipment. A triple cooling tower capable of handling 198,000 gallons per hour will provide cooling water for process purposes and for refrigeration plant condensers.

2, opposite looking past the corner of the production building to the administrative offices. 3, from the south, with the biological laboratories to the left of the main entrance.

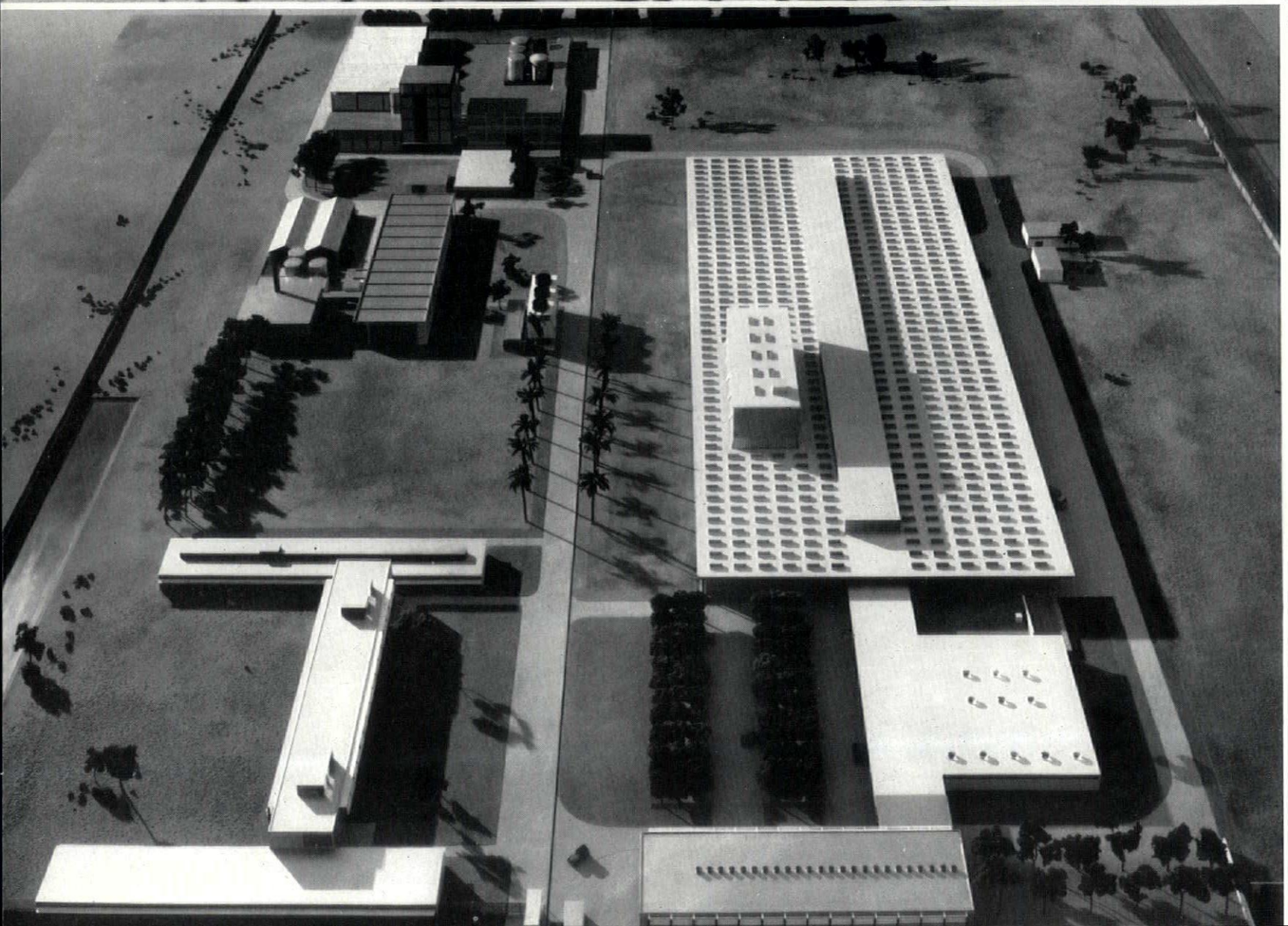


ground floor scale: 1 : 2,000

key
1, main internal circulation road.
2, production building.
a, tabletting.
b, galenicals.
c, filling.
d, S.P.U.
e, bulk stores.
f, bottle washing.
g, components.
h, finished goods store and despatch.
j, surgery.
k, drug grinding tower above.
l, mezzanine above.
3, boiler house.
4, generator house and cooling plant.
a, compressors.
b, L.T. switchroom.
c, generators.
d, workshop.
e, H.T. switchroom.
5, yeast and alcohol building.
a, fermenting plant.
b, alcohol tower.
c, yeast plant.
d, acid store.
6, biological laboratories.
7, to animal farm and operating unit.
8, administrative offices.
9, canteen and welfare building.
10, laundry and cloakroom.
11, garage and maintenance.
12, rice store
13, alcohol finished products store.
14, gate house and main switchroom.
15, oil storage tanks.
16, incinerators.
17, reservoir and pump house.
18, cooling towers and pump house.
19, inflammable and noxious stores.
20, car park.
21, bicycle park.
22, gatehouse.
23, terrace with inaugural stone.
24, main outfall drainage canal.
25, sewerage pump house.
26, sewerage collecting tank.



2



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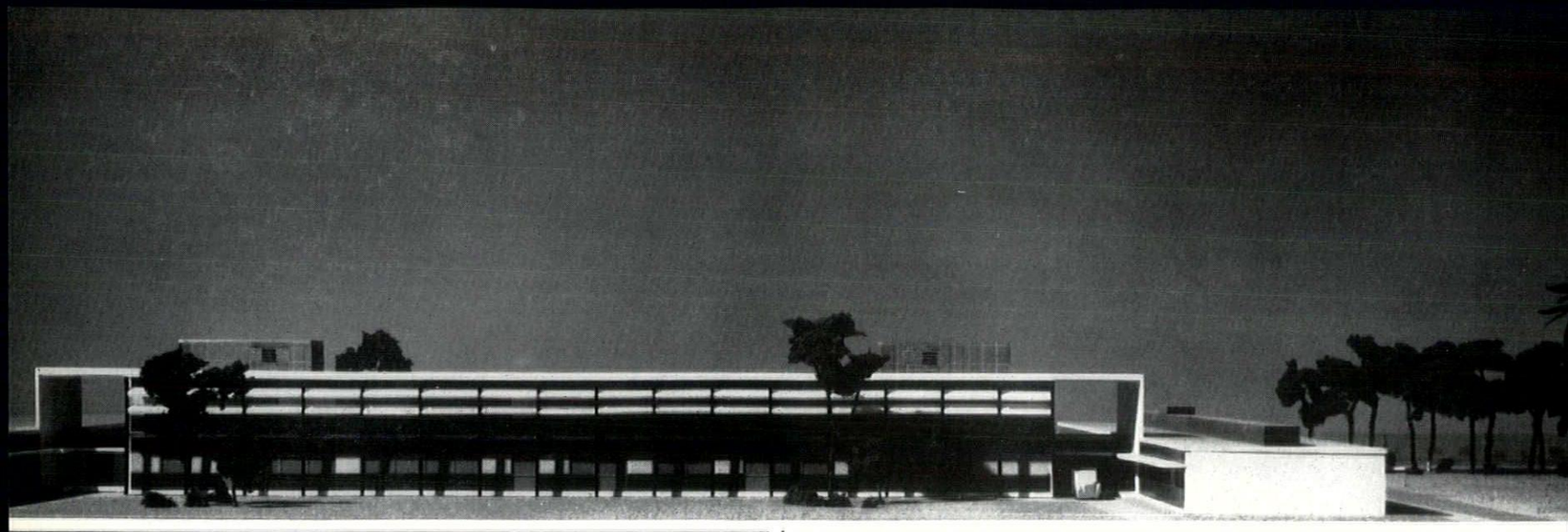

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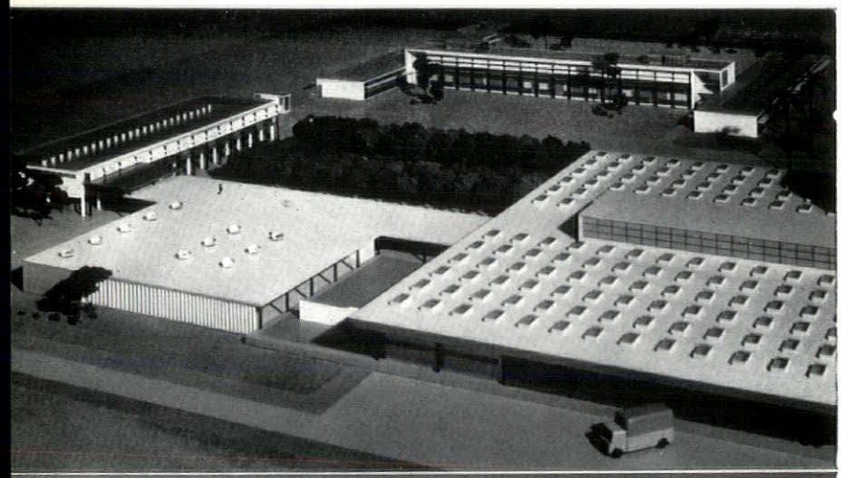

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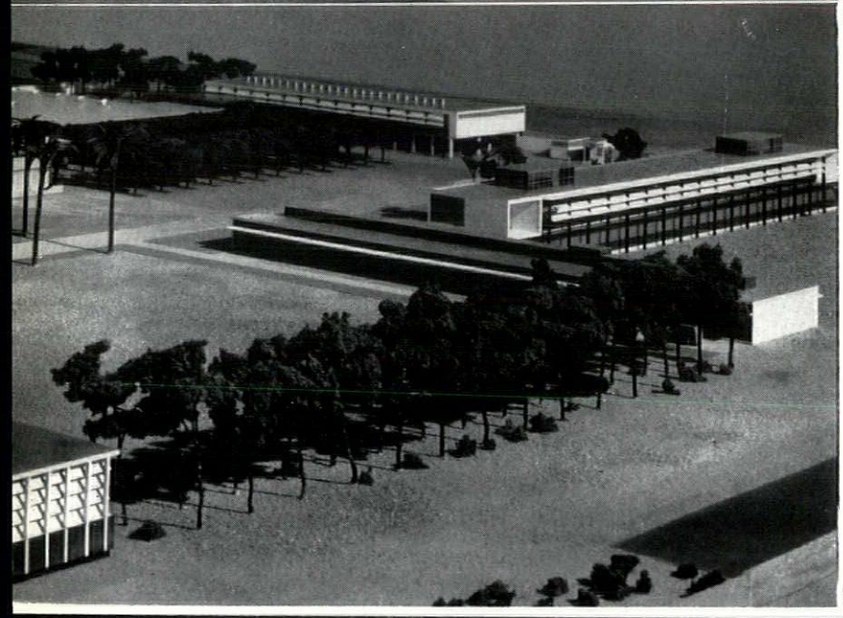

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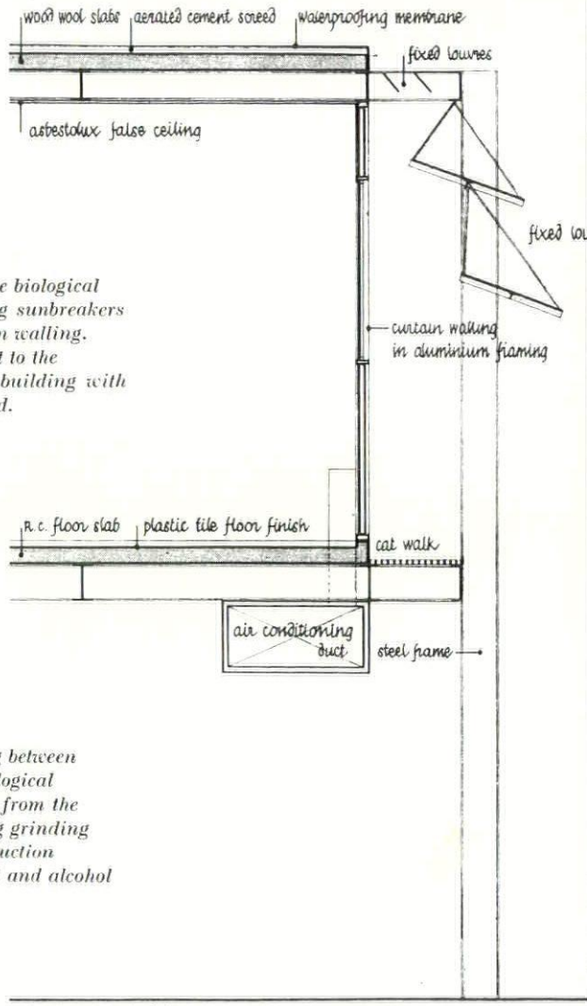
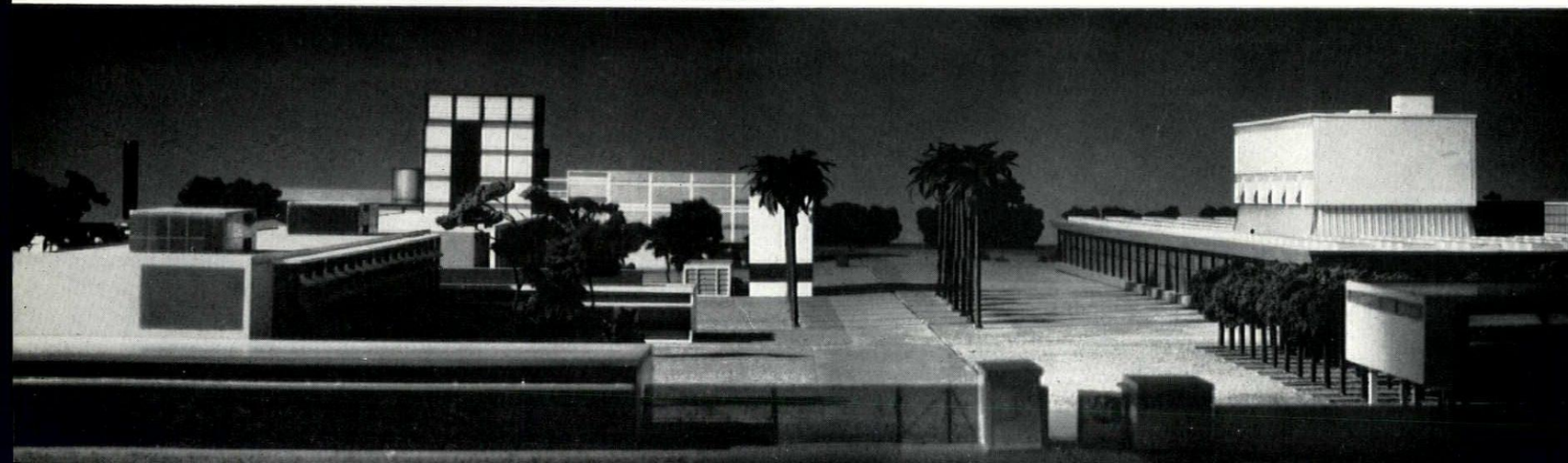
4, the west side of the biological laboratories, showing sunbreakers protecting the curtain walling.
5, looking south-west to the canteen and welfare building with admin. offices beyond.

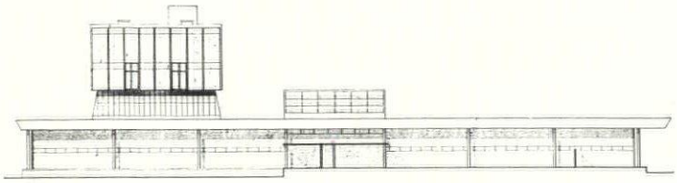


section through biological laboratory.

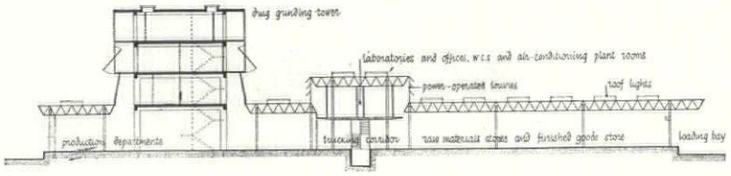
6, proposed planting between boiler house and biological laboratories. 7, view from the main gate, with drug grinding tower above the production building on the right and alcohol tower on the left.



LABORATORIES AT RANGOON



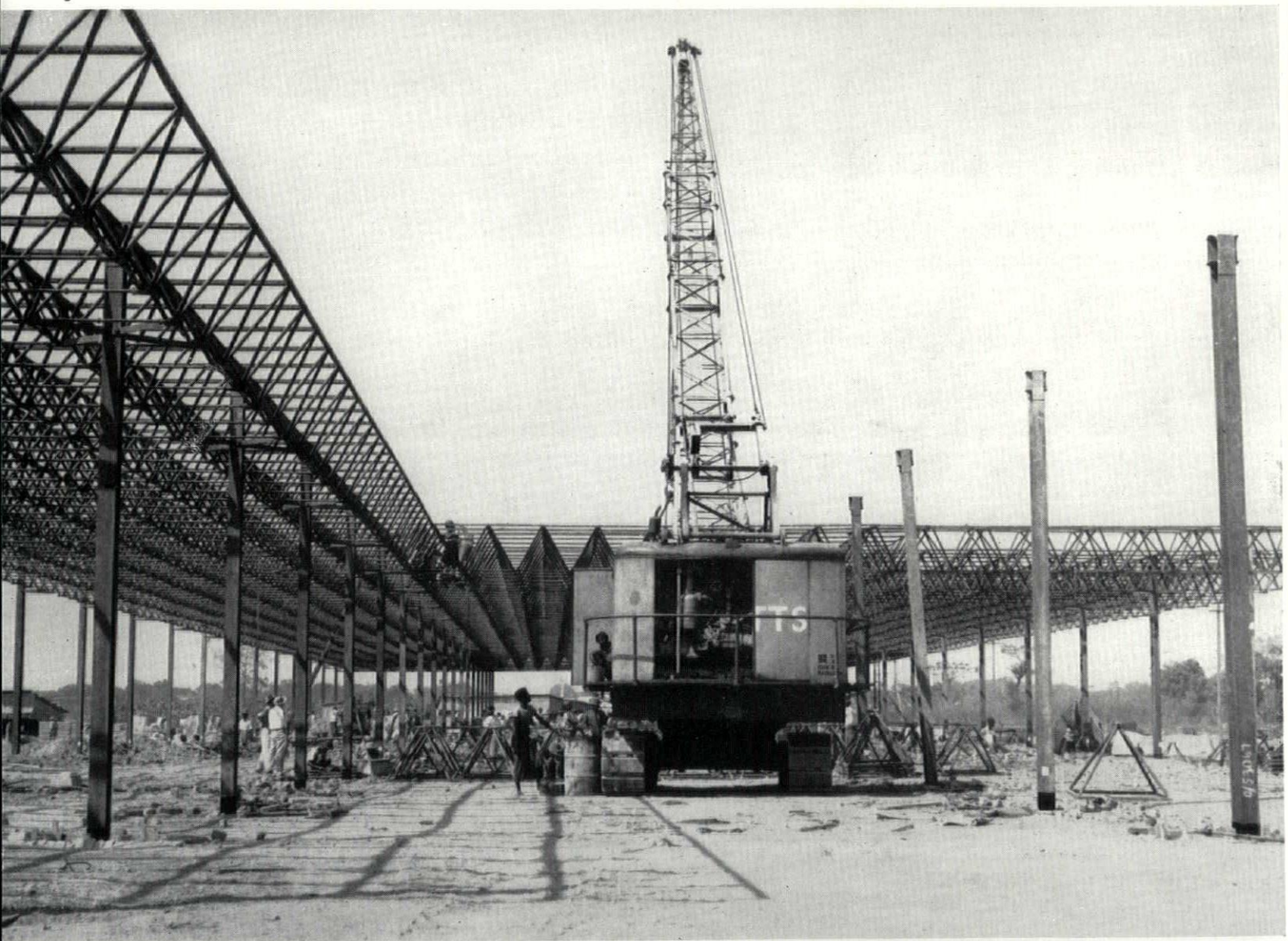
south elevation of production building.

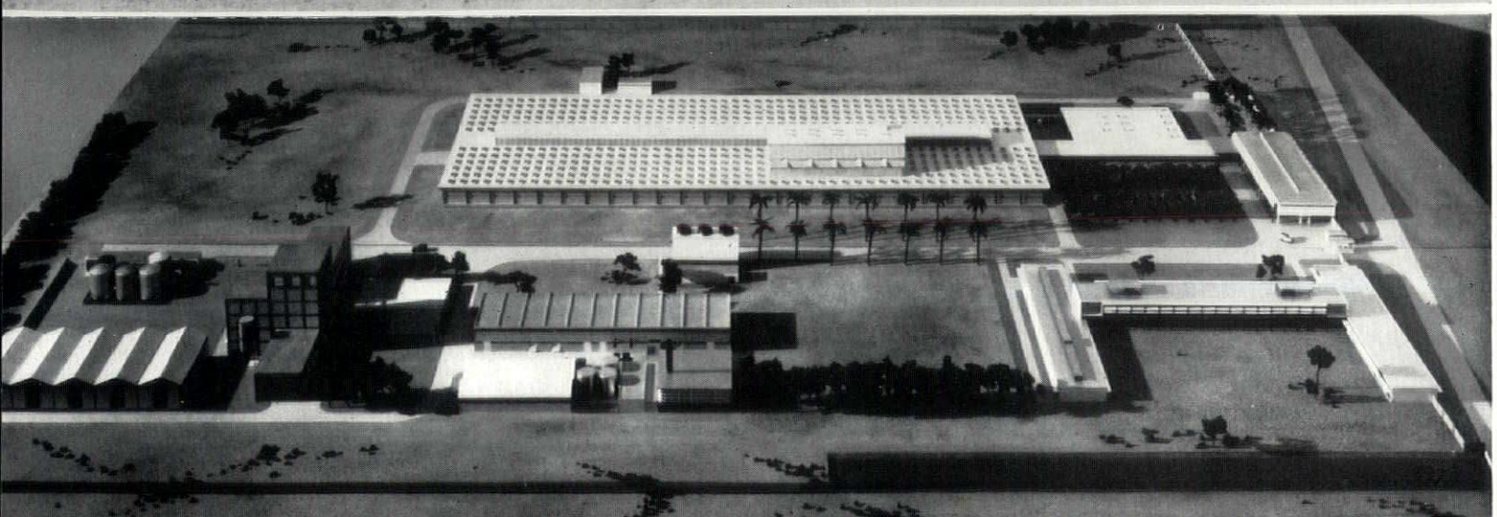


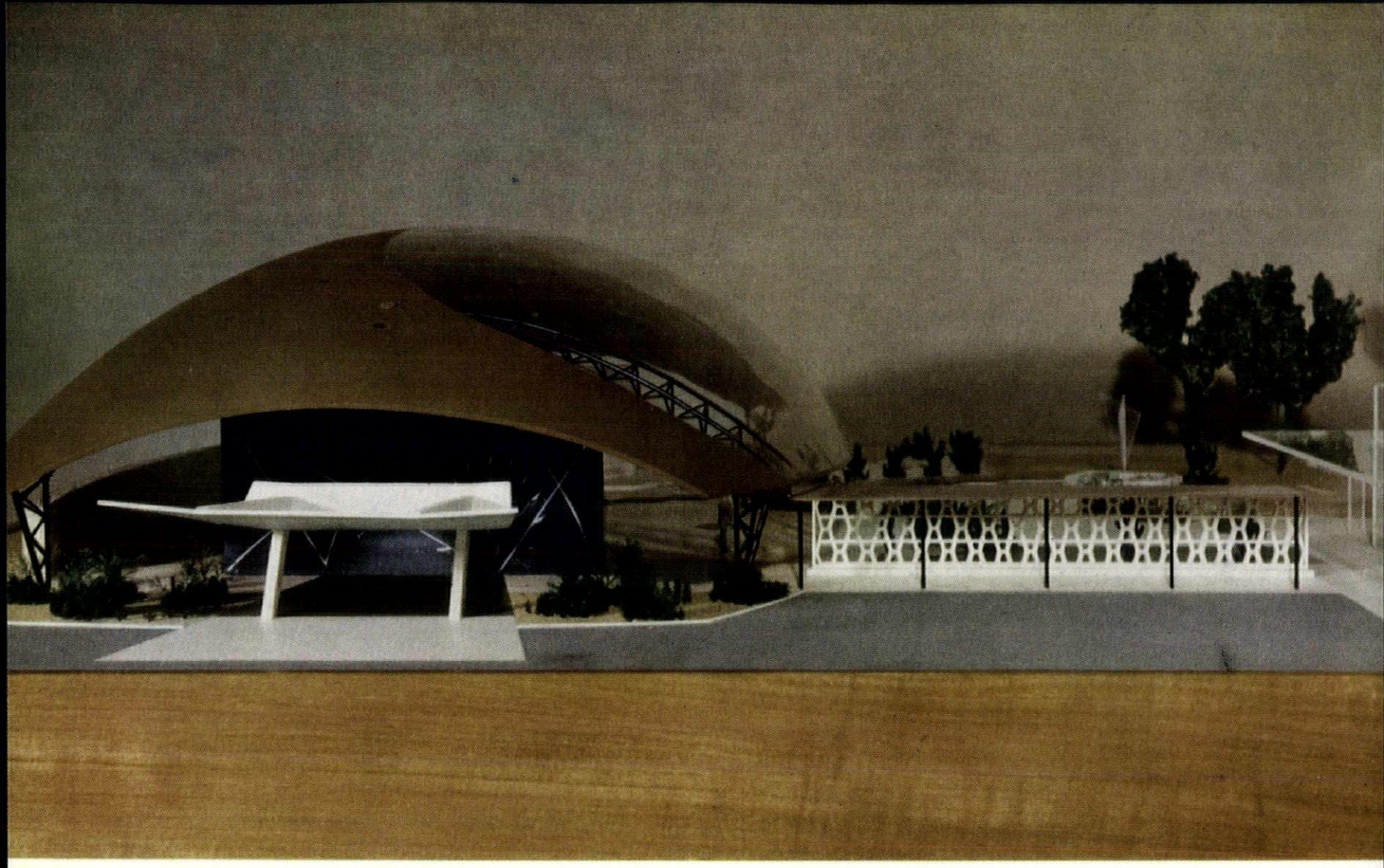
section through production building.

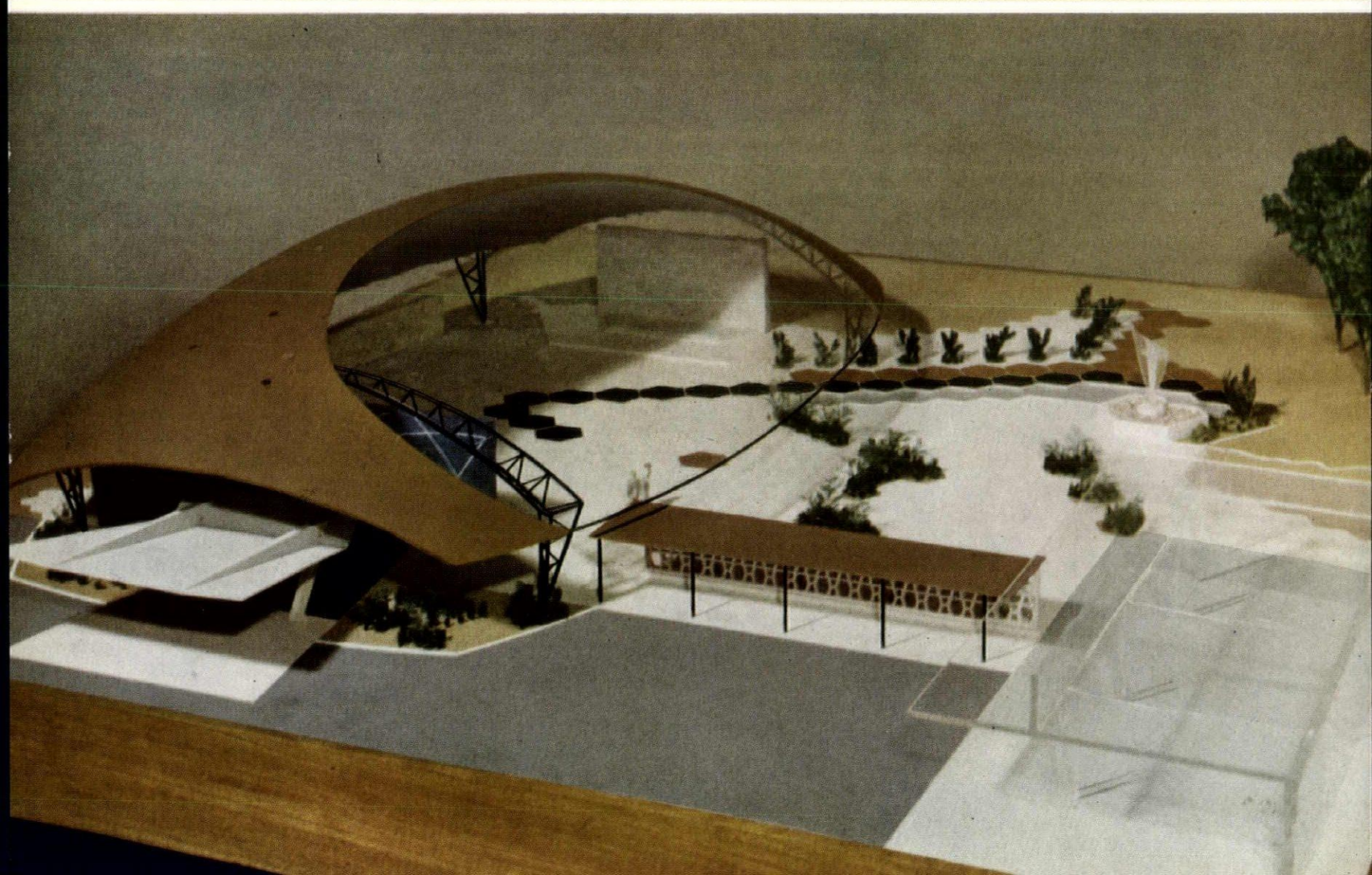
8
9

8, production building under construction. **9,** *the whole scheme from the west.*



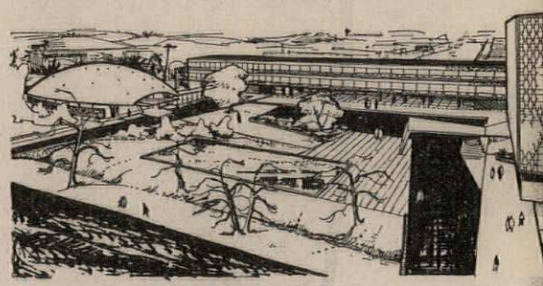






A turtle-shell dome laminated from boards of native teak, and carried on two portal-frame trusses of welded steel tubing forms the main structure—indeed, almost the whole structure—of the new assembly hall for engineering and architecture students of the University of Rangoon, designed by Raglan Squire. The model, opposite, with part of the dome rendered transparent, shows the relation of the sheltering shell to the entrance and stage structures, and to the open court which adjoins it.

1, *forecourt, showing relationship of assembly hall to mechanical engineering block.*



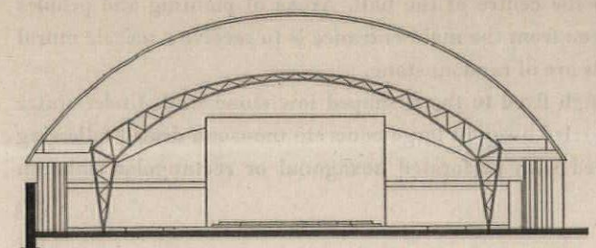
ASSEMBLY HALL AT RANGOON

ARCHITECTS | ***RAGLAN SQUIRE AND PARTNERS***

Assistant Architect | ***R. B. Roberts***

The Assembly Hall is to serve the 800 to 1,000 students of the future college of engineering and architecture at the University of Rangoon. The site is on the Prome road 7 miles outside Rangoon, and measures about 400 feet by 900 feet. This assembly hall could be expected to fulfil many uses: theatricals, political meetings, addresses, social functions, most of which traditionally take place in the open, the only covering being a simple truss roof carried on posts, of sufficient extent to ward off the direct rays of the sun or the monsoon rains. Rush mats or grass is the normal method of covering such structures. Deep overhanging eaves give additional protection. This entirely functional vernacular structure became the prototype of the Assembly Hall of the College.

It was decided that the main fabric of the canopy should be formed from materials indigenous to Burma, both for economy and to coalesce with the surroundings. Burma teak was selected. Detail design is based on a total of five layers of 4 inch teak boards, the bottom layer being $\frac{7}{8}$ inch thick and the subsequent four layers being $\frac{5}{8}$ inch each. A total thickness of $3\frac{3}{8}$ inch will be constant throughout. A series of steel posts at 12 feet 5 inch centres will be placed along each side of the canopy and two laminated timber tension beams (12 inches by 9 inches by 111 feet 8 inches) will be inserted on each side, 2 feet 3 inches in from the edge. The Assembly Hall must be capable of being locked up at night : a 7 foot 8 inch high stone wall protects it from the Prome road and continues round the stage end, clear of the eaves. Removable light timber screens will be provided on the inner side, based on the principle of the 'up and over' garage door and operated by counter-weights sunk in concrete manholes. The entrance to the hall will be sealed in the same way. The two portal frames, 111 feet 8 inches apart, are to be constructed of welded steel tubes. These frames, of triangular section, taper down to a hexagonal base plate and terminate in a steel rocker-joint. Temporary framework for the construction of the



section through assembly hall

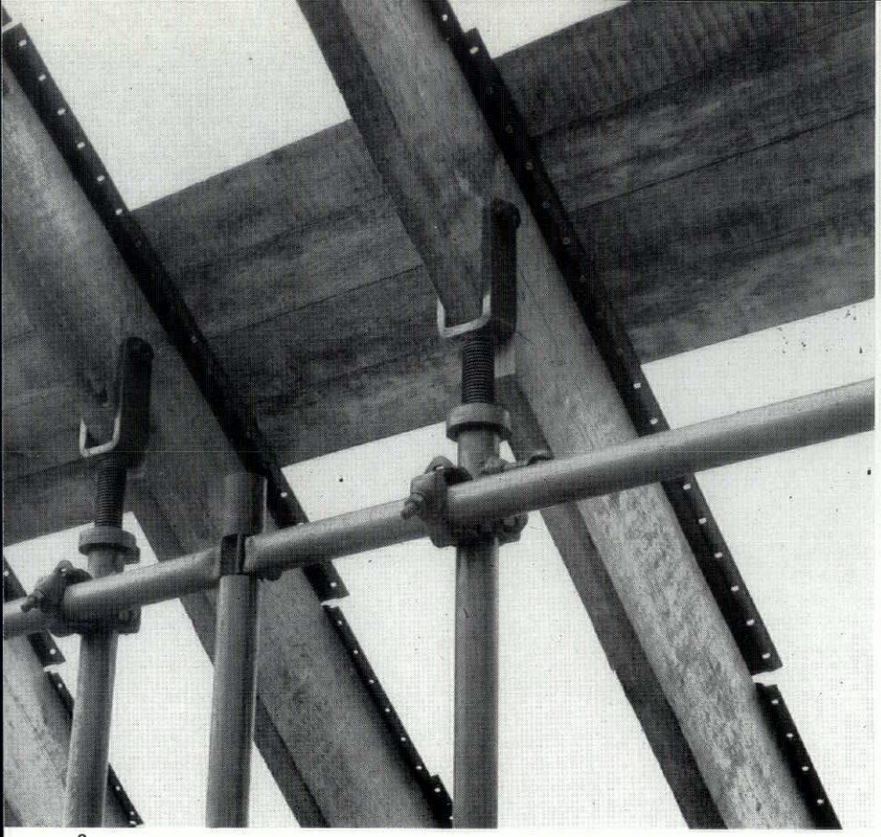


2, view past the assembly hall to the library.

roof consists of rough timber arches spaced at 2 foot centres, with pierced rocker plates screwed to the top. These arches are supported on scaffold towers with screw adjustments at the top and bottom of the tube, and are fixed with screwed steel channels. On final adjustment being achieved, the first (longitudinal) layer of boards is temporarily fixed to the rocker-plates from the underside by means of screws. This completed, the second (diagonal) layer is placed in position, glued and screwed; layers three, four and five are fixed in the same way. When all five layers are fixed, the holes for the roof light are cut, and the laminated ring containing the light is inserted in the hole and fixed. The top layer of boards is to be finished with a wood preservative.

The ground plan of the hall is based on a hexagonal grid of concrete slabs of two sizes. The large slabs are concentrated in the uncovered and the small in the covered area, the two types interlocking around the perimeter of the shell. The main student path into the hall is emphasized by the pool and sculpture group and the large black and red slabs which lead into the centre of the hall. Areas of planting and pebbles create space divisions. The large wall forming a screen from the main entrance is to receive a mosaic mural based on the geometry of the canopy. All other walls are of random stone.

Artificial lighting is produced from a timber trough fixed to the L-shaped low stone wall. Under-water lighting is provided in the pool. Surface water is carried away in large concrete monsoon drains following the perimeter of the roof. These drains are covered with perforated hexagonal or rectangular slabs on which hardcore and pebbles are laid.



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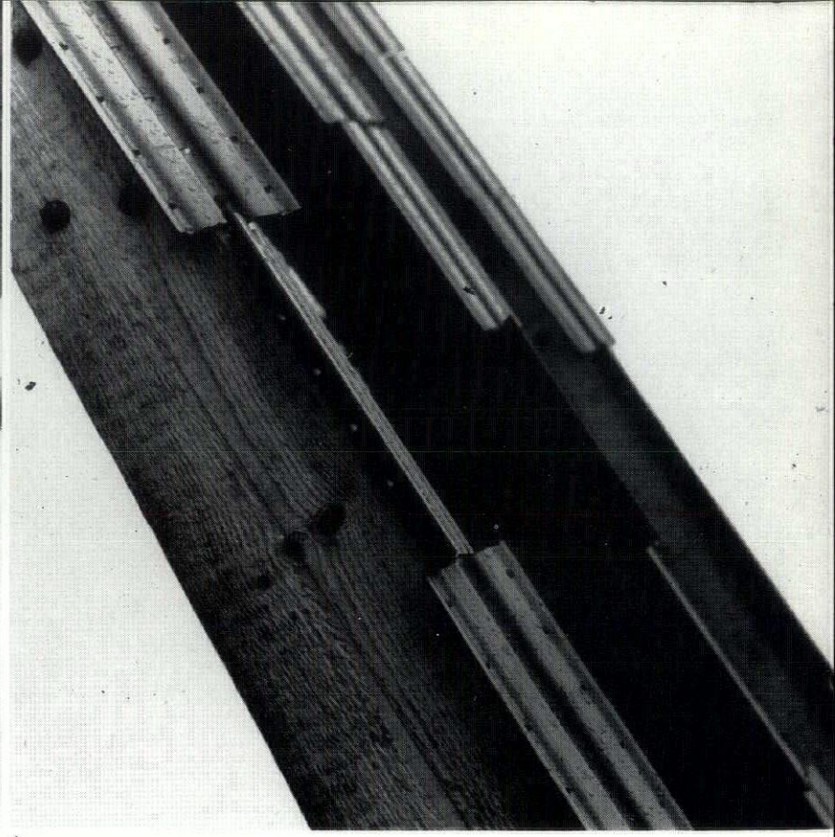

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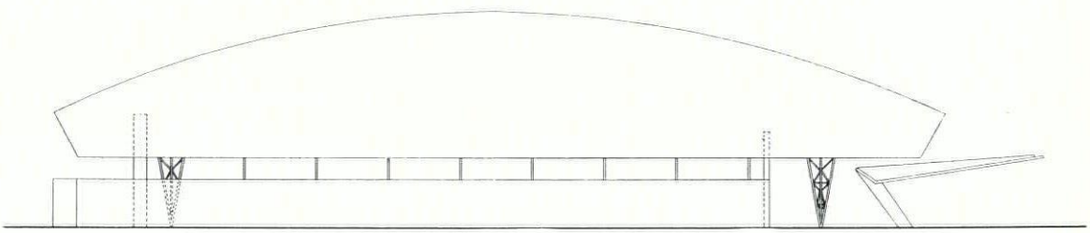
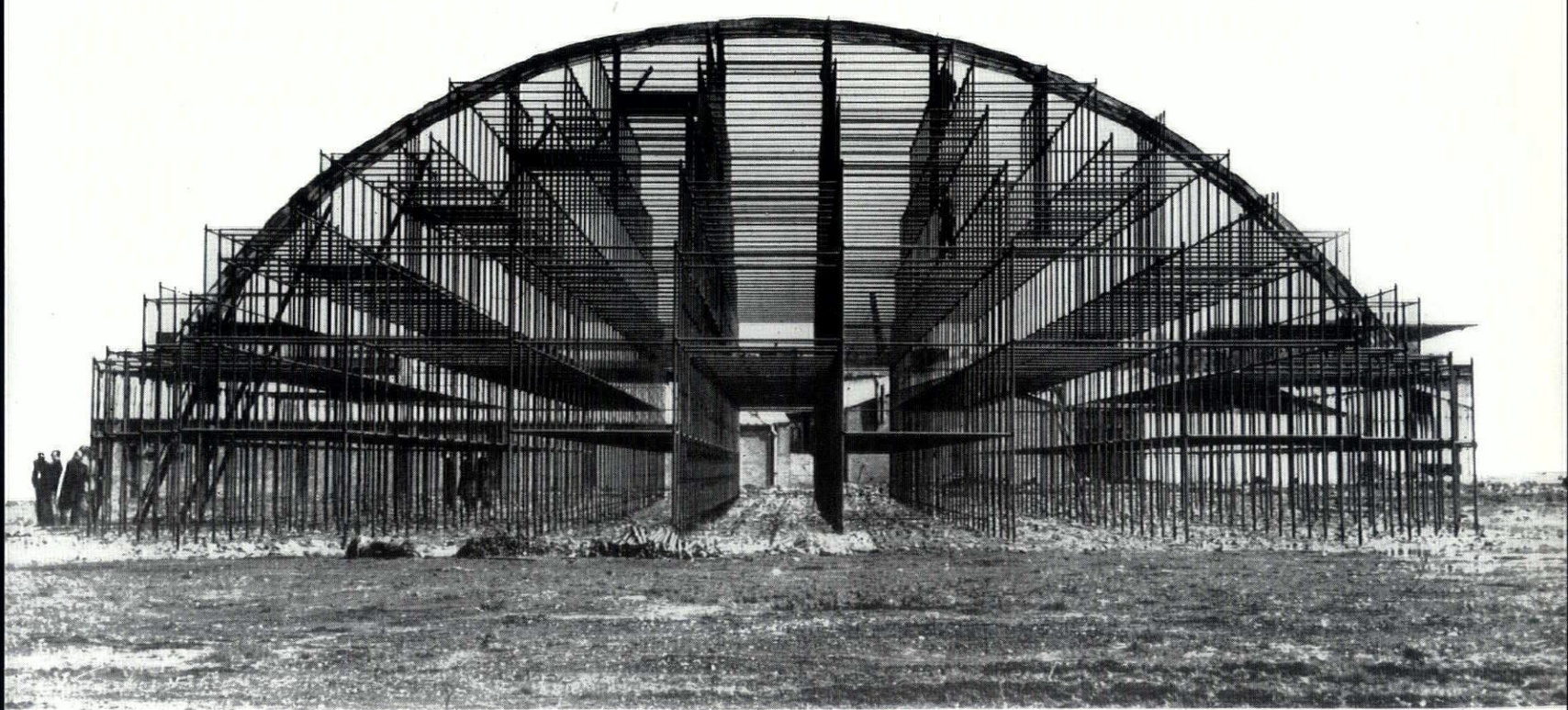
3, detail of the arches, supported on scaffolding, which provide the formwork for the turtle-shaped, laminated wood dome during its erection. 4, upper view of one of the arches, showing pierced rocker-plates screwed down for reception of the first layer of boards.

ASSEMBLY HALL AT RANGOON

5, general view of the scaffolding, which has screw adjustment at the top and bottom of the tubes.



south-west elevation



5

current architecture

recent buildings of interest briefly illustrated.

HOUSE AT ESHER, SURREY

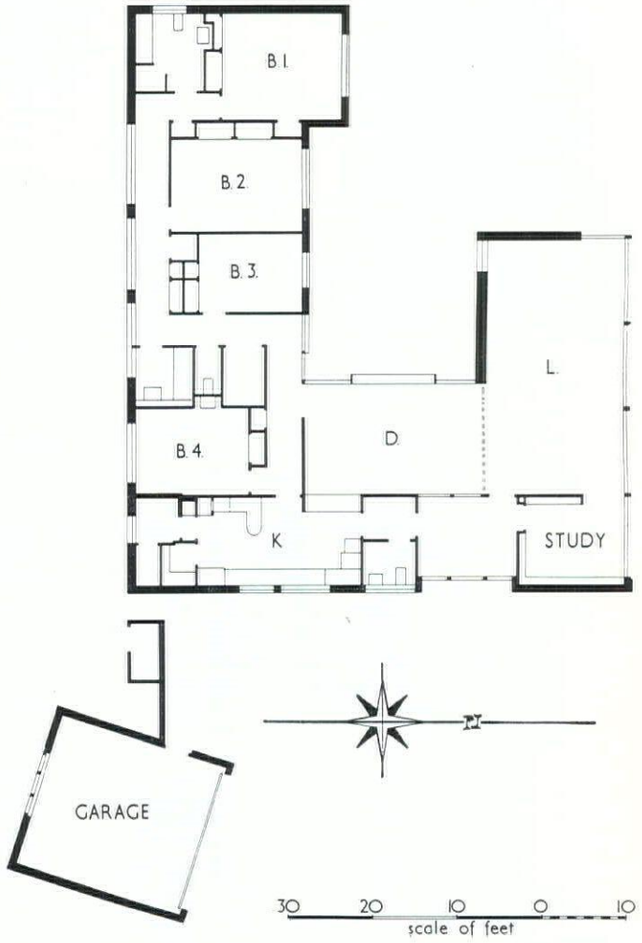
ARCHITECTS, DEVEREUX AND DAVIES

ASSISTANT ARCHITECT, R. W. TREBILCOCK

The site of the building at New Road, Esher, is enclosed with matured trees and park shrubs, and a small natural lake is its main feature. The rear of the building is placed along the open boundary south of the site. Consequently the house has as its main aspect a view to the north under the trees to the lake. The house has a single storey. A sliding wall between the living and dining rooms slides into a recess formed in the living room wall. The whole north wall of the living room and study, towards the garden, is glazed from floor to ceiling, one section sliding open. The west wall of the dining room is similarly glazed and incorporates a bay window for plants. The bedroom wing with the two bathrooms is built along the south boundary of the site and forms a small courtyard with the living room wing. The brickwork is painted white and the vertical boarding is varnished cedar. The external woodwork is painted blue-grey and lemon yellow. The 11 inch cavity walls have 4¼ inch breeze linings. 2 inch woodwool slabs are used as an insulated backing to the 4 inch by 3 inch timber framed walls which are lined

1, *the living room from the north.*







2



3

House at Esher

with felt and covered externally with moulded cedar boarding. The roof is constructed with built up timber trusses and covered with metal roof decking, ½ inch insulation board and 3-ply mineral surfaced roofing felt coloured green.

A system of heating by hot air obviates the difficulty of arranging radiators and pipe runs near the large glass areas. The hot air is ducted through the floor and returned in the roof space to the heating units which are oil fired and controlled by room thermostats.

2, the view north-west to the lake from the living room. 3, the dining room with bay window for plants on the right.

SCHOOL AT CATFORD, S.E.6

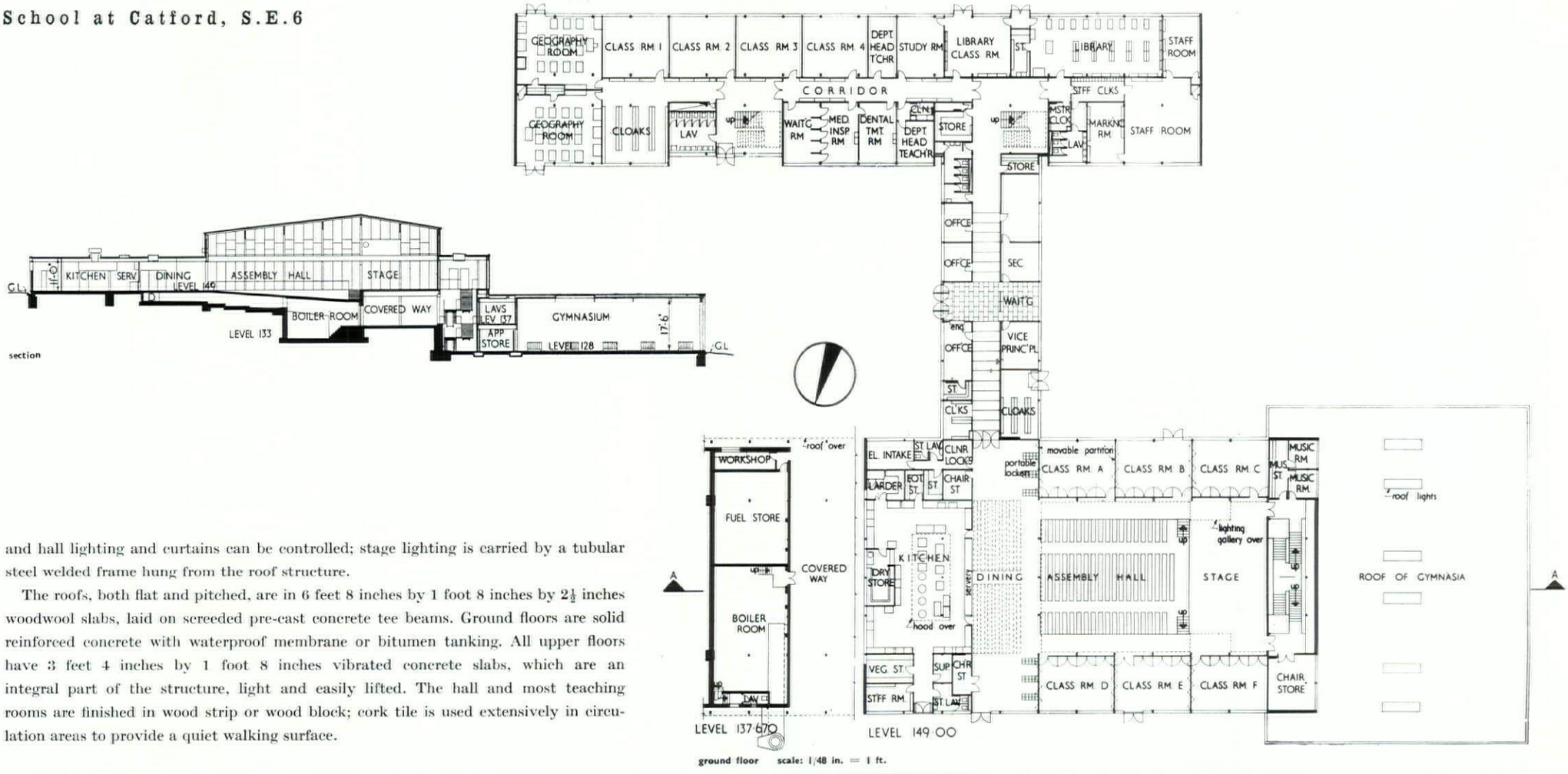
ARCHITECT TO THE L.C.C.: J. L. MARTIN
ARCHITECT-IN-CHARGE: W. J. SMITH

This is a county secondary school for 1,190 girls on land formerly used for allot-
ts between Bellingham Road and Conisborough Crescent. It is sited on fairly
ground, sloping sharply from east to west. Tarred playing areas, and a large
d playing courtyard at the east end, are provided. The school consists of two
l blocks: the four-storey teaching block containing repetitive classroom units
large-span, single-storey assembly hall and gymnasium using the sloping site.
k block contains the entrance and some staff rooms. A light, prefabricated
r steel frame is used throughout, and finished externally with glass curtain
The vertical cladding bars are at 40-inch centres and opening lights can be
here required; the rows of panels between windows are glass-faced. In the
n block, to guard against possible spread of fire to the staircases from
accommodation, the curtain wall glazing was recessed by 40 inches from
l face. The reveals thus formed are in brickwork rendered and painted
end walls of the block have solid cladding. In the assembly block a
f covers the hall itself and, around it, flat low-level roofs cover three
ces on either side, music rooms and a staircase down to the gymnasium.
d partitions between the teaching spaces can be folded back to form
r one large room; similarly the screens dividing them off from the
pened up. On either side of the stage is a 'flybox' from which stage



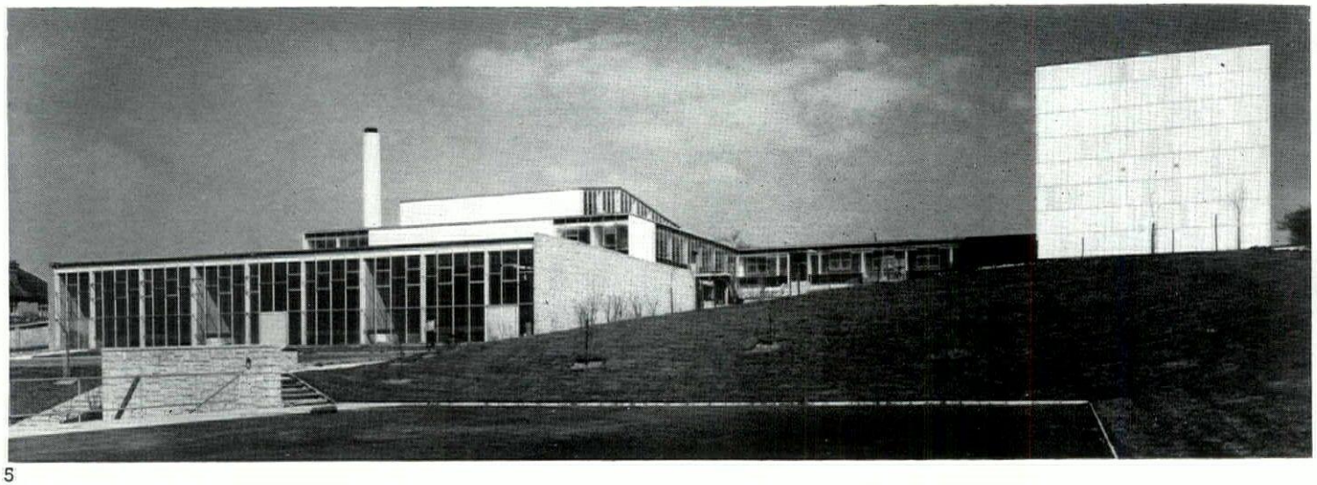
4, the teaching block from the north-east.

School at Catford, S.E.6



and hall lighting and curtains can be controlled; stage lighting is carried by a tubular steel welded frame hung from the roof structure.

The roofs, both flat and pitched, are in 6 feet 8 inches by 1 foot 8 inches by 2½ inches woodwool slabs, laid on screeded pre-cast concrete tee beams. Ground floors are solid reinforced concrete with waterproof membrane or bitumen tanking. All upper floors have 3 feet 4 inches by 1 foot 8 inches vibrated concrete slabs, which are an integral part of the structure, light and easily lifted. The hall and most teaching rooms are finished in wood strip or wood block; cork tile is used extensively in circulation areas to provide a quiet walking surface.



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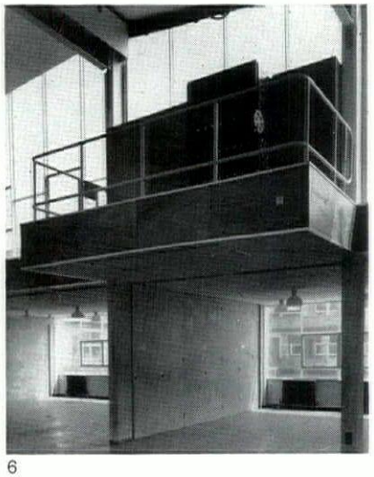

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5, the school from the south-west, with gymnasia on the left. 6, one of the flyboxes controlling stage lighting in the assembly hall.

EXHIBITIONS

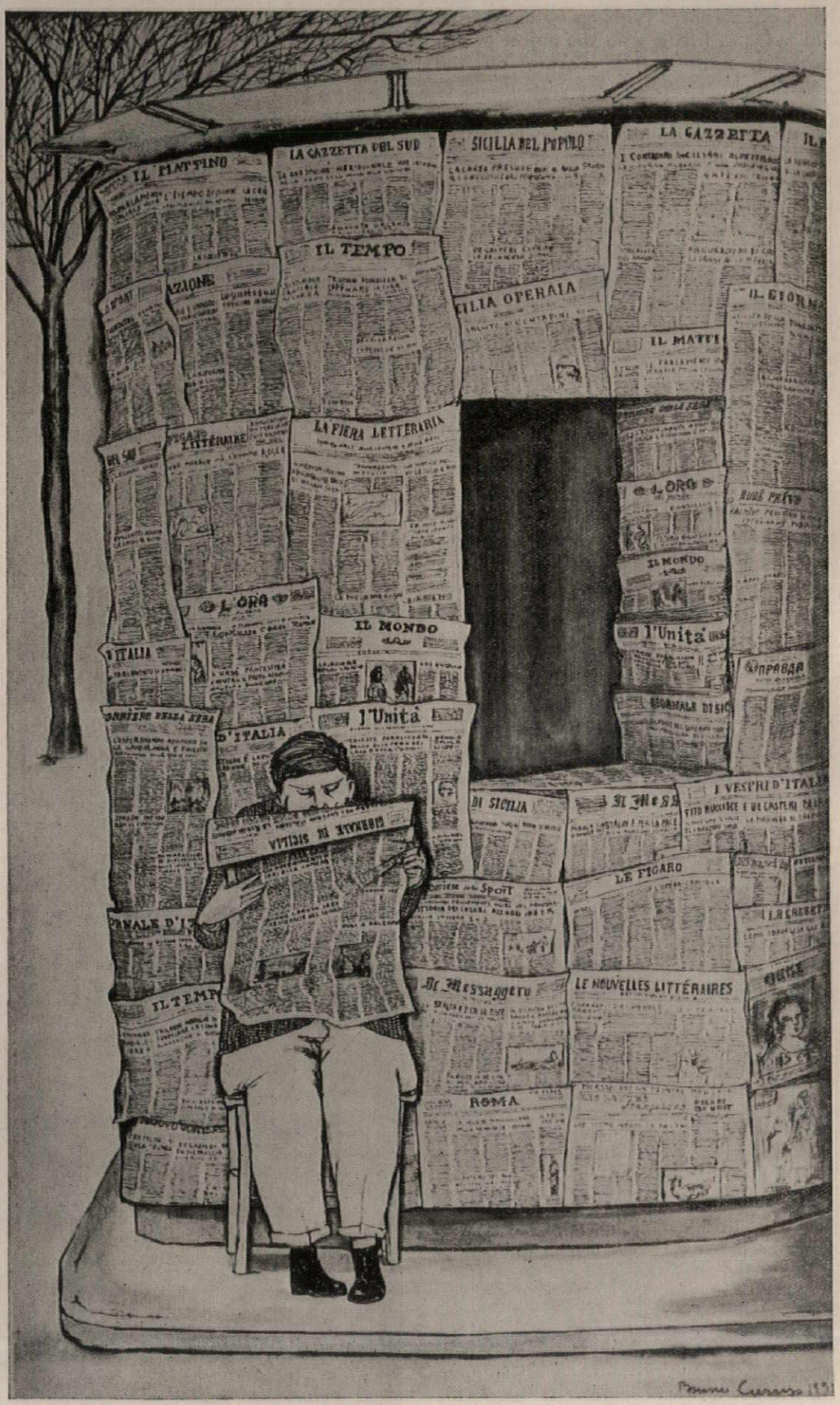
THE DRAWINGS OF BRUNO CARUSO

The poet Leonardo Sinisgalli has, with some justice, commended Bruno Caruso for imposing conscience on his designs without resorting to symbols and allegories, but in associating this moral victory with an avoidance of the automatic line he has neatly suppressed the factor that puts Caruso's conscience on the alert. If Caruso's drawings manage to appear before us as little models of clarity and moderation it is not because he has avoided automatism; very few graphic artists have allowed it more play.

It is true that the unimpeded graphic impulse usually projects a line that turns and twists like a demented spiral and never wants to stop wriggling, but it has other resources, and in the case of Caruso exhibits its prim side. His successions of punctiliously straight lines, which rarely take account of contour and terminate only because the margins of the paper call a halt, are far from registering a protest against the dictates of the unconscious, and all the beauty of these drawings springs from the self-assertiveness of an elemental linear faculty. Caruso would be outside the creative ferment of our time if he obliged his line to serve a preconceived purpose, or attempted to camouflage the naïve repetitiousness that sustains the creative impulse.

The cartoonist George Grosz attributes the neatness and the overlapping images of his early drawings to heredity, finding an intimate precedent for his attachment to interlace in the baskets woven by his grandfather. By the same token, there may well have been cord makers in Caruso's family, like those whose handiwork, pegged out in a taut multiplicity of lines on Sicilian beaches, is celebrated in some of his loveliest drawings: but the autobiographical note that he has sent to the Arthur Jeffress Gallery, where he is holding his first London exhibition, tells us only that he is twenty-eight years old and has lived in Palermo all his life, and that he edits a magazine called 'Sicilia.'

He has been influenced by the graphic



1, Newspaper Kiosk, *1952*.

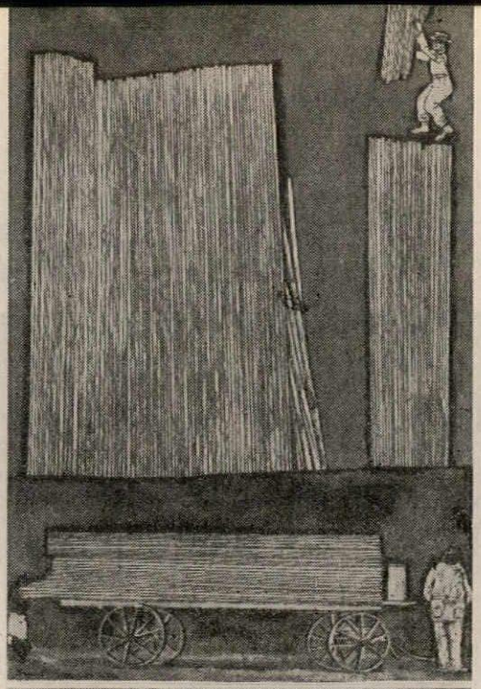
technique of Vespignani, and shares his interest in the public furniture of towns, but the spirit of his work is closer to Klee's angular labyrinths, and those classic examples of *frottage* which constitute Max Ernst's *La Histoire Naturelle.* Klee and Ernst, however, took a line for a walk or translated rubbings obtained from the veins of leaves with the object of discovering new worlds: Caruso on the other hand, recognizes manifestations of his innate line in the streets, parks and warehouses of an actual town, and his best drawings disclose something in the nature of a spontaneous collaboration between a pure psychic construction and a stock pile of sawn boards or the cages of a zoo or the configuration of overhead wires at a tramway terminal.

This *rapport* with a few strictly limited aspects of his environment gives his work its peculiar air of mysterious familiarity, and accounts for the weird omissions, the stillness and silence of his version of reality. It also explains the dearth of animals in his zoo, for the objects in his drawings are only hallucinatory images thrown up by the activity of straight lines, and in this respect the faintly adumbrated plants which mingle with his interpenetrating oblongs of vertical wires are unforgivable intrusions, which almost reduce these otherwise exquisite drawings to the facetious unreality of the average architect's fancy representation of a project.

His line does not proliferate. It stops. Then another, indistinguishable from the first, is added, and another and another, and as the drawing proceeds elation or a quiet hysteria is begotten of the patience. His drawings of timber stocks are his most powerful works because in these his regiments of lines meet with no obstruction whatsoever until the edge of the paper comes in view. They are fascinating because they are involved in that universal dream of unimpeded extention which from time to time enables a scientist to dazzle us with the imaginary statistics of a 'perfect' situation; one recalls, for instance, the delicious 'remark in passing' of Le Comte du Noüy when speaking of the growth of a strain of cells derived from a fragment of embryonic heart which has been kept alive since 1912: he calculated that if it were not necessary to cut these cultures in half every day to eliminate their toxic properties they would long ago have been more than thirteen quatrillian times bigger than the sun.

So it is perhaps in deprecation of the exorbitant self-assertiveness of his linear faculty that Caruso allows an ugly and impudent homunculus to drift through his world of overweening structures. One finally accepts this shiftless but unsubmissive creature, for it is through his presence that the artist declares his suspicion of the humourlessness of an obsession, and preserves his scepticism amidst the wonders and mysteries of repetition and the grandeur of a hundred thousand planks.

Robert Melville



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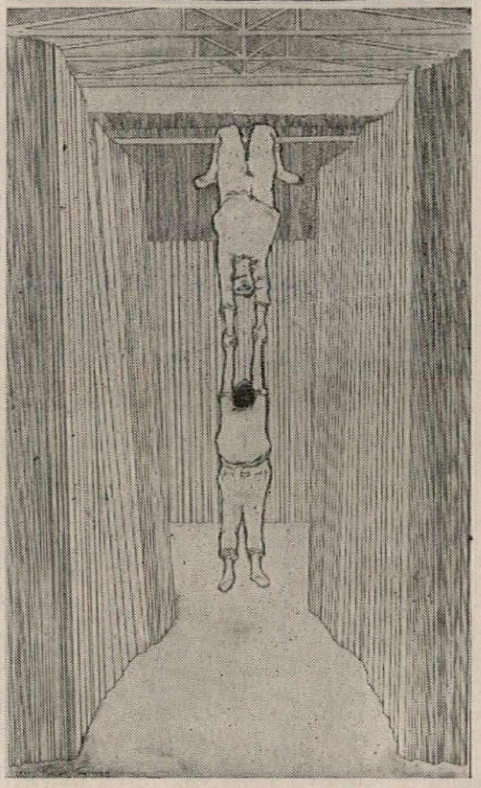

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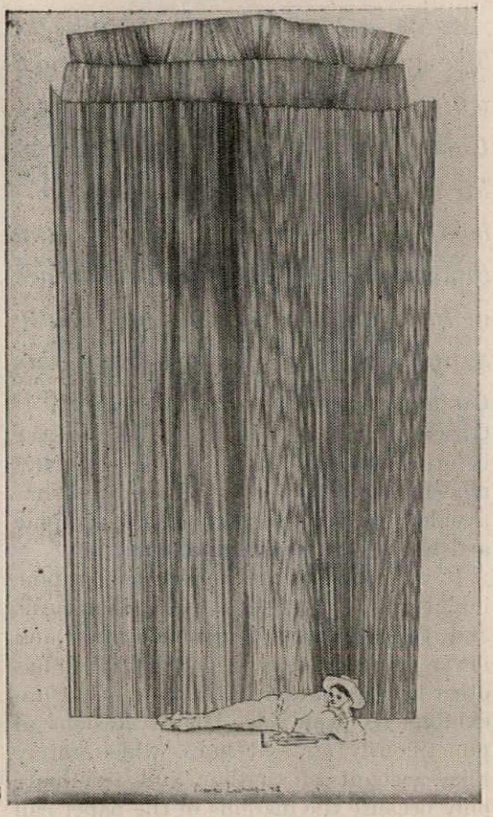
exhibitions: the drawings of Bruno Caruso. *On this page, 2,* Timber Yard, *1951, 3,* Acrobati, *1951, 4,* Uomo fra le tavole, 1955, and *5,* Uomo fra le tavole, 1952. *On the facing page,* *6,* Periferia, *1953, 7,* Park Seats, *1954, 8,* Botanical Gardens, *1954, and 9,* Carrozzoni di Zingari, 1952.



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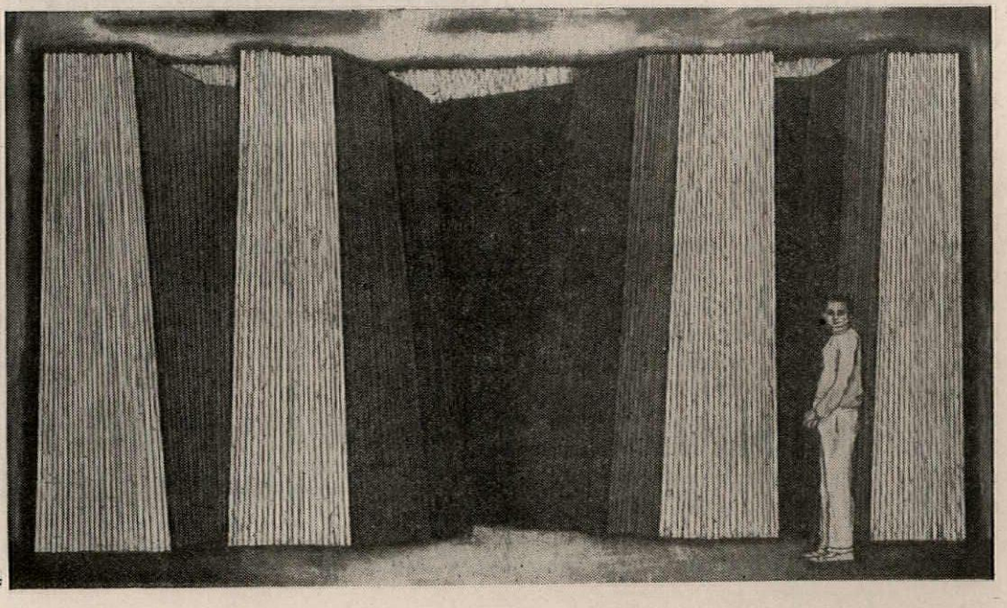

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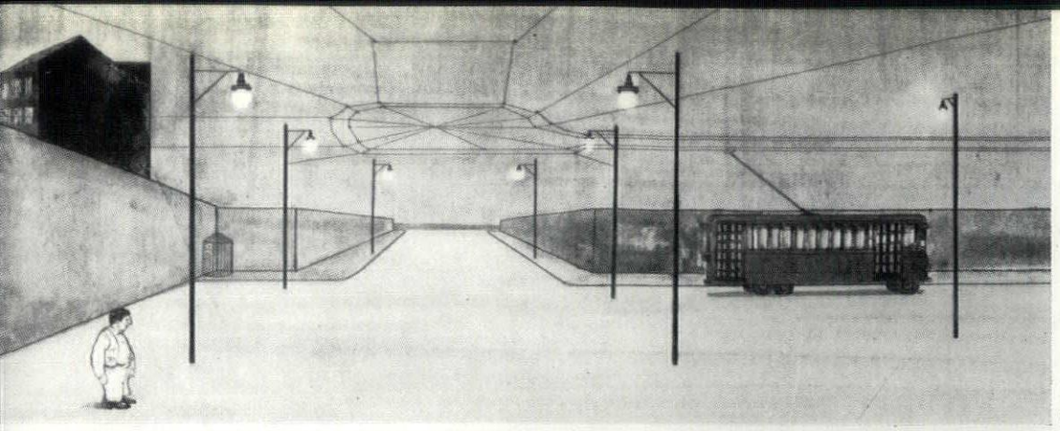

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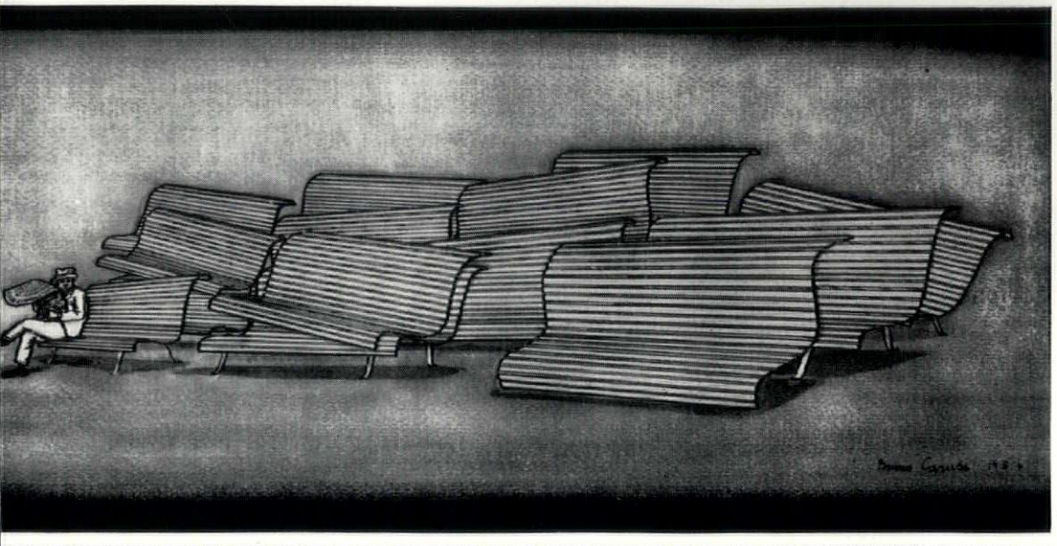

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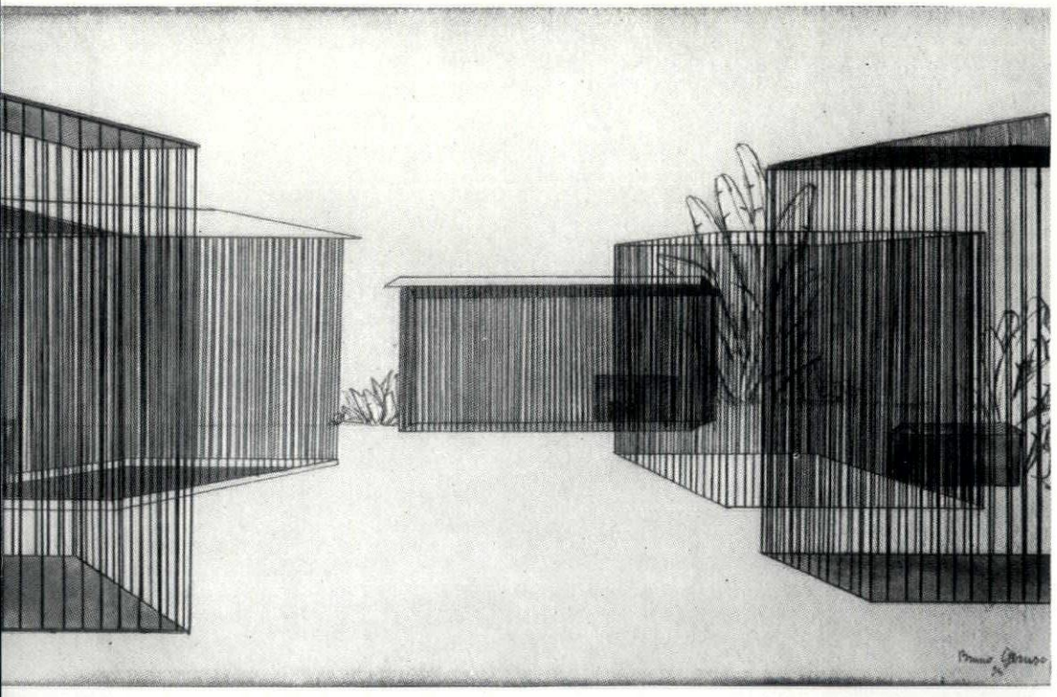

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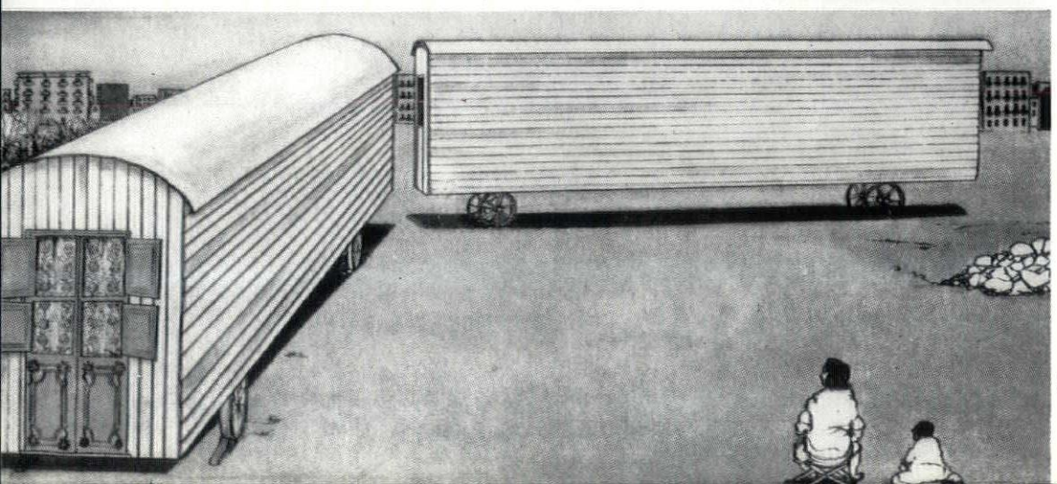


9

WORLD

NANTES-REZÉ

With the completion of the new Unité d'Habitation *at Nantes-Rezé,* 1, *one of le Corbusier's cherished dreams passes from the status of a work of lonely genius to that of a socially acceptable building-type,* for not only does the new *Unité* show that Marseilles can be repeated, but also that the *têtes dures* of the French working classes actively will its repetition. Though 85 per cent financed by an HLM* loan the block

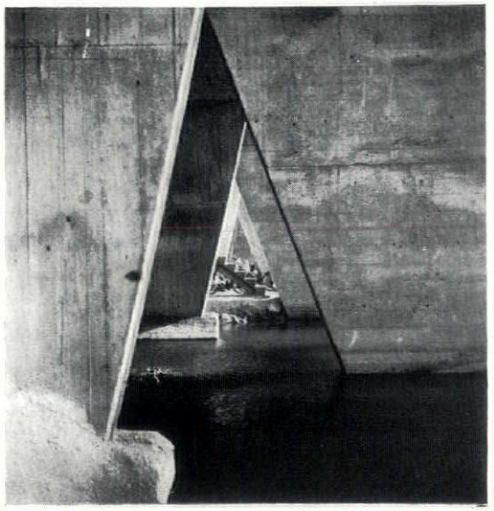


1

was commissioned by *La Maison Familiale,* a tenants' co-operative of technicians and operatives from the port of Nantes, and is striking reward for Le Corbusier's professed faith in the class of *contre-maîtres* for whom so many of his low-cost housing projects have been designed.

But the differences between the pioneer

* *Habitations à Loyers Modérés,* a government provision for large-scale loans to approved *Societés Co-operatives* wishing to erect low-cost dwellings. The Nantes Block provides 294 apartments at an average cost of 2 700,000 frs. each, was built just within its estimated budget of 795 million frs., and just outside its scheduled contract time of eighteen months.



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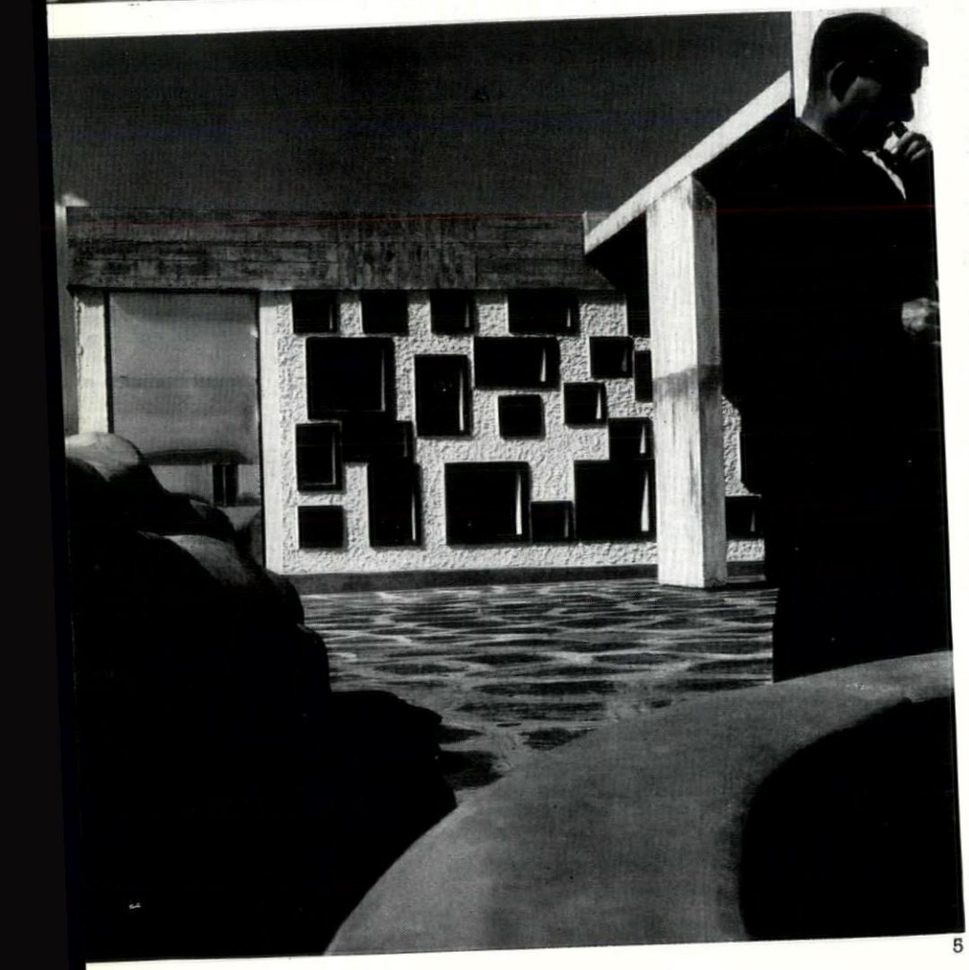

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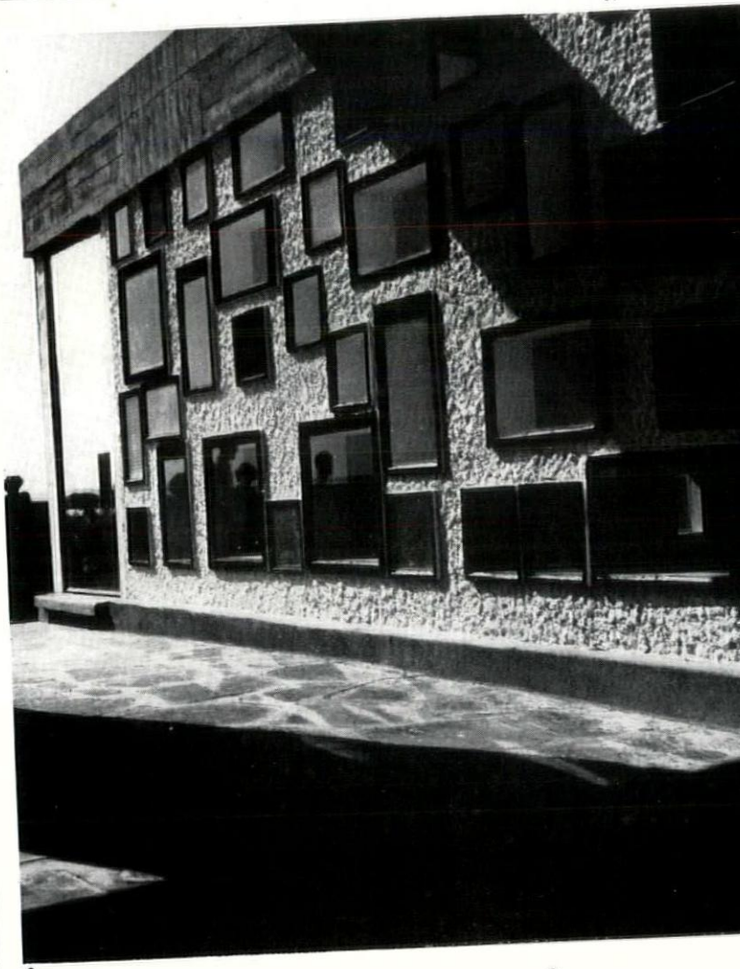

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7

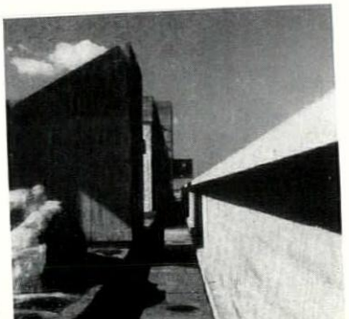


Though the roofscape offers the familiar sculptural incidents—romantic, 3, and classic, 4, it is dominated by the rectangular bulk of the crêche. This form, unsympathetic to le Corbusier's purposes on roofs, he has splintered away with a random pattern of windows whose effect changes, 5, 6 and 7, with lighting and viewpoint. At right; the entrance hall, 8, and a view along the roof-terrace, 9.

UNITÉ AT NANTES-REZÉ

8





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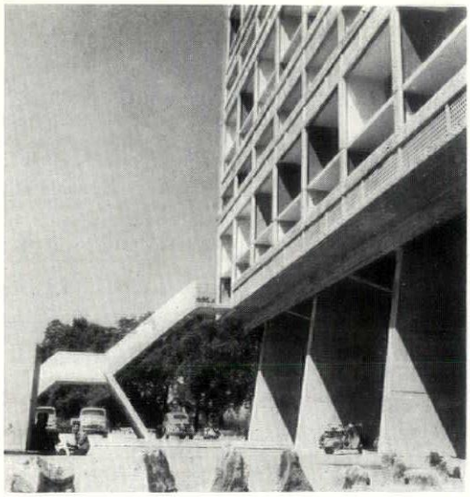
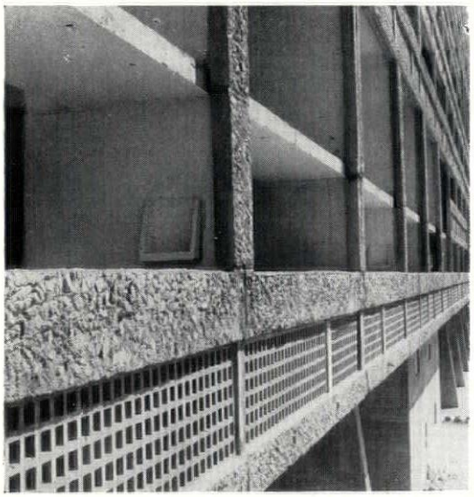


10

Unité and its offspring go far beyond the nature of the commissioning body. Whatever immediate similarities may appear to the eye, the structure is radically different; described by the architect as 'un véritable château de cartes,' it can best be described as a box-frame of precast elements, rendered rigid by the monolithic staircase-tower, and braced against windage by bringing some of the cross-walls down to the foundations, each replacing a pair of the thin plate-like *pilotis*, 2 and 10, that are so unlike those at Marseilles.

Non-structural elements of the façade now boast a surface of irregular exposed



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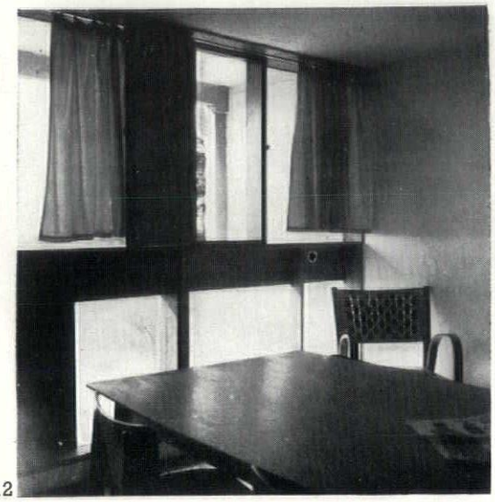
aggregate, 11, which is far more elegantly '*brut*' than mere rough shuttering, but the modifications to the elevations extend to more fundamental considerations than this. The regular pattern of flat-sized openings is divided vertically by the stair-tower, as at Marseilles, but the eye can travel up the façade now without any interruption from a horizontal service zone. The median floors of shops and so forth which were such a feature of the social structure, and elevations, of Marseilles have been suppressed at the tenants' wish, and this is a mark of the reduction of pretensions which is involved in achieving public acceptance. Another mark of the same trend is seen in the interiors of the flats; the 'studio-house' section—a constant in Le Corbusier's work on large blocks since 1923—has been



12

abandoned, the bedrooms have been moved forward to the glazed outer wall, and the living-rooms have lost their double-height ceilings and windows, 12.

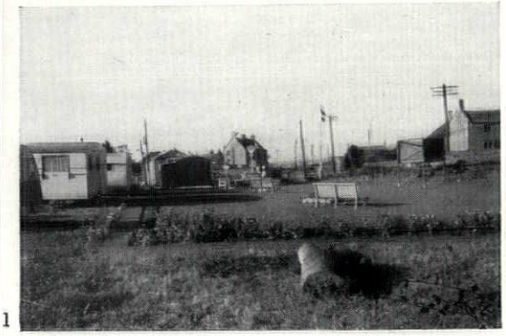
But the consequences of the simplification of the programme of social services extend further than this. The increased regularity of the façade is not compensated by any proliferation of sculptural forms on the roof. Though some of the preferred repertoire of steps, ventilator stacks and organic lumps remains, 3, and is used with the customary brilliance in creating close-up roofscape, 4, the silhouette of the block as a whole is dominated by the crêche whose form, for purely functional reasons, cannot be used as a curvilinear foil to the rectilinear grid of the façade. It is, no doubt, in compensation for this that Le Corbusier has invented the extraordinary relation, 5, 6 and 7, of window to wall on the crêche (see cover) that sets it in glittering contrast to the neutral and penetrated façades below. **P.R.B.**

OUTRAGE

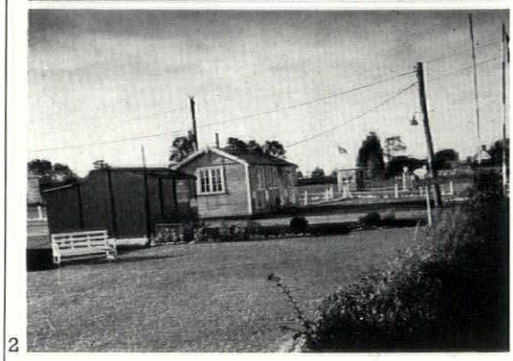
BAD LANGUAGE NEAR SHEPTON MALLET

The REVIEW asked for a trunk road vernacular in **1937.** *It has now got one—though hardly the type it asked for—a vernacular which is a compound of offensive language and genteel attempts at apology.* It says '*merde*' and 'pardon my French' simultaneously. When it says these things to an existing crossroads hamlet, the result is the quintessence of Subtopia, as these photographs of Cannard's Grave show.

Cannard's Grave is a five-way junction south of Shepton Mallet, in cold hard limestone countryside; not the sort of place to compromise with either brutality or beautification. The limestone cottages are unable to speak, but they show a fine range of silent contempt for what we have dumped down among them. There are now two Cannard's Graves existing side by side in complete antipathy, and unfortunately the eye has to see both of them at once. The view on the approach from



1

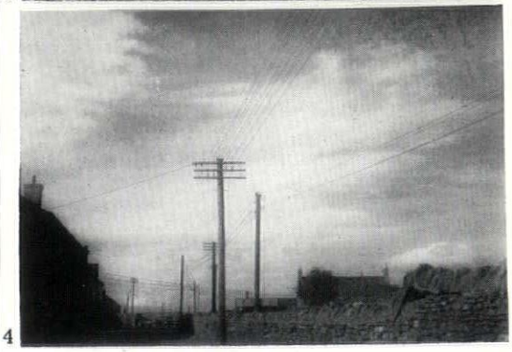


2

Ilchester, 1 and 2, is an equation, with opposite terms cancelling out all round the skyline: positive old+negative new=zero.



3



4

Pumps and kiosk balance chapel and trees in 3; the two lines of poles and wire of 4, utilizing a deft underpass, equate with the



5

houses and the drystone wall. And the grass island which you see when you get to the crossroads, 5 and 6, contains, at a rough count, the following:—

A. One Somerset C.C. signpost.

B. One A.A. box.

C. Rustic pathway to the A.A. box.

D. One great big pole with wires to and from, a guy-line and a connection to the A.A. box.

E. One pole carrying power lines with connections to the large pole next down the line from D.

F. One telegraph pole with separate set of wires.

G. One smaller telegraph pole.

H. One signboard, apparently unrelated, saying A.371, Shepton Mallet.

I. Two sawn-off tree stumps made into flower bowls.

J. A small privet hedge.

K. Two lengths of trellis work at either end of the hedge.

L. One telephone booth.

M. One 'Slow major road ahead' sign.

To clean up that lot would take the co-operation of at least five authorities—the Somerset C.C., the A.A., the Ministry of Transport, the G.P.O. and the local electricity authority. It would also take a lot of money in putting wire underground, making the signs uniform, moving the phone booth—and most of all in sending an evangelical mission to A.A. men to plead with them to put public good before private horticultural pride. The 'pardon my French' of items C, I, J and K, all connected with the A.A. box, does more to take away the character of Cannard's Grave than anything else.

There are crossroad hamlets all over the country like Cannard's Grave—Colgate on the Brighton road, Norman Cross on A.1, Gailey on Watling Street, Andoversford on A.40. They have all had this hideous subtopian overprint, and the terrible thing is that there is now no room left for anything good to be achieved. The space is already used twice over, so to speak. One good detail added to the limbo at Cannard's Grave would only augment the confusion—there would need to be a fresh start. We have driven very fast down a blind alley and now sit looking helplessly at the blank wall at the end, wondering whether we know how to reverse.

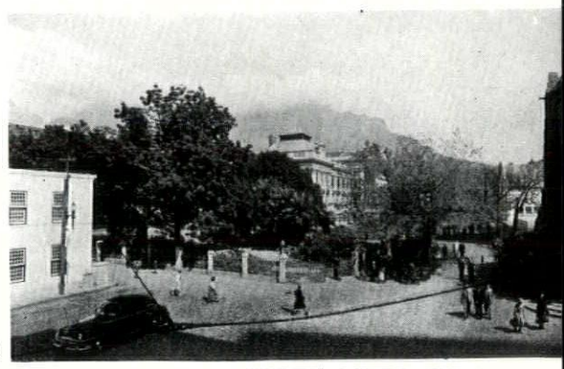
Ian Nairn


6

TOWNSCAPE

METROPOLITAN PROMENADE

The original layout of Government Avenue, Cape Town, might well find a place in a case-book for New Town planners. The Oxford Street of Cape Town, Adderley Street, runs in a south-westerly direction from the harbour to the hills. It is not a long street, and it is continued in a straight line by Government Avenue with the National Library and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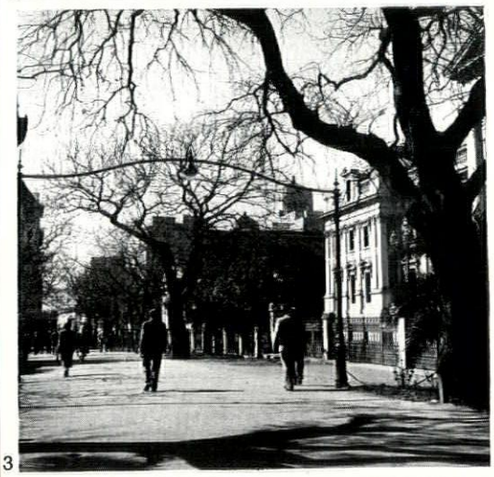
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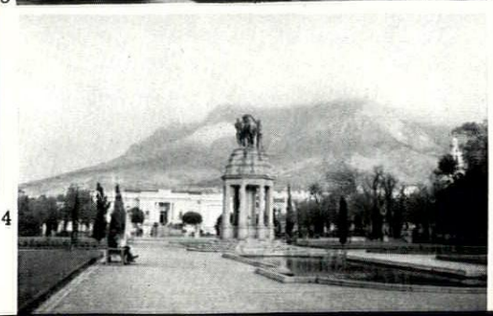
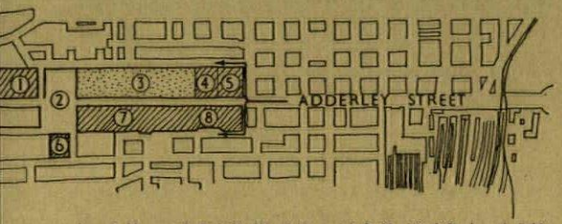

4

the Museum on the right, the Houses of Parliament, Government House and the National Gallery on the left. When it was first decided to have such a linear civic centre, the site was chosen outside the town and part of it was given over to the Botanical Gardens. In accordance with this setting, there was only an avenue for pedestrians to separate the buildings from each other, but they were placed in ample grounds, and what traffic was directed towards them had to reach them from their backs. Now Government Avenue is in the middle of the town, but the pedestrian privilege has been preserved—against much opposition from speed fans.



key: 1, Museum; 2, Delville Wood Memorial; 3, Municipal Gardens; 4, Public Library; 5, St. George's Cathedral; 6, National Art Gallery; 7, Government House; 8, Houses of Parliament.

The Adderley Street cars and lorries still have to make up their minds at the corner of the cathedral (photos 1 and 2), turn left, or right, and reunite half a mile higher up. The delay is negligible and the advantage for the population enormous. Unfortunately the consistent character of the tree-lined promenade (photo 3) was broken by Sir Herbert Baker when he placed the National Gallery half way up and farther back than the other buildings in order to create a formal open turfed cross axis with a rotunda (photo 4), the Delville Wood memorial. The trees of the avenue were here ruthlessly cut down. The result is a beaux arts inset, literally at cross-purposes with the admirable first layout. **N.P.**

BOOKS

SIGNIFICANT AND TYPICAL VICTORIANA

EARLY VICTORIAN ARCHITECTURE IN BRITAIN. *By Henry-Russell Hitchcock. Yale University Press: English edition, The Architectural Press,* 1954. 2 *vols.* 7 *gns.*

This remarkable book tackles its subject with a synoptic grasp and a scholarly precision in pointed contrast to the selective enthusiasms and vague generalizations which have hitherto characterized the study of Victorian architecture. The mere scale of the work immediately differentiates it from anything so far published. Though it covers a span of only about 17 years, the text runs to nearly 300,000 words, and (with the 500 plates) probably describes and illustrates more early Victorian buildings than can be found in all previous books on architecture added together. The author thus has space to deal at length not only with the normal aspects of ecclesiastical and domestic building, but also with subjects such as Nonconformist chapel architecture, commercial buildings, and smaller country houses, about which virtually nothing has previously been published.

With a lesser scholar such a generous scale would have been disastrous, and would surely have led to a display of esoteric pedantry, but Professor Hitchcock's marshalling of his facts is so skilful, his exposition of a complicated episode (e.g., the building of the Houses of Parliament) is so fresh and easy to follow, and his judgments are so free from crankiness, and so obviously based on a wide knowledge of *non*-Victorian architecture, that there is never any fear of the buildings themselves being crushed under the sheer weight of scholarship as so often predicted by Mr. Betjeman. Moreover his style is entirely free from the mannerisms which one has almost come to regard as inseparable from American academic writing.

It is true that the book describes and illustrates a large number of rather dull buildings. There is, however, a sense in which this is to the author's credit. All previous writers, no doubt intimidated by the vast number of surviving Victorian buildings and the even vaster body of contemporary documentation in the various architectural periodicals (a factor which introduces an entirely new element into the study of Victorian as contrasted with all earlier architecture), have been content to pick and choose their buildings according to some subjective criterion (sometimes in search of evidence to support a preconceived theory concerning the nineteenth century origins of twentieth century developments, sometimes out of an interest in the bizarre or anachronistic); and their readers, in the absence of any comprehensive corpus of early Victorian buildings to which to refer, have had in most cases to take their conclusions on trust. Professor Hitchcock's other writings leave no doubt that he also has strong personal preferences and an eye for the unexpected; but in this book he has consistently subordinated them to his search for the significant and typical. Thus he wastes little time on easy targets such as Gough and Roumieu, but goes to much trouble to trace the careers and influences of more important but duller architects such as Benjamin Ferrey or John Gibson. It is precisely this objective and comprehensive approach which gives the book its special value.

It is to be hoped that Professor Hitchcock will not regard this book—for all its length—as his last word on the subject. So much of the text is taken up with analyses of individual buildings that many of the problems to which they give rise are necessarily dealt with only in passing. Indeed, it would not be difficult to list a dozen or so topics on which one would like to read a long article in which the author could elaborate ideas which he has so far no more than adumbrated (e.g., the interpenetration of ideological and aesthetic factors in the influence of the ecclesiologists, the relation between stylistic copyism and artistic originality, the relative importance of architect and engineer in the exploitation of technical innovations, etc.). It would be a great pity if the compulsion to press ahead with a companion volume on the mid-Victorians should prevent him from developing these and other theoretical implications of his researches on the earlier period; for if he does not do so there is little doubt that others less well-equipped will step in and build on his foundations.

It is disconcerting to find that a work of such erudition is so full of minor mistakes. The considerable number of misprints and mispagings in the index, and the irritatingly frequent misprints in the references from the text to the illustrations, are presumably the work of a careless assistant; but the same can hardly be said of the astonishing number of errors in the dates of birth and death of architects (a quick check discloses mistakes for George Dance, E. B. Lamb, Ambrose Poynter, E. W. Pugin, James Savage, Robert Smirke, and even for the Prince Consort), or in their Christian names (e.g., in the case of J. J. Scoles, S. S. Teulon, and D. Mocatta). In a few places the text is so full of such minor errors as to be almost valueless; for example, the pages devoted to the early work of G. E. Street refer to buildings by him in 12 different places. Of these, one is described and illustrated as if still extant though totally destroyed in the blitz, four locations (admittedly obscure Cornish villages) are misspelt, one (Coleshill) is valueless without its county (Berks, Bucks or Wilts?), one ('Sticker, Cornwall') though taken over from A. E. Street's 'Memoir,' is quite untraceable by normal methods and must surely have been an original misprint, and one ('Harley, Middlesex') is equally untraceable and seems to be a newly-invented misprint. Thus out of 12 buildings only 4 are correctly or adequately described.

Such mistakes in facts which can be readily checked would be dangerous in any book, but they are peculiarly so in this case, for they inevitably throw doubt on the vast array of new facts assembled by Professor Hitchcock and which can only be checked with the greatest difficulty. Moreover by cutting out any references to his original sources (presumably in deference to American publishers' well-known aversion to footnotes), the author has deprived the reader of the only means by which he could reassure himself on this point. Doubts of this sort are, of course, particularly unfortunate in the case of a book which one can hardly suppose will be superseded during the remainder of this century. **Peter Floud**

THE SHAKESPEARE OF ARCHITECTS

THE IMAGINATION OF VANBRUGH AND HIS FELLOW ARTISTS. *By Laurence Whistler. (B. T. Batsford and Art and Technics.* 73*s.* 6*d.*)

Soane called Vanbrugh 'the Shakespeare of architects,' and it is an estimate which starts several trains of thought. Could one, for example, match Vanbrugh's buildings with Shakespeare's plays—finding in Castle Howard something equivalent to the lovely yet conventional verse of *Romeo and Juliet*, in Blenheim the depth and infinite suggestiveness of *Hamlet*, in Seaton Delaval the dark grandeur of *King Lear*, in the Temple at Castle Howard the final statement of *The Tempest*? A parlour game, yes; and such

analogies must not be pressed too far. Yet they do, perhaps, help one to appreciate the variety of Vanbrugh's moods, the range of his imagination.

On what was that imagination nourished, what were the sources of his style? We have been given some useful answers, by Webb, by Summerson, by Pevsner, and fifteen years ago by Mr. Laurence Whistler in what, considered as a piece of literature, seems to me the best biography of an architect in the English language. But they remain partial answers for all that, so that the title of Mr. Whistler's new book, *The Imagination of Vanbrugh and his Fellow Artists*, promises something of which architectural scholarship stands greatly in need.

However much one may admire the book—and I for one have nothing but admiration for the diligence and devotion that it shows—one cannot maintain that this promise is fulfilled. Indeed it is rather hard to see why it is titled as it is; for it is not principally, or even largely, concerned with the architect's imaginative processes, and Mr. Whistler seems to have missed at least one recent article which threw new light on the subject.* On the related question of the apportioning of credit between Vanbrugh and Hawksmoor for the buildings in which they collaborated he does have his own views to offer. Their general tendency is to add lustre to Hawksmoor's reputation without allowing Vanbrugh's to become tarnished, though Mr. Whistler is by no means a wholehearted Hawksmoorean, finding 'a lack of "inevitability"' in his designs.

The suggestion that the book could more truthfully be called *Sir John Vanbrugh: Addenda and Corrigenda* may sound rude and ungrateful. But after all *addenda* and *corrigenda* may be necessary and excellent things. In matters of fact Mr. Whistler has much to add that is of interest and importance: the certainty that Cholmondeley was remodelled by Vanbrugh, new material relating to the development of Castle Howard and Eastbury and Claremont and Kimbolton, information about Vanbrugh's smaller houses and the buildings for the Office of Ordnance that may so convincingly be attributed to him. And when it comes to the correction of his earlier views—as on Vanbrugh's share in the laying out of the gardens he helped to adorn with buildings—Mr. Whistler does so with a thoroughness of documentation which will put later writers in his debt.

The book on the *imagination* of Vanbrugh and his fellow artists, showing how and why the 'Heroic Baroque' came about and in what it differed from—and resembled—the Baroque of the Continent has still to be written. The subject is the more fascinating because it embraces one of the paradoxes of art history, the fact that the English Baroque is the first herald of the European Neo-Classical movement of the second half of the eighteenth century. With Hawksmoor and James building the first churches in Europe with truly Roman porticoes, with Hawksmoor in his 'almost morbid passion for classical archæology' (Mr. Summerson's phrase) using the Mausoleum of Halicarnassus for a church steeple and perhaps even designing a church on the plan of a peripteral temple, with Vanbrugh (assuming it was he) building barracks and storehouses and arsenal gateways that fulfil Blondel's requirements for *l'architecture parlante* and Boullée's for *caractère* to a degree that few later buildings did, English architecture was ahead of the times as seldom before or since. **Marcus Whiffen**

* N. Pevsner, "Good King James's Gothic," A.R., CVII (1950), p.117.

MAKERS, FAKERS, COLLECTORS, DEALERS

FURNITURE MAKING IN SEVENTEENTH AND EIGHTEENTH CENTURY ENGLAND. *By R. W. Symonds. (The Connoisseur, 1955.) £8. 8s. 0d. net.*

A book by Mr. R. W. Symonds is an event of importance, not only for furniture collectors but for all who are interested in the antique refinements of English furniture design, and in its relation to and reflection of social history. 'It was the collector,' the author affirms, 'who first discovered old English furniture. The subject was therefore studied in the first place from the point of view of his fads and foibles, and not from that of social and economic history.' Mr. Symonds' books have, during the last quarter of a century, done much to re-orientate historical studies of furniture design. In his latest work he has given particular and penetrating attention to the making of furniture from the beginning of the seventeenth century to the end of the eighteenth. It is a superbly illustrated book, and only very few of the examples have been published before. His opening chapter on collectors, from Horace Walpole to Percival Griffiths, is in itself a masterly study of the receptiveness of the collecting mind, and the psychological accomplishments of the dealer. One of the most heartening statements in the book, which appears at the opening of Chapter V, is that 'the faking of furniture no longer pays.' That particular chapter, which is entitled 'The Ingenious Faker,' should be read and taken to heart by all those emotionally misguided people who put mere age before good design.

Mr. Symonds has uncovered two entertaining examples which redound to the discredit of Batty Langley, namely a design for a console table which he cribbed from Nicholas Pineau, and another of a dressing table, which he also cribbed from Johann Jacob Schübler. The original engravings and Batty Langley's copies, which he published without any acknowledgment, are shown side by side. Unlike many people who write about antique furniture, Mr. Symonds has a lively pen and a cheerfully interesting style.

John Gloag

Shorter Notices

MASTERS OF MODERN ART. *By Alfred H. Barr, Jr. The Museum of Modern Art, distributed in England by Putnam. 5 gns.*

With its silver jubilee due for celebration this year, some form of commemorative publication from the Museum of Modern Art was clearly to be expected, but the result exceeds expectations in bulk, thoroughness, lavish use of colour, and sheer sumptuousness of total effect. *Masters of Modern Art* is large in size, and sports a pair of colour inserts at practically every other page opening; the quality of the colour-work varies from the barely adequate to the brilliant, and the paintings so illustrated range from nineteenth century primitives to twentieth century action-painters, from Italian Futurists to American Sharp-Focus Realists. In the section on architecture and design two treats for connoisseurs must be noted, coloured plates of assembled furnishings and *Gebrauchskunst* by Guimard and other Parisian masters of *Art Nouveau* in one picture, and by Rietveld and other members of *de Stijl* in the other.

Such a book needs no recommendation; so complete a coverage of the most spectacular collection of contemporary art in the world should be within reach of every student of any branch of the visual arts. But it will also be the memorial of the first period in the museum's history; although the MMA set out to be a museum-in-motion, travelling forward with time and bequeathing its older art works either to the dustbin or the Metropolitan Museum, according to quality, it has found itself continually establishing, not reflecting, canons of modernity. This tendency is now to be faced, and MMA will start to accumulate a *permanent* collection, and is to buy back into the nineteenth century in order to give it a firmer foundation. This means that wherever the Museum is influential (the entire Westernised world) the word *modern* will now have a fixed place on the absolute scale of time—somewhere about 1880 will mark its beginning—and we shall have to think of a new word for movements which have sprung up in our own life-time. **P. R. B.**

LA CATTEDRALE DI PALERMO. *By Professor Antonio Zanca. Accademia delle Scienze, di Letteratura e delle Arte di Palermo.*

The Accademia delle Scienze, di Letteratura e delle Arte di Palermo has published a definitive history and description of Palermo Cathedral. The author is Professor Antonio Zanca, a man highly qualified for undertaking this work. He won a national competition in 1900, the object of which was to make proposals for the restoration of the cathedral to its medieval state. This involved the removal of the eighteenth century dome and the neo-classical overlay of the interior. The restoration was not in the end done, and Professor Zanca himself admits now that it would have been 'a lie.' However, the Accademia has at least enabled him to show in a reconstruction on paper how the original building, according to the fifty years of research he spent on it, must have appeared.

The cathedral was begun by Roger I, the Norman invader and liberator of Sicily, a contemporary of William the Conqueror. It owes, however, more to the local masons with their strongly developed style than to Roger's Norman past. Moorish traditions are especially manifest at the west end and in the arches of the porch. The book is a fine example of Italian printing. It has eighty-seven illustrations and a grandiose binding of the familiar 1900 type. **Joan Higgins**

Books Received

ST. PANCRAS CHURCH AND PARISH. Chas. E. Lee. St. Pancras Parochial Church Council.

THE AUTOMATIC FACTORY. Institute of Production Engineers.

CONCRETE STRUCTURES IN INDIA. Concrete Association of India. Rs. 2.

NEW HORIZONS IN COLOUR. Faber Birren. Reinhold. $10.00.

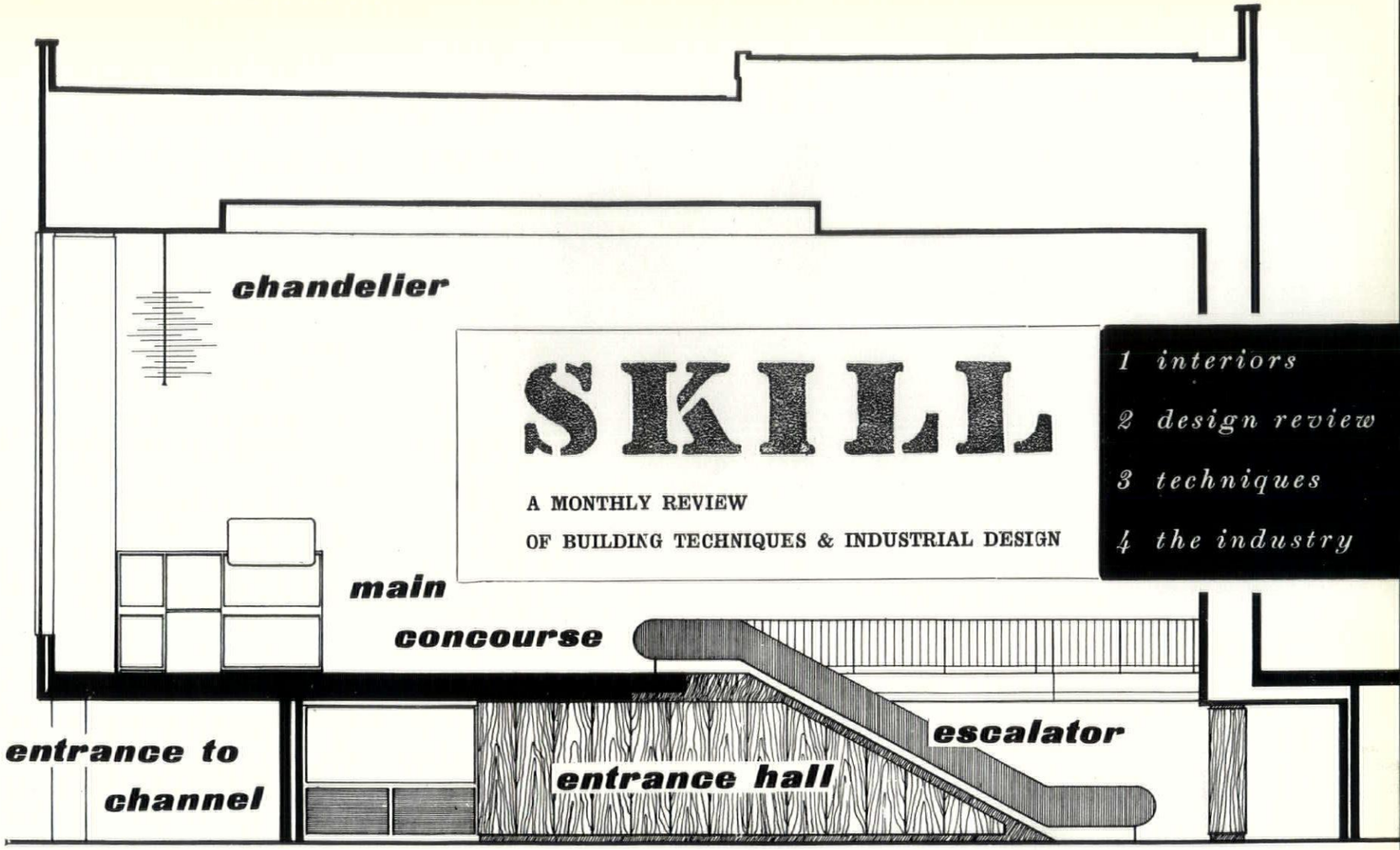
HOW TO USE CREATIVE PERSPECTIVE. Ernest W. Watson. Reinhold. $7.50.

LAXTON'S BUILDERS' PRICE BOOK. Kelly's. 35s.

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry



Above, section through a passenger channel.

The South-East face Passenger Handling Building of London Airport, together with the whole Central Terminal Area of which it is a part, will be officially inaugurated by the Queen on December 16th. The following pages illustrate the interior of the Building; the exterior was illustrated in the July issue. 1, *an entrance hall to one of the passenger channels, at the foot of the escalator which leads up to the main concourse. The tiled wall was designed by Peggy Angus.*

1



1 INTERIORS

LONDON AIRPORT, SOUTH EAST PASSENGER HANDLING BUILDING

Architect: Frederick Gibberd; Partner-in-charge: R. J. Double

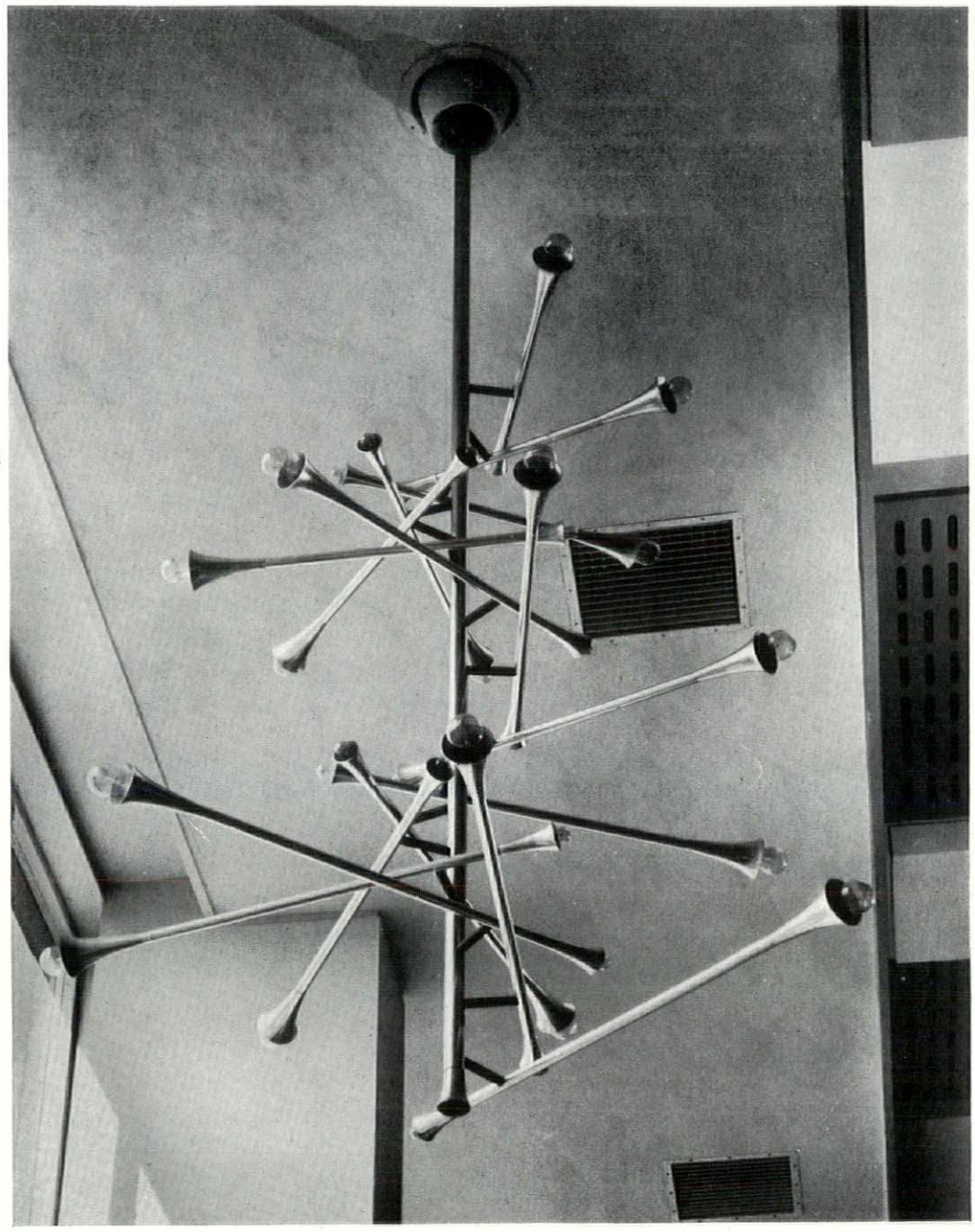
The main function of the building is to provide for the handling of in-coming and out-going passengers and their luggage. In addition it provides amenities for passengers, facilities for technical staff working on the apron and accommodation on roof terraces and gardens for spectators. London Airport has been furnished to form an exhibition of British interior design and equipment. The furniture falls into two groups: that designed by the architect as an integral part of the building,

[continued on page 337

2, *indicator on the outside of the concourse above one of the channel entrances on the landside of the building.* 3, *one of a series of chandeliers hung along the window-wall of the concourse.*



2



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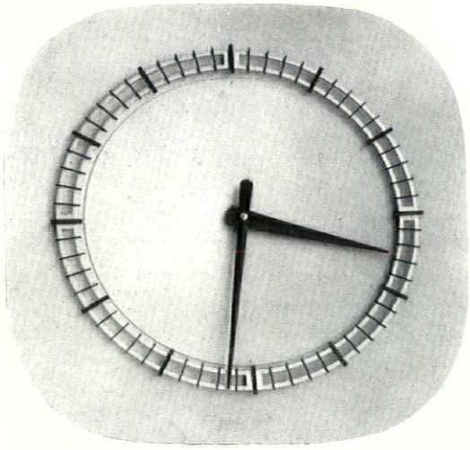
4, *concourse clock.* 5, *concourse ceiling, consisting of fibrous plaster panels, each about 6 feet square; the fluorescent lights in the troughs are serviced from above through traps in the ceiling.* 6, *view along concourse from the north-east end, showing luggage conveyor belts behind the barrier and, beyond, escalators from passenger entrance halls.*



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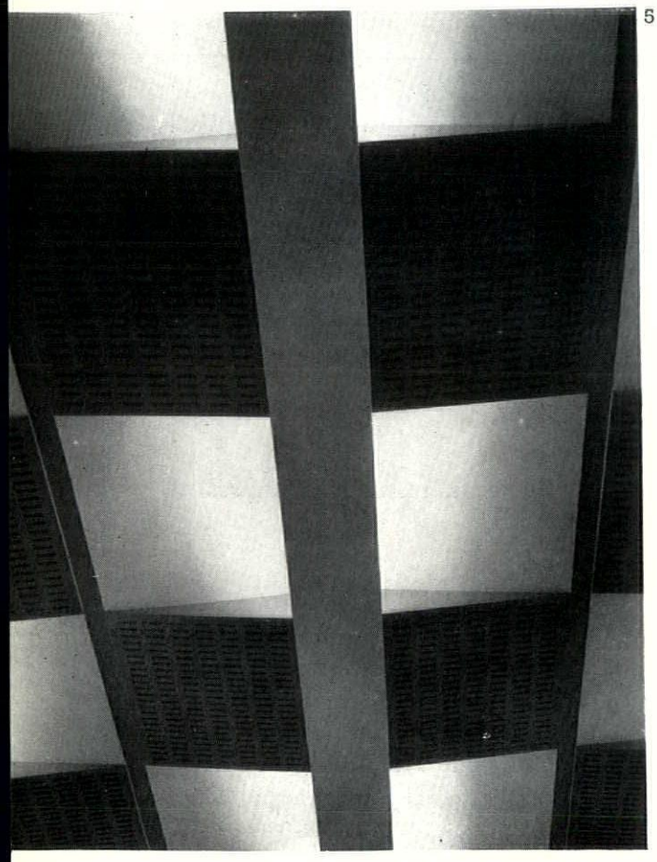

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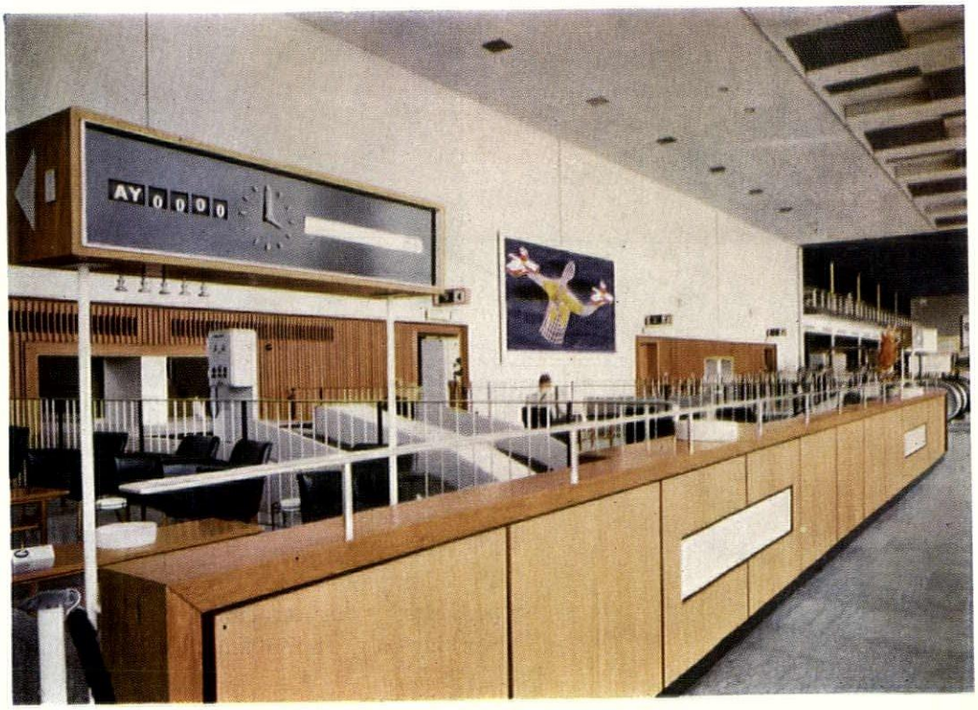

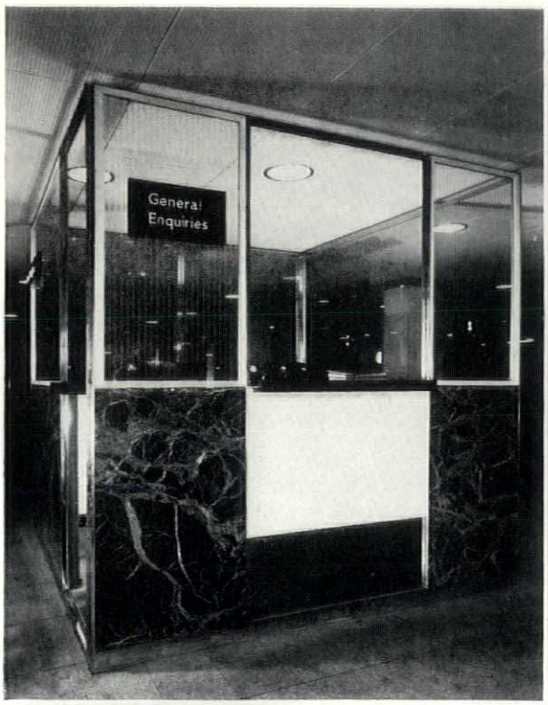

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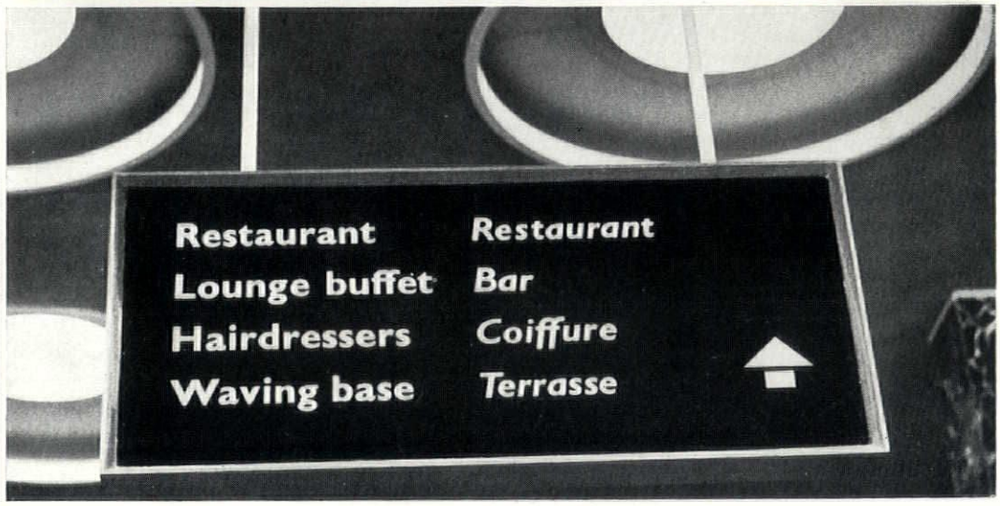

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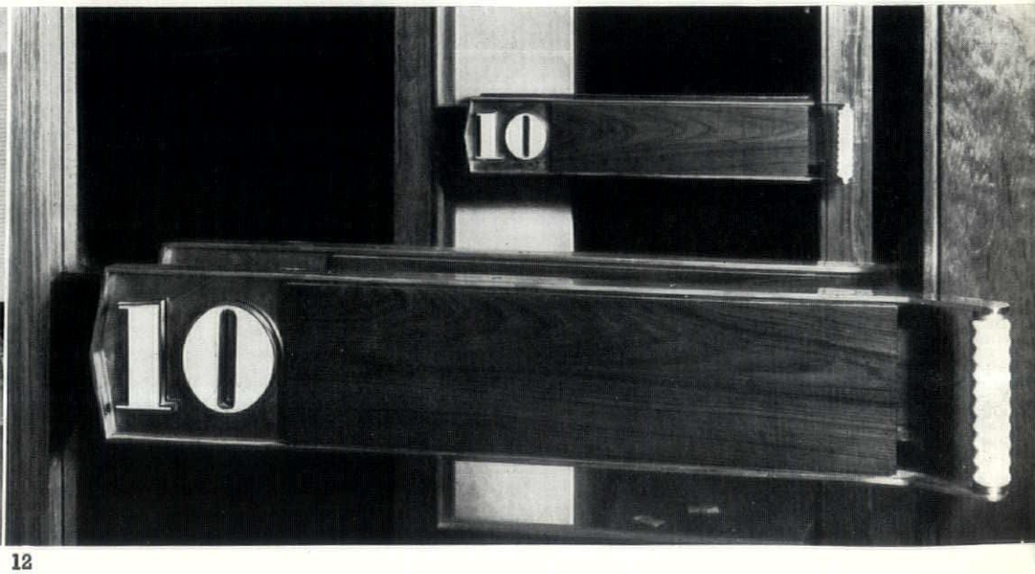
7, *enquiries desk in the general entrance hall, panelled up to counter level in green and white marble.* 8, *the second-floor balcony lounge overlooking the centre of the concourse; the staircase and columns are faced with Genoa green marble.* 9 *and* 10, *notices at the foot of the main staircase, concourse level.* 11, *handle on entrance door to the public restaurant, second floor.* 12, *typical entrance door on the ground floor to one of the passenger channels, hardwood framed and metal trimmed.*



11



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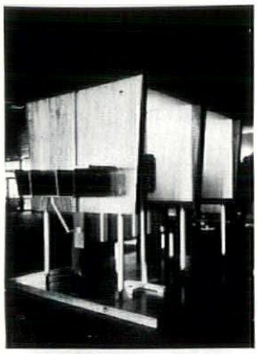

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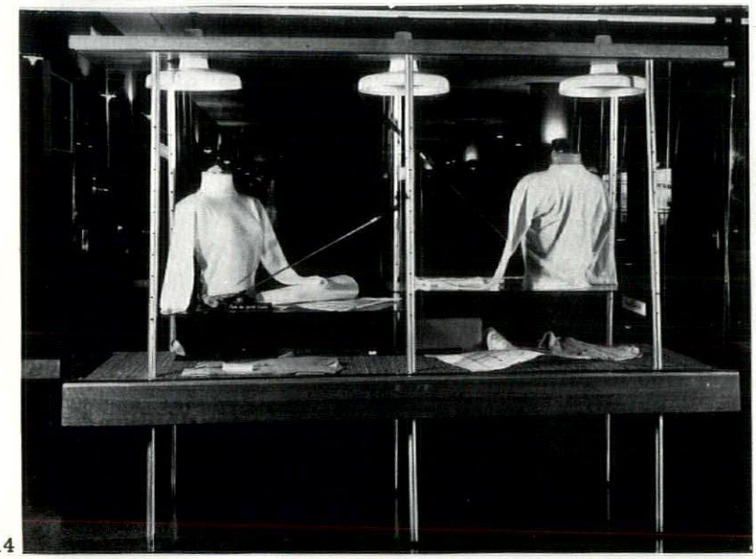
13, *telephone boxes at the top of the main staircase; the walls and ceiling are faced with acoustic board.* 14, *top-lit showcases, walled entirely in glass, which divide the pairs of waiting rooms.* 15, *standard ashtray and,* 17, *standard w.p.b. used in all public rooms.* 16, *the north-eastern waiting rooms, with polished cork floor, and end wallpapers by June Lyon. The wall seating is to the architect's design; the tub chairs are by Robin Day.*



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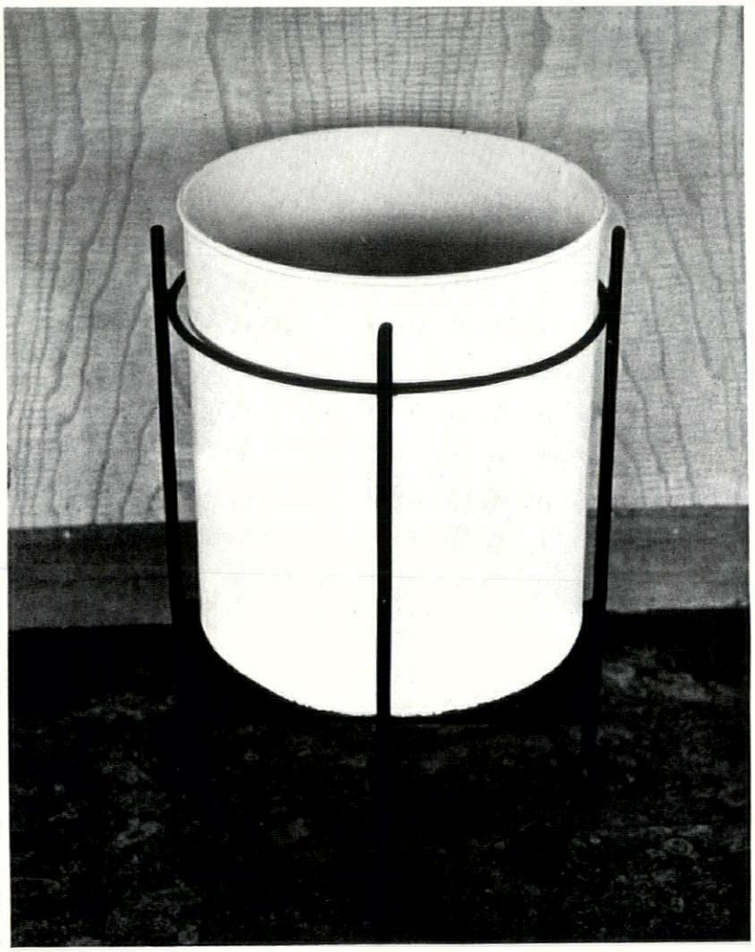

17

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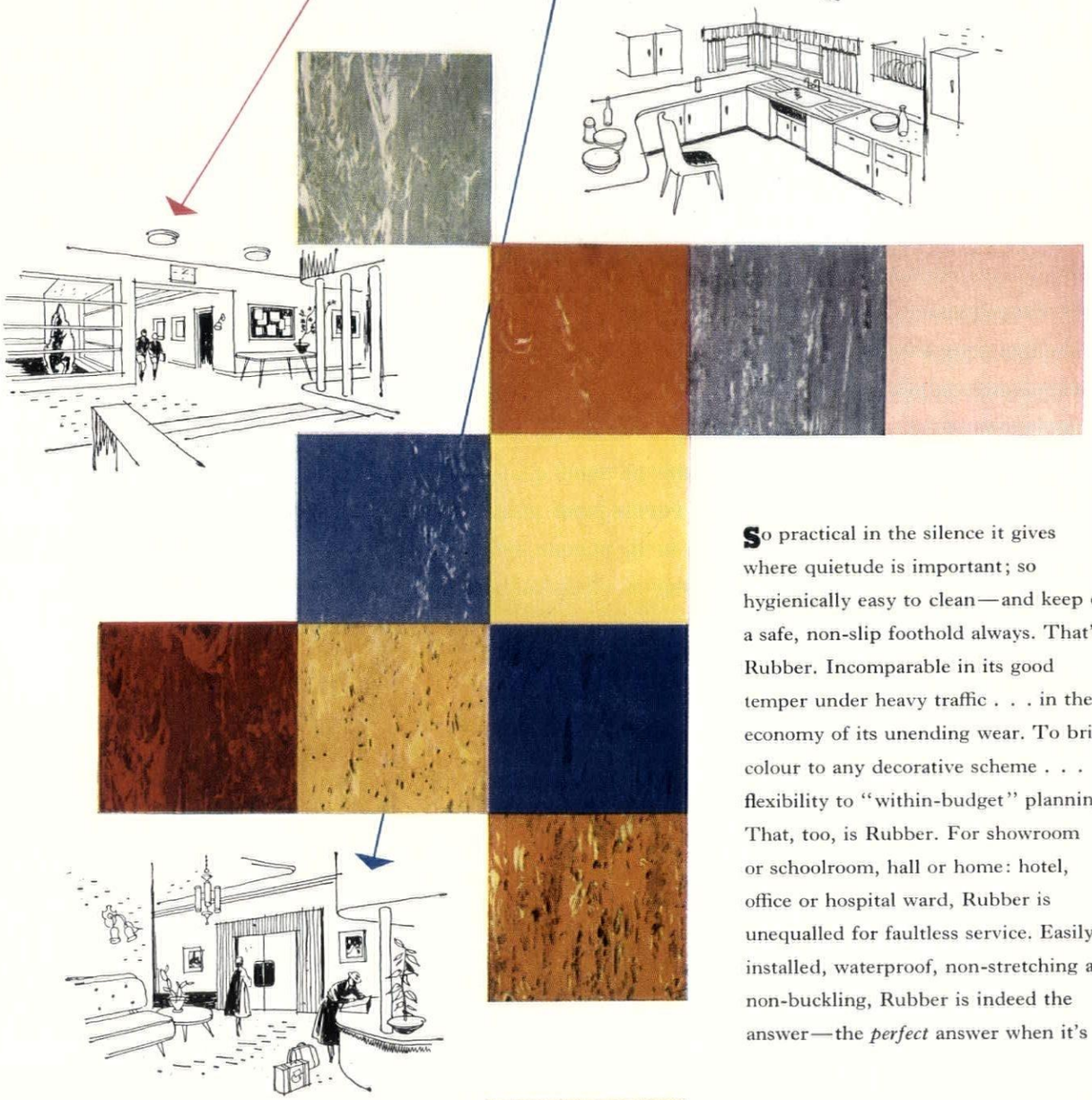

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		per sq.	per sq. yard	per sq.	per sq. yard	per sq.	per sq. yard
13¼″	3″	92.5	8.3	90	8.1	1,000	90
12¼″	4″	100	9.0	98	8.8	1,100	99
11¼″	5″	109	9.8	107	9.6	1,200	108

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continued from page 333]

and movable furniture. The latter and the furnishings were chosen from a wide variety of designs though confined to articles which are on the general market.

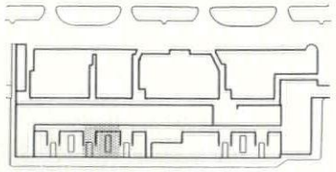
The continental section of the building is planned at first floor level as a series of transverse bands containing the concourse, customs, immigration, health and waiting rooms. The whole of the ground floor is given over to the handling of baggage, the accommodation of technical staff and equipment and the preparation of food and other services. The main part of the passenger facilities is concentrated on the first floor. At this level, departing passengers or those arriving from abroad pass through one or other of the ten parallel channels already mentioned. Each channel is self-contained, the route unmistakable and free from interruption by cross flow, and each is reversible, i.e., capable of handling either inward or outward-bound passengers. Each channel is on two levels and a passenger arriving by coach from the town terminal passes through the appropriate channel entrance on the ground floor level and reaches the main concourse by escalator. The wall facing the ground-floor entrance is tiled in a brightly coloured pattern, designed by Peggy Angus, and is arranged to take small posters. The side walls are faced with straight grained elm panelling, the floor is terrazzo tile and suspended acoustic tiles form the ceiling. The escalator is encased in aluminium with dark green melamine faced plastic panels on staircase side and ribbed aluminium on outside. The hall has a fully upholstered settee designed by Robin Day, covered with a black and cream handwoven wool and linen fabric. This same fabric, in plain black, is used for the cushions. Apart from the series of channel entrances for those travelling by airline coach, there is a central entrance hall on the ground floor, which serves passengers using private car or taxi. The treatment of this hall is similar to the channel entrances, and a deep blue tile serves as a background to the desks and weighing machines. In the centre of the hall is a cube-shaped enquiry kiosk constructed of a silver bronze framing faced with genoa green and white marble slabs below counter level.

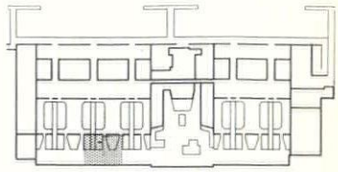
The concourse stretches across the

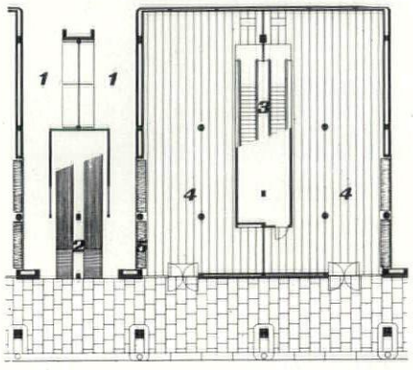
18, luggage weighing scales, ground floor. 19, foot of escalator in typical channel entrance hall. 20, top of escalator facing landside of concourse, and a typical 'processing point' on the right. 21, escalator of central channel, with balcony lounge above.

entrance to typical channel

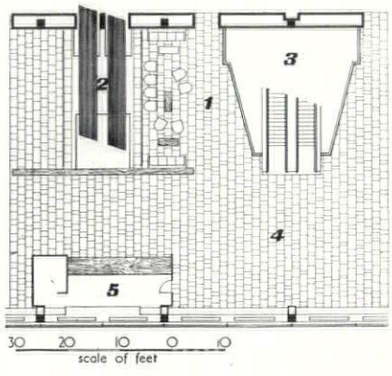
Each of the numbered plans on the following pages is accompanied by a key showing its relation to the whole.







Key: left, ground floor, 1, luggage racks; 2. luggage conveyors; 3, escalators; 4, entrance hall; 5, luggage counter: **Right, first floor,** 1, waiting areas; 2, luggage conveyors; 3, escalators; 4, concourse; 5, bank.



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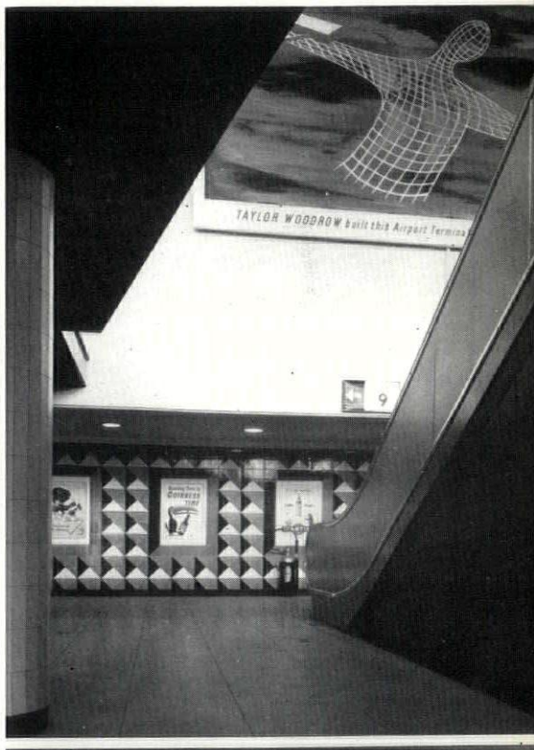

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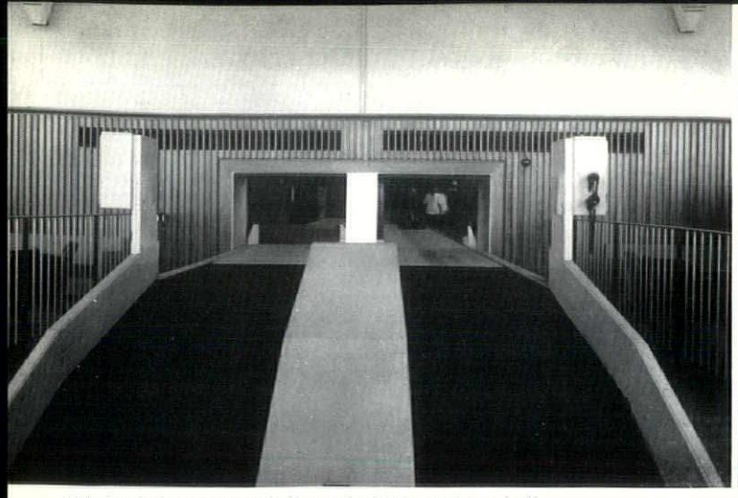
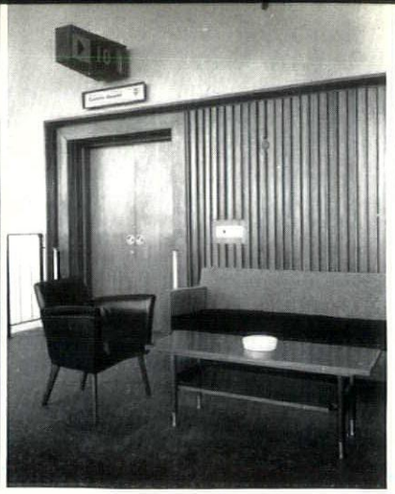


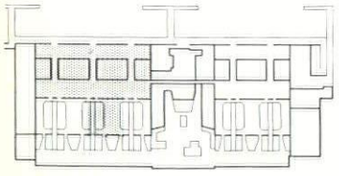
22, *luggage conveyor belt passing into customs hall.*

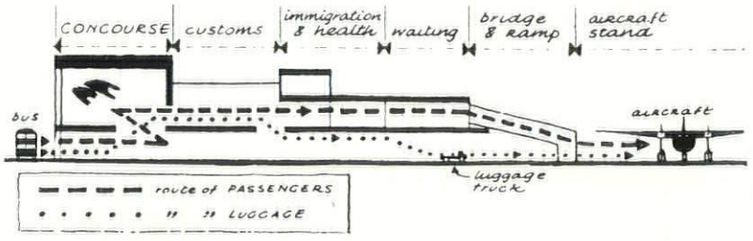


23, *passenger entrance to customs hall.*

passenger's progress

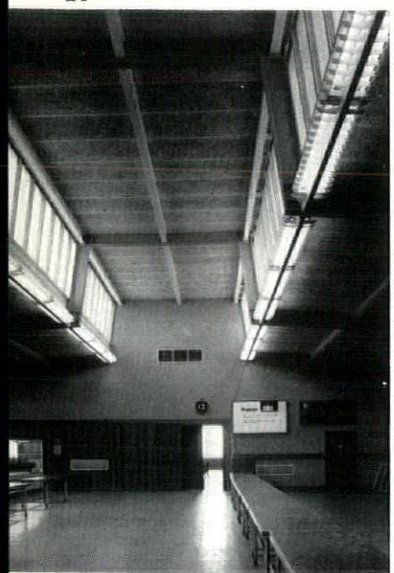
Right, section through the building showing the organization of passenger handling.





24, *customs hall.* 25, *immigration hall.* 26, *health control from immigration hall.* 27, *airside waiting room.*

24



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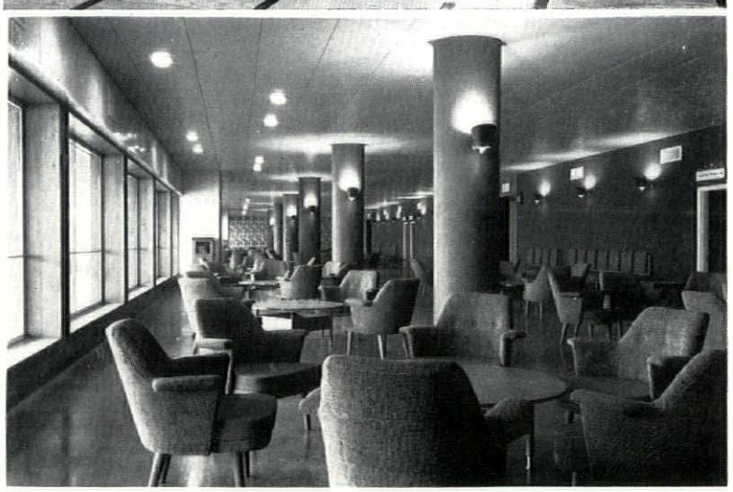

entrance face of the building, at first floor level. It is 480 feet long, 55 feet wide and 24 feet high, on two floors. Although appearing as one long hall, it functions as three sections; the centre portion stretching through the heart of the building to the restaurants on the airside, and wings on either side through which the channels pass. The wall overlooking the entrances is of glass in a steel and aluminium frame. The opposite wall is plastered and has Honduras mahogany panelling around the customs hall entrance and other openings. The floor is Derbyshire fossil limestone. The ceilings of the centre portion are acoustic plaster, but to the wings over the channels it is in fibrous plaster of an undulating chequer pattern with alternate panels perforated for sound absorption. The undulating panels are illuminated by concealed fluorescent lighting. Contrast in artificial lighting is provided by wall brackets and by a series of chandeliers designed by the architect and hung in the windows. There are five large poster frames 18 feet by 10 feet on the long and end walls of the room which it is hoped will provide an exhibition of the best commercial art of this country. The colour scheme is quiet and cool. The surfaces are of polished hardwood, metal of various kinds, and plaster painted white or in various tones of grey. In the waiting area, it consists in tub chairs upholstered in dark green hide. The occasional tables, specially designed by the architect, are in Honduras mahogany with silver bronze feet. Owing to a customs requirement a high standard of natural light is required in the customs hall, and this is provided by a series of monitor roofs formed with an exposed welded steel frame. In the colour scheme the steelwork is painted white and blue, the end wall deep crimson and long walls green.

The floor of the immigration hall is in light grey rubber with small inset pieces of red. The walls are plastered and the ceiling constructed with a removable concealed fixing fibre board into which are set the fluorescent light fittings with egg-crate diffusers. The colour scheme consists of pale green and blue walls with a white ceiling.

The waiting rooms overlook the apron through the airside gallery. The floor is polished cork and has a heated ceiling. The end walls have a wallpaper of white motifs on a lime green background by June Lyon and the walls opposite the windows are finished with alternate sections of dark brown and dark green which identify the waiting-room units. The pairs of waiting-rooms are divided by a row of three all-glass illuminated showcases. The tub chairs, designed by Robin Day, are upholstered in a black and white fabric with cushions in flame red. Wall seating is specially designed by the architect. The seat sections are supported in front by



LONDON AIRPORT TERMINAL

Architect: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.
Contractor: Taylor Woodrow Construction Limited.

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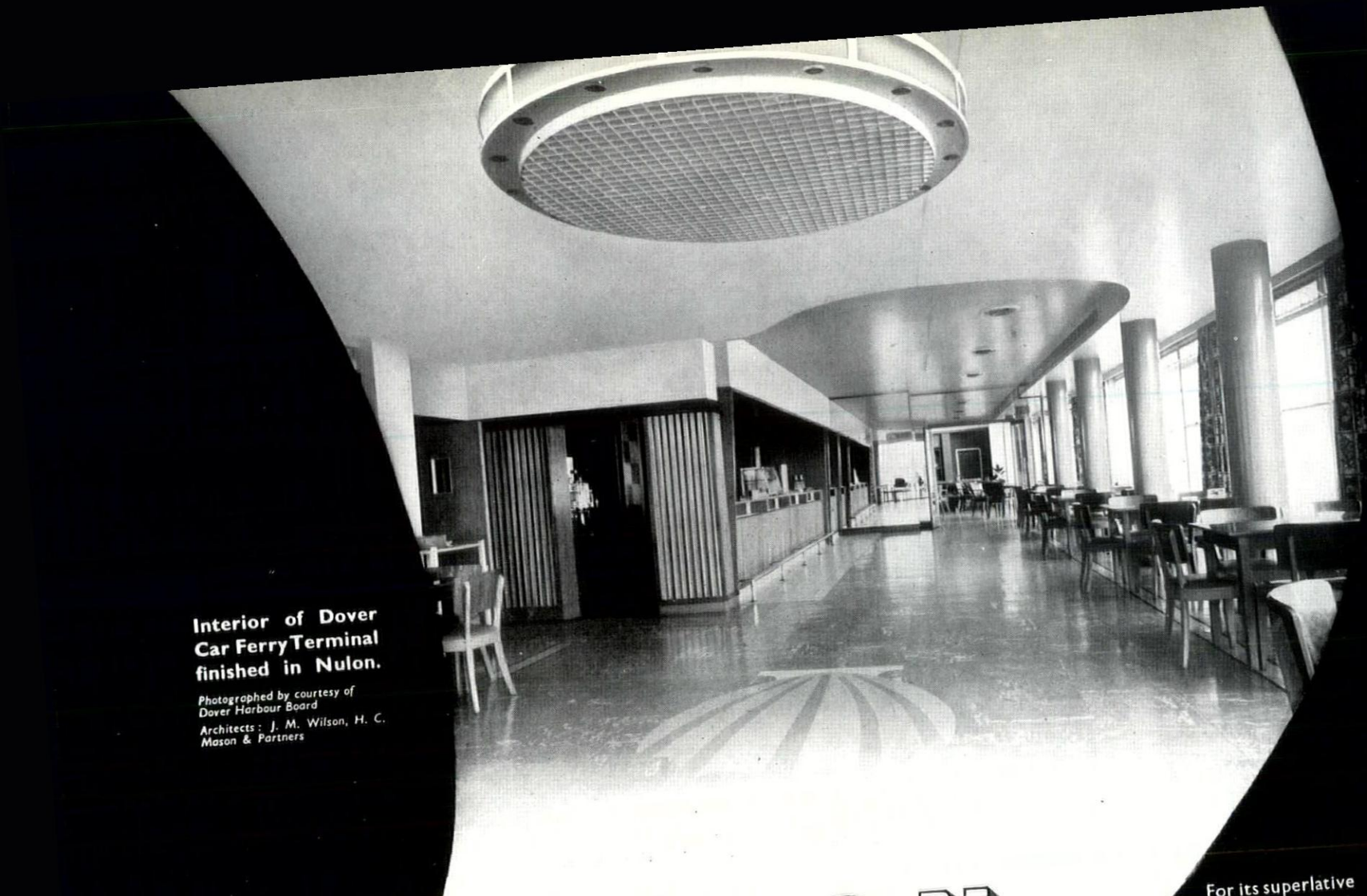

Interior of Dover Car Ferry Terminal finished in Nulon.

Photographed by courtesy of Dover Harbour Board

Architects: J. M. Wilson, H. C. Mason & Partners

NULON

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Other high-grade specialities: OLIMAT ENAMELS—Flat, Eggshell and Satin Shee Finishes, especially suited for very high cla interior decoration. OLIVETTE HIGH GRAD ENAMEL PAINTS—Superlative gloss finish in Interior and Exterior qualities.

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turned legs with silver bronze feet. The wooden slabs are veneered with Honduras mahogany and the rubber seat and back cushions are covered with a flame red fabric.

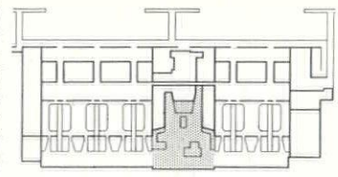
The central section of the main hall is the heart of the building and contains, at two levels, the public amenities. At first floor level are airline counters, shops, post and cable offices, etc. At second floor level a balcony overlooks the main concourse and gives access to the lounge bar (which opens directly on to the 'waving base') and buffet, and to a restaurant which overlooks the airfield.

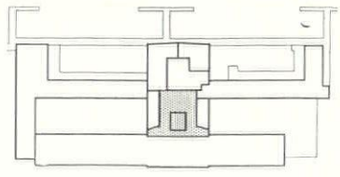
The main staircase and the surrounding columns and balcony front are faced with Genoa green marble with white Sicilian treads and black terrazzo risers. The staircase wall and balcony has a glass balustrade with white standard and heavy mahogany handrail. The airline companies' and all other counters are faced in olive ash. The deep window cills are covered with Brunero black marble. The balcony lounge is carpeted in black with yellow specks which runs along one side of the lounge, and has a counter with a blue formica top and a front of ribbed teak in a surround of silver bronze. The fascia over the bar is shaped and veneered in weathered sycamore with concealed lighting. The public restaurant, which is divided from the lounge by an all-glass screen, overlooks the airfield through a full height continuous bow window. A series of mirrors faces the window wall and reflects the view for those with their backs to the airfield.

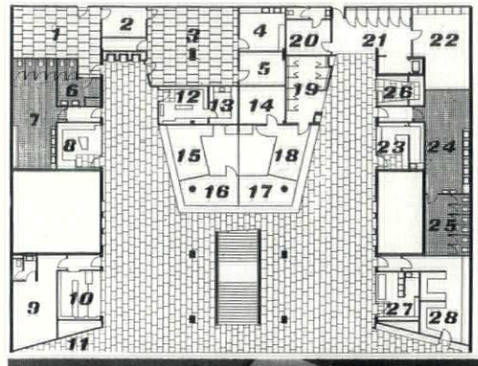
Placed centrally at first floor level on the airside of the building, but quite unconnected with the main concourse, is a self-contained suite for transit passengers who have to remain on the airside of the controls whilst waiting to continue their journey. The suite is planned in two halves with a servery between. On the north side is a buffet lounge, cables offices, bookstall and export shop, and a nursery. On the south side is a restaurant with a cocktail bar. The buffet counter has a veneered teak panelled front and formica top with back fittings to match. The cables counter and bookstall are faced in straight grain elm and the shop has the same shopfront as in the main concourse. The cocktail bar is panelled in weathered sycamore slightly fumed with teak counter and louvred screens. One wall of the restaurant has a bottle pattern wallpaper with a dark green background designed by June Lyon. The dining tables are in

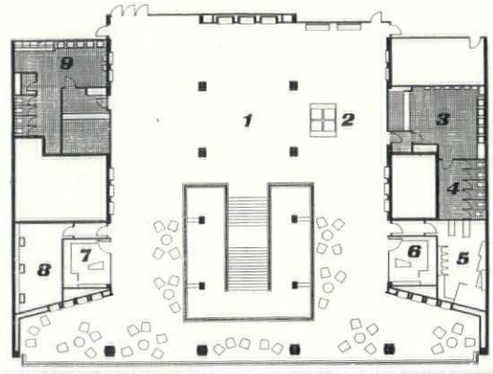
central channel, landside

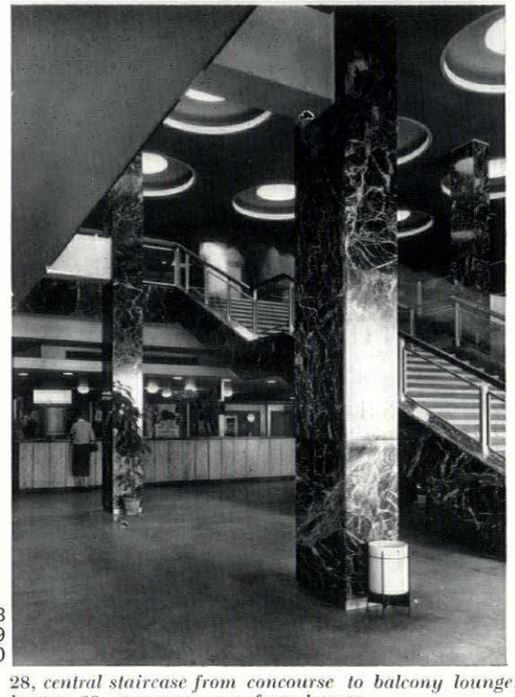
Key: first floor, 1, toddlers' nursery; 2, nursery kitchen; 3, babies' nursery; 4, babies' w.c.; 5, staff; 6, toddlers' w.c.; 7, men's w.c.; 8, shop; 9, men's rest room; 10, bookstall; 11, companies' counters; 12, chemist; 13, dispensary; 14,15, 16, car & theatre booking; 17, P.O.; 18,20, telephones; 19, women's rest room; 21, press equipment, 22, confectioner; 23, powder room; 24, tobacconist; 25, women's w.c.; 26, florist; 27, preparation room; 28, concourse buffet; **Second floor**: 1, lounge; 2, telephones; 3, powder room; 4, women's w.c.; 5, hairdressing; 6 and 7, outfitters; 8, barber; 9, men's w.c.



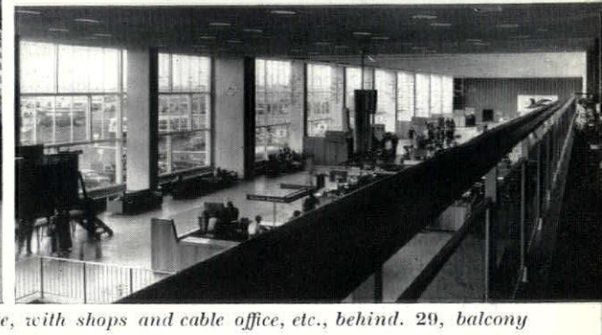












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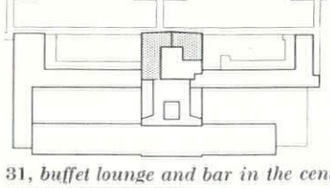
29
30

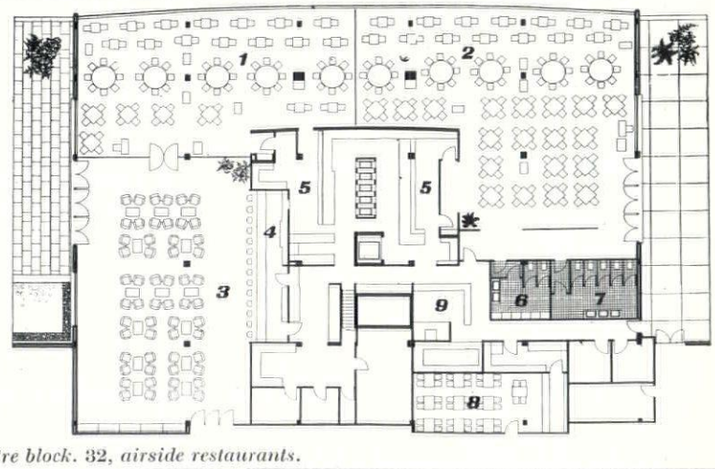
28, *central staircase from concourse to balcony lounge, with shops and cable office, etc., behind.* 29, *balcony lounge.* 30, *concourse seen from lounge.*

restaurants, second floor, airside

Key: 1, public restaurant; 2, spectators' restaurant; 3, public lounge; 4, buffet; 5, servery; 6, men's w.c.; 7, women's w.c.; 8, staff snack bar; 9, beer store & garden servery.

30 20 10 0 10
scale of feet





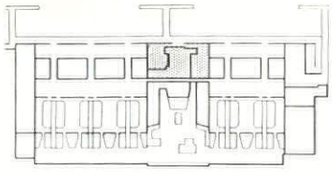
31, *buffet lounge and bar in the centre block.* 32, *airside restaurants.*



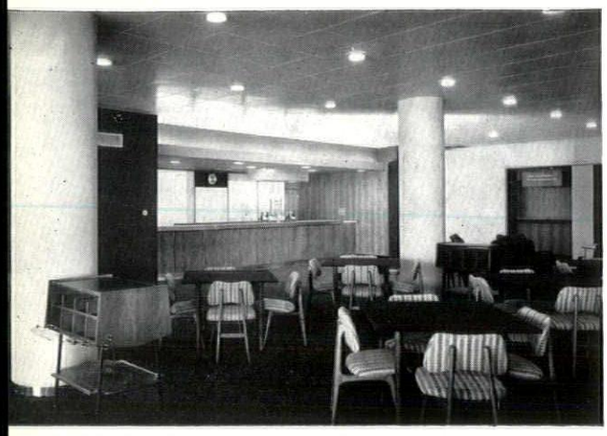


31
32

transit



33, transit passengers' lounge and servery, first floor.



three sizes, and together with the chairs have turned and tapered legs. The servery tables were specially designed by Roger Clynes, these have a figured teak veneered carcase, mounted on stove-enamelled tubular steel legs.

A long glazed gallery runs the full length of the building on the airside connecting all channels and providing a link between the transit suite and the adjacent Eastern Apex building. From this gallery foot-bridges provide access directly to and from the apron over the apron road. The construction of the gallery and bridges consists of a light steel frame, metal windows with a reinforced exposed wood-wool slab roof, light-weight screed and waterproofed with three-ply felt and covered with marble chippings. Along the length of the gallery are twelve window bays cantilevered outwards and filled with potted plants set in pebbles. The floor of the gallery is made up of black 3 inch by 3 inch clay tiles, with a pattern inset of various colours with white tiled skirtings.

The design and siting of clocks, loud-speakers, etc., was worked out in conjunction with the internal wall treatment. A system of telephone ducting embedded in the floor screen has been provided throughout the building. Owing to the important part played by signs in the working of the building, a typographer, Colin Forbes, was employed to set up and design the layout of all public signs.

2 DESIGN REVIEW

CANE FURNITURE

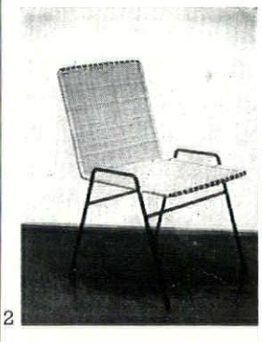
At any period one can pick out one material that has proved particularly stimulating to designers and specially acceptable to the public. So far the material that the designers of the 'fifties seem to have quickened with most life is cane.

As with much in this century the first intimations were in exhibition design, and delightfully fantastic dummies in department store windows. 1951 was a heyday of cane sculpture, with elegant fish at the South Bank and Piper figures crowning the pleasure gardens. It is not eighty years since a previous fashion for cane, if such substantial output can be so called, spread across the world. The tables and long chairs at which our great aunts crocheted and Empire builders drank their sundowners in tropical dusk were in the most virile tradition of Victorian functionalism, free from vulgarity as from neo-classicism. Much of this furniture is still with us, rotting in summer houses. Some has the luck to be refurbished, with happy perspicacity, as Victoriana. But the new furniture that I find remarkable although so near in time, and indeed in spirit, to the planters' wickerwork is in no sense a revival. It is the most uncompromising and serious of the younger designers who find themselves continually, and I suspect compulsively, tempted to use cane. It is used seriously for chairs, frivolously for nick-nacks and hanging baskets, perversely for screens and panels that could have been done more lastingly and hygienically in other materials. It appeals for several reasons, topical rather than utilitarian. Since guy-ropes and the visual results of isolating the tensile from the compressive components of a structure began to fascinate architects, linear components, ropes and wires have developed an intrinsic popularity. A reaction from the incessant cubes of the twenties and the grim rectangles of civic air raid shelters added to this. Cane shares with metal rods and tubes its linear, tensile nature. But its popularity derives as much from its shortcomings as from its virtues. When functionalism and geometric simplicity became terms of abuse, and architects were searching in a hunted way for all and every means of producing pattern, cane with its lightness and impermanence seemed a heaven-sent medium.

The furniture here illustrated falls into two types. But the division is not simply between the structural and the decorative. At such a high level of design the two would be unlikely to be found separate. The division is between furniture of cane construction and that where the cane is infilling. Oddly enough the examples in cane construction have the more pictorial line, and those with cane infilling are the more austere in conception. These examples are the work of four Englishmen and one Italian, yet, coming from separate



1



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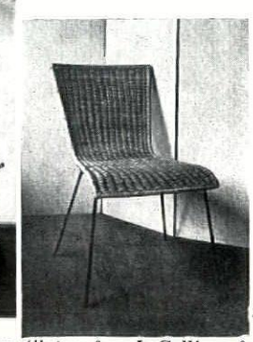

3

1, armchair by Norman Slater for J. Collins & Sons, £9 15s; 2, dining chair by Conran, £4 16s 3d; 3, an Italian dining chair at Peter Jones, 10 gns.

sources, they have that vintage mark that so puzzlingly appears in all fields of intellectual activity. 1, an armchair designed for J. Collins & Sons by Norman Slater, £9 15s. 0d. This looks the epitome of friendly ease. 2, Conran dining chair, £4 16s. 3d. 3, an Italian dining chair on sale at Peter Jones, 10 guineas. 4, low chair by John Bray, £11 10s. The iron frame is

[continued on page 341

continued from page 340]

marketed with either canvas or wicker filling. The canvas is the more comfortable, yet aesthetically the wicker wins. Why? 5, Conran's stool has his usual quality of making the rectangle look more simply rectilinear than usual. 6, the stool by Magpie Furniture has a nice linear air, and its lower stiffening more conveniently placed for the feet. It looks the more functional job, but only a welder will know how many welds go to the crossing on Conran's stool. Both stools sell at £3 10s. This stark blacksmith's furniture is right for now, because it is equally at home indoors or out. It restates the departure of the external wall, and that we intend to have sunlight and the pleasures of outdoors at our hearths, or a hearth outdoors if we wish it. This assertion is worth for us a considerable amount of upholstered comfort. Not for always, not perhaps for long, but for now. Because there are materials more durable and more resilient than cane, the present mode will pass. But there is about it a fineness and an elegance that give it a place in the English tradition. Mannered it well may be, but it is in the manner of the best architecture.

We now come to the furniture of cane structure which from the point of view of the caning industry is doing a more serious job. If we look at the two French chairs on sale at Peter Jones, and contrast the youthful 7, 9 guineas, with the dignity of the handsome Malacca, 8, 15 guineas, we get some idea of the possibilities of linear design in this medium. 9, the 'Shell,' £6 6s. 10d., and the 'Sugar-spoon,' £9 17s. 9d., and 10 and 11, all the work of Fritz Lang of Scotts, are chosen from an amazing variety of designs within quite a narrow range. There is plenty of scope here. The Italian dining chair at Peter Jones, 12, £10 19s. 6d., whether viewed as beautifully, or as hideously, frivolous gives further hints on the visual possibilities of cane construction.

J. Collins & Sons' cane lounge is an entirely new piece of furniture, 13. It can do the work of a bed while having the air of being no larger than a shelf, being largely transparent. Its unprecedented simplicity is the outcome of its novel construction. The caning is unrolled from the piece and applied by the yard, at a fraction of the cost of the traditional method, which is to do it direct on to a prepared frame. The cost of repairing is also fractional. Price £9.


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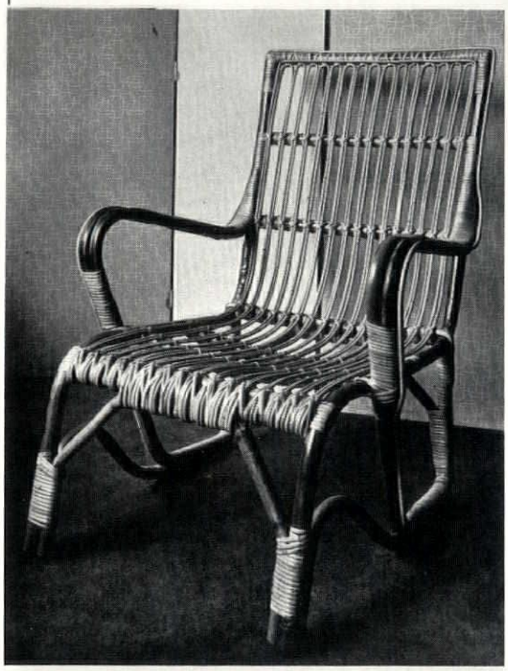
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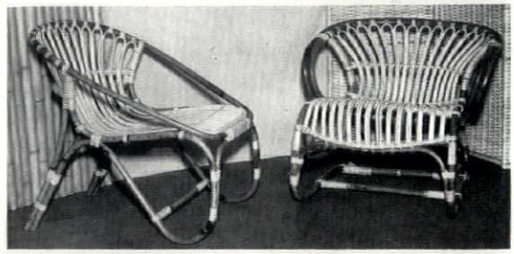
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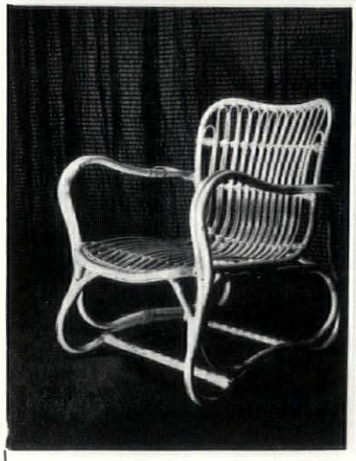
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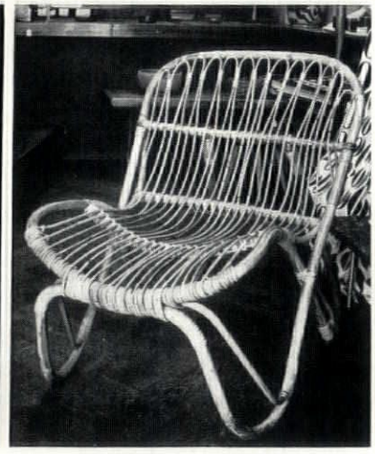
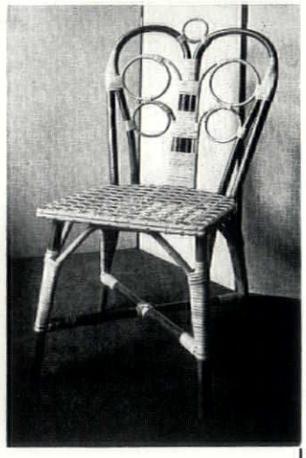



11, 12


13

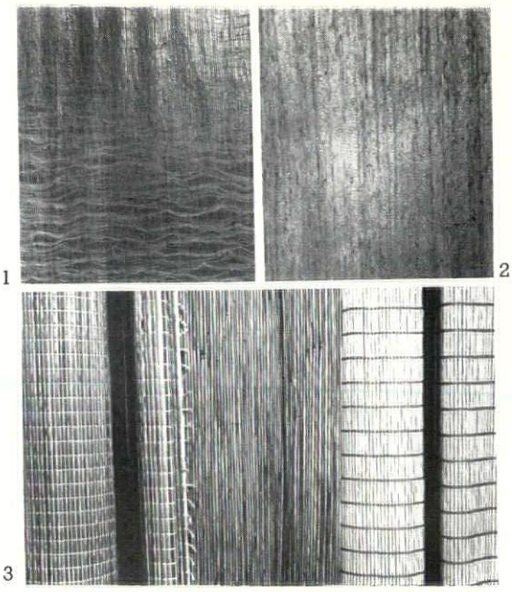
4, low chair by John Bray, £11 10s; 5, stool by Conran, 6, stool by Magpie Furniture, both £3 10s; French cane chairs, 7, 9 gns, and 8, 15 gns, both at Peter Jones; 9, the 'Shell', £6 6s 10d, and the 'Sugarspoon', £9 17s 9d, all by Fritz Lang of Scotts; 10 and 11, cane chairs also by Fritz Lang; 12, Italian dining-chair at Peter Jones, £10 19s 6d; 13, cane 'lounge' by J. Collins & Sons, £9.

WALL COVERINGS

Some of these materials now on sale at Primavera are imported from the far east; some are indigenous crafts here. The latter are more positive in design, but their uses are practically identical and they are equally welcome to those who understand the use of surface texture. That they are also extremely attractive to those quick to grasp inessentials need not worry us. When these modest and reserved materials are seen looking raffish or arty the failure, though frequent, is individual. Designing by means of textures is an integral process of spatial design. These hangings are as much a symbol of our architecture as the acanthus or the dog-tooth were of theirs. I take their popularity as a sign that this is coming to be widely though dimly understood.

These are two examples of Japanese grass cloths from the many available: 1, silver with satin finish £4 19s. per piece. 2, a wider cloth £4 1s. 9d. per piece.

3, left, rush and cotton fabric, 30s. per square yard; centre, straw and cotton, 30s. in natural, 32s. in colour; right, split cane and cotton, 37s. 6d. These materials can be woven in any multiple of 2 inch width from 12 inches up to 40 inches.



Wall coverings on sale at Primavera: 1 and 2, two Japanese grass cloths, 3, left, a rush and cotton fabric; centre, straw and cotton, and right, split cane and cotton.

3 TECHNIQUES

BUILDING EXHIBITION

by John Voelcker

This survey of the coming Building Exhibition is based on information available from the Exhibition Press Bureau and from the manufacturers themselves at the time of going to press. The selection of products has been as wide as possible but there may be omissions due to the fact that a number of the manufacturers approached had not yet completed their exhibition preparations or publicity.

The Building Exhibition is important for the manufacturer of building material for he can show his products with the assurance that many people will come with the intention of looking at them and that many more will stumble upon them by accident. It is equally important to the architect for he is able to see general trends and any changes in emphasis which have taken place over a period in the Industry on which he is dependent; developments over which he has little influence but which he can make positive use of once they have occurred. The Exhibition is being held at Olympia from the 16th to the 30th of this month.

In reading through the advance publicity for this year's Exhibition, a shift of emphasis is perhaps apparent, namely the development of products for use in large scale industrial buildings instead of the previous emphasis on domestic and small scale industrial and community building. Where they have been observed more detailed shifts of emphasis have been noted in the description of a particular group of products.

The products selected in this survey have been grouped into the categories of the 'Table for the co-ordination of Building Material' developed as a part of the Modular Co-ordination Studies being carried out by the British Standards Institution. At first sight some of the products may appear unsuitably grouped, but an underlying order, which extends from the basic raw materials of the building industry to complex multi-material assemblies reflecting the production sequence should become apparent on closer examination.

It is not generally known that each building exhibition has a theme. This year the theme chosen is timber, and therefore it is essential that an early visit be paid to the *Timber Development Association's* stand.

I. materials

A considerable number of already established and newly developed methods of protecting materials from corrosion and rot are exhibited.

For protecting metals *Corrosion Ltd.* show their recently developed Glopane cold galvanizing process. Glopane may be used as a dip for galvanizing small metal components or it may be applied with a brush or spray on site to components which are too large to be dipped; a variant of the solution called 'wet Glopane' can be applied in humid situations to wet metal and even, the makers claim, to structures which are frequently submerged. Such a product is of considerable value for patching up faulty galvanizing.

The *Inertol Co. Ltd.* exhibits products for the protection of concrete and steel structures. Two types of protective treatment for concrete surfaces are available: one bituminous and the other enamel. In either case a primer is applied first which fills up the surface pores in the material. The surface bituminous or enamel coat is waterproof, abrasive resistant, and at the same time sufficiently flexible to accommodate thermal movement in the concrete.

For the protection of wood the *Galkwey Chemical Co. Ltd.* describe their Protim service which has been built up to deal with timber defects such as dry rot and woodworm. The product Protim complies with the requirements of BS.838 and 1232, and besides its surgical application to existing structures it may often be worth the additional cost for an architect to specify that new timber shall be impregnated before being delivered to the contractor.

Of products which speed up or improve construction time are two of interest: the first is a concrete curing compound manufactured by *Sealocrete Products Ltd.*, which is either brushed or sprayed on to concrete when it has been placed, and the manufacturers claim that the concrete will retain its maximum water content for at least seven days, thus ensuring complete hydration, that it will have increased strength, and that the surface will be free from cracks and crazing usually caused by too rapid drying out. The same firm manufacture a mortar plasticizer; the advantage of such plasticizers is that lime can be eliminated from the mortar without having to increase the cement content. It is claimed that mortars containing plasticizers are easily worked, and, despite the elimination of lime, they do not crack as severely as cement mortars. A similar product is manufactured by the *Pyrene Co. Ltd.* who also show a process for the construction of light-weight concrete; a great variety of densities meeting a number of special requirements are marketed.

Among paint manufacturers are *International Paints Ltd.*, exhibiting at Olympia for the first time; *Jenson & Nicholson Ltd.* who show their extensive range of Robbialac colours and finishes; and *T. & W. Farmiloe Ltd.*, who have added a power-driven paint roller to their range of decorators' tools. *Aero Research Ltd.* describe the numerous applications of their adhesive compounds. The development of adhesives has been rapid and is of considerable importance in even the smaller types of building operation because many contractors are now making use of specialist joinery firms who have the plant for

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machining timber joints in which modern synthetic resin adhesives are more effective than the older types of carpenter's glue.

II. sections

This category of material includes all the simply manufactured components: flat sheets, tubes, extrusions and rolled sections. The number and variety of sheet materials available outweigh other products and frequent reference is made in manufacturers' literature to their suitability as infilling to curtain walling discussed in part V. of this survey.

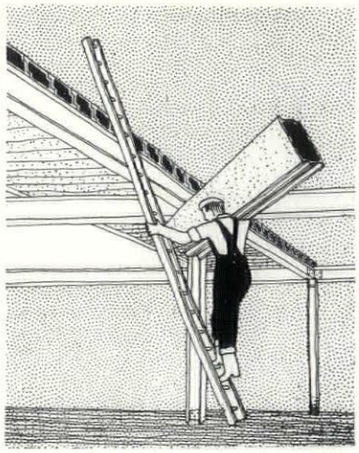
Fibreglass Ltd. show their mats for thermal and acoustic insulation. Particular attention is drawn to ways and means of insulating water services in domestic roof spaces: a precaution all too frequently omitted in current building practice.

Another group of protective sheeting is exhibited by *J. H. Sankey & Son Ltd.* This group contains the various types of Sisalkraft waterproof building paper. In particular two metal faced types are shown: the first is a copper armoured sheet or strip suitable for damp-proof membranes or courses, the second a reflective insulating sheet known as Sisalation in which burnished aluminium is bonded on one or both sides of a 6-ply reinforced Sisalkraft sheet.

Numerous wallboards are shown. *Masonite Ltd.* manufacture a stove-enamelled sheet $\frac{1}{8}$ inch thick which provides an excellent cheaper alternative to glazed wall tiling if the fixing back of the sheets can be mastered. The concessionaries of the Belgian firm *Glinex, Gliksten Building Materials*, manufacture a useful board from the hitherto wasted residue of flax crops. Glinex boards are made in several densities and thicknesses which may be used in combination with other facing sheet materials in the construction of doors, walls, ceilings and floors, or it can be used on its own as permanent shuttering. A useful partition board known as Paramount Dry Partitioning is manufactured by the *British Plasterboard (Manufacturing) Ltd.;* it is made up of two sheets of Paramount wallboard separated by a fibrous $1\frac{1}{2}$ inch square egg-crate, is supplied in two thicknesses, $2\frac{1}{4}$ inches and $2\frac{1}{2}$ inches, and is easy to erect. A strong sheet material is produced by *Airscrew & Jicwood Ltd.* It is a lightweight chipboard with a smooth-sanded face, accurate dimensions and a bending strength of 3,000 p.s.i.

Similar to the Paramount partition *Gyproc Products Ltd.* show their Gypunit panels which may be built up into double leaf partitions with a high degree of sound insulation. A particularly interesting panel is exhibited by *Petradene Ltd.*, it is called the Superpanel and consists of a sheet of corrugated asbestos with hardened plaster bonded to both sides; besides the qualities such a combination of materials would possess the panels can be fabricated on site without elaborate or expensive preparation. *The Universal Asbestos Manufacturing Co. Ltd.* feature their Batten Decking developed for a school's building programme, and their Hollow Decking (Fig. 1), the sections of which are formed so that the deck units nest neatly into one another. Another useful asbestos product, Asbestospray, is exhibited by *William Kenyon & Sons Ltd.* who also show their range of Rocksil, Vermiculite and cork products.

Among boards for external use, *Turners Asbestos Co.* have developed



1, *Hollow Decking by the Universal Asbestos Manufacturing Co. Ltd.*

a $3\frac{3}{4}$ inch deep corrugated asbestos sheet called Doublesix which spans 6 feet 6 inches. The *Cape Asbestos Co. Ltd.* have a slightly curved sheet spanning 4 feet. Three new developments of the Bellrock panel manufactured by *The Bellrock Gypsum Industries* are shown: a waterproof facing, an improved method of joining the panels which speeds up erection time, and the inclusion of preformed load-bearing channels. These panels have a structural safety factor of 12 and a 2-hour fire rating.

Two roof-lighting sheets are shown: one a resin-bonded glass fibre corrugated sheet made by the Galt Glass Division of *Durasteel Ltd.* and selling more cheaply than other plastic types, and the other a corrugated $\frac{1}{4}$ inch plate glass sheet ribbed internally to diffuse the light and reinforced with a 1 inch square wire mesh manufactured by *Corroglaze Ltd.*

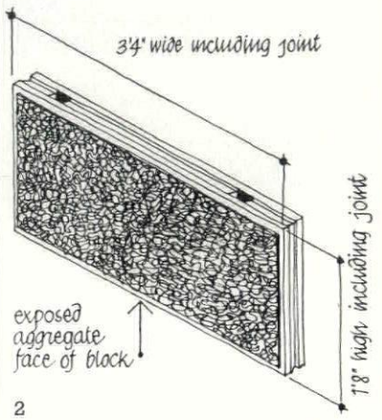
An important group of sections, plastic service pipes of alkathene and polythene, should be noted, but very little pre-Exhibition information is available on these. The *Yorkshire Copper Works* show polythene tubes suitable for cold water services and polythene tubing suitable for laying below ground, and by means of a tractor-drawn mole plough which reduces the laying time considerably. *Shires* manufacture alkathene tubing for cold water services known as Shirene, and the *Marley Tile Company Ltd.* exhibit their Marleythene polythene tube.

The Linoleum Manufacturers Association besides showing a comprehensive collection of linoleums show the application and methods of fixing linoleum to both floor and wall surfaces. *Pilkington Brothers* have a model of their Soho A.D. 2000 project on show.

III. units

Not long ago this category contained a great number of building components, but each year the number of units exhibited decreases while the number of sheets and sections on one hand, and the more complex assemblies on the other, increases.

Bricks, always difficult to display in a manner which gives any real idea of their appearance, are exhibited by the brick manufacturers with no particularly startling developments. The *Leeds Fireclay Co. Ltd.* construct part of their stand of hollow blocks which are supplied in a number of sizes and are glazed on either one or both faces. *Celcon Ltd.* exhibit their cell concrete slabs available for roof and floor construction in four standard lengths, 18 inches wide, and reinforced to meet particular requirements; the slabs may also be obtained in any desired length up to 10 feet. A concrete cladding slab with exposed aggregate finish is manufactured by *John Ellis & Sons Ltd.* (Fig. 2).



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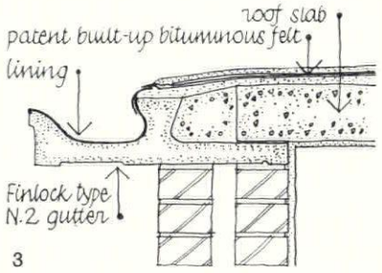
This slab conforms with the 4 inch-40 inch module favoured by the Modular Society Ltd. A useful leaflet published in the Modular Catalogue gives information regarding fixing and tolerances.

Two special purpose block units are worth noting: the *Finlock* gutter (Fig. 3), a neatly contrived unit



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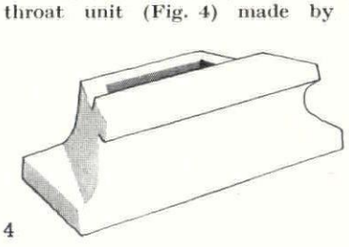
which can be used to drain either flat or pitched roofs; the manufacturers have prepared several comparative costs with more conventional eaves details and it would seem that the Finlock gutter is considerably cheaper, at least in buildings where gutters do not have to span over large openings. The second block is a chimney throat unit (Fig. 4) made by a



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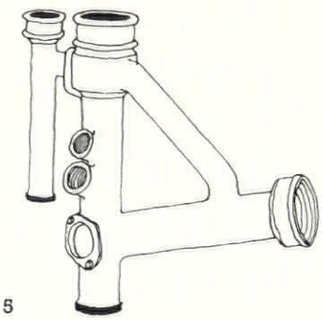
member of the *Finch Organisation;* the manufacturers claim that at least 17 per cent more heat is retained in a room when the chimney is unrestricted. Furthermore, the unit provides good protection to the fireplace surround which has become liable to disfigurement on account of the increasing popularity of high-graded slow-burning fires.

Floor tiles suitable for all kinds of wear are exhibited. To select a few of these, *J. H. Sankey & Son Ltd.* manufacture an acid and alkali resistant vitrified buff tile. For lighter use a new vinyl asbestos tile called Accoflex has been made by the *Armstrong Cork Co.;* the colours are good and insets, for instance, number or letter directions, can be cut and incorporated in the floor surface. *Michael Nairn & Co. Ltd.* exhibit their range of vinyl tiles and have prepared a handsome brochure which describes the characteristics, testing, installation and maintenance of their floors.

The Marley Tile Company in addition to the polythene tube already mentioned show their Standard Marley, Marleyflex, and their new range of Harlequin thermoplastic floor and wall tiles. Gordon Cullen has designed the stand for the *Carter Group* on which the manufacturers show how their tiles will combine with numerous common building materials. The *Dunlop Rubber Company* show different types of thermoplastic tiles and rubber flooring, among the rubber tiles are the useful ribbed and studded kinds.

There have, in recent years, been many innovations in units designed as part of the water services of buildings. In particular several firms have developed units which simplify the junction between sanitary fitting wastes and the main vertical disposal system. This year *B. Finch & Co. Ltd.* describe their Spruce-Thrower (Fig. 5) soil and waste pipe fitting.



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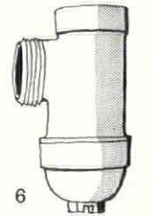
The purpose of this unit is to simplify the bundle of connections usually made when an anti-syphonage system is necessary. Although the unit is still a little cumbersome in appearance it is very adaptable and the saddle by-pass arrangement and the soil stack are ingenious.

A number of units connected with water services within buildings are exhibited: for example, the aluminium plated zinc Sidleen lavatory basin bottle trap manufactured by *Associated Brassfounders Ltd.* (Fig. 6). A similar bottle trap of good line is exhibited by the *Barking Brassware Co. Ltd.* (Fig. 7) together with their goblet waste (Fig. 8), easily cleaned and stain reducing, and their bath overflow fitting (Fig. 9). Among the water supply fittings



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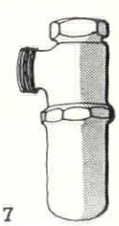

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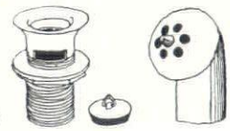

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included on the Barking Brassware stand are their Hi-Flo sink pillar tap with swivel arm (Fig. 10) and a new item consisting of a shower fitting (Fig. 11) connected to the



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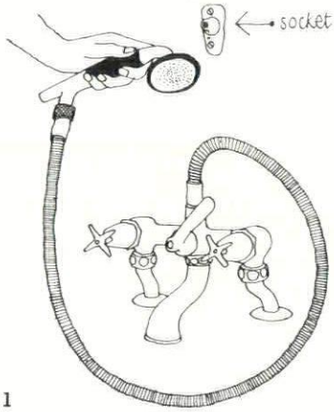

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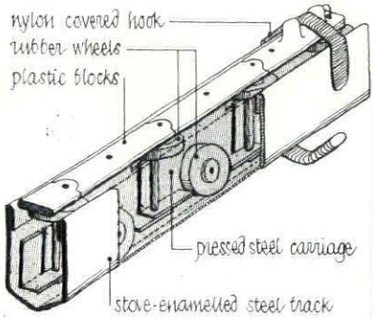
mixer unit by a flexible pipe and located as an overhead shower at two points by a socket fixed to the wall above the bath. This is both cheaper and more versatile than the usual fixed pipe shower unit. Barking Brassware cannot be left without some praise for the detailed design of each fitting, the high quality of which justifies their slightly above average cost.



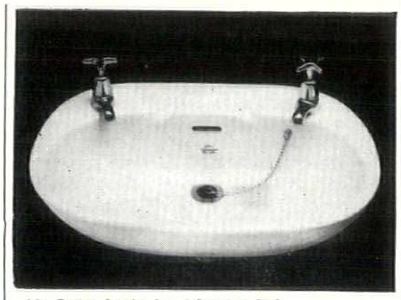
12 "cut-away" section of pair of track

Rowe Bros. & Co. Ltd. exhibit the Sloan Royal Flush Valve, the only diaphragm type to be manufactured in this country.

A compactly designed and quiet curtain track suitable for hospital cubicles and similar situations is the Panther Track (Fig. 12), manufactured and shown by *J. Avery & Co. Ltd.* who also show their Sungear venetian blind in which the cord control normally used by the firm is replaced by a robust rod action.

IV. assemblies

To begin with simple assemblies exhibited: *Adamsez* stand contains the frequently illustrated range of cleanly designed sanitary equipment. The Lotus basin (Fig. 13), reminiscent of the earliest products of the firm, has few equals despite the meanness of ledge space for soap,

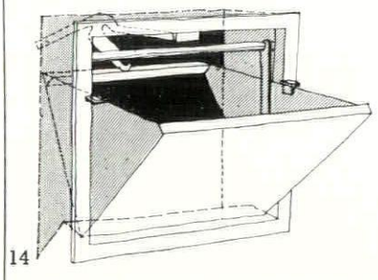


13, *Lotus basin by Adamsez Ltd.*

Adamsez sanitary ware can be obtained with Barking Brassware fittings. Comparable in design and technically interesting are the Lynx and Duranite Reverso cisterns manufactured by *Shires & Co. (London) Ltd.*, who also show an alkathene cold water tube noted earlier in this survey.

Among the many products manufactured by *Ideal Standard* are their sanitary fittings, it is regrettable that some of the designs for sanitary ware developed recently for the firm in Italy are not yet available in this country. *Shanks and Co. Ltd.* exhibit some cleanly designed and robust looking ware, in particular their Marnock lavatory basin is to be commended.

A much needed component is manufactured by *B. Finch & Co. Ltd.*, a robust fuel hopper (Fig. 14)



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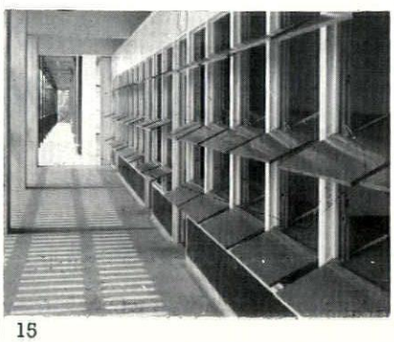
with efficient operating devices which do not obstruct the delivery of fuel. Because the hopper aperture is not large, however, care must be taken to build the unit into the fuel store at the correct height.

As usual there are numerous developments and refinements in the manufacture of windows. Particularly in evidence are those designed for the overseas market. *Henry Hope & Sons Ltd.* show a type of louvred window developed for the Kumasi College of Technology (Fig. 15). *Crittall Manufacturing*



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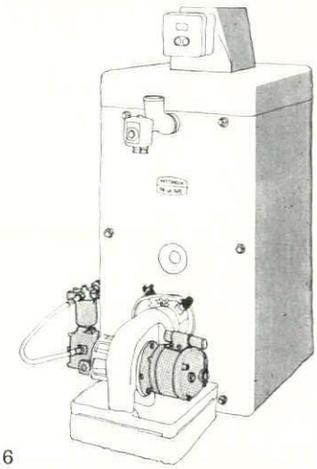
Co. show a special assembly of external sunbreakers and natural fly screens which is being supplied to the palace of Baghdad. For home use a timber double-glazed assembly is manufactured by the *Tomo Trading Co. Ltd.*, and *Quicktho* (1928) *Ltd.* exhibit a horizontally sliding aluminium window.

On the group of more complicated assemblies the heating equipment on show reveals interesting developments. Little information has been received on oil-fired boilers, though what is exhibited should be noted since fuel delivery arrangements, a previous drawback to oil fuel, have improved over the last year.

A purpose built oil-fired boiler of the pressure jet type is exhibited by *Watts Automatic Boilers Ltd.*

Glow-worm Boilers Ltd. have two burners: one a natural-draught model rated at 25,000 BTUs, and the other a forced-draught model rated at 50,000 BTUs. A larger burner and boiler assembly with a pressure jet is manufactured by *Thomas De La Rue & Co. Ltd.* This assembly is an extension of the well-known Potterton range of boilers and is known as the Doa series (Fig. 16).



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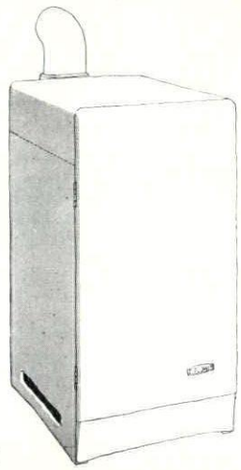
Two ratings are at present available, 108,000 BTUs and 216,000 BTUs, and two further ratings, 252,000 BTUs and 288,000 BTUs, will be available in a few months. In addition to the oil-fired assemblies Thomas De La Rue show a new Diplomat domestic gas-fired boiler rated at 46,000 BTUs (Fig. 17), a quantity



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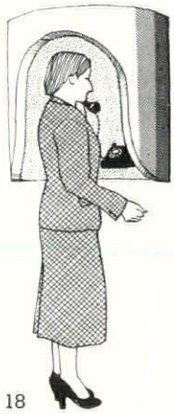
of heat adequate for space heating and hot water supply in a medium sized house.

Other boilers and heating appliances are exhibited by *R. Taylor & Co. (Ironfounders) Ltd.*, manufacturers of the Tayco solid fuel boilers; *Sidney Flavel & Co. Ltd.*, who show a gas-heated clothes dryer large enough to take an average week's wash; Aga Heat Ltd. display the new 30-80 Agamatic which provides ample heat for domestic hot water and central heating in a medium sized dwelling.

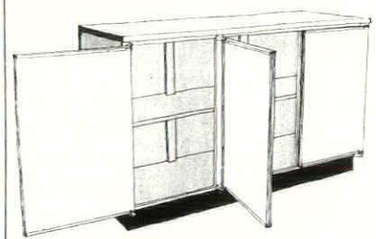
A line of development to be watched with particular interest is the heat pump, two of which are shown at the Exhibition, a small one by *Ferranti Ltd.* and a larger assembly manufactured by *Brentford Electric Ltd.* The capital cost of installation is approximately the same as the smaller types of oil burner units and running costs are claimed to be very low. Both manufacturers have comprehensive technical information and technical representatives are available to describe the detailed characteristics of each assembly.



18

Among other assemblies exhibited are the *Ascot* 715 multipoint gas water heater which is shown in operation, a *Stelrad* oil filled thermostatically controlled electric radiator, and an acoustically absorbent 'telephoning hat' produced by the *Burgess Products Co. Ltd.* (Fig. 18).

Ezee Kitchens Ltd. exhibit a number of kitchen fittings including sink units with Hoover washing machines built in. Of particular interest and shown on *Froy's* stand are the Storemaster kitchen cabinets (Fig. 19) manufactured by the *Clive*



19

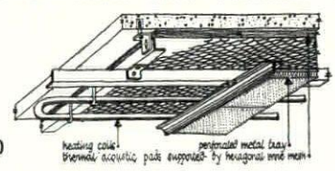
Development Company Ltd. and designed by Clive Entwistle; judging from the specification these cabinets will have a remarkable performance, and judging from the photographs their appearance is most satisfactory, their stressed skin construction is worth particular attention.

V. functional components

This group of products grows larger every year. Many of the products are combined efforts by a number of specialist firms. It is in this group that the advanced technological research is most apparent.

Closely connected with the heating assemblies described in the last group are heating systems available. *Crane Ltd.* are showing their skirting heating system, a mode of space heating extensively used in the United States where it is known as 'baseboard' heating, and recently used experimentally in this country. The system comprises a No. 3 New Carlton Boiler with 6 inch high radiant panels and 9 inch high panels which both radiate and convect heat. By records available this mode of heating is very satisfactory, but adequate free skirting surface is not always available.

The *Burgess Products Co. Ltd.* and *Sulzer Bros.* have combined to



20

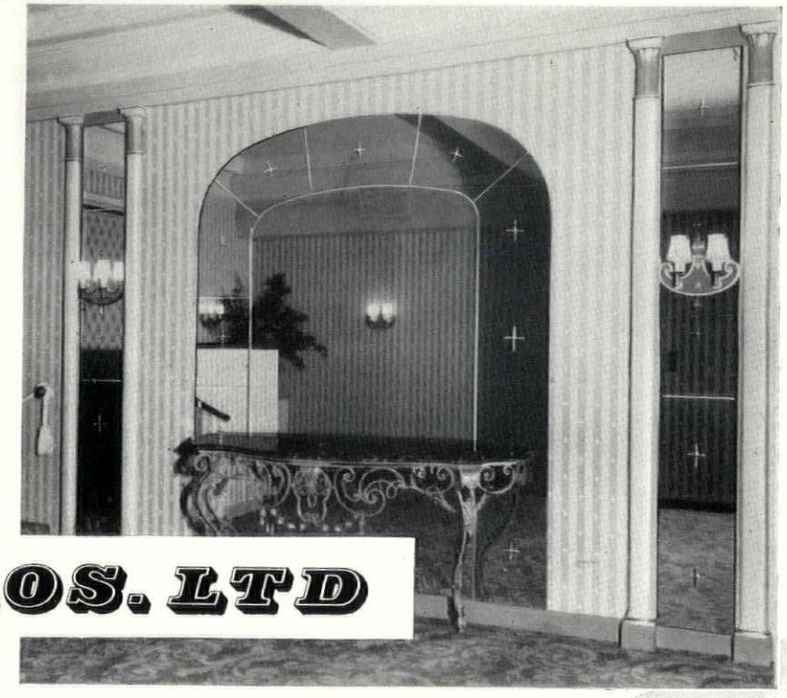
produce the Burgess-Sulzer Heated Acoustic Ceiling (Fig. 20) in which perforated metal trays filled with sound absorbent material are

[continued on page 346

Thrice as much Beauty...

Twice as much Space...

Neither room is quite what it seems . . . The regency style of the entrance hall has been enhanced by the skilful use of mirrors specially designed by craftsmen at Pugh Bros. And not only is its beauty "aesthetically trebled"—it's seemingly twice as large; twice as spacious . . . Green Agate Opaque glass, with black edging and shelves, has transformed the cloakroom. Glass bricks are cleverly used to provide maximum light and eliminate an unattractive outlook. Unrivalled in cleanliness, looks and durability—ONLY glass can achieve such effect. We shall be pleased to help you create similar ones.



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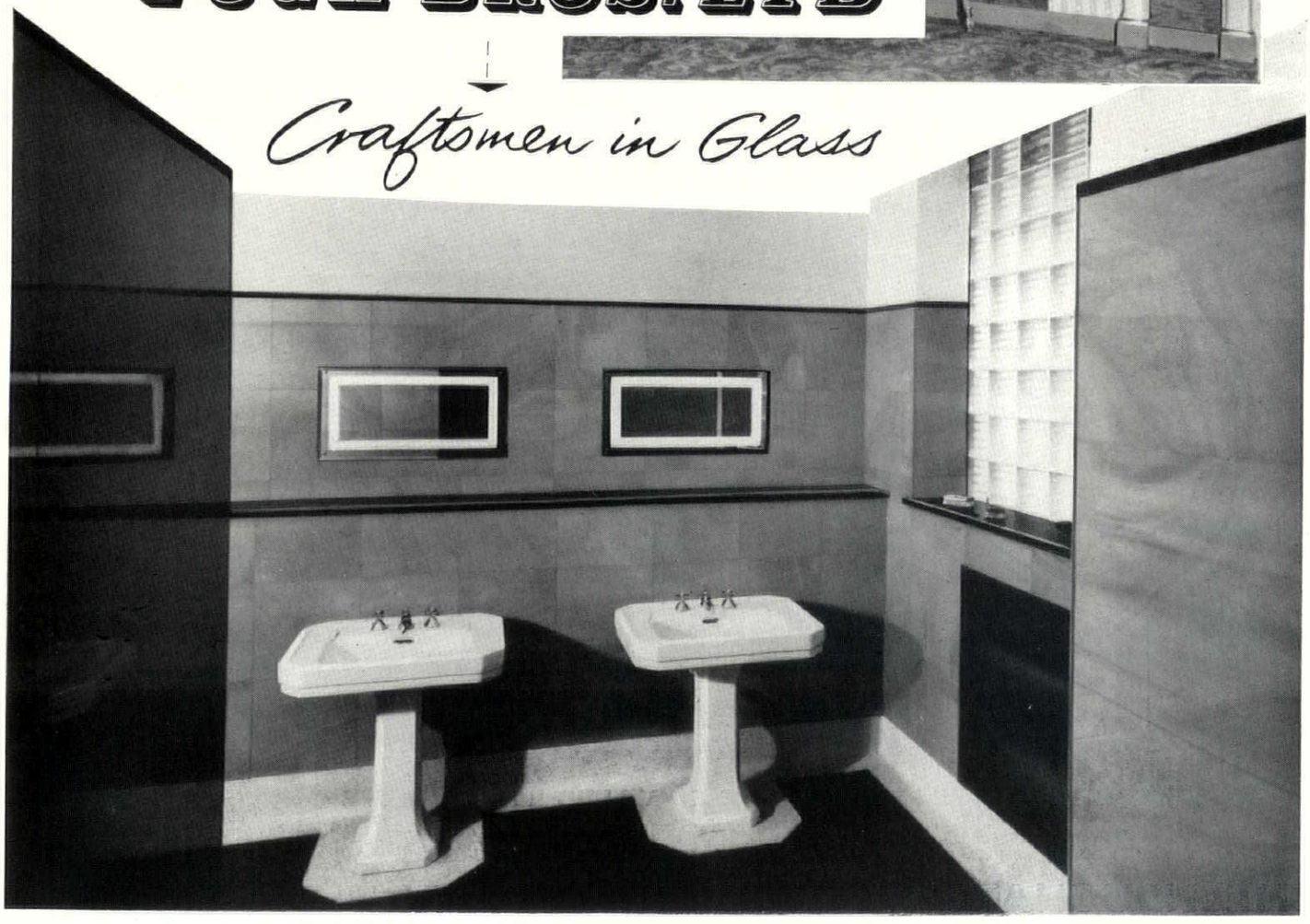


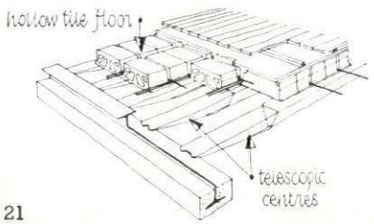
PUGH BROS. LTD., 20/23 GREVILLE STREET, LONDON, E.C.1. TELEPHONE CHANCERY 5311

continued from page 344]

suspended from T-sections; coils of heating pipe are fixed above these panels and beneath a thermal acoustic pad fixed up to the structural ceiling soffit by means of chicken wire. Water is circulated in the pipes at temperatures between 170°F. and 185°F. and the heat from the pipe is transmitted to the metal ceiling panel from whence low temperature radiation heats the space below. Temperature gradients are very small and this system, once installed, is economic to run. Originators in this country of the metal ceiling panel incorporating a heating system were *Frenger Ceilings Ltd.* whose Frenger system is now widely known and used and will be exhibited.

An interesting ceiling, not incorporating heating, has been developed by the *Cape Asbestos Co. Ltd.* It is a removable suspended ceiling weighing just over 2 lb./sq. ft., yet it provides a 4-hour fire protection to floors. The trade name of this ceiling is Modulux, and it consists of Asbestolux panels above which is laid a Rocksil rockwool mat. The manufacturers suggest that such a system has application to high buildings in which high fire resistance is required yet lightness is a structural necessity.

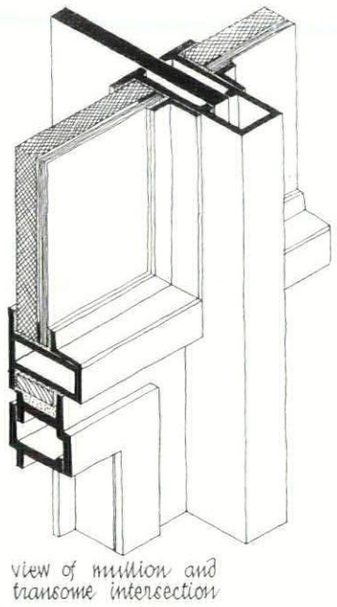
A heavier fireproof floor is the well-known *Smith's* fireproof floor (Fig. 21) which can be used in numerous situations; in addition the use of Trianco telescopic centres leaves the space below a newly laid floor unobstructed for the other building trades involved in the construction of a building.



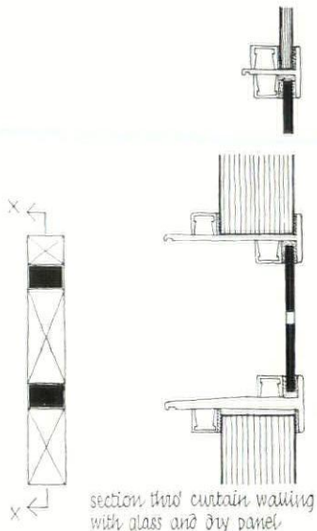
21

Pierhead Ltd. exhibit their prestressed flooring, among the exhibits are sections cut through the prestressed joists which show the large size of aggregate used and the high degree of compaction achieved.

In the last two years much thought has been given to the subject of curtain walling, a system of cladding used extensively in the United States but late to arrive in this country. Of the types exhibited the *Crittall Manufacturing Company* show their Fenestra wall, *Henry Hope & Sons Ltd.* their Windogrid, *Williams & Williams Ltd.* their Wallspan, *John Williams and Sons Ltd.*, manufacturers of Jonwindows, their curtain walling assembly (Fig. 22), and *Quicktho (1928) Ltd.* their Windowall (Fig. 23). The latter is constructed of aluminium alloy, contains sliding windows, top hung vents and infilling sheets up to 2 inches thickness; the manufacturers claim that it has good weather resistance combined with ample dimensional allowance for thermal movement.



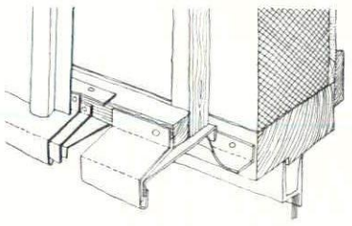
22, *'Jonwindow' curtain walling assembly, by John Williams & Sons Ltd.*

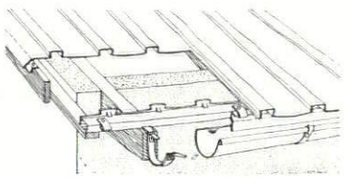


23

In the field of general sheet cladding systems *Nuralite Sales Ltd.* display their Nuralite consisting of laminated asbestos sheets bonded with bitumen. This sheet is easily worked by cutting and formed by applying heat. It makes an economic and rapidly applied roof covering.

The stand of *S. W. Ronald & Co. (London) Ltd.* should certainly be visited. Their Fural 24 gauge aluminium wall cladding (Fig. 24) and 22 gauge roof cladding (Fig. 25) are fully described in brochures. Later the firm intend to manufacture a copper sheet for roofing which fixes down to the cladding structure in the same simple and ingenious manner as the aluminium sheet.


24 detail at window head


25 detail of eaves

A very full selection of sliding door and screen components are to be seen on the stand of *Clarke Ellard Engineering Co. Ltd.*

[Trade note and Contractors on page 348

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Tibor

Tibor Reich, F.S.I.A., has designed a number of new deep textures and textured drapes for Tibor Ltd., Stratford-on-Avon. These new fabrics, blended with 'Ardil' fibre, have a warm, soft silk-like touch and yet are extremely crisp and durable. I.C.I.'s protein fibre 'Ardil' has been blended with wool and cotton to give added physical and visual properties. The illustration shows the 'Pavona' Chair designed by Howard B. Keith, M.S.I.A., available from stockists of H.K. furniture throughout the country. The upholstery is Tibor's 'Leonora' in shades of Natural deep texture fabric with an 'Ardil' blend. The outside of the chair is in Crimson 'Leonora' interwoven with Lurex non-tarnishing metallic thread. The smaller illustrations show H.K.'s 'Pegasus' Chair attractively upholstered with Tibor's 'Leonora' 'Ardil' fabric in shades of lemon on the inside and deep purple on the outside.



this tibor upholstery texture is blended with 'Ardil' fibre

continued from page 346]

4 THE INDUSTRY

'HARDEC'

Latest in the list of patent hardboards is 'Hardec', produced by the Airscrew Company and Jicwood, of Weybridge, Surrey. These manufacturers are perhaps better known as the makers of 'Weyroc' timber, and claim their new product to be proof against warping and buckling, and resistant to minor burns, weak acids, stains, abrasions, etc. It is a melamine plastic-surfaced hardboard, $\frac{1}{8}$ inch thick and best glued with 'Forpil.' 'Hardec' can be worked like ordinary hardboard, offers a choice of five different shades, and is available in 8 feet by 4 feet by $\frac{1}{8}$ inch nominal sheets at 3s. 6d. per square foot.

Admirable as this board may be for walls and ceilings, panels, partitions, doors and furniture, it is unfortunate that the manufacturers find it necessary to disguise the finish by incorporating colourful linen prints on the plastic surface. Plastics are apparently another of those materials which the public uses, but prefers not to recognize.

'Forpil' is marketed by the Central Chemical Company, 24, Southwark Street, S.E.1.

CONTRACTORS etc

Hotel at Istanbul, Turkey. *Bedroom and managerial office furniture:* Hille of London Ltd; *kitchen equipment:* Benham & Sons; *carpet fitting:* Maple & Co.

College at Pershore, Worcs. *Architects:* Richard Sheppard & Partners. *Contractor for houses, pump house, electric sub-station and sewage disposal unit:* A. Pettifer Ltd. *Contractor for greenhouses:* Duncan Tucker (Tottenham) Ltd. *Electrical contractor for main cable and sub-station:* F. H. Wheeler & Co. *Irrigation:* Bomford Bros. Ltd. *Contractor for main institute, i.e. hostel, laboratory, Avonbank and kitchen blocks:* Wheeler & Mansell. *Sub-contractors: slate and tile roofing:* Broadbent & Co. *Asphalte:* Neuchatel Asphalte Co. *Felt roofing:* William Briggs & Sons Ltd. *Heating, hot and cold water services:* Weatherfoil Heating Systems Ltd. *Electrical installation:* Booth & Bomfords. *Metal windows:* Monk Metal Window Co. *Joinery:* H. F. Tottle & Sons. *Plastering:* Brooks, Evesham. *Painting:* Redfern, Evesham. *Flooring:* Hollis Bros.; Korkoid Decorative Floors Ltd. *Wall tilings:* Venetian Flooring Co. *Cloakroom equipment:* A. J. Binns Ltd. *Balustrading:* J. F. Pearson Ltd. *Firefighting equipment:* Merryweather & Sons. *Steelwork:* Matthew T. Shaw & Co. *Suppliers: slate cills:* Bow Slate & Enamel Co. *Ironmongery:* Alfred G. Roberts Ltd. *Paint:* Blundell, Spence & Co. *Stone:* Hornton Quarries Ltd. *Sanitary fittings:* Timmins & Foulkes, Ltd. *Light fittings:* Falk, Stadelmann & Co.; Troughton & Young (Lighting) Ltd.; Courtney Pope (Electrical) Ltd.; Merchant Adventurers of London Ltd.; The General Electric Co. *Bricks, blue brindles:* Pratt (Watford) Ltd. *Prestressed floor beams:* Concrete Development Association.

House at Esher. *Architects:* Devereux & Davies. *General contractors:* W. H. Gaze & Sons. *Sub-contractors: windows:* P. G. Allday & Co. *Sliding wall to living room:* Walter F. Baker, Ltd. *Sliding door gear:* E. Hill Aldam & Co.; British Trolley Track Co. *Roofing:* William Briggs & Sons. *Sanitary fittings and tiling:* Builders Merchants (London) Ltd. *Flooring:* E. J. Elgood, Ltd. *Door furniture:* Yannedis & Co. *Paints:* Permoglaze, Ltd.; Thos. Parsons & Sons. *Heating and domestic hot water:* Broads, Ltd.; Radiation Group Sales, Ltd.

Secondary School at Catford, S.E.6. *Architects:* J. L. Martin, Architect to the LCC. *Architect in charge:* W. J. Smith. *General contractors:* Thomas & Edge. *Sub-contractors: tanking and roofing felt:* Excel Asphalte Co. *Bricks (Flettons):* Eastwoods Ltd.; (*Warnham Commons*) Sussex & Dorking United Brick Co.; (*stock*) C. Burley Ltd.; (*white facings*) McCarthy & Sons. *Structural steel:* Hills (West Bromwich) Ltd. *Pressed steel door frames:* Crittall Manufacturing Co. *Reinforced concrete flue:* J. L. Kier & Co. *Lightning conductor:* W. Larkins. *Partitions (Bellrock):* John Kent (London) Ltd. *Glass:* Plyglass Ltd. *Curtain wall glazing:* Hills (West Bromwich) Ltd. *Glazed hood in kitchen:* Mellowes & Co. *Hard wood block and strip flooring:*

[continued on page 350

Where decisions are made



Dignity combines with originality of design in the boardroom of John Laing and Son Limited, recently furnished by Heal's Contracts Ltd., in collaboration with the architects Messrs. Adam, Holden and Pearson F/FRIBA.

The panelling and table-top are in Queensland maple; the table-frame and blue hide-upholstered chairs are of dark mahogany; and the door is covered with yellow leather. Rust carpeting, yellow curtains, and a light-fitting, specially designed in yellow and white, complete the setting.

If you would like to see more of Heal's recent work for boardrooms and offices, our illustrated booklet *Furniture For Special Needs* is available to architects.

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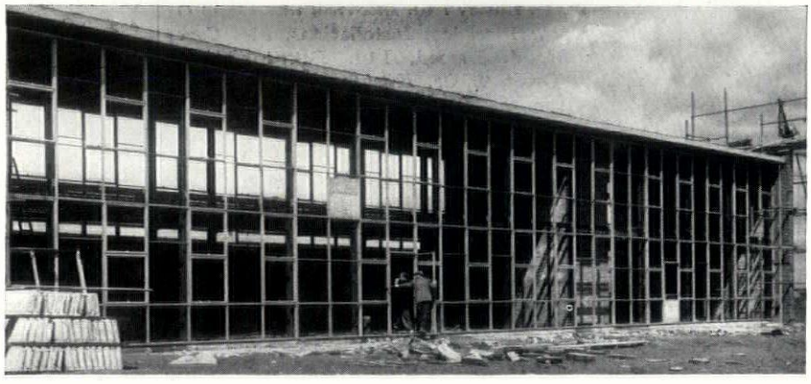

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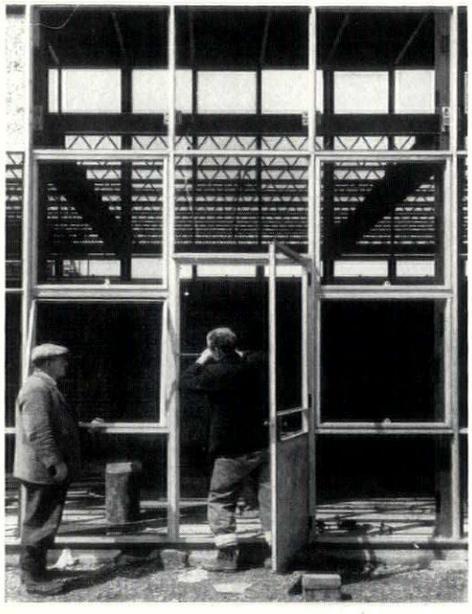

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continued from page 348]

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London Airport, S. E. Face Passenger Handling Building. *Architects:* Frederick Gibberd and G. W. Dunton. *Responsibility for construction:* Director-General of Works, Air Ministry. *Consulting engineer: steelwork and foundation, structural and reinforced concrete:* Sir William Halcrow and Partners. *Heating and ventilation:* G. H. Buckle and Partners. *Electrical:* Ewbank and Partners. *General contractors: steelwork:* Redpath, Brown & Co. *Foundations and building work:* Taylor Woodrow Ltd. *Sub-contractors: plastering:* J. & B. Abbott (Contractors) Ltd. *Special metal windows:* Aygee, Ltd. *Special joinery:* D. Burkle & Son. *External ventilation louvres:* Frederick Braby & Co. *Mirrors:* James Clark & Eaton. *Special patterned and coloured tiles:* Carter & Co. (London). *Artificial stone:* Cooper, Wettern & Co. *Fire-resisting doors:* Curfew Doors and Shutters, Ltd. *Metal hangers:* Clark, Hunt & Co. *Cork insulation:* Cork Insulation and Asbestos Co. *Acoustic false ceilings:* Horace W. Cullum & Co. *Strong room door:* Chatwood Safe and Engineering Co. *Structural floors:* Concrete Ltd. *Waste plumbing:* Dent and Hellyer Sanitation, Ltd. *Fibre board false ceilings:* John Dale, Ltd. *Sun blinds:* Deans Blinds (Putney) Ltd. *Fibrous plaster and special joinery:* David Esdaile & Co. *Metal screen to refuse rooms:* W. H. Earley Ltd. *Electrical installation to conveyor belt:* Electrical Installations, Ltd. *Cork flooring:* E. J. Elgood, Ltd. *Patent glazing:* Faulkner Green & Co. *Kitchen equipment:* The Falkirk Iron Co. *Sanitary fittings:* J. S. & F. Folkard, Ltd. *Ironmongery and balustrading:* James Gibbons, Ltd. *Flooring to customs halls:* The Granwood Flooring Co. *Artificial stone flower boxes:* Girlings-Ferro-Concrete Co. *Plastering:* A. Horrocks & Sons and Hill Bros. *Sliding door gear:* E. Hill Aldam & Co. *Double glazed 'Carda' windows:* Holcon, Ltd. *Heating and ventilation and plumbing:* G. N. Haden & Sons. *Dome lights:* T. & W. Ide, Ltd. *Terrazzo paving:* Jaconello, Ltd. *Underfloor telephone ducting:* Key Engineering Co. *Electrical installation:* London Electricity Board. *Steel balustrading:* Light Steelwork (1925) Ltd. *Terrazzo and w.c. partitions:* Mosaic and Terrazzo Precast Co. (Staines). *Lifts:* Marryat & Scott, Ltd. *Bronze skirtings:* H. H. Martyn & Co. *Felt roofing:* Macartney, Ltd. *Limestone paving and marble:* Nine Elms Stone Masonry Works. *Asphalte:* Natural Rock Asphalte, Ltd. *Roof felt and paving:* Permanite, Ltd. *Sliding gates:* Potter Rax, Ltd. *Terrazzo paving:* A. Quiligotti & Co. *Rubber flooring:* Runnymede Rubber Co. *Accotile flooring:* Rowan & Boden Ltd. *Cork insulation:* Edward A. Sargent. *Conveyor belt insulation:* Sovex, Ltd. *Rolling shutters:* Shutter Contractors, Ltd. *Steel lath and bracketing for false ceiling to service road:* Steel Bracketing and Lathing, Ltd. *Escalators:* Waygood-Otis, Ltd. *Steel and aluminium windows to concourse:* Williams & Williams, Ltd. *Roof gardens:* R. Wallace & Co. *Wall tiling:* Zanelli (London) Ltd. *Metal face plywood:* Flexo Plywood Industries, Ltd. *Special joinery:* Harris & Sheldon, Ltd. *Removable metal partitions:* Ayrshire Dockyard Co. *Illuminated signs:* Acme Showcard and Sign Co. *Flagpoles:* John Edgington & Co. *Luggage racks:* General Construction and Engineering Co. *Pneumatic tubes:* Lamson Engineering Co. *Venetian blinds:* Crittall Manufacturing Co. *'Tudorstyl' facing bricks made by:* G. Tucker & Son, Loughborough, *and supplied by:* J. H. Sankey & Sons. *Hollow blocks, commons and keyed bricks:* London Brick Co. *Ventilation equipment to access tunnel:* Air Control Installations Ltd.

Announcements

The Partnership between Architects' Co-partnership and Mr. W. J. G. Godwin, who has been responsible for the Lagos practice, has been dissolved by mutual consent. Architects' Co-partnership will continue to practise from 1, Regis Aine Street, Lagos, Nigeria. (Private Mail Bag 2115.)

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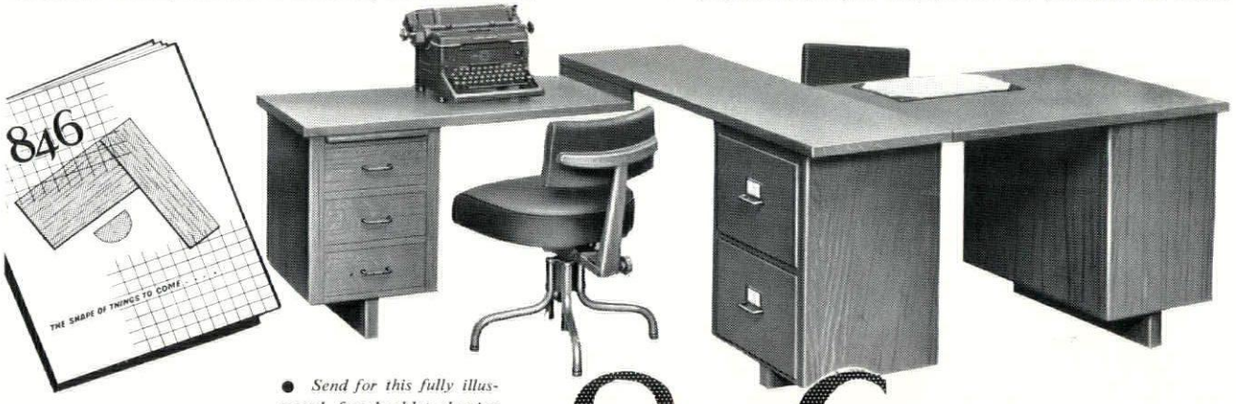

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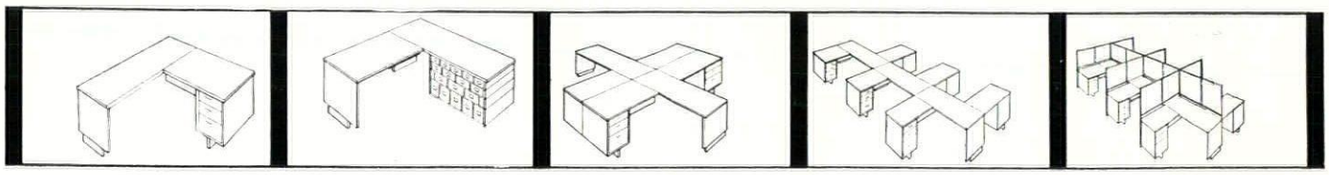

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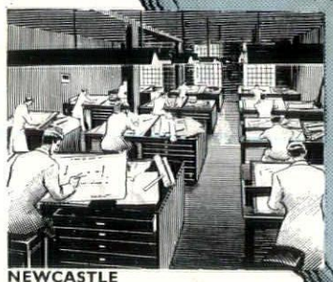

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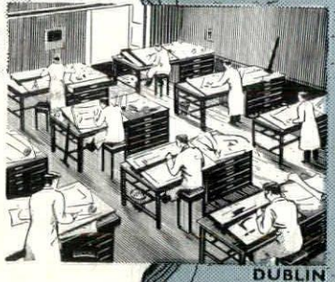

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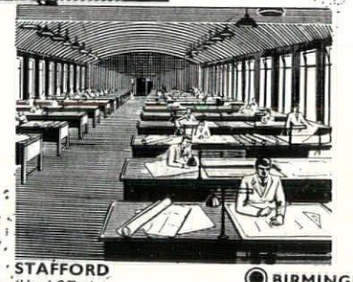

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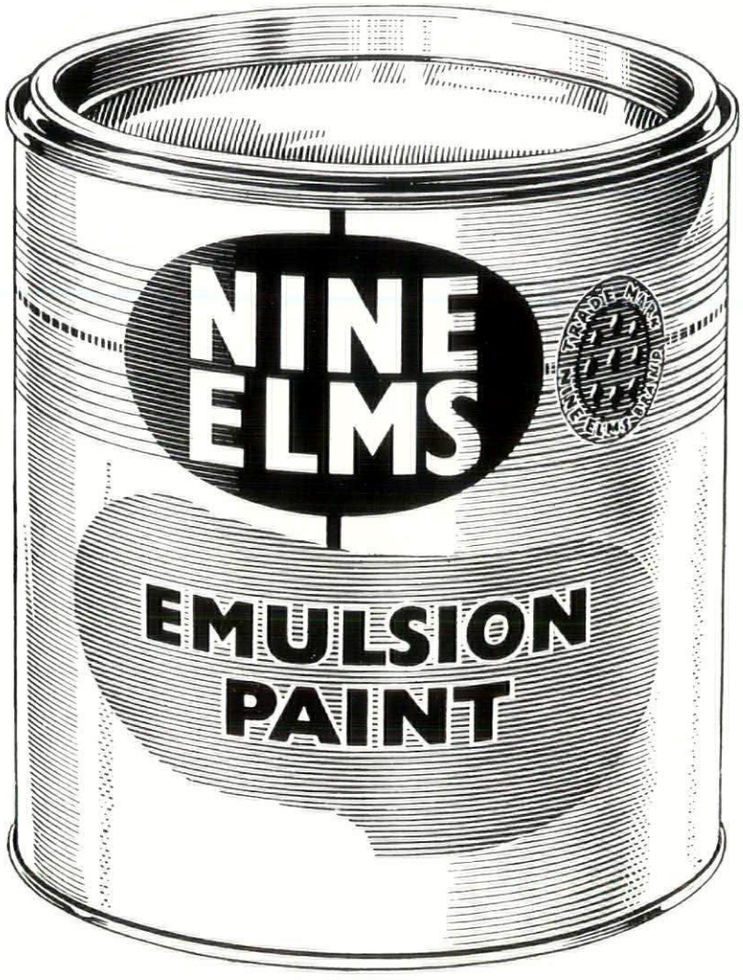
The Architectural Review Volume 118 Number 708 December 1955 Five Shillings

EGISTERED TRADE MARK NO. 1, and still a classic, the Red Badge of Bass was created in 1855 nd this year the Bass label celebrates its centenary of unchanged use. Immortalized in anet's Bar aux Folies Bergère, flattered by over 1900 imitations and secure in history as one f the most celebrated trade-marks in the world, it stands as more than a monument to a great rewer - it stands as a living contradiction of the glib fiction that eighteenth century aste was drowned in the vulgarities of the industrial revolution. A thousand examples exist f that commercial design tradition founded in the early nineteenth century of which the red riangle is a great but not isolated example. The tragedy is this tradition has lapsed; free nterprise is associated no longer with virile and noble symbols, but with cheap or facei ous or genteel ones, and even firms with a background of history have switched to novelisms nd banalities. More effective than highbrow evangelism today would be the resolve of industrilists to produce commercial art worthy of their traditions. If they want to know what those re let them look back to the impressive symbols, the fat-face types, the bold displays. Let hem even resurrect some of them. Best of all let them hire designers capable of building on them.



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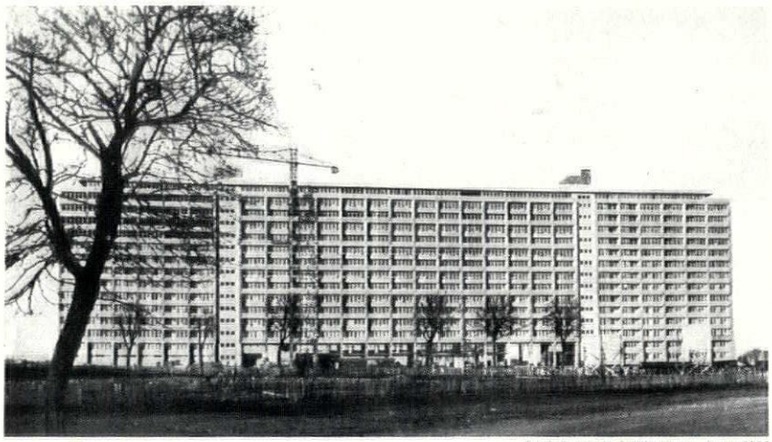
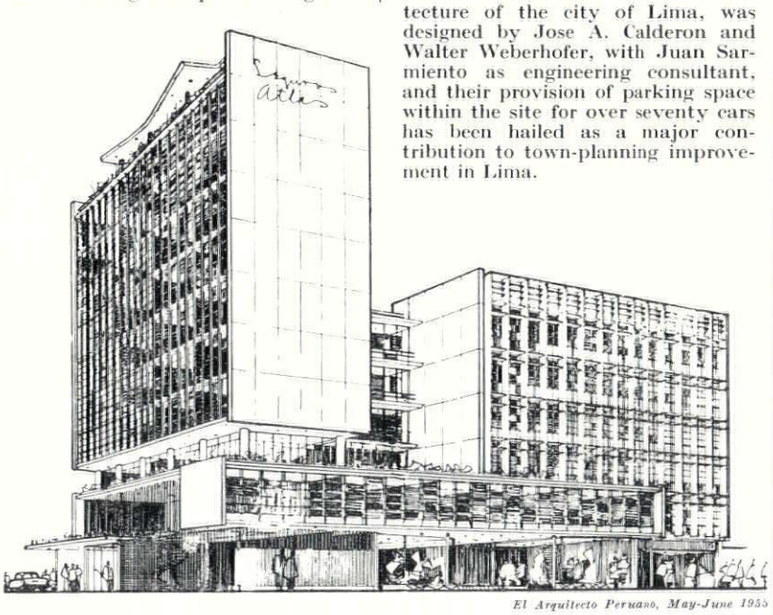
MARGINALIA

NON-CORBUSIAN UNITÉ. The mental climate in which Le Corbusier's *Unité* type of dwelling could become socially acceptable in France is better understood when it is realized that apartment blocks on the scale of Marseilles and Nantes are not an exclusive speciality of the master. The *Unité Billardon*, below (architect: Pierre Beck) outside Dijon is one of a number of blocks in different parts of France which offer comparable accommodation at comparable prices—the Billardon block, like the *Unité* at Nantes, comes within the scope of H.L.M. finance, contains 250 apartments of two, three or five rooms on fifteen floors and accommodates eight shops at ground floor level.



Techniques et Architecture, June 1955

THE LATIN-AMERICAN MANNER. The 'Atlas' Building, in Lima, Peru, is not only one of the largest buildings of thoroughly contemporary design in the country, but also a striking example of the growing assimilation throughout the South American continent of the architectural idiom which originated with the Ministry of Education building in Rio. The building, which has been awarded the Gold Medal for Architecture of the city of Lima, was designed by Jose A. Calderon and Walter Weberhofer, with Juan Sarmiento as engineering consultant, and their provision of parking space within the site for over seventy cars has been hailed as a major contribution to town-planning improvement in Lima.

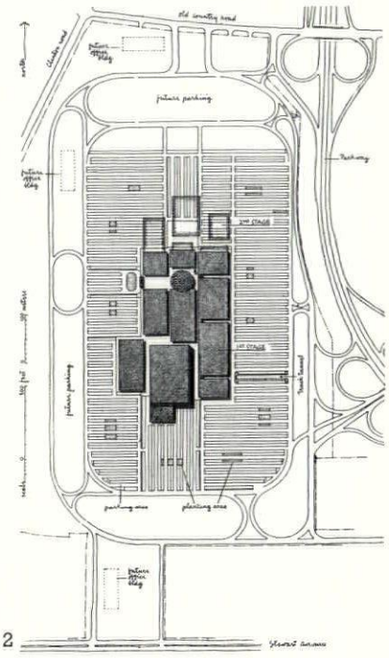


El Arquitecto Peruano, May-June 1955

DESIGN IN EXURBIA. The most important architectural consequence of motorized America's post-war flight from the cities has been the emergence of the exurban shopping centre as a differentiated building-type. Though it has yet to achieve a recognizable plastic shape, its plan-form is effectively typified by the Roosevelt Field (N.Y.) shopping centre project, designed by I. M. Pei Associates—a complex of buildings and piazzas on a pedestrian scale, surrounded by a vast acreage of parking space, ringed by a network of minor and major service roads effecting connection with the high-speed parkways and national turnpikes, 2. This particular project is also distinguished by an attempt to produce an orderly hierarchy of lettering to give a sense of character to the scheme, ranging from the Centre trade mark, 4, through systematized façade displays, 5, and building-identification signs to sign-posts and parking-lot boards, 3. Some evidence of deliberate townscaping is also apparent in the architect's announced intention of animating the pedestrian scene with fruit and flower carts, and news-stands, 1.



1



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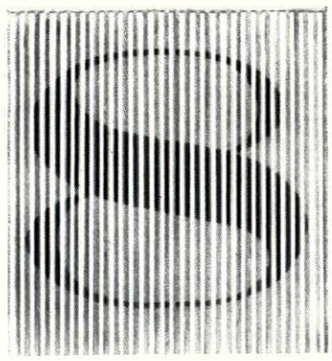

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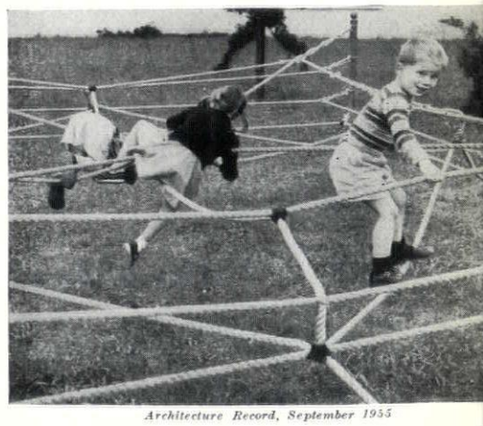
4



5

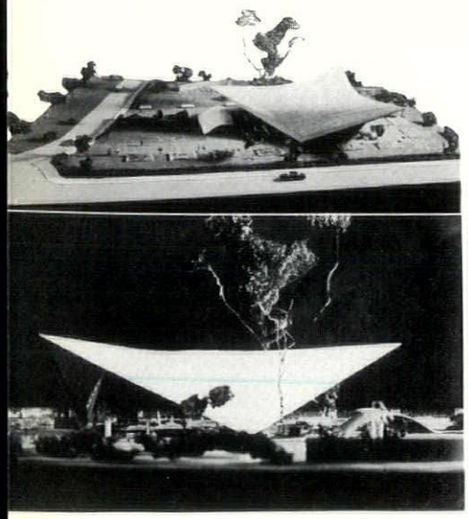
Progressive Architecture, September 1955

PLAY-SCULPTURE, ALTERNATIVE APPROACH. A valuable corrective to any tendency to establish premature norms or orthodoxies in play-sculpture design has been afforded by the unstable space-frames devised by students of the Princeton Architecture School under Joseph Brown, the assistant professor of sculpture. Unlike the play-sculptures devised so far (AR, August, 1954 and August, 1955) these do not offer the child a stable topological framework for the exercise of the imagination, but, instead, a state of continuously unpredictable responsibility, for any move by one child automatically upsets any other children involved in the cat's-cradle—admirable training for the Age of Anxiety.



Architecture Record, September 1955

SHELL-VAULTING IN MEXICO. Intended to replace the present dilapidated building which acts as the focus of the celebrated annual flower-show in Chapultepec Park, Mexico City, this proposed pavilion is another distinguished addition to Mexico's record of adventure in concrete. The engineer in this case is once again the remarkable Felix Candela (whose work was described in THE ARCHITECTURAL REVIEW for



September, 1953) assisted by Colin Faber, and he has been able to offer a vault thickness of only 4 cm. over a maximum span of over 150 feet. This, coupled with the fact that the three-gore hyperbolic paraboloid form of the vault is only grounded at three points, has enabled the architects, Wasson Tucker and Parente, to create an effect of poised lightness which they have been careful to retain by keeping the space under the shell as open as possible, and concentrating all permanent services under the subsidiary vault between the entrance and exit paths.

Fiske Kimball

John Coolidge, Director of the Fogg Museum, Cambridge, Mass., writes: Fiske Kimball who died in Munich in August was one of the most remarkable people in the world of art. Tall, unbending, brusque and dogmatic in speech, he had the energy, the determination and the assurance of a condottiere. When he became director of the Philadelphia Museum some thirty years ago he assumed responsibility for a new neoclassic monstrosity as vast as it was empty. Thereafter, during years of depression, years of war and years of boom he had to talk the sceptical city fathers into appropriating annually hundreds of thousands of dollars. With these he created a great and active educational institution inside the huge yellow shell. Since he was equally persuasive when dealing with millionaires he was able to fill his museum with an amazing series of works of art. The John J. Johnson Collection with its superb Flemish primitives was moved in almost at once. Next he raised more than a million pounds to purchase the Foule collection of Renaissance decorative art. He acquired so many mediæval statues and works of oriental art that two new wings had to be opened to accommodate them. Finally, by convincing Eugune Gallatin and the Walter Arensbergs they should leave his museum their paintings and sculptures, he obtained for Philadelphia what in range and quality is without doubt the greatest collection of twentieth century art anywhere in the world.

Fiske Kimball found his relaxation in scholarship. His initial research was in American architecture of the colonial period, and all his life he was active as a consultant in the restoration and preservation of early American buildings. On moving to Philadelphia his field of interest changed. After fifteen years of work—mostly on Sunday mornings and with but a couple of summers abroad—he published his *Origins of the Rococo*, the definitive study of French architecture and decoration of the early eighteenth century.

As a scholar, Fiske Kimball was conservative in method, reflecting the somewhat provincial training which was all he could obtain at Harvard during the early years of the century. 'I discovered Wölfflin too late,' he would frequently say. But from this training he derived a tough-minded respect for facts as such. There was no one more determined in searching for documents, no one more meticulous in studying them. These dry virtues were combined with exceptional daring, with devastating critical acumen and with a broad historical grasp. Approaching European art of the eighteenth century as a non-European, he saw how extravagantly its complexities had been compounded by rival nationalistic historians. So he set himself the task of discovering what were the actual currents of artistic influence and setting them forth clearly, however anti-traditional his conclusions might be. Thus his last book scandalized the French by proving how much the Louis XVI was inspired by English models. In his next, a comprehensive survey of French architecture of the whole eighteenth century for the Pelican series, he was preparing to deflate the sometimes exaggerated claims made for the German buildings of his favourite period.

'Fiske Kimball was the truest of friends to younger scholars. He would seek them out and focus the blast of his enthusiasm upon their work. Indeed, the only thing that he would pursue more relentlessly than a city councillor, a work of art, or an ancient document, was some advantage for a young man in whom he had confidence.

Landscape Scholarships in US

A year ago an experimental curriculum in landscape architecture was initiated at the University of Pennsylvania, Philadelphia. A faculty has now been appointed and a graduate curriculum in the subject established under Ian L. McHarg of the Department of Land and City Planning of the School of Fine Arts. Philip Johnson is a visiting critic for this semester, history courses are being given by Lewis Mumford and Dr. Tatum and botany and plant materials taught by Dr. James Fogg.

Several graduate fellowships, graduate assistantships, research assistantships and scholarships are available for the 1956–57 landscape architecture course. They range in value from $3,000 per annum to $500 plus free tuition. They are not restricted to American graduates, but to be eligible applicants must have a bachelor degree or equivalent in architecture or landscape architecture. Closing dates for applications range between December 31 and March 1. Inquiries should be addressed to G. Holmes Perkins, Dean of the School of Fine Arts, University of Pennsylvania, Philadelphia 4, U.S.A.

CORRESPONDENCE

To the Editors,

SIRS,—Can I in defence of the planning movement, comment on a phrase in the book 'Outrage' which says that 'most of what you see has been approved by a planning department.' Unhappily, many of the things that 'Outrage' condemns are outside the control of planning authorities, e.g., street lighting standards; telephone wires; road signs and other similar notices; 'rock gardens' in streets; and even the removal of derelict military establishments seems now to be almost impossible on economic grounds. Even a great deal of the 'metal plate' type of advertising can be done without the express consent of an authority.

Yours, etc.,
P. G. LAWS,
County Planning Officer.
Isle of Ely C.C.,
March.

[The Editors write: *Precisely: the fact that planning machinery is completely by-passed—not even overridden—by many of the worst outrages was one of the reasons for publishing the special number. As was said there, 'what is wanted is not less planning but more,' and this means, among other things, an end of the system whereby* carte blanche *is given to all the other government departments and to anything that has a flower bed in it.*]

To the Editors,

SIRS,—Sir Hugh Casson's inquiry about corner chamfers in your September number brings to mind the painfully disorienting character of such corners to people who are not perfectly familiar with a city; when there is no sun to take one's bearings from, even people with a good 'bump of location' are confused by such lopped-off corners.

Is not the culprit Baron Haussman? When he cut the *grands boulevards* he created so many new corners, many of angles which must have been intolerable to him, he did a wholesale blunting of acute angles, even sometimes of right angles.

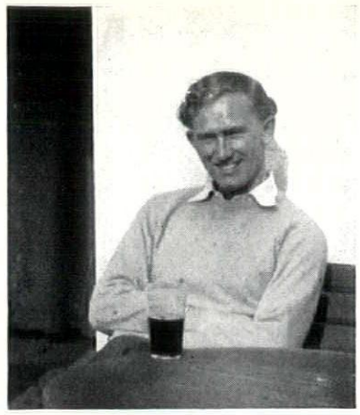
Yours, etc.,
WINSLOW AMES.
Farnham, Surrey.

Architects of the offices and flats illustrated on pages 382–387. **Amedeo Luccichenti** was born in 1907 and **Vincenzo Monaco** in 1911, and both qualified at the Scuola Superiore di Architettura of Rome in 1933. They began their joint practice in 1935,



which has included activities in the building industry as well as in the field of architecture. Their office has given hospitality to many foreign architects, both before and since the war.

Architect of the House in Yorkshire. Peter Womersley is 31, was in the Army 1942–1946, and at the Architectural Association School 1947–1952. He has been in private practice from 1953 onwards, and is at present engaged on private housing



of the same type as the Farnley house in the Yorkshire Dales and in the Lowlands of Scotland, and also on mill conversions in Scotland.

Intelligence

Ignazio Gardella of Milan and Luigi Piccinato of Rome are the recipients of the Olivetti prizes for architecture and city planning, which have been awarded for the first time this year. Prizes for historical and critical work were awarded to Edoardo Bettini, Mario Labò and Egle R. Trincanato.

Mr. H. J. G. Griffin, Secretary of the CPRE, and Mr. Gervas Huxley have been appointed members of the National Parks Commission.

The RIBA December exhibition will show architectural methods applied by MOW to the preservation of ancient buildings. The spring exhibition will be of Australian architecture.

ACKNOWLEDGMENTS

The colour blocks on pages 377-8 were made available by courtesy of *The Monthly Bulletin*, 4 Dean's Yard, SW1. That on page 395 is by courtesy of Messrs. Lewitt-H.m; and on page 396 is by courtesy of Fleetwood Paint, Ltd.

MARGINALIA, page 352: Italian architects, Oscar Savio. FRONTIS: James Stirling. NEW BRUTALISM, page 359: Pollock & Burri, Spazio; Henderson & Paolozzi, Nigel Henderson; Hunstanton School, Galwey. HOUSE IN YORKSHIRE, pages 363–7: Galwey, Arphot. HOUSE AT LEICESTER, pages 368–371: A. Cracknell. BREWERS' HOUSE STYLES, page 372: Eric de Maré; page 375: 6, T. Edmondson; 7, National Publicity Agency; page 376: 11, 18, Galwey; 17, Toomey, Arphot; page 379: 21, A. E. Parker; 23–5, Design Research Unit; page 380: 22, Robinson & Co.; 23, wall-mirrors, Toomey. WORK BY LUCCICHENTI & MONACO, pages 383–7: Oscar Savio. HORTA, pages 388–392: buildings, Archives Centrales Iconographiques d'Art, Brussels. MISCELLANY, pages 393–402: Norwich Factory, Nairn, Arphot; Lewitt-Him, Cas Oorthuys; Davies & Arnold, Pantlin; Exhibitions, 1, R. B. Fleming & Co.; 2, P. A. Juley & Co.; 3, Brassai; 5, Times; 6, A. C. Cooper; Lettering, 1, 2, 4, Galwey; 4, 8, 12, 13, Toomey; 5, Bath Academy of Art; 7, 14, Priscilla Hastings. CURRENT ARCHITECTURE, pages 403–6: J. R. Pantlin. SKILL, pages 407–420: Interiors, Mallinson, Galwey; Army & Navy, Millar & Harris; Jensen, 1, C. Westwood; 2, Pantlin. Design Review: Glass, 2, G. Gravett; rest, McLeish & Macaulay; wallpapers, COID; Techniques, Sydney W. Newbery.

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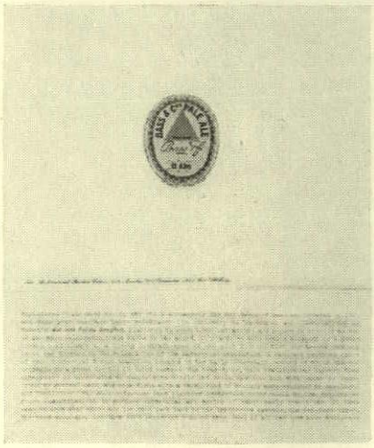
Volume 118 Number 708 December 1955



The Cover honours Registered Trade Mark No. 1—the red triangle of Bass—on its centenary. In Brian Spiller's article on pp. 372-381 the background to such brewers' marks of the nineteenth century is described, together with the subsequent vicissitudes of the house styles created in that period of commercial vigour. The false genteelism which has succeeded that golden age will only be extirpated from the pubs of Britain when the true nature of the Victorian pub tradition has been understood, and a new vernacular established which shall be as vigorous, bold and popular as the old.

351 **Marginalia**

352 **Letters**

354 **Frontispiece**

355 **The New Brutalism** *by Reyner Banham* As Britain's first native art-movement since the systematic study of art-history reached these islands, the New Brutalism needs to be seen in a double historical context—that of post-war architectural thought, and that of post-war historical writings on architecture. In fact, as Mr. Banham shows, these two contexts are inseparable as far as the New Brutalism is concerned, and historical considerations played a part not only in forming the Brutalists mental attitudes, but even the name by which they are known. From a generalized usage in post-war architectural polemics the term New Brutalism has narrowed its meaning, and is now generally taken to apply, properly, to the work of Alison and Peter Smithson, and Louis Kahn in architecture, and from an examination of their buildings and designs, and work of other artists with whom they have been associated, it is possible to identify the main characteristics of Brutalist architecture. These are found to be a strongly moralistic attitude to structure, in its widest sense, and materials, in their crudest sense, coupled with a desire to render every building a memorable visual image. The insistence on 'Image,' and the special meaning which this word has in Brutalist circles, is the key not only to Brutalist architecture, but also to its connections with the New Brutalism in other arts as well, and links it, in Mr. Banham's view, with a general body of anti-Academic thought, in aesthetics and in such other spheres as topology which, he suggests, replaces geometry in some New Brutalist works just as Image replaces Beauty in them.

362 **House in Yorkshire:** *Architect, Peter Womersley*

368 **House at Leicester:** *Architects, James Cubitt and Partners*

372 **Brewers' House Styles** *by Brian Spiller* The rise of the tied house—a pub operated by a brewing firm and selling only that firm's products—was the outcome of a minor industrial revolution which was also a pilot exercise for contemporary marketing techniques. By the end of the 1880's most urban pubs were owned by breweries, but the ownership was still of sufficiently recent date for the brewers to wish to set some seal of competitive proprietorship on their houses, and they contributed to the Victorian golden age of commercial design with sign-making and sign-writing, lettering, glazing and advertising techniques generally, though few brewers set out to establish an architectural house-style as well, and even nowadays the idea of any kind of trade-mark structure still seems definitely at a discount. The Brewer still establishes his style by his advertising material—but, as the illustrations to this article show, that style is apt to become gutless, coy and falsely genteel. A few noble survivals, like the Bass triangle and the Guinness harp, stand out against the drab background of a trade that seems to have lost its nerve in design almost completely. As Mr. Spiller points out, there may be good and complicated reasons—connected with finance and sales-psychology—for the preservation of a certain familiar disorder in the design of pub equipment, but these do not enforce the flabby 'good taste' which is so common—rather, they could be the pretext of a vigorous and varied vernacular.

382 **Recent Work by Luccichenti and Monaco**

388 **Horta** *by Stephan Tschudi Madsen* The problem of Art Nouveau as a working style—quite apart from its sources and origins—is largely bound up with the early works of Victor Horta, his training and the mental climate in which his undoubted genius was formed. The Academies of Ghent and Brussels, and a stay in Paris, encompassed his formal training, and were followed by entry into the office of Alphonse Balat, a classicist in a stylistic situation which also included neo-Gothic, neo-Baroque, neo-Renaissance and—most important of all—an attempt to find or invent a new national style. This attempt, incarnate in the *Société Centrale d'Architecture de Belgique*, was marked by a pioneering interest in structure and engineering—both of which were to reappear in Horta's characteristic Art Nouveau buildings. However his earliest houses were of a simplified classical aspect, which apparently dissatisfied him, and in the interval of eight years between their completion and his emergence as a fully developed architect in 1893, he is known to have studied organic form and flowers—perhaps at the instance of Viollet-le-Duc's writings, which could also have inspired the use of exposed iron construction in the building which established his matured genius, the house in the Rue de Turin. Mr. Madsen examines the stylistic qualities of this first complete manifestation of Art Nouveau in detail, and scrutinizes them for possible sources. Though British developments immediately suggest themselves, the evidence for them is not conclusive, and a better case can be made for the influence of Gauguin and his circle, through the Belgian artistic society known as *Les XX*, and of painters like Khnopff and Toorop. Horta continued to use his full Art Nouveau idiom only until a little after 1900, and from then on his work becomes simpler and less exaggerated.

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411 **Design Review**

412 **Techniques: Architect/Manufacturer Co-operation III** *by Noel Moffett*

418 **The Industry** 420 **Contractors, etc.**

The Authors: *Stephan Tschudi Madsen.* Born 1923 in Norway. Educated at Oslo University (M.A. in Art History) and the Sorbonne. Curator of Oslo National Gallery 1950-2; study abroad 1952-4, lecturer at Oslo University since 1954. Articles and books in Norwegian, also a book on the sources of Art Nouveau, to appear in English early next year. *Brian Spiller:* born in Belfast 1917; read German at University College, London, served 1939-46, 1st Gurkha Rifles and Staff Intelligence; edits *A Monthly Bulletin*, a midget magazine concerned with the problems, administrative, social and aesthetic, set by pubs.

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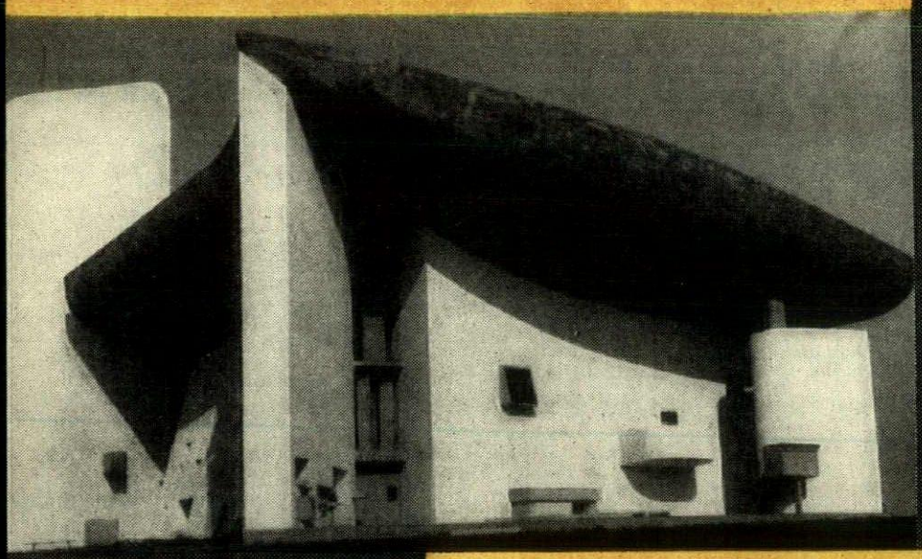
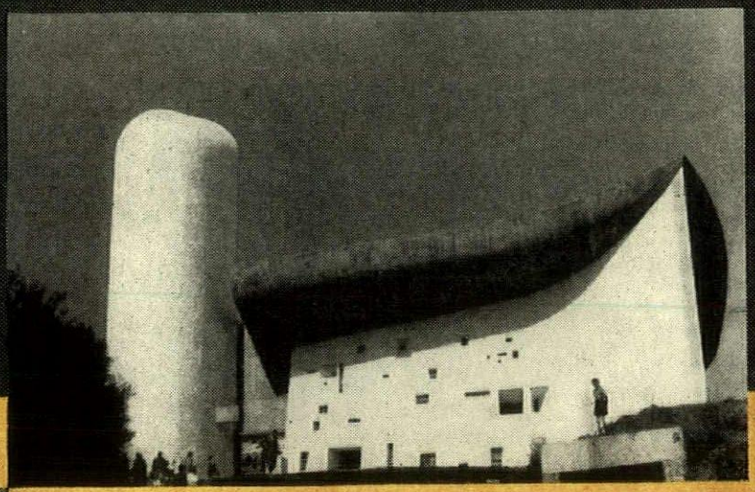
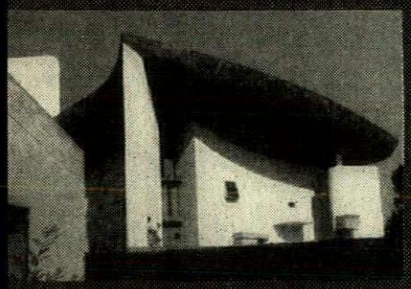
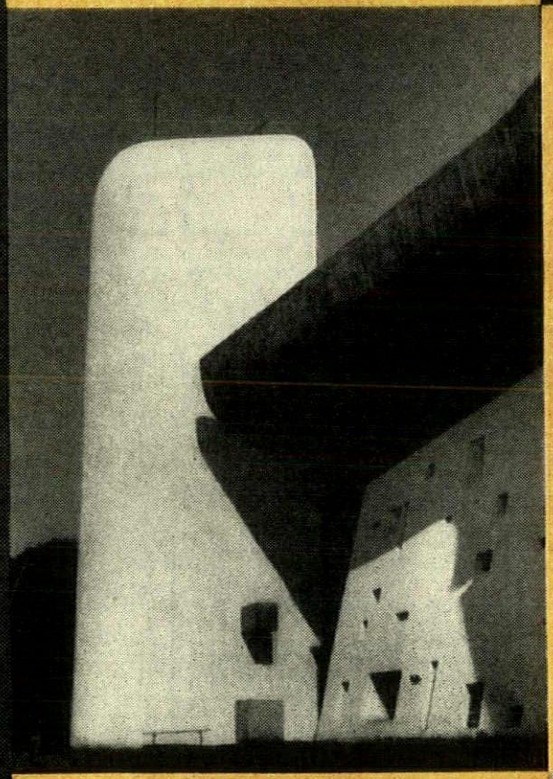
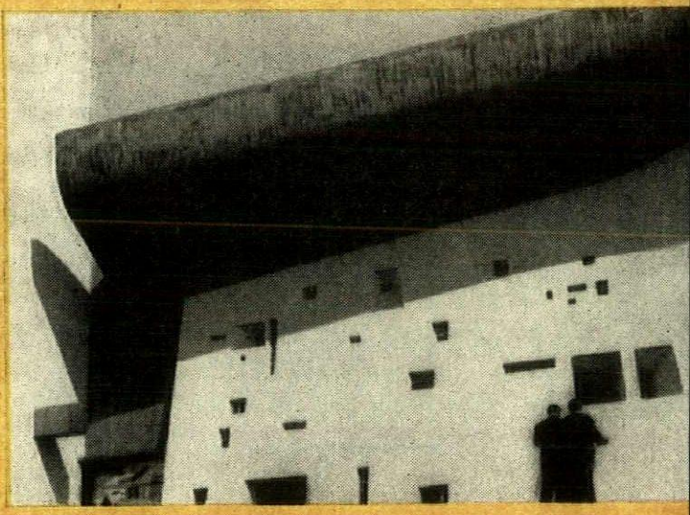
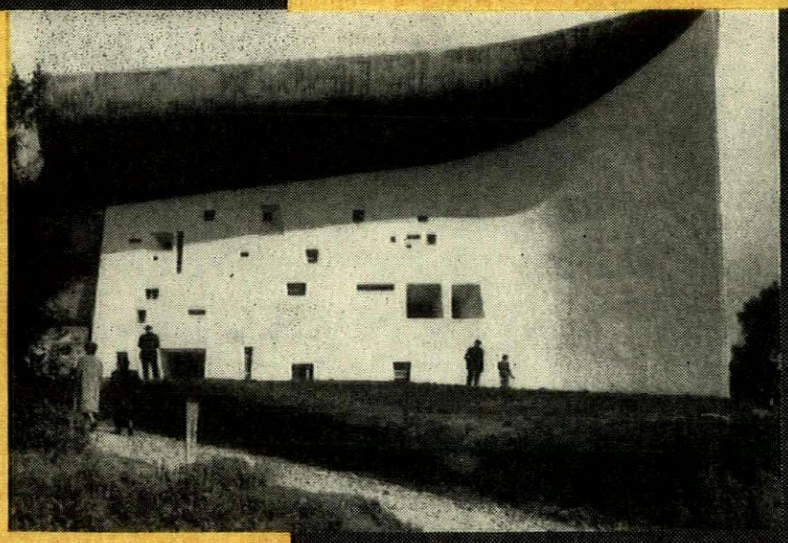


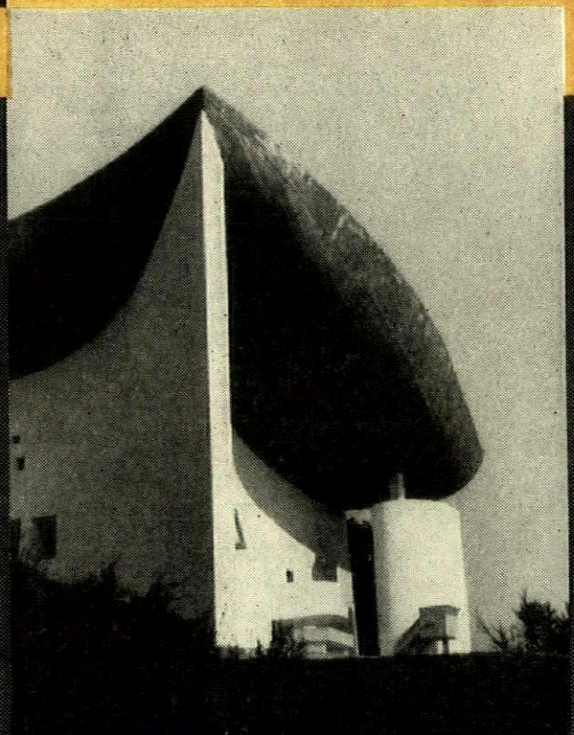












In the chapel of Notre Dame du Haut *at Ronchamp, Le Corbusier is generally felt to have achieved one of the most personal and surprising buildings of his career. In the first flurry of excitement at its unexpected forms, consternation has been expressed at the way a master of logical structure has set his great curving roof apparently afloat above the apexes of the massive and perforated walls—the narrow glazed gap between roof and walls can be seen in the exterior views opposite*  *. Maturer consideration will be able to evaluate how far the success of the plastic effect justifies such anti-structural usages and, as a step toward such evaluation, James Stirling will contribute an appreciation of* Notre Dame du Haut *in the new year.*

Reyner Banham

THE NEW BRUTALISM

'L'Architecture, c'est, avec des matières bruts, établir des rapports émouvants.' Le Corbusier: *Vers une Architecture.*

Introduce an observer into any field of forces, influences or communications and that field becomes distorted. It is common opinion that *Das Kapital* has played old harry with capitalism, so that Marxists can hardly recognize it when they see it, and the widespread diffusion of Freud's ideas has wrought such havoc with clinical psychology that any intelligent patient can make a nervous wreck of his analyst. What has been the influence of contemporary architectural historians on the history of contemporary architecture?

They have created the idea of a Modern Movement—this was known even before Basil Taylor took up arms against false historicism—and beyond that they have offered a rough classification of the 'isms' which are the thumb-print of Modernity into two main types: One, like *Cubism*, is a label, a recognition tag, applied by critics and historians to a body of work which appears to have certain consistent principles running through it, whatever the relationship of the artists; the other, like *Futurism*, is a banner, a slogan, a policy consciously adopted by a group of artists, whatever the apparent similarity or dissimilarity of their products. And it is entirely characteristic of the New Brutalism—our first native art-movement since the New Art-History arrived here—that it should confound these categories and belong to both at once.

Is Art-History to blame for this? Not in any obvious way, but in practically every other way. One cannot begin to study the New Brutalism without realizing how deeply the New Art-History has bitten into progressive English architectural thought, into teaching methods, into the common language of communication between architects and between architectural critics. What is interesting about R. Furneaux Jordan's parthian

footnote on the New Brutalism—'. . . Lubetkin talks across time to the great masters, the Smithsons talk only to each other'—is not the fact that it is nearly true, and thus ruins his argument, but that its terms of valuation are historical. The New Brutalism has to be seen against the background of the recent history of history, and, in particular, the growing sense of the inner history of the Modern Movement itself.

The history of the phrase itself is revealing. Its form is clearly derived from THE ARCHITECTURAL REVIEW's post-war *trouvaille* 'The New Empiricism,' a term which was intended to describe visible tendencies in Scandinavian architecture to diverge from another historical concept 'The International Style.' This usage, like any involving the word *new*, opens up an historical perspective. It postulates that an old empiricism can be identified by the historian, and that the new one can be distinguished from it by methods of historical comparison, which will also distinguish it from a mere 'Empirical Revival.' The ability to deal with such fine shades of historical meaning is in itself a measure of our handiness with the historical method today, and the use of phrases of the form 'The New X-ism'—where X equals any adjectival root—became commonplace in the early nineteen-fifties in fourth-year studios and other places where architecture is discussed, rather than practised.

The passion of such discussion has been greatly enhanced by the clarity of its polarization—Communists versus the Rest—and it was somewhere in this vigorous polemic that the term 'The New Brutalism' was first coined.[1] It was, in the beginning, a term of Communist abuse, and it was intended to signify the normal vocabulary of Modern Architecture—flat roofs, glass, exposed structure—considered as morally reprehensible deviations from 'The New Humanism,' a phrase which means something different in Marxist hands to the meaning which might be expected. The New Humanism meant, in architecture at that time, brickwork, segmental arches, pitched roofs, small windows (or small panes at any rate)—picturesque detailing without picturesque planning. It was, in fact, the so-called 'William Morris Revival,' now happily defunct, since Kruschev's reversal of the Party's architectural line, though this reversal has, of course, taken the guts out of subsequent polemics. But it will be observed that The New Humanism was again a quasi-historical concept, oriented, however spuriously, toward that mid-nineteenth century epoch which was Marxism's Golden Age, when you could recognize a capitalist when you met him.

However, London architectural circles are a small field in which to conduct a polemic of any kind, and abuse must be directed at specific persons, rather than classes of persons, since there was rarely enough unanimity (except among Marxists) to allow a class to coalesce. The New Brutalists at whom Marxist spite was directed could be named and recognized—and so could their friends in other arts. The term had no sooner got into public circulation than its meaning began to narrow. Among the non-Marxist grouping there was no particular unity of programme or intention, but there was a certain community of interests, a tendency to look toward Le Corbusier, and to be aware of something called *le beton brut*, to know the quotation which appears at the head of this article and, in the case of the more sophisticated and aesthetically literate, to know of the *Art Brut* of Jean Dubuffet and his connection in Paris. Words and ideas, personalities and discontents chimed together and in a matter of weeks—long before the Third Programme and the monthlies had got hold of the phrase—it had been appropriated as their own, by their own desire and public consent, by two young architects, Alison and Peter Smithson.

The phrase had thus changed both its meaning and its usage. Adopted as something between a slogan and a brick-bat flung in the public's face, The New Brutalism ceased to be a label descriptive of a tendency common to most modern architecture, and became instead a programme, a banner, while retaining some—rather restricted—sense as a descriptive label. It is because it is both kinds of -ism at once that The New Brutalism eludes precise description, while remaining a living force in contemporary British architecture.

As a descriptive label it has two overlapping, but not identical, senses. Non-architecturally it describes the art of Dubuffet, some aspects of Jackson Pollock and of Appel, and the burlap paintings of Alberto Burri—among foreign artists—and, say, Magda Cordell or Edouardo Paolozzi and Nigel Henderson among English artists. With these last two, the Smithsons collected and hung the I.C.A. exhibition *Parallel of Life and Art*, which, though it probably preceded the coining of the phrase, is nevertheless regarded as a *locus classicus* of the movement. The more instructive aspects of this exhibition will be considered later: for the moment let us observe that many critics (and students at the Architectural Association) complained of the deliberate flouting of the traditional concepts of photographic beauty, of a cult of ugliness, and 'denying the spiritual in Man.' The tone of response to The New Brutalism existed even before hostile critics knew what to call it, and there was an awareness that the Smithsons were headed in a different direction to most other younger architects in London.

Alison Smithson first claimed the words in public as her own in a description of a project for a small house in Soho (*Architectural Design*, November, 1953) designed before the phrase existed, and previously tagged 'The warehouse aesthetic'—a very fair descrip-

[1] There is a persistent belief that the word *Brutalism* (or something like it) had appeared in the English Summaries in an issue of *Bygg-Mastaren* published late in 1950. The reference cannot now be traced, and the story must be relegated to that limbo of Modern Movement demonology where Swedes, Communists and the Town and Country Planning Association are bracketed together as different isotopes of the common 'Adversary.'

tion of what The New Brutalism stood for in its first phase. Of this house, she wrote: '. . . had this been built, it would have been the first exponent of the New Brutalism in England, as the preamble to the specification shows: "It is our intention in this building to have the structure exposed entirely, without interior finishes wherever practicable. The contractor should aim at a high standard of basic construction, as in a small warehouse".' The publication of this project led to an extensive and often hilarious correspondence in various periodicals through the summer of 1954, a correspondence which wandered further and further from its original point because most writers were in fact discussing either the exhibition *Parallel of Life and Art*, or the (as yet) unpublished school at Hunstanton. When this was finally published (AR, September, 1954) the discussion took a sharper and less humorous tone, for here in three-dimensional and photographic reality, and in the classic Modern Movement materials of concrete, steel and glass, was the Smithsons' only completed building. The phrase The New Brutalism was immediately applied to it, though it had been designed in the spring of 1950, long before even the house in Soho, but the Brutalists themselves have accepted this appellation, and it has become the tag for Hunstanton wherever the building has been discussed.

Hunstanton, and the house in Soho, can serve as the points of architectural reference by which The New Brutalism in architecture may be defined. What are the visible and identifiable characteristics of these two structures? Both have formal, axial plans—Hunstanton, in fact, has something like true bi-axial symmetry, and the small Gymnasium block alongside the school is a kind of exemplar in little of just how formal the complete scheme was to have been—and this formality is immediately legible from without. Both exhibit their basic structure, and both make a point of exhibiting their materials—in fact, this emphasis on basic structure is so obsessive that many superficial critics have taken this to be the whole of New Brutalist Architecture. Admittedly, this emphasis on basic structure is important, even if it is not the whole story, and what has caused Hunstanton to lodge in the public's gullet is the fact that it is almost unique among modern buildings in being made of what it appears to be made of. Whatever has been said about honest use of materials, most modern buildings *appear* to be made of whitewash or patent glazing, even when they are made of concrete or steel. Hunstanton *appears* to be made of glass, brick, steel and concrete, and is in fact made of glass, brick, steel and concrete. Water and electricity do not come out of unexplained holes in the wall, but are delivered to the point of use by visible pipes and manifest conduits. One can see what Hunstanton is made of, and how it works, and there is not another thing to see except the play of spaces.

This ruthless adherence to one of the basic moral imperatives of the Modern Movement—honesty in structure and material—has precipitated a situation to which only the pen of Ibsen could do justice. The mass of moderate architects, *hommes moyens sensuels*, have found their accepted practices for waiving the requirements of the conscience-code suddenly called in question; they have been put rudely on the spot, and they have not liked the experience. Of course, it is not just the building itself which has precipitated this situation, it is the things the Brutalists have said and done as well, but, as with the infected Spa in *An Enemy of the People*, the play of personalities focuses around a physical object.

The qualities of that object may be summarized as follows: 1, Formal legibility of plan; 2, clear exhibition of structure, and 3, valuation of materials for their inherent qualities 'as found.' This summary can be used to answer the question: Are there other New Brutalist buildings besides Hunstanton? It is interesting to note that such a summary of qualities could be made to describe Marseilles, Promontory and Lakeshore apartments, General Motors Technical Centre, much recent Dutch work and several projects by younger English architects affiliated to CIAM. But, with the possible exception of Marseilles, the Brutalists would probably reject most of these buildings from the canon, and so must we, for all of these structures exhibit an excess of *suaviter in modo*, even if there is plenty of *fortiter in re* about them. In the last resort what characterizes the New Brutalism in architecture as in painting is precisely its brutality, its *je-m'en-foutisme*, its bloody-mindedness. Only one other building conspicuously carries these qualities in the way that Hunstanton does, and that is Louis Kahn's Yale Art Centre. Here is a building which is uncompromisingly frank about its materials, which is inconceivable apart from its boldly exhibited structural method which—being a concrete space-frame—is as revolutionary and unconventional as the use of the Plastic Theory in stressing Hunstanton's steel H-frames. Furthermore, the plan is very formal in the disposition of its main elements, and makes a kind of symmetry about two clearly defined axes at right angles to one another. And this is a building which some Brutalists can apparently accept as a constituent New Brutalist structure.

But, with all due diffidence, the present author submits that it still does not quite answer to the standard set by Hunstanton. For one thing, the Smithsons' work is characterized by an abstemious under-designing of the details, and much of the impact of the building comes from the ineloquence, but absolute consistency, of such components as the stairs and handrails. By comparison, Kahn's detailing is arty, and the stair-rail and balustrading (if that is the word for stainless netting) is jarringly out of key with the rough-shuttered concrete of the main structure. This may be 'only a matter of detailing' but there is another short-fall about Yale Art Centre which could not be brushed off so easily. Every Smithson design has been, obviously or subtly, a coherent and apprehensible visual entity, but this Louis Kahn's design narrowly fails to be. The internal spaces will be cluttered with display screens which, in the nature of his programme and his solution of it, must be susceptible of being moved, so that formal clarity is always threatened. But beyond this the relation of interior to exterior fails to validate the axes which govern the plan. Available viewpoints, the placing of the entrances, the handling of the exterior

walls—all tend to lose or play down the presence of planning axes. No doubt there are excellent functional reasons for the doors being where they are, and excellent structural reasons for the walls being treated in the way they are—but if these reasons were so compelling, why bother with an axial plan anyhow?

This is a hard thing to have to say about a seriously considered building by a reputable architect of some standing, but contact with Brutalist architecture tends to drive one to hard judgements, and the one thing of which the Smithsons have never been accused is a lack of logic or consistency in thinking through a design. In fact it is the ruthless logic more than anything else which most hostile critics find distressing about Hunstanton—or perhaps it is the fact that this logic is worn on the sleeve. One of the reasons for this obtrusive logic is that it contributes to the apprehensibility and coherence of the building as a visual entity, because it contributes to the building as 'an image.'

An Image—with the utterance of these two words we bridge the gap between the possible use of The New Brutalism as a descriptive label covering, in varying degrees of accuracy, two or more buildings, and The New Brutalism as a slogan, and we also go some way to bridge the gap between the meaning of the term as applied to architecture and its meaning as applied to painting and sculpture. The word *image* in this sense is one of the most intractable and the most useful terms in contemporary aesthetics, and some attempt to explain it must be made.

A great many things have been called 'an image'—S. M. della Consolazione at Todi, a painting by Jackson Pollock, the Lever Building, the 1954 Cadillac convertible, the roofscape of the *Unité* at Marseilles, any of the hundred photographs in *Parallel of Life and Art*. 'Image' seems to be a word that describes anything or nothing. Ultimately, however, it means something which is visually valuable, but not necessarily by the standards of classical aesthetics. Where Thomas Aquinas supposed beauty to be *quod visum placet* (that which seen, pleases),[2] image may be defined as *quod visum perturbat*—that which seen, affects the emotions, a situation which could subsume the pleasure caused by beauty, but is not normally taken to do so, for the New Brutalists' interests in image are commonly regarded, by many of themselves as well as their critics, as being anti-art, or at any rate anti-beauty in the classical aesthetic sense of the word. But what is equally as important as the specific kind of response, is the nature of its cause. What pleased St. Thomas was an abstract quality, beauty—what moves a New Brutalist is the thing itself, in its totality, and with all its overtones of human association. These ideas of course lie close to the general body of anti-Academic aesthetics currently in circulation, though they are not to be identified exactly with Michel Tapié's concept of *un Art Autre*,[3] even though that concept covers many Continental Brutalists as well as Edouardo Paolozzi.

Nevertheless this concept of *Image* is common to all aspects of The New Brutalism in England, but the manner in which it works out in architectural practice has some surprising twists to it. Basically, it requires that the building should be an immediately apprehensible visual entity, and that the form grasped by the eye should be confirmed by experience of the building in use. Further, that this form should be entirely proper to the functions and materials of the building, in their entirety. Such a relationship between structure, function and form is the basic commonplace of all good building of course, the demand that this form should be apprehensible and memorable is the apical uncommonplace which makes good building into great architecture. The fact that this form-giving obligation has been so far forgotten that a great deal of good building can be spoken of as if it were architecture, is a mark of a seriously decayed condition in English architectural standards. It has become too easy to get away with the assumption that if structure and function are served then the result must be architecture—so easy that the meaningless phrase 'the conceptual building' has been coined to defend the substandard architectural practices of the routine-functionalists, as if 'conceptual buildings' were something new, and something faintly reprehensible in modern architecture.

All great architecture has been 'conceptual,' has been image-making—and the idea that any great buildings, such as the Gothic Cathedrals, grew unconsciously through anonymous collaborative attention to structure and function is one of the most insidious myths with which the Modern Movement is saddled. Every great building of the Modern Movement has been a conceptual design, especially those like the Bauhaus, which go out of their way to look as if they were the products of 'pure' functionalism, whose aformal compositions are commonly advanced by routine-functionalists in defence of their own abdication of architectural responsibility. But a conceptual building is as likely to be aformal as it is to be formal, as a study of the Smithsons' post-Hunstanton projects will show.

Hunstanton's formality is unmistakably Miesian, as Philip Johnson pointed out, possibly because IIT was one of the few recent examples of conceptual, form-giving design to which a young architect could turn at the time of its conception, and the formality of their Coventry Cathedral competition entry is equally marked, but here one can safely posit the interference of historical studies again, for, though the exact priority of date as between the Smithsons' design and the publication of Professor Wittkower's *Architectural Principles of the Age of Humanism* is disputed (by the Smithsons) it cannot be denied that they were in touch with Wittkowerian studies at the time, and were as excited by them as anybody else.

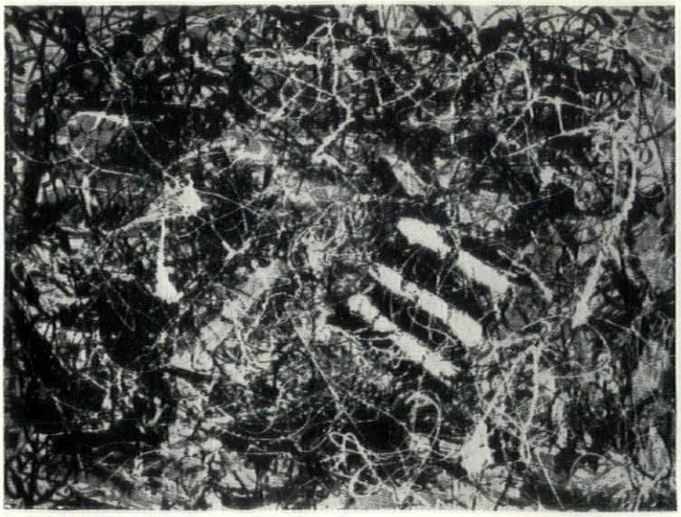
The general impact of Professor Wittkower's book on a whole generation of post-war architectural students is one of the phenomena of our time. Its exposition of a body of architectural theory in which function and form were significantly linked by the objective laws governing the Cosmos (as Alberti and Palladio understood them) suddenly offered a

[continued on page 361

[2] Paraphrasing *Summa Theologica* II (i) xxvii, I. The passage is normally rendered into English as '. . . but that whose very apprehension pleases is called beautiful.'

[3] *See* his book of the same name, published in 1952. A closely analogous development is that of *musique concrete*, which uses 'real sounds,' manipulated in a manner which resembles the manipulation of some of the photographs in *Parallel*, and does not concern itself with harmony or melody in any recognizable way.

pollock

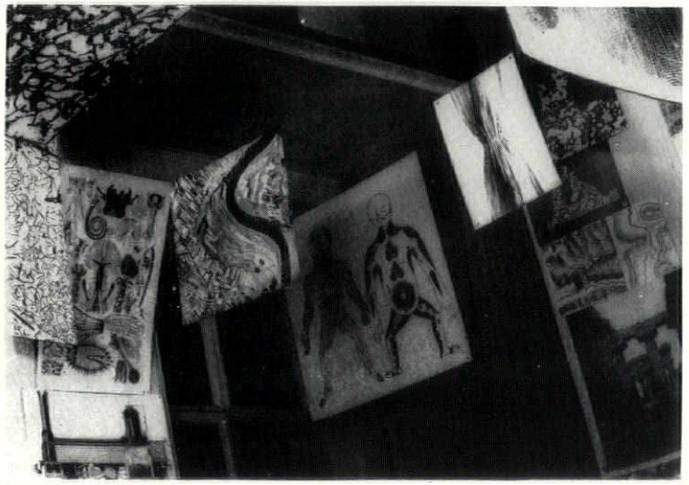


Painting, 1953—*a-formal composition in action.*

henderson

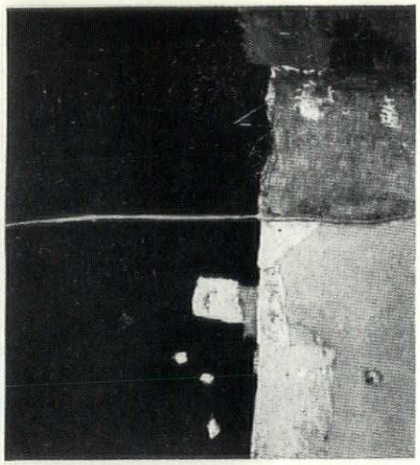


Sgraffiti on a Window (photograph)—image of human as well as formal value.



Parallel of Life and Art—exhibition of 100 *Brutalist images.*

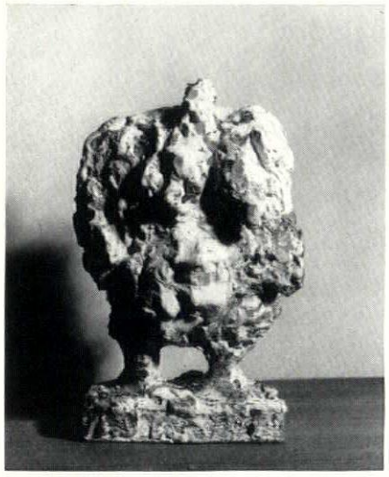
burri



NEW BRUTALISM

Painting on burlap—typically Brutalist in his attitude to materials, Burri accords the burlap the same visual value as the paint it carries.

cordell

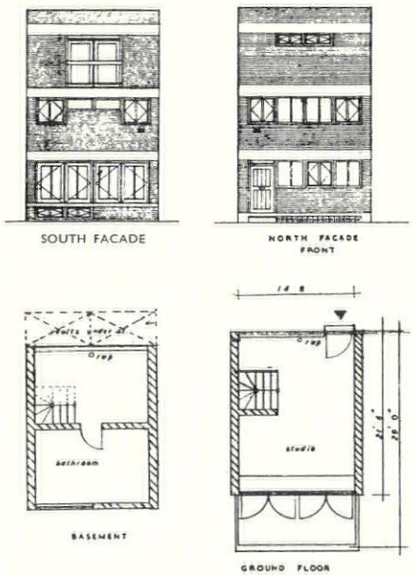


Figure, 1955—*'anti-aesthetic' human image.*

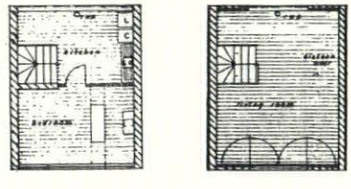
paolozzi



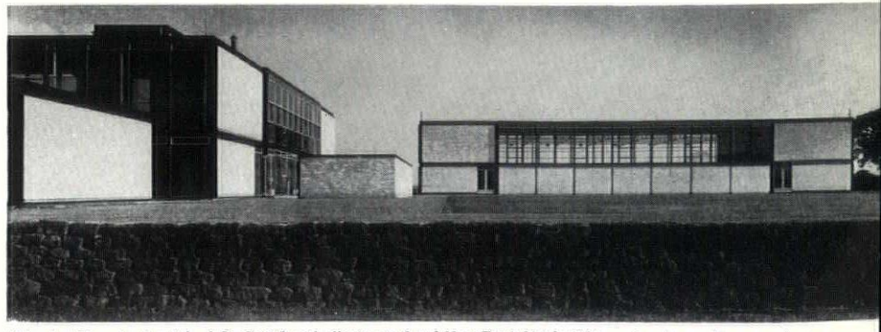
Head, 1953—*'sophisticated primitivism.'*



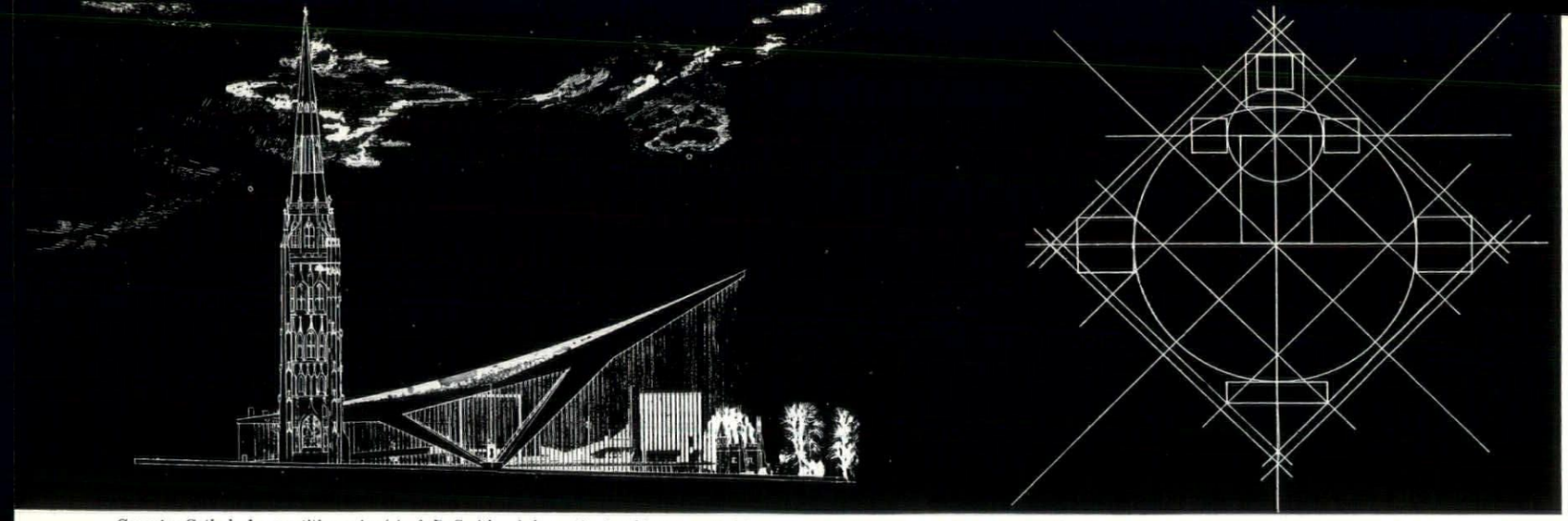
The first building to be categorized as Brutalist, this project for a house in Soho (A. & P. Smithson) exhibits not only the emphasis on materials and structure, but



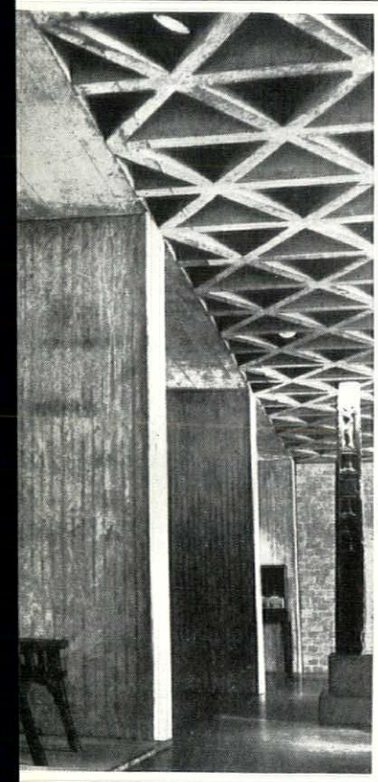
also the compositional formality of early Brutalism.

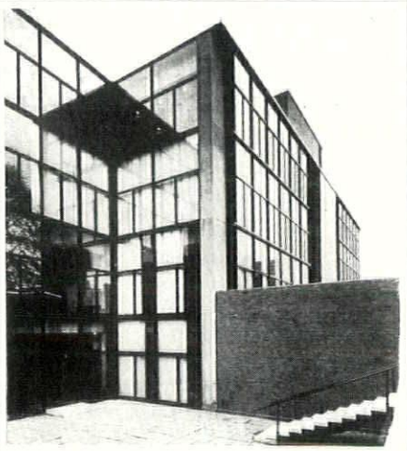


School at Hunstanton (A. & P. Smithson), first completed New Brutalist building, view toward gymnasium.

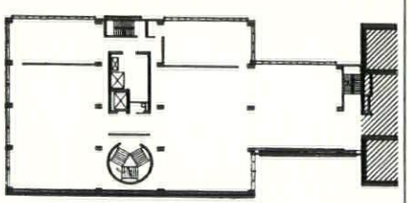


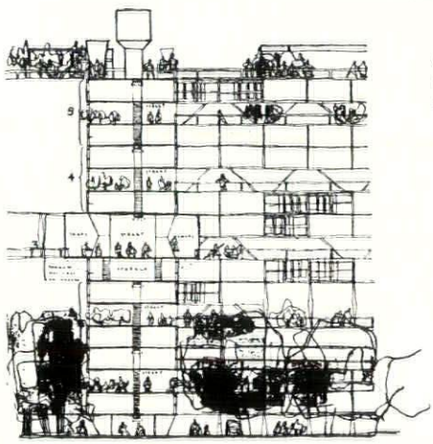
Coventry Cathedral competition entry (A. & P. Smithson) dramatic visual image created by spectacular structure, raised on a plan of Neo-Palladian symmetry—their last formal plan, 1951.



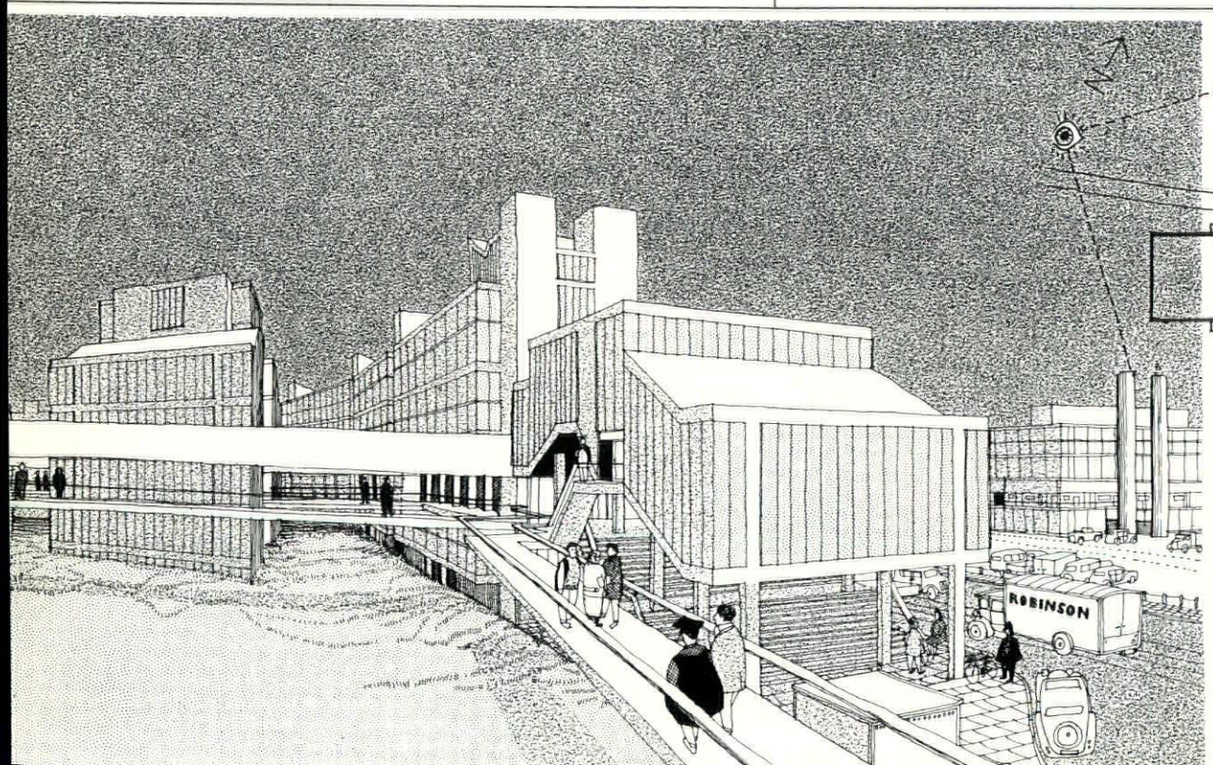


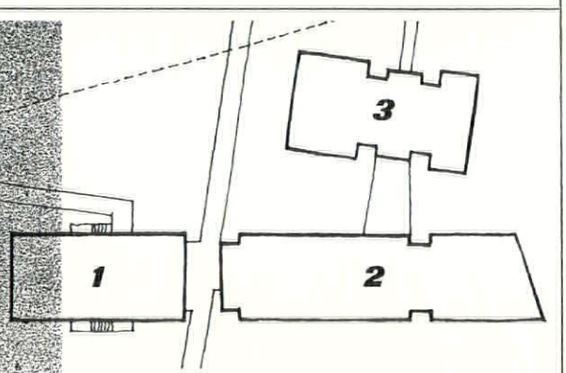
Yale Art Centre (architects: Kahn and Orr)—formality, expressed structure, exposed materials; the most truly Brutalist building in the New World.





Golden Lane re-development project, shows Smithsons turning against geometry and formality, placing increased visual emphasis on site, circulation, habitation and human presence.





Sheffield University extensions (competition entry by A. & P. Smithson)—furthest development of New Brutalist architecture toward the completely a-formal, anti-geometric, yet systematic compositional methods exemplified in painting by Pollock and Burri. Raised walk-ways, one suspended beneath a box-duct for services, connect the main entrance, under 1, with the Arts dept., 3, Senate House, 2, and other buildings on site.

continued from page 358]

way out of the doldrum of routine-functionalist abdications, and neo-Palladianism became the order of the day. The effect of *Architectural Principles* has made it by far the most important contribution—for evil as well as good—by any historian to English Architecture since *Pioneers of the Modern Movement*, and it precipitated a nice disputation on the proper uses of history. The question became: Humanist principles to be followed? or Humanist principles as an example of the kind of principles to look for? Many students opted for the former alternative, and Routine-Palladians soon became as thick on the ground as Routine-Functionalists. The Brutalists, observing the inherent risk of a return to pure academicism—more pronounced at Liverpool than at the AA—sheered off abruptly in the other direction and were soon involved in the organization of *Parallel of Life and Art*.

Introducing this exhibition to an AA student debate Peter Smithson declared: 'We are not going to talk about proportion and symmetry' and this was his declaration of war on the inherent academicism of the neo-Palladians, and the anti-Brutalist section of the house made it clear how justified was this suspicion of crypto-academicism by taking their stand not only on Palladio and Alberti but also on Plato and the Absolute. The new direction in Brutalist architectural invention showed at once in the Smithsons' Golden Lane and Sheffield University competition entries. The former, only remembered for having put the idea of the street-deck back in circulation in England, is notable for its determination to create a coherent visual image by non-formal means, emphasizing visible circulation, identifiable units of habitation, and fully validating the presence of human beings as part of the total image—the perspectives had photographs of people pasted on to the drawings, so that the human presence almost overwhelmed the architecture.

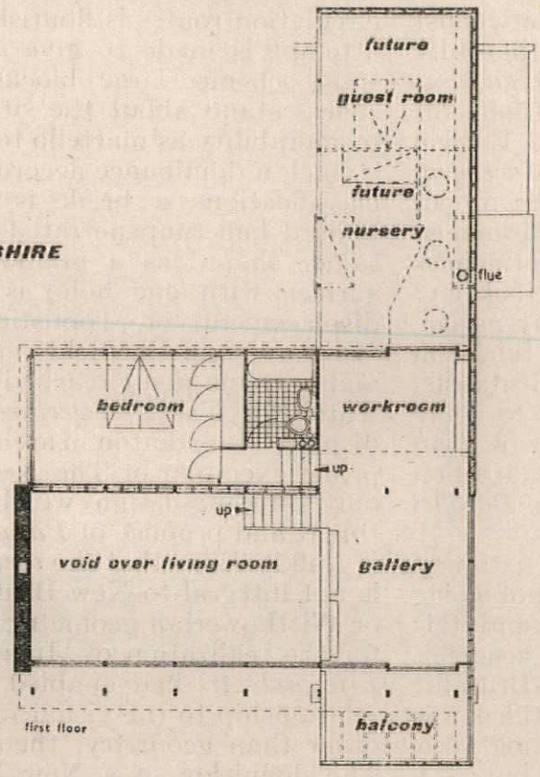
But the Sheffield design went further even than this—and aformalism becomes as positive a force in its composition as it does in a painting by Burri or Pollock. *Composition* might seem pretty strong language for so apparently casual a layout, but this is clearly not an 'unconceptual' design, and on examination it can be shown to have a composition, but based not on the elementary rule-and-compass geometry which underlies most architectural composition, so much as an intuitive sense of topology. As a discipline of architecture topology has always been present in a subordinate and unrecognized way—qualities of penetration, circulation, inside and out, have always been important, but elementary Platonic geometry has been the master discipline. Now, in the Smithsons' Sheffield project the roles are reversed, topology becomes the dominant and geometry becomes the subordinate discipline. The 'connectivity' of the circulation routes is flourished on the exterior and no attempt is made to give a geometrical form to the total scheme; large blocks of topologically similar spaces stand about the site with the same graceless memorability as martello towers or pit-head gear.

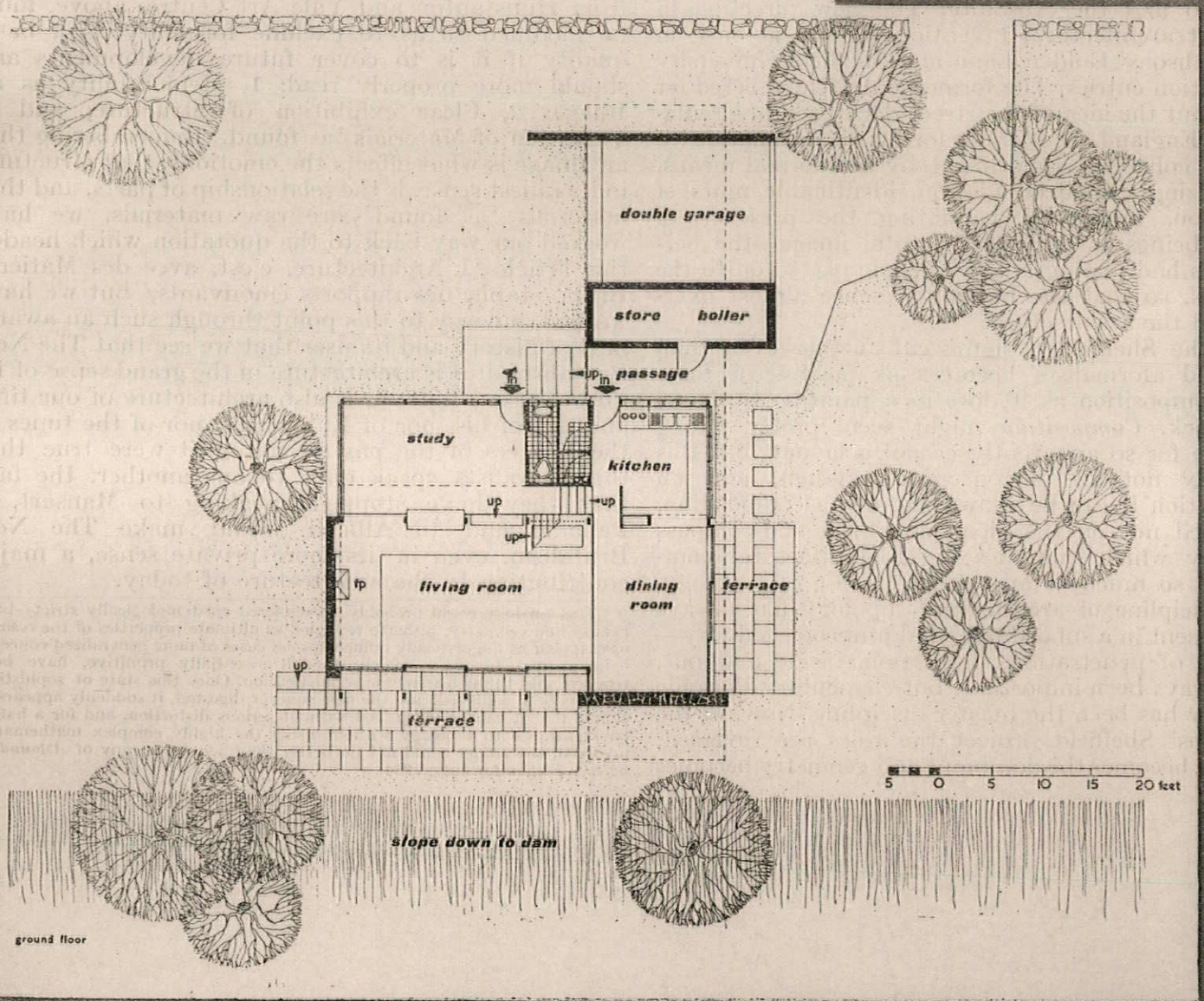
Such a dominance accorded to topology—in whose classifications a brick is the same 'shape' as a billiard ball (unpenetrated solid) and a teacup is the same 'shape' as a gramophone record (continuous surface with one hole) is clearly analogous to the displacement of Tomistic 'beauty' by Brutalist 'Image,'[4] and Sheffield remains the most consistent and extreme point reached by any Brutalists in their search for *Une Architecture Autre*. It is not likely to displace Hunstanton in architectural discussions as the prime exemplar of The New Brutalism, but it is the only building-design which fully matches up to the threat and promise of *Parallel of Life and Art*.

And it shows that the formal axiality of Hunstanton is not integral to New Brutalist architecture. Miesian or Wittkowerian geometry was only an *ad hoc* device for the realization of 'Images,' and when *Parallel of Life and Art* had enabled Brutalists to define their relationship to the visual world in terms of something other than geometry, then formality was discarded. The definition of a New Brutalist building derived from Hunstanton and Yale Art Centre, above, must be modified so as to exclude formality as a basic quality if it is to cover future developments and should more properly read: 1, Memorability as an Image; 2, Clear exhibition of Structure; and 3, Valuation of Materials 'as found.' Remembering that an Image is what affects the emotions, that structure, in its fullest sense, is the relationship of parts, and that materials 'as found' are raw materials, we have worked our way back to the quotation which headed this article 'L'Architecture, c'est, avec des Matières Bruts, établir des rapports émouvants,' but we have worked our way to this point through such an awareness of history and its uses that we see that The New Brutalism, if it is architecture in the grand sense of Le Corbusier's definition, is also architecture of our time and not of his, nor of Lubetkin's, nor of the times of the Masters of the past. Even if it were true that the Brutalists speak only to one another, the fact that they have stopped speaking to Mansart, to Palladio and to Alberti would make The New Brutalism, even in its more private sense, a major contribution to the architecture of today.

[4] This analogy could probably be rendered epistemologically strict—both beauty and geometry, hitherto regarded as ultimate properties of the *cosmos*, now appear as linguistically refined special cases of more generalized concepts—image and topology—which, though essentially primitive, have been reached only through immense sophistication. Once this state of sophistication has been achieved, and the new concept digested, it suddenly appears so simple that it can be vulgarized without serious distortion, and for a handy back-entrance to topology without using the highly complex mathematics involved, the reader could not do better than acquire a copy of *Astounding Science Fiction* for July, 1954.

HOUSE IN YORKSHIRE





HOUSE IN YORKSHIRE

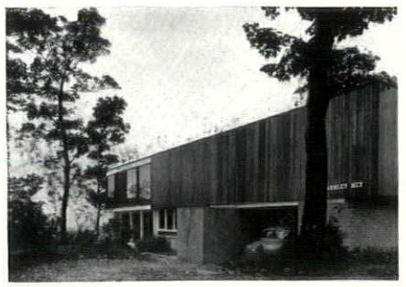
ARCHITECT | **PETER WOMERSLEY**

1, The view south from the living room over the Holme valley.



The house is near Farnley Tyas, about four miles south of Huddersfield, at the edge of a 200-foot drop into a thickly wooded valley. There are extensive views all round of woods and moorland. The site is 100 yards long, but only 24 yards across at its widest, and has many fully grown sycamores, beeches and chestnut trees, which were all preserved. The house was sited as near as possible to the edge of the drop to leave the maximum space between it and the road.

Most of the internal space is devoted to a large living room, with one enclosed bedroom and a service stack, but a nursery and guest room are to be built later over



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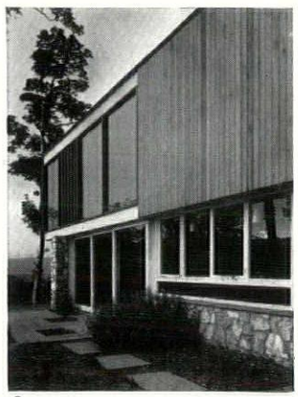
2, the east side, showing garage with terrace above, and 3, a detail of the dining end of this side with music gallery on the first floor. 4 living room and balcony from the south-west.

the garage, within the existing timber framework. The living room is differentiated into six main sub-divisions by changes in floor and ceiling level, and by visual hazards—the service core, staircase, sideboard and radiogram units, and the structural columns. Apart from providing all the normal facilities of a home, provision had to be made for extensive entertaining and music. The whole internal area can be opened up for large parties, or the different parts of it used separately and isolated for smaller gatherings, largely by changes in artificial lighting.

Accommodation had to be made for both live and recorded music. A music gallery was designed for the playing of the former, and the apparatus for recorded music is housed between the columns separating living room and study. The quality of sound produced is helped by the height of the room with its ceiling panelled in



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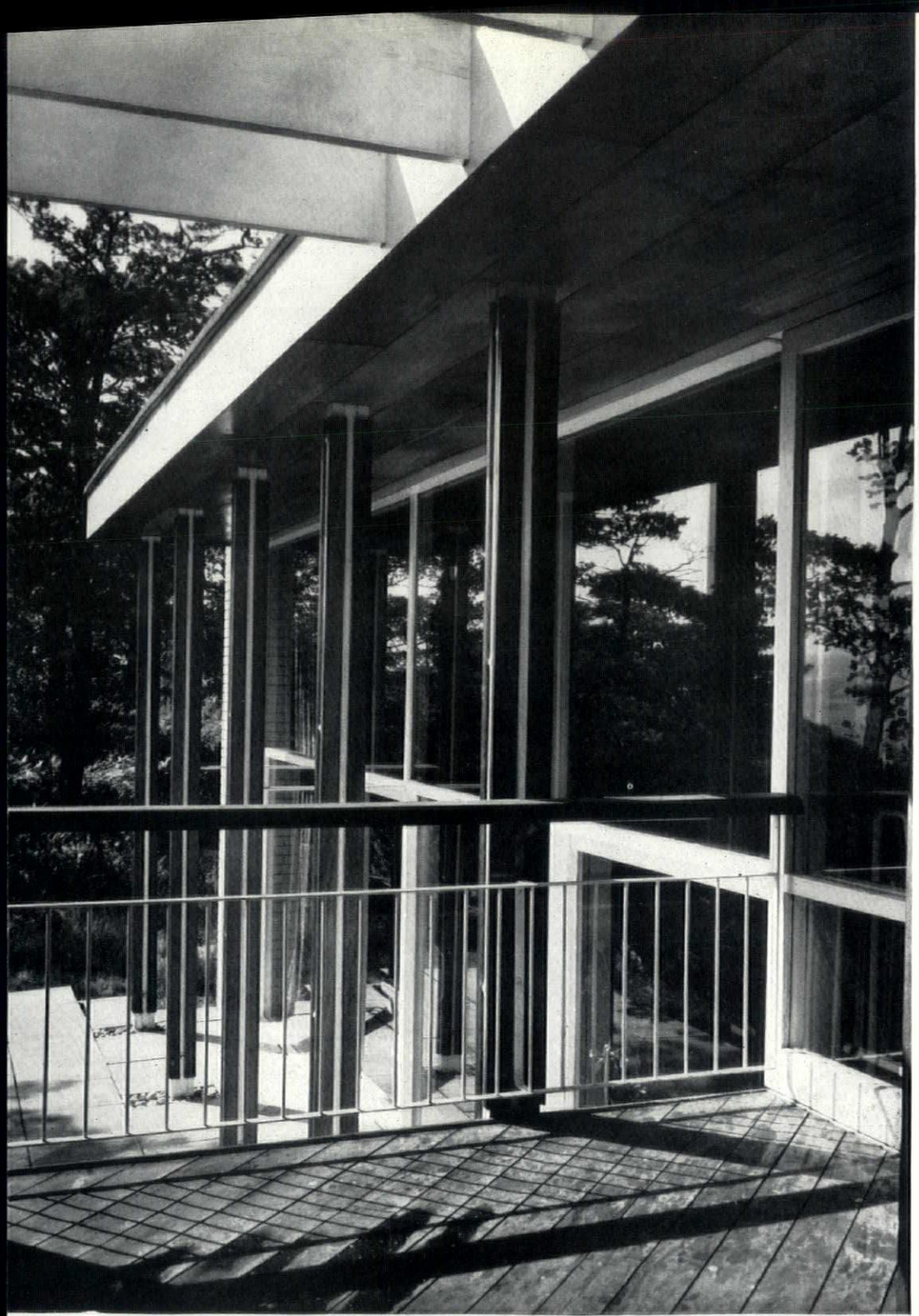

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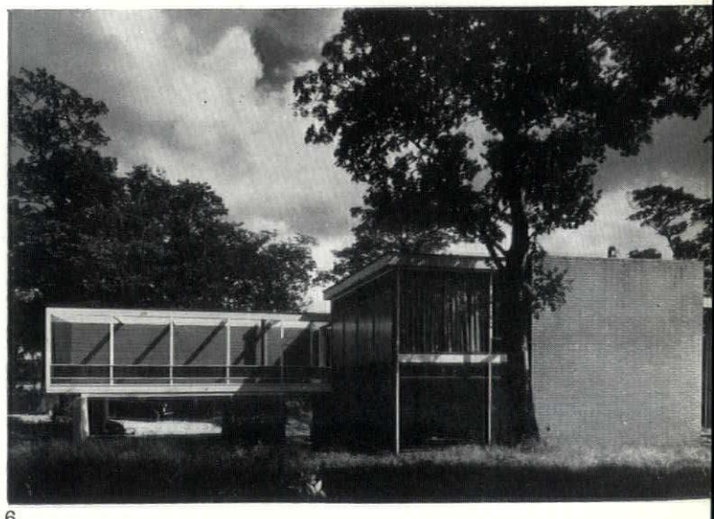
5, the timber columns supporting the roof in front of the living room curtain wall, seen from the balcony. 6, the first-floor terrace (which is a future children's wing) from the west with the main block of the house on the right; study below and master bedroom above.

mahogany by the area of stone paving immediately below the amplifier unit, and by possible alterations in the texture of the wall opposite to the speaker—plate glass or curtain in varying degrees. The living room dominates the house with its size and height and smaller, more intimate spaces open off it—the workroom upstairs for dressmaking, etc., the study, and the kitchen, its cooker fitted with hood and extract fan to eliminate all smell.

The structure is framed in timber, with infilling materials which echo the surrounding natural colours. Foundations are traditional 13½ in. brickwork on concrete footings. The ground floor is 4-in. concrete on hardcore



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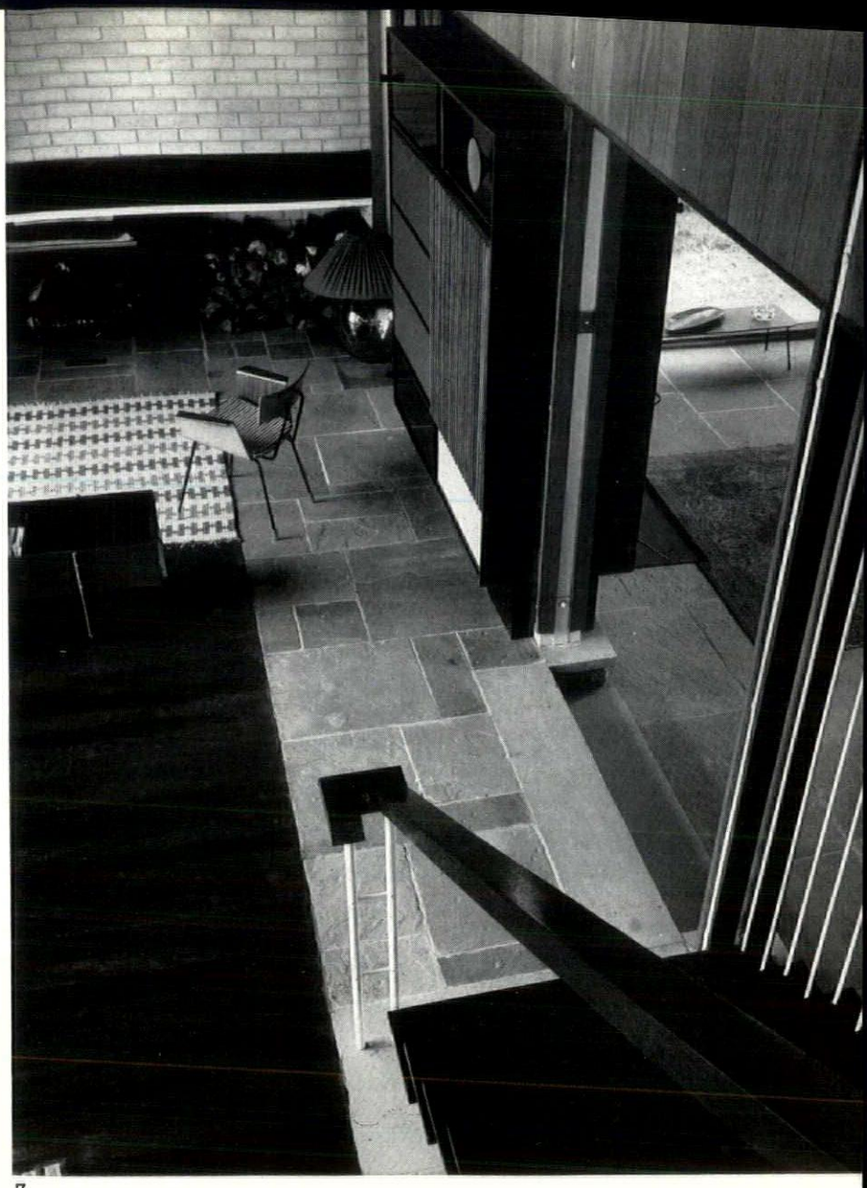
with a continuous damp-proof membrane. On top of this is a 3 in. screed containing the steel heating coils. The roof is supported on timber columns at 6 ft. centres, with two spans, of 18 ft. and 12 ft. The columns are strapped to cast-iron shoes bolted to the site concrete. The intermediate floors are 1-in. diagonal softwood boarding on softwood joists, which rest on 2 in. by 2 in. mild steel angles fixed to the trimming joists. The roof consists of 1-in. diagonal boarding on tilting fillets, on a slag wool quilt ; this is draped over 10 in. by 3 in. softwood joists tusk tenoned to the trimming joists. The garage and boiler-house roof is formed of patent precast r.c. beams, with breeze spacers.

Bracing walls are either diagonally braced stud walls, lined externally with softwood horizontal boarding and with exterior finish of oiled and varnished 4 in. by 1 in. meranti shiplap, or mass walls of limestone, the different floor levels raised on rubble limestone salvaged from a local railway siding. A pale lilac-coloured sand-lime brick was used for the chimney wall and the garage and boiler-house. Fixed windows have double glazing units ; sliding windows are ¼-in. plate in painted hardwood frames. The ground floor covering is mostly 1-in. York stone squared flags bedded in a cement screed. The living room has a camphorwood strip floor on battens. The walls around the service core are 3-in. breeze either plastered and painted, or covered with polished mahogany boarding. All stone and brick walls are left unplastered. Ceilings throughout are formed of decorative plywood panels with a birch or gaboon finish. Furniture is designed by the architect.



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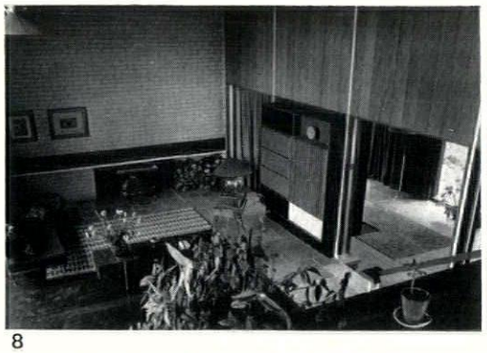
HOUSE IN YORKSHIRE



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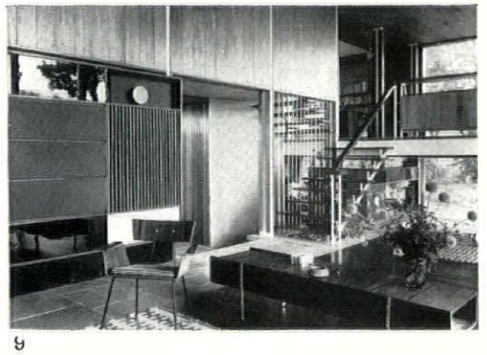

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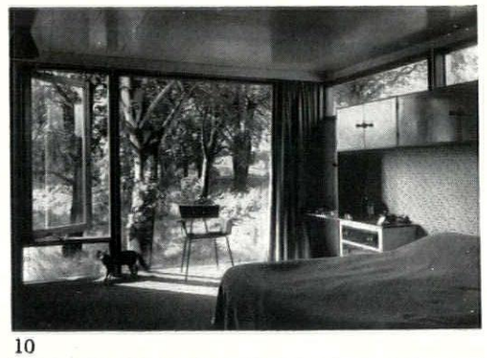

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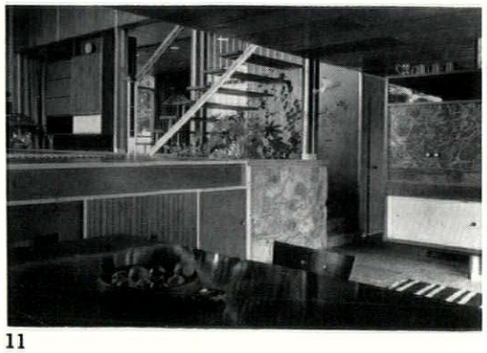

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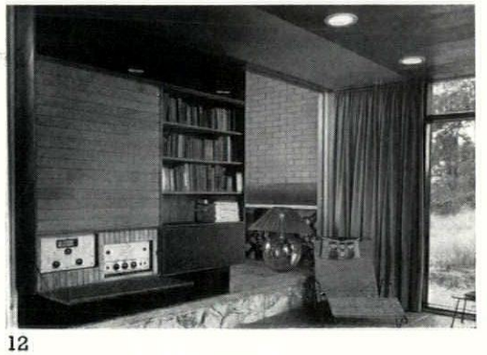

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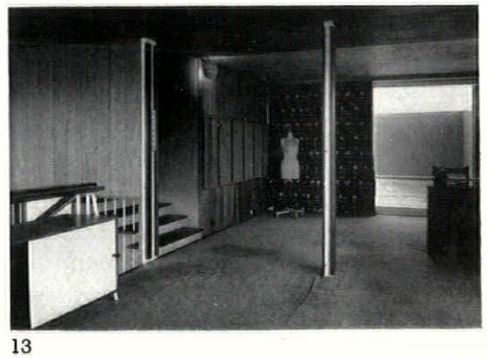

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7 and 8, looking down into the living room from the music gallery. 9, stairs and gallery from the living room. 10, master bedroom looking westward over Hay Wood. 11, dining room, with music gallery over. 12, study. 13, workroom on the first floor. 14, on the facing page, looking across the living room from the study. 15, the kitchen seen through the servery hatch from the dining room.



14



15

HOUSE AT LEICESTER

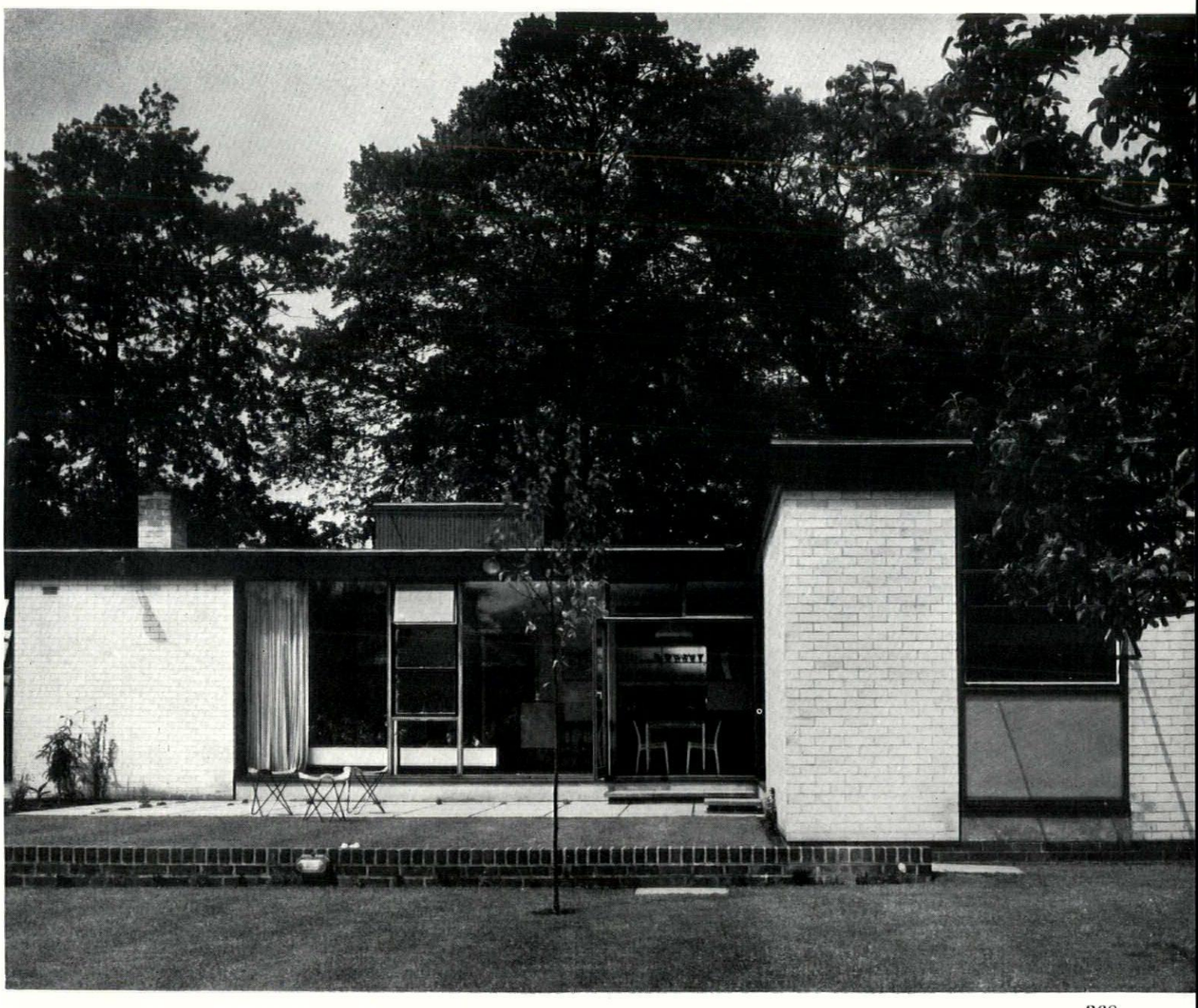
ARCHITECTS | **JAMES CUBITT AND PARTNERS**

The site, formerly the orchard and vegetable garden of a large nineteenth-century house, has a 107-ft. north frontage to Avenue Road and a depth of 120 ft., and is surrounded by a high hedge.

The new house was placed only a few feet from the screen of hedge and trees fronting the road; the north elevation has consequently been kept almost blank, the area in between being treated with cobbles and paving.

The plan divides virtually into two wings, the parents' and the children's, linked by the kitchen which, since there is no corridor between the two, can be used as access. The parents' wing contains the living area and master bedroom, with its own bathroom. The south wall of this area consists almost entirely of double glazing. The single entrance serves both the kitchen and entrance-lobby, which has a slightly lower ceiling, partly

1, the garden front, with the children's bedroom wing on the right and living room in the centre.
2, opposite, a general view showing the main bedroom and garage to the left of the living room.



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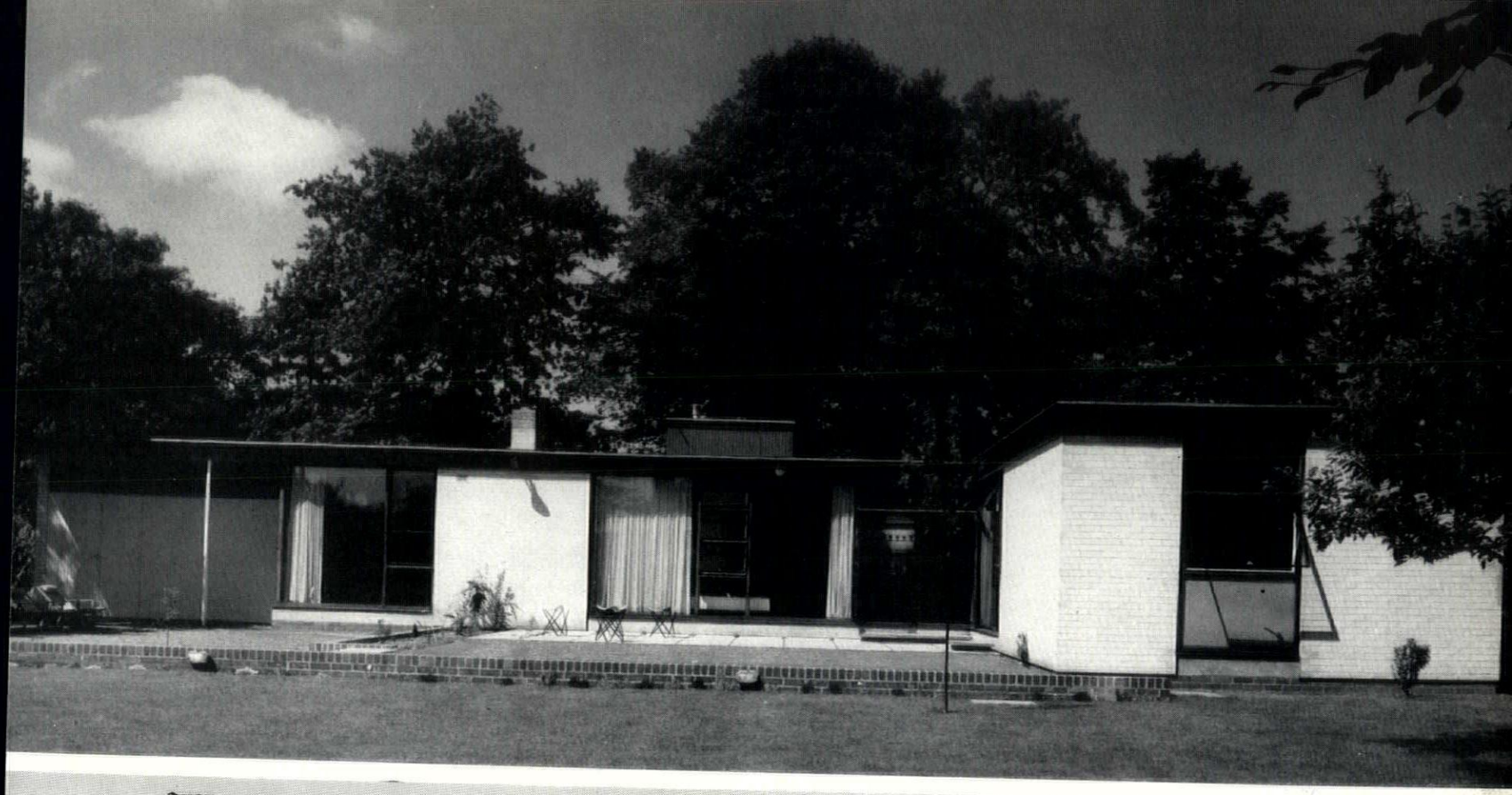

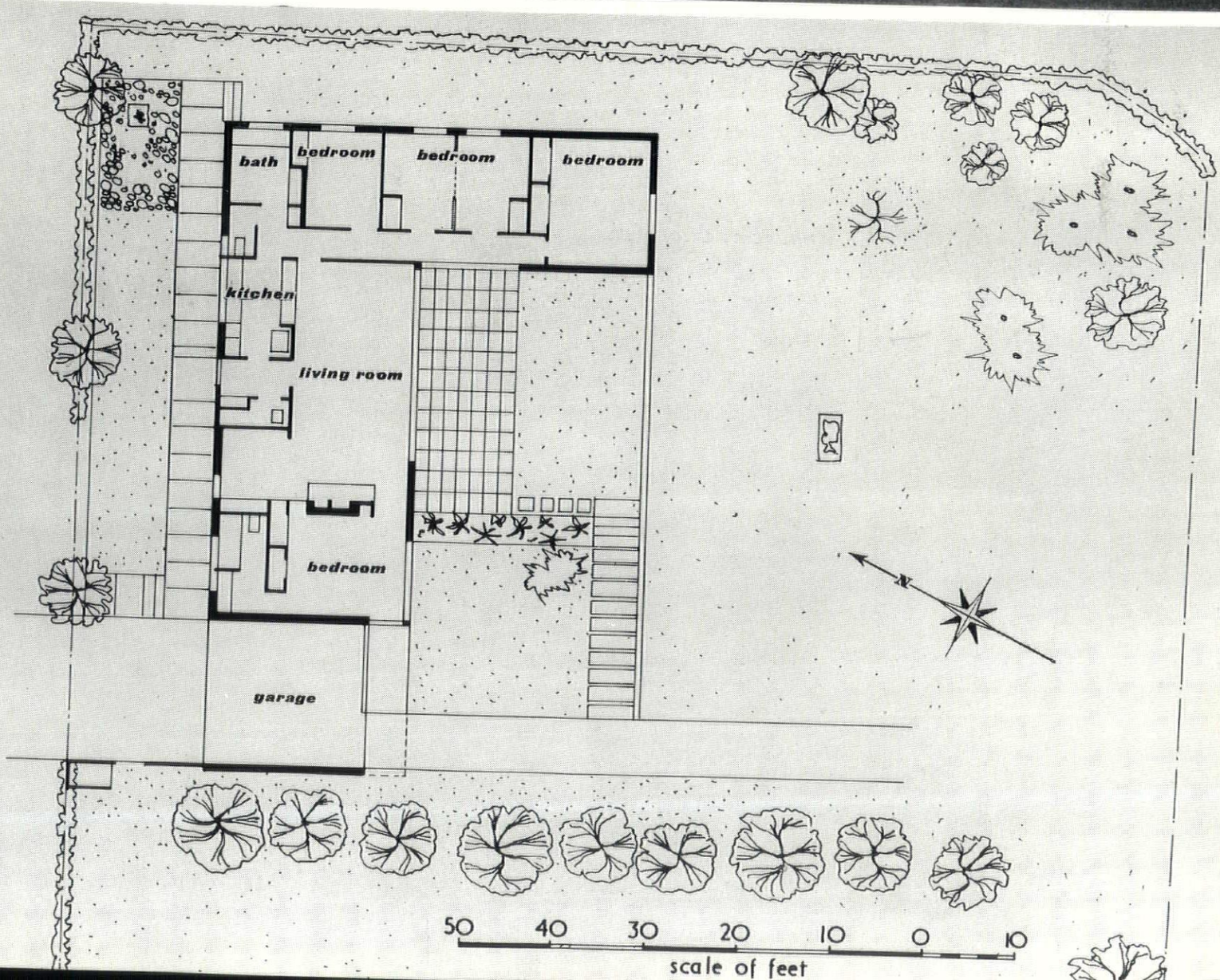
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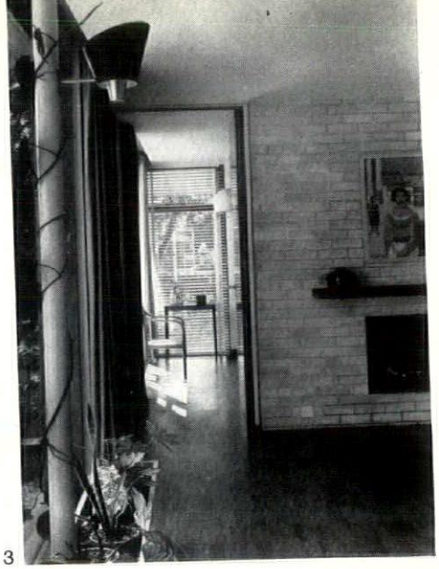

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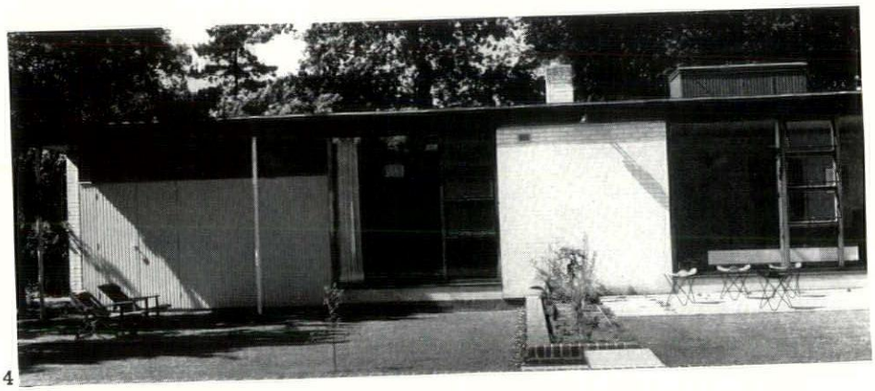

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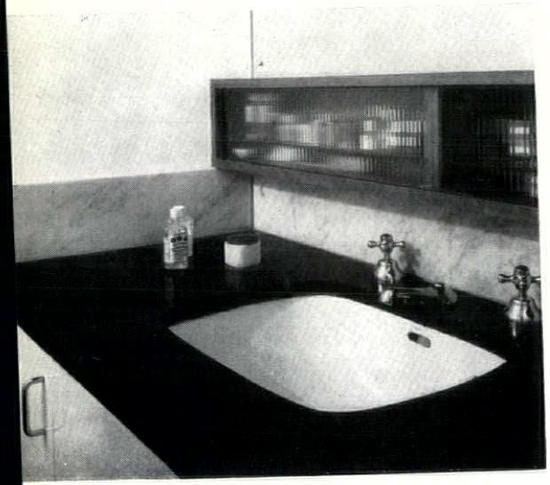
for storage above and also to accentuate the height of the living area. The kitchen was designed in great detail because of its part-visibility from both the lobby and the living-room. Although it has a small low window for view, it depends for illumination on a large domed roof-light.

Construction is of 11-in. cavity walls. The roof is of 2-in. wood-wool slabs on open-web joists, screeded and finished with roofing felt and ½-in. macadam. The floor is in 6-in. concrete on hardcore, screeded and finished with wood blocks or linoleum.

The fireplace wall in the living-room is of Burwell white bricks with shelf and hearth of polished Westmor-



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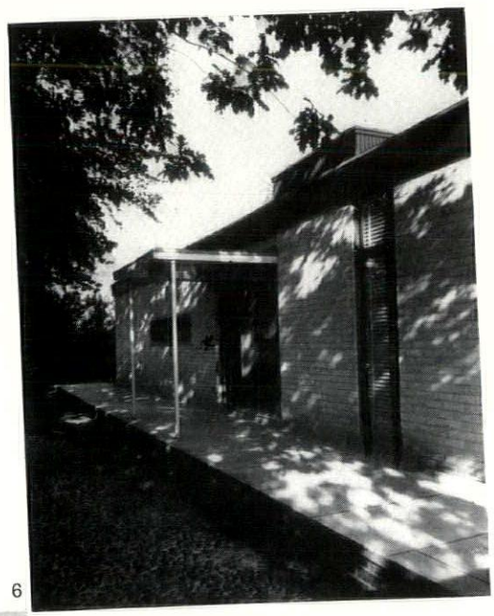
3, looking through the living room to the main bedroom. 4, the west end of the garden front. 5, the

HOUSE AT LEICESTER

basin in the main bedroom set in a slate shelf with cupboards underneath. 6, the entrance (north) front; the narrow window on the right lights part of the living room. 7, the living-room fireplace and log store.



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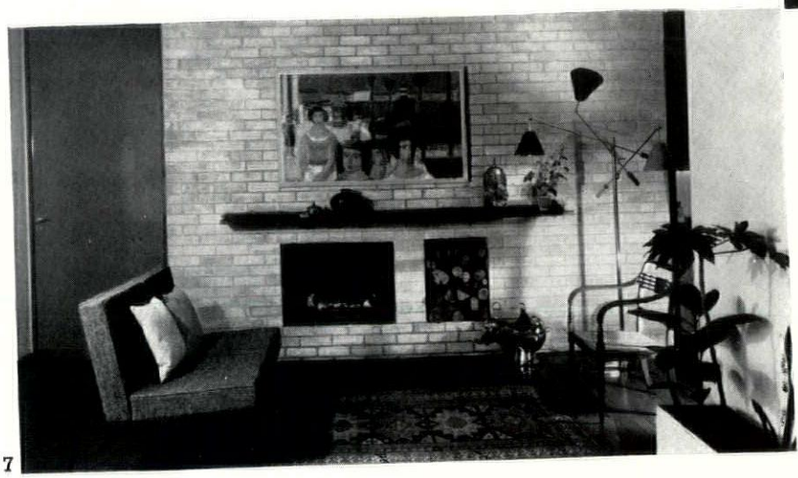

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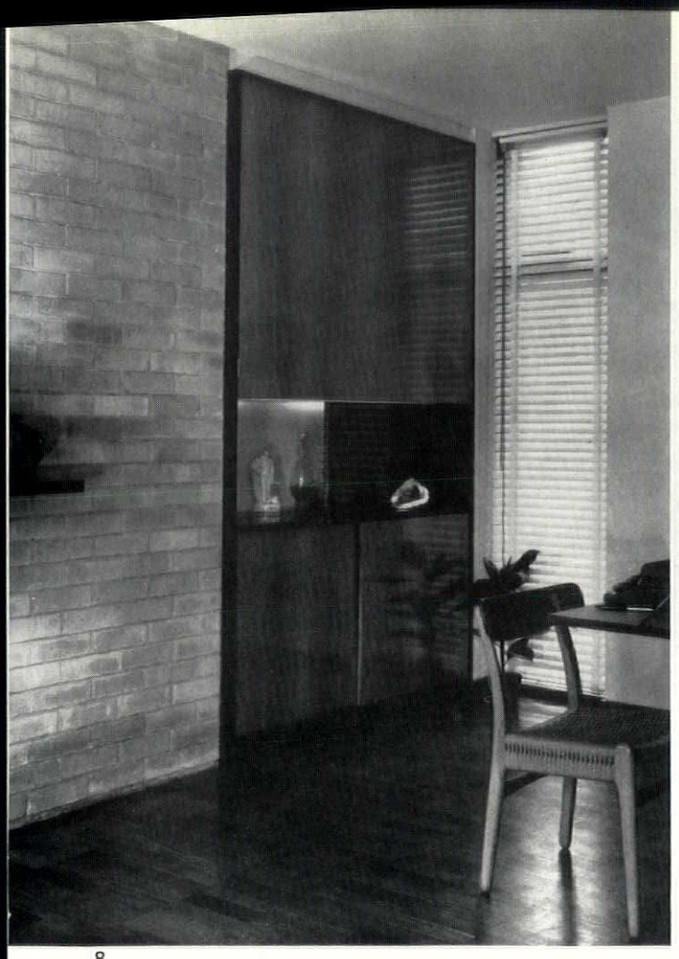

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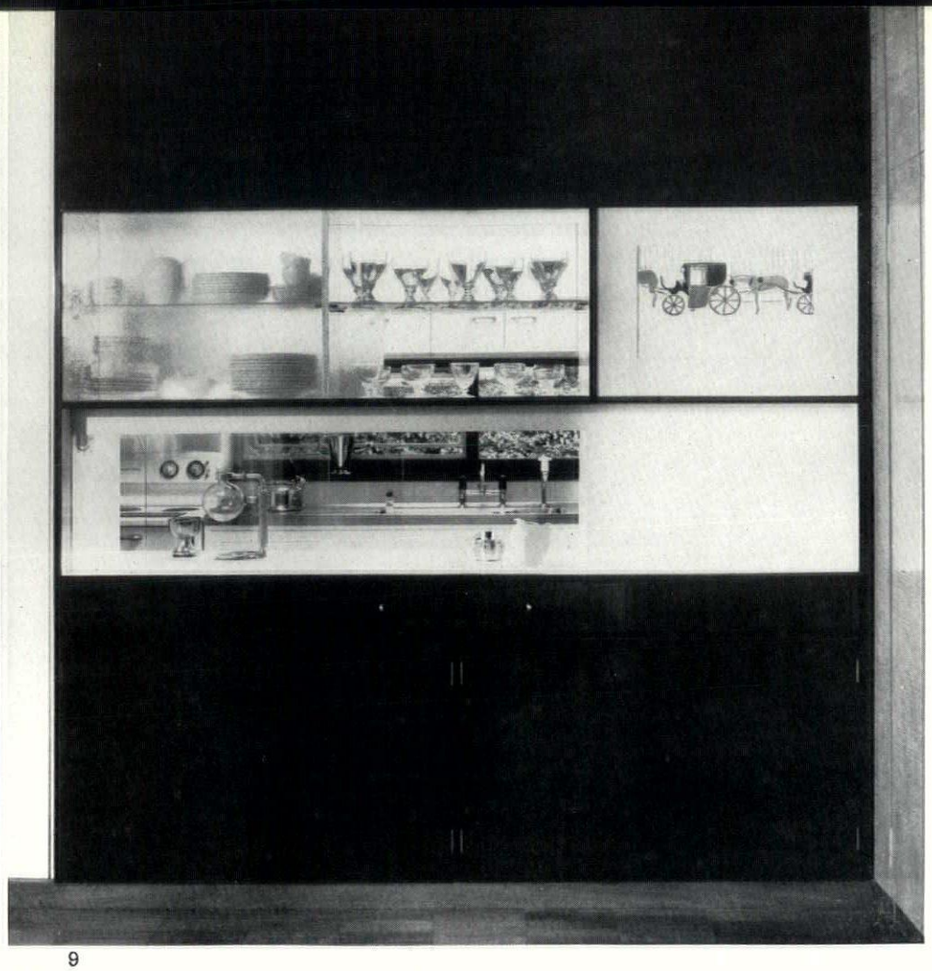

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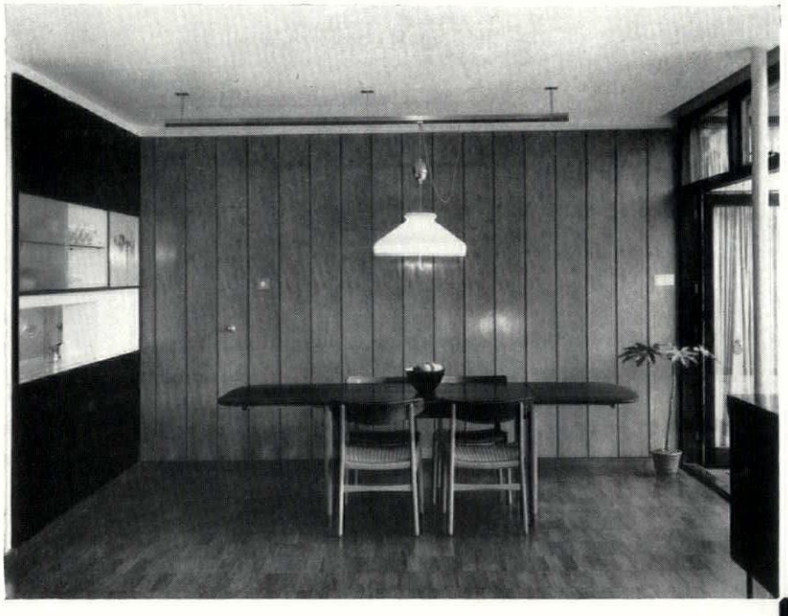

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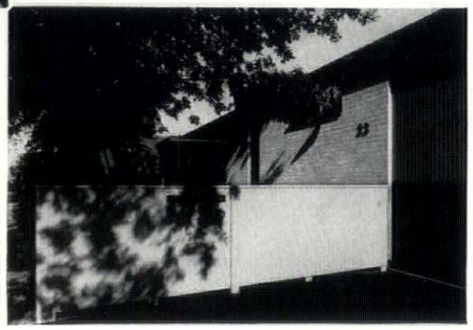
8, corner of the living room with veneered pear fitted-cupboard and north-facing window. 9, rosewood serving hatch between kitchen and dining area. 10, the dining area itse'f, at the eastern end of the living room. 11, the entrance from Avenue Road.

land stone. The adjacent cupboard fitting is veneered in pear. The fitted desks and shelves on the opposite wall are mahogany.

A special rosewood-veneered fitting between the kitchen and dining area serves both as a hatch and for storage. A rubbish disposal unit is incorporated with the sink. The house is floor heated by means of copper pipes laid in the screed, which are fed from a gas boiler in a chamber off the entrance hall.



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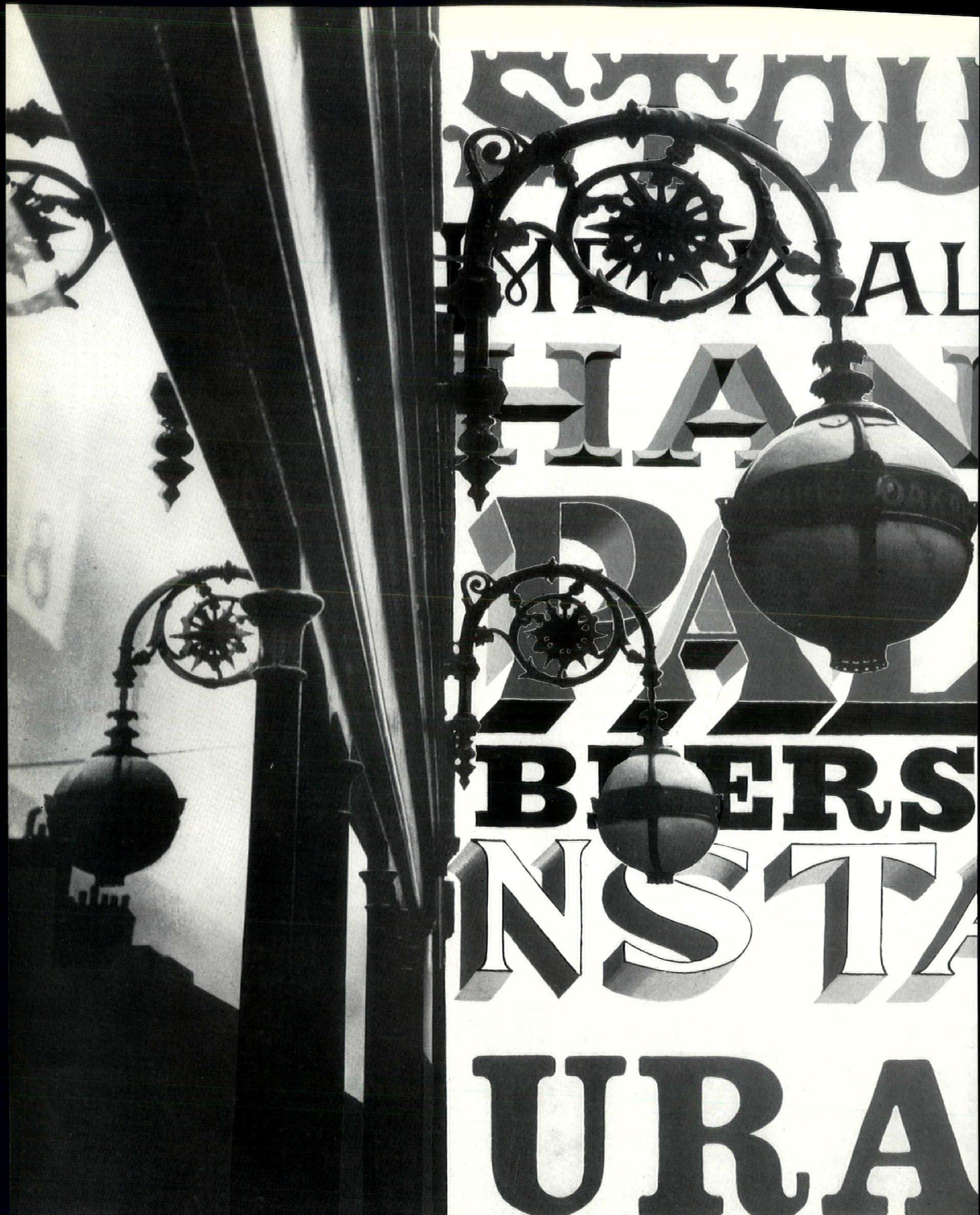
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Because advertising is even more transient than other forms of commercial art, the relics of the vigorous vernacular in which the daily dialogue of Victorian consumer and producer was conducted have largely disappeared. That vernacular deviated with noble self-confidence far from the classical legacy of eighteenth-century design, and reached one of its apotheoses in the House-styles of the great brewers, discussed in Brian Spiller's article below, and epitomized, opposite,  *by the silhouettes of that epoch's characteristic hanging lamps, swinging above the ghosts of a great tradition of decorative lettering. The intervening years of ghastly good taste have not altogether obliterated the remains of that golden age of commercial design, and enough of them survive in Brewers' houses to provide a solid traditional basis on which to create a new commercial vernacular.*

Brian Spiller

BREWERS' HOUSE STYLES

The brewing industry in its modern form grew up in 18th century London. In that period the 'common brewers', exploiting the advantages of large-scale production and door-to-door delivery, ousted the 'brewing victuallers', who then became retailers only. Rumbling drays, built to carry three butts, and drawn by two massive horses in tandem, symbolized the emergence of the factory system. London's 'capital brew-houses' were the marvel of foreign visitors; their owners counted among the first 'New Men' of the Industrial Revolution. Many of them, even today, are still owned by founders' kin, thanks to the ability of successive generations to heed Sir Benjamin Truman's warning: 'Grandson, there can be no other way of raising a great Fortune but by carrying on an Extensive Trade'. Extensive—and steady: for to keep their plants in constant commission, and yet avoid over-production, brewers needed an assured output. This could be achieved only by controlling retail outlets. And so in the second half of the century the brewers took steps to ensure pub custom.

There were then two methods of securing the trade of a pub: buying up the lease or lending the owner money. In either case the publican contracted to buy from that particular brewer. If he was satisfied with the beer, all was well; if not, he could usually pay off the mortgage or loan by borrowing from another brewer. The licensing system encouraged the practice, for once the trade of a pub had been tied it was difficult for a rival to set up another house in the immediate neighbourhood. In 1817 a Select Committee of the House of Commons reckoned that one half of London's pubs, and a growing number in the provinces, were tied houses.

As the partnership between producer and retailer solidified, the brewer's signboard began to appear above the door. The earliest example in the British Museum's Print Collec-

tion is dated 1816. Ten years later Truman's included signboards in their annual valuations for the first time. From now on, though publicans were still the real or nominal owners, the brewers used tied pubs as their shop windows. 'We rarely if ever see any change in the name of the brewer who supplies a particular house', George Dodd, author of *The Food of London*, wrote in 1856; 'the inscription "Barclay, Perkins & Co.'s Entire" adorned the front of the "Red Lion" twenty years ago, as it does now, and will probably do twenty years hence; Truman, Hanbury & Buxton cling to the "Lord Nelson", year after year; and "Henry Meux & Co.'s Entire" has been the beverage supplied at the "King's Head" for a generation past.'

In the last quarter of the 19th century, the loan-tie and the leasehold-tie yielded to outright ownership. An Act of 1869 brought beer-houses back into the licensing system. The justices, strengthened by a series of judgments culminating in *Sharp v. Wakefield*, 1891, used their powers to cut down the numbers of licences, grossly inflated by 'free trade'. Frightened of losing their secure outlets, or attracted by the prospect of poaching on each other's trade, the brewers embarked on a scramble to buy up freeholds and leaseholds. Vast numbers of pubs changed hands at ever-rising prices. Many small breweries could not stand the pace; some of the greatest had to write down their capital; between 1881 and 1900 the number of 'brewers for sale' dwindled from nineteen to six thousand. Amalgamation continued; so that today 65,000 pubs in England and Wales, or 89 per cent. of the total, are owned by about 400 brewers. In Scotland, where brewer-ownership is not supposed to exist, the older form of mortgage-tie is common enough.

Having acquired shoals of pubs, the new owners set about making them look like *their* pubs. The surveyors' and signwriters' departments were kept busy. Huge signboards, handsomely inscribed with the brewer's name, marched across the skyline and the fascia, where the publican's name disappeared; others appeared on gables and corners, hypnotizing all comers from all directions; raised grotesque letters spelled out the names of prize ales and celebrated stouts on ground floor windows; glazed advertising plaques flanked the doors or stood at dog's eye level above the pavement. Satisfied that everything had been done to ensure that no sighted customer could possibly enter a rival house by mistake, some managements were content to leave the actual structure untouched. Others, more ambitious, sought maximum advertising rewards by applying an architectural uniform. Often enough the treatment was Tudoresque, the assumption being that this was what the customer liked best. As one brewer has written, 'we did not think of ourselves as patrons of art. We were out to sell beer in premises which the people liked; and at that time they loved Brewers' Tudor, and some do still.' Neo-Georgian followed, at a time when the great banks, the General Post Office and other architectural *bien-pensants* were going for the same thing. It was usually not so much a question of distinctive house styles as of follow my leader.

At the present time house-styled exteriors are out of fashion; even firms that once favoured them, such as William Younger or Style & Winch, seem to have changed their minds. The volume of advertising material on façades has been much reduced, on the principle that the eye ought not to be glutted and benumbed, but should rather focus on some feature common to all the owner's houses: a single distinctive fascia, an illuminated lantern, a stylized inn sign, a house-mark. Many brewers use standard lettering forms and colour combinations for fascia-boards—often for vehicles too, with their great

[continued on page 381

BREWERS' HOUSE STYLES



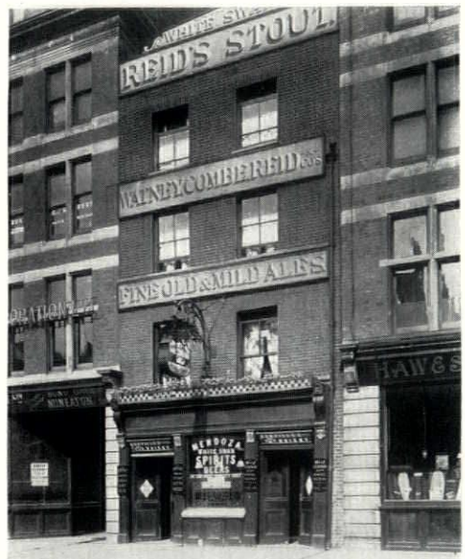
1

Mid-twentieth century publicity ranging, as it mostly does, from the moronic to the gimmick, is seldom content with mere straightforward statements; yet bold and characterful typography can contribute more than most other kinds of publicity to the outdoor or indoor scene. It was through vigorous lettering and simple trademarks that brewers made their commercial individuality plain to the nineteenth century man in the street and, in the process, did much to adorn that street. But a sense of guilt over what they seem to conceive as vulgar beginnings has brought about a fatal decline into genteelism in brewers' house styles. The following pages trace this decline. Happily they also show the first signs of a rebirth of vitality, rare as yet, but gathering momentum, as it must in a sphere of activity where robustness in design is second in importance only to the quality of the brew.

exteriors



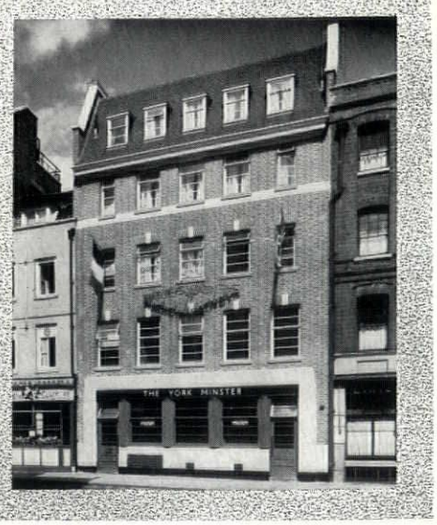
2



4

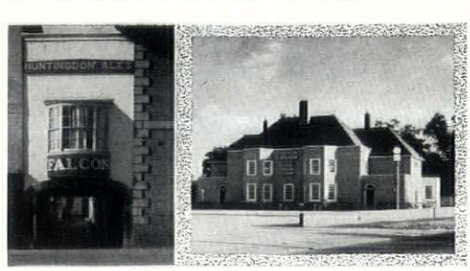


3



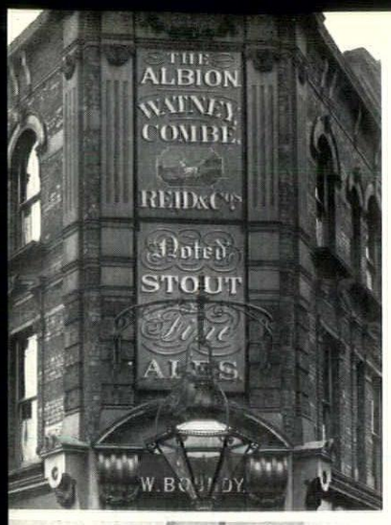
5

Titlepiece, 1, The World Turned Upside Down, *Old Kent Road* (1868–1932); *intriguing when seen once, its repetition would be intolerable, and the essence of house style design is to provide for repetition without refining away character.* 2, *the former* Amhurst Arms, *Shadwell: the fat-face letter used with pungency and elegance (see also* 4). 3, *the* Britannia, *a pre-war house in Ironmonger Row, E.C., which serves the demands of publicity as little as it does that of conviviality.* 4, *the* White Swan, *Farringdon Street, E.C.; another dignified and lively use of the lettered advertisement, in contrast to* 5, *the* York Minster, *Dean Street, Soho, which would greatly benefit from good lettered boards and signs.* 6 *and* 7, *two country pubs: the* Falcon, *Huntingdon, and the* New River Arms, *Turnford, Herts. In favour of the first; building on the road with parking behind, bold and beautiful lettering, simple but welcoming façade. Against the second; desert of unwelcoming asphalt, mean lettering, genteel private house architecture.*

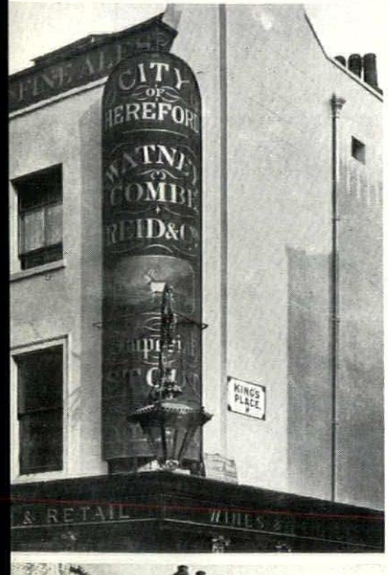


6
7

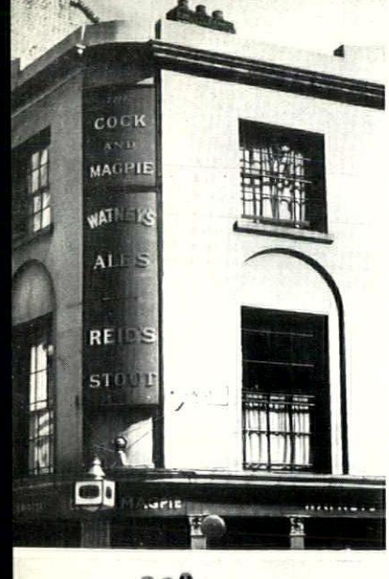
corner boards



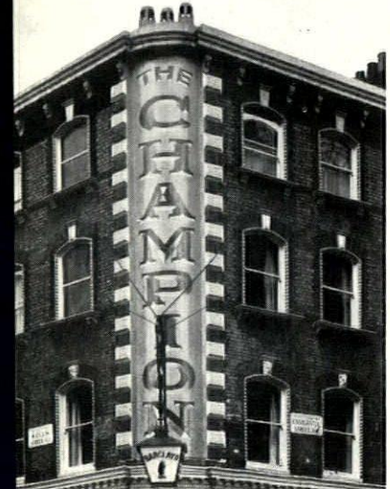
8, *in Long Lane, Bermondsey, corner board with skilfully varied letter faces.*



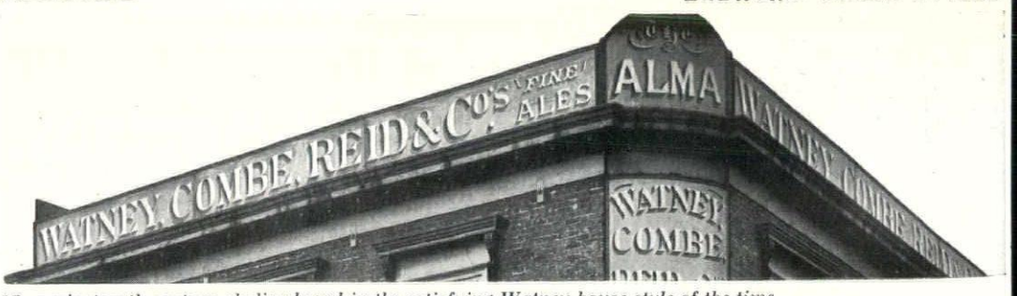
9, *in Marylebone, W.1, a boldly curved board which was a real asset to street architecture.*



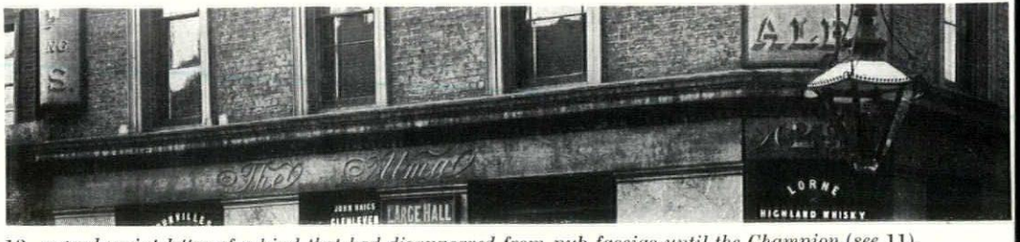
10, *the decline—shrunken and badly shaped board and characterless letter faces with too much space between lines (note also the lamp here and in* 11, *in contrast to the two above).*



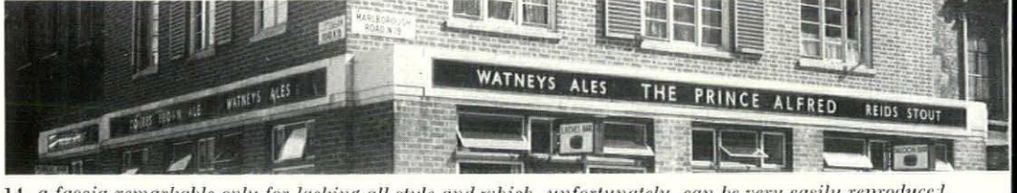
11, *the tradition revived—a painted corner sign in Wells Street, W.1, in the best vein of nineteenth century publicity (date* 1954).



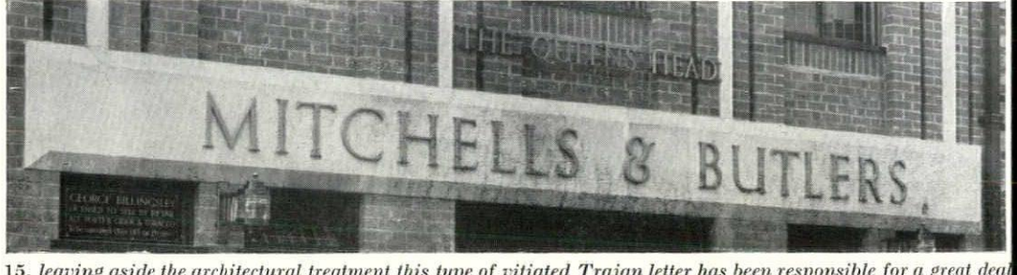
12, *a nineteenth century skyline board in the satisfying Watney house style of the time.*



13, *a good script letter of a kind that had disappeared from pub fascias until the Champion (see* 11).



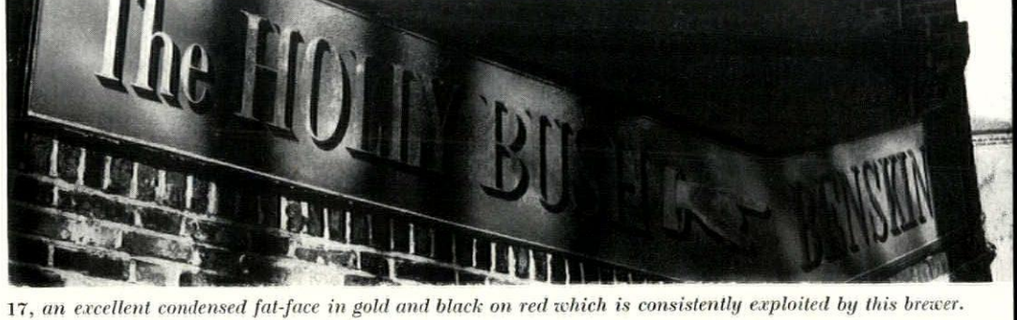
14, *a fascia remarkable only for lacking all style and which, unfortunately, can be very easily reproduced.*



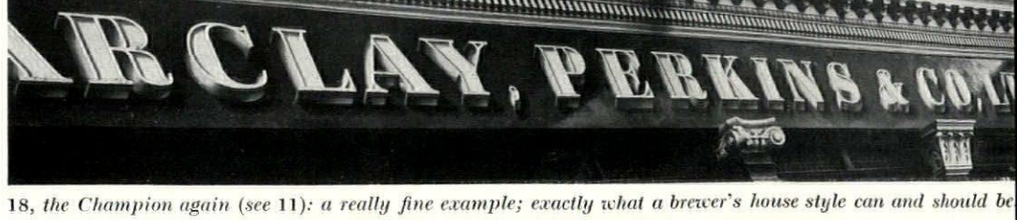
15, *leaving aside the architectural treatment this type of vitiated Trajan letter has been responsible for a great deal of dreariness in our streets. With its air of spurious gentility it is particularly inappropriate for pubs.*



16, *a contemporary re-styling job that has been markedly successful in all but the lettering, which, though pleasant in itself, when used small, well-spaced and unshadowed as it is here, creates a house style but misses the pub style.*



17, *an excellent condensed fat-face in gold and black on red which is consistently exploited by this brewer.*



18, *the Champion again (see* 11): *a really fine example; exactly what a brewer's house style can and should be*

labels *It is on his bottle labels that the brewer concentrates most of the effort to create an immediately recognizable house style. Those reproduced on this and the next page are thirty-six selected from among many hundreds. (They are numbered independently from the other illustrations.) The best from the points of view of distinction, legibility and character are those that rely on lettering and a simple, but bold, trade-mark. On this page* 4, 6, 10-12 *and* 15 *are particularly effective. For the history of* 10, *one of the best pieces of publicity the nineteenth century produced, see this month's cover.*

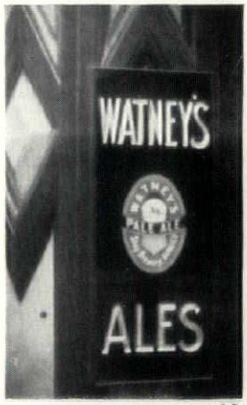




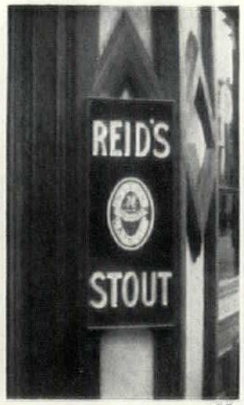


labels cont. *From among the eighteen beer bottle labels reproduced on this page, 19, 22 and 26 stand out immediately. In each case they exhibit the boldness and vigour that was the nineteenth century's contribution to commercial design. Owing, however, to the fatal fallacy that its boldness was vulgar, this contribution has been ignored with great loss particularly to the brewers.*

house marks and plaques



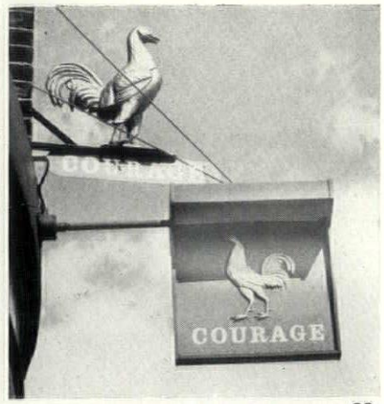
19



20



21

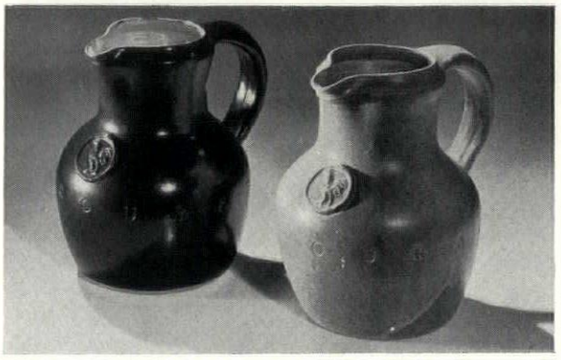


22

19 and 20, two wall plaques, of a kind that are used widely as eye-level publicity: no attempt is apparently made, other than by the reproduction of a label, to give them individuality. 21, *a modern house mark which, as its name suggests is designed to possess individuality; artiness in this one makes it ill-suited to its purpose.* 22, *two house marks designed by Milner Gray for Courage, the freestanding one being particularly successful as a crisp and forthright emblem.*

equipment

23
24





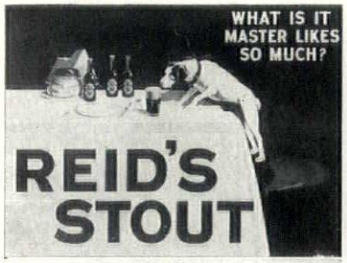
25

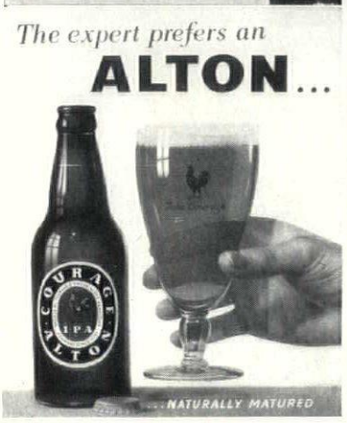


23, 24 and 25, a selection of house equipment, all designed by Milner Gray for Courage (with Benskins) the only brewer that carries a consistent design policy through all its publicity and equipment to create an immediately recognizable house style.

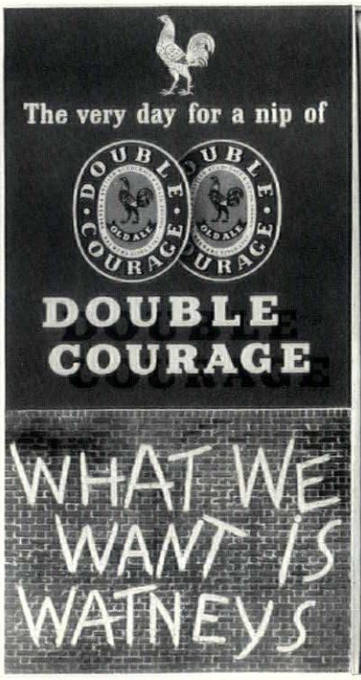
publicity

26
27

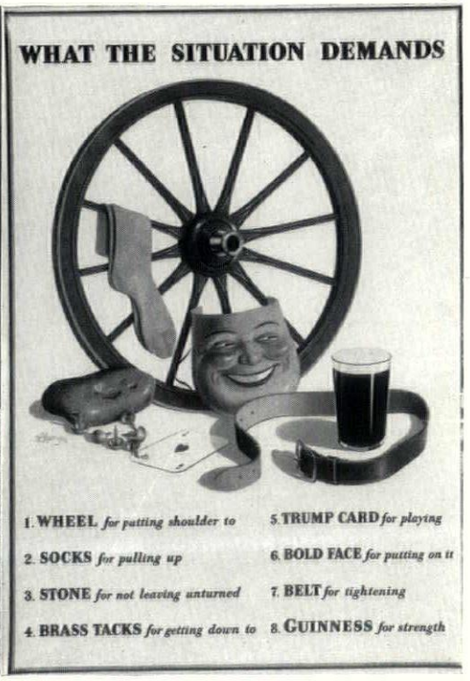




28
29

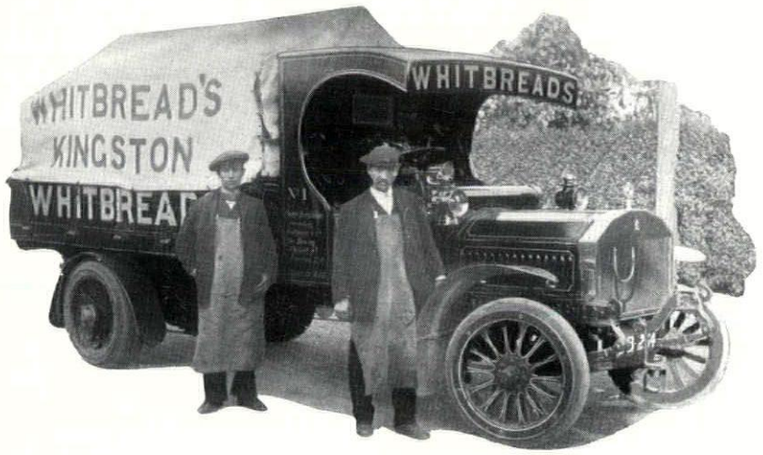


30



26, a Watney poster of the Edwardian era, designed by Francis Barraud and reminiscent of his longer-lived advertisement for H.M.V. A now very 'period' use of the animal in brewers' advertising, a theme developed later in a more sophisticated way by Guinness. 27 *and* 28, *two advertisements of which the second gains immeasurably from avoiding the realistically reproduced article and exploiting the Courage house style—good lettering and a simple bold trade mark.* 29 *and* 30, *two examples of the clever gimmick, which have been so successful they have* faute de mieux *almost become house styles in themselves.*

transport



19



20



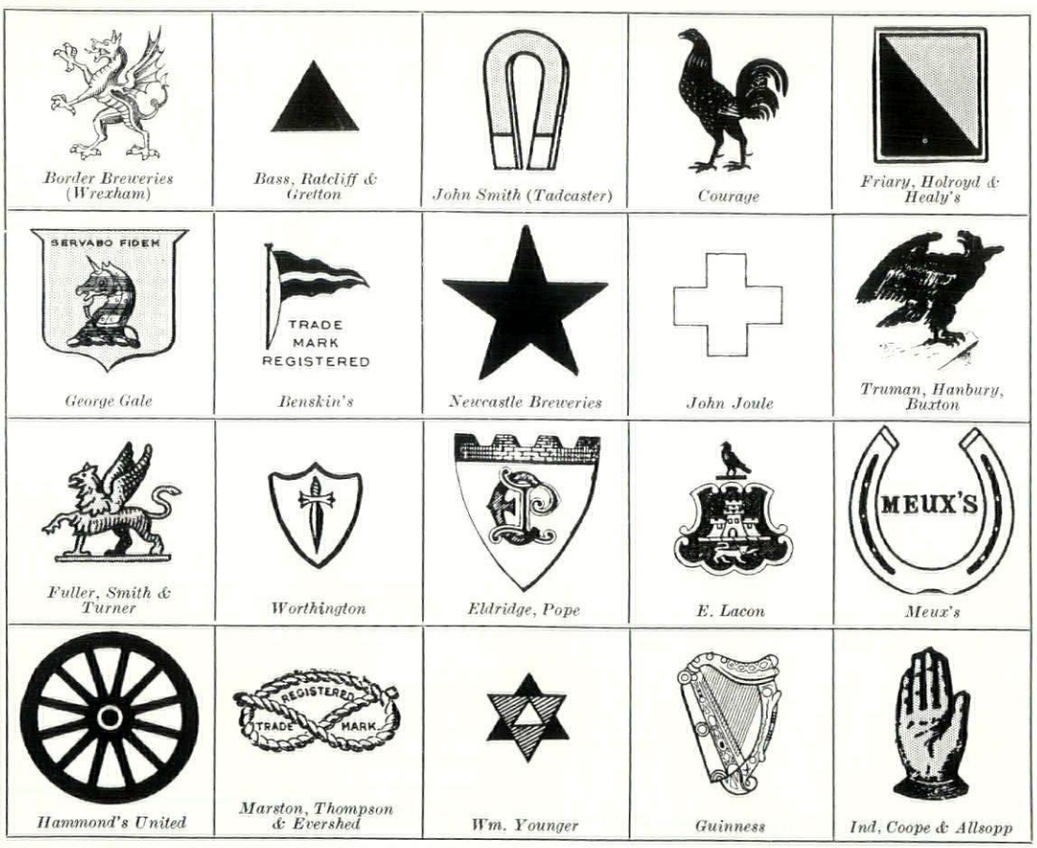
21



22

19, *one of the earliest Whitbread lorries c.* 1910 *and,* 20, *a bulk bartanker of* 1938. 21, *a Guinness Scammell prime mover and trailer of the early* 1930's *and,* 22, *a Guinness road tanker of* 1955. *Apart from the harp on the back of the Guinness tanker, there is little attempt made to reflect house styles in brewers' transport, which is strange, since this is something that most other industries exploit to the full, for better or worse.*

trade marks

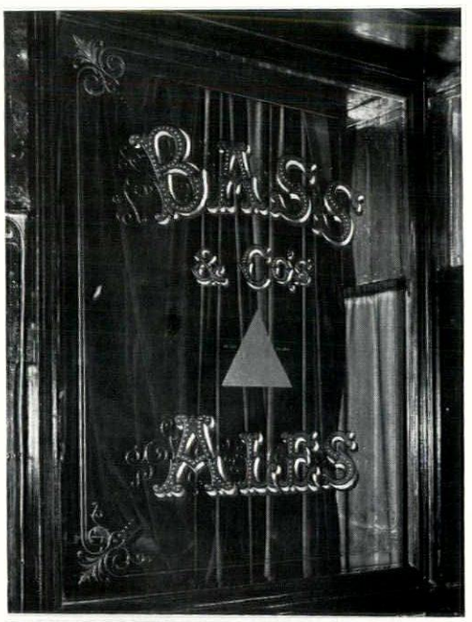


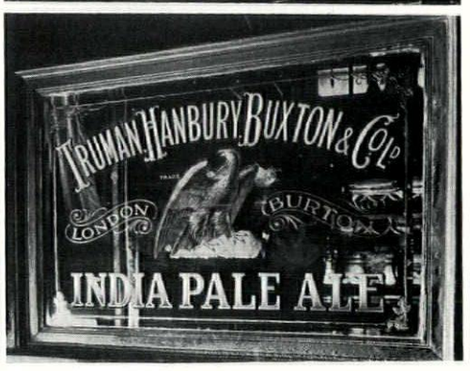
Border Breweries (Wrexham) — *Bass, Ratcliff & Gretton* — *John Smith (Tadcaster)* — *Courage* — *Friary, Holroyd & Healy's*

George Gale — *Benskin's* — *Newcastle Breweries* — *John Joule* — *Truman, Hanbury, Buxton*

Fuller, Smith & Turner — *Worthington* — *Eldridge, Pope* — *E. Lacon* — *Meux's*

Hammond's United — *Marston, Thompson & Evershed* — *Wm. Younger* — *Guinness* — *Ind, Coope & Allsopp*



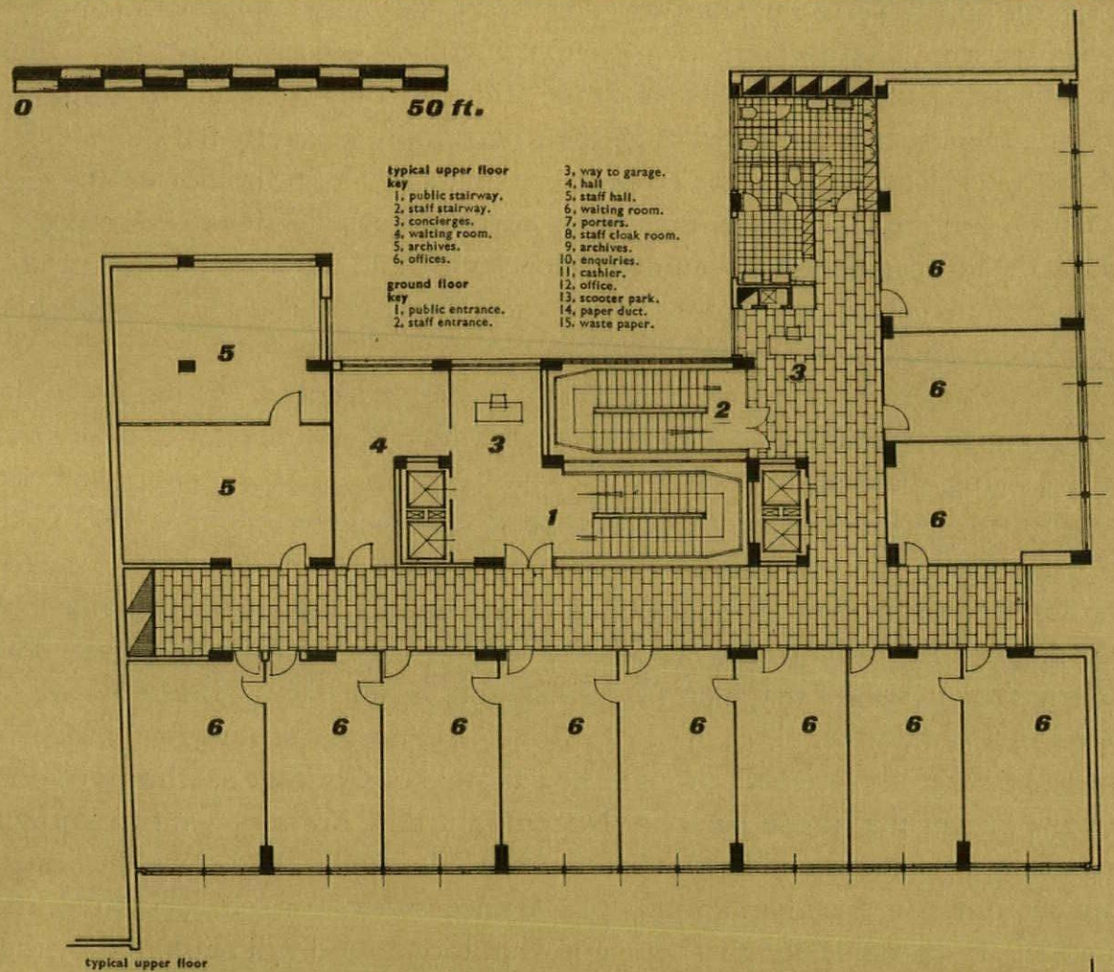


Above, a selection of twenty brewers' trade marks, the basic material, alongside lettering, of the house style. On the right, two mirrors painted and engraved with now famous lettering and trade marks. It is particularly sad that this craft has been allowed nearly to die out, since it is a form of pub decoration that combines many virtues —glitter without vulgarity, a sense of space without bleakness and the feeling of a crowd without too many people.

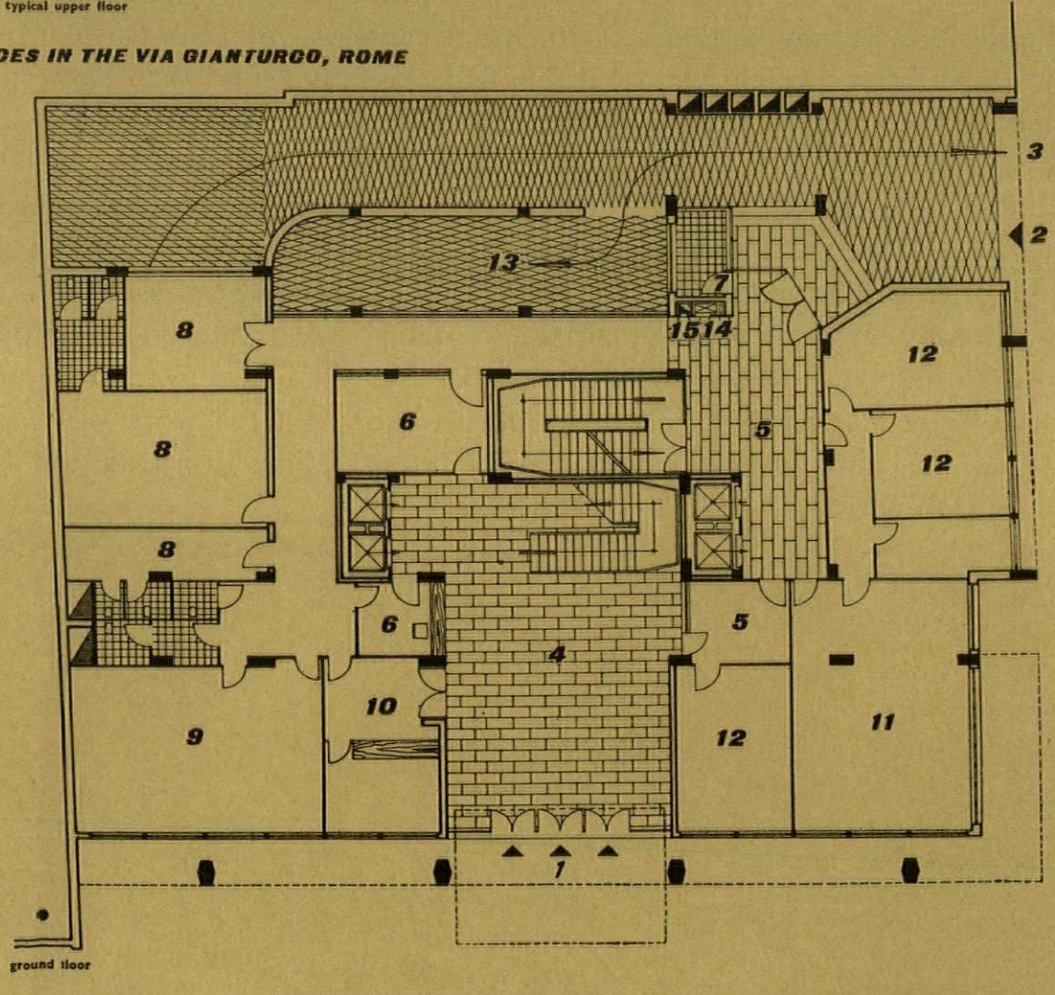
continued from page 374]

value as mobile advertising stations. One must be wary of generalizing about so widely dispersed, heterogeneous, instinctively conservative but by no means hidebound industry. Still, it is safe to say that although brewers want to emphasize their ownership of a pub, they do not want all their pubs to look exactly the same, like so many branch stores. The general opinion seems to be that a new pub should suit the needs of its local custom and be designed to fit into its surroundings—a theory fostered, if not enforced, by the justices and local planning officers who hold the whip hand in these matters. In any case, most of a brewer's pubs are already there, in every conceivable shape, size, style and situation.

Next to architecture, the brewer's interest in design centres on his bottle labels. A company's range of labels has usually a strong family resemblance; often enough the basic design is of long standing, though it may have been progressively simplified. But there seems to be little enthusiasm for centralized design policies embracing all the articles commonly used inside the pub: glassware, cutlery, waiter trays, drip mats, mirrors, dart boards, show cards, menu cards, calendars, notice boards and so on. This may seem odd, because most of these things are already exploited for advertising purposes. The objections are not far to seek. First, a pub's individuality is one of its greatest assets, so it may be argued that standardization can be overdone. Second, the cost of going the whole hog has got to be carefully weighed, though the example of Courage's, who have gone some of the way, proves that it can be done. Not unnaturally, brewers want to know how far the cost of improvements will be met by commercial returns. And since they must aim at pleasing customers rather than arbiters of elegance, official or self-appointed, they wonder whether a fashionable designer's idea of what looks good will be shared by the man in the Public Bar. It may be that it is, for whenever glassware, ash trays or other movable objects have been specially designed they have rapidly found their way into customers' pockets and handbags. Scarcity value may have been the motive, for most of these things are painfully shoddy. Yet there are brewers who would prefer to have them well made, and a few who care deeply. Well made—not too consciously 'designed'; because if they are too slick or sophisticated they will not look right in an ordinary pub. 'Commoditie, Firmnesse and Delight', to use Wotton's famous definition, are what is wanted. This combination of qualities underlies the best-looking and most appropriate objects peculiar to the industry, whether a dray, a Benskin signboard, a carved country inn sign or a Bass label. The pick of all these are probably not the work of 'designers' at all, but of simple, anonymous men trained in the disciplines of a traditional craft. It is a sobering thought.



OFFICES IN THE VIA GIANTURCO, ROME

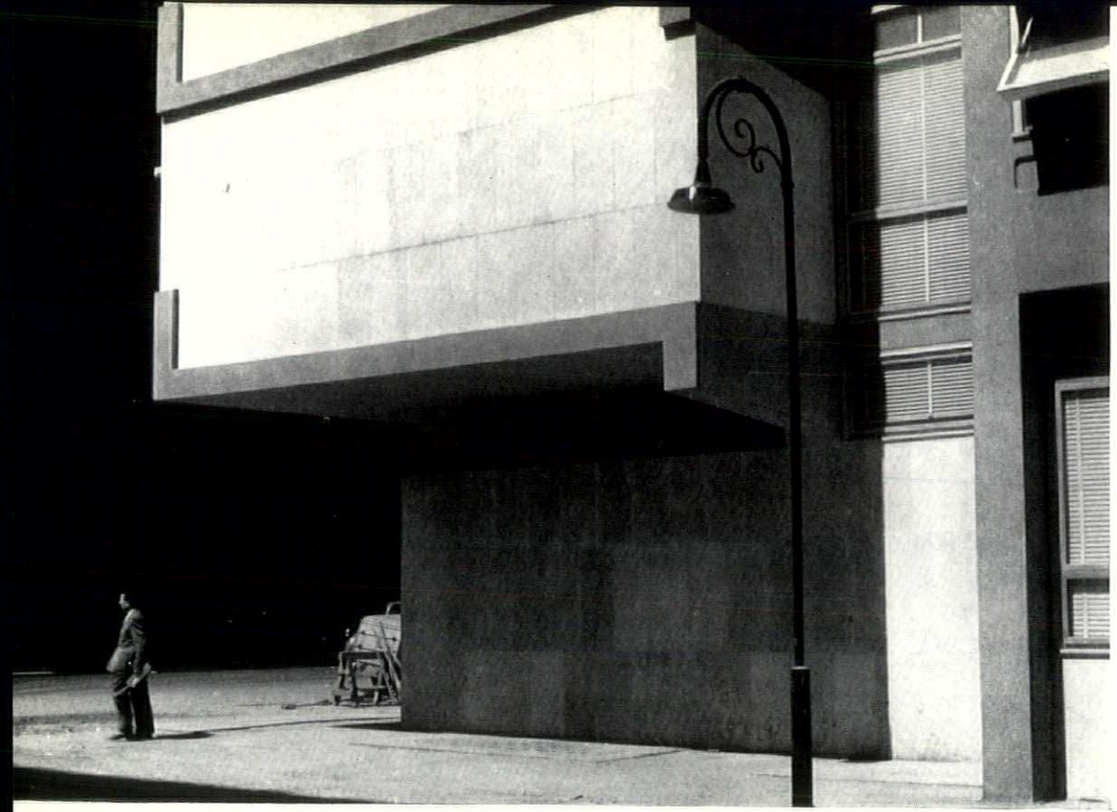


RECENT WORK BY

LUCCICHENTI AND MONACO

1, offices in the via Gianturco, Rome: street elevation.





OFFICES IN THE VIA GIANTURCO

The first five of these schemes are in Rome ; the sixth, at Santa Marinella, is on the Tyrrhenian coast. The office block in via Gianturco, seat of the Società Italiana degli Autori ed Editori, is of *in situ* concrete, aluminium and travertine. The offices are turned towards the outside, and stairs and services towards the inner court. The window unit, corresponding to the module of secretarial table, chair and filing-cabinet, is aluminium-framed and double glazed, with horizontally-pivoted venetian blinds between the panes. Small ventilation panels are set back between the *brise-soleil* and the floor slabs. It was designed in co-operation with the architects Passerilli.





Top, return elevation showing travertine infilling. Above, staff staircase. Left, block seen across the via Gianturco.

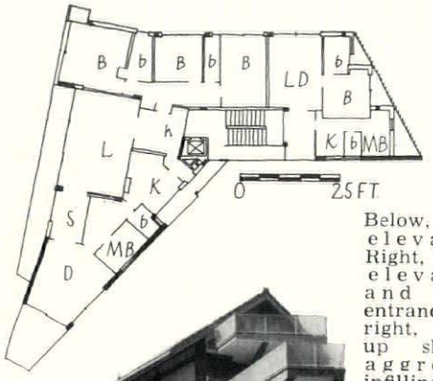
The small block of flats in via di villa Sacchetti is irregular in plan. Thus, for the sake of unity, a single infilling material has been used throughout—an aggregate of tufa, peperino and travertine, carefully blended for colour and texture.

The flats in via Stoppani vary the infilling panels from floor to floor, within identical thin floor slabs, and corresponding to a rigid modular unit. The panels are faced with terra-cotta bricks; the floor-slabs fascia and soffit, and window parapets are faced with venetian mosaic, and the ground floor is faced with polished granite and anodized aluminium.

The elevation of the flats in via de villa Grazioli is divided into strongly marked horizontal planes, with structural columns mostly visible, but is differentiated by varying, for example, the positions of stone panels corresponding with chimney corners and the lengths of the concrete flower boxes on the outside of the balconies. The glass-panelled balustrades are continuous. The chimney panels are of mixed stonework, composed of tufa, peperino and travertine; elsewhere the structure is cement-rendered or stuccoed and painted. The colours are: under the balconies, blue-grey; the fascias white, walls ochre-red, balustrades dark blue. Surrealist chimney-covers are by Nino Franchina.

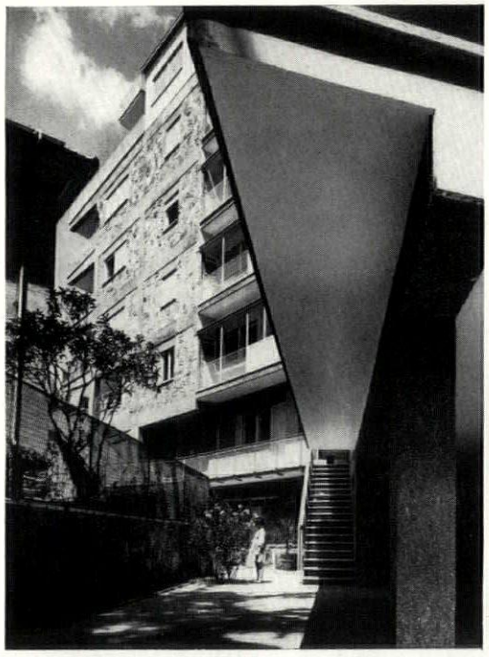
The elevational pattern of the flats in via Po is derived from the ends of the cantilevered beams, the fascias of the thin floor slabs, and the parapets. Behind it, separated from it by the continuous parapet, the balconies or by the corner dining terraces, are the glazed surfaces of the structure. On the sides, where available depth was restricted to 60 cm., the surfaces consist only of the floor-slab fascias and the wall-structure. The set-back attic floor is shaded by a slab. The materials are straight

FLATS IN THE VIA SACCHETTI



Below, street elevation. Right, side elevation and main entrance. Far right, close up showing aggregate infilling.

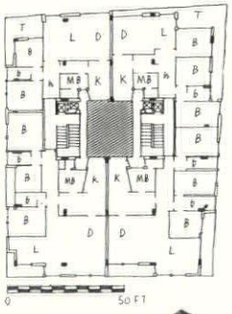






FLATS IN THE VIA STOPPANI





Below, view from the via Stoppani. Right, recessed entrance: ground floor panels are faced with granite and anodised aluminium.

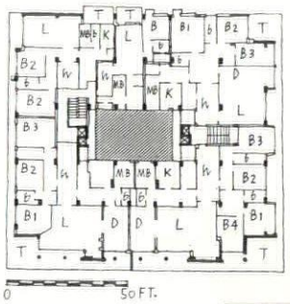




joint terra-cotta brickwork, painted stucco, river-gravel and cement rendering ; colours are red-brown, ochre, red and green.

The two blocks at Santa Marinella are situated between the shore and the main road, the via Aurelia. At ground-floor level there are only pilotis and a cantilevered stair so that the passerby has an uninterrupted view of the sea. The upper floors open towards the sea, with wide terraces cantilevered out to 3½ metres from the main structure, with variously treated parapets and a sweeping outside stair. On the road elevation the narrow service-balconies are protected by a *brise-soleil* of blue and white enamelled tiles. The materials are bush-hammered concrete, stucco, and enamelled brick ; the colours white, light grey-green, sea green and dark blue.

FLATS IN THE VIA GRAZIOLI



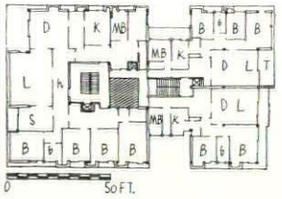
Below, general view showing strongly expressed floor slabs. Facing page, one corner of block showing recessed terraces.



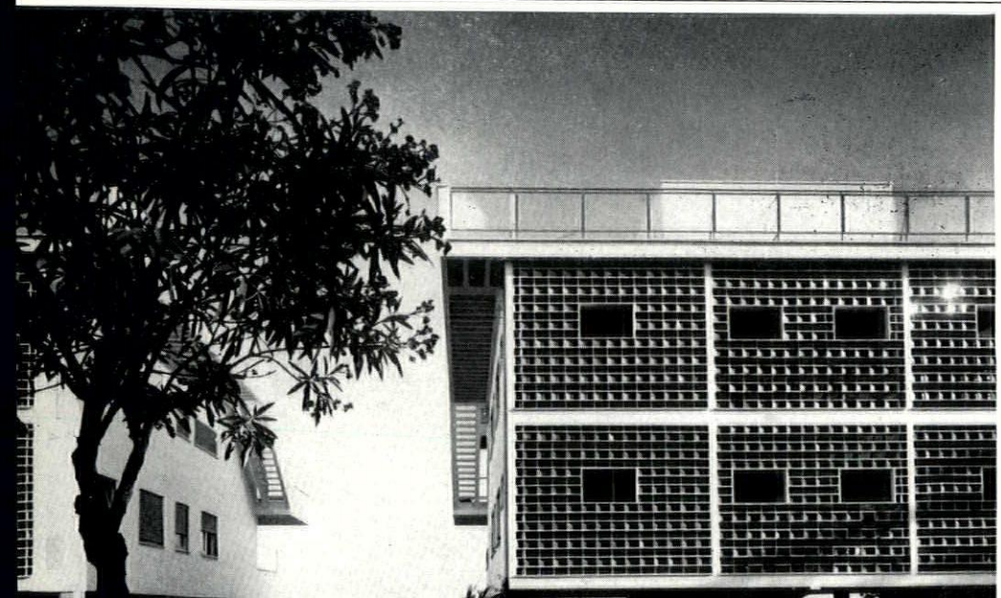




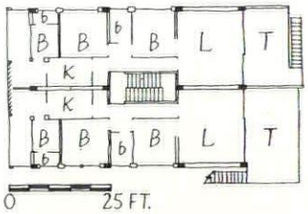
FLATS IN THE VIA PO



Far left, main elevation. Left, corner with dining terraces, showing the cantilevered beams and floor slabs.



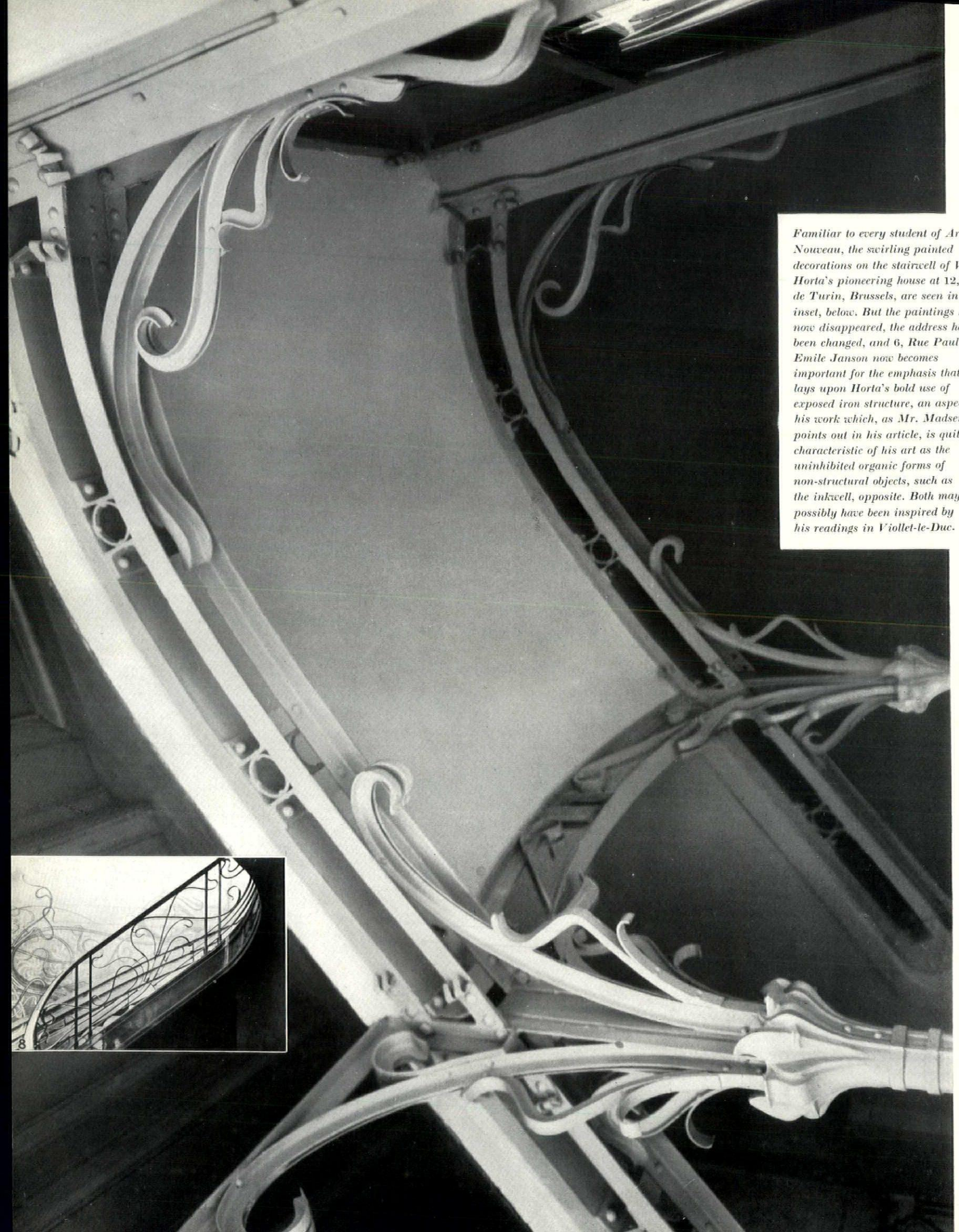
FLATS AT SANTA MARINELLA



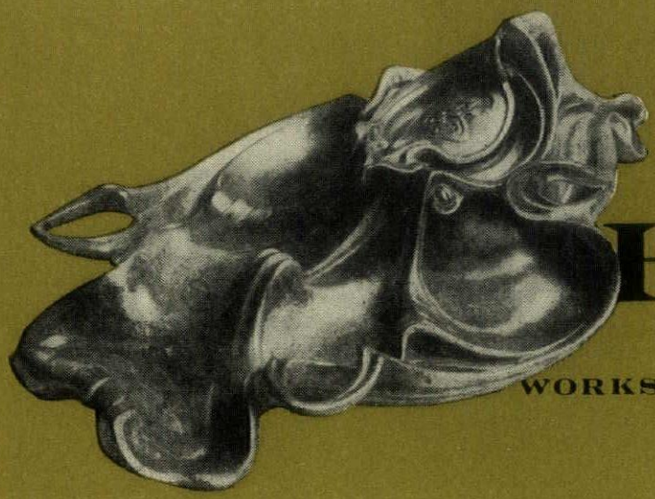
Left, seaward view between the blocks: rear elevations have blue and white brick infilling, laid edgewise. Below, pilotis and cantilevered main staircase.







Familiar to every student of Art Nouveau, the swirling painted decorations on the stairwell of Victor Horta's pioneering house at 12, *Rue de Turin, Brussels, are seen in the inset, below. But the paintings have now disappeared, the address has been changed, and* 6, *Rue Paul-Emile Janson now becomes important for the emphasis that it lays upon Horta's bold use of exposed iron structure, an aspect of his work which, as Mr. Madsen points out in his article, is quite as characteristic of his art as the uninhibited organic forms of non-structural objects, such as the inkwell, opposite. Both may possibly have been inspired by his readings in Viollet-le-Duc.*



Stephan Tschudi Madsen

HORTA

WORKS AND STYLE OF VICTOR HORTA BEFORE 1900

In 1878, Victor Horta, seventeen years old and poor, set out from the flower-covered plains of eastern Flanders to seek his fortune in Paris. He was the son of a cobbler, and travelled against his parents' wishes. He was armed with the knowledge he had gained during two years at the Academy in Ghent, the town where he was born. It is not known how long Horta stayed in Paris, but there is no doubt that these years were of the greatest importance to him. Years later, he said: 'Paris set my æsthetic sensibilities tingling . . . No school training could ever give me an enthusiasm equal to that which I always felt when looking at, or reading about, her monuments.'[1]

Back again in his own country, Horta continued his training at the *Académie des Beaux Arts* in Brussels, where he was an outstanding student, leaving in 1881. It was not difficult for him to obtain a position in the office of the architect to King Leopold II, the serious-minded classicist, Alphonse Balat (1818–95). Horta soon distinguished himself, and after Balat died he assumed charge of the office for some years. From 1892 Horta was attached to the University of Brussels, in the capacity of professor until his death in 1942. The only break was a stay in America during the 1914–18 war, where he and his wife, through their energy, acted as cultural ambassadors for Belgium and Europe.

At the time when Horta started work in Balat's office, Belgian, as indeed all European, architecture was tied to the imitation of styles of the past, though efforts were made to find a new expression by means of combinations of a number of different styles. The leading architects besides Balat were François Beyaert (1823–94), a pupil of Viollet-le-Duc, and the more influential Joseph Poelaert (1817–79), who designed the *Palais de Justice* in Brussels (1866–83). The neo-Baroque of this vast pile is famous, but Beyaert also designed in neo-Gothic, neo-Renaissance, and in a completely classical style. This eclectic historicism corresponds to the state of affairs in Britain, except that here its beginnings date back to an earlier age and the Gothic trend in its early fanciful as well as its later more severe archaeological phase was specially favoured for church buildings. That was not so in Belgium, where the tradition of classical ecclesiastical architecture was much stronger. Gothic in Belgium was a secular style influenced in particular by the spectacular *hôtels-de-ville* of the fifteenth and early sixteenth centuries. The numerous illustrations in *Architecture en Belgique 1872–76* (Liége, 1876), give a good picture of the secular architecture of the period. In the middle of the 1870's, German neo-Renaissance prevailed alongside French neo-Baroque. The first is characterized by balconies supported on caryatids, by pointed gables, and peculiar ornament. The second has a far more elaborate modelling of the wall surfaces, but smoother contours. The ornamentation is dominated by classical detail. The parallel in England would be the Elizabethan, somewhat later than Queen Anne, and in the late 1880's and the 1890's the Wren style.

In addition to these three main trends, neo-Gothic, French neo-Baroque and German neo-Renaissance, there existed in Belgium a fourth. It was nationalistic, as indeed one might expect of a nation only recently risen to national independence. The pattern here was the sixteenth and seventeenth century brick architecture with stone dressings. That industrious writer on architecture, E. Allard, who was behind the new periodical *L'Emulation*, made himself the spokesman of this movement. He said in 1876, on the question of the training of architects: 'We must try first and foremost to create Belgian citizens and Belgian artists—we must free ourselves from all foreign influences.'[2]

Emile Leclercq said in the same connection: 'The first necessity, the first endeavour must be to be Flemish in Flanders.'[3] The Belgian Pavilion at the Paris Exhibition in 1878 was an example of this movement. The style here was that of Rubens.

Among these movements only the national one made serious attempts at finding solutions to real architectural problems. Its adherents admittedly tended to use their pens with more determination than their pencils, but in their theories at least they defined the dangers in no uncertain terms. Those men, especially, who founded the *Société Centrale d'Architecture de Belgique* in 1872, and started the Society's organ, *L'Emulation*, two years later, were aware of their responsibility. In the leading article of the first issue we read: 'We are called upon to create something which is our own, something to which we can give a new name. We are called upon to invent a style!' In the following years *L'Emulation* championed the new constructive tendencies in Belgian architecture. Time and again such men as Allard and Leclercq reiterate: 'Nothing is beautiful in architecture unless it is true.' 'Shun painted plaster and stucco.' 'Architecture is drifting towards decadence, towards a veritable cacophony.' But we do not only find negative criticism, new roads for the future are indicated: 'Industry, after having killed art, is going to revive it by offering us all the elements necessary for such a revival.'[4] These words were said in 1884, before Sedding in England acknowledged the repercussions of industrialization and before C. R. Ashbee had formulated his modified version of Morris's and Ruskin's programmes. They are, moreover, stronger and more pertinent than those of Lewis F. Day. The question of iron, which both Ruskin and Viollet-le-Duc had raised much earlier, was now reconsidered: 'Iron is a product of our century, why are we so afraid of using it in our new constructions?'[5] It is significant here that Poelaert was violently criticized in *L'Emulation* because he was 'lying in his work' (at the *Palais de Justice*) and giving his material a shape other than that dictated by its natural qualities.[6]

Such was the architectural situation in Belgium when in 1885 Horta designed his first houses, a group of three in the Rue des Douze Chambres at Ghent. Until then he had only designed two small funeral monuments, one in 1883, a Greek *templum in antis*, the other in 1884. He had also taken part in two competitions.[7] Of the three houses in Ghent Jean Delhaye wrote much later: 'They are straightforward and practical, well thought out and logical; there is plenty of light. They satisfy the functions which their purpose requires.'[8] They are built of red brick with arched windows on the first floor but no other decoration. *Putti*, sunk panels and a far projecting top cornice add an Italian touch. But there is no sign of the neo-Renaissance in the accepted sense, and, least of all, the German Renaissance. With their simplicity and their great restraint in decoration, the houses are distinct at once from all their immediate neighbours. Yet, while they are interesting, they are not revolutionary. Horta himself said in this connection: 'I was not so pretentious as to try and create more beautiful works than Balat; but I wanted to act in accordance with my convictions.'[9] After this commission, Horta returned to Balat's office for a short time, also travelling in the years 1884–86. The years 1886–90 are perhaps the most interesting in Horta's development; he set himself the task of creating a style, measured his own abilities, and broke with his masters. Our knowledge of those years is scanty, but we do know that they were an eventful period in the history of Belgian architecture. Poelaert's *Palais de Justice* was practically finished. It was received with mixed feelings, innumerable criticisms being made against his copying of styles of the past. Yet no one had yet freed himself from historicism. However, powerful constructional and rational tendencies were beginning to assert themselves, originating from the centre of disturbance in French architecture, Viollet-le-Duc. And other French sources, notably Emile Gallé and Eugène Grasset, drew attention to naturalism in decoration. No English influences on the other hand can be traced in Belgium until after 1890.

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[1] For information and assistance I wish to thank the architects Jean Delhaye, M.S.C.A.B., and J. J. Eggericx, M.S.C.A.B., who both worked in Horta's office and allowed me to draw on their wide knowledge as well as chief librarian Arsène Alexandre, École Supérieure d'Architecture, Brussels; and Miss Roza Boschman, Ghent. The Horta Archives, in the care of Jean Delhaye, proved of great value too. I am also exceedingly grateful to Baroness Horta for her invaluable assistance.

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Letter collection in the Académie Royale, Brussels.

[2] E. Allard, L'Architecture Contemporaine, *L'Emulation*, Vol. II (1876), Nos. 10, 11, 12.

[3] E. Leclercq, L'Architecture Classique, *ibid.*, No. 1, Vol. III (1877), co. 1-3.

[4] The last four quotations come from *L'Emulation*, No. 12, Vol. III (1877), co. 79; *Ibid.*, No. 1, Vol. III (1877), co. 1-3; *Ibid.*, No. 11, Vol. II (1876), co. 91; *Ibid.*, No. 5, Vol. IX (1884), co. 48 f.

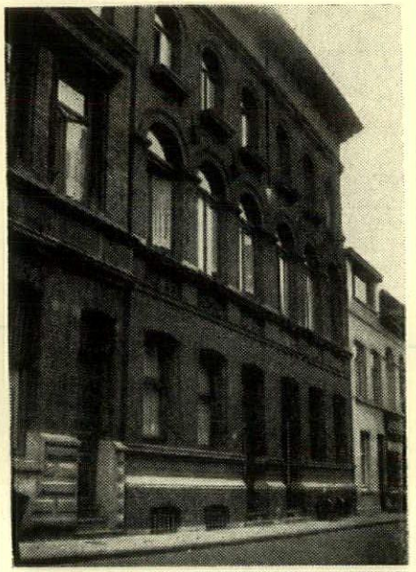
[5] *Ibid.*, Vol. XVII (1893), co. 111-12.

[6] *Ibid.*, No. 5, Vol. IV (1878), co. 28.

[7] In 1884 Horta was awarded the Prix Godecharles, one of the five prizes given in the competition for the prison in Verviers. In the same year he was awarded second prize in the competition for the Kursaal for Brussels, the first prize went to Acker, a neo-Renaissance architect.

[8] Delhaye, Jean. 'Hommage à mon maitre : L'Architecte Baron Victor Horta,' *L'Appartement d'aujourd'hui*, Liége (1946), p. 10.

[9] Extract from a letter mentioned by Baroness Horta.



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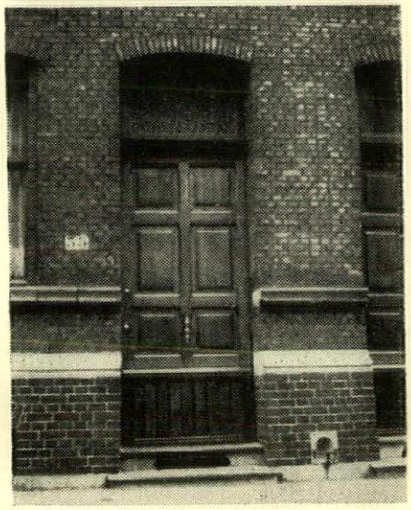
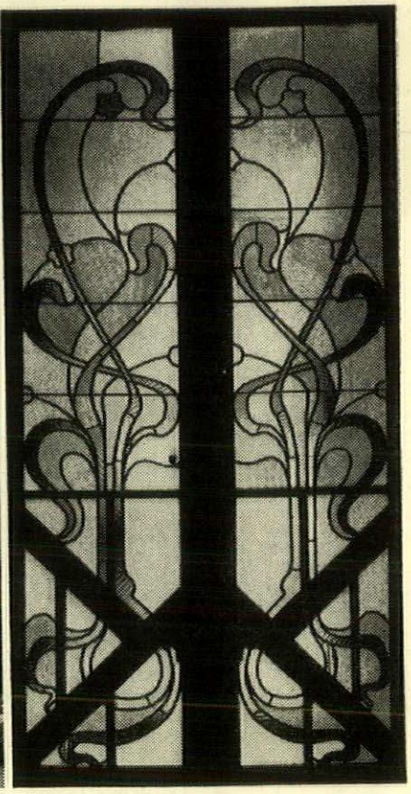


3

2 and 3, *the first houses Horta designed, in* 1885, *a group of three in the Rue des Douzes Chambres, Ghent.*



4



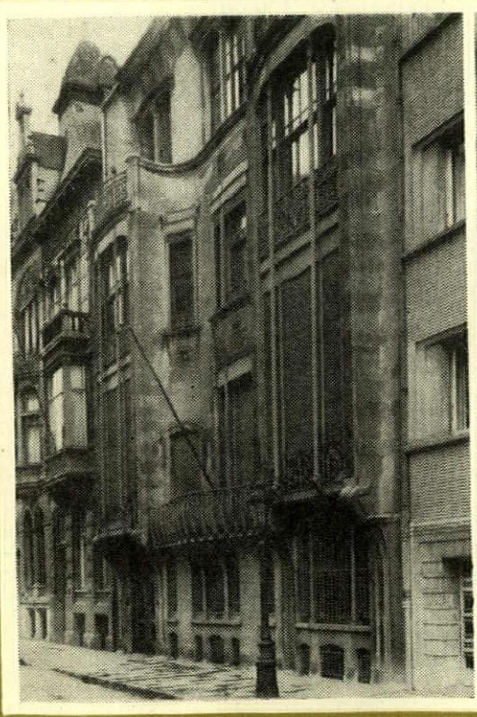
5

4, *No.* 6, *Rue de Turin, Brussels, built in* 1892-3 (*now styled* 6, *Rue Paul-Emile Janson*), *the first in the new style.* 5, *coloured glass panel in the entrance of the house.*



6

6, *door-numerals for the Hotel Solvay, Avenue Louise, Brussels.* 7, *the basically Neo-Gothic exterior of the hotel and,* 8, *the sweepingly Art Nouveau interior, as seen in the dining-room. The electrolier also exhibits the same free linear invention, and a bold and imaginative acceptance of new technological developments paralleling his employment of exposed iron construction.*



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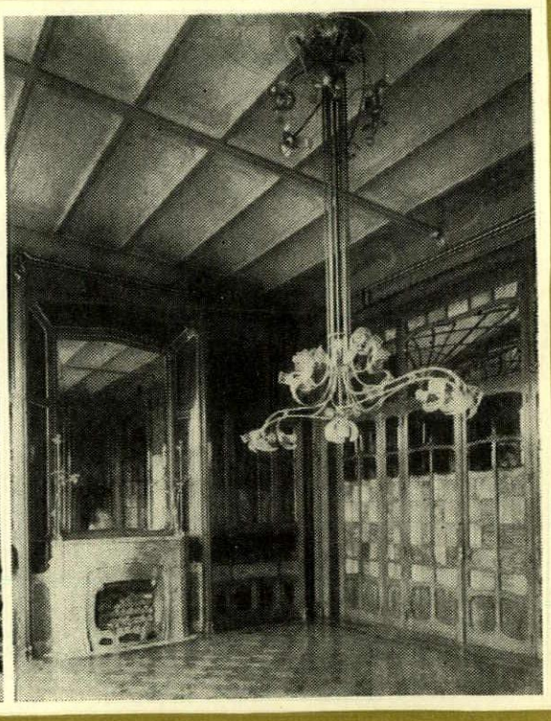

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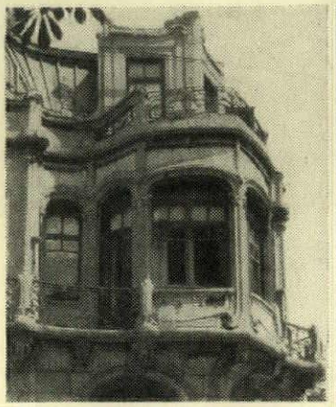

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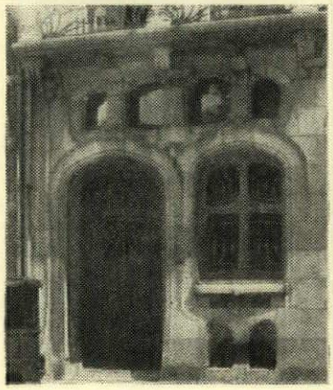

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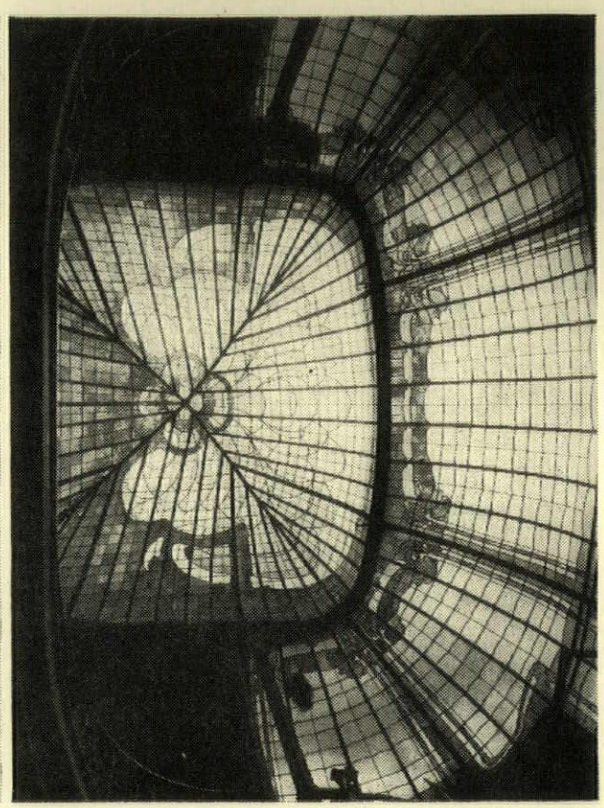

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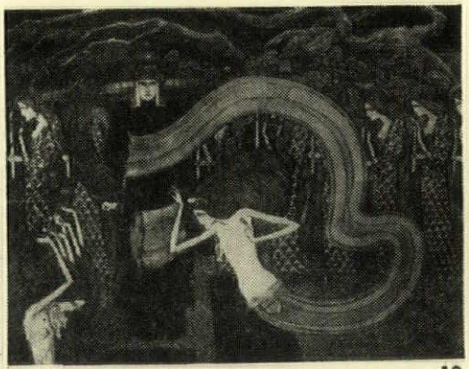
9-11, *the Hotel Aubecq* (520, *Avenue Louise*), *built by Horta in* 1900, *and pulled down in* 1949-50. *The asymmetrica curve of the centre window in* 9, *above, should be noted. The hall,* 11, *right, shows clearly the use of exposed iron construction.*

12, *Initial by Georges Lemmen*, 1893. 13, Apocalypse, *and* 14, 'O grave, where is thy victory?' *by Jan Toorop*, 1891-2. 15, *vignette by Gysbrecht van Amstel.*



12



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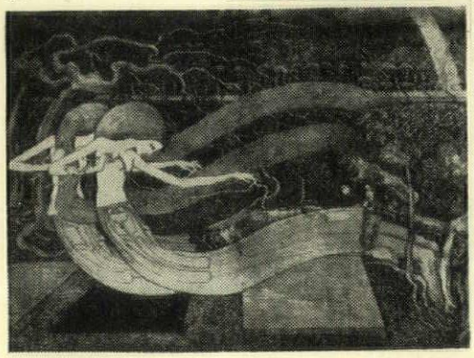




15

As for Horta himself, we know that between 1885 and 1891 he did not build any houses, but that he wrote a certain amount, especially during the years 1888–89.[10]

We also know that he was not satisfied with what he had designed up to that time, and that he therefore returned to studies, paying considerable attention to flowers and plants.[11] Then, in 1892, Horta suddenly emerged as a fully mature architect with a completely new style ready on his drawing board. The first house in the new style was built in 1892–93, in the best residential quarter of Brussels, for Professor Tassel. Its address is now 6, Rue Paul-Emile Janson.[12] But it is better known under the old name 12, Rue de Turin. The plan of this building differs from the traditional Belgian scheme by a less restricted space for the staircase and by the introduction of a circular hall. In the exterior Horta now turned to the neo-Gothic style for inspiration. This is chiefly noticeable in his columns with their bases and capitals, and in the design of the windows. From the Gothicists also Horta may have received the idea of exposing iron construction. It was the Gothicists in Belgium who, after the example of Viollet-le-Duc, had pleaded for the new material. In fact iron had already been used a great deal in neo-Gothic buildings throughout Europe. Even so, however, an iron girder, exhibited naked and unashamed, veritably boasting of its honesty, as may be seen between the first and second floor of Horta's building, had never before appeared in a private house. Horta repeats this motif in several parts of the interior, where he shows himself most impressively as an innovator.

In the door, on entering the house, one notices large areas filled with coloured glass in a decidedly linear pattern. The lines grow upwards like the stalks of flowers, full of life and fertility; yet they are not naturalistic, but stylized. On examining the floor in the circular hall, one is immediately struck by the rhythm of its pattern. But this time one is reminded more of the long, curving and swaying tentacles of an octopus. Again the pattern is abstract, but it did not take long before the style was nicknamed the *paling-stijl* (that is 'eel-style'). In addition to the glass and floor patterns, the walls and the staircase have abstract linear designs. Even the iron construction under the ceiling is subjected to the same fantastic rhythm. Glass, lead, iron, stone and wood all have to submit themselves to the same laws of decoration. 'Because, for a man of his talents, everything was so simple and easy, he created difficulties just for the sake of overcoming them,' said one of his pupils.[13] When Balat saw the house, he was silent and dried a tear in bitter disappointment over his favourite pupil.[14]

Where are the origins of Horta's new style? One's first guess is of

[10] Victor Horta: Musée d'histoire naturelle, *L'Emulation*, Vol. XIII (1888), pp. 22-23-24; *Ibid.*, Excursion en Holland, pp. 121-24; *Ibid.*, Le Théatre Flamand en Bruxelles, pp. 155-59; *Ibid.*, Académie Royale de Belgique, Vol. XIV (1889), p. 16; *Ibid.*, Voyage Hellénique, p. 109.

[11] I owe this information to Baroness Horta in April, 1953.

[12] The house is usually dated 1893, but Octave Mause mentioned in an article, Habitations Modernes, *L'Art Moderne*, Vol. XX (1900), pp. 221-23, that the house was actually under construction in 1892. It is now an *Atelier de haute Couture*; no radical changes have been made to the building, neither outside nor inside, except that the famous mural decorations on the staircase have been painted over, they may, however, still be seen in favourable light.

[13] The architect J. J. Eggericx, to the author April 4, 1953.

[14] Mentioned to the author by Baroness Horta in April, 1953.

course Britain, the Arts and Crafts Movement or the Pre-Raphaelites, especially in their later phases which exhibit such strikingly rhythmical and linear tendencies. In favour of a British origin is the fact that in 1881, Paul Dietrich and Joseph Schwarzenberg had opened Belgium's first *Librairie d'Art* in Brussels (in the immediate vicinity of the *Musées Royaux* and the *Bibliotèque Royale*).[15] The firm maintained active contact with Britain, introduced, for instance, *The Studio* into Belgium, purchased the graphic art of such men as Selwyn Image and Heywood Sumner which they made known to the Belgian public, and also negotiated sales to the *Musée Cinquantenaire*.[16] But these purchases, including a subscription for *The Studio*, refer only to 1893. As for the Pre-Raphaelites, their popularity was by no means universal in Belgium at that time, as may be seen from the following 'aesthetic menu' published in *L'Émulation* in 1893:

Lis en branches au naturel
Fleurs de Tournesol à l'oriflamme
Poissons louches à la dado
Cuisse de cigogne tout au long
Tête d'epouvantail à la Botticelli
Compote de fruit defendu à la Baudelaire fortement sucré.[17]

Neither William Morris nor his movement are mentioned in *L'Emulation* before 1893. It does not therefore seem likely that any direct connection of importance between Britain and Horta existed, when he designed the house for Professor Tassel. The Celtic or Nordic Revival which is a factor in the development of the style of the nineties in England and Scotland[18]—and even more in Scandinavia[19]—does not seem to have had any response in Belgium. On the other hand Horta was ardently interested in France, due both to what he had read and what he had seen, and Viollet-le-Duc's *Dictionnaire raisonnée d'architecture* was his bible.[20] He may also have received impulses from the Pont-Aven, that is the Gauguin, school toward the end of the 1880s. The Synthesism and use of line and rhythm of the group could well have reached him, but what is even more probable is dependence on the Belgian group, *Les XX*, which had been active in Brussels holding meetings and exhibitions, from February 2, 1884. The reaction against Impressionism was clearly demonstrated at the exhibitions, where the accent was on contour, clear colour, line and no depth. There were two English exhibitors at the exhibitions respectively of 1891 and 1892, Walter Crane and Selwyn Image. Herbert Horne and Ford Madox Brown exhibited in 1893.

But the closest approach to Horta's form is in the works shown by such artists as Anton der Kinderen, the painter (1859–1925), Fernand Khnopff, the symbolist (1858–1921), Georges Lemmen (1865–1916), the ambitious neo-Impressionist, Henry van de Velde, also a painter (1863–), Alfred William Finch, the painter and etcher (1854–1930) and, more than any of the others, Jan Toorop (1858–1928). Within this group, such terms as *hermétique*, *synthétisme* and *cloissonisme* were every-day speech, and all these terms refer to clear contours of homogeneous areas. In their dislike of the disintegrating tendencies of Impressionism they were unanimous. The position held by van de Velde within this group and his significance in the subsequent expansion of Art Nouveau has nothing to do with the birth of the style. During the years 1889–93, he exhibited with *Les XX* as a painter. During the last two years, he also exhibited embroideries, 'worked in the technique of the Neo-Impressionists which van de Velde, still a painter, continued to apply to his canvases.'[21] On the other hand, Jan Toorop had produced in 1891 and 1892, such symbolic drawings as *Apocalypse*, *O Grave, where is thy Victory?* and *Symbolic Drawing*, which in rhythm and predominance of line point towards Horta's new style. There is no clear indication that Horta had any direct connection with the *Les XX*, although a keen young architect in Brussels could hardly remain unaware of them. *Les XX* were specially interested in decorative art, and in 1893, gave two whole halls of the exhibition to *Arts Décoratifs*. In 1891 already, pottery had been exhibited, including works by Gauguin. It is highly characteristic that in 1894 van de Velde gave a series of lectures on Camille Lemonnier's slogan: 'L'egalité de tous les arts, décoratifs et autres.'

Horta must have known Gallé and Grasset, Viollet-le-Duc, the general opposition to the copying of period styles, the post-Impressionist emphasis on line, and of course of Toorop. But in the midst of all this varied activity it remains Horta's achievement that he gathered all these tendencies together and applied them to the house as a whole. The pronounced three-dimensional and plastic effect, however, which characterizes some of Horta's façades and the dynamic form language which stamps his ornaments and smaller objects should most probably be seen in relation to the plastic conception of form of the neo-Baroque.

Horta continued throughout the 1890s in his dual task, the creation of a new idiom of form and the search for a logical and clearly expressed architectural solution to constructional problems. The first task had been achieved in the house of 1892–93, the second found a completely satisfactory solution in the *Maison du Peuple* in Brussels, 1896–99, the first façade in Belgium consisting mainly of iron and glass. Specially interesting points in this building are the Gothic details in the interior and the polychrome areas of the façade. The first indicates a persevering source of inspiration, the second a national tendency.

During the 1890s, Horta was responsible for a number of houses in a fully developed Art Nouveau. Before Sigfried Bing opened his showroom in Paris in December, 1895, the plans for the Hotel Solvay in the Avenue Louise and the Hotel Eetveld in the Avenue Palmerston both in Brussels, were ready on Horta's drawing board. The exterior of the Hotel Solvay is again basically neo-Gothic both in construction and detail.[22] The interior, however, is sweepingly Art Nouveau. From the ceiling, with its linear decorations, a cluster of thin parallel tubes is suspended which open out in irregular flowers reminiscent of violets; in the slightly curved walls the same linear rhythm occurs everywhere. Nothing can be changed, nothing can be subtracted or added; no other style could be allowed, a Baroque chair would seem coarse and insulting, and a Louis XVI vase an out-of place flirtation.

Only textiles could be bought in the market to suit such a unified design, and they would in all probability be English. There exists, in fact, an interesting bill from van de Velde who at this time was running a business in decorative arts. This is dated June 17, 1897, and tells us that Horta purchased several yards of 'soie Liberty'[23]—a trivial record but one which reminds us of the reason why Art Nouveau is called by the Italians *Stile Liberty*.

Horta continued in the style of Solvay and the *Maison du Peuple* until after 1900 (see for instance the Hotel Aubecq of 1900 which was pulled down in 1949–50).[24] Then excesses subside, the idiom becomes calmer, surfaces simpler and contours firmer, as may be seen in buildings like 85, Rue Washington, 1906–7, and the *Établissement Wolfers*, Rue d'Arenberg, 1906, both in Brussels. At the same time constructional problems continued to receive satisfactory solutions, as instanced by such buildings as the large store, *Innovation*, in Brussels, 1901, the *Grand Bazar Anspach*, 1903–5, also in Brussels, and the *Magasin à l'Innovation* in Antwerp. Horta's later development to the *Palais des Beaux Arts* in the 1920s, and finally the new *Gare Centrale* in Brussels, still incomplete, reflect some of the main trends in the more recent development of European architecture, but fall outside the scope of this article.

[15] Reported to the author in May, 1953, by the present Director of the firm, Jean Schwarzenberg.

[16] They were wallpapers and chromolithographs, 28 items in all. (No. A.M. 1-14, 6699-6712). The purchases were made in 1893.

[17] G. M. Les Pre-Raphaelite anglais, *L'Emulation*, Vol. XVIII (1893), co. 168.

[18] Thomas Howarth, *Charles Rennie Mackintosh and the Modern Movement*, London, 1952, pp. 229-232.

[19] St. Tschudi Madsen, *Dragestilen*, *Vestlandske Kunstindustrimuseums Arbok*, 1949-50, Bergen (1952), pp. 19-62.

[20] So J. J. Eggericx told the author in April, 1953.

[21] Octave Maus, *Trente Années de lutte pour l'art*, 1884-1914, Brussels (1926), p. 147.

[22] *Ibid.*, p. 179. Inside also a Gothic feeling makes itself felt very occasionally, *see* for instance the chair with the small leaves, Ill. St. Tschudi Madsen, carsten Hopstock, *Stoler og Stiler*, Oslo, 1955. Fig. 96. Interior details influenced by the style of Louis XV are also found (e.g., the fireplaces and the inkwell).

[23] Archive Comité Horta, 124, Avenue Charles Quint, Brussels.

[24] Photographs in Archives Centrales Iconographique d'Art National, Brussels.

Chronological list of Horta's Early Work. (Where no town is stated, buildings are in Brussels.) *Existing Works:* 1883: *templum in antis* (memorial for Lambeau) Parc Cinquantenaire. 1885: 31, 33, 35, rue des 12 Chambres, Ghent. 1892-3: 6, rue Paul-Emile Janson (interior partly transformed). 1893 (?): Maison Autrique, Chaussée d'Haecht. 1893-4: Maison Frison, 37, rue Lebeau. 1895: Hôtel van Eetveld, 2, av. Louise. 1895-1900: Hôtel Solvay, 224, av. Louise. 1895-6: Hôtel Winssinger, 66, rue des Monnaies. 1896: Laboratoire E. Solvay (transformed). 1896-9: Maison du Peuple, Pl. Emile van der Velde. 1896: house, 157, rue de l'Aqueduc. 1897-9: Hôtel de Mme. van de Velde, av. Palmerston and rue Bodugnuat. 1898: 2 houses for himself, 23-25, rue Américaine. 1900: Hôtel Aubecq, 520, av. Louise (pulled down 1949-50). 1901: Innovation, rue Neuve (partly transformed). 1903-5: Musée de Tournai; enlargement of 157, rue de l'Aqueduc; Magazins de Gros Waucquez, rue de Sable. 1906: Hôtel Max Hallet, 306, av. Louise; house, 85, rue Washington; Villa Horta, La Hulpe; Etablissement Hiclet, rue Neuve; Etablissement Wolfers, 11-13, rue d'Arenberg.
Exhibitions designed by Horta: Exposition du Val St. Lambert, 1896; Belgian Pavilion at the Paris Exhibition, 1900; *Exposition du Congo*, Paris, 1900; Belgian Pavilion at the Turin Exhibition, 1902; Belgian Pavilion at the Milan Exhibition, 1906.
Monuments, etc., by Horta: 1884: Memorial at Ghent. 1894: Solvay; Artan, Oostduinkerke. 1895: Huybrechts, Ghent. 1896: Van Beneden; and Ompdraille; Tomb for family Stern. 1899: Remy. 1900: Rivoir (with the sculptor Samuel). 1902: Brahms; Bara, Tournai; tomb for Mme. Lotte, Leuze.
Villas, etc., built by Horta: 1895: school, rue St. Ghislain. 1896: a house for Mlle. Brossel. 1897-9: château for Baron Wangen, Chambley, nr. Nancy. 1897: Villa Timberman. 1898: Villa Rouge et Rose; Villa Germaine, Wenduyne; Villa des Pavots, Wenduyne; Villa La Joie; Villa Yvonne; Villa Carmouche, la Panne. 1899: château for Carpentier; château for Arden, Wenduyne; *maison de campagne* for Frison, Uccle. 1900: Etablissement Cousin, Chaussée de Charleroi. 1901: Hôtel Dubois; Maison Dopchie; Hôtel Roger; Maison Braecke. 1902: Restaurant Moury; Maison Delgouffre. 1903-5: Maison Sander Pierron. 1903: *Salle de Gymnastique 'Le Peupliers,'* Vilvorde; house for Mlle. Lefebvre; Hôtel Vinck; Villa in Maredsous. 1906: Hôtel Wiener; Innovation, place de Meir, Antwerp. 1905 (?): Grand Bazar Ansbach. 1903(?)-05(?): Department Store, Frankfurt.
Furniture: 1894: for M. L'Hoest and for M. Dubois. 1901: for M. Vinck.
These chronological lists could not have been compiled without the help of the *Archives de Comite Horta* and J. J. Eggericx.

EDITORS ONLY

DERELICTION

The word Dereliction is commonly associated with duty and its non-fulfilment. And it is certainly justifiable to extend its meaning into a less metaphorical field where it still carries its original overtones: hence the REVIEW *calls the eating up of valuable land by the indiscriminate tipping of waste materials, mining subsidence, unfilled excavations or abandoned workings and their ruins, phenomena which follow in the wake of the heaviest industries wherever they go, DERELICTION. The extent and the threat of this problem is probably little known outside the areas concerned. The County of Lancashire, as last month's article* showed, is unique in England for tackling the problem of reclaiming derelict land on a scale proportionate to the size of the problem. It is probably as little known that MOHLG, by paying half the cost, in approved cases, has recognized the urgency of the task. As a result of that article the Editors have received a letter from U. Aylmer Coates, Lancashire County Planning Officer, which is printed below. An important point from the letter is that the poorest authorities are often the worst afflicted—a fact which is surely the County's (and the whole country's) concern, not merely that of the few unfortunates who live there.*

'Land,' writes Mr. Coates, 'has come to be regarded by many as expendable—the price of civilization's wealth, and an impoverished soil, barren uplands, excavations, subsidence "flashes", spoil heaps and derelict defence works often remain. Planning has the uneasy lot of adjudicating in this clash in the use of the countryside.

'Extractive industries have already produced in parts of Lancashire and elsewhere, a degree of dereliction which can only be effectively tackled if reclamation is accepted as a public liability. When land becomes scarce, reclamation becomes an economic necessity as well as an objective in the restoration of amenities. Our approach to the problem is not one of mere reaction—preservation at all costs. We accept as an unavoidable course the need to find new uses to which some of our land must be put. The test is whether we are sensitive to the different uses and are equipped to select the best balance and are we mindful of spiritual as well as corporeal needs? There is often an overriding demand for the exploitation of capital resources in the land. Thus the countryside is still being changed by the works of Man. Can it be done without forsaking a benevolent heritage?

'The Town and Country Planning Acts, the National Parks Act, the Forestry and Agriculture Acts between them contain powers enabling the reclamation and improvement of land, but they are generally unused and untried. Planning Authorities could themselves do positive work in this connection and our experience in Lancashire is that we can justifiably ask for, and, indeed, have secured, greater co-operation with mineral operators since we ourselves embarked on schemes of reclamation. An ounce of practice is sometimes worth a ton of theory especially when Government shares the cost as it is doing in Lancashire.

'It is usually found that the most intractable problem of dereliction is in districts where local resources are least able to secure a remedy. One of the poorest authorities in Lancashire, from the point of view of rateable value, has over 40 per cent. of its area derelict and a sustained attack on its problems of dereliction would involve an increase of at least 5 shillings on the rates. Lancashire County Council is accepting responsibility in a number of pilot schemes without calling on the District Council for any contribution; thus the county and the country are sharing the cost, which is fair enough since there might have been neither a Lytham St. Annes nor a Chesham Bois if there had been no Ince-in-Makerfield.

'But our work might well become abortive if our efforts are overtaken by new dereliction. For example, the National Coal Board is entitled to extend, without planning consent, any spoil heap in existence on the 1st July, 1948, on the same site. On an appeal arising from a determination, it was decided that fences or hedges did not constitute a boundary to the existing site. Presumably, a stream, canal, railway or road might do so, but in practice this may mean that the deposit of waste material on many hundreds of acres is permitted development and an Order to bring such an operation under control may involve the Local Planning Authority in heavy compensation. Insistence on deposit of spoil, for example in a subsidence "flash" three miles away might cost 3 shillings extra per ton and, assuming a ton of spoil for every four tons of coal, would add as much as 9d. per ton to the cost of producing the coal. Great efforts have recently been made to save land by increasing the densities of housing and this has produced more compact and homely layouts, but a rough calculation shows that in 20 years time something like 10,000 acres of land will be used in Lancashire by mineral operators, for tipping purposes or by local authorities for the deposit of household and other refuse.

'Any reclamation policy must be not only curative but also preventative. Whilst efforts should be made to equate the cost of restoration with the creation of new land values and the reducing of subsidies to a minimum, the enhancement of values in the neighbourhood created by the improvement of amenities should not be overlooked. In new mineral operations, restoration should be planned with workings as a single process. In Lancashire, we have acquired some old and derelict areas by agreement under Section 40 of the 1947 Act. The grants available from Government for acquisition and clearing can include grading, levelling and removal of waste material. Subsequent cultivation is not subject to grant as it is not "implicit" in the term "acquisition and clearing." Our tree planting operations on spoil heaps have been done under Section 89 of the National Parks Act which can be used outside Park areas. In such cases, grants are not available under that Act, but the Forestry Commission have assisted in a few instances by their grant of £15 per acre (about one quarter of the cost) which suggests that the work is of long term economic value.

'There are some accompanying benefits in reclaiming derelict land adjoining built-up areas: it reduces the sprawl of development as well as conserves adjoining agricultural land. Thus, the lengths of streets and public services such as bus routes, sewerage, water and electricity may be shortened and cheapened and the number of branch facilities, such as libraries, schools and health centres, may be reduced.

'The cases tackled so far are the relatively simple and inexpensive ones where there is some reasonably assured demand for the land, e.g., housing, schools, playing fields, agriculture or industry. Many derelict excavations cannot be reclaimed without filling from outside sources and tipping must, therefore, be employed as a positive reclamation instrument. Sites suitable for tipping have already acquired a scarcity value roughly proportional to their proximity to industrial towns. Mineral operators, when they have finished extraction, are generally free to backfill without planning consent. In remote sites, conditional planning consents imposed on mineral operators requiring them to backfill may be an expensive liability, but near industrial

* Kenneth Browne "Dereliction" (A.R. November, 1955): one of a series which will be appearing, devoted to the same problem in various parts of the country.

areas they can charge heavily for the right to use their excavations. Thus, for example, the refusal of planning consent for tipping by a steel corporation on good agricultural land may put a high monopoly value on nearby excavated areas.

'The acquisition of worked-out mineral sites and subsidence "flashes" and their management as regional tipping projects should, in suitable cases, be an integral part of any reclamation policy. Co-ordinated regional tipping projects would ensure that waste material would be directed to reclamation objectives.

'The reclamation of derelict military sites which have been written off by the Government is now proposed as a planning responsibility and if this is accepted, government grants should be available for their restoration in the same way as for the recovery of any other derelict land.

'The tree preservation powers of the 1947 Act are valuable in controlling felling operations which may be made conditional on replanting, but the role of a planning authority towards the landscape could, with advantage, be more positive. Short of widespread acquisition, the planning authorities can still do much by persuasion. If the land has become fragmented into separate ownerships, this can be a long and painstaking process, but the results are usually worthwhile.

'In many cases, I feel—as THE ARCHITECTURAL REVIEW does—that there is no need to flatten every spoil heap, the cost of which would in many cases be prohibitive. Properly clothed and judiciously planted, they can be attractive in what might otherwise be a dull, flat landscape. They can also provide effective wind-breaks and many of the cloughs and steep-sided valleys should also be wooded to arrest erosion.

'Thousands of acres of upland areas—once forest—are now almost derelict by erosion or sterilized by water authorities. They await afforestation. Some of them in Lancashire are in atmospherically-polluted areas and perhaps for this reason have not so far been planted, but when clean air becomes obligatory much can be done to humanize many bare tracts of land. The Mersey River Board have initiated a pilot scheme for the afforestation of 70 acres of watershed consisting of poor land reverting to heath. This will provide information about the effects of afforestation in controlling the rate of water "run-off". Large-scale planting in the Irwell catchment area may produce improvement to the problem of recurring floods in the valley towns.

'A treasure is never more valuable than when the danger of its loss is imminent. There is, perhaps, a natural tendency to be passive in these things rather than to exert our efforts to improve. It needs a polemic such as an "Outrage" to stir the public conscience and it is still necessary for a Minister of the Crown to write the "Green Belt" Circular.'

Mr. Coates's letter shows that it is possible, in spite of the jungle of existing acts, for planning authorities to find powers to reclaim land; and such positive action is the only justification of their existence, which mere prevention is not. Planners are advised by a wide range of specialists—architects, town planners, engineers and scientists—but how often is the result more than a widening and deepening of the ocean of statistics?

Hugh Casson

HISTORY

ARCHITECTURAL FREE-THINKING

At one level, the modern movement was invented about 1905 *as a conscious reaction to nineteenth century eclecticism. At another level—that of the functional tradition—it has been there all the time. Sometimes the functional tradition gives the same result as the modern movement and makes the accepted chronology look a bit arbitrary at first glance.*

In 1942, Professor Pevsner wrote an article called 'Nine Swallows—No Summer,'* describing nine buildings put up in Great Britain between 1900 and 1914 which were 'modern' before their time. Most of these were factories; the best, and almost the earliest, was H. B. Cresswell's Queensferry factory of 1901, very near the spirit of Behrens's pioneer turbine factory (of 1909), and, as Professor Pevsner remarked, of equal historical importance. Here is a tenth swallow, which resembles the turbine factory in letter as well as in spirit. It is Chamberlin's wholesale clothing factory, Botolph Street, Norwich; its date is 1903, a year which saw Behrens still building country houses derived from Voysey.

The architect was A. F. Scott, of Norwich, and what is known of his life and his buildings gives something like a coherent portrait of one of those free-thinkers who produced modern buildings without knowing they had done so. Typically, it is no help towards understanding any of the other architects, for there was no single approach, no style and no school, only a handful of unconnected individuals.

Typically also, Scott's character is more relevant than the rest of his building work. He was essentially a Victorian individualist born too late (1854) to find a building style to match his originality, as S. S. Teulon or E. B. Lamb managed to do. A list of his attributes reads like caricature—he was vegetarian and teetotal, and hence would not accept commissions from breweries: he possessed the first bicycle in Norwich to have pneumatic tyres, and used it to cycle between commissions. As surveyor of Cromer he invented a new system of road surfacing, which, characteristically, he didn't bother to patent: and he maintained a native missionary in China at his own expense. His photographs show a long-bearded patriarch, stern and incorruptible.

All this is High Victorian (to borrow a term from art to interpret life, for a change) and possibly could have happened only in a city like Norwich, which throughout the nineteenth century was something like forty years conservative, and which had always produced individuals, not types. After this it is disappointing to find most of Scott's buildings reflecting the prevailing architectural climate in Norwich—stale Gothic and debased Corn Exchange Italianate. His Scott Memorial Methodist church of 1901 (built by the Scott family in memory of their father) and the church hall to Queens Road Methodist church, 1887, are quite typical of those two enervating styles. As the fashion changed, so did his work, and the public lavatory he built under the sea-wall at Cromer is Edwardian Baroque; an oddly spirited and taut design, encaustic tiled with terra-cotta ornament, and two large semicircular windows. The inside is quite well planned, but of necessity one can only appreciate one-half of it.

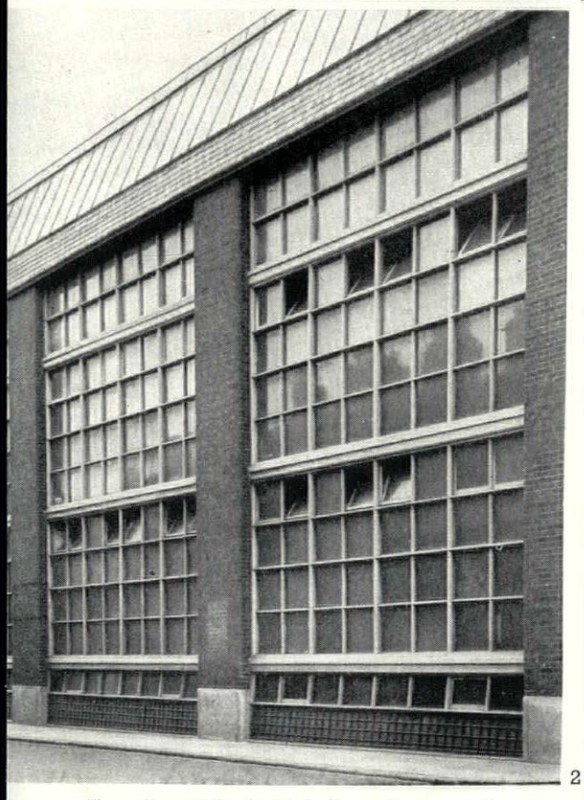
To return to the problem of the factory' which these buildings confuse rather than explain; the design seems to have been purely a commonsense reaction to the functional problem. The eloquent roofline, for example, which is an eyecatcher for the whole street, is in fact the first of a series of north-lights, the rest of which are hidden. Perhaps his attitude to it emerges best obliquely—in 1910 he built a factory in Norwich entirely of reinforced concrete, with the resulting grid entirely glazed, yet, wishing to add a little 'architecture,' he roughcast the elevations. This, like the Chamberlin factory, was the first in the area, and one of the first in the country, yet any intimation that he was helping to create a new architecture seems to have been absent from his mind.

In fact, of course, he wasn't: this building is as firmly in the functional tradition as the Cobb at Lyme Regis. Twentieth century Norwich started on its weary Neo-Georgian shuffle (which has by no means finished) without another thought for the possibilities inherent in the Botolph Street factory. The man today in Norwich who wants to build a bungalow or a small factory extension, or any other of the

* AR, May, 1942, page 109.



1



2

Two views of the Botolph Street factory designed by A. F. Scott in 1903. 1, *from the east.* 2, *a close-up showing the assured detailing of the basement lighting.*

things often done without benefit of architect, finds the language of modules and cross walls and floor heating far above his head: what he needs is someone to simplify the technical advances into rules of thumb in the cause of getting them across to people who wouldn't otherwise understand them. That is just what these buildings of A. F. Scott are doing, accepting the latest advances and translating them into terms that can be applied to run-of-the-mill building: adding extra chapters to the handbook of the functional tradition.

Ian Nairn

WORLD

STAND AT UTRECHT TEXTILE FAIR

Humour is not the most reliable servant the exhibition designer can command, but a truly personal brand of wit, disciplined by a firm sense of exhibition architecture's ultimate aim—to sell an idea or a product, not a designer—can occasionally create a stand where jokes concentrate attention, rather than dissipate it. Lewitt-Him's display for International Rayon Trading Company at the Utrecht Textile Fair of 1953, 1 and 2, remains a case in point, and still bears scrutiny as an original contribution to exhibition design. Any client going to the Lewitt-Him office would know that he was dealing with a celebrated team of humorous designers, and International Rayon boldly gave them



1

an unrestricted hand in the design, apart from specifying minimal functional requirements. The result was a design which harnesses a characteristically personal colour sense and wit to the twin tasks of catching attention and—having caught it—directing it to the rayon thread which is the client's main product. The epitome of this catching and direction of attention



2

is the anthropomorphic chair—a functional folly, an eye-catcher with an eye of its own, capable of staring back at the visitor, or encouraging him to stare at the company's product, for the chess-men on the table to which the nearer chair-man attends are, by a further double-take, spools of rayon thread. **P.R.B.**

WALLSCAPE

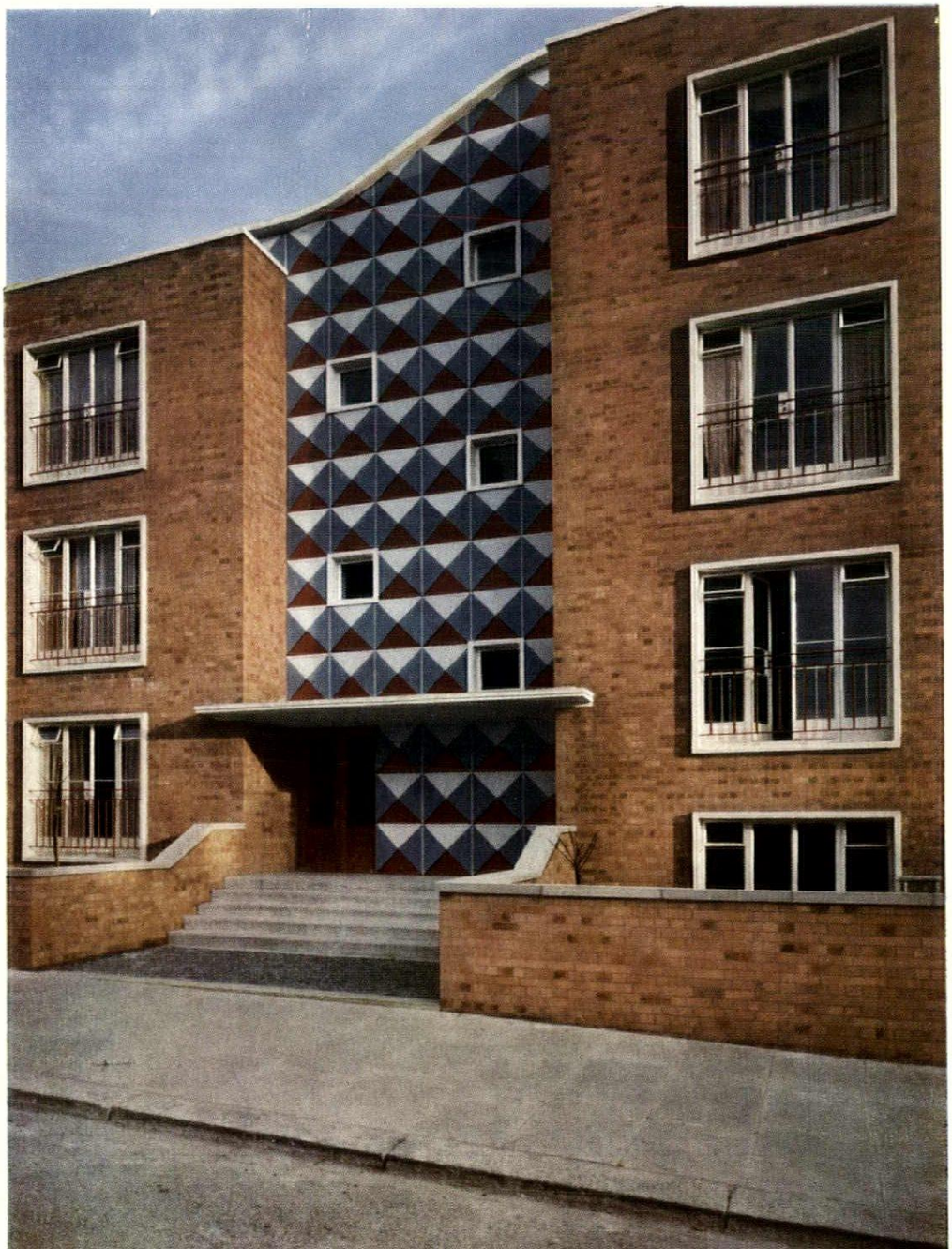
DIAPERS

Though diapering and feigned rustication have hitherto been treated as relics of an extinct or provincial vernacular tradition of illusionistic painting on walls, both devices have utility for the contemporary architect which should not be overlooked.* Beyond their obvious use as another alternative treatment of flat surfaces, they can also be made to solve visual problems which might not otherwise be soluble without distorting the functional or formal qualities of a building, and an excellent example of their use in this way is to be seen in a small block of flats in Burghley Road, Kentish Town, designed by Davies and Arnold. The functional basis of the problem lay in the section of the block, which has the flats on either side of the staircase out of phase by half a storey. This permits a most economical use of the stairs, with a flat opening off every half-landing, but leaves the non alignment of the window lines to be taken up in some way on the elevation—a difficulty which is not simplified at all by the staggered staircase windows.

As the picture below shows, a bold diaper pattern, whose module is the square of the frames of the staircase windows, not only serves to 'lose' those windows in the all-over pattern, and thus remove the visual discomfort of their staggered arrangement, but also provides a vertical strip of surface which is in complete contrast to the walls on either side, and thus separates the two halves of the building visually. In addition, the very nature of the pattern, with its strong diagonal emphasis, discourages the eye from travelling horizontally from one half of the façade to the other, and thus avoids any sense of visual strain at the change of levels.

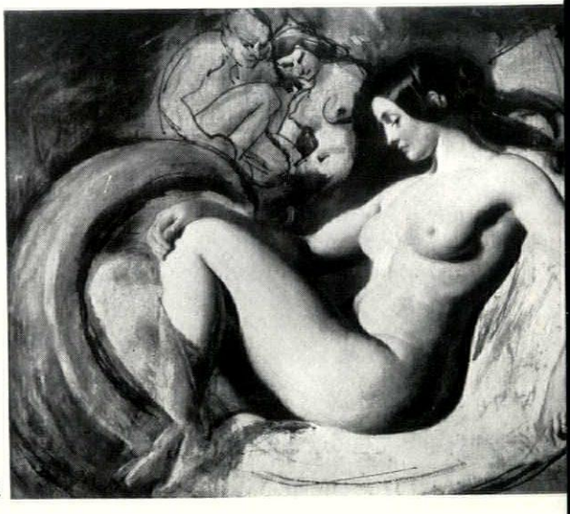
C. Forehoe

* Architectural Review, July and October, 1943; January, 1948, and October, 1951.



EXHIBITIONS

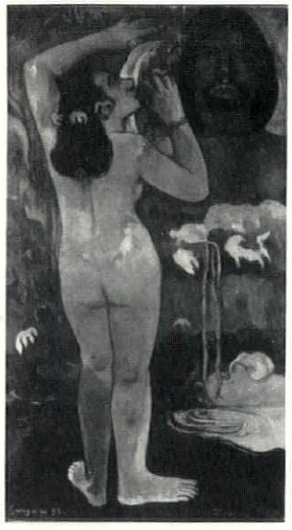
The Etty exhibition at the Arts Council Gallery was one of those thoroughly English occasions which give us the opportunity to congratulate ourselves on being 'nicer' than foreigners, for Etty's nudes probably represent the best results obtainable from the difficult art of staring with averted eyes. According to the catalogue, the exhibition was a tribute to the work of the greatest painter of the nude that we have so far produced, but this was only a euphemistic way of saying that we haven't had any great painters of the nude. Etty didn't have enough imagination to be able to transform the naked model into a classical goddess or a romantic *femme fatale*, and seems to have been too shy to be vividly literal, and the result, charming enough in its way, was a solemn charade of tense, pink girls in plastercast poses. The delectably prim figure in the uncompleted painting referred to in the catalogue as 'Seated Female Nude,' 1, is less affected by his deplorable habit of pointing up the



1

forms with an edge of black shadow than some others, but even here it causes the left arm and breast to look like a 'component' that has been attached to the figure by a nail. The catalogue note about this picture was far from adequate. There was no mention of the man and woman in the background or of the curious horned form on the left or of the fact that the foreground figure wears a wedding ring or even that the picture is unfinished. All we are told is that it was probably painted between 1840 and 1845, and that when it was reproduced in a book published at Leigh-on-Sea in 1943, it was called 'Contemplation.' It's a nice thought, but the figures in the background appear to think that the young lady ought not to be contemplating whatever it is that she *is* contemplating.

The Gauguins at the Tate Gallery looked sadly worn and faded, as if they had been exhausted by constant demands on their vitality. They were well chosen and accompanied by an admirable catalogue, but only half a dozen or so retain some shred of the potency that made them the prize stud bulls of twentieth-century primitivism. Two of them—' Loss of Virginity' and 'The Moon and the Earth,' 2, are badly painted and naïvely composed, but they are clumsily successful attempts to turn inscrutable experience into pictorial sensation. The first of these two pictures depicts an impassive recumbent nude at the verge of a red field. She is fondling a fox, which symbolizes physical desire, and there is a Breton wedding procession in the background. But one doesn't need to know anything about symbolism to understand the picture. It is enough that Gauguin has not given the girl any excuse for being naked and has placed her in the proximity of an unnaturally red field. Apparently the picture is sometimes erroneously called 'Spring's Awakening,' which is a conventionalized acknowledgement of the theme. Again, although 'The Moon and the Earth' is an interpretation of a Tahitian legend, one doesn't need to know it. The theme of sexual desire is explicit in the forms, and an agitated pool of red water clinches the matter. Red has been used throughout the ages as a symbol of passion but Gauguin gave it the directness of a mating call.



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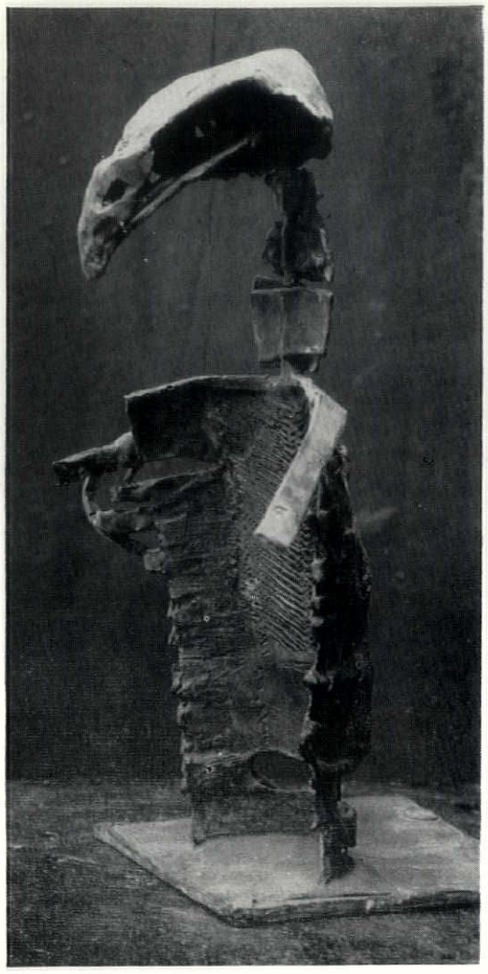
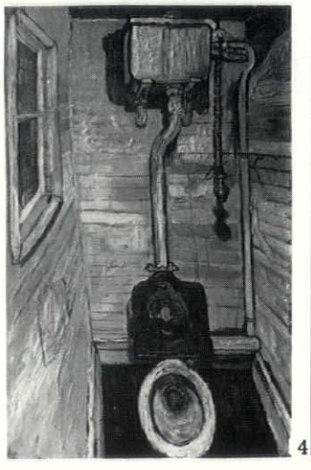


3

If he were alive to-day, he would recognize that Germaine Richier's sculpture owed him something, but he might be a little surprised to discover that she has so thoroughly cultivated her primeval instincts that she seeks the roots of being in the primeval ooze, 3. A large seated figure in her exhibition at the Hanover Gallery is a triumph of eclecticism and sophisticated primitivism: she uses the art of Picasso, Giacometti and Marini to compound a figure with a fat body and stick-like legs and two handles where the head ought to be, and she manages to convey the impression that it hankers after human sacrifice. It is a kind of cult image, dedicated to the breaking of natural ties, and no vestige of normal human feeling remains.

The art of John Bratby is no less fearsome in its way, and his second exhibition at the Beaux Arts Gallery may well be a sustained 'raspberry,' directed against nothing in particular and emitted for the sheer pleasure of being rude and crude. Oddly enough, his paintings of lavatories, 4, do not confirm one's suspicions. They seem to have been painted in a spirit of homage to Van Gogh, and certainly express no contempt for the human condition. I think that, to put it timidly, the lavatories and some of the kitchen interiors may in time acquire the proper look of masterpieces, and that if they were temporarily glazed and decently framed the process could be hastened.



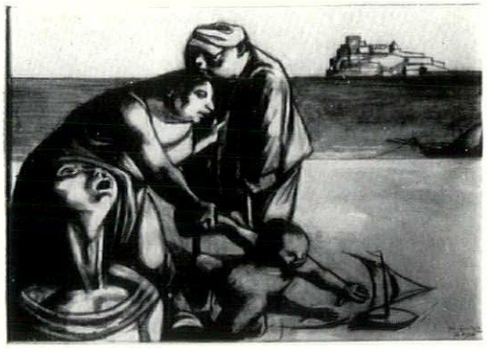
4

If the most interesting of recent I.C.A. shows was the one devoted to young sculptors, it was because Ralph Brown's 'Girl with Wheel,' 5, who looks as if she has escaped from one of Jack Smith's paintings into a somewhat warmer atmosphere, laughed the rest of a ludicrously extremist show out of countenance. It is the work of a sculptor who can give a full account of the human figure in movement, and it looks as if he will be able to command our attention without pulling faces at us.



5

Michael Ayrton's retrospective exhibition at Whitechapel Art Gallery suggests that he is the modern equivalent of the Victorian Narrative Painters. The exhibition is an impressive display of work done, but his talent and intelligence should have taken him a good deal further. Under the early influence of Tchelitchew his skilful draughtsmanship was switched to a 'Renaissance' siding, and has been off the main track ever since. His attempt to render the 'distortions' of modern pictorial form literally and to treat the anxieties of the time anecdotally lands him with figures and situations as neurotically preposterous as the 'historical' incidents in the pictures of William Shakespeare Burton and Alma Tadema. The drawing called 'Approaching Thunder,' 6, in which a group of 'mutants' express a sub-human response



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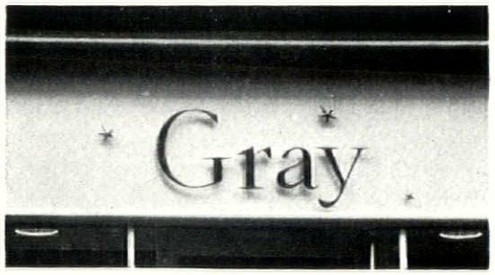
to a natural phenomenon, is, unfortunately, a typical example of his compositions with figures. **Robert Melville**

LETTERING

MINISCULE

Lower case, little letters or miniscule—what shall we call them? For undoubtedly they are important in public lettering, not for monumental purposes, but as a possible and suitable alternative for a multitude of ephemeral and unpretentious uses.

There are three characteristics that I would wish to note about little letters. The first is this one of unpretentiousness, one that we need so badly if our belettered streets are ever to be a pleasure, and I would suggest to the advertiser that this does not at all imply inconspicuousness. I give three examples: 1, the Dublin bus stop notice is charming; it does not perhaps suggest to one the completely reliable efficiency implied in the London Transport notices, something more friendly. I am enchanted by that little word set so well in its bordered rectangle, and so simply on its post. 2, from Wigmore Street has unfortunately been carelessly painted-in but the incised letters have a very pleasant rhythm. 3, seen in Nice, is an example of

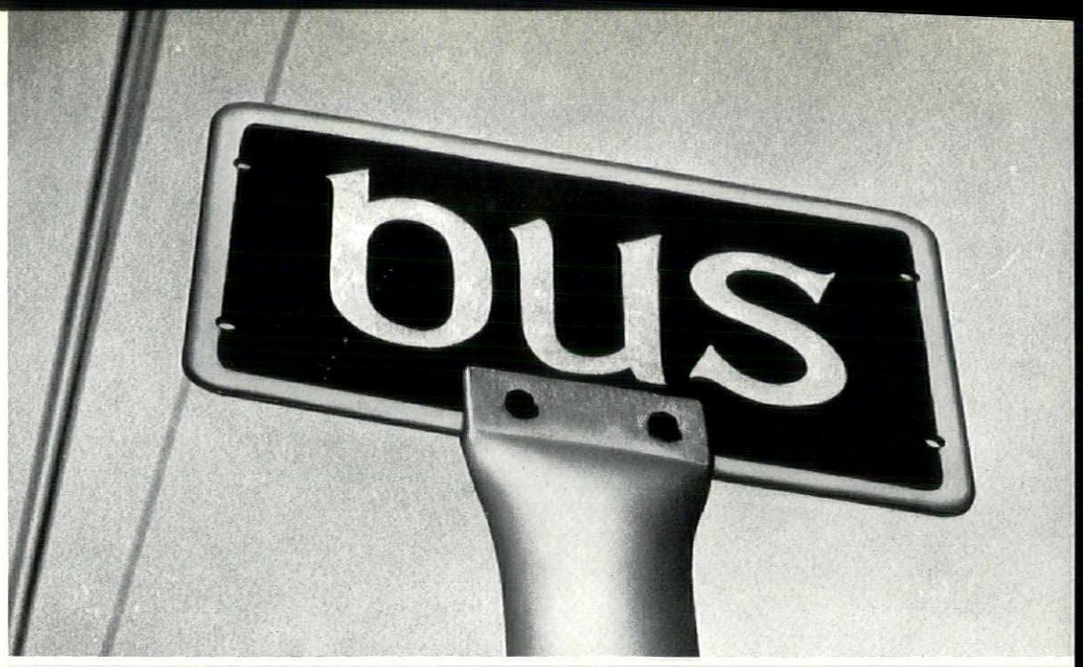


3

the effectiveness of the unpretentious, to convey recherché refinement.

A second characteristic is the adaptability of little letters, particularly in a cursive form, to various sorts of materials.

lettering: miniscule. *Five examples of the use of lower case letters*  *1, in Dublin; 2, Wigmore Street, London, W.1; 4, on a shop front at Cheltenham; 5, a fishmonger in the King's Road.*



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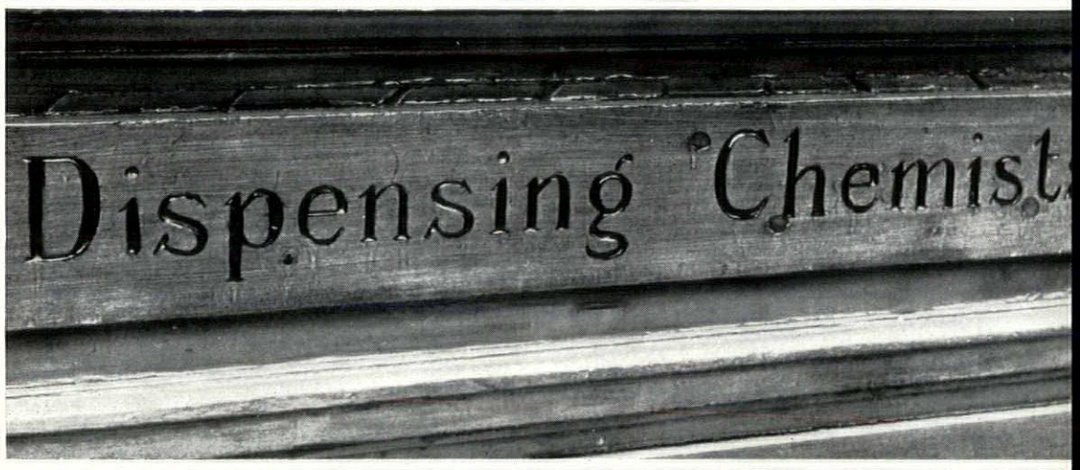

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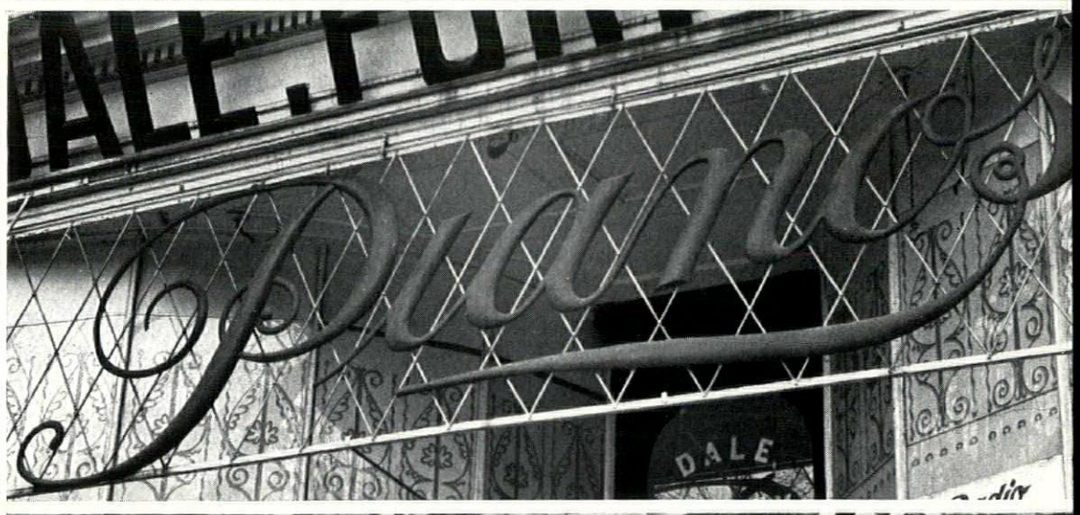

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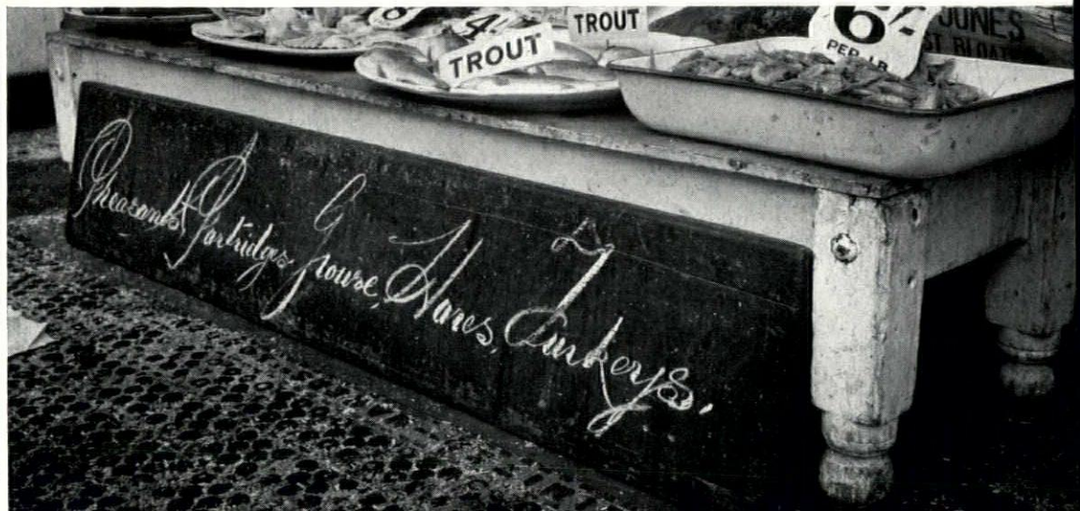

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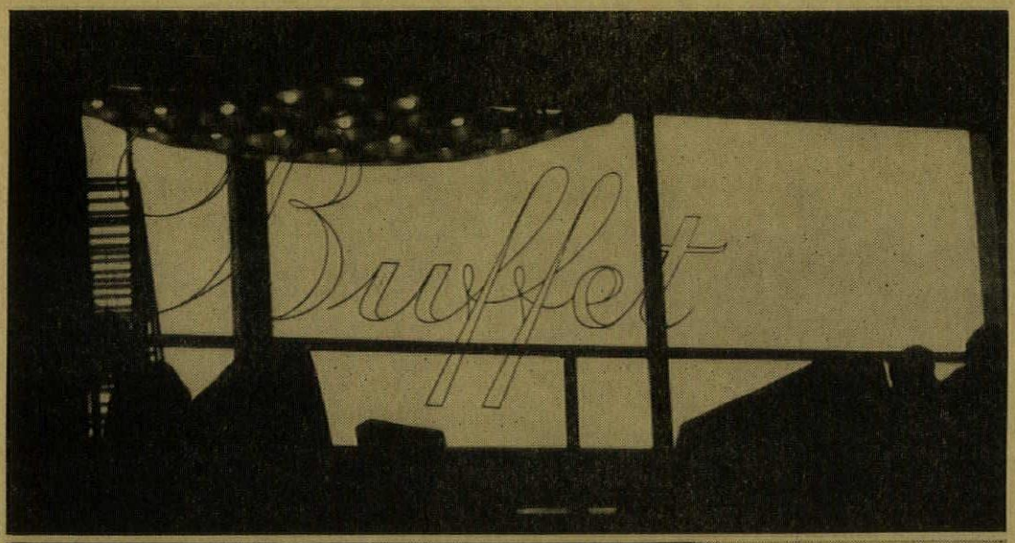
There is the wooden, round-sectioned, flourished letter, 4, of which one sees many examples, of varying quality, this is a particularly rich one from Cheltenham, designed with verve and so much pleasure in the multiplied curves. The same *copper-plate* letter is fascinatingly controlled and proper in its continuous lead line, inlaid in marble, on a fishmonger's shop in Bath, 6. It is cheering to notice how this trade at least has preserved a tradition. For instance, the fishmonger's blackboard, of which 5 is a typical instance, is almost always a nice piece of lettering. A modern version of the flourished hand is painted on glass at Waterloo Air Terminal, 7; the thin cursive has a particular elegance and informality. Aquascutum, 8, shows the modern free-standing italic letter, and abroad one sees particularly successful metal and neon letters. La Maison Rouge, 10, is an example of a metal ribbon set vertical to the wall at Nice. Bar Marseillais, 9, at Vence, on the other hand, is flat strip metal. 11, is an example of another typical modern French letter, of bent metal tubing, a far more sophisticated and interesting type of cursive than one would see on the corresponding provincial cheap restaurant in England.



6

These examples immediately suggest the third characteristic of the miniscule and its greatest interest. Unlike any capital form of letter it is fluid. There can be variation not only of proportion but in the actual form of the letter. We have lost the Gothic letter. To my mind it is a great loss for it is a magnificent letter, both formal textura and Gothic cursive (not German Fraktur or 19th Century commercial inventions), but it has become hopelessly involved with Olde Worlde and ecclesiology and Gothic revival and because of these associations is unusable in England today. For the extension of our repertory and the enlargement of the raw material of lettering as a creative art the little letter is therefore a great asset. In itself it has more variety than the capital, if only in virtue of its descenders and ascenders, and the inevitable contrast with capital initials; it can so easily be a nervous line and a living pattern.



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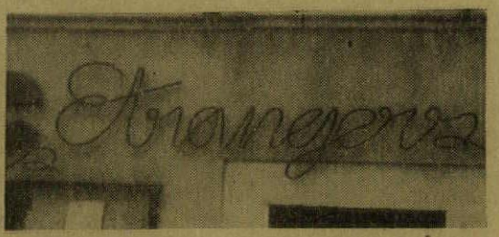


11



12



13



14

But how shall we judge that one pattern is better than another? Not by the type of lettering, for 4 and 6 are good, whereas the same model in 12, is utterly dreary. Not by finish in design and execution for 13, from Cheltenham, has an irregularity that is amateurish and yet I find it more

pleasing than the perfect control of 14, by Reynolds Stone. One cannot, I think, dismiss all the factors of which one is immediately conscious, for example, that 12 is a vulgar, and 14 an academic, and 6 a traditional craftsman's way of writing, for behind that is the writer's intention to make something showy, or in good taste, or in the proper way. But beyond that is the question as to whether or in what degree the writer was an artist. And here is surely a field where it is easy to see that lettering can be the same sort of thing as drawing and sculpture, and must be judged in the same sort of way.

Nicolette Gray

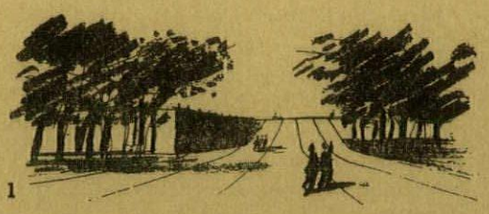
LANDSCAPE

THE TEMPLE OF HEAVEN

The Temple of Heaven is a group of buildings standing in a park in the southern half of the outer city of Peking. It lies to the east of the main north-south boulevard upon the axis of which is threaded the Imperial City, but though thus eccentrically placed, the principal buildings, and the courtyards, gatehouses and ramps by which they are connected, are given the same formal and axial layout used everywhere in China for ceremonial structures.

The buildings vary in age and distinction. Some of them are said to be 500 years old—others have been rebuilt as recently as 50 years ago. All of them have been carefully restored and redecorated so that today they stand upon their blindingly white marble terraces, glittering in the sun like freshly unwrapped toys. Handsome as they are in their metallic and rather menacing livery of gold and scarlet, green and blue, they are not all perhaps—in memory at least—as individually remarkable as many other of the palaces and pavilions of Peking. But the handling of the approaches and ramps, the subtle relationship of buildings to courtyards, and above all the contrasts of enclosure and release, of suspense and relief, of movement and repose—everything in fact that AR readers have come to know as 'Townscape'—this surely cannot be matched anywhere in China.

For the visitor indeed this visual adventure can be said to begin a mile or so away, when he passes through the gate of the Inner Wall, and southwards along the main central boulevard of Peking. This is lined on both sides with shops and stalls, and is as crowded and coloured and clamorous as Oxford Street on Xmas Eve. A quick turn to the left, through a formal gateway set in a high wall, and a sudden silence is clamped over the ears like a huge



1

felt hat. The road running straight ahead is soft and sandy underfoot. On each side are groves of cypresses, ancient and black, in the depths of which, revealed only by wisps of blue charcoal smoke, can be discerned a deserted encampment of army tents.

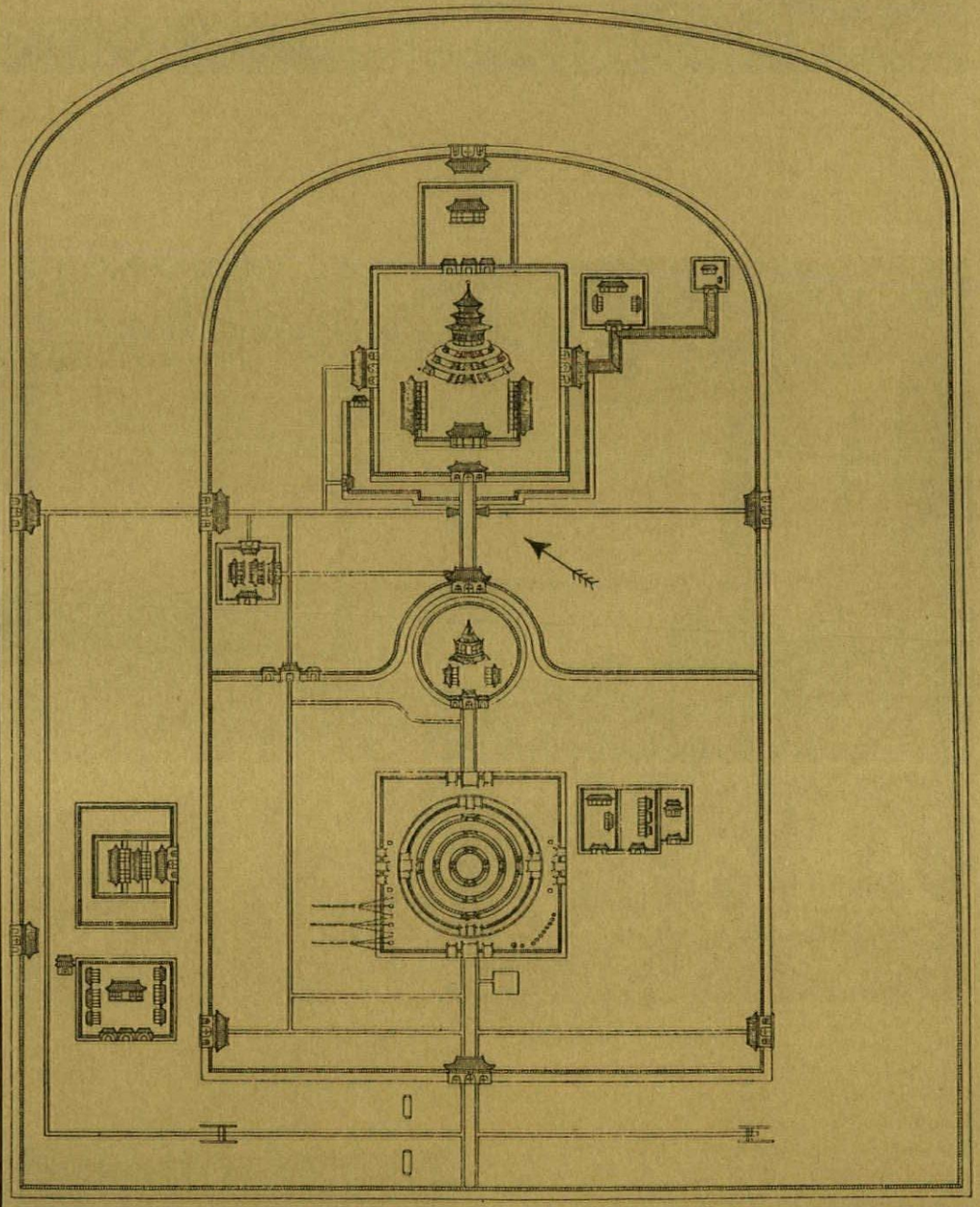
At the far end of the avenue—perhaps five or ten minutes' walk in length—a stone-paved ramp rises sharply into the sky, 1. What lies beyond? A garden? Buildings? Could it be the sea? . . . The eye is given no hint, but curiosity quickens the feet.

The summit is reached, the first secret is revealed. The visitor finds himself standing on a giant stone causeway that runs at tree-top level to his left and right. Immediately before him a small, almost insignificant, viewing platform—placed for some ceremony—overlooks another grove of cypresses and across to the eastern plains of Peking. Behind him stretches the park through which he has just walked. From the midst of it a bugle sounds



2

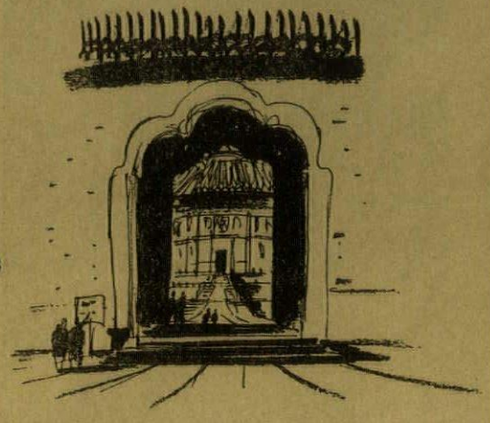
wistfully. Clearly there is somebody in those tents after all. The causeway, grey ruled and patterned, stretches for some-



Plan, after Ta Ts'ing hui Tien Tu, *Ch.* 1, *reproduced in* Universismus, *by J. J. M. de Groot, showing the progression described here. The central causeway is indicated by the arrow, and is approached from the left hand side: the route, is then into the square courtyard at the top of the plan, back again and past the central circular courtyard to the high altar below.*

thing like 300 yards in each direction, and is halted at each end by tiled gatehouses of identical design, 2. Turning left first, and looking down upon the cypresses as he walks, he reaches the first gatehouse, 3, mounts a few steps into a narrow twilight and then, suddenly out again into a courtyard filled to its brim with golden heat. Centrally before him rears up a great

3



circular temple, blood-red walls crowned with three tiers of blue tiles, the whole structure mounted on a series of white terraces ramped and balustraded, 4. To left and right stand subsidiary pavilions now used as museums, where ancient musical instruments and the staffs and garlands

4



of dancers lie still and silent in the dusty gloom. The quiet is absolute—only the faintest crepitation of tiny sounds, the movement of a branch, the shuffle of a slippered foot, the creak of a closing door, disturbs the summer air.

There is no escape from here, only retreat. Back then along the causeway and again through the sudden darkness of the archway and this time behold not a square, but a circular courtyard, and turned moreover inside out. To left and right a

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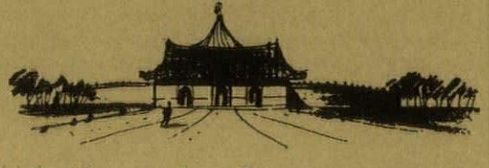
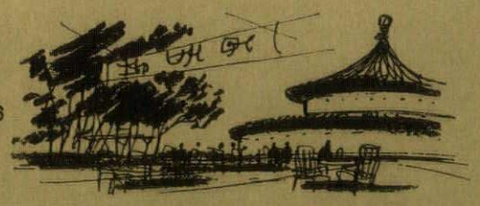


high tile-capped wall curves away apparently unpierced. Again comes the temptation to walk faster. Even the little tea-garden, 6, set temptingly under the cypresses fails to divert curiosity now so urgently aroused. The tension is spun out to the very end, for the entrance to this circular enclosure is placed exactly at the

6



farthest possible point, 5. Within the protecting walls stands another temple, 6; outside them and to the south again stands naked to the sky the climax of the whole ceremonial sequence, the Altar of Heaven itself, 7, . . . a vast 3-tiered marble terrace, stepped and balustraded, every concentric stone placed and fitted with exquisite precision. From the summit of the topmost terrace—the marble floor of which drums to the feet like a stretched membrane—

7



the whole secret sequence of the Temple of Heaven lies betrayed to the eye . . . unfolding, leaf by leaf, as it were—to the north and the distant golden roofs of the Imperial City.

But if curiosity has been momentarily conquered, the appetite of the eye has not, nor will it ever be; and it is for this reason that, of all places in Peking, it is always to the Temple of Heaven to which the traveller will return again and again.

Hugh Casson

BOOKS

ORGANIC PROPHECY

THE FUTURE OF ARCHITECTURE. *By Frank Lloyd Wright. Architectural Press.* 50*s.*

The lectures and essays collected under this title cover the whole range of Wright's thought from his interpretation of the history of architecture to the ideas underlying such works as the early Prairie Houses and the Imperial Hotel at Tokio. They do, in fact, claim to establish the principles of a universal architecture, and it is in the light of this claim that they should be read.

The importance of Wright's architecture to the modern movement lay in the free plan generated according to internal necessity and the new concept of space that this implied. In the work of de Stijl, the Bauhaus and Mies van der Rohe, this new freedom was modified by ideas derived from the use of concrete and steel, from the Cubists and from the classical tradition. These factors to some extent supplied the dynamic of the new architecture but in Wright's case the dynamic is supplied from another source—a concept of man in direct relation to nature. Whereas in the European modern movement functions of an inert and mechanistic kind are accepted as form determinants, Wright conceives function purely in terms of life. In expressing functions, he seeks to unearth the 'anima' in nature and his buildings are thought of as materialisations of the natural process.

The fallacy of this theory lies in its equation of the architectural with the natural process, and in fact Wright does not simply draw out the forms inherent in materials and structure or in the functional grouping of his spaces. He imposes on materials and spaces forms which dramatise certain natural formations and create a sense of mystery, and on his plans an organization which is crystalline rather than organic. In seeking to recreate the *Gestalt* of nature, where every process contributes to a final and characteristic form, he succeeds only in producing an additive system which by its very nature is incapable of achieving finality. He rejects the classical tradition because it imposes rigid forms upon nature but overlooks the fact that it is precisely because the classical tradition sought to express the order of nature by analogy and not by imitation, that it was capable of an order proper to itself and was therefore truly organic in its own right.

The force of the organic theory lies not in its power to achieve form but as an initiating principle—the living force, which alone can prevent a formal grammar from becoming academic. Wright in fact uses it in this sense, but in order to achieve formal legibility in his buildings he has to impose on them his own anti-classical formalism—a formalism every bit as unnatural as that of classicism itself.

His theory of the organic, his anti-classicism, his dislike of the city, can perhaps be traced to the American pioneer spirit which had to create a new tradition and a new myth in the face of an overpowering natural environment. His first Prairie Houses, whose inception he describes in some of the most valuable passages of the book, have the impact of natural forces and the principles underlying them are basic enough to stand transportation to entirely different conditions. But when he discusses the city, his attitude seems romantic and escapist.

While Le Corbusier injects light and form into the city, Wright seeks to take the emotional aspects of the city into the country—to strip the city bare of life and reduce it to a machine for producing the means to 'the good life' to be enjoyed in rural surroundings. He accepts the products of the industrial age, replacing the contiguous community by the television set and the automobile, but refuses to face up to the modern commercial city without which these products could not exist. His rural heaven depends on a metropolitan hell and man the producer only becomes human after he has commuted to his acre. But to say this is merely to say that Wright's ideas were formed a generation before those of the modern movement. The Chicago school was for him only an inadequate temporizing with conditions which were totally bad, and it was perhaps impossible for him to foresee the significance of a Sullivan for the architects of the modern movement who had to forge a new architecture out of a living tradition, and for whom the modern city and the machine were as much forces to be placated as was the prairie for Wright.

We must therefore see Wright in his

fin-de-siècle context, with unacknowledged formal and theoretical ties with the 'art nouveau.' But to the extent to which he is a solitary prophet with a message from the desert far more radical than that of the Arts and Crafts movement and a formal language which, in spite of its 'literary' and 'impressionistic' qualities, has so few stylistic derivations, he is still a living force—a true original. And it is perhaps less to the conscience of the modern movement that this great moralist speaks than to its lyrical impulse, often inhibited by an arbitrary rationale.

Wright's ideas have had their greatest superficial influence on the architecture of the American West, but the publication of this book gives us an opportunity to reassess their importance for the modern movement as a whole.

Alan Colquhoun

CAMERAS IN THE OLD SOUTH

SHADOWS IN SILVER: A RECORD OF VIRGINIA 1850-1900. *By A. Lawrence Kocher and Howard Dearstyne. Charles Scribner's Sons.* $7.50.

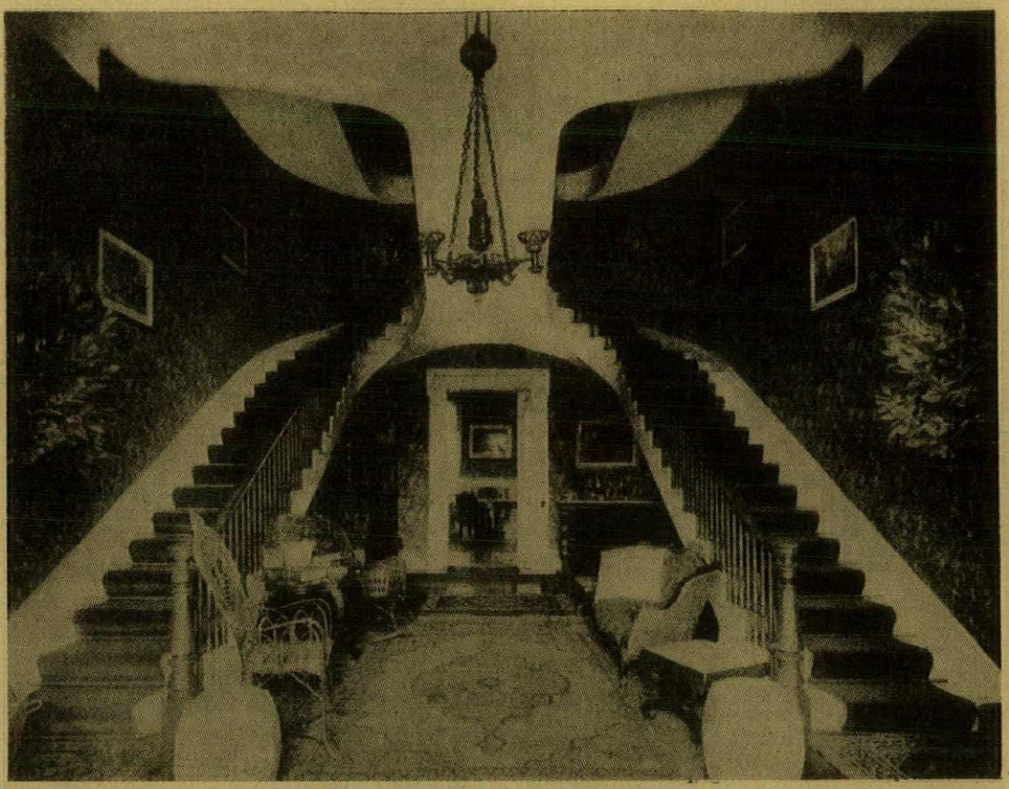
The Old South, they call it. But time plays queer tricks in America. There are little towns in Texas which one feels to be immemorially old, though in fact they were founded in the 1840's or later. In Virginia it is the War Between the States—for in Virginia you must never, never call it the Civil War—from which time *seems* to start: the bearded heroes of those years seem infinitely stranger and more remote than the English planters of colonial days or the energetic and cultured Americans of the early Republic. The buildings of that age often seem older than colonial buildings too. But then, such is the zeal for restoration where colonial buildings are concerned, they often are older.

Most of the photographs that Lawrence Kocher and Howard Dearstyne have assembled in this attractive volume were taken in Virginia between the War and the opening of the twentieth century. Nearly all are the work of two photographers, George S. Cook and his son Huestis. The elder Cook was a Connecticut Yankee who began his photographic career as a daguerrotypist in New Orleans in the 'forties, practised in New York and Philadelphia and for thirty years in Charleston, and set up in Richmond in 1880. Huestis, who was born in 1868 and died in 1951, took advantage of the invention of the dry plate about the time of his father's final move to become one of America's leading field photographers. Messrs. Kocher and Dearstyne (architects both, Lawrence Kocher being a former editor of the *Architectural Record*) salvaged the vast collection of Cook negatives from the attic of a Richmond house, and had the advantage of Huestis's collaboration in the tasks of selection and identification during the last four years of his life. The text and captions that they have written to accompany the photographs are lively, informative and warm-hearted.

Perhaps neither Cook is to be ranked among the very greatest of the photographers of the nineteenth century. Nevertheless, both took many memorable photographs, and the cumulative effect of this selection of their work is impressive. As a record of a Virginia that has disappeared it is valuable and fascinating. Huestis Cook was the first photographer to be admitted into many of the old plantation houses, arriving by water as often as not; so here is Rosewell, still roofed, before the turkey vultures took it over, and here is the outside kitchen of Tuckahoe with a meal actually on its way to the house, and here is Westover with a party of Colonels and Majors and their womenfolk on the steps. Then here is a section of views of towns, with Richmond still nobly dominated by Jefferson's Capitol, and the streets of Yorktown, through which today the Fords and Chevrolets and Pontiacs endlessly roll, comfortably growing grass. And one of taverns—a class of building that has been denatured in the half-dry Virginia of today—and another of country stores. And then the human architecture, no less subject to 'period' than any other—the portraits of the known and the unknown, the idle and the industrious, the white and the black.

'A Virginia that has disappeared' did I say? Well, there is still some of it left, though you have to be un-American enough to leave the main roads to find it. In some parts of the state you can still drive for miles along dirt roads, spreading the dust on high walls of Indian corn. There are still some plantation houses, such as Shirley on the James below Richmond and the Jeffersonian Bremo above, where the sense of the past is strong. There is a shop in Richmond whose fascia board still announces 'Dry Goods and Notions.' Yes, the Old South is still sometimes old.

Marcus Whiffen



The horseshoe-shaped staircase of Berry Hill, Halifax County, Virginia, the home of a rich slave owner, James Coles Bruce. The exterior of the house was severely classical, the portico being copied from the Temple of Theseus.

Shorter Notices

DIE MICHAELISKIRCHE IN HILDESHEIM. *By Hartwig Beseler and Hans Roggenkamp. Gebr. Mann, Berlin,* 1954. 50 *DM.*

St. Michael's at Hildesheim is the most important German building of the early eleventh century. It was badly damaged by an air attack a few days before the end of the war. Dr. Beseler and Herr Roggenkamp present a full set of illustrations, measured drawings of the state of the church before and after bombing, and two separate texts, both detailed and learned. Dr. Beseler discusses the history of the building and its present state and reaches convincing new results on plan and elevation of the period which matters most: 1010–*c.* 35 and especially on the remarkable facts connected with the west ambulatory. Here St. Bernward's building had a crossing, transepts, a square chancel and an apse—crossing, chancel and apse being raised by eighteen steps above the nave. Below it, but only two steps below the nave, lies a crypt. This is low and vaulted and around it and open towards it ran an ambulatory much higher than the crypt, tunnel-vaulted, and provided with a west portal and two doors at the other ends into the transepts. This is a unique arrangement and one of great morphological interest.

Herr Roggenkamp tries to rediscover the units of measuring and the rules of proportions underlying the setting out of the building. He is, however, not fully up to date in his knowledge of similar work done outside Germany in the last fifteen years.

The book is, at about £4, not too highly priced and as competently produced as it is written.

N.P.

Books Received

ENGLISH FURNITURE STYLES 1500-1830, by Ralph Fastnedge. Pelican. 5/-.

BAÜTEN DER INDUSTRIE, by Walter Henn. Gallwey, (Munich).

BANK IN GARRICK STREET, W.C.2.

ARCHITECT, SIR HUGH CASSON

ASSOCIATE ARCHITECT, R. A. GREEN

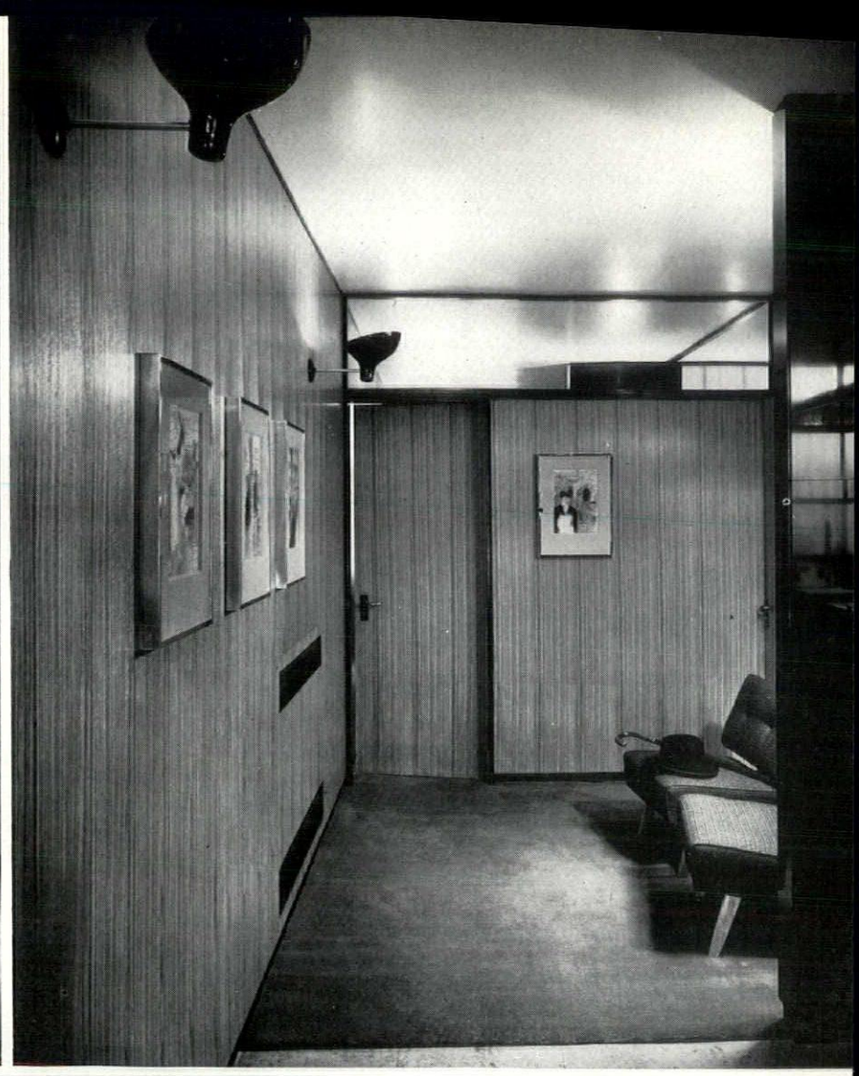
The basement and ground floor of 23, Garrick Street have been converted to make a branch office of Martins Bank, consisting of banking hall with clerks' and cashiers' working space, manager's office with ante-room, strong room, cloakroom with cleaner's store, and a boiler room. The wooden stair serving basement, ground and first floors, which was on the west side of the plan facing the front entrance, was taken out and a reinforced concrete one, in two straight flights between the half landings, inserted in its place between ground and basement only, together with a bullion hoist. The public entrance was carried across to the east side, leading straight into the banking hall, from which the manager's office is approached through a waiting area. The ground-to-basement flight of a second stairway at the rear has been sealed off, the remainder now affording sole access to the upper floors.

A reinforced concrete floor replaced the previous wood floor, and the wall piers were cut back and replaced by

1, *new front to Garrick Street.*





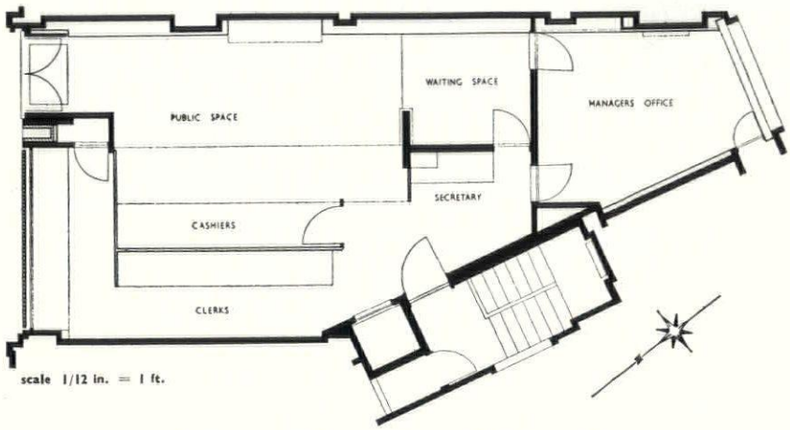



20



5

On the facing page,  *, 2, top left, manager's office; 3, top right, waiting space with the door of the manager's office beyond. 4, below, the public counter. The partition at the end of it is marble clamp—fixed to a 3 in. breeze block core. On this page, 5, a strip from one end to the other of the street elevation: from left to right, door handles, night safe and surround, and the bronze relief by Geoffrey Clarke.*



Bank in Garrick Street, W.C.2.

new piers and concrete underpinning. The stair-well is trimmed off by a 9-inch brick wall, supporting a trimmer for the first floor. Otherwise all internal partitions are breeze. The only other structural alteration was the removal of an intermediate stanchion in the main ground floor elevation, to give a clear span: twin reinforced steel joists were put in, supported on existing but strengthened piers.

The elevation is in the form of a grille composed of sculptured, closely-set vertical rods set against the glazing, the whole within a white marble inner 'mount' and a black granite outer frame, which carries the lettering above. A sculptured relief in bronze by Geoffrey Clarke, illustrating by cryptograms the activities of Covent Garden Market, traverses the whole elevation.

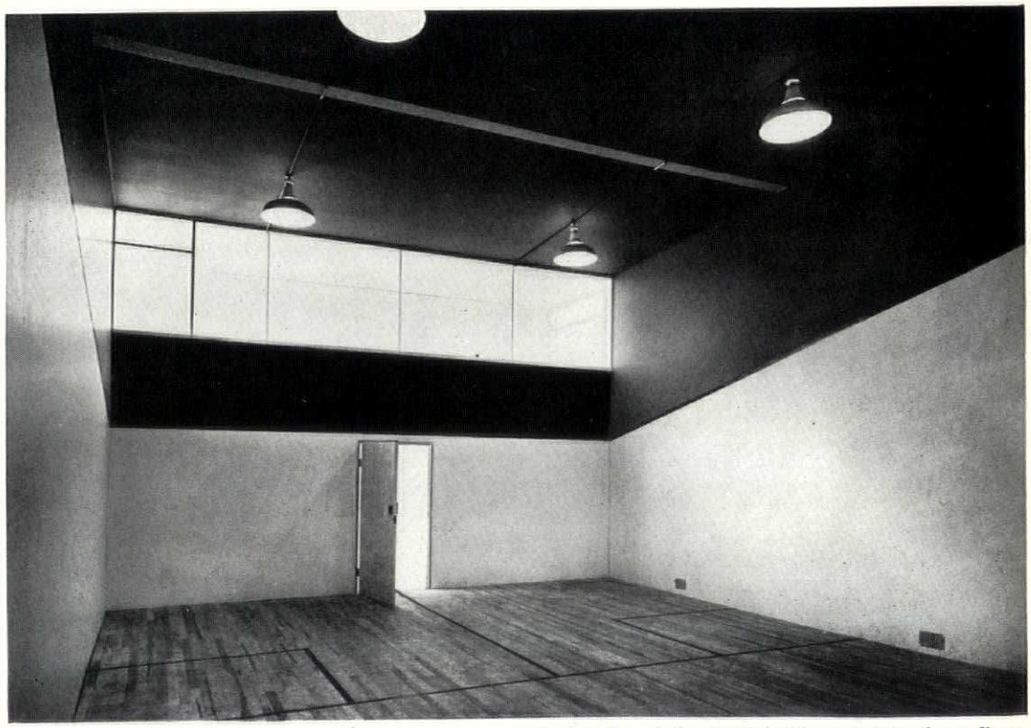
The irregularities of the internal wall faces were masked by ½-inch ply Indian silver-grey wood panelling; the flush doors have same veneer. A suspended acoustic ceiling masks the beams supporting the first floor. Door linings, recess trims and built-in furniture are in Honduras mahogany. The banking hall floor is white cork carpet. A plinth of the same material in black protects the wall panelling.

Heating convectors, served by a gas-fired boiler in the basement, are set within panelling and furniture. Beside suspended fluorescent lighting for the cashier's and a desk light fitting for each clerk, the hall is lighted by tungsten fittings shining on the ceiling.

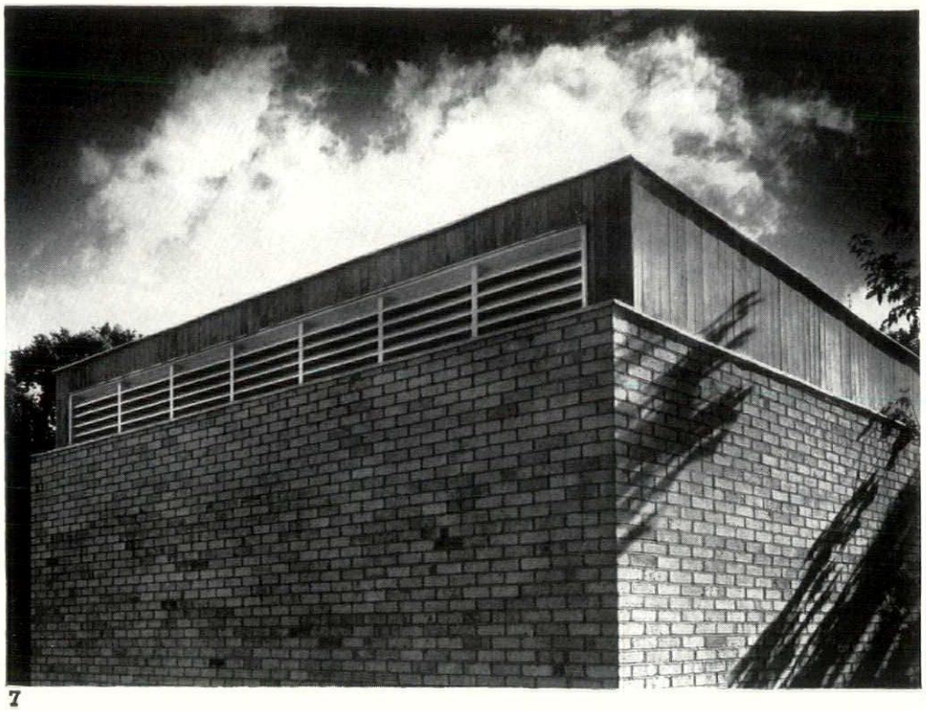
SQUASH COURT AT OXFORD

ARCHITECT, STEPHEN GARDINER

The building for St. Anthony's College, off the Banbury Road, is designed to allow for the addition of a second court later. The requirements of a squash court are simple, and to meet these the sloping timber top is devised—to incorporate louvres, stop off the brickwork at the highest point of the playline, provide the 2 feet 6 inches required above the playline at one end, and keep the height of the gallery down to a minimum at the other. Internally, colour has been used only to



6, *interior of the court looking west to the gallery.*



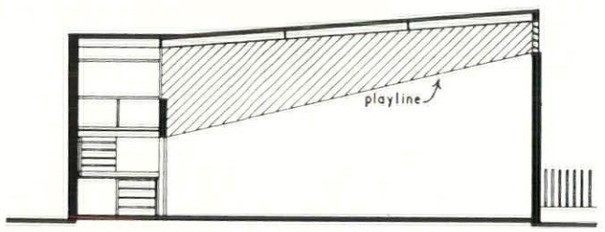
7

7, the louvres above the playline in the east elevation. 8, staircase up to gallery. 9, south elevation with entrance to court, from the south-west.

Squash Court at Oxford

aid the player. Above the playline the walls have been painted apple green, except for the end wall which is olive green, and the ceiling, except for the white steel joists, is cornflower blue to focus attention on the play area which is white. The staircase, which is without risers, is West African mahogany and the door into the court is painted lemon yellow.

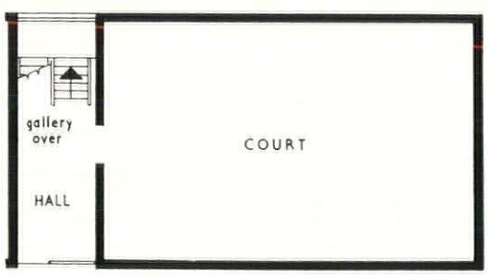
The construction is brick piers, concealed in the wall thickness, which supports 10-inch by 6-inch steel joists on 6-inch square concrete footings concealed behind timber boarding. Infilling walls are externally local cream clay bricks and internally 6-inch blocks. The timber top is constructed of 3-inch by 2-inch framing faced with 3-inch Canadian western red cedar strips, and the roof itself is 3-ply felt on screed, on woodwool slabs, on 7-inch by 2-inch joists. The flooring in the court is maple, in the hall, granolithic.



section

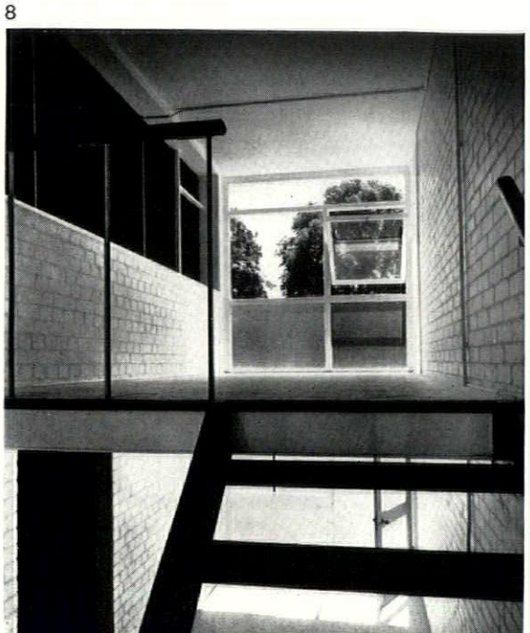






plan

8



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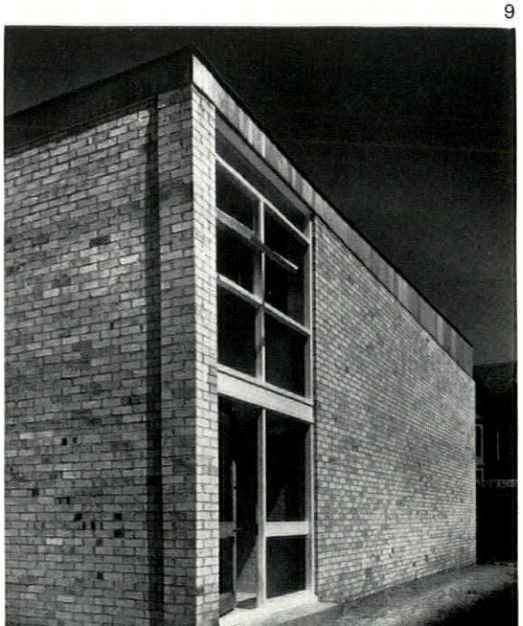
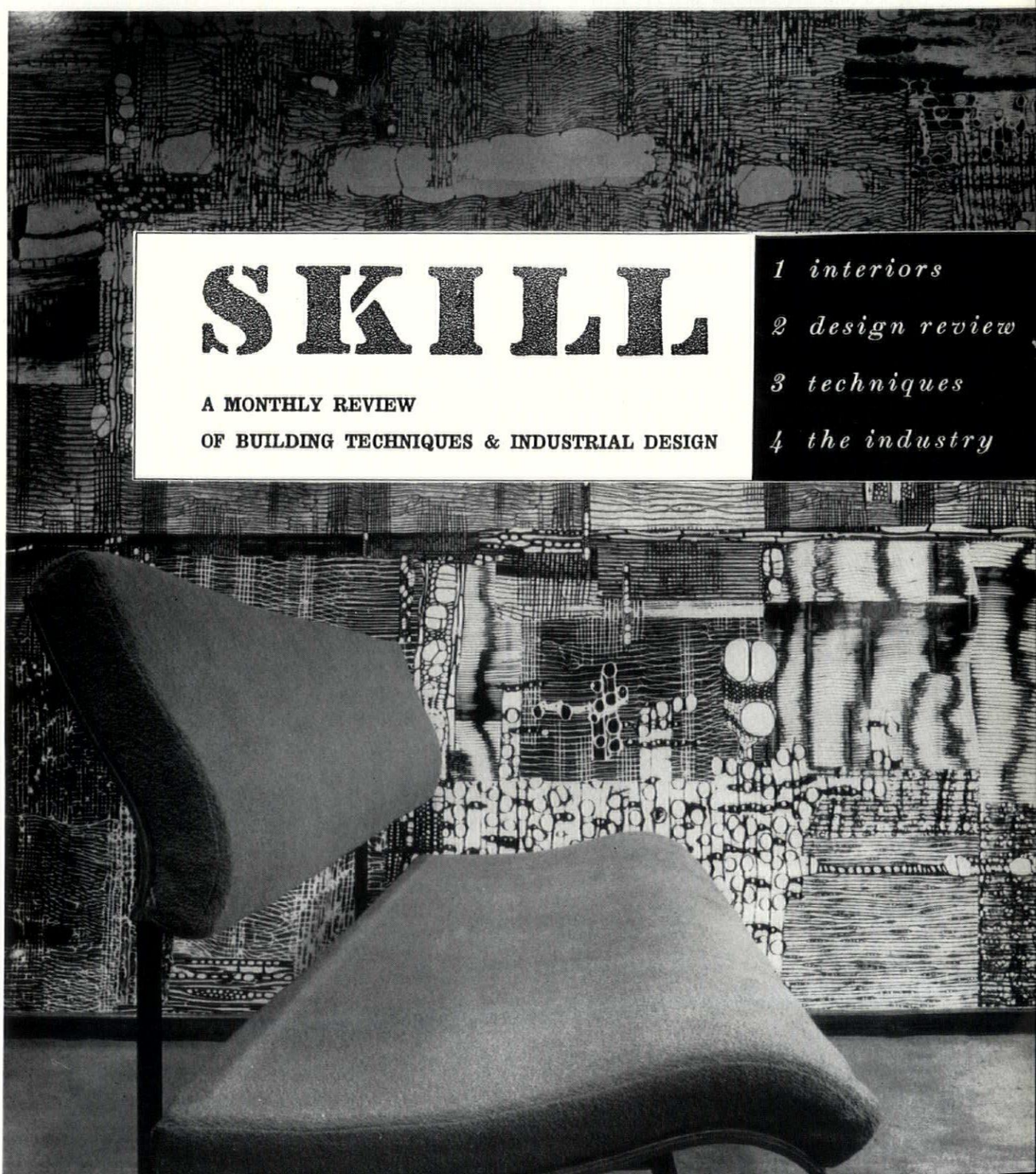


1 INTERIORS

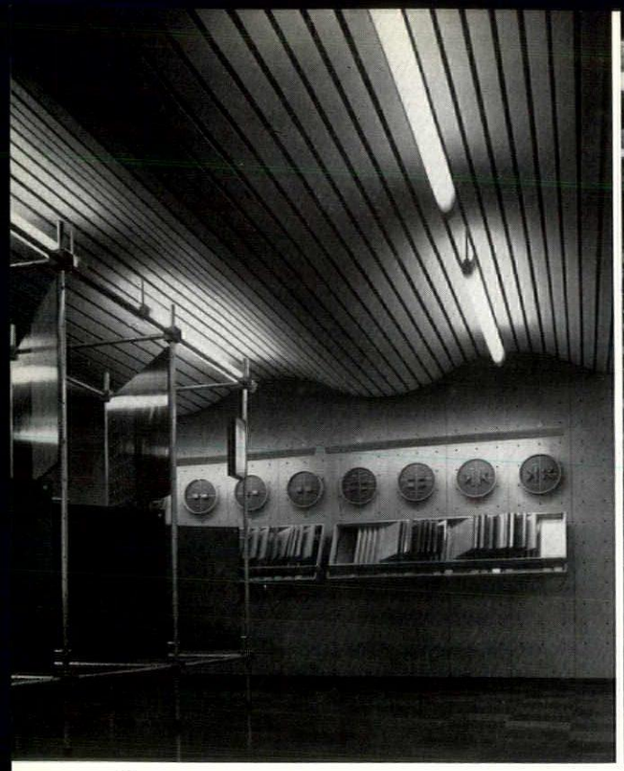
SHOWROOMS IN HACKNEY ROAD, LONDON, E.2.

Designer: Clive Latimer

The showrooms of William Mallinson & Sons are in two parts: a veneer showroom, where large veneered panels are displayed, and, directly above it, the manufacturing showroom, illustrating the range of products the company manufactures and their applications. This second showroom has recently been redesigned, to a 3-foot grid, out of a typical warehouse floor, 60 feet by 24 feet, with a headroom



1, *mural by Nigel Henderson on the foyer wall, composed of micro-photographs of wood grains, enlarged to different proportions.*

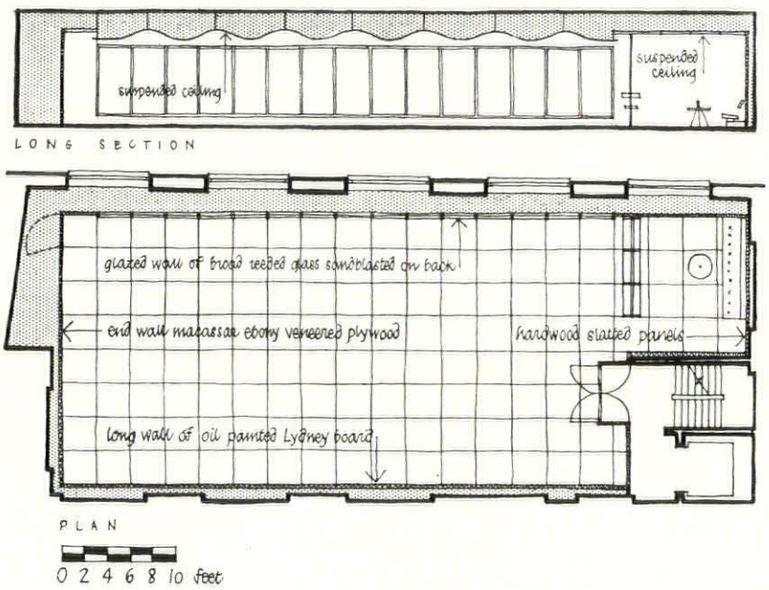


2



3

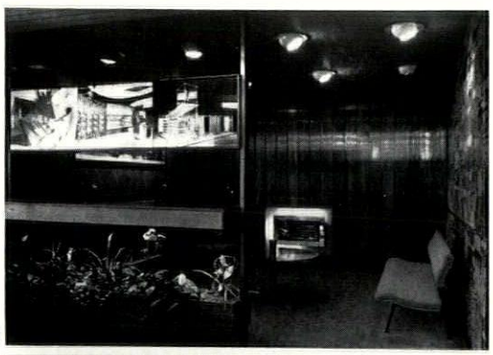
2 and 3, the wall visible consists of chipboard panels, bolted and wired for lighting at the rear. The 6-foot wide sections of the ceiling are also invisibly fixed on preforms. Below, 4, foyer, and 5, detail of mural on right-hand wall.



SHOWROOMS IN HACKNEY ROAD, LONDON

of less than 8 feet, caused by large r.s.j.s 2 feet deep. The right-hand wall, looking from the entrance, contained warehouse windows at arbitrary intervals, which it was impossible to clean. Thus the two main problems of conversion were the treatment of the ceiling and the use of the only source of daylight while barring the old windows from view.

A structural shell was built, giving a false covering to the ceiling and each wall.



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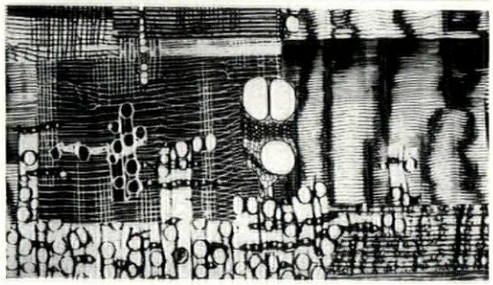

5

The ceiling is composed of obeche slats, in ripple-form, rising to a maximum height of over 9 feet under the longitudinal beams, and built in sections of 6 feet by 24 feet, which are invisibly bolted together and fastened to the joists above by suspended hangers. The ripple is shaped over moulded plywood preforms, placed at 3-foot centres across the room.

The left-hand wall is panelled with blue-grey painted chipboard in demountable 3-foot units, and thus easily lifted out for bolting and wiring at the back. The right-hand wall is in stock birch plywood and acid-etched reeded glass, and leaves a corridor from 15 inches to 30 inches wide between it and the window wall, which supplies illumination to the showroom and in addition is lit by fluorescent strips above (the old wall being painted white). It also ventilates the room by means of sliding-door apertures above the glass screen and three exhaust fans in the windows, and contains chokes for the room's ceiling lighting and heaters at floor level, which operate through grilles at the foot of the glass wall. The end wall of the room is of Macassar ebony. The floor consists of 1-foot squares of mahogany plywood, set at right-angles to each other to obtain a checker-board effect. The stand uprights are placed on the centre of the 3-foot grid. In the foyer, which contains seating and a board for discussion of drawings, a whole wall is occupied by a mural by Nigel Henderson, composed of micro-photographs of wood grains, enlarged to different proportions.

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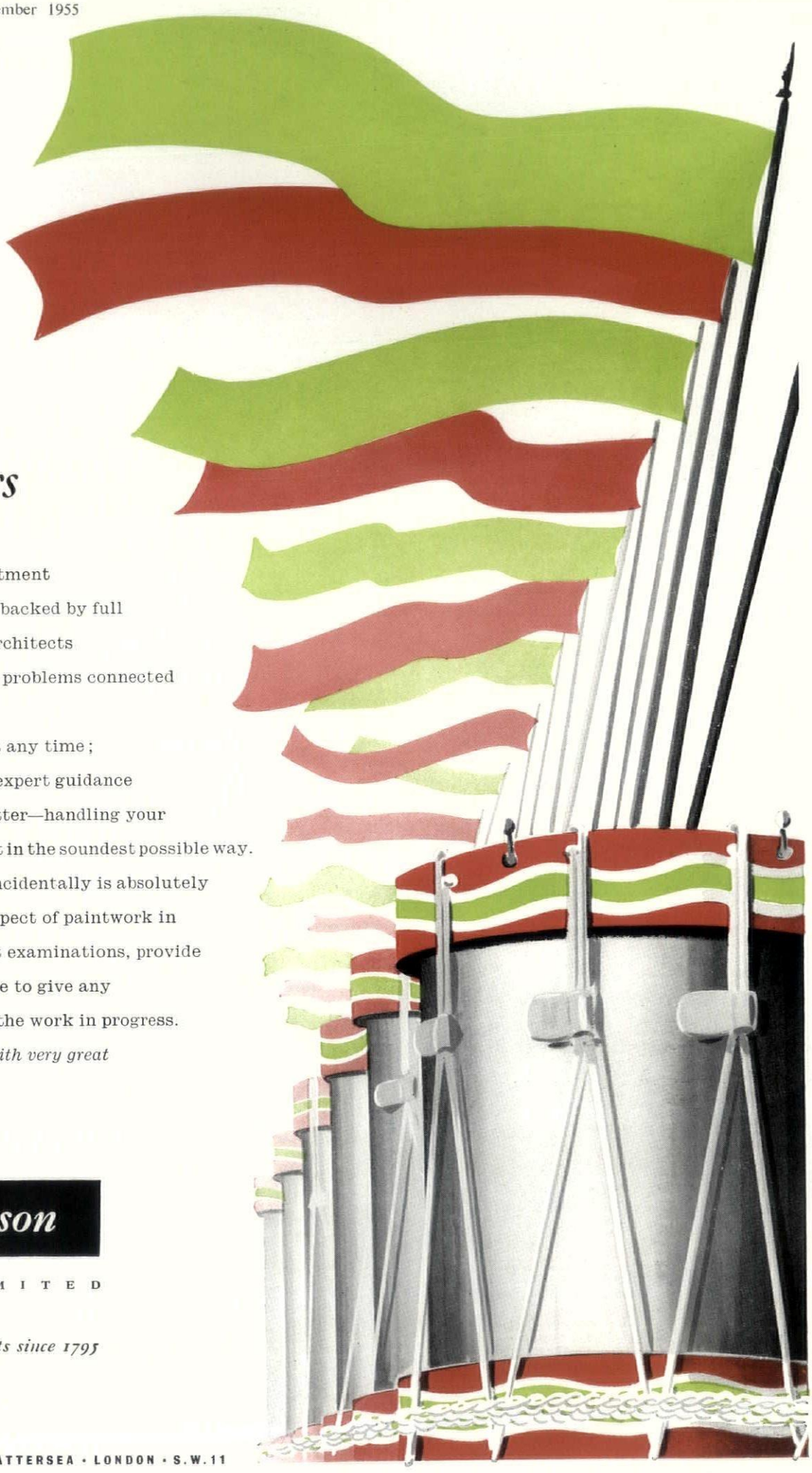

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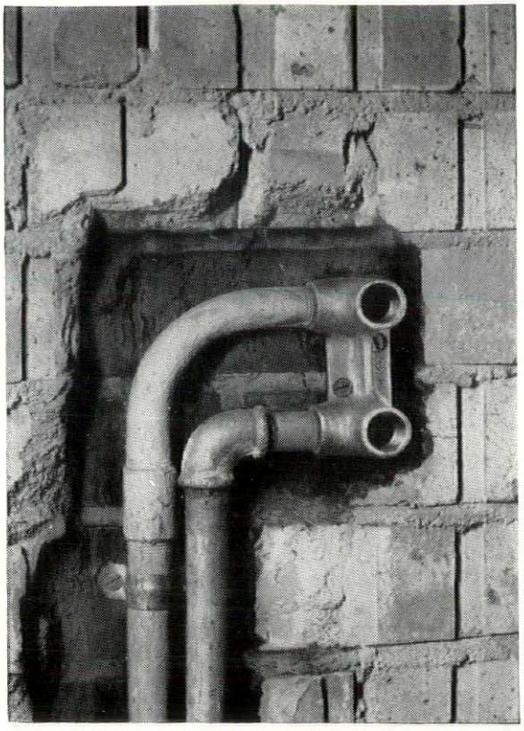

HOW ASCOT JIGGED FITTING SAVES MONEY

106,000 Ascot Jigged Walled Fittings have now been put into new homes by 183 housing authorities.

How this fitting saves money is revealed by the following figures based on actual costings.

EXAMPLE ONE

Cost of fitting an Ascot 503 sink water heater sold for cash :

Using a Jigged Wall Fitting which had been installed when the property was built ... £1.7.0 — £1.10.0

Normal installation without a Jigged Wall Fitting ... ... £4.0.0 — £5.0.0

CASH SAVING .....say **£3.0.0**

EXAMPLE TWO

The effect of a Jigged Wall Fitting on the hire purchase terms for an Ascot 503/0 sink water heater:

Charge per week when the heater is connected to a Jigged Wall Fitting already installed 1/- -1/10 per week

Charge per week including cost of normal installation without Jigged Fitting ... ... 2/- — 2/5 per week

WEEKLY SAVING .....say **9d**

✳ *Note: These figures may vary from one district to another, but are reliable averages.*

The advantages of the Jigged Wall Fitting to the consumer and to the Gas Undertakings are real. The Fitting is supplied by Ascot to Gas Undertakings at cost. Vigorous efforts are indicated to get it installed in all new houses and flats; the cost of putting it in is trifling.

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WHG/A.104

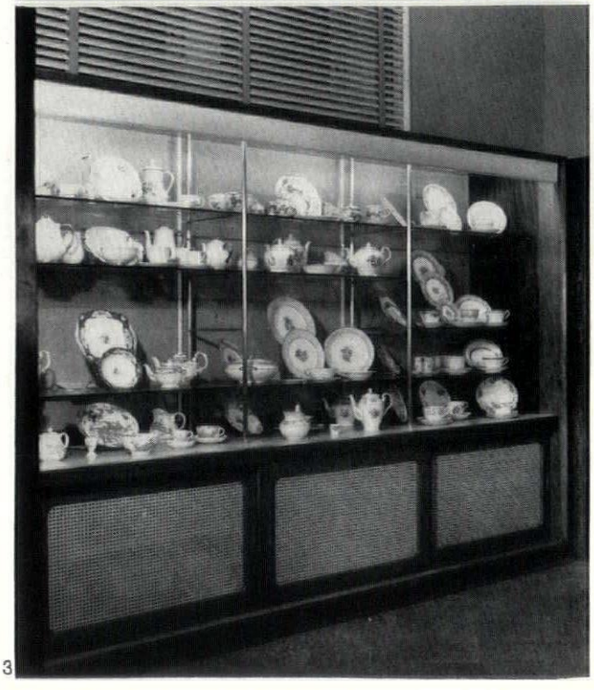


1

1, view showing centre of the department, filled by a cruciform display unit, in which the removable backing panels are visible. 2, wooden-framed glass wall-shelving and, 3, shelving for antique displays, steel-framed and brass-trimmed.



2



3

SHOWROOMS IN VICTORIA STREET, LONDON, S.W.1.

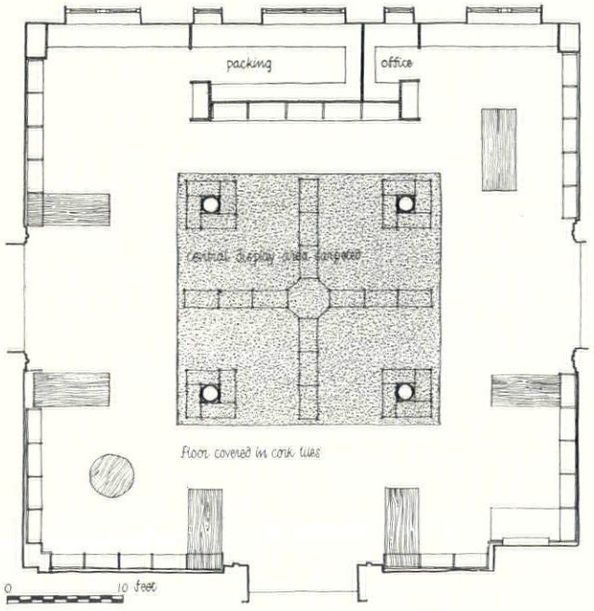
Designer: Misha Black
Assistant designers: Ellis Miles and Philip Lucey

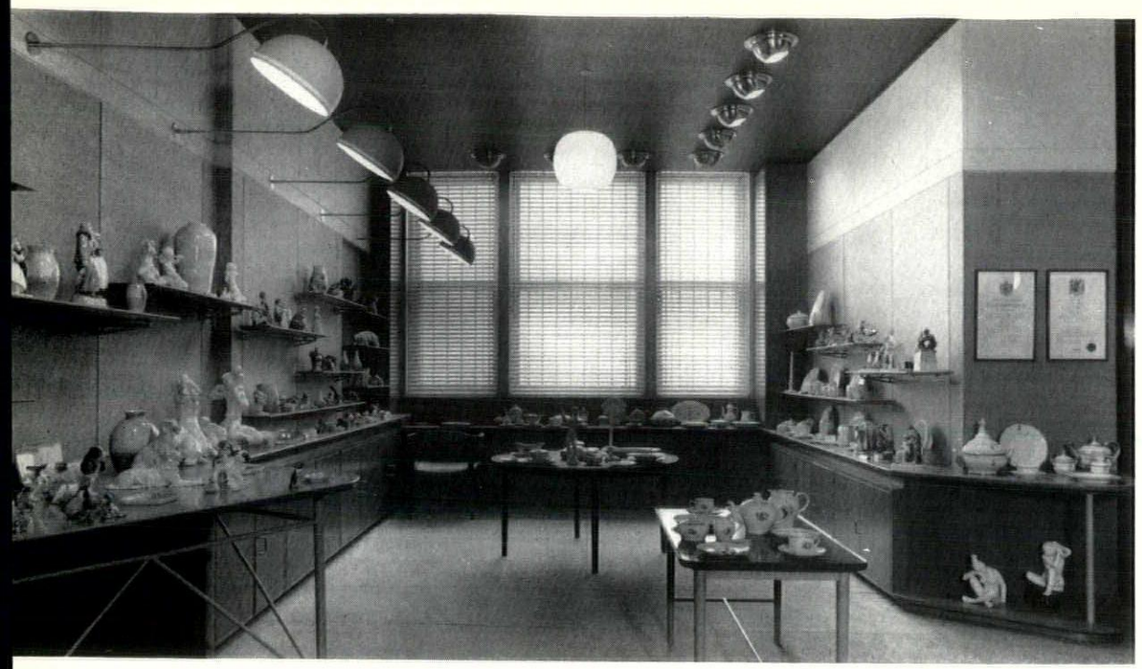
The glass and china department of the Army and Navy Stores, Victoria Street, S.W.1, is part of the ground floor and consists of a room with entrances to other departments on three sides, and four Edwardian Baroque columns in the centre.

The main display has been kept in this central area as a focus: a central cruciform unit and showcases around the bases of each of the columns. All these display units are steel framed, stove-enamelled white, with polished brass trims and glass shelving. Around the walls there is timber-framed—mainly mahogany—glass wall-shelving, made up into alcoves with tables; and at the back there is a cashier and a small packing office.

The room itself has white walls and a pink ceiling; the central columns were encased in mahogany to the depth of the display cases. The aluminium dome reflector above the centre is painted matt white.

All wall lighting is on brackets, and the wall display cases have architectural strip lighting. The central area uses fluorescent lights, plus spotlights, above an egg-crate. The centre is carpeted; the rest of the floor is cork tile.





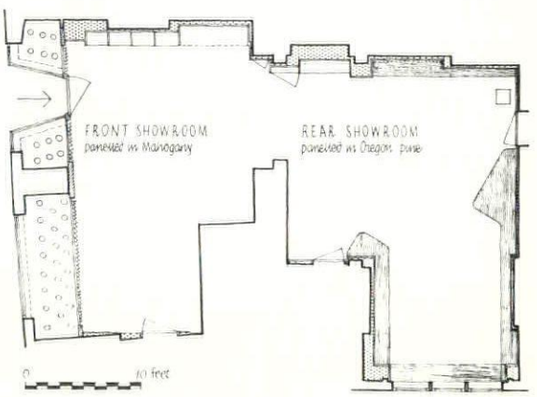
1, *rear showroom, used to display porcelain. The ceiling, incorporating adjustable light fittings, is suspended and painted deep blue.*

SHOWROOMS IN BOND STREET, LONDON, W.1.

Architects: O. Gundlach-Pedersen and Ebbe Andresen.

The redecoration of Georg Jensen's showrooms in New Bond Street entailed stripping the existing showroom and installing a new lowered ceiling and new cases and displays. The front showrooms, displaying silver and stainless steel, are fitted with new Cuban mahogany cases, about 7 feet 6 inches tall, with matt lacquered finish, closed in above with flush panelling. On the left-hand side, a special niche was incorporated containing a settee upholstered in red leather.

The rear showroom, designed to display porcelain, has a lowered suspended ceiling in which adjustable lighting units are incorporated. Here again Cuban mahogany was used but the walls are mainly covered with plaited Danish matting above cupboards of Oregon pine. The windows at the end of this room have aluminium venetian blinds and the total floor area is covered with grey Wilton carpet. All the visible electric fittings are Danish; the backgrounds have been left in their natural colours, except for the ceiling, which is painted deep blue.



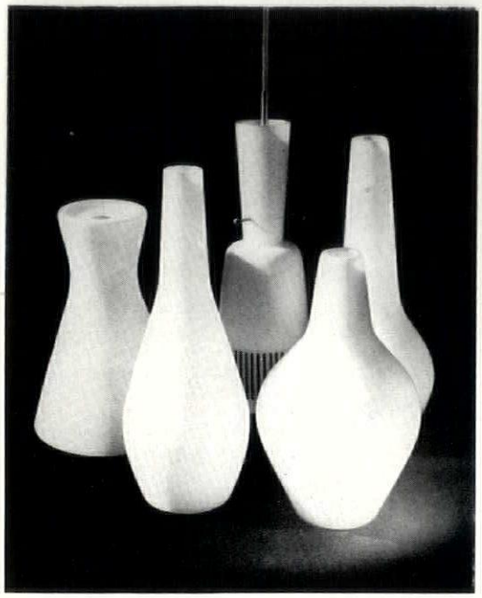


2, *a view of the rear showroom, seen at right angles to illustration* 1. *The backing to the display shelves is of Danish matting; the carpets are grey Wilton.*

2 DESIGN REVIEW

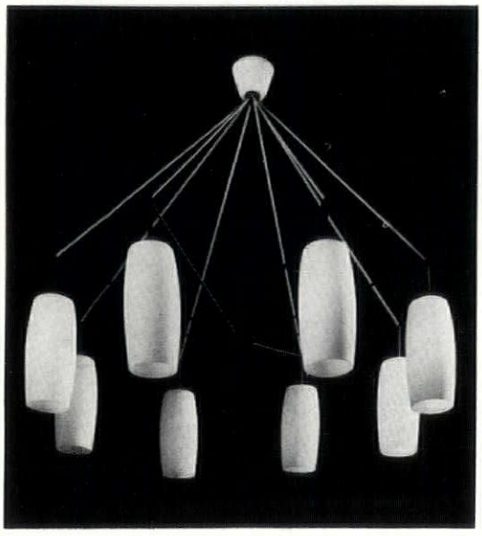
FORM IN GLASS

Opal glass is not a material commonly associated with art. Frederick Thomas & Co. have embarked upon a range of lighting fittings, 1, which rely for their effect

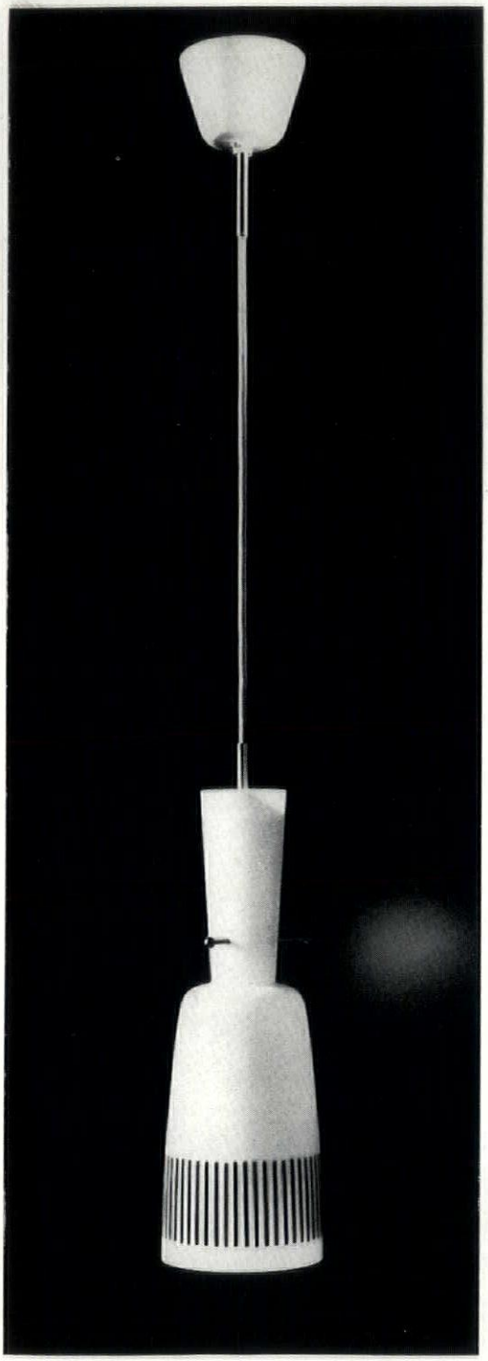


1, *range of lighting fittings by Frederick Thomas & Co.*

entirely upon the shapes and grouping of the glass shades. The glass is three-ply opal made in Sweden and England. Inside, the shade is highly polished. The opal finish on the outside is ground to a remarkably fine texture. The tall shapes are evocative both of modern sculpture and of the ancient world. They may owe some of their charm to romantic associations with archaeology and more leisurely cultures. We could do with more of this. The shades can, as shown, be painted, but there is absolutely no need.



2, *multiple pendant fitting, the members of which can be in any number and grouping desired.*



3, *single pendant fitting, with shade G309.*

The first designs in this range to be marketed are the pendant fittings. Suspension is by plain brass tube or by flex. The flex emerges from a short length of tube incorporated both in the ceiling unit and the lampholder. This gives a quality of finish quite rare in conjunction with extreme visual simplicity. The units can be assembled in any number and grouped as desired, 2.

Prices. Shades, *left to right*, in 1: G295 £1 11s.; G307 £1 16s.; G309 with fired black decoration £2 18s.; G310 £1 17s.; G293 £1 11s.

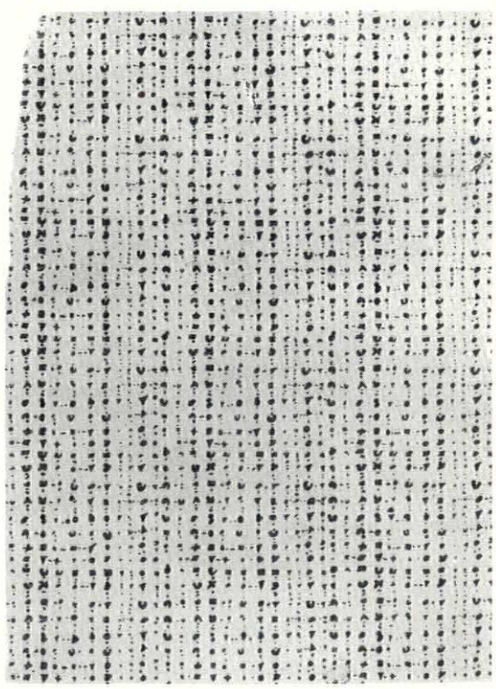
Suspensions. Single tube unit with satin finish 2 inches BSS fixing plate and cover, wired complete with BC lampholder £1 13s.; flex, finished satin brass with matt white ceiling cup, 2 inches BSS fixing plate, wired complete with ¼ inch diameter white circular flex and BC lampholder £1 5s.

All prices quoted are retail prices subject to an increase of 22½ per cent purchase tax.

Diana Rowntree

WALLPAPERS

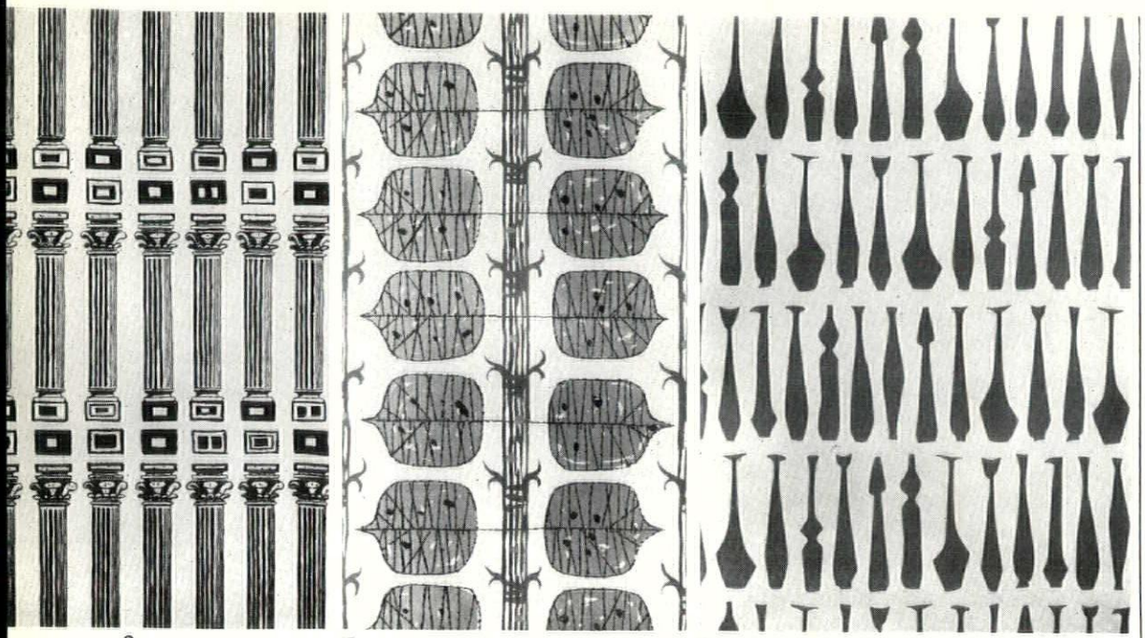
This series compiled by Wallpaper Manufacturers and called the Palladio range is particularly for the use of architects. No one likes to be told what to like, so the range starts off under a handicap as far as architects are concerned. Perhaps they are more intent than other people on seeing that the wallpaper lies back on the wall and does not compete with the foreground objects. In this sense Brackley Weave by Robert Nicholson, 1, is an architect's wallpaper, a useful



1, *Robert Nicholson's Brackley Weave paper.*

addition to the well-designed small scale wallpapers that have appeared since the war.

Columns, 2, arouses instantaneous resistance, outraging the fossilised remains of Renaissance lore in the buried strata of our architectural education. A further horrible suspicion arises that it is on these columns that the 'architectural' pretensions of the Palladio range rests. In



2 3 4

2, further examples of the 'Palladio range': 2, Columns, by Robert Nicholson; 3, Avenue, by R. Nicholson, and 4, Pharos, by P. Devenish.

fact Nicholson's usual skill has been exercised in this design. Used in rooms of contemporary proportions it can be a powerful and useful background, capable of giving a crisp and positive unity to an undistinguished interior. P. Devenish's Pharos, 4, is another design whose scale has been carefully and successfully considered, unlike Columns it is probably best used with minimum contrast in tone between the motif and the background.

The really outstanding paper is Nicholson's Avenue, 3. This is imaginative and painterly. The simple motif and layout makes a masterly contrast with the broad handling of the paint. It is due as much to the technique by which the line is applied to the paper as to the rich subdued rather dirty colour, that one thinks of this design rather as a painting than as a pattern. We have seen this assurance and atmosphere before, in a range designed by painters, and I think it is an aspect of wallpaper design that is underdeveloped. If Wallpaper Manufacturers Limited are right in their flattering assumption that architects go for atmosphere, perhaps they will commission more designs of this kind. Anyone who has bought wallpaper knows the appalling difficulty of envisaging the effect of a large wall surface from a single coiling length of paper. There is bound to be an element of risk in such a choice. If you cannot be quite safe, why not back your fancy in this field, where the results after all are not irremediable?

Prices: Brackley Weave 26s. per piece
Columns ... 28s. ,, ,,
Pharos... ... 28s. ,, ,,
Avenue ... 45s. ,, ,,

D.R.

3 TECHNIQUES

ARCHITECT/MANUFACTURER CO-OPERATION IV

by Noel Moffett

In the September issue we began our account of the collaboration between the Arcon group of manufacturers and their architectural consultants. In it we discussed work done in the immediate post-war period when Arcon, like everyone else, were chiefly concerned with housing. This month we conclude by outlining Arcon's second phase, when the centre of interest shifts to the design of whole structures for export; and by discussing their research into the design of building components which, in the architects' view and ours, has always been the key to the experiment.*

The pattern of development which ensued from work on the demountable house has been followed on all Arcon's later projects. Research leads to preparation of a design, which is realized in a prototype. The design is then manufactured on a pilot run and is finally put into mass production. Mass production, however, does not necessarily mean the conclusion of development, for the Arcon consultants like to think of all structures as prototypes, to be modified as soon as modification becomes desirable and feasible. This is particularly true of the long series of roof structures which occupied the Group's attention after the Arcon Mark V house. In 1946 Group members found that they could not get licences for steel, timber and other materials for building in this country. They therefore called on their architects to look into the possibility of designing for overseas markets.

It was found that in many countries of the world there are satisfactory indigenous materials of which walls and partitions may be built. Everywhere, however, there seemed to be a very real problem in constructing roofs of a permanent nature for all types of buildings. At the instigation of Edric Neel, the Arcon Tropical Roof was therefore designed to meet this situation. The design was based on the double leaf principle, an outer roof providing protection against the weather—particularly against the heat in hot climates—with an inner ceiling so arranged as to ensure that an uninterrupted flow of air between the roof and the ceiling maintained a reasonable temperature inside the building. The span chosen was 30 feet, the structure was tubular steel designed to resist hurricane conditions and the cladding corrugated asbestos sheeting. On the ridge a curved sheet was used in place of the orthodox ridge piece to avoid traditional complications. Taylor Woodrow now formed a subsidiary company, Taylor Woodrow (Building Exports) Ltd., to market Arcon products abroad. A prototype was erected at Southall and an order for 1,400 bays was placed by the Anglo-Iranian Oil Company. This design with small modifications continued to be the main building in demand for the next four or five years. However, the Tropical Roof suffered from an inflexibility due to there being only one fixed span and bay width. The initial design was rather based on the Anglo-Iranian Oil Company's requirements and further research showed that far more economical buildings could be attained by relating the span and bay width to the maximum span under certain loadings of the purlin used and the maximum spacings of purlins to take various sheeted materials. On this basis three spans were designed, the increase in span being in each case related to the addition of an extra purlin on each roof slope. Three different eaves extensions and varying ceiling heights were designed on the same principle, together with a system of forming hips, 'T' and 'L' junctions. All these variations helped towards the possibility of the structure which was called simply the 'Arcon Roof,' 1, being erected in over two thousand different ways. This, of course, overcame the inflexibility of the old Tropical Roof, and at the same time uses components designed to their maximum structural efficiency.

One of the problems endemic in an organization such as Arcon is how to determine what work is to be done next. The architects themselves divide their work into three categories: fundamental research into

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* The firms which now constitute the Arcon group are as follows:—Imperial Chemical Industries Ltd., Stewarts and Lloyds Ltd., Taylor Woodrow Ltd., United Steel Companies Ltd., Williams and Williams Ltd. Until 1952 the design consultants were Edric Neel, Raglan Squire, Rodney Thomas and A. M. Gear, who worked together under the name 'Arcon, Chartered Architects.' On the dissolution of this partnership in 1952 and the taking over of the name Arcon by the manufacturers, Rodney Thomas and A. M. Gear collaborated together as the group's consultants from their separate offices.

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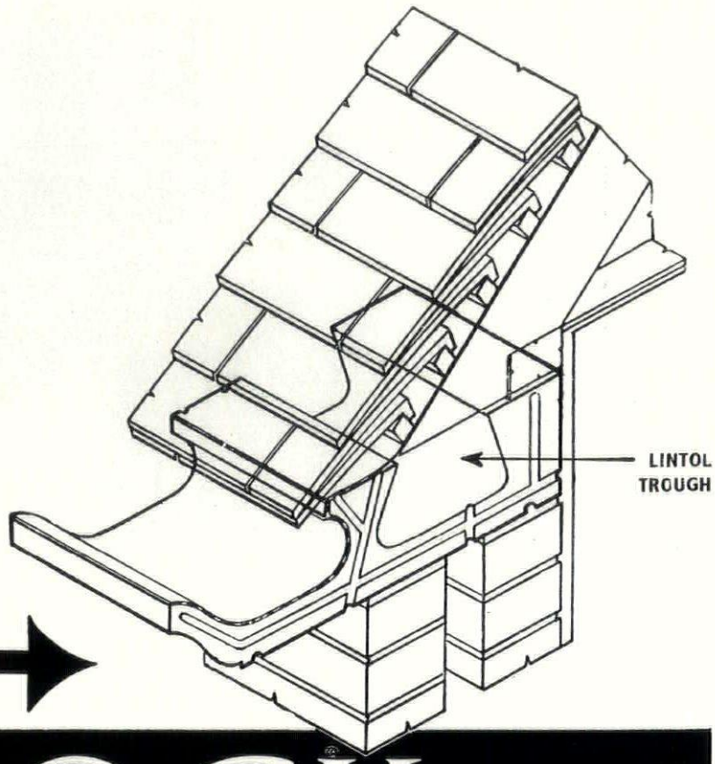

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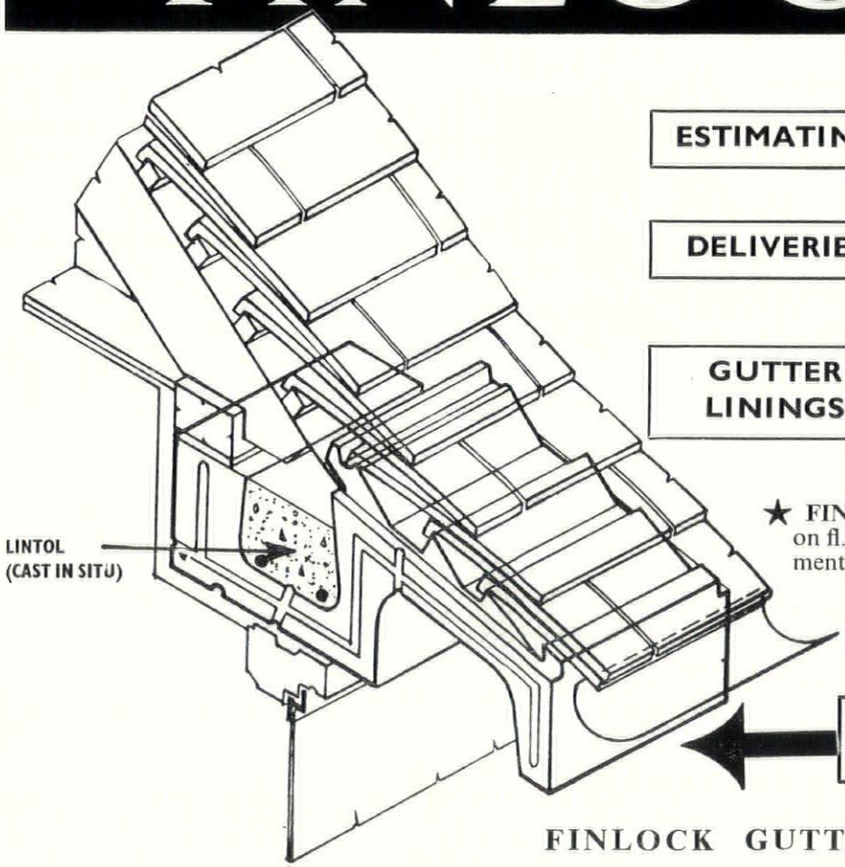

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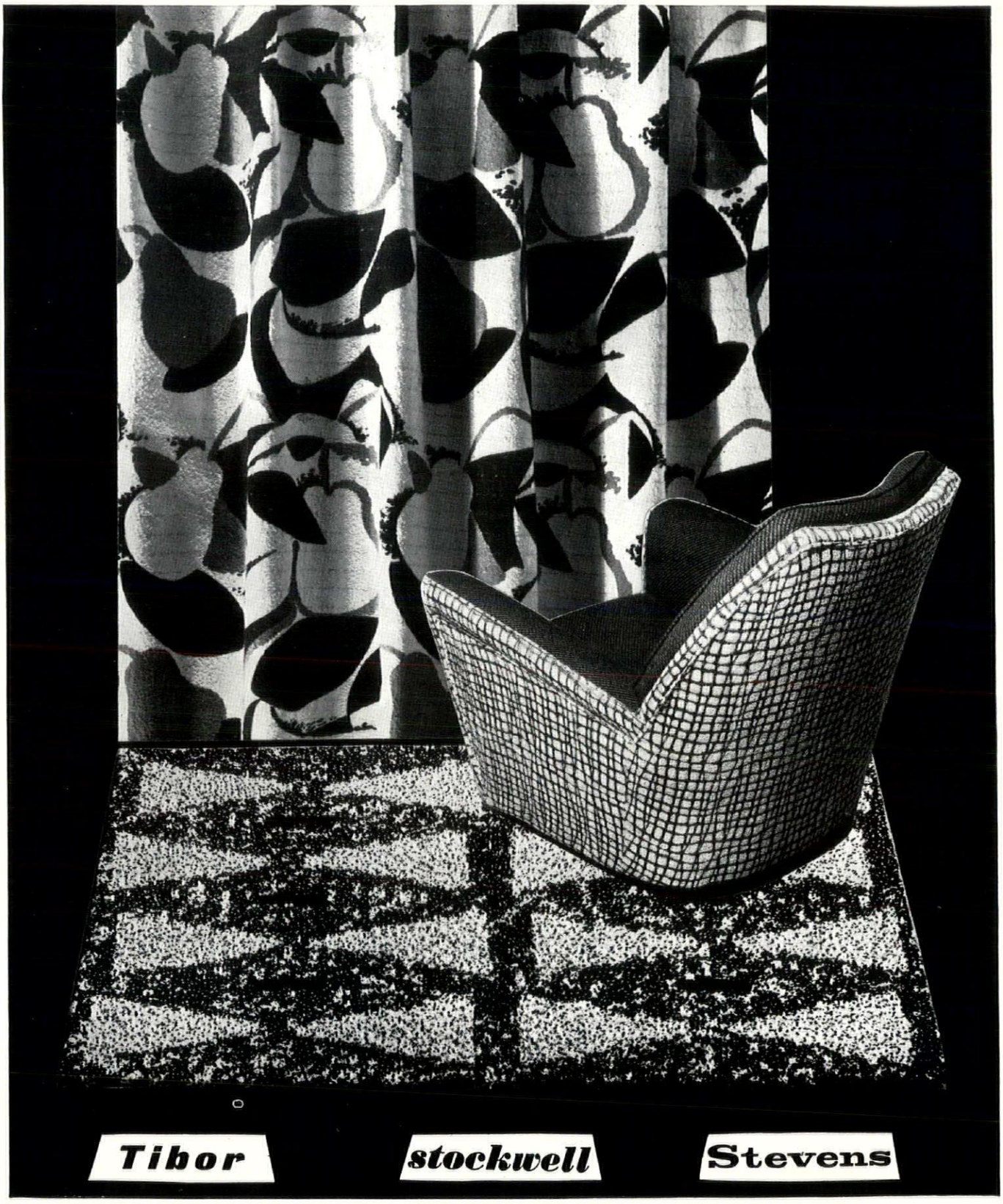

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VICEROY deep all wool pile rug with textured effect, available in a variety of colours and sizes to your specification. In three grades, "Standard," "Super" and "Supreme." The design shown is "Caribbean" by Tibor Reich, F.S.I.A. Produced by: S. J. Stockwell and Co. (Carpets) Ltd., 16 Grafton Street, London, W.1.

THE "BALMORAL" CHAIR designed by Ronald E. Long, M.S.I.A., is an example of the new range of upholstered furniture by R. S. Stevens. The outside is covered in Tibor's deep textured wool fabric "Mesh" Black/White with "Stratford" Black on the inside. Produced by: R. S. Stevens Ltd., 209 Wood Street, London, E.17.

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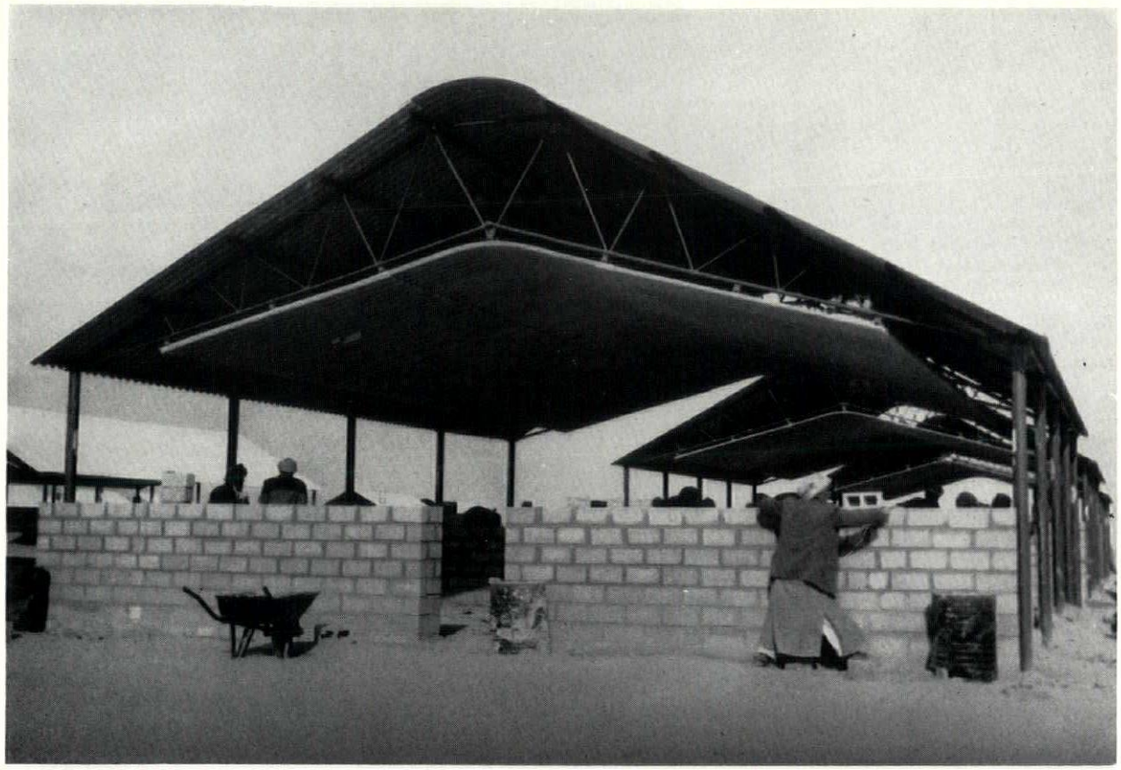


1, *Arcon roofs in use at a workers' camp at Kuwait. Note the ventilated roof space and the use of local walling.*

the design of components, the application of this research and the design of structures. It is, of course, the last of these which is the most immediately rewarding to members of the Group and the first which is, from the point of view of 'Architecture,' the most interesting: but it is the experience of the architects that the design of structures for immediate marketing contributes in unexpected ways to their long-term research in components. There is no general pattern for determining which projects shall be undertaken: sometimes the Group members or the Marketing Agents, as the result of information received from their representatives, suggest a particular line of development or the Consultants themselves, through their knowledge of architectural and structural problems, submit their own proposals. Whatever the reason for starting a project, all have to go through the same drill before they are ready for marketing. First approval of the project by the Arcon Executive Committee, which meets each month and is composed of representatives of the Sponsor Companies and the consultants, then Research, Testing, Development, Prototyping, Pilot Run and finally Production.

Whilst there is a certain amount of time spent in obtaining information which is of general use, most of the Research is devoted to particular problems or projects. Having prepared designs in some detail, the Consultants then collaborate with the various manufacturers concerned in order to determine the best materials and methods of manufacture, at the same time contacting the Marketing Agents in order to ensure that they have taken account of the problems likely to arise in transport and erection.

When any necessary modifications have been made, the Consultants prepare preliminary costs and maybe erect a number of mock-ups or hand-made components to test out their ideas. If it is agreed to continue the project, it then moves to the stage of development, where the Consultants prepare detailed component and general arrangement drawings and agree these with the manufacturers before the Marketing Agents obtain firm prices.

A prototype is erected from the first run-off and a check is made of the dimensional accuracy of the building, when the methods of packing and of erection are finally settled. In most cases drawings have to be prepared for an erection booklet which has to be translated into five different languages.

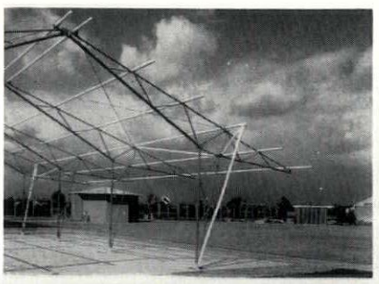
All buildings in production are under constant review by the Consultants and the companies concerned, and if modifications are necessary they are prepared by the Consultants and introduced into production at a time agreed with the manufacturer and the Marketing Agents. During this period the Consultants are carrying out what is termed 'Technical Service' that is to say, preparing drawings showing how the buildings can be used for different purposes, advising on the structures under different conditions, and preparing details of any special component required for a particular job.

In addition to the Tropical and Arcon Roofs, a wide range of structures varying in size, shape and function has been developed, along with alternative forms of cladding, partitions, windows, etc. Since the dissolution of the Arcon partnership this work has been carried out in A. M. Gear's office. So far as the export market is concerned the buildings or components may be divided into three groups:—

(1) Industrial buildings (factories, godowns, transit sheds, etc.).
(2) Amenity buildings (hospitals, welfare buildings, offices, schools, etc.).
(3) Housing, of many types and standards.

So far as this country is concerned, the main accent, to date, has been on industrial buildings for light manufacturing processes and storage. These include a storage building which enjoyed a phenomenal commercial success, 4, a prefabricated

Three structures developed by Arcon: 2, three-pin portal frame designed for use in an open-sided building with locally constructed walls. The salient characteristic of this structure is its extreme lightness and simplicity of erection. 3, an Arcon sawtooth roof in a factory at Bracknell. Note the stressing wires in the plane of the roof. 4, an Arcon storage building (50 feet span) in process of erection at a Government sisal factory in the Dominican Republic. The tubular purlins are fabricated into a pole which can serve to hoist the trusses when they are assembled on the site.



2



3

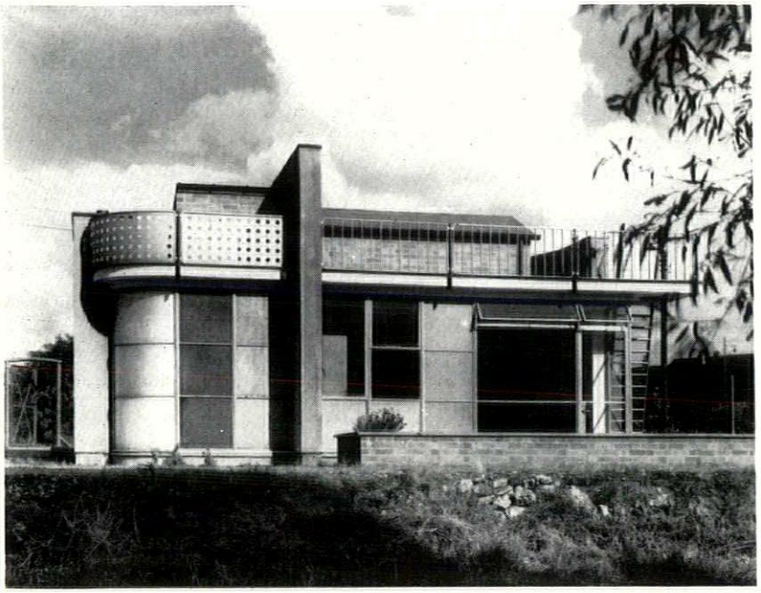


4

timber house designed for the Australian Government, a saw-tooth roof (principally for the cotton and jute industries), 3, and a three-pin portal frame for use in school buildings in Ceylon, 2.

research

It has been pointed out that the consultants' research work is divided into two categories: component research and the application of that research. Thomas has called this side of their work 'The design of pieces with which to build and the use of those pieces.' This designing of building 'pieces' is a continuous process and the architects use their components in all their designs for buildings and for complete structures. There is one application of component research, however, which is especially important. This is a curious building erected in 1944 at Witton in Birmingham and designed by Gear and Thomas



5, experimental building at Witton in Birmingham designed at the request of the Metals Division of ICI to test the behaviour of non-ferrous metals in conjunction with other materials.

at the request of the Metals Division of ICI, 5, with the particular idea of observing the behaviour of non-ferrous metals and aluminium alloys in combination with other building materials. The strange shape of the building is due to the fact that it illustrates as many situations as possible where these materials could or might be used. The building is also designed so that further components and new materials may be inserted at any time and their weathering qualities and erection technique tested.

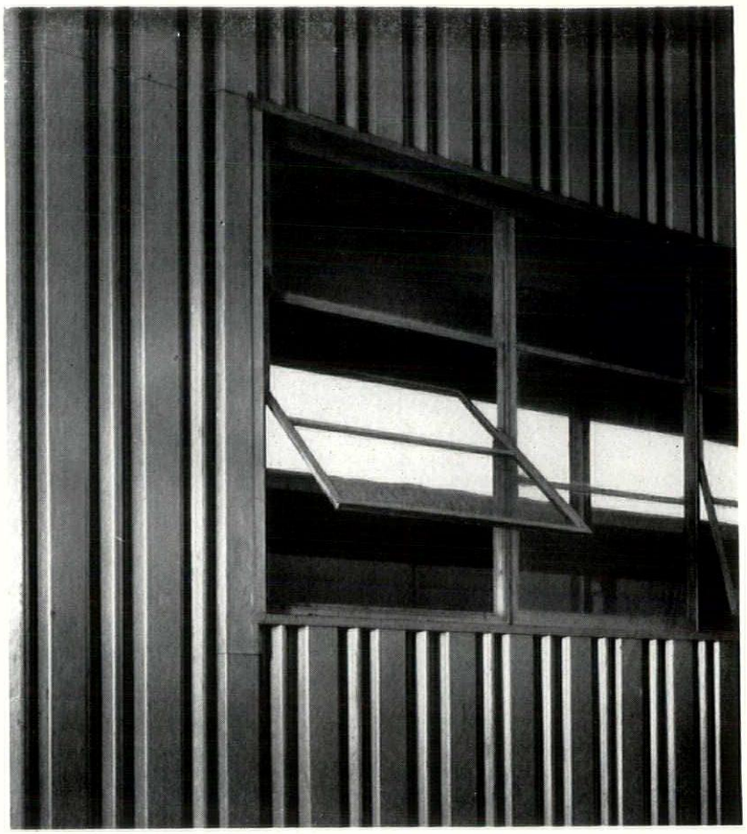
The architects consider that it was built too early from an economic standpoint. Many of its features are still at a controversial and experimental stage of development, and it will be many more years before its value will be appreciated. The roof was concrete and the sides curtain walling with prefabricated wall, window and door panels all of a carefully calculated modular size and thus interchangeable.

In the category of 'component research,' which the architects regard as the most important part of their work, much of interest has been done in both offices. Three examples have been chosen which it is hoped will give some idea of the very wide range covered by this research, namely, 'secret-fix' and curtain walling developed in A. M. Gear's office and Rodney Thomas's comprehensive dimensional research.

secret-fix

ICI felt that their corrugated aluminium sheet, designed for both roofing and wall cladding, was not as popular as it should be because it was necessary to fix it to roof purlins and wall frames by bolts and washers in a similar manner to corrugated iron or asbestos. Thus, although it was a better and more expensive material, it was associated in people's minds with these cheaper materials. Also the washers and bolt heads, being exposed to the weather, sooner or later produced unsightly weather stains on the face of the sheet. The solution found consists of an extruded aluminium alloy cover strip, with a profile identical to that of the trough-shaped corrugation of the sheet, so designed as to receive on its underside the head of the fixing bolts, these in turn being secured to the purlins or sheeting rails by special clips.

This 'secret-fix' method has now been patented by ICI and is marketed as 'Kynalok secret-fix cladding,' 6.



6, 'Kynalok' secret-fix cladding. Detail showing the system used in conjunction with a range of standard factory windows. Note the absence of bolt heads.

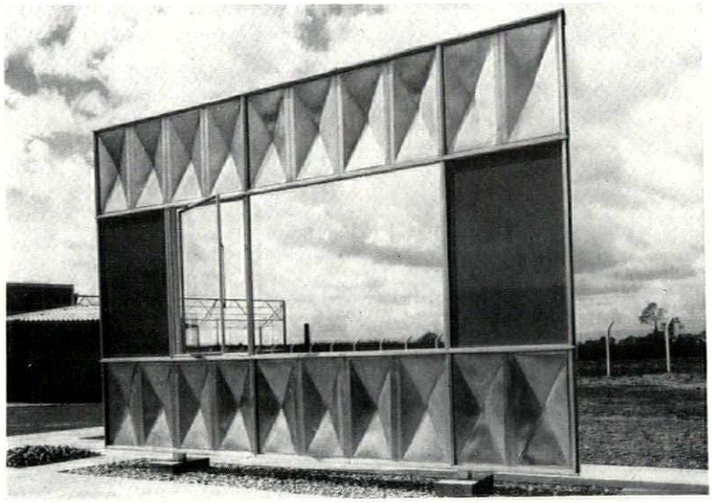
curtain walling

Taking advantage of the experiments in the use of curtain walling carried out on the ICI building at Witton, a new system was designed in 1952 using a framework of aluminium extrusions into which could be fitted windows, metal or plastic panels and glass or similar sheet materials. A prototype composite panel was erected at Southall for the purpose of examining the behaviour of a great variety of materials and of testing the design of transomes and mullions, 7. Some interesting discoveries were made. A stainless steel sheet in the form of a flat pyramid was designed and specially manufactured. The 'mock-up' infilling sheets were hand made with one side of the pyramid welded and, when a tool was designed for mass-production pressings, it was found that there was a danger of penetrating the sheet at the point of the pyramid. For this reason the apex of the pyramid was deleted and a small flat panel substituted, 8. The horizontal cill members had at first been designed on traditional lines with a drip which allowed water, running down the face of the building, to drip clear of the panel beneath the cill. After the 'mock-up' had been exposed for several months it was found that the upper part of the panel was staining rather badly, while the lower portion was clean where it had been washed by the rainwater. A new head glazing bead was, therefore, designed which, instead of forming a drip, allowed the rainwater to run down the complete face of the panel. By this means, the whole surface of the panel is now weathering evenly.

dimensional research

During the evolution of the design of the Mark V temporary house the Arcon architects had designed a series of 'cover technique' details to cover the junctions of prefabricated

7



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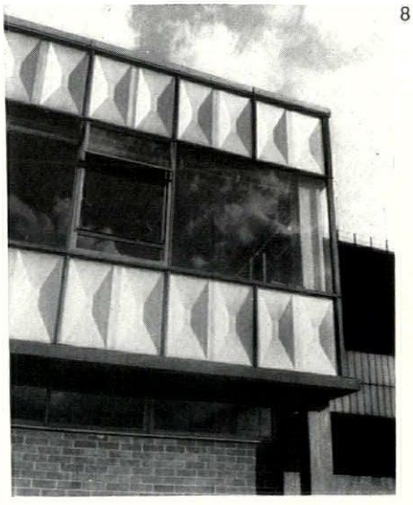

7, prototype curtain walling panel set up at Southall. This consists of a frame built up of aluminium extrusions with pyramidal panel infillings made of stainless steel. In this version the panels run to a point in the apex. Later a small flat rectangle was introduced into the centre to give better wear and cheaper manufacture. 8, curtain walling as manufactured applied to an office block designed by A. M. Gear for Messrs. Samuel Fox.

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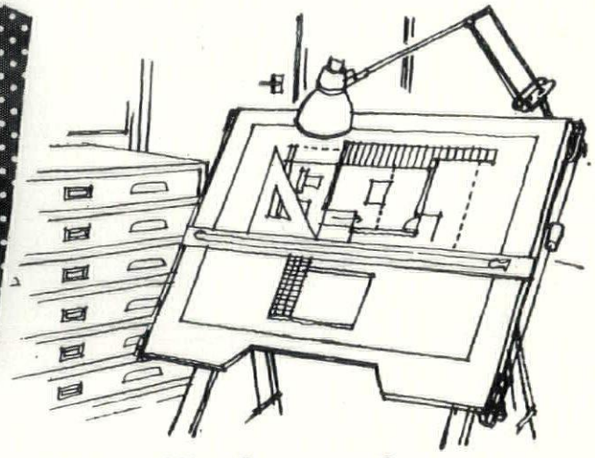
...specify solid fuel for the heating



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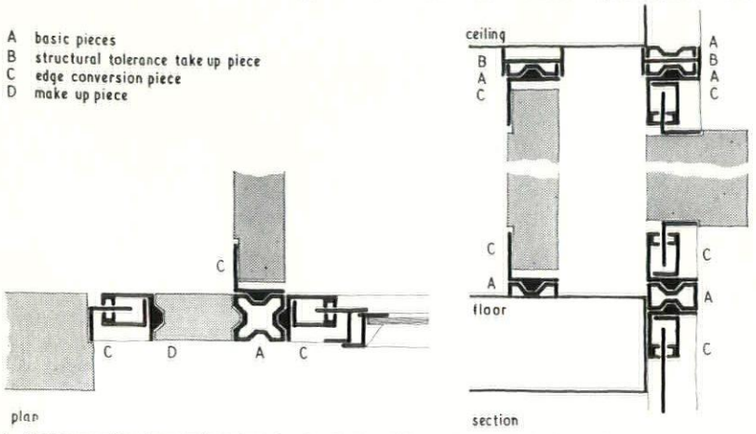
wall, floor and ceiling panels. They later considered these design details crude and unsatisfactory, but they had nevertheless served to show them the great importance of the design of joints.

In 1951 the Group members allocated a sum of money for research into the use of interchangeable components which could be used to build a wide range of prefabricated houses, designed particularly for export to other countries. Rodney Thomas undertook this research, which has become what may well be considered the most important work carried out by the Arcon organization since its formation in 1943. So as to make the components of the Export House interchangeable, the first designs were based on a modular size. Thomas realized, however, after examining the problem in detail, that the module permitted interchangeability only if all components were of the same thickness, had the same edge shape and were manufactured to the same tolerance. The units already on the market varied in all respects.

The architect therefore had to undertake some 'pure' research, taking a detached view and going back to basic principles. He worked on this research for three years, and in June of this year he presented his findings to the Group members in the form of a colour film explaining his proposals step by step.



9, diagrammatic plan and section showing Rodney Thomas's proposals for attaining interchangeability in panel construction.

Thomas claims to have worked out a dimensional system which enables the architect—any architect—to build accurately to any dimension with different ranges of mass-produced components and to fit them all together without scribing, irrespective of their surface dimensions, thickness and edge shape, so as to provide as much dimensional freedom in prefabrication as is possible with traditional methods.

Anyone who has designed for prefabrication and mass-production accepts the inevitability of manufacturing inaccuracies and his designs always allow for 'tolerances,' which are usually calculated as occurring somewhere between a stated maximum and minimum. The Arcon consultants had already designed various forms of flexible joint to deal with this dimensional expansion and contraction. Thomas now discovered that the varying space at the joints really played a more important part than the components themselves. Joints designed to take up mechanical movement caused by tolerances could also take some of the other dimensional burden. He still talks of the excitement which followed his realization that a shop-keeper can weigh anything in his shop with only a very few weights, and that he could apply the same principle to the problem of dimensions by selecting a series of dimensional 'weights' and applying them at predetermined points. It was obviously desirable that there should be as few dimensional pieces as possible. Five 'weights' of 1, 2, 5, 8 and 9 inches were chosen, from which 'dimensional units' could be formed to deal with inches (or centimetres), fractions and tolerances. With the addition of a foot 'weight' an architect could now build to infinity with complete accuracy, the foot sizes being incorporated in the building components. Conversely, he could leave an opening in any length of wall of any dimension and could therefore mix components of any size together, even if some were in feet and others in metres.

This means that building can be put on a 'Meccano' basis and any new ideas and techniques can at any time be accommodated and combined with other techniques.

It is too early to tell if this particular departure will come to any good—for the mere ability to fit parts together is not the be-all and end-all in building: but it is interesting that a group of manufacturers should have instructed their architect to look into a matter which up to now has been nobody's business.

conclusion

Perhaps the first point to be made in conclusion is to remark on the value of the architect's presence in an organization of this kind. Now that industrial concerns have become the originators of architectural form—or at least of building component form—it is important that architects should be present to assist them. Many industrial firms have architect consultants: the special significance of this particular consultancy derives from the fact that the clients are a group of firms, covering between them a wide variety of building materials, and that they have grouped together precisely in order to investigate the common use of these materials in building. It is this underlying purpose which makes the design of components of greater importance than the structures in which they are progressively embodied. These structures have great historical interest in that they are the best answer that a very resourceful organization could find to a given problem at a given moment, and as such they represent a kind of pioneering which must be done if we are to get an industrialized building which we can unreservedly describe as 'architecture.' Thus it is that their most lasting value must be sought in the experience their design has occasioned.

[Trade Notes on page 418



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An example of a hotel purpose-made window. A general view showing the pleasing facade enhanced by Beanes windows.
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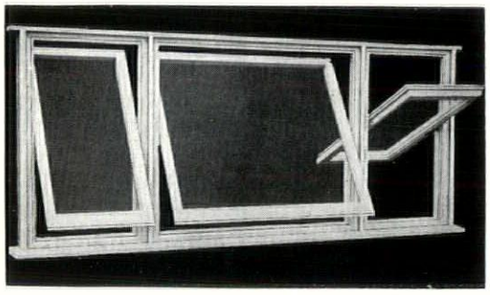
4 THE INDUSTRY

WOOD CASEMENTS

Janes' Modolite Joinery is a range of wood casement windows and doors which sets out to supply every kind of user from the speculative builder with his five-light circular bay to the County Architect with his horizontal pivot hung. Alternatively, it might be described as a system of detailing which shows cill, head, wall stud, mullion and transom of constant section and which confines sectional variation to the window

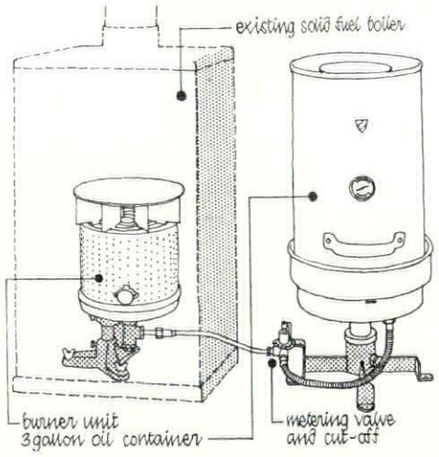


itself and to an inner frame. This produces a sturdy result and allows wide variation in dimension and use at reasonable cost, though designers may find that the resulting detailing is too heavy for some purposes.

H. C. Janes Ltd., 183, *High Town Rd., Luton.*

OIL FIRED BURNERS

The article in the July issue of the AR on 'Domestic Oil Burning Equipment' was confined to equipment burning Class 'A' oil. It did not discuss paraffin burners because at that time these were virtually confined to the humble portable type. For some time, however, the Valor Company



has been developing a paraffin conversion unit which has been on sale in the Birmingham and Croydon areas during the past year and is now being marketed nationally. The unit is produced in two sizes with outputs of 25,000 and 50,000 BThU's per hour respectively, and comprises two parts: a burner which is designed to fit inside most makes of solid fuel boiler and a 3-gallon container which rests on a stand at the side of the boiler and which passes paraffin by gravity to the burner. These burners use a relatively expensive grade of oil, but the cost of the equipment is of a much lower order than Class 'A' oil burners. The price of the 25,000 BThU model is £11 15s. 0d., and of the 50,000 BThU model £13 5s. 0d. To this must be added a small installation charge.

The Valor Co., Ltd., Bromford, Erdington, Birmingham.

GLASS CLADDING

Whether or not we like the polished black glass of the Daily Express building and the vitrolite shop fascias of the 'thirties, we cannot question their wearing quality. The chief objection heretofore to using

[continued on page 420



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A complete self-service counter has been installed for the British Transport Hotels and Catering Services at Brighton Station refreshment rooms (see photograph). The counter contains a tea and coffee service unit, consisting of a 4-gallon coffee machine, two 2-gallon milk urns and a recessed tea pot warmer. Also provided are a gas heated service top hot closet, rack storage and cold sections and a stainless steel waitress tray shelf. In order to economise on floor space, the countering shown was designed in collaboration with the Architects.

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AP 243.91

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glass cladding has been that the glass itself is too expensive and that there is no guarantee of permanence for the colour which must be used on the backing. The first of these objections is diminished and the second overcome by Messrs. Pilkington's 'Muroglass.' This is a ¼-inch glass which may be either rough cast or wired, and which is made, as yet, in six colours, with two more promised and with the assurance that the architect has a good chance of obtaining a colour of his choice for quantities of not less than 10,000 square feet. 'Muroglass' is made in one operation, by applying a film of vitreous enamel to the main sheet while it is being fired, which results in a single piece of glass with a thin skin of opaque coloured glass on one side. The finished product sells for 3s. 6d. to 4s. per sq. ft. and may be obtained in widths up to 48 in. and lengths up to 100 in.

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House at Leicester. *Architects:* James Cubitt & Partners. *General contractors:* A. E. Cox & Co. (Builders). *Sub-contractors: Facing bricks:* Fisons Ltd. *Roofing joists:* Benfix Ltd. *Roofing slabs:* Thermacoust Ltd. *Heating installation:* Haden & Sons. *Woodblock floors:* Horseley Smith & Sons. *Linoleum:* Cellulin Flooring Co. *Metal windows:* The Crittall Mfg. Co. *Glazing:* Pilkington Bros., and Plyglass Ltd. *Electrical:* C. N. Rogers. *Door furniture:* Alfred G. Roberts Ltd. *Sliding door gear:* A. Hill Aldam & Co. *Slate shelves:* C. Collins & Sons. *Sanitary fittings:* Stitson Sanitary Fittings. *Slate cills:* Hall & Co. (Brentford). *Kitchen roof-light:* T. & W. Ide. *Kitchen fittings, cupboards and cooker hood:* Ezee Kitchens Ltd. *Fittings and furniture:* Andrew Pegram. *Wall tiling:* Carter & Co. (London). *Veneers:* Mallinson & Sons. *Fireplace surround:* Wessex Guild. *Light fittings:* Troughton & Young (Lighting) Ltd.; George Forrest & Co.; Merchant Adventurers of London Ltd.; Finmar Ltd.; W. D. Developments. *Furniture:* Finmar Ltd.; Hille of London Ltd.; Conran Furniture. *Materials and soft furnishings:* Primavera Ltd. *Shelf fittings:* Church & Co. (Fittings).

Bank in Garrick Street, W.C.2. *Architect:* Sir Hugh Casson. *Associate architect:* R. A. Green. *Contractors:* Mullen & Lumsden Ltd. *Sub-contractors: Glass:* John M. Newton & Sons Ltd. *Patent flooring:* Korkoid Decorative Floors Ltd. *Central heating:* G. N. Haden & Sons. *Gasfitting:* North Thames Gas Board. *Boilers:* Thomas de la Rue Ltd. (Gas Division). *Electric wiring:* S. Goodchild. *Electric light fixtures:* Merchant Adventurers of London Ltd. *Electric heating:* Ferranti Ltd. *Sanitary fittings:* W. N. Froy & Sons. *Door furniture:* Comyn Ching & Co., and Alfred G. Roberts Ltd. *Bronze windows:* Williams & Williams Ltd. *Venetian blinds:* Catesbys Contracts Ltd.

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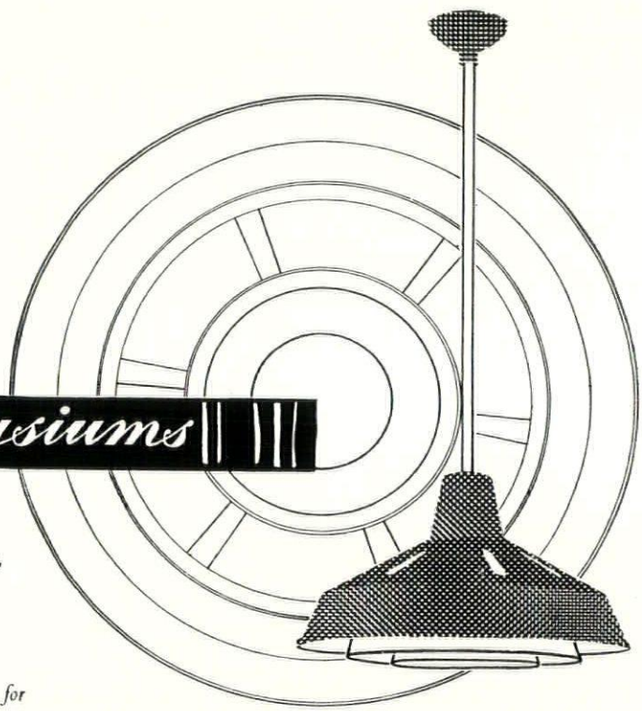

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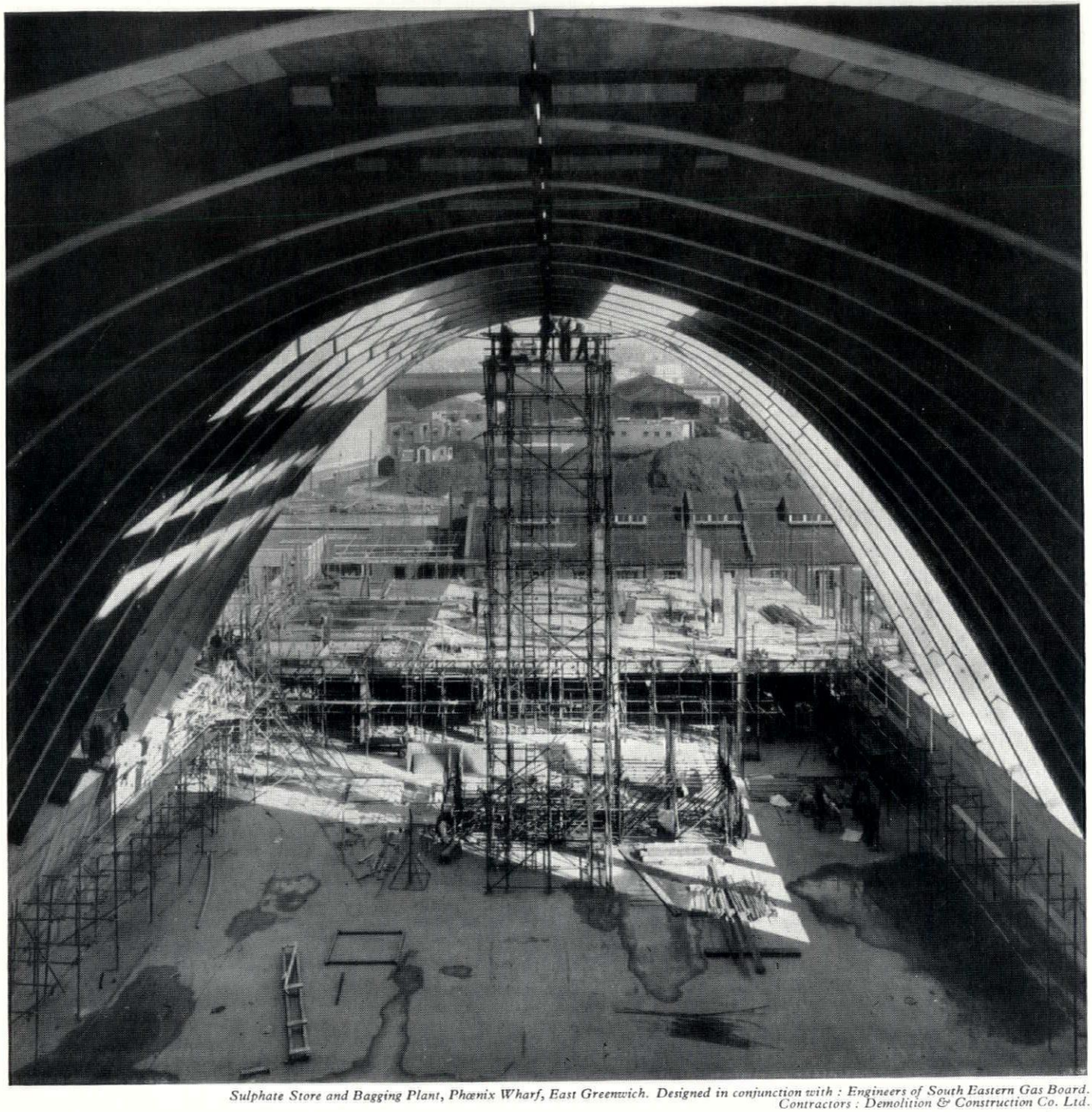

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