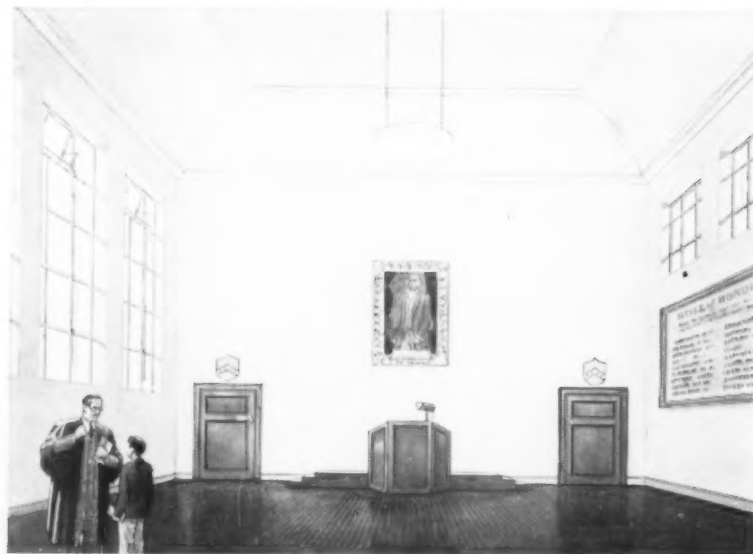




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MARGINALIA

Bucklersbury House

Whatever the rights and wrongs of the recent disagreements about the size and siting of Bucklersbury House, on which the Minister of Housing and Local Government has now given a decision in favour of the promoters of the scheme, the building itself, designed by Owen Campbell Jones, is of some interest. Far from offering the usual grimly built-up façades and dismal interior court, it is a complex building of approximately E-plan in its main masses, as the model shows, giving



exterior presentation for nearly all windows. Further, it is free from revival detailing and, in its straightforward acceptance of a modern idiom, it suggests that British business and finance may indeed be the progressive and adventurous force it so often claims to be. Too often it negates that claim with backward-looking sentimental architecture.

Lancaster House

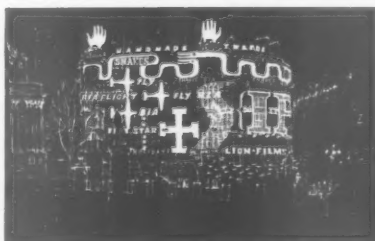
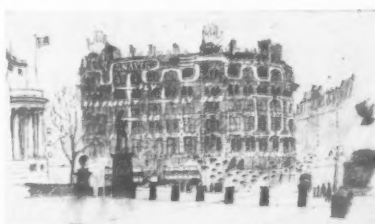
Now, after the refurbishing of parts of Euston station, another great monument to Victorian taste at its most palatial has been put into good order. Lancaster House is the work of Benjamin Wyatt, Sir Robert Smirke and Sir Charles Barry and its great swaggering



entrance hall would be no discredit to any of them, though in all probability it represents Barry working on elements laid down originally by Benjamin Wyatt, since the latter certainly gave the fundamentally Louis Quinze twist to the interior decoration. Through age and war damage much of this decoration had fallen into a bad state, and has had to be repaired by the Ministry of Works—a difficult task since, in some places, large areas of elaborate detailing have had to be made good, as the view into the palm-supported vault of the ballroom lantern will show.

Advertising and Townscape

The Minister's recent decisions on the appeals of advertisers having illuminated signs in Trafalgar Square suggest some possible principles for the further development of neon advertising in towns. The Minister accepted that illuminated signs might be or become integral parts of the urban scene—a welcome change from the usual absolute moral objections to advertising anywhere—and he also accepted the principle of illuminated signs



being open to approval if they were inconspicuous by day—given this they might blossom freely by night. This proposal was adumbrated by the *Architect's Journal* in a frontispiece, above, published on May 7, 1953, and offers a solution which could satisfy the guardians of amenity as well as those in advertising business, and have the added advantage of being good townscape.

The first Skyscraper

Two new contenders for the title of 'world's first skyscraper' emerged from the annual meeting of the Society of Architectural Historians, held

this year in Cleveland, Ohio. Contributions centred around four principal symposia: symbolic expression of purpose in architecture, eclecticism, group architecture, and the architecture of Ohio and the Old West.

In consideration of the first of these topics, Mr. Winston Weisman re-evaluated the criteria for labelling a building a 'skyscraper.' Contrary to recent concepts, he asserted that height, rather than technological characteristics, must be of prime consideration, and supported his argument with an analysis of two New York buildings: Richard M. Hunt's Tribune Building of 1873 (nine stories and 260 feet high) and George B. Post's Western Union Telegraph Building of the same year (ten-and-a-half stories and 230 feet high). Neither building was unique in structure or form, but each took advantage of the elevator and fireproofing, both crucial factors in the rental of high office space in New York of the 1870's.

Carroll Meeks ended the eclecticism symposium, which included discussions of eclecticism in the work of Sir John Vanbrugh and Frank Lloyd Wright, with a synthesis of opinions drawn from such nineteenth century authors as Gilbert Scott, Wyatt, Semper, Viollet-le-Duc, Van Brunt and William Goodyear. The consensus, Meeks found, was that a 'creative eclectic building should be judged (1) as to whether it adhered to the constructive principle involved; (2) whether the exterior was an expression of the interior, in either an "ideal" or a "literal" sense; (3) whether the forms were employed with freedom and independence rather than literal exactness; (4) whether the reminiscences were wisely co-ordinated and placed in perfect agreement with each other; (5) whether it served the conditions and used the materials dictated by the age; and (6) whether the result was simple and comprehensible.'

The annual book award of the society, given to the book voted the outstanding contribution to the literature of architectural history published by an American author during the calendar year, was presented to Antoinette F. Downing and Vincent Scully, authors of 'The Architectural Heritage of Newport, Rhode Island, 1640-1915.'

Architects in this Issue

Architect of House at Otham, Kent (see pages 289-291). BRIAN PEAKE was educated at Malvern College and took 5 year course at Architectural Association School of Architecture, London. General building experience with Holloway Bros., London (joinery,



masonry and general building), 1936. Then worked with Wallace Harrison, New York 1937; Alden Bow, Vancouver B.C. 1937; Richard Neutra, Los Angeles 1937; E. Maxwell Fry, London 1938. Own practice in London, 1941 (after 2 years serious illness). Has designed shops, houses, offices and numerous exhibitions and stands. Married, no children. Interests (outside architecture) travel, salmon-fishing, skiing, photography, country life and food. Likes music, the open air, almost any wine, fast cars, comfort, golf, watching sport on television. Dislikes Palm Court orchestras, fuggy atmosphere, tea shops, horses, pretentious 5-star hotels, bridge, listening to the 9 o'clock news.

Architects of House in Bedfordshire (see pages 292-293) are Dunham, Widdup and Harrison. **PETER DUNHAM** was born in Luton, trained at the Bartlett (Donaldson Medallist). Age 42, married with son and



daughter. Started private practice in 1933; served during the war in R.E., where he met Widdup; resumed architecture after the war and started group practice in 1949 on principle that all qualified architects in the firm should have interest as partners in it. President of Northants., Beds. and Hunts. Association of Architects, 1951-52 and is a member of the R.I.B.A. Practice Committee. Took over 150 acre farm in 1949, since when has had no leisure time, but finds one occupation an excellent antidote for the trials and tribulations of the other.

MACFARLANE WIDDUP is a Yorkshireman, trained at Leeds and left with a travelling scholarship (which he was just able to use before the war). A signaller in the R.A., but after three years he was commissioned in the R.E. Assault Brigade, where he met Dunham. Age 35, married with two small boys, and spends his spare time cutting down trees too near his new house, admiring other people's vintage cars and making amateur films of the kind no-one else understands.

MICHAEL HARRISON is a Lutonian, trained at the Bartlett. Served in Infantry, Artillery and finally as a photographic reconnaissance pilot during the war. Spent three years in local government before joining the newly formed Peter Dunham

Group. Age 37, married with two daughters and a son. His leisure time is spent looking for a site for a new house, starting and/or repairing an old Vauxhall car and making a fool of himself both before and behind a cine camera, and giving up smoking.

Architects of Technicolor Building are Leslie Gooday and Wycliffe Noble. **LESLIE GOODAY**, member of the Public Relations



Committee of the RIBA and of the SIA, was born in Croydon in 1921. Was articled to the late P. A. Robson. Served six years in RAF holding 'one man' shows of sketches while in Palestine. Worked in local government offices until 1949, joined Festival of Britain office under Sir Hugh Casson, working on South Bank and Battersea Pleasure Gardens. Afterwards joined in partnership with architect Noble starting private practice in one-roomed garret overlooking Buckingham Palace. Lives in contemporary single-storey house near Richmond Park, designed by partnership.

WYCLIFFE NOBLE was articled to W. E. & W. S. Trent, who specialized in cinema and theatre design. Decided to study architecture in Basle and worked in Schönenwerd where he came under the influence of the modern movement. On return to England joined MOW where he worked on an atomic research establishment; then looked to local government where new departments were being formed to replan the bombed areas. Soon found the departments were controlled by engineers. Heard of the Festival of Britain, and was appointed as staff architect under Sir Hugh Casson. Assisted Misha Black, and in 1951 joined with Leslie Gooday.

CORRESPONDENCE

British Museum 1753-1953

To the Editors,

THE ARCHITECTURAL REVIEW

SIRS,—Dr. Pevsner's conjecture, in his article on the British Museum, that the South colonnade owes something to the example of Sir Edward Pearce's South colonnade to the Parliament House (now Bank of Ireland) in Dublin, is unquestionably sound, and is supported by a piece of evidence which seems to have escaped notice hitherto. This is that James Malton, before carrying out his celebrated series of Dublin aquatints, did another

and larger print of the forecourt of the Parliament House, looking from the West colonnade towards



the East, across the front of the portico. Malton drew the architecture, but it was Robert Smirke, father of the architect, who drew the figures. It is therefore most probable that Smirke senior possessed a copy of this print, and that it would have been familiar to the son, who was twelve when it was published.

Yours etc.,

London.

MAURICE CRAIG.

ACKNOWLEDGMENTS

The four colour half-tone on page 303 is made available by the courtesy of Messrs. Technicolor.

COVER, C.U. Foto-Saul Molina. **MARGINALIA**: page 281, Bucklersbury House, Lambert, Arphot; Lancaster House, Ministry of Works; Drawings by Gordon Cullen; Peake, E. Joysmith; page 282, de Normanville Studios, Fox Photos. **FRONTISPIECE**: John R. Pantlin. **PELICAN HISTORY OF ART**, pages 285-288: diagram drawn by B. A. Spearpoint. **HOUSE AT OTHAM**, pages 289-291: all photos Galwey, Arphot. **HOUSE IN BEDFORDSHIRE**, pages 292-293: all photos de Normanville Studios. **LETTERING**, pages 294-301: Frontispiece, 7, W. F. Mansell; 1, Ministry of Works; 2, A. C. Cooper; 3, Archivio Fotograf; 4, 10, Rhein Landmuseum, Bonn; 5, Ny Carlsberg Glyptothek, Copenhagen; 6, 9, Georgina Masson; 8, Courtauld Institute of Art. **WORKS CANTEN IN MIDDLESEX**, pages 302-305: all photos, Galwey, Arphot. **MEXICO UNIVERSITY**, pages 306-318: C.U. Foto-Saul Molina. **BEWLEY**, pages 319-324: drawings and photos, D. Dewar Mills. **SCHOOL AT OLDBURY**, page 325: all photos Galwey, Arphot. **HEALTH CENTRE AT STOKE NEWINGTON**, page 326: all photos John R. Pantlin. **MISCELLANY**, pages 329-332: *Design Review*: S. Hille & Co.; *Outrage* 1, de Wolfe, Arphot; 2, McCallum, Arphot; *Exhibitions*: 1, Tate Gallery, 2, Hanover Gallery, 3, F. L. Kenett, 4, 5, Photo Studios, Royal Academy, 6, Nigel Henderson; *Townscape*: de Wolfe, Arphot.

The following photographs were incorrectly acknowledged to the Institute of Contemporary Arts in the October, 1953, issue of the *REVIEW*. *Porous Whalebone Mask*—from *Native Arts of the Pacific Northwest*, edited by R. T. Davis, Stanford University Press; London; Geoffrey Cumberlege, Oxford University Press; copyright 1950 by the Board of Trustees of the Leland Stanford Junior University. *In a 1910 Gymnasium*—from *The Revolt of American Women*, Oliver Jensen, Picture Press, New York. *Cross Section of a Stem*—from Thornton's *Book of Vegetable Anatomy*. *Jackson Pollak in Studio* is by Hans Namuth. *Guillemot's Eggs*—from *Handbook of British Oology* by A. J. Butler. *Dismembered Typewriter*—from Future Publications.

THE ARCHITECTURAL REVIEW

Volume 114 Number 683 Nov 1953



This month's cover shows members of Diego Rivera's team of stonemasons at work on the vast relief-mural, in different types of local stone, which they are executing to his design on the outer scarps of the Olympic stadium at the new university city on the Pedregal, outside Mexico City. This great project for an educational establishment with 30,000 students is notable not only for its size, but also for the way in which its designers, using technological and traditional building methods side by side, have married Mexican and International conceptions of architecture. A description of the scheme, already nearly completed after a little over two years, by Dr. Thomas Sharp, who has recently returned from Mexico, appears on p. 307.

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284 Frontispiece

285 Pelican World History of Art by

Reyner Banham A new encyclopaedic history of art, incorporating the research of recent years, has long been needed, and the Pelican History of Art, whose first volumes have just appeared, would be noteworthy for the real promise it makes of filling that want. But what is even more notable is that it has appeared in England—traditionally hostile to broad and general historical studies. Mr. Banham examines the changes of public opinion and taste which have taken place since the nineteen-twenties to displace pure aesthetics and minute studies of narrow fields as the characteristic types of English writing on Art, and outlines the influences which have brought these changes about. Perhaps the most important influence has been the decision of certain distinguished art-historical refugees to settle in England—among whom, of course, was Professor Pevsner, who has been one of the most

influential in his effect on English Taste, and is also the editor of the new Pelican series.

289 House at Otham, Kent: Architect, Brian Peake.

292 House in Bedfordshire: Architects, Peter Dunham, Widdup and Harrison.

295 Theory of Classical Lettering by

Nicolette Gray In this first article of her study of lettering in relationship to architecture, Mrs. Gray examines the range of possibilities and limitations of the classical letter; possibilities in a formal sense, for though we have come to regard classical lettering as synonymous with the well-known inscription on Trajan's Column, that example is only one of an almost infinite variety of alphabets, all equally classical in feeling, and none of them reducible to geometrical rule without at once destroying that classicism; limitations in use, for even supposing we exploited the full range of classical lettering, our unthinking subservience to the genteel Roman letter-form would still tempt us to use it in situations where it is entirely unsuitable. Although it undoubtedly has its proper uses, the classical letter is by no means the cure-all that we have lazily supposed it to be.

303 Works Canteen in Middlesex: Architects, Gooday and Noble.

307 Mexico University by Thomas Sharp

It is not only the size of the new University City on the Pedregal, nor even the remarkable dispatch with which this enormous project is being driven to completion, which makes it worthy of attention. It is also an outstanding example of co-operative design, though in a looser and more informal sense than the phrase usually signifies. Seventy-five architects working independently, but under the general direction of one man, have produced a scheme whose total effect is coherent, not chaotic. Further interest resides in the fact that the completed buildings, though modern in conception, all have a strongly regional flavour. Dr. Sharp traces this to a variety of causes, among which was the purely aesthetic intention to respect the *genius loci* of the remarkable landscape in which the buildings stand, and, perhaps even more influential, the need to extract most of the building material from the native rocks of that landscape, and to work them with local labour and traditional methods.

319 Midland Experiment: Bewdley by

D. Dewar Mills This is the second of the studies of four West Midland towns undertaken by THE ARCHITECTURAL REVIEW in collaboration with Birmingham University Extra-Mural Department. Most of the present character of Bewdley comes from its historical importance as a river port, and its

finest development was along the river and the main street at right angles to it. Now the river front is moribund, and though this gives a certain charm, it is lost when it has to serve as a parking place for the charabancs which bring trippers from Midland industrial towns, and, to make matters worse, it is becoming cluttered with the usual municipal bric-a-brac. The town needs to be protected not only from this kind of townscape insensitivity, but also from an incipient tendency to turn its back on the river and look inward on itself. The river front must be integrated with the shopping area, and made a vital part of the daily life of the town, before it is lost by default.

325 Current Architecture

327 Francis Price: Carpenter by Peter

Ferriday The bicentenary of the death of Francis Price is also the bicentenary of the publication of his *Observations* on Salisbury Cathedral—a pioneer work in the study of Gothic structure. As Mr. Ferriday points out, this straightforward and thorough-going description of the cathedral fabric, and the attempt it implies to work out the building's history, is in complete contrast to the rising picturesque and dilettante attitude toward Gothic of such of his contemporaries as Horace Walpole—who does not figure among the subscribers to the *Observations*. The analysis of the state of the structure and of possible procedures for repair, though it owes something to Wren's notes and methods, is first-hand and thorough, for Price did much repair work around the Cathedral and in the spire, which he rightly deduced, from the condition of the structure, not to have been part of the original design.

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It has become a matter of course to examine the pictorial art of the Renaissance in order to ascertain the intentions of the architects of that period, but this useful technique has not been much extended to the art and architecture of other epochs. Yet if there is any period of English art-history in which painting and building were related to each other as unmistakably as in the Renaissance, it is surely the Regency, when Nash, Turner, Soane and Martin worked with a common language of architectural form and spatial composition. The first large exhibition of the paintings of John Martin to

be held in London (at the Whitechapel Gallery in September and October) has emphasised not only his obvious relationship to the infinitely receding perspectives of Nash's Regent's Park, but also, as in this detail from his *Joshua*, his intimate understanding of the Regency architects' heroic sense of scale, their interest in primitive or Rustic orders (in the great gateway), the theory and practice of picturesque site-planning, of shallow domed constructions, and of those vast colonnaded or arcaded Palace designs to which both Nash and Soane gave their attention in their later years.

Reyner Banham

PELICAN

WORLD HISTORY OF ART IN FORTY-EIGHT VOLUMES

In hailing the first four volumes of the Pelican History of Art, and particularly the two which bear directly on European architecture,* one acclaims more than the enterprise of Sir Allen Lane and Professor Pevsner in undertaking their publication; one acclaims a landmark in the development of English taste, a tangible manifestation of a changed attitude toward the plastic arts. The process which has produced this change has been slow—so slow that we may not have been aware of it, but if one puts oneself back into the mental state of a mean sensual English art-lover of the year 1930 one will at once realize that, from such a standpoint, the Pelican History of Art would be as unthinkable as a Hertfordshire school.

The degrees of unthinkability would be very precisely comparable, for in a world whose new buildings were almost entirely Hampstead Neo-Georgian, Bankers' Doric, Speculative Voyseyesque or Town-hall Scandinavian, the staple reading of our English art-lover would still be couched in a tradition which stood firmly upon the foundations laid by Ruskin and Walter Pater. Further, the doom which subsequently fell upon the Playboy Eclecticism of the school of Lutyens was very like the doom which has subsequently fallen upon the Pure Aestheticism of the school of Roger Fry, and was brought about by some of the same men. The attitudes of mind which produced a new view of architecture had their exact doubles in the new view of the art of the past.

In both cases the anvil upon which the change was wrought was History. The liberation

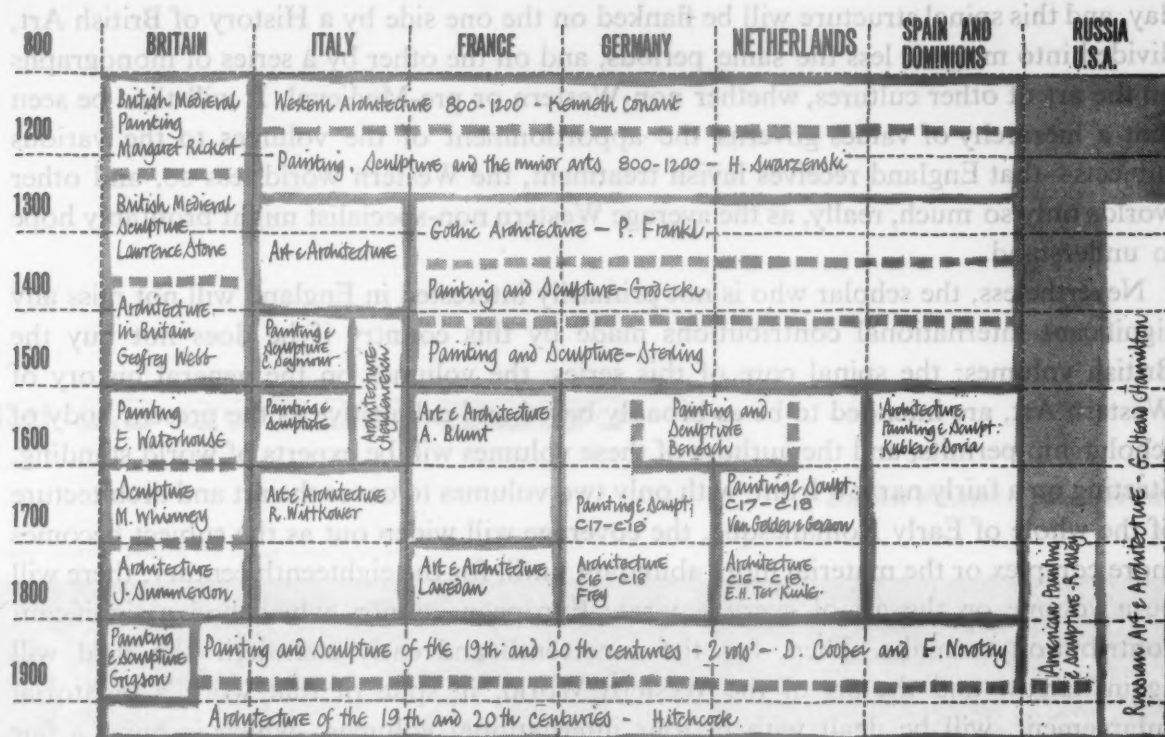
* The two volumes which have already appeared are *The Art and Architecture of India*, by Benjamin Rowland, and *Painting in Britain 1530-1760*, by E. K. Waterhouse. The two new volumes which are to appear on November 1 are *Architecture in Britain 1530-1830*, by John Summerson, and *Art and Architecture in France 1500-1700*, by Anthony Blunt.

of architecture from what Sir Banister Fletcher would have called the 'Historical Styles' was paralleled by the discovery that these styles were nothing to do with history as we now understand it, and were based upon considerations of style that were no longer acceptable. All this, of course, had happened on the Continent long before it had happened in England; the conception of 'style' itself had come into question at about the same time as Art Nouveau, the first anti-historical style, was in full flower, and the subsequent failure of Art Nouveau gave point and impetus to the study of the vital statistics of the styles of the past—the short splendid career of High Renaissance Classicism, the disquiets of Mannerism, the long happy life of the Baroque.

These labours combined to show that one could tell practically nothing about the style of a building by examining its detailing; that a common use of the Doric order might conceal intentions as divergent as those of Bramante and Bernini; but England remained unmoved, and all house-building since 1500 continued to be (as it still is in a famous library of lantern-slides) classified as *Renaissance domestic*. Writing on the plastic arts, where it rose to any level of significance at all, continued to be in the Roger Fry tradition of pure æsthetics, in the highly particularized tradition of Hill's *Medals*, or in the form of monographs on individual artists. Broad and generalized historical studies were distrusted, and the wood was never examined, only the nearest tree—a tradition whose continuing vitality is attested by the recent disputation upon Tintoretto in THE ARCHITECTURAL REVIEW.

Where one could find, in England in 1930, any tendency to be interested in the new architecture which was appearing on the Continent, one would also be apt to find a tendency to use the term *Baroque* as descriptive of a particular kind of architecture, not as descriptive of a particular kind of *bad* architecture. But this remained only a tendency, restricted to a few cosmopolitan spirits until the tremendous stimulus which both non-stylistic architecture and stylistic art-history received with the arrival in the middle thirties of distinguished refugees from the sources of the New Architecture and the New Art-criticism—Lubetkin, Gropius and Mendelsohn paralleled by Saxl, Wilde, Wittkower, Pevsner. Stimulated by them (more or less) grew up the new generations of architects like Maxwell Fry, the new generations of art-historians like Anthony Blunt, and the new institutions: Mars Group and the Courtauld Institute, which are curiously complementary as well as nearly contemporary. Between them they have so changed our ways of looking at the art of the past and the architecture of the present that it is now possible for young English architects to speak calmly of a project to build a Palladian power station, and to imply thereby nothing about its detailing or its elevations, but everything about the symmetry and proportions of its plan.

If this last specific instance is primarily due to the influence of Professor Wittkower, the tendency as a whole is seen in Professor Pevsner, whose *Pioneers of the Modern Movement* is the precise bridge between the New Architecture and the New Art-criticism. It is impossible to tell how many English readers, studying the book in pursuit of knowledge of the present, were persuaded by it to accept a new view of the past, for it treated (probably for the first time in English) an historical period as a whole, and dealt with architecture as one of many interrelated arts, not as a separate and specialist study. Though one may doubt if any English equivalent for the word *Zeitgeist* will ever be coined, that *idea* has been introduced to the English public more effectively by this book than any other—unless it be Pevsner's even more widely read *Outline of European*



A diagrammatic scheme showing the subjects and range, in space and time, of the volumes which make up the central core of the Pelican History of Art—where two volumes are separated by an interrupted line they give parallel coverage either of a period or a locality. The diagram does not include the volumes of the arts of non-European cultures and periods before AD 800.

Architecture, which seems to have displaced Banister Fletcher completely as a popular text-book. The *Outline* was in its conception and in its wide distribution a Pelican volume, and introduced such terms as Baroque, Mannerist and Neo-Classical to a public who were quite untouched by THE ARCHITECTURAL REVIEW and the *Burlington Magazine*. Thousands must have made their discovery of Vierzehnheiligen in an air-raid shelter, or the Pazzi Chapel in a transit camp.

These associations of Pevsner with Pelican, taken together with his association with Birkbeck College and his wide though barely appreciated influence on tutors in Adult Education, are essential parts of the background to the new Pelican venture, for, if it is the preference of some distinguished art-historical refugees to remain in this country which has made English a respectable language in which to publish papers on the history of Art, it is the widening basis of understanding of art-history which forms the essential grounds for such a venture. As with any other industry, flourishing exports depend on an active home consumption of its products. One of the most remarkable things about this new series is the fact that it has taken barely twenty years to bring the English art-lover to the condition where he can support it.

But it would be a remarkable publication anywhere, for far from regarding the history of world art as a mass of material to be worked through century by century and continent by continent, or the series itself as a trickle of disconnected essays which, out of deference to the law of averages, must eventually cover the whole field, the Pelican History has a plan, makes certain basic assumptions and has regard for what can actually be done by scholars currently at work. It proposes as a backbone to the scheme a history of the development of Western art from the collapse of the ancient world down to the present

day, and this spinal structure will be flanked on the one side by a History of British Art, divided into more or less the same periods, and on the other by a series of monographs on the art of other cultures, whether non-Western or pre-Medieval. It will thus be seen that a hierarchy of values governs the apportionment of the volumes to the various subjects—that England receives lavish treatment, the Western world less so, and other worlds only so much, really, as the average Western non-specialist might profitably hope to understand.

Nevertheless, the scholar who is not primarily interested in England will not miss any significant international contributions made by this country if he does not buy the British volumes; the spinal core of this series, the volumes on the general history of Western Art, are intended to be as broadly based and exhaustive as the present body of scholarship permits, and the authors of these volumes will be experts of world standing. Starting on a fairly narrow front, with only two volumes to cover the art and architecture of the whole of Early Romanesque, the coverage will widen out as the subject becomes more complex or the material more abundant until, for the eighteenth century, there will be a volume on the art of every separate European country which had a significant contribution to make. Then, for the nineteenth and early twentieth the field will again narrow and the art of the Western World, in spite of that world's territorial enlargement, will be dealt with in four international volumes—which is quite a fair assessment of the value of the material.

It is intended that none of these volumes shall specialize narrowly on a single art, but shall at least consider it in relation to the other arts of its time; that only where the particular interests of the available scholars render it necessary shall architecture be separated from painting and from sculpture. Such a programme of encyclopædic study has been respectable enough among professional art-historians for some time now, but the Pelican-Penguin organization does not exist by selling to experts. Its circulation is less comparable to that of the *Burlington* than to that of the *New Statesman*, and, however much the price of these volumes may qualify the proposition, the fact remains that a publisher who has always regarded the British public as more intelligent than is usually allowed, and has so far always been right, considers the time is ripe for the issue of a large printing of authoritative works written from a standpoint which would quite recently have been regarded as unlikely to interest the British. That is the mark of the revolution which has taken place, and that is why the publication of the Pelican History of Art is as much an event in our intellectual history as was the architecture of the Festival of Britain.

HOUSE AT OTHAM KENT

BRIAN PEAKE: ARCHITECT

1, the garden terrace looking toward the living room windows.



The site consists of an orchard sloping gently towards a lane which is approximately 5 ft. below it and is separated from it by a steep bank and a very dense hedge. In view of the fact that the house is in the centre of a small village, a high degree of privacy is therefore obtained.

The house was planned so that as many rooms as possible could enjoy the attractive view over a valley and towards the Pilgrims' Way in the distance and at the same time have a sunny aspect. The living-room has full-height glass for the whole length of its southern wall, part of which can slide aside to give access to the



2, the garden terrace and west elevation with guest bedroom windows. 3, general view looking toward the main entrance. 4, 5, 6 and 7, views of the main living room: 4, looking past the dining area to the garden terrace; 5, the dining area from the main living room area and the hatch unit which partly divides the kitchen from the living room; 6, the living room seen from the dining area with the terrace beyond; 7, the fireplace with a window on the east wall to obtain the view across the valley; 8, the study looking east, and 9, general view of the kitchen; 10, on the facing page, the main entrance and 11, the living room from the hall.

HOUSE AT OTHAM KENT

terrace. The large roof overhang over these windows prevents excessive entry of the sun in summer. The terrace is flush with the living-room floor to allow wheeling trolleys, etc. It faces south-west and is a suntrap, being protected on the east by the projecting (and therefore private) bedroom wing. The living-room fireplace is planned on the north side of this room to make it possible to sit round the fire and enjoy the view



through the window in the east wall. The sill level, by virtue of the changes of level between the drive, hall and living-room, is above the eyeline of people in the drive. Off the entrance hall are planned the main bed-

4
7



5
8



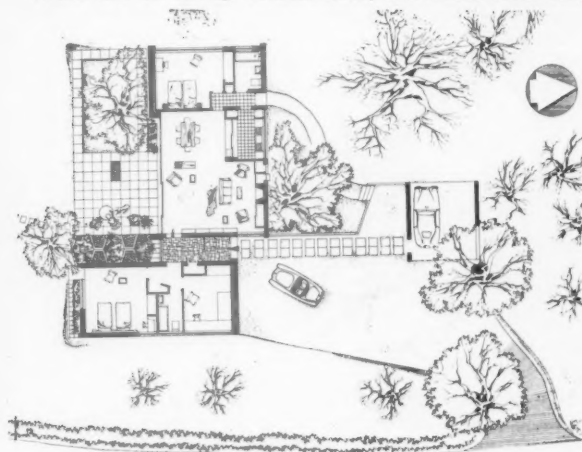
6
9





room, bathroom and dressing-room/study, all facing east, and the bedroom has in addition a large window facing south and a door opening on to the garden. The guest bedroom and bathroom are grouped as a separate and private suite at the other end of the house, facing west. This accommodation can if necessary be used for living-in staff. A small kitchen is connected to the dining end of the living-room by a fitting containing a hatch and 2-way cupboards and drawers. Adjacent is a 2-way cupboard through which a service trolley can be passed (and in which the trolley is stored).

Walls are of cavity construction, the inner skin con-



sisting of insulation blocks, the outer skin of either local multi-colour facing bricks, Kentish Ragstone (from a quarry 2 miles away) or blocks rendered with a pale blue-grey cement render. Metal and wood windows are painted white. Floors are solid concrete covered with a screed containing embedded resistance wire radiant heating, except the hall, which is paved with random joint multi-coloured marble. Flat roofs are of timber construction covered with 2 in. woodwool, screed and patent roofing felt with white spar finish. They are designed to discharge into one small length of gutter over the front porch.

In the cupboards built into the grey brick fireplace wall and accessible through Macassar ebony sliding doors are two large metal tipping hoppers containing fuel (coal and wood), filled from outside.

Below the hearth is an ash-pit into which the dead remains of the fire are deposited and which is emptied from outside. Heating and hot-water heating, together with cooking and refrigeration, is by electricity. The embedded wire floor heating is on two separate circuits, one heating the hall and living-room, the other dealing with bedroom 1 and dressing-room/study. Each circuit is controlled by two thermostats, one of the normal wall type, the other governing the temperature of the slab. Bathrooms and kitchen are heated by towel-rail airers also thermostatically controlled. The guest bedroom is independently heated when required by an electric convactor heater.



HOUSE IN BEDFORDSHIRE

PETER DUNHAM, WIDDUP AND HARRISON: ARCHITECTS

1, general view of the main road elevation with living room windows in the centre and garage on the extreme left.



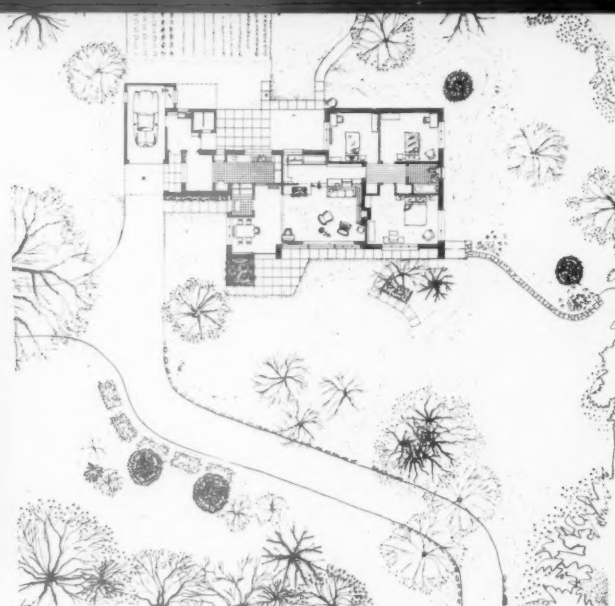
The site at Studham is part of a ten acre wood overlooking the village green and common. The natural trees are mainly beech and flowering cherry.

The economics of various overall heating systems was

the main consideration in achieving an open plan with one room of maximum size and maximum window area. The system eventually adopted was to use a domestic boiler in the kitchen and back boiler behind the living-



2, the kitchen looking east. 3, the living room looking towards the dining area. On the right is the owner's work space which can be curtained off. It has a ceiling of perforated acoustic tiles. The dining area and the work space floors are both raised above the main living room floor and follow the gentle rise in site. 4, the south elevation from the approach road. 5, the main entrance. Bricks are colour-washed blue and the door is painted yellow. Bricks of the wall at right angles are buff-brown facings and the corner is of weathered Cotswold stone.



0 10 20
5 15

room fireplace. The kitchen boiler serves radiators in the hall, dining space of living-room, work space of living-room, a smaller bedroom, and provides the domestic hot water and space heating for the kitchen. The living room fireplace back boiler heats the water for the bathroom and provides radiation from a coil under the living-room window, pipes in bedroom 1 and a radiator in the bathroom. The whole house, except bedroom 2, the children's room, is therefore centrally heated, using no more than the normal solid fuel appliances usual in a house of this size. The two plumbing units are completely independent. Both have immersion heaters for summer hot water supplies.

The site slopes gently in two directions, and the solid concrete floors change level in two places to allow for this. The walls are generally of 11 in. cavity brickwork, part of buff brown facings and part of common bricks colour-washed white generally, and blue on the south-west elevation. The south-west corner and pier at the south-east are of weathered Cotswold stone obtained from a demolished barn. The walls above and below the large window and over the garage door are of studding with cedar wood boarding. R. S. J.'s span over the large window and under the clerestory of the living-room. The roof is of 2 in. compressed straw-board laid on timber bearers at 2 ft. centres. These beams are exposed in the living room and are of 9 in. x 3 in. aback hardwood and of painted 7 in. x 2 in. softwood in bedrooms 2 and 3. The straw-boards are covered with three-layer mineralized felt and where exposed underneath are painted direct without plastering. The low ceiling of the work space is of 12 in. x 12 in. perforated acoustic tiles under the clerestory.

The kitchen floor is of heather brown quarry tiles, the living-room of light 12 in. x 12 in. cork tiles and the dining space of similar cork, but dark in colour. The remainder of the floors are of thermoplastic tiles. The fireplace wall of the living-room is plastered with a rough-textured finish and painted blue-grey. The recessed part of this wall is covered with a wallpaper designed by Armfield Passano, in a matching grey with yellow stripes and the movable shelves are of natural obechi. The wall by the sliding door of the dining space has a paper designed by Sylvia Priestley. The curtains are of fabrics designed by Terence Conran and Marion Mahler.



T. PULLIO

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When Classical lettering is mentioned today there comes into our mind's eye, with the certainty almost of an automatic reflex, a vision of the inscription on Trajan's Column. Yet when Mantegna, whose whole life was passionately devoted to the reconstruction and study of the classical past, introduced an inscription into a painting or a fresco (opposite ) then Trajan was to him only one among many alphabets which were equally proper to his classical intention. Whether it is the once too accessible cast in the Victoria and Albert Museum which accounts for our servitude to this one alphabet, or more complex causes, the effect on our Roman lettering has been deplorable, and in the article which follows Nicolette Gray examines the alternatives, both in form and intention, which are available to us.

LETTERING

Nicolette Gray

THEORY OF CLASSICAL

The relationship of lettering to architecture is a subject which has exercised all architects, though few have studied it exhaustively. This is something which needs to be done, and the article which appears below is the first of a series which will examine and evaluate our vast heritage of letter-forms. Much of that heritage comes to us from the last century, when sign-writers and publicists, driven forward by the inexorable pressures of Victorian commerce, broke into new fields and devised new and original forms. But in all this ferment of adventure the architects played a very limited part, and where they did interest themselves in lettering at all it was usually to react from this inventiveness, and ultimately to exalt the classical Trajan letter as an impeccable ideal.

Architectural lettering lay locked in the deathlike embrace of the Trajanic ideal until the researches of Johnston and Gill re-opened the whole problem of type-design, and drew attention to the qualities of letters as, firstly, artefacts made from a specific material by a particular tool and, secondly, conventional signs transmitting a definite quantum of information. The distance between these two concepts is as wide as the gap between the handwritten letters and the sans-serif display faces devised by these two men. The first were exquisite objects of handicraft, the latter were minimal signs stripped to the bone of legibility, and between the two the ideal Trajanic letter fell apart. Interest began to be awakened in other letter forms, in those that, lying between pure beauty and pure utility, endeavour to be appropriate to the job in hand even to the point of being vulgar but nice.

The great families of nineteenth-century type-faces were rediscovered. The archi-

tectural qualities of their bold broad forms were re-appreciated; they began to re-enter the common currency of lettering, but only slowly made their presence felt in architecture—one thinks of the characteristic letters used on Tecton buildings immediately before the war but it is difficult to think of any other. Many of these faces will continue to serve us for a long time, some have already proved ephemeral, but they have made us conscious of the lack of twentieth-century type-faces of the same strength and quality—or the same adaptability through condensation, italicization, extension, shading or inlining.

It is not likely that we shall produce all the new faces we want simply by playing superficial variations on the old ones but for the architect it is important to know something of what the treasure box of history holds, particularly in the way of display lettering, not ignoring even Trajan or its equivalents—for according to Nicolette Gray even the Roman letter can yield possibilities and variations which have never been seriously appreciated in the preoccupation of architects with Trajan.

The education of the architect does not usually include such an understanding of lettering, even in capsule form. If he studies the subject at all he is taught, as like as not, to exalt Trajan above all others, even today. As a result he lags behind the typographer and the signwriter, whose very living depends on their understanding of how letters are made and how they transmit information. By comparison with these men the architect is likely to resemble the proverbial oaf with the shotgun who finally found out how it worked by shooting himself.

It is to remedy this lack of basic knowledge that Nicolette Gray, a leading authority on lettering and author of a standard work on type-faces (*19th Century Ornamental Types and Title Pages*, Faber, 1938), has undertaken a broad survey of display lettering for the REVIEW—starting, at her desire, with Trajan and an exposition of the theory of Classical lettering, because she believes it is important not only to understand the Roman letter as an artefact but also its psychology as a sign. But this is the beginning of lettering, not the end. On this classical basis previous generations have devised letters which were artefacts conformable to their techniques, signs according with their conventions, fusing the two aspects into lively and functional works of art, employed with understanding and effect. It is time for us to begin to do the same.

I suppose that many people would say that there has been a marked improvement in public lettering in the last thirty years or so. By which they would mean the effect of the adoption by very many of the more self-respecting and enlightened shops, banks, brewers and government departments, of an almost uniform type of Roman letter, well designed, unobtrusive, legible, one might perhaps say painless. We all know it well, it is easily defined: a thin letter, the proportion of the height to the width of the thick stroke being about 10:1 or 12:1; the difference between thick and thin is small and when incised the variation of depth in section is consequently very slight; serifs are neat and discreet; letter-forms are based on those of Trajan's column, differing conspicuously from English traditional Roman lettering, I, in the forms of G, E and R; spacing is rather close; in fact 'Trajan' has today become almost synonymous with 'classical' lettering.

The term is applied to examples which, though their derivation is unmistakable, have moved noticeably far from their prototype. We have definitely evolved a mild style which is recognisably English and twentieth century as distinct from second century Roman, or Italian Renaissance, though in the best examples definable differences are slight.

Is this what we want? The question resolves into two. First is the idea 'classical' as applied to lettering necessarily to be equated with that of Trajan's column? And secondly is classical lettering an ideal norm, to which all architectural writing should be reduced? If we do not want it as such, do we want it at all? Or has it become as irrelevant to modern life as the forms of Greek and Roman building?

Let us consider the idea of the classical letter. There was unfortunately no calligraphic Vitruvius. We do not know the Roman theory of lettering. That,



1, the traditional English Roman letter, surviving from a time when classicism was an active force in our arts, is wide set and forceful. This example from Bath shows the characteristic wide R with a 'strong foot' based on type cutters' and

engravers' practice, the even wider E with short centre bar, and the symmetrical, architectonic H. It is difficult to imagine letter forms so securely within the classical canon and yet so dissimilar to the Trajan Alphabet.

as far as we are concerned, was supplied at the Renaissance in a series of treatises of which the first is that of Felix Felicianus written in 1463¹. The first printed work was that of Damianus Molloyus, published 1483,² which was followed by the *De Divina Proportione* of Fra Luca da Pacioli in 1509,³ Dürer's *Of the just shaping of letters* in 1525,⁴ and most elaborate, Geoffrey Tory's '*Champ Fleury*' in 1529. The starting point of these works was admiration for Roman inscriptions. Felicianus, scholar, calligrapher, illuminator and finally printer, like his friend Mantegna, collected, studied, copied, measured actual examples, noting the traces he saw of compass and rule (see frontispiece). The development of the study is part of that Renaissance theory of art which Professor Wittkower has recently expounded.⁵ Pacioli was a mathematician; he was a friend of Piero della Francesca and Leonardo, and lodged in Rome with Alberti. The interest now shifts from the archeological to the theoretical, to the relation between letter forms and the perfect figures of circle and square and to the ideal proportion of height to width of stroke, and its relation to that of total height to head in the perfectly proportioned human body (diversely interpreted as 1:9 and 1:10; Molloyus used the proportion 1:12). The final object of these treatises⁶ is to create an alphabet of perfect and fixed proportions in which, of course, the mainstrokes are constructed with a rule, and curves, including serifs, with a compass.

The whole approach implies Renaissance Platonism. The artist seeks to materialize those perfect platonic forms which exist in heaven. It follows, of course, that there can be no regard for circumstances of size, purpose or material. There can be one Roman alphabet only. One may add the commentary that the finding has never been conclusive. Who shall say which of these beautiful alphabets, with their slight variations, is perfect? The relation between Roman forms and the square and the circle is so obvious and yet so elusive. The search was perhaps finally reduced to absurdity by the Académie des Sciences in 1695 when it found it necessary to construct

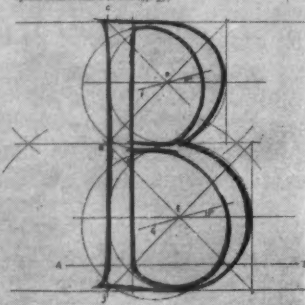
a field divided into 2,204 squares in order to systematize correct forms. It does not, however, I think, follow that the research is in itself absurd. Devotion to perfection does not imply the expectation to discover more than an approximation, perhaps, at the most.

The modern approach is quite different. We have also started again from Roman inscriptions and our approach is therefore, one might say, archeological, but the real archeologists seem to be interested only in the content of what the Romans inscribed, while those with a practical interest seem content to take as their sole inspiration just one example, the Trajan column inscription, which is illustrated in English books over and over again as if it were an epitome of all Roman achievement. It is very interesting to compare the most logical modern book on the subject, *Roman Lettering* by L. C. Evetts, with the Renaissance writers. His attitude is empirical instead of theoretical. He gives two diagrams of the same alphabet, a drawing of each Trajan letter (assumed therefore regular to an angle of 2°), and an analysis showing how it may be geometrically constructed, 2. His interest is not in the geometrical basis of the letter forms—his geometry is a convenience, not an absolute—but in the divergences of the Roman craftsman from the logical, in his slightly concave perpendiculars and his curve in the diagonals of M. N. which he likens to

With the English letter 'B' the work of these writers naturally leads to a 'balloon' stroke, the influence of perspective is very evident. We need here, for an impression of perspective, a letter which is not a simple point of convergence. In the Roman B, both loops are somewhat round before this point, so that they join almost at right angles. With your loop old figure is very marked, while the lower loop shows roundly from a compass-drawn circle. Loops are joined to the perpendicular stroke in a very free manner, and one of these members is parallel to the character of the loops. The if each of the three members is less than one-half of the wide stroke.



negative and the line AB is bisected, giving the proportion of the line. A square line at 45 degrees are drawn from G, H, and I, producing the curves of the outside of the loops, D and E. At D and E, circles are drawn at 45 degrees from the horizontal, and a circle which is measured to give the radius F and G for the construction of the inside of the loops. In the lower B, as in D, E, F, G, H, and I, the sides of the penman's circular strokes are slightly concave. (For the method of constructing this to constant reference should be made to the letter L, p. 25.)



2, an inevitable, and disastrous, result of our subjection to Trajan has been the appearance of text-books which standardize the average irregularities of its letters by rule-of-thumb geometry, wringing out of it the life which occasional variations could give (from *Roman Lettering*, by L. C. Evetts).

¹ Edited by R. Schoene, *Ephemeris Epigraphica*, 1, 1872.

² Reproduced in facsimile with an introduction by S. Morison, 1927.

³ *Fra Luca da Pacioli* by S. Morison, Grolier Club, 1933.

⁴ Translation published by Grolier Club, 1917.

⁵ *Architectural Principles in the Age of Humanism*, 1940.

⁶ A general account is given by S. Morison in his introduction to G. B. Verini *Luminario*. Studies in the history of Calligraphy, 1, Harvard, 1947. This account is based on Mr. Morison's work.

architectural entasis (and which, of course, the Renaissance artists ignored), in the tilt of the shading of the curves which he measures some 15°, some 8°, out of the horizontal, whereas the humanists⁷ tended to rationalize it to 45°, or to ignore it; in the angles of the serifs of the T measured to 80° one arm and 82° the other, which the humanists preferred vertical, or at least parallel (Tory tilts one in deference to Bramante 'but make it as you will, I leave the choice to you').

Is it to be wondered that our classical inscriptions are so inferior to those of the Renaissance? Having analysed these attitudes one begins to realize why, in this case where the formal variations are so slight and indifferent, the general inferiority of the modern is so patent. In one the inspiration is an ideal of objective perfection, in the other it is an imitation of empirical principles which have been idolized as correctitude.

Our analysis does not, of course, sum up either Roman lettering or modern practice. The selection of one inscription to represent Roman lettering is obviously arbitrary. In the Renaissance it would have been natural perhaps. They were, after all, making a deliberate choice of a new letter to be their pattern (and would they not also have been influenced by the idea that Trajan was, politically, the ideal Emperor?).

If they chose lettering kindred to that of Trajan it was not without studying all the available material both in Roman inscriptions and in Carolingian MSS. And the Renaissance letter is, after all, not only that of the theorists; calligraphers, sculptors, printers were all *experimenting*. With us the choice seems to be largely a matter of laziness and convenience.⁸ It so happens that the great historical collections of Roman inscriptions were made at the end of the last century in the days before satisfactory photographs and process reproduction. There are thousands of beautiful reproductions of paleography: but of inscriptions it is extremely difficult to find examples.⁹ It is a subject which has been studied for over a thousand years, and yet from our point of view the book has not yet been produced.¹⁰ It is, however, clear that if a letter of the Trajanic type was the central Roman invention, it was never used exclusively. It was a very common and to my mind delightful Roman habit to inscribe first lines in *litteræ quadratæ*, and subsequent ones in rustic capitals. I wonder why we have no use for rustic letters? It seems that the Romans considered it more suitable for ephemeral notices, shop fascias and the like, 6, than their monumental letter. One finds, too, beautiful examples of an elegant letter much thinner than the Trajanic, and even in that period, accomplished inscriptions with letter forms and serif movement eccentric to that



3, 4, 5, the variety possible even in Roman monumental lettering is shown by these three extracts from funerary inscriptions. Though the wide set and vertically shaded quality of 4 is nearest to our ideal of a classical letter, it must be remembered that this ideal is an arbitrary selection from a field wide enough to include the slashing calligraphy of 3, and the round and sensual wilfulness of 5.

norm—Hübners's drawings, in fact, show a wide field of experiment in width and space of letters and serif formation, perhaps less in letter form 3, 4 & 5.

Nor does the great monumental lettering of Rome keep to the height and width of line proportion of 10 or 12:1 which we seem prepared to reproduce on any scale. Their great leaded letters, 8, were much heavier, though usually almost even-line, unlike the comparable monumental letters of the late eighteenth and early nineteenth centuries which have acquired weight by the exaggeration of the shading.

And why in the end did the Romans abandon the classical letter and invent instead the lettering of Pope Damasus, and that irregular style of fourth to fifth century, 7? The answer is, I suppose, that the classical age had come to an end, just as our classical age has ended. And surely the revival of lettering in our time is not in fact classical at all. If one looks at the writings of the great men, Johnston, Graily Hewitt, Eric Gill, one finds something quite different—the idea of what Johnston calls 'Essential Forms' and Gill 'The bare body' of the letter. Gill characteristically points out the most obvious application of this ideal. It is to be fool-proof, and the perfect example is Johnston's sans-serif design for the Underground: a lowest-common-denominator idea of a letter; a very long way from any classic idea. 'One of the finest things the letter craftsman can do is to make the Essential Forms beautiful in themselves, giving them the character and finish which come naturally from a rightly handled tool.'¹¹ One might say that the platonic idea of form has been replaced by the idea of matter as the individuating principle. Clearly an approach which in the arts dissolves all rigid conformity and should promote infinite variety. Why has the effect apparently been the opposite?

Because surely it has been dominated by other crafts. 'The study of writing, for us whose sole concern may be said to be the Roman alphabet, resolves itself into the story of one tool, the pen.' (Graily Hewitt.) Even Gill, the chief inspirer of modern letter carving, wrote: 'Mind, not the tool, is the arbiter,

⁷ There is a very considerable diversity of practice in the construction of the different letters involved.

⁸ How much is it due to the convenience of the cast of the Trajan inscription in the Victoria and Albert Museum? Incidentally it seems to be this cast rather than the original which is so often reproduced; it itself has not been on exhibition since before the war.

⁹ The most useful are E. Diehl *Inscriptiones Latinae* 1912, and a few examples in H. Degering *Lettering*.

¹⁰ E. Hübner *Exempla Scripturae Epigraphicae Latinae* 1885 would be excellent except that the many illustrations are all reproductions of drawings, which give little idea of depth or scale. One can judge the character of the forms, but not that of the carving or of the design as a whole.

¹¹ E. Johnston. *Writing and illuminating and lettering*, p. 204.



True classicism of feeling in inscriptions does not imply a particular letter form, nor even a monumental intention. Even ephemeral publicity material on the walls of Pompeii, 6, executed in the adaptable 'rustic' letter, can exhibit the true Roman nobility. In spite of Trajan's close affinity to the stiffer aspects of Rustic (upper right in 6) the tyranny of the one inscription has kept the more free and conversational forms of the Roman handwritten letter from public attention, yet these forms could have considerable utility, and achieve a highly decorative effect. Even the particular authority which the inscription on Trajan's column derives from its association with the 'ideal' emperor is something of a deception since there is another monumental inscription which celebrates his name—that on the triumphal arch at Benevento in Southern Italy, 8. Meant to be seen some distance above the ground the letters are naturally large in scale, and graded in size from line to line downwards, but the forms of the letters have in any case a wide swaggering shape and slabby blunt-ended serifs which are utterly unlike the column inscription, and far better suited to our needs and feelings to-day. Further possibilities of classicism without Trajanism are revealed in famous fifth century mosaics in Santa Sabina, Rome. Though these are known primarily for the power and dignity of their figure art, the accompanying inscriptions, 7, in spite of their irregularity and florid curly serifs, have as classical and monumental an air as the grand personifications of church and synagogue.

8



7





10



Though the power of geometry, the mystical authority of the circle and the square, undoubtedly underlies the power and authority of the Roman letter, any attempt to reduce it to purely geometrical form renders it immediately lifeless. Even in its simplest form, as in the almost sans-serif inscriptions of the Arch of Constantine, 9, the most temptingly geometrical letters, like O and I, have not been reduced to a plain circle or a mere stroke—the controlled (but un-stereotyped) variations of a true classical letter remain. Wherever a real geometricizing tendency appears within the lifetime of the Roman Empire one may suspect, and usually find, an unclassical intention. The extremely 'abstract' inscription on the monument to Marcus Caelius, 10, reveals, as surely as do the popping Celtic eyes of the would-be Augustan heads, the provincial derivation of the carver. The geometrical games which he plays with his spillikin letter-forms, the emphasis on the O in the middle of the line and the partial suppression of the other not so centrally placed, show less affinity with the ideals of Roman inscriptions than they do with those of Ogham scripts or the spirals carved in the thresholds of Irish tunnel tombs.

As in the provincial Roman example, so in unclassical modern inscriptions, the adoption of a classical letter-form is belied by the intention behind it. The attempt of the Whitehall door-plate, 11, to achieve a Roman dignity is undermined by the dead regularity of the letter-forms (the sign-writer's lowly position in the bureaucratic hierarchy does not permit him anything but formal accuracy) and the monotonous typewriter spacing—this is the wary dignity of a corpse. Equally, the use of the 'refined' Roman letter cannot conceal a vulgarized usage; 12, insensitive intentions reveal themselves in insensitive perversions of the letter-forms—compare these A's and C's with those in figs. 3, 4 and 5.

11



12



and the mind as regards lettering is informed by the printed page.¹² How much chisel-cut lettering is designed by someone who cannot use a chisel? How much painted lettering is copied from printed models? As for brass, wood, porcelain, cast-iron lettering, it seems that the modern revival has killed the Victorian tradition. And yet it is a field where so much is still being executed by hand! One of the things that we want is a new approach for the signwriter and the letter cutter; the idea that theirs is the practice of inventive and independent arts starting from the divergent possibilities of their materials, old or new.

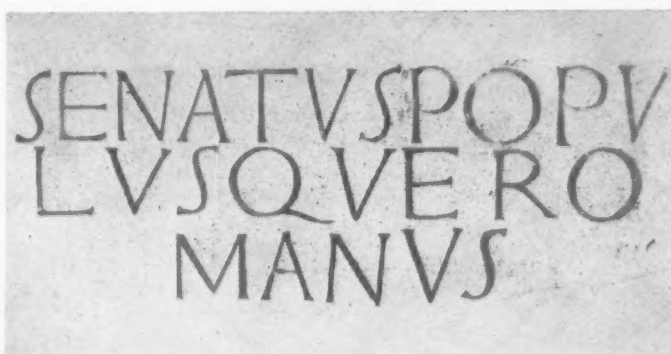
Gill was surely right; we are dominated by typography and for that reason our architectural lettering has a classical appearance and is directed by quite unsuitable criteria. The normal object of type is to be legible and unobtrusive; if it is too beautiful or interesting its purpose is defeated, one looks at it instead of reading the book. But the thought that the lettering in our streets should all be immediately legible is, when one considers it, a nightmare. One hopes to be able to see what one is looking for, and to be allergic to the rest—only the WARNING should, willy-nilly, be read. What is pleasant surely is to look at a beautiful or amusing or clever pattern of letters *without* having to read. And does that not really suit the advertiser quite well too? Is it not much easier to notice the familiar sign of *Boots*, or the white and gold of *Lyons* than to find one's own bank, the name of which is recorded in the same orthodox Roman letters as those of all the other banks, so that one has, in fact, to read them all? Does one not, as a matter of fact, often judge the nature of the shop by the sort of lettering it puts up, the tasteful *Anglaise* of the ladylike 'modiste' differentiates it effectively from the too large chromium *sans* of the cheap dress shop without our bothering to memorize the name. It is pleasant to imagine oneself in a well-ordered city of harmonious proportions and classical lettering but even eighteenth century streets were, according to the prints, hung with signs not letters. And that to my mind is the profitable way of thinking about the lettering we put up now. Neon words blaring at one are odious. Patterns of flowing coloured line might be a delight.

It follows that one needs to think, not in terms of individual letter-forms, but in unique combinations. In notices not so much legible as expressing

¹² Gill never subscribed to the Trajan orthodoxy. v. *Letters of Eric Gill* 1947 p. 304.

mood and character. Is there a place in such an æsthetic of lettering for the classical letter? Yes indeed, I think so, but as one of many, used where it is suitable, not indiscriminately. It is, after all, a highly civilized dignified letter and vulgar usage surely vulgarizes, 11, 12—and as an architectural letter it is something that cannot be thought of *in vacuo*. A letter to be erected in wood at 20 feet is, and should be thought of, as different from one painted on a door or incised on a pediment. We are back at the question as to whether Trajan is the sole Roman prototype. To my mind it follows that the answer is emphatically no. I would say instead that the final criterion by which one may judge whether a piece of lettering is classical or not, is whether one feels that it has been executed with an idea of perfection in the mind, as well for each letter as for the whole. I think that the Renaissance thinkers were right, that the square and the circle do in some way represent to the mind immutable perfection, and therefore that letter-forms which embody these partake of that idea. Letters which are compressed or expanded or squared in the bowl are immediately of different intention. But neither is the letter O a circle, nor I a line, 9, 10. It is something like but different. The occasional flirtation with that idea by users of sans-serif is either a utility rationalization or something we have not yet developed. The Romans added their serifs and curved shading, and so differentiated the alphabet and gave it possibilities of great refinement and elegance in those roundings and pointings. And those refinements remain marginal ground where the artist may choose and vary at will—so long as his intention is towards formal perfection his work will surely be classical. We have inherited a form which is, as nearly as any artistic form, universal, something which corresponds in permanent availability more to the dome and pillar than to the orders. And one, too, which is historically 'classical.' One cannot escape all those associations, for good or bad, 13. And that, while it can enhance, must again limit the occasions of its use.

The Romans invented the classical letter. The humanists out of the wealth of ten centuries of experiment chose and reformed it. Let us not deny ourselves our classic inheritance where it cries out to us to be used, but let us not regard it as the absolute end and goal which is to create the character proper to the job in hand. Let us, too, invent and choose. The Western alphabet is still a potentiality.



13. This inscription which illustrates the intonations of classical lettering is by David Jones (poet, wood-engraver, watercolour painter and pupil of Eric Gill). Here is a pattern of lettering in which the words, the forms and above all the feeling are a conscious approach to the classical but one based on the idea that pure classicism is impossible for the creative letterer of today.

WORKS CANTEEN IN MIDDLESEX



WORKS CANTEEN IN MIDDLESEX

GOODAY AND NOBLE: ARCHITECTS

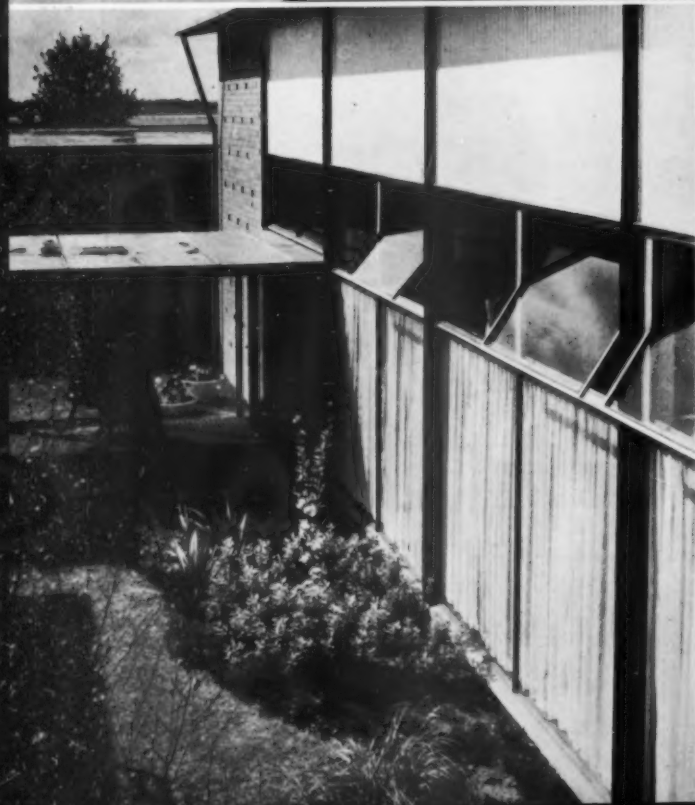
1. view looking north through the fully glazed covered way which leads from existing studios to the canteen entrance.



The clients, Messrs. Technicolor, required a canteen for their staff which would operate day and night and provide a complete contrast with the employees' working conditions. The site is enclosed on three sides by workshops and the fourth open side overlooks a cornfield. It is a level site and the canteen is planned on one floor

except for the mezzanine manageress's office. This office is glazed to allow a view into both the canteen and the kitchen.

Construction is of load-bearing brick with rolled steel stanchions on the fully glazed long sides of the main canteen. The roof of the main building has tubular steel





7

8

2, on the facing page, the main entrance to the canteen from the covered way. 3, the same entrance seen from the manageress's first-floor office and 4, the terrace seen also from the office.

5, south elevation. 6 and 8, the terrace looking south-east and north respectively. 7, canteen dining room, 9, below, one of the chairs in the small dining room designed by C. W. Noble.

trusses at 10 ft. centres spanning 50 ft. at a $7\frac{1}{2}$ degree pitch, carrying asbestos cement cavity decking covered with 3-ply bituminous felt and finished with grey-green granite chippings. Other roofs are r.c. slabs with wood wool insulation, again finished with grey-green granite chippings. The covered way is roofed with steel decking and insulating board covered with zinc panels. Floors are of r.c. slab with a lightweight screed containing embedded heating coils.

External facing materials are buff Ibstock facing bricks and white Derbyshire spar. Panels above the windows to the main canteen are t. and g. boarding painted white. Stanchions have a steel trim painted black. Terraces are paved with reconstructed stone slabs separated into panels by granite sets.

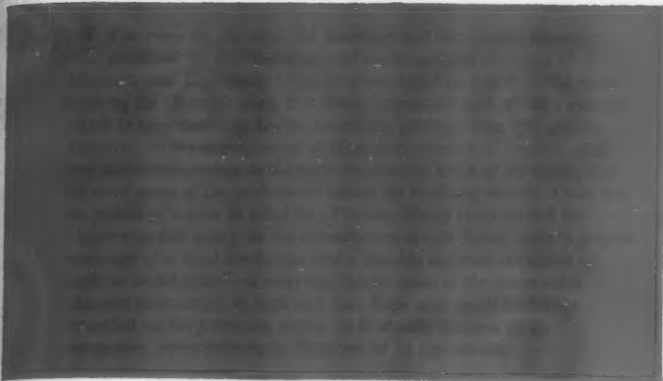
The end wall of the main canteen is plastered and papered and the side walls are fully glazed. The self-service counter has a blue brick face with black pointing, an olive green plastic top and stainless steel fittings. Stanchions uncased are painted white, also the metal window frames. The ceiling is of white insulation board. Partition wall surfaces are of terrazzo up to dado

level, ceilings are painted white except for the one over the preparation area, which is lemon yellow.

The form of contract was based on the experience of the Festival of Britain, where a team of architects and engineers designed and produced buildings in collaboration over a short period of time. Following agreement on the architects' design, the engineers negotiated the contract, placed orders for materials under the architects' supervision, measured the work as it proceeded and issued certificates. The main purpose of this was to save time, and to allow the architects to prepare details while the initial stages of building were under way. Supervision of construction was entirely the responsibility of the architects.







Thomas Sharp

MEXICO UNIVERSITY

The great new University City which is now nearing completion in Mexico is one of the most remarkable building undertakings of modern times.

There is no virtue in mere size itself: and the idea of a single segregated university for some 30,000 students adjoined by housing quarters where some 15,000 or more other people associated with them will live, separated from the ordinary run of citizens, has something frightening about it to us whose universities generally are about a tenth of that size. It is not the size of this undertaking that is remarkable. They go in for institutions, as well as other things, in a big way in the Americas—and that may suit them very well for their purposes, though we ourselves may dislike it for ours. Nevertheless, the fact that a £10,000,000 programme for a single project can be carried more than three-quarters of the way towards completion in a matter of two years does show an impressive capacity for organisation in a country which has only recently begun to develop its technology and resources.

That capacity for organisation has been expressed not merely in getting the work done but also in the way it was planned and designed. No attempt was made either to assign the work to one major architect or to set up an official staff to deal with it. Instead, the job has been done as an extraordinarily successful example not so much of team-work as of work by a large number of more or less free architects, each working directly with what might be called his 'local' client (that is to say the director of the faculty for which he was building) and all of them co-ordinated, as to matters of major policy, by an architect Director-General and two associates acting with representatives of the 'general' client, the University, and the 'paying' client, the Government. Thus some 75 architects,

acting independently in their own offices in a very loose form of association, have contributed importantly to the total result. No doubt the result *might* have been chaotic had the Director-General not had a genius for organisation and diplomacy, and had not the individual architects been so inspired by the opportunities given them that in fact they developed something like a common feeling for the whole operation. And it naturally does not follow that every one of the 40-odd structures is a masterpiece of design. There are buildings which are far from satisfactory, as well as many which are good and some which are extremely good. But what has resulted is a vigorous diversity within a broad general totality in an enormous undertaking carried out at extraordinary speed.

The main interest and the special virtue of this Mexican work lies, however, in another direction. One of the common criticisms of contemporary architecture is that it looks the same everywhere. And that it should is natural, when common technological processes are used in the erection of buildings that serve similar purposes in a world where time-distance has been more than decimated in two or three decades and where social and cultural differences (in spite of opposing political systems) are rapidly narrowing. Nevertheless, the sense of disappointment, almost of resentment, at finding precisely the same kind of buildings in Pekin and Panama and Pimlico is a natural and a proper one. It is not merely a manifestation of nationalism, or sentimentality, or shallow emotions of that kind. It is a desire for the expression of the *genius loci*—a desire which is natural and right, whether it be sought on a parish or a national scale, so long, of course, as the expression is natural itself and is not artificially engendered for other motives.

Sometimes in discussions on 'contemporary architecture' this need for variety has been expressed in terms of the development of 'regional architecture'. The great virtue of Mexico University City and the neighbourhoods adjoining it is that here, perhaps for the first time, is a large-scale regional expression of modern building, a great collection of broadly unified buildings which expresses, with vitality and robustness, the *genius loci* of its country and its people. It expresses them through the use of a characteristic local building material, sometimes used, entirely naturally and without forcing or sentimental adaptation, to satisfy modern functions in an approximation to old architectural forms; through the imaginative adaptation of site-planning to the local landscape materials; and through the adaptation and integration of other art forms in which the national genius has been particularly expressed, especially sculpture and mural painting.

Circumstance came to the aid of desirability in bringing about the first of these conditions. Since most of the buildings of this great undertaking were under construction at the same time, it was necessary to cushion the shock to the national building industry, for the country is still but thinly industrialised and normal building had still to go on. The best way to do this was to use local materials wherever possible, especially materials which could easily be used by almost untrained labour. And a wonderful material lay on the site itself, the beautiful rough-textured lava rock that had flowed out of the nearby volcanoes between two thousand and ten thousand years ago. This rock can be brought to an almost ashlar finish or used in various rougher forms: and in its multi-tinted warm greyness it weds very happily with raw concrete. So it has been used most

excitingly for wall surfaces of various kinds, for pavings, and for landscape work, and has been left outcropping about the site, particularly in the gardens of the housing quarters. And thus there has been achieved, from the beginning, a marriage of landscape and architecture which is the best of all expressions of the *genius loci*.

Although, as we have said, similar kinds of modern buildings, built of similar materials, are apt to be much alike wherever they may be built, there are various structures, and particularly those devised to satisfy peculiarly local needs, which in various places may be given a peculiarly local expression. Certain buildings and structures of this kind have been so treated in Mexico University City. The buildings for various sports, especially, show in their functional shapes a remarkable association with the natural background of the country and with some of its early building forms. The great dipping ellipse of the stadium is like the crater of some Mexican volcano, and is one of the volcano's own material. And the functional shapes of the buildings and enclosures where the national game, *fronton*, is played echo very closely the truncated pyramids and temples which earlier peoples scattered about the country.

Some of these qualities in building and landscape are shown in the pages which follow. Probably the needs and opportunities in Mexico University City were particularly favourable to the development there of a regional expression in modern building, both in itself and its relation to its surroundings. And since it is essentially a local expression it cannot in any way be regarded as a prototype for variations elsewhere. But, even if it does display them to a heightened degree, it shows how sensible it is to give expression to local peculiarities wherever they naturally occur, and to give expression always, so far as may be possible, to the genius of the place. And for this its designers deserve applause and appreciation in Britain as well as in Mexico.



the problem The present university is housed in scattered buildings about the congested central parts of the city. Even for the present faculties and students the accommodation is insufficient and inefficient: and expansion to accommodate the enormously enlarged university which is required was regarded as impossible in the neighbourhood of the present university. The government therefore decided that the university (The National Autonomous University) should be moved to the outskirts of the city. The new university had to be designed to include faculty and administrative buildings at a level of 30,000 students, residential accommodation for the students, all necessary recreational facilities, and, nearby, residential neighbourhoods for members of the university staff and technicians and others associated with the university.

The university was to be completed in the shortest possible time (building operations were begun in 1950

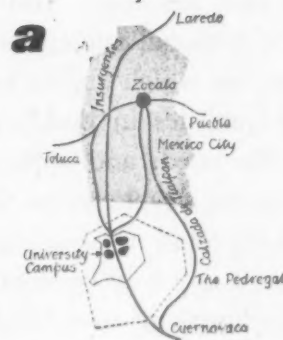
and were 80 per cent completed in 1952). And for reasons connected with labour supply, it was a requirement that local building materials and traditional building methods familiar to the largely 'non-technical' labour force should be used as far as possible (in the event only 10 per cent of equipment and material had to be imported, and in some of the largest structures, such as the stadium and the *fronton* courts, practically no reinforced concrete and steel were used).

the site The site chosen was a large area of lava beds called The Pedregal, on the edge of the city, about 5 miles from the centre. (Mexico City is situated at a height of about 7,500ft. on a more or less level site ringed by extinct volcanoes: its population has risen from 350,000 in 1900 to some 2,500,000 today.) This area had once been fertile and inhabited, and a recently excavated circular 'pyramid' there, called Cuicuilc, is said to be the oldest building-structure in the Americas. It was overwhelmed by the eruption of the nearby volcano Xitle between 2,000 and 10,000 years ago, and has since lain as a strange primitive wilderness, a broken plain of irregular lava waste largely covered by stunted exotic vegetation. In recent years part of the new Pan-American highway, here called Avenida Insurgentes, has been driven across the lava: and this and several other wide arteries give direct communication both with the central and the extracentral parts of the city *a*, and with other parts of the country.

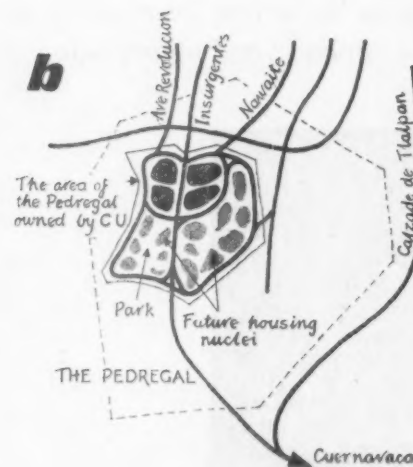
site planning The main limiting disciplines of the site were the severing created by the Avenida Insurgentes and the need to use, as far as possible, the pockets of land where the terrain was least rocky. The development itself was functionally divided into four units of distinct though related uses. These (to follow the numbering used on the layout plans opposite) were (1) the University campus, with faculty and administrative buildings; (2) the recreational areas and students residential buildings; (3) the Olympic Stadium, which is to be used by the city as well as the University; and the future housing neighbourhoods. Of these units of development the stadium and the campus were required first. The site plan therefore resolved itself into four zones acknowledging the severance caused by the highway—the stadium on the smaller of the two areas nearer the city, and the campus on the larger area across the highway; the recreational and the students residential area adjoining the campus on the same side of the highway; and the first housing neighbourhood on the immediately available land adjoining the stadium. Future housing neighbourhoods will be built south of

these first developments, on both sides of the highway. These sub-divisions are shown in the layout plan *b* and on the facing page.

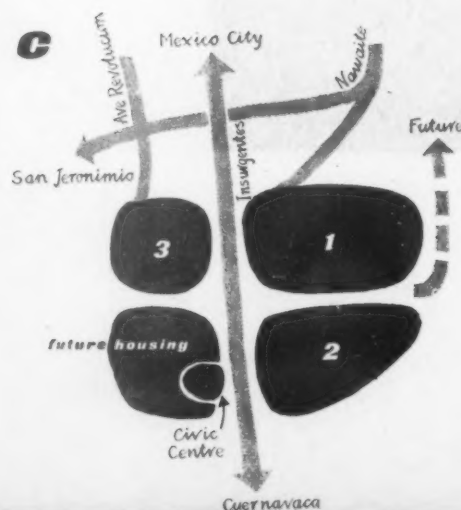
To maintain the great highway in its character of a freeway, and to keep the circulation between the various parts of the University City independent of it, the highway was elevated on embankment and bridge throughout its entire length across the site, connection between the separated parts being provided by underpasses. Access to the site from the highway, especially access to the stadium for the great crowds (mostly coming by private car), which frequent it, has created difficult problems for which extremely complex solutions have



The University is connected to Mexico City by a number of avenues, *a*, of which the most important is the Avenida Insurgentes, a major north-south artery which splits the site in two. Not all the land owned by the University is to be developed for



academic purposes; the southerly part is to be a wild landscape park with housing wherever the land is suitable. The division of the site by the Avenida Insurgentes, *b*, is accepted as an integral part of the planning programme, *c*, leaving the purely academic areas—the faculties, 1, and the sports and hostel area, 2—on one side, and on the other the stadium, 3, which is used by a wider public, and the housing and social centre. The working out of this planning programme in detail is shown in the plan and air view on the opposite page.



I
a.
b.
c.
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been provided—and here perhaps is one of the least successful features of the undertaking, for the traffic provisions are so extraordinarily complex and on such a large scale that it is only with great difficulty that they can be understood on the ground.

Circulation between the four zones, as well as from the national highway, is provided by roads circling both the zones themselves and the whole development: and within the university area proper, i.e., the campus and the students' residential and recreational zone, only occasional service traffic is given access in a limited number of places. Footbridges are provided over the inter-zonal roads.

I CAMPUS

- a, administration
- b, auditorium site
- c, library
- d, humanities
- e, faculty of philosophy
- f, social and political science
- g, school of law
- h, school of economy
- i, school of commerce
- j, institute of mathematics
- k, faculty of science
- l, nuclear physics
- m, school of dentistry
- n, cosmic rays
- o, school of medicine

- p, school of veterinary service
- q, institute of biology
- r, school of chemistry
- s, institute of geology
- t, school of engineering
- u, school of architecture
- v, art museum
- w, club

- f, football or soccer fields
- g, fronton court, open
- h, men's dormitories
- i, site for future dormitories
- j, baseball field

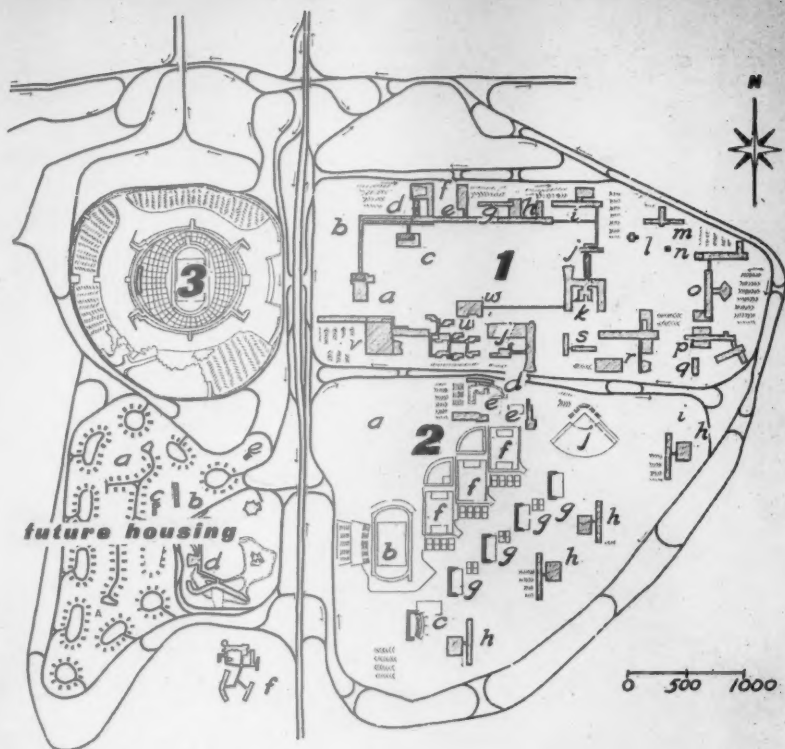
3 OLYMPIC STADIUM

FUTURE HOUSING

- a, professors' single houses
- b, apartment block
- c, kindergarten
- d, civic-centre group
- e, filling station
- f, institute of mental health

2 SPORTS ARENA

- a, women's dormitories site
- b, stadium
- c, fronton court, closed
- d, swimming pool
- e, dressing rooms



future housing

2

3

1



landscape



CAMPUS The general effect of the campus is of a highly and spaciouly organised succession of spaces and buildings, asymmetrical, non-axial, but ordered, disciplined and effectively though freely-related. Nearest the highway (Av. Insurgentes) are the administration buildings (a 14-storey tower, approximately on the main axis), the library (also a 14-storey tower), the art museum, not yet built, and the great hall, which is also still in project. Beyond this, on either side,

The Pedregal, the site on which the University City stands, is the legacy of a volcanic eruption in the remote past, which buried a flourishing inhabited region in a sea of crumpled lava. Islands of fertile soil survive here and there, but on most of its surface there grow only the strange and stunted plants which are adapted to volcanic soil.

labour

As indigenous to the region as the lava-beds and their flora are workers who have built the University. Locally recruited, this labour force has built with its traditional manual skills, with traditional local materials, and with hardly any of the mechanical aids of modern building technology, some of the largest structures on the campus.



materials



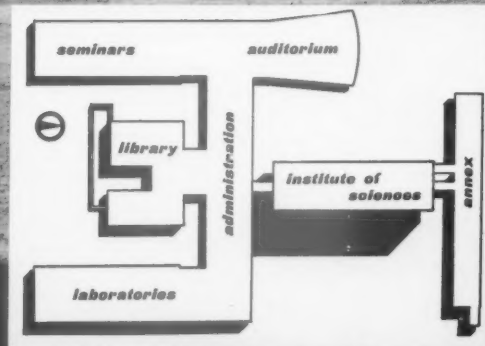
The native outcropping rock of the Pedregal, immediately available, known and understood by the builders, provided nine tenths of the material of which the University city was built. The reinforced concrete towers which rise above the campus have their foundations firmly struck in local skills and local stone.

1

THE CAMPUS

range various faculty buildings, with the 1,000ft. long humanities building running the whole length of one side of the campus and unifying and simplifying the whole composition. The far end of the campus is dominated by the 13-storey institute of science (responding in height to the library and administrative buildings), and beyond that is a secondary campus, with the high long blocks of the schools of medicine, veterinary science and chemistry. Many of these buildings are open at ground level.

a. science block



MEXICO UNIVERSITY

architects Raul Cacho
Eugenio Peschard
Felix Sanchez

a. science block contd.



2, a staircase in the science block with mosaic facing.

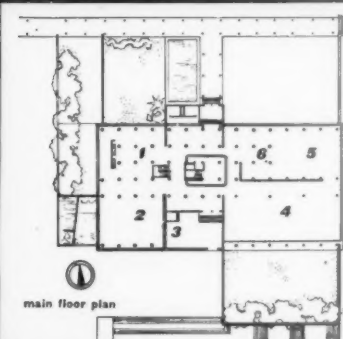
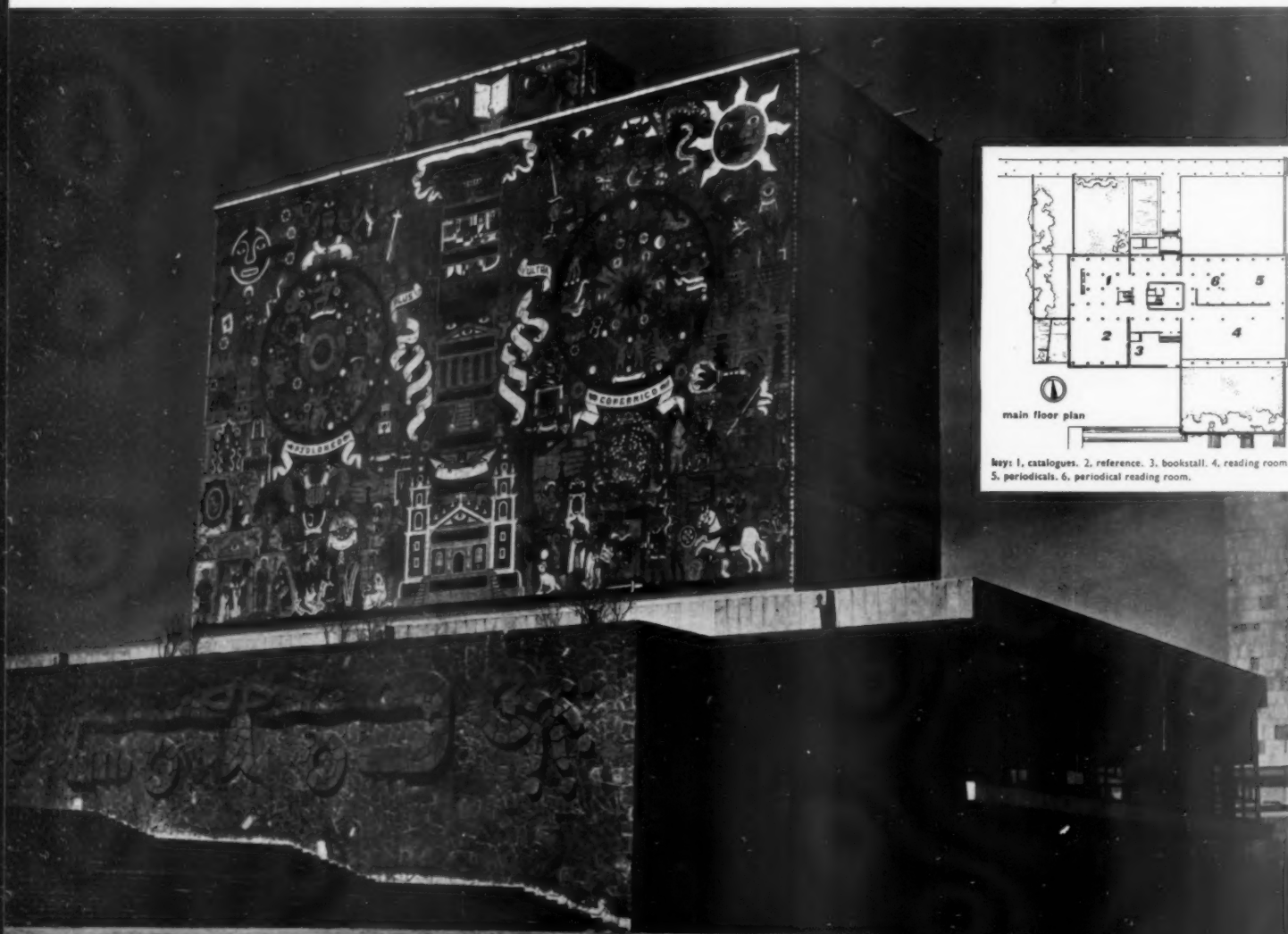


3, the science annex with mosaic mural by José Chávez Morado.

b. library

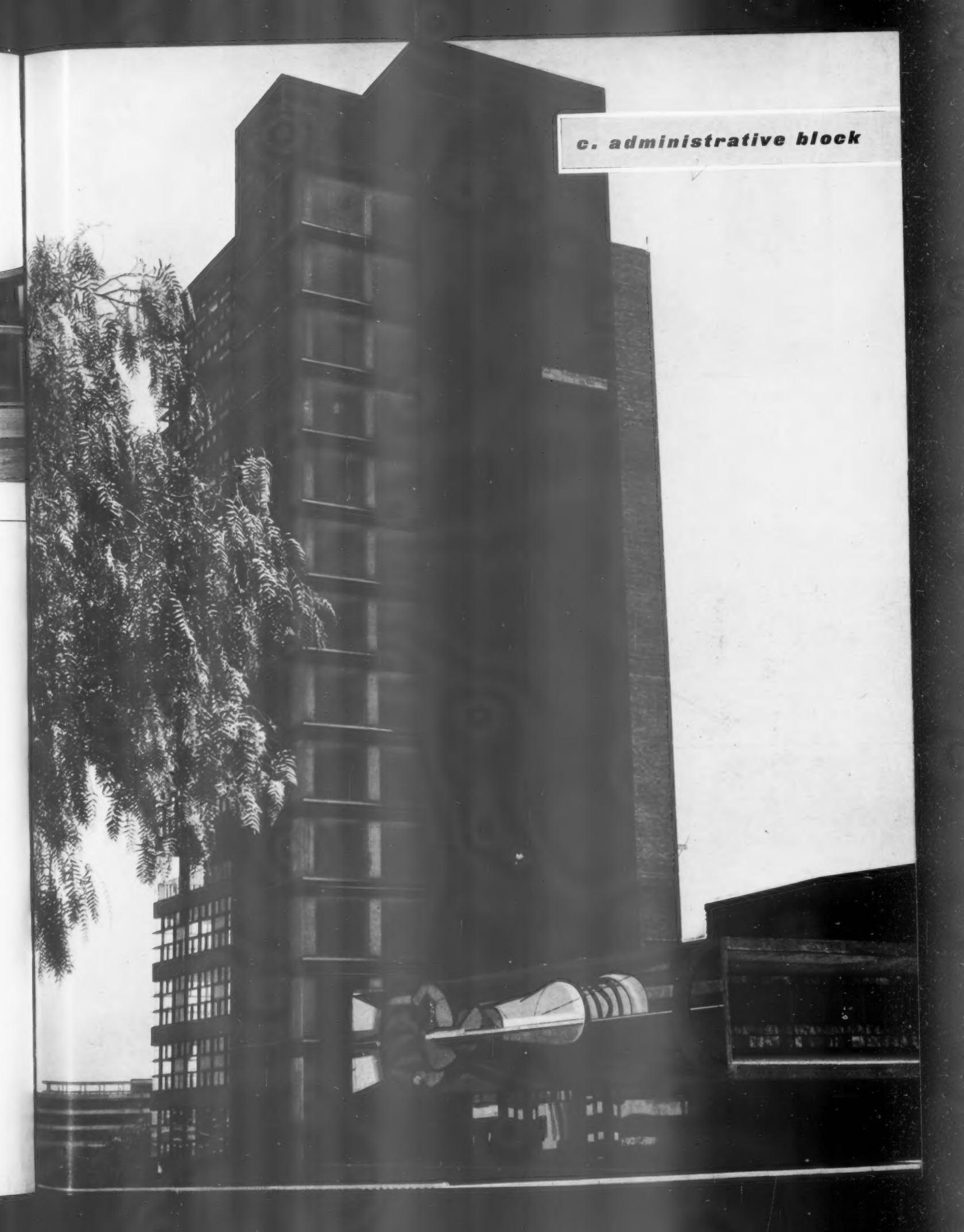
architects Juan O'Gorman
Gustavo Saavedra
Juan Martínez

4, library with mosaic murals and relief sculpture by Juan O'Gorman.



key: 1, catalogues. 2, reference. 3, bookstall. 4, reading room. 5, periodicals. 6, periodical reading room.

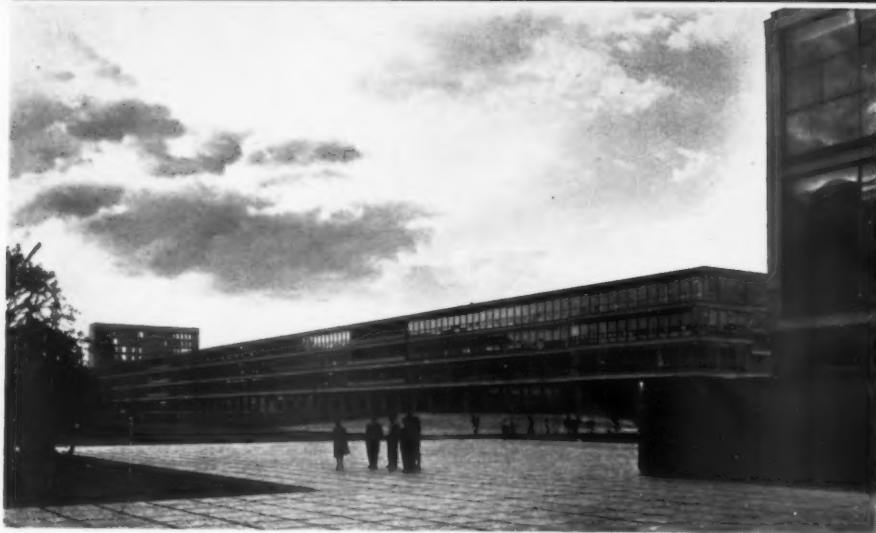
c. administrative block



d. the humanities



6



7

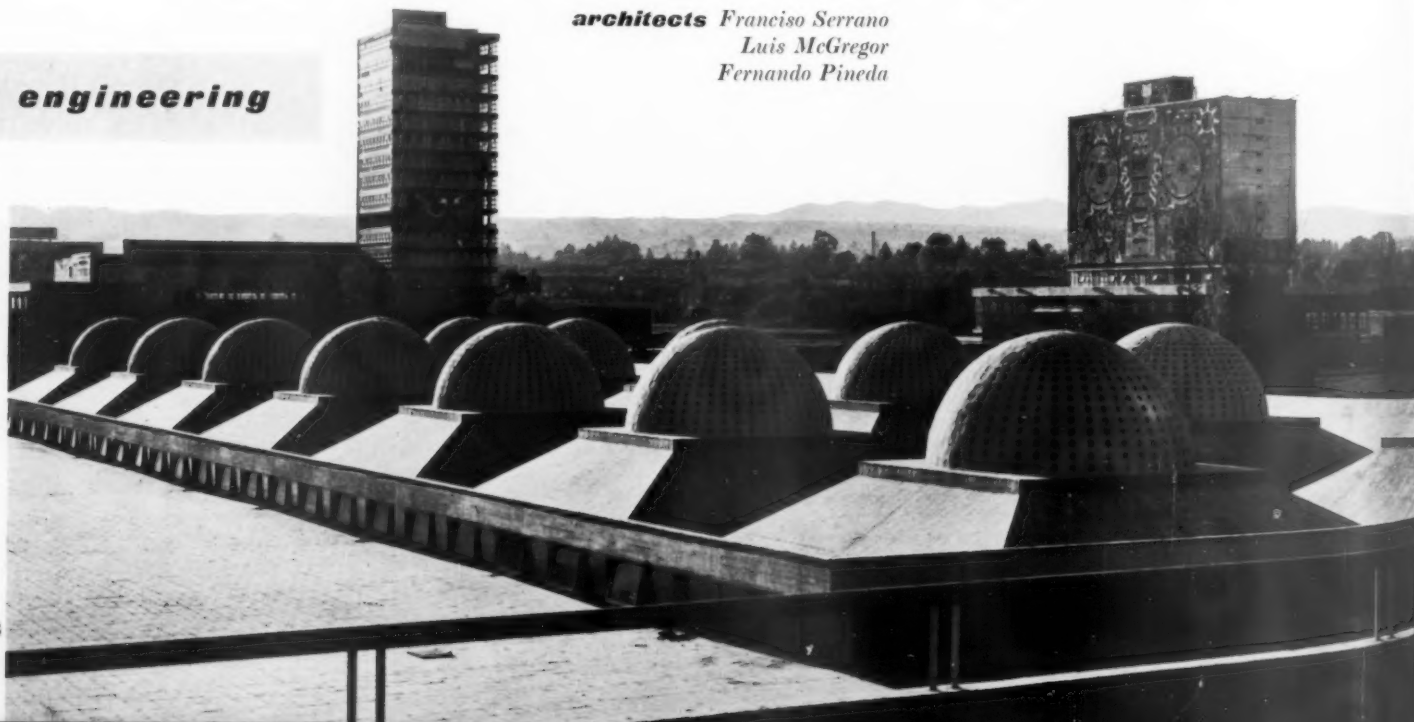
6, the colonnade and 7, the 1,000-foot-long facade of the humanities building.

architects Enrique de la Mora
Enrique Landa
Manuel de la Colina

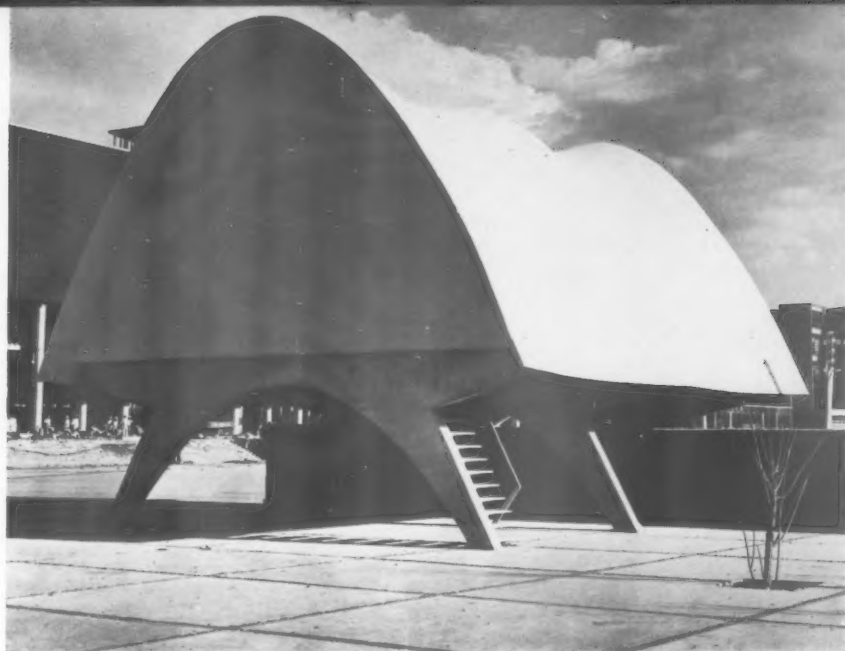
MEXICO UNIVERSITY

e. engineering

architects Francisco Serrano
Luis McGregor
Fernando Pineda



8

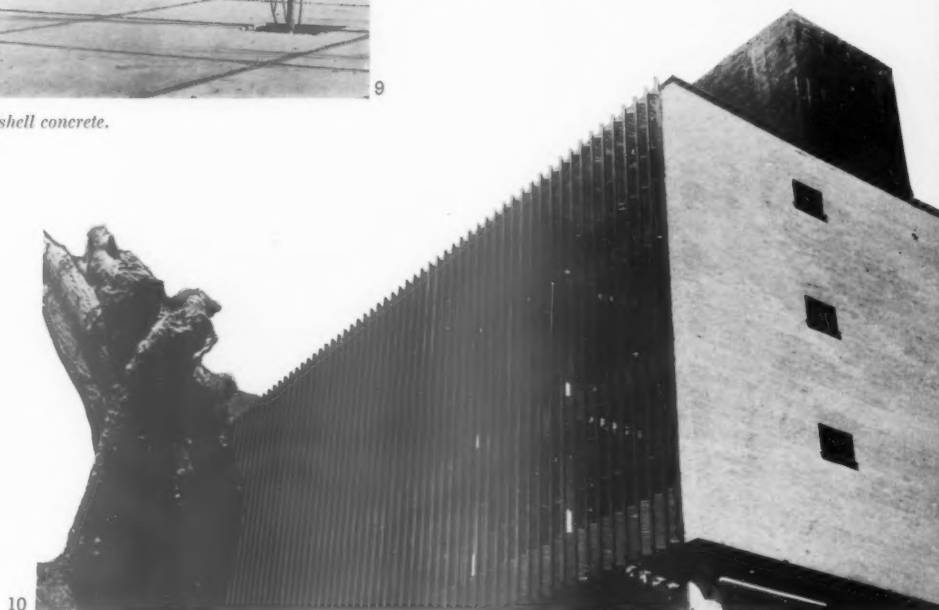


f. physics & medicine

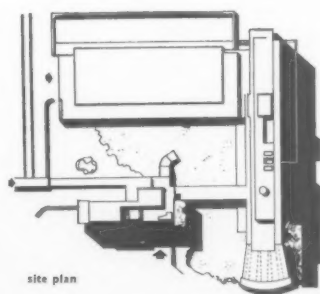
engineer Felix Candela
associate architect Jorge Gonzales Reyna

9, building for recording cosmic rays. Construction is of shell concrete.

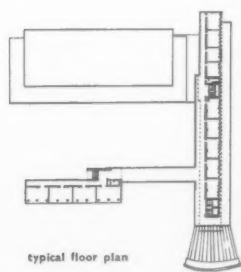
architects Roberto Alvarez Espinosa
Pedro Ramirez Vasquez
Ramon Torres
Hector Velazquez



10
View of the brise-soleil on a facade of the medical school.



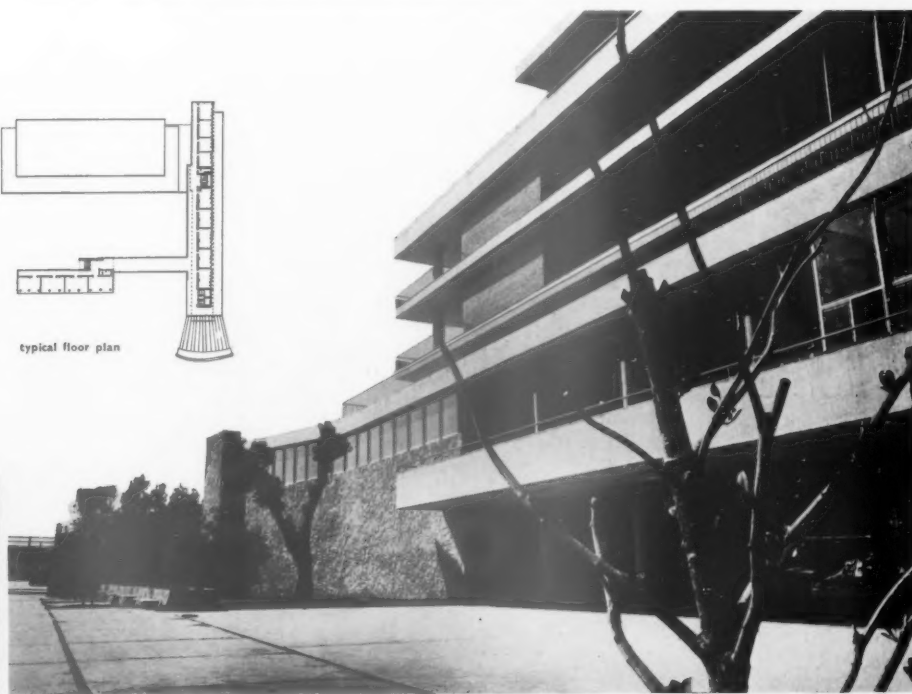
site plan



typical floor plan



11



12

8, on facing page, glass-studded domes of workshop roof. 11, bridge connecting workshop from main class building, 12.

2 SPORTS AREA

But by far the most interesting buildings here are the courts for fronton, a kind of hand-ball played at great speed with long hooked baskets attached to the players' hands. Four of these sets of courts are open structures, but one is a fully enclosed building, with seating for several thousand spectators. All are of lava-rock and their shape echoes that of the truncated pyramids and temples of earlier Mexican periods.



13, fronton courts constructed of rock taken from the site. 14, general view of courts.

architect Alberto Arai

MEXICO UNIVERSITY

3 THE STADIUM

The largest in the country, and seating 100,000, the Stadium is connected with the campus by underpass footways, emerging into a wide concourse running round the entire circumference, with great car-parks beyond. Its construction followed the principle of the earth-dam. The upper ground surface and the underlying hard gravel were excavated and re-banked to form the seating areas. This mass of earth was then faced, on the external side, with lava excavated from the area surrounding the site. The use of reinforced concrete was limited to the cantilevered press-box and certain details such as the roofing of the egress tunnels and similar work. Diego Rivera, with a small band of assistants, is covering the whole of the great area of the exterior surface with a gigantic 'three-dimensional mural' illustrating the history of sport and built up of natural brightly coloured rocks and stones.

architects Augusto Perez Palacios
Raul Salinas
Jorge Bravo

15, aerial view of Olympic Stadium.
17 and 18, interior and exterior views. 16, construction of the three-dimensional mural in rocks and stones designed by Diego Rivera.



➔ **LUDLOW**
BEWDLEY
EVESHAM
SHREWSBURY

D. Dewar Mills

The Extra-Mural Department of Birmingham University has invited the REVIEW to collaborate in an experimental series of townscape studies of four West Midland towns which face particular townscape threats. This is the first time an academic body has interested itself in townscape as a public cause—the first town to be treated was Ludlow (September); a discussion of the second, Bewdley, begins below.

Midland Experiment

BEWDLEY

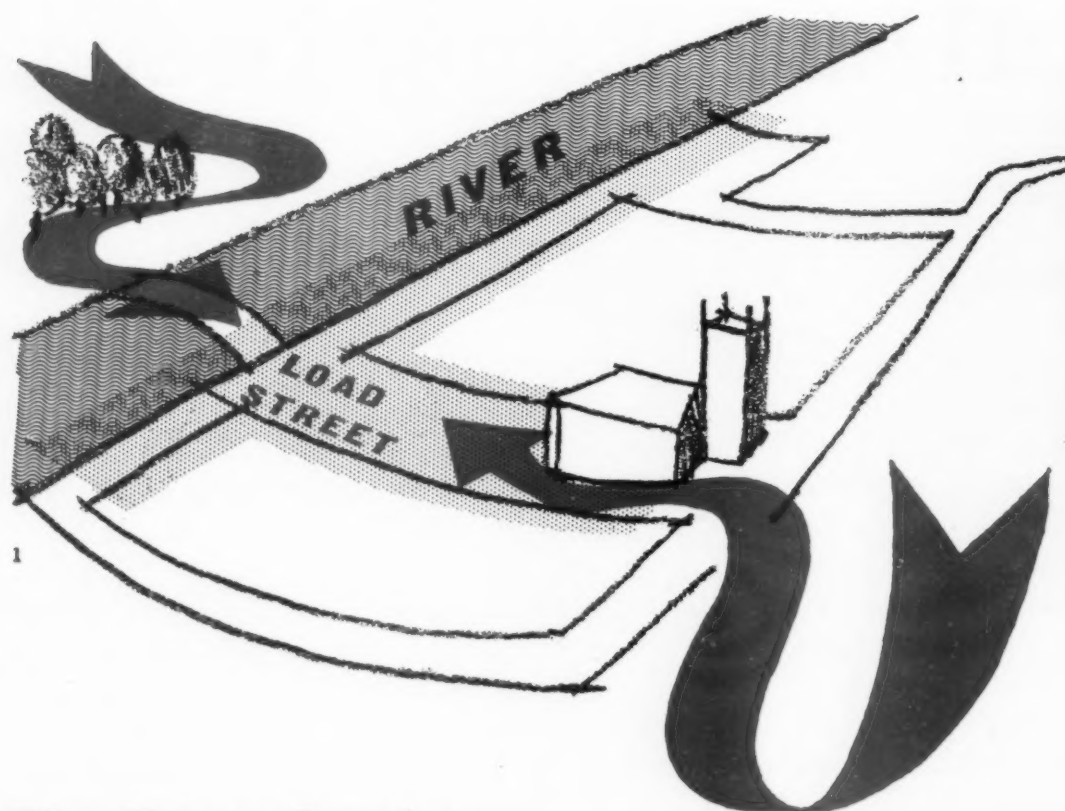
Bewdley town once thrived because of its river, for here was one of the few crossings between England and Wales and also one of the highest points reached by the Severn barges. Now, although no more commercial traffic comes to the town by water and there are many other crossing points the river is still there, and the old quays form a waterfront which places Bewdley among the most delightful towns in the Midlands and indeed in England.

Unfortunately, because the word quaint—in its antiquarian sense—has been applied to the town and also because of its convenient situation in relation to the crowded industrial cities, the week-end traffic pours in with the usual results: litter, choc-ices, fish-and-chip shops, half-crown teas, boraxed buses and cars. These disgorge crowds of passengers who, having no real interest in the place, pick their way among parked vehicles, lounge at street corners waiting for the pubs to open or for something to happen—and wonder why they came.

The river is obviously at once the attraction and the danger. This slumbering town, whose last merchant long ago closed his wharfside warehouse, without making any genuine effort to encourage or discourage the tripper trade, has done hardly anything to guard against the disasters which week-end tourism brings. Rather has the riverside been allowed to moulder and degenerate into a dusty, dreary, scruffy-edged road-cum-car-park where half-hearted and misplaced municipal improvements of the stock list variety succeed in being totally out of character. What should be the town's greatest

asset is turned into a visual liability by unsuitable flower beds and railings, scruffy grass, narrow pavements where there should be none, seats where there is no room for them and, in much of the little area left over, by parked cars.

Bewdley was certainly once—and potentially still is—one of the more favoured towns in the Midlands. It has a wealth of fine Georgian houses, narrow streets debouching into the magnificent central, room-like main street which, in turn, opens out on to the riverfront; a series of first class townscape features. There is no call here for 'improvement.' All that's wanted is a strong lead to preserve and enhance its existing charms. To save the riverfront, integrate it with the shopping centre, and stop the beam crazed people who go around pulling down excellent eighteenth century facades in order to expose some dreary half-timber. A recent pamphlet on the town enthuses over the unmasking of one such house, '... revealing the Tudor timber framing to the admiring gaze of the world.' Over-enthusiasm in this direction should be restrained as should the leaning towards Tudorbethan in new buildings. Bewdley is visually a Georgian town, one of the best in the county, and it would be mad indeed to exchange this lovely birthright for a mess of knottage.



The Town Centre

1, a diagrammatic view of the town. The tee-shaped tone shows the areas with which we are most concerned—the main street piazza of the town centre, the riverfront, their relationship and, shown by the coloured arrows, the two main approaches which are models of their kind. The aerial view, 2, from the same bearing, while also showing the centre indicates the properties of these approaches. On arrival in the narrows on the far bank, and framed within them, the eye is presented with a panorama of the riverfront before turning up and over the bridge into the centre which is terminated by the church. From the other direction—at the bottom of the photograph—

the road plunges, deflects and narrows down to the final funnel past the church, 3, before the release into Load Street, the centre. A sense of having arrived is achieved. Looking back, 4, the church, with its intriguing slots on either side, acts as an effective and powerful end wall while in the set-back on the left, 5, the varying facades provide an interesting and intricate backdrop to an ideal congregating space. At the other end of Load Street, 6, the sharp, rising finality of the last house becomes one side of a frame for the view out and down to the river. 7, Load Street from the bridge end. The proposals shown in this drawing are primarily concerned with accentuating

the reception room qualities of this central space. Ideally scaled as a town piazza the abolition of the segregated pavement and the introduction from wall to wall of surfaces associated with pedestrians will indicate their priority and suggest to the motorist that, for the moment, he is no longer on the open road. Such surfaces must, of course, unlike paving slabs set in sand, be capable of withstanding the loads and thrusts of heavy traffic, and concrete set around stone slabs is suggested; although it is not implied that this is the only or ideal method. In the drawing the surface is simply shown as slabs.



3



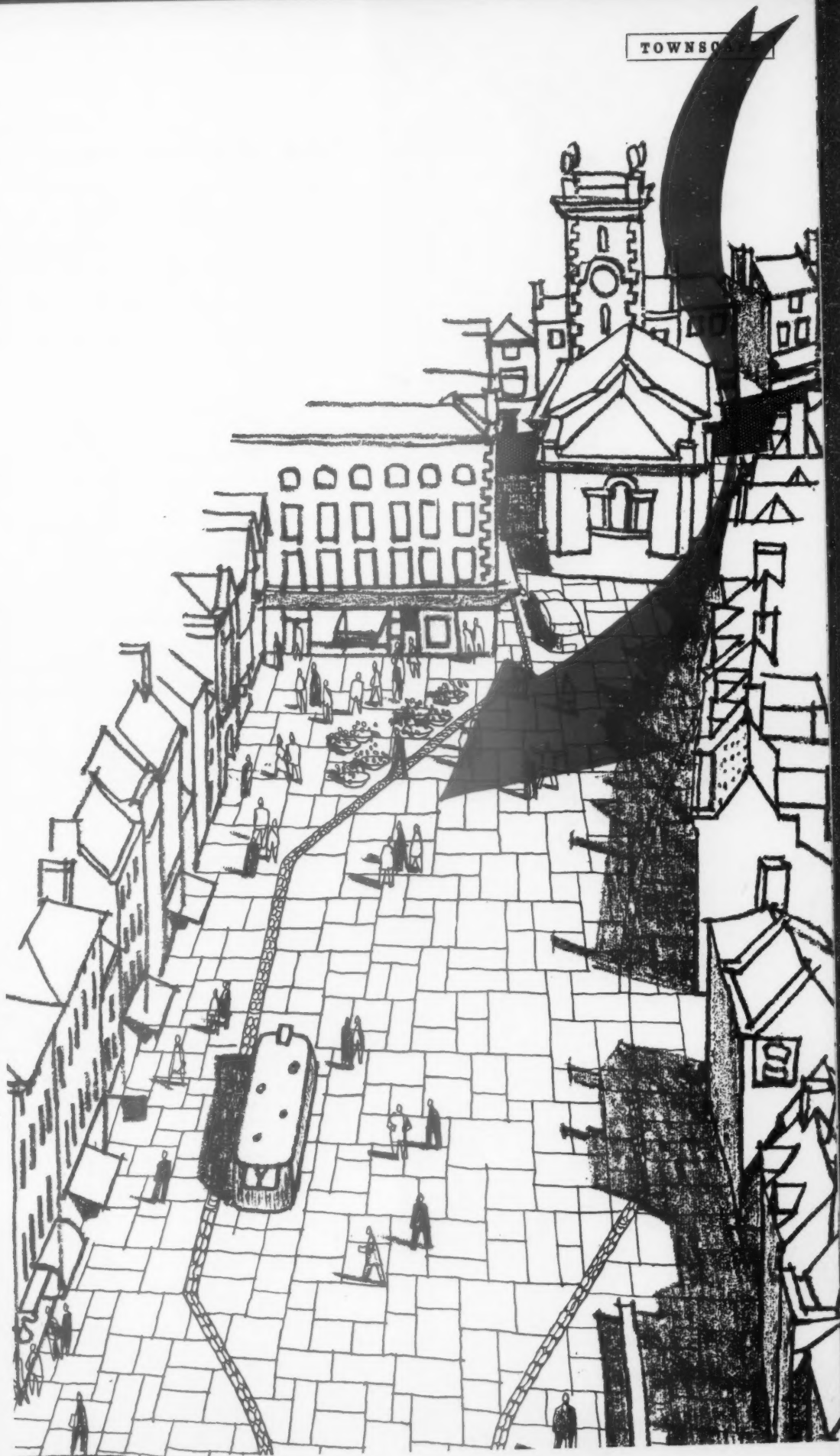
4



5



6



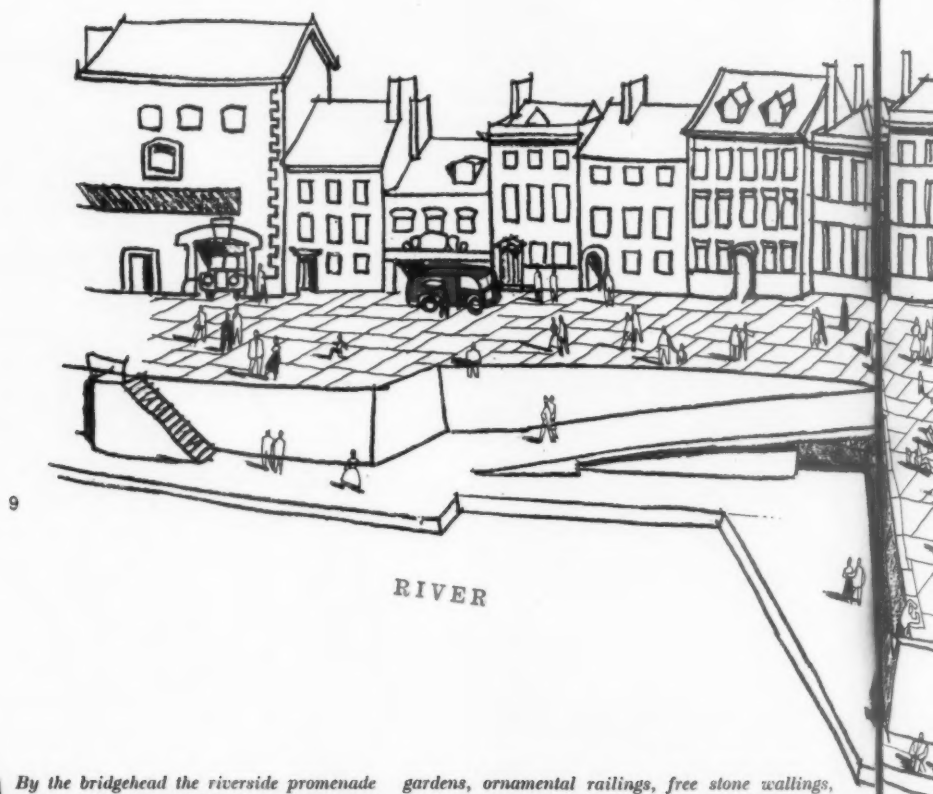
TOWNSON

7

The Riverfront

8, an aerial view of the riverfront from the West. The letters indicate the four sections which are most in need of 'restyling.' 9, a revitalized quayside with the relationship between it and the town centre accentuated by the floor surface which flows through from the main street down the bridge on to the quay, the continuity of treatment tying the shopping centre as well as the quay to the river. At present the ramp with its puny pavements is open to all motorists who see the riverfront terrace as a convenient car park. This

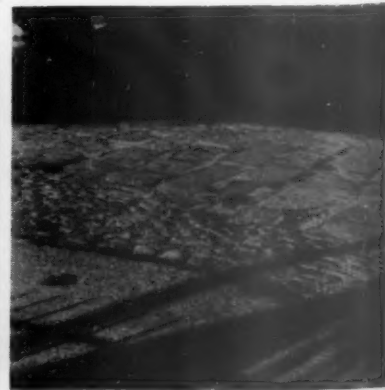
is turning an amenity into a mere utility. It is suggested that this quay be closed to wheeled vehicles. Purely local traffic to the houses, shops and offices along the river terrace could gain access from the far end—see diagram 10 opposite—but firm efforts should be made to keep car parking visitors out. In place of the present mud banks below the river wall a low-level Hard could be substituted as a landing stage for boats and walkway. The change of level would add interest and be useful, too.



A By the bridgehead the riverside promenade starts well. 11, a traditional and unadorned quayside with a robustly textured and unimpeded floor surface of cobbles. This soon gives way, as the sinister shadows in 12 show, to the railing and flower beds of the municipal improvers who have, at the vital junction where the ramp from the bridge spills out on to the quay, 13 and 14, dissipated pleasant and useful congregating space just where it is most needed. The imposition here of unsuitable Godwottery, 15 and 16 (technical term for the typical municipal-engineer's improvements—rustic

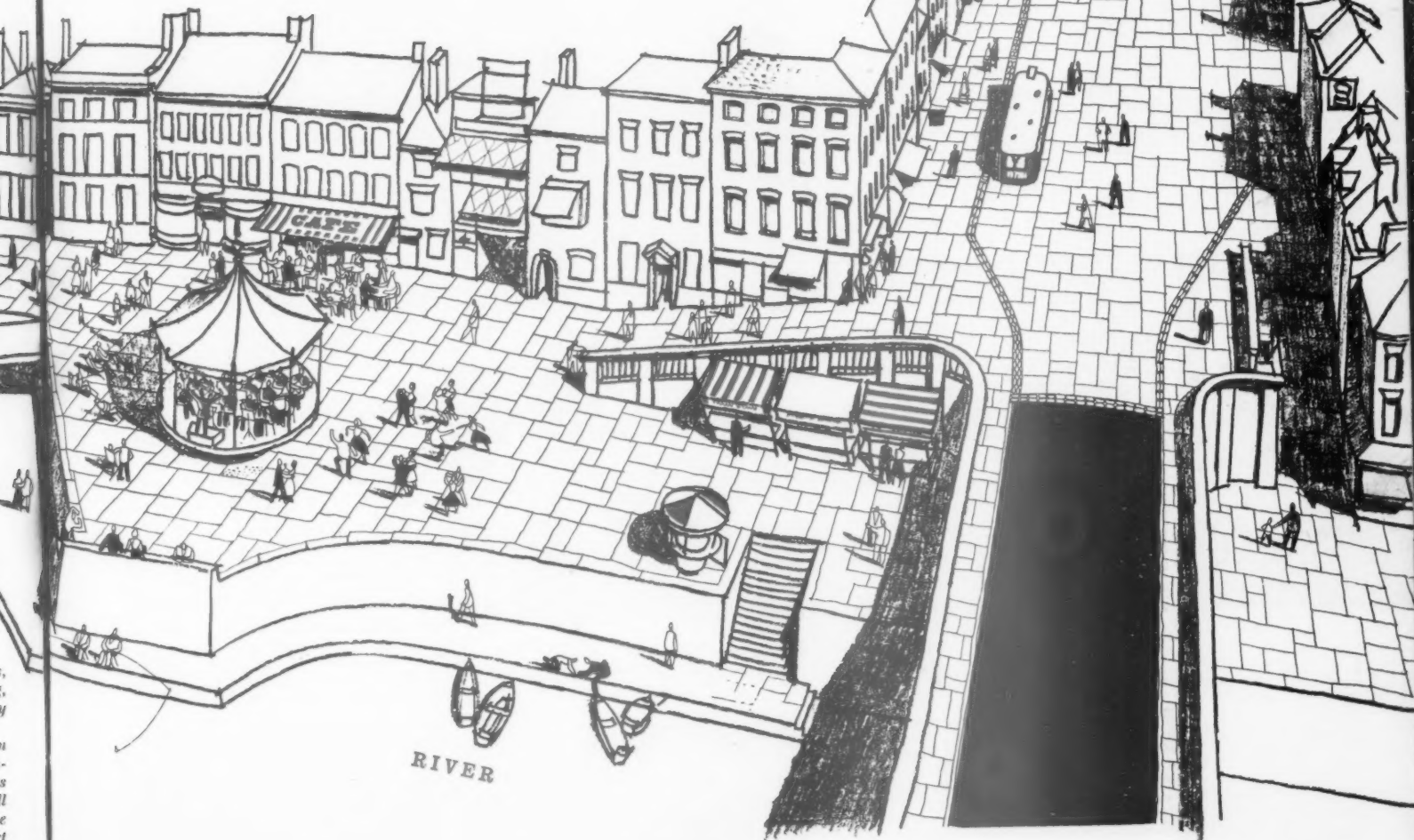
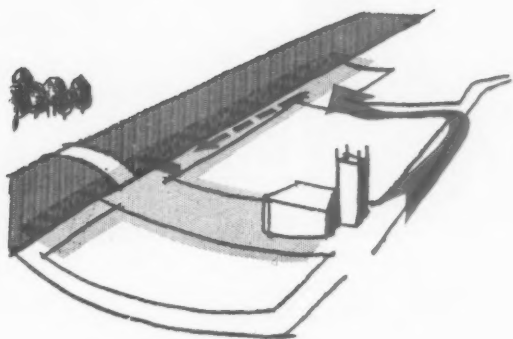
gardens, ornamental railings, free stone wallings, pink pavings, rockeries, decorative or arty seating, etc.), has chopped the floor surface up into many fussy and useless areas.

The bandstand, 15, is well placed—just the position this for a bandstand—but it is as forcibly, unnecessarily and messily railed off from the people as the people in 16 are separated from the river. All feeling of immediacy (AR, April, 1953) and all the nautical river effects are cancelled out by the effort to superimpose the municipal park routine on something which is potentially much more exciting.



TOWNSCAPE

10



RIVER

12



13



14



15



16

B The Riverside Walk. Past the imprisoned bandstand and along the potential promenade, 17, parked cars at present form yet another and—visually—a more impenetrable and bulky barrier to the view; all the worse, 18, because of the now extremely limited distance between the roadside and the river wall and, 19, the squalid, scruffy river bank below. The result—20—the picnic that is no picnic.

17



18



19



20



21



22



23

C The Riverside Car Park. At the end of the promenade, 21, the terrace and, in fact, the town ends abruptly and the eye anticipates a release into the long view down river past the car park, 22. This car park is admirably situated for those who want to sit and stare from the air-conditioned-radioed comfort of their cars. Here, they can do so without destroying the pleasures of promenading pedestrians (who have had enough of the quay by this time) but it wants to be neatly done, masked from the town and at the same time not blocking the river walk. At present the view is rudely blocked, 23, by the squalor of cracked corrugated iron and dusty tufts of grass.

D Over The River. However much care is taken with the treatment and maintenance of the town side of the river, what you see from it is of equal importance. Here, Bewdley has been more than reasonably lucky, or clever. 24, opposite the bandstand the other bank, with its old quay overgrown with foliage against a backdrop of a patchwork terrace, is a rural rather than an urban landscape; something to be looked at with pleasure and after all what's the good of a river if it doesn't give pleasure. Further along, however, a relatively inoffensive form of schakdom, 25, points a cautionary finger at the danger which threatens every unbuil up river bank unless it is ruthlessly protected. In point of fact it is fairly clear to the outsider that there must already be a strong public opinion in the town in fighting for the Bewdley's preservation or it would never have kept the character it still has. It is a hard battle under modern conditions of chara-pox, but in Bewdley's case it is well worth fighting.



24



25

current architecture

recent buildings of interest briefly illustrated.



- 1, view of the infants' assembly hall with the dining hall beyond.
- 2, the administrative wing.
- 3, the screen between the infants' and juniors' dining areas.
- 4, the combined tank tower and boiler flue from the south.



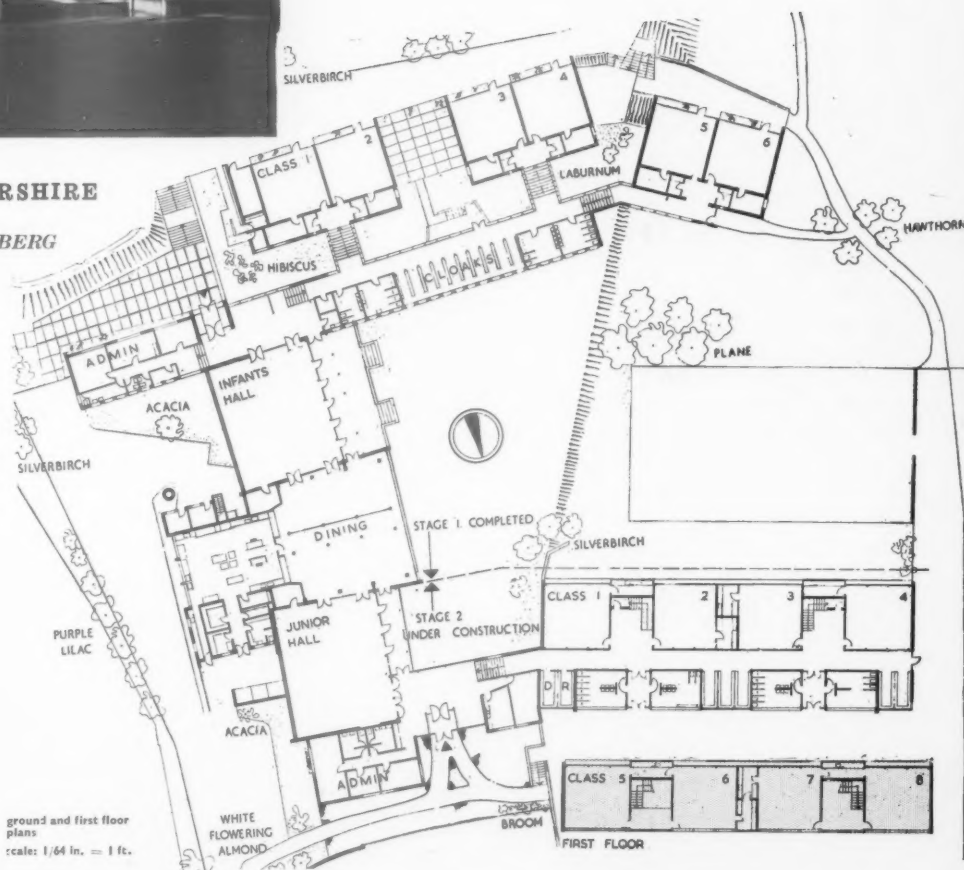
SCHOOL AT OLDBURY, WORCESTERSHIRE

ARCHITECTS: F. R. S. YORKE, E. ROSENBERG
AND C. S. MARDALL in association with
F. W. B. Yorke and H. M. Barker

The Causeway Green County Primary School is a two-form entry school for 240 infants and, when the scheme is completed, 360 juniors. The site is a difficult one with changing levels and includes two disused mine shafts and a marl pit.

In the infants' school the three pairs of classrooms have load-bearing brick walls with roofs carried on prestressed, precast concrete beams. The lavatory and cloakroom block has load-bearing brick walls on one side and lightweight steel beams carried on hardwood window sub-frames on the other side, with intermediate support from wooden posts. The assembly hall has a lightweight steel frame with precast concrete roofing slabs and the dining room has a RC frame.

Roofs are covered with built-up bituminous felt on a layer of insulating board. Floors are finished with wood composition blocks in classrooms, Hornton stone in the entrance hall, beech blocks in the assembly hall and administrative rooms, coloured concrete tiles in corridors, cloakrooms and lavatories. Materials have been chosen with a view to low maintenance cost and the natural materials used form the basis of the colour scheme throughout. Plywood panelling, fair-faced brickwork and coloured tiles are used extensively, hence painted areas are relatively small and are brightly coloured.





5, the west facade and entrance to the doctors' consulting room. 6, the lecture hall and demonstration kitchen which links the east wing of the health centre with the adjoining day nursery.

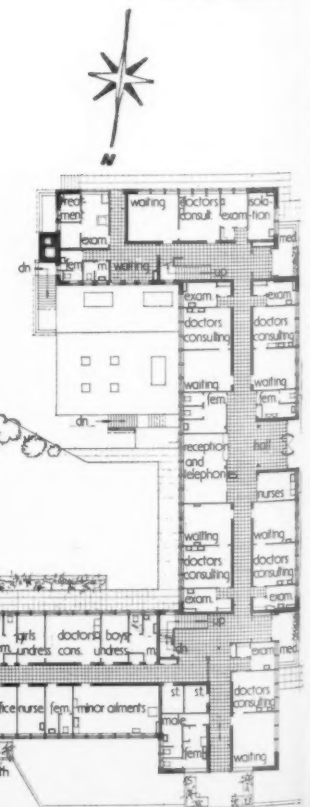
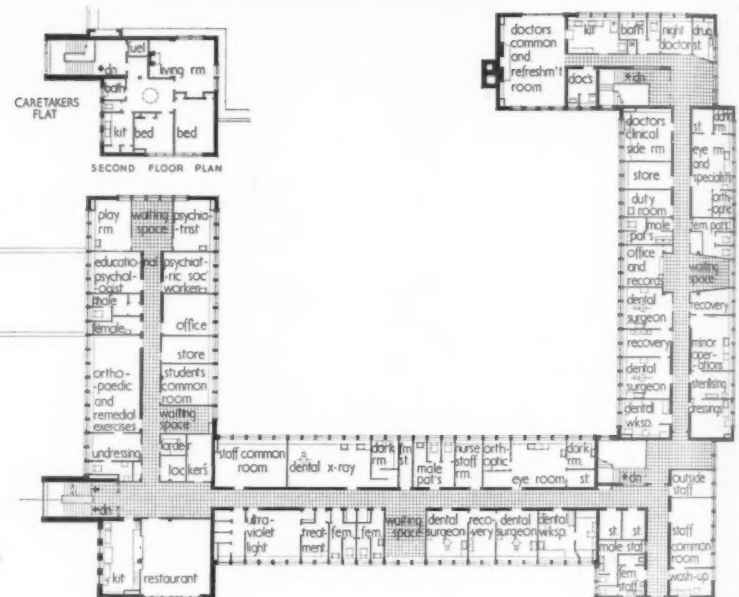
HEALTH CENTRE AT STOKE NEWINGTON, LONDON

ARCHITECT: ROBERT MATTHEW

The Health Centre on the Woodberry Down housing estate for the London County Council is the first fully comprehensive centre of its kind to be built under the National Health Service Act. The decision to build the centre was made in 1948 and work began in 1949, after plans had been prepared under the direction of the Council's Architect in close collaboration with the Council's Medical Officer of Health and School Medical Officer. The day nursery, seen on the site plan opposite, is quite separate from the health centre, although certain services are shared.

The site, which is situated at the south-west centre of the estate, is 1½ acres in extent. On the south side is an open view towards the New River and Stoke Newington reservoir. Plans for the centre were prepared after discussion and consultation between the medical and architectural departments of the LCC and the following were also consulted and had an opportunity of examining the plans in detail at various stages: the London Executive Council, the London Local Medical Committee, the London Local Dental Committee, the MOH and MOE. The centre is to serve a population of about 17,000 with an ultimate planned population of 23,500. Five health units operating under the National Health Service Acts and the Education Acts have been brought together under one roof. There are medical practitioners' and dental surgeons' units situated on the main frontage facing Green Lanes, with one main and three subsidiary entrances. Suites for six medical practitioners are situated on the ground floor. Each doctor is provided with a waiting room, consulting room, examination room and undressing

cubicle. On the first floor there are facilities for minor operations, the testing and treatment of eyes, visiting specialists, dental X-ray unit and a medical store room. On this floor there are also two suites for dental surgeons. The school health unit is entered from the north of the site, and has a waiting hall, room for dealing with minor ailments, doctors' consulting room, nurses' room and record office, all on the ground floor. The child welfare unit deals with interviews, weighing, test feeding, isolation and milk distribution, and has also a lecture room with demonstration kitchen.



ground floor plan of health centre scale: 1/48 in. = 1 ft.



FRANCIS PRICE: CARPENTER

A BICENTENARY

'It is really curious to observe that while Sir Christopher Wren and Mr. Price in their time, and our Salisbury improvers at this hour, affect to admire this cathedral, and, by a certain combination of professional terms, seek to give celebrity to its beauties (which, by-the-by, they never knew how to feel), in order that men might be brought to wonder for awhile; they catch at every trifling circumstance in this and that supposed imperfection in various parts of the structure, to wound and vilify the fair fame of the founders and architects of this so mighty a fane.'

John Carter, 1803.

Carter, as all his admirers know, was immoderate in his language and bigoted in his opinions. He here contrived to be unjust both to the works and good faith of Wren and Price, to whom, had he read more closely, he should have had feelings of at least respect. Wren's early memorial on Salisbury was brief but thoroughly in keeping with the greatness of his mind. After the spire had been damaged by lightning Wren was requested by Bishop Ward to report on the condition of the fabric and upon necessary repairs. His report was based on 'a few hours inspection.' Yet it includes such sagacious remarks as the following on the Chapter House: 'The Chapter House is an octagon, or eight-sided figure with a pillar in the centre; it wants buttment, and, therefore, the vault is secured by eight irons that tie the centre to the walls; they are fastened like curtain rods upon hooks; the hooks are yoted into the walls with lead, but they of the vault have broken the stones into which they are yoted, and drawn out five of the eight, by which means the walls and vaults are spread, and cleft with many great cracks. It seems the hooks were too short, and they should have been yoted into hard stone not free stone; the remedy will be to take out those hooks, and bore clean thro' the coynes, and to put in hooks with long stems, and anchor them on the outsides, and this can never fail.'

Nothing like this, apart from Wren's later Westminster reports, was to be written for eighty-five years, and then by a coincidence it was again to relate to Salisbury. This second coming of structural analysis of Gothic happened exactly two hundred years ago with *A Series of Particular and Useful Observations made with Great Diligence and Care upon that Admirable Structure, the*

Cathedral-Church of Salisbury, by Francis Price. 1753 saw not only the publication of the book, but also the death of its author. Price was well known for his *The British Carpenter*, a standard work, and was of sufficient note for his death to be recorded in the *Gentleman's Magazine*. He was, as surveyor and clerk of works, in charge of the restoration of the cathedral carried out at Bishop Sherlock's instigation after 1734. He was so occupied for sixteen years—there was no boasting in the 'great diligence and care' of his title.

To do justice to Price's book, it would seem best to recall what had happened to Gothic before he began to write. It had fallen into the hands, as a subject for books that is, of antiquaries. The works Price would have seen are Dugdale on St. Paul's, Rawlinson on Rochester, Hereford, and Salisbury, Bateley's edition of Somner on Canterbury, Gale on Winchester, Thomas on Worcester, Gunton on Peterborough, Dart on Canterbury and Westminster, the Browne Willis volumes. These works, stemming from the *Monasticon*, were all primarily concerned with ecclesiastical history and written records. The fabrics of the buildings were a secondary matter; the dating of the various parts was done from the records. They were, and many still are, of immense value, but their contents were in the main history, heraldry and sepulchral monuments. The public for these volumes is displayed in the list of subscribers to Dart's books. His *Westmonastarium* of 1723¹ was bought by aristocrats, college libraries, clerical gentlemen, gentlemen and merchants, though there were a few of the lesser breed—an 'operator of teeth,' writing masters, a 'professor of shorthand,' joiners, architects and plain misters.² The whole work was prefaced by a long poem of Dart's own which began:

'Hence sportive Venus, and thy fading joys,
Thy wanton sparrows, and thy blooming boys,

Trifling amusements, I no more persue,
By riper thoughts inclin'd to sober view.'

There were no wanton sparrows and blooming boys for the 294 subscribers for Price's book. They received, at a cost of seven and sixpence, a reasonably printed volume of seventy-eight pages, with five prefatory pages, and thirteen plates. The subscription list shows that local patriotism was the main support of the publishing, and curiously Walpole's name did not appear.

Price went straight to work by

¹ It was not issued complete until 1742 and contained some admirable illustrations by J. Cole, better known for his views of London churches.

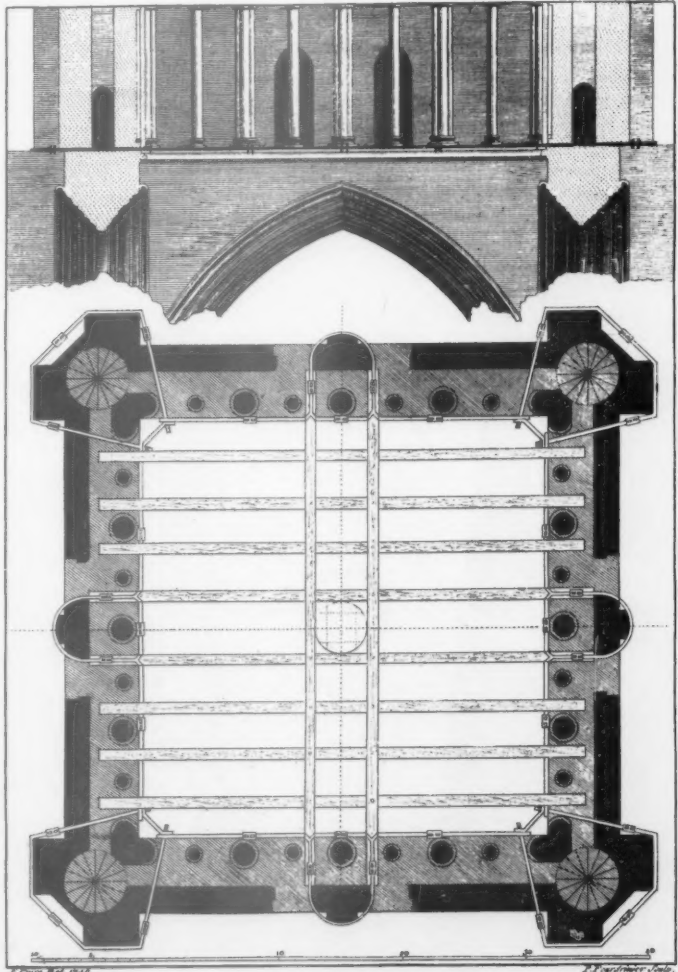
² Campbell, James Horne and Leoni were the architects.

³ Not the worst poem of the century. There is an elegy of Addisonian solemnity beginning, 'Thousands mourn the loss of Hare,'

transcribing William de Wanda's account of the building of the new cathedral. He then quoted part of Wren's report. He described the gravel bed and the materials of the foundations which deserved 'great commendation.' The stone of the walls was Chilmark, rubble filled, and that of the shafts Purbeck marble—'yet with this difference; those for use, I mean the pillars that bear the weight, lay in their natural bed, as found in the quarry, while those shafts for ornament have their bed inverted, or turned perpendicularly.' He described the composition of the vaulting materials and in a short digression attributed the flooding of the cathedral to schemes for making the Avon navigable. He deduced from the fact that the stones of the cloister, chapter house and muniment house were not bonded with the main work that they were begun later, though 'manifestly under the direction of the same architect.' This first architect, he claimed, designed all below the two upper storeys of the tower, and finding in Godwin that the cathedral had been rehallowed in 1280 he suggested that that must be the date of the later work. His real thesis, however, was that the upper part of the tower and the spire had never been intended by the first architect, and that it was their erection which necessitated the numerous braces of stone. In all he counted one hundred

and twelve such additional supports. Had the first architect intended a tower he would not have built the original (lantern) part in its present form, 'which at best may be called a hollow tottering foundation, though it was a most polite finishing to the first work.' The vaulting at the crossing he showed to be later—its materials differed from the other vaulting and in any case the floor at the top of the arcade was boarded underneath. The success in preventing any ruinous spreading because of the superimposed weight Price, following Wren, attributed to the iron bandage of the tower which, he said, 'is, perhaps, the best piece of smith's work, as also the most excellent mechanism of anything in Europe of its age.' Price then detailed the damage done to the piers and discussed the works of support. He described and illustrated the angle arches necessitated by imposing an octagonal spire on a square tower and commended the 'lively imagination' of the architect for the pinnacles at this join. 'This grandeur of finishing the tower was admirably conceived, and as well executed. They altogether charm the eye, and agreeably carry the mind from the square form of the tower, to the octagon of the spire: for besides their beautiful appearance, their weight serves to confine the arches, which are destitute of buttment.'

The account of the spire, accom-



A Plan and part of the Section of the Tower, showing the form of the Iron-Bandage.

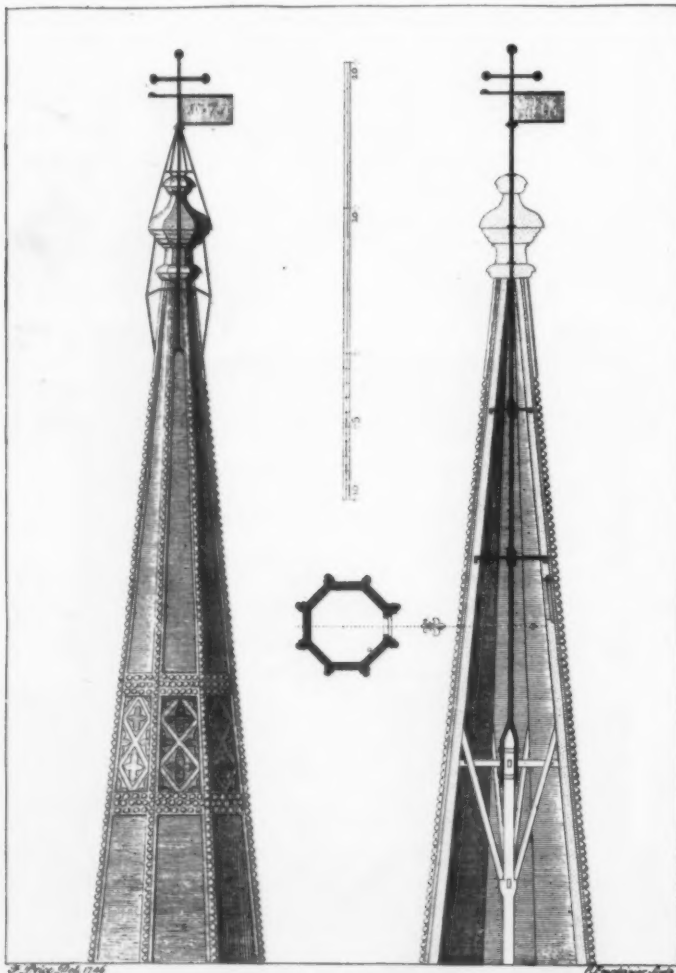
panied by excellently clear engravings, gives a good idea of Price's thoroughness. 'I cannot omit mentioning the architect's particular and curious invention, for adding artificial strength without over-burthening the former work. He contrives, in the cavity of the spire, a timber frame, consisting of a central piece, with arms and braces. . . . This timber frame, though used as a scaffold while the spire was building, was always meant to hang up to the capstone of the spire, and by that means prevent its top from being injured in storms, and to add a mutual strength to the shell of stone. The central piece is not mortised, to receive the arms which served as floors, but has an iron hoop round it with hooks riveted through; and upon these hooks a flat iron bar is fitted, with an hole in it, which is fastened on to the brace: The upper part of the brace is mortised, and the arms tenanted at the end, to slide into and through the mortise in the brace; so that by a key, or wedge on the outside of the brace, the connection is made complete; the central piece, and the other end of the arm, being provided with iron, as before, renders it the most complete piece of work imaginable; nor is its connection at the top inferior to it. The said arms and braces may be taken out and put in at pleasure, consequently capable of an easy repair. . . .'

Amongst other things that Price noticed was that the triforium braces round the crossing were perpendicular

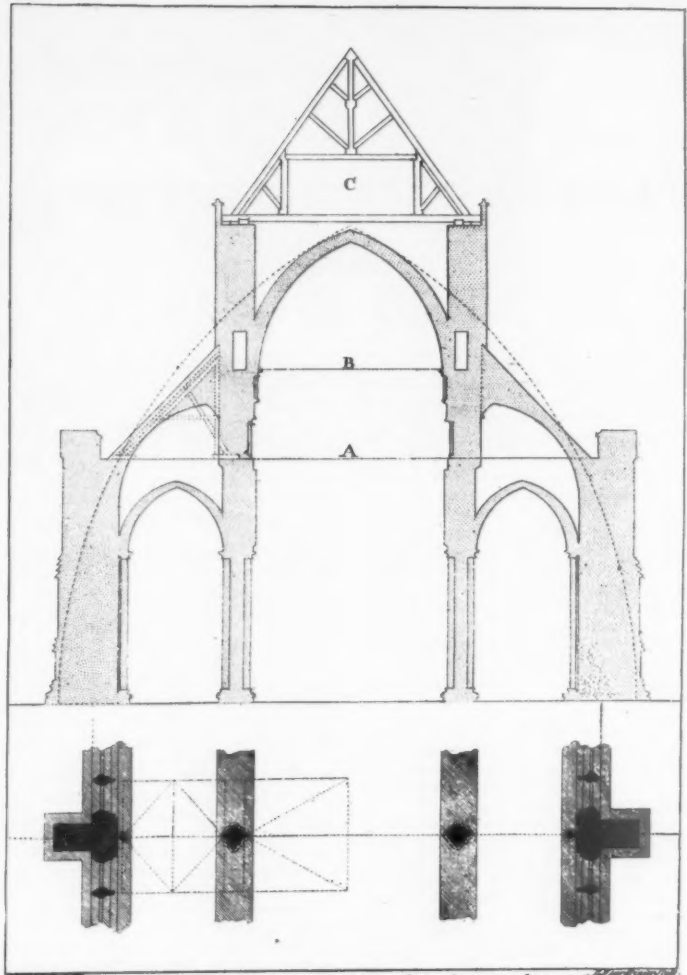
whereas the piers 'have a manifest declination' which 'makes it demonstrably clear that there was a surprising push given to the whole building before they were so placed.' The fractures in the aisle vaults he attributed to their roofs being framed archways without ties. The shafts of the piers were added later—the marble bases, and capitals of the pillars, have a socket in each, for the little shafts to be added in afterward and run in with lead, instead of being fixed with mortar.' This brought him to the pillars of the lady chapel; 'these must have been supported by frames of timber, carefully contrived at the first placing of them there, which doubtless remained till the vaulting was completed. . . . I mention this particular place, as a specimen of the vast boldness of the architect. . . .'

He finally noted the works of restoration he had carried out. (The spire timber and leadwork had been damaged by the Whitsun Fair game of devil take the lowermost, in which there was a race up the spire followed by the winners urinating down on their less agile competitors.) He inserted more iron into the tower and repaired the roofs extensively. His tower repairs lasted little over a hundred years; Scott re-repaired some, Blomfield the rest.

The plates, drawn to scale by Price and engraved by P. Foudrinier, deserve notice of their own. They were something quite new. Price didn't want views or prospects but plates that would elucidate the text



Elevation and Section of the upper part of the Spire with its Plan just below the weather Door.



Part of the Plan, with the Section of the Body of the Church, shewing its Mechanism, and part of the Vaulting.

in the same way they did his carpentry manual. The section of the nave illustrated the vaulting system, the section of the spire showed the timber construction. The plates are all clear, competent and to the point. So far as I know they were the first sectional drawings of Gothic, and one of them, the bell tower plate, can never be bettered.

It cannot be doubted that Price was a considerable innovator, even though his indebtedness to Wren is obvious. He was the first to write the history of a cathedral fabric from the fabric itself, the first to write a book about a Gothic building—its stones, not its records. His distinction lies in the fact that he made such a good job of it, reached so many conclusions that cannot be disputed. His minuteness and care have been illustrated; his reasoning was sound and, considering that such words as triforium, clerestory and transept were not at his disposal, his expression clear. His praise was as obviously sincere as it was reasonable—the whole manner suggests an active desire to understand a style of architecture, and its constructional principles, that must have galled on one trained in the 'regular' school. It may well be that others had his knowledge. Thornton, the saviour of Beverley and another carpenter, must have had an adequate working knowledge of Gothic, or alarming nerve, and so must Hawksmoor the architect in charge there. But Price put it down, and his book, which he possibly never saw in

print, had an effect. It was reprinted, often referred to and, I suspect, partly accounted for the altered tone of books on Gothic later in the century. He had proved that mediaeval buildings could be made to offer up their secrets to the sedulous enquirer.

In a study of Roger North, Mr. T. A. Birrell recently wrote: 'the rise of the *philosophe*, the inventor, the antiquary, genealogist, numismatist, and other species of crank, can be partly attributed to the desire of a frustrated political and social energy to seek an outlet in a non-moral sphere of society.' If that appears a little hard on some legitimate curiosities and delightful occupations (and Mr. Birrell has misdated the 'cranks' to prove his thesis), nevertheless it rings true when the names of Walpole, Miller, Beckford and their kind are called to mind. Gothic in the eighteenth century was in the end just a way of wasting time, spending money and amusing one's friends. Mrs. 'Aspasia' Delany was duly amused by the Gothic conceit, as she had been by some Chinese conceit, a grotto covered in seashells, the latest fashions. It was one joke among many. From that sort of taste in Gothic Price stood apart. It wasn't a joke for him but his livelihood. He represents the sober, methodical, modest, reasonable strain of the century, Walpole its aristocratic skittishness. Walpole has had ample praise, perhaps some could be spared for the worthy surveyor to the cathedral church of Salisbury.

DESIGN REVIEW

A MODERN MESS

To anyone who spent anything up to six years surrounded by the official furnishing style of the Royal Air Force the photographs below are something of an eye-opener. It is perhaps unfair to compare the present-day peacetime furnishings of the USAF with the hundreds of hastily thrown together wartime RAF stations—though their simplicity invited a contemporary treatment—the permanent pre-war Officers' Messes were stodgy bits of design in comparison, vaguely trying to look like Pall Mall Clubs.

The illustrations are of the HQ Officers' Club of the 3rd US Air Force, South Ruislip. The architects were American (E. B. Mitchell, W. W. Cunningham and E. J. Higgins, of Gilboy, O'Malley and Stopper, Philadelphia), but the furniture is almost entirely by Hille & Co., designed by Robin Day. 1 shows the bar and lounge (ante-room to us) with partitioned-off sections in a long narrow room—the traditional pub technique. 2 and 3 are views at opposite ends of the GOC's Mess (the Teak Room) showing the dining end and the lounge end respectively. The latter has some occasional tables and a long settee, made in the Officers' Club workshop, there are two of the Danish 'tennis racket' chairs, and the curtains are designs by Lucienne Day for Edinburgh Weavers.



Of course this USAF Club furnished itself out of its own resources—800 members, whereas an RAF Mess is supplied with its furniture from central RAF Stores, which leaves no scope for local initiative.

H. McG. D.

OUTRAGE

THE OCCUPYING POWER IN THE COUNTRY

'Where the motor-car has it over most occupying powers is in the fact that its reserves are apparently limitless. Bomb away half a city and there

will still be enough cars to cover the "open" space. . . . But the motor-car does not need to be present in force to ruin the widest open space; its form is so assertive that a single car is quite enough.

In the first photograph, taken at Porlock Weir, Somerset, there are as it happens four—and to see a single car in such a place is indeed rare, for after all it might drive away and then the *genius loci* would be able to reassert itself. Four cars in the midst of all that land and sea and sky—in physical terms they are a negligible quantity; yet psychologically their effect is disproportionate; they are not merely objects in the view, they are the view, the standard twentieth-century view which meets our eyes almost wherever we turn.

Of course, even four cars might conceivably all drive away. To meet the possibility of such a contingency the occupying power has equipped itself with a kind of extension of itself that can stay put while it goes somewhere else, thus doubling its capacity for evil. This is the



trailer caravan. As the second photograph (taken near Barmouth, North Wales) shows, the caravan's power of depersonalizing the landscape is every bit as great as the car's. It is characteristic of the times in which we live that while caravan sites need to be licensed by the local authority the criteria used in granting or withholding such licences are not visual at all, but sanitary.

There's the rub. Although the motor-car with its adjuncts is second only to wire



among the distinguishing visual facts of our age, we haven't yet even begun to tackle the visual problems which it sets us—problems on whose successful solution the creation of a twentieth-century landscape worthy of the name so largely depends.

R.M.

EXHIBITIONS

PAINTING AND SCULPTURE

The paintings in Matthew Smith's Retrospective at the Tate Gallery were so ruthlessly well chosen that the exhibition had the becalmed, secure and somewhat remote air of a permanent collection. The paint still swirls, the colour still vibrates, and much of the old magic of this Venetianized *fauvism* remains, but the nudes, 1, and even the fruit and flowers, now seem to endure the sensuous handling rather than enjoy it. They are the victims of a kind of aesthetic tarring and feathering, and gain all their poignancy and tension from the artist's passionate disloyalty to their form. The fact that one can be troubled by the sense of a more subtle presence imprisoned within the thickened and blunted shapes is no doubt a tribute to the painter: nevertheless, it is in the landscapes, where the systematic bravura which characterizes the treatment of the studio subjects is not allowed to intervene, that the splendour of the colour is most

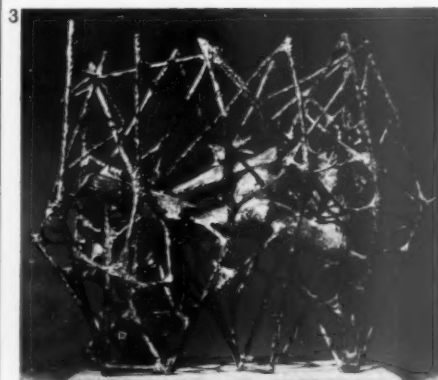
profoundly evident. Even in the early group of Cornish landscapes, executed before the paint began to glow, there are wonderfully true effects of heat and sunlight, achieved by the imaginative use of dark colours, and in front of some of the landscapes painted at Aix-en-Provence one's spirit is warmed by the red earth in a way which betokens the intervention of undemonstrative genius.



A selection from the Tate's acquisitions over the last four years has recently been shown in two of its rooms, and some critics have been tempted by the miscellaneous appearance of the exhibition into harsh criticisms of the Tate's policy. But when the British paintings are separated from the school of Paris work, and the

larger sculptures return to the main hall, much of the criticism will seem a bit churlish. Even the purchase of the large portrait group by Constable looks like an error of judgment when the picture is in the proximity of good cubist Picassos, and Sickert's charming painting of San Marco looks like décor beside Derain's *Pool of London*. Probably the only British acquisitions on view that would not fall out of line if placed in one of the French rooms are the delicious early Steer and a set of three studies of benighted flesh, 2, by Francis Bacon. Bacon often makes a series of closely related images, and the cumulative effect can be very powerful indeed, but this is the first time that such a series has not been broken up, and the Tate now has an unrivalled group of this outstanding painter's work. The trustees were wise and courageous to purchase some of the maquettes entered for the 'Unknown Political Prisoner' competition. Prize-winning maquettes by Minguzzi, 3, and Pevsner, are particularly fine, and by acquiring them the trustees have not only made an admirable addition to the sculpture collection, but have paid a graceful tribute to the seriousness which the judges of the competition brought to a very arduous task. The Gallery appears to be in need of some well-designed showcases for the effective presentation of its small sculptures.

The five hundred drawings by old masters which have been on view in the Diploma Gallery of the Royal Academy were gathered from English collections, and this fact added a *souçon* of pride to the delight they afforded. It was not an historical survey but simply a very delightful anthology of fine drawings made by two well-known scholars in this field—Dr. K. T. Parker and Mr. James Byam Shaw. A larger number would have



been overwhelming and a too earnest correction of what they themselves refer to as 'deficiencies in the selection' would have pushed out many rarely seen minor works. As it was, the relaxed atmosphere gave one the chance to indulge one's own predilections without feeling too



frivolous. The spaciousness of the eighteenth-century Venetian drawings was particularly striking. Even in the work of such minor masters as Longhi and Domenico Tiepolo the air circulated more freely than in the noblest examples of fifteenth and sixteenth-century draughtsmanship. Guardi's interior called *A Puppet Show*, 4, was in this respect among the most entrancing and mysterious studies in the exhibition, and by comparison such a work as Altdorfer's drawing of a storm at sea, 5, brought one up against a brick wall.

Relaxing for a while from the labours of charting the course of new movements, the ICA recently collected together some small works by well-known contemporary artists which exemplified their familiar phases, and the exhibition seemed to be designed for visitors catching up on the recent past. But two small bronzes of male heads by Eduardo Paolozzi, 6, call for comment. They are different from

anything he has done before: they are perhaps conceived in a spirit of homage to the remarkable French painter Dubuffet, whose work has never been shown in London. They share with a lot of other



modern sculptures the look of having been dug up, and fit neatly into the category of sophisticated primitivism, yet they express a more deeply felt experience than the sum of their affinities suggests. It is as if the artist had worked in the atmosphere of the street accident and the brutal hold-up, subjecting the heads not to what is called a merciless insight into character but to a violent physical assault. It is as if he were trying to find out if the human look could survive such treatment. It has done so; it comes out strong and intact from the battering, and in their odd way these little bronzes are the most optimistic works I have seen for a long time.

Robert Melville

TOWNSCAPE

POLYCHROMY IN WHITE

It is sometimes supposed that an extensive use of white leads to monotony. In fact, nothing could be further from the truth: out of doors anyhow white is the least monotonous

of colours. Here are three photographs of Minehead to prove it. In each scene ordinary whitewash produces a whole range of effects, from unsullied brilliance through various shades of off-white and grey down to near-black. They suggest several thoughts about colour in general and white in particular. The first is that colour and texture are indivisible, to all practical intents and purposes: it is not the seeing eye, but the word-spinning mind with its love of categories that insists on separating them. The second is that no colour vitalizes a rough texture as does white, with its faculty of catching and reflecting back every chance ray of light. The third is that white has the property, not possessed by any other colour, of acquiring intensity with distance. The fourth is that white—unlike its bastard





half-brother, cream—grows old gracefully, gaining in character what it loses in innocence. The fifth is that you need not give a white wall a coping: it grows its own in the sunshine. Whitewash, the coat of many colours in the utility range, should form an important item in every town's wardrobe.

A.H.

WORLD

TOWN HALL BY LODS

Of the famous pre-war partnership, Beaudouin has been more in the public eye in recent years than Marcel Lods. Now, however, the latter has emerged as the author of the prize-winning design for a new Hotel de Ville at Agadir, Morocco; and this makes it possible to see how his architecture has developed since 1939. Both planning, 1, and elevational treatment, 2 and 3, show a pronounced tendency away from the particular and distinctive manner of the partnership toward the now (more or less) established International-Tropical style which has its

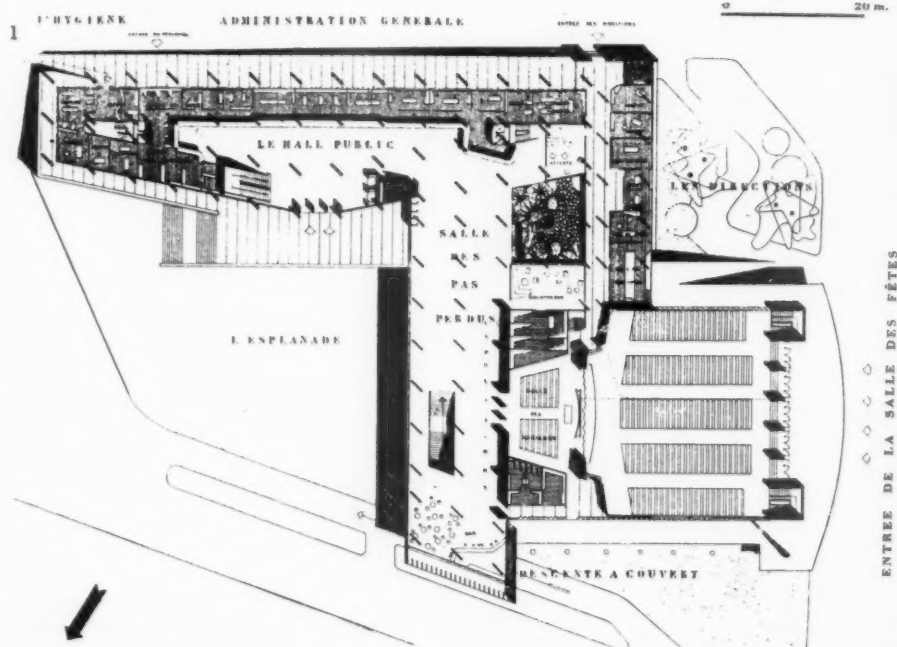
ultimate sources in Le Corbusier's studies of insolation and office-block design. Lods and his collaborators on this scheme, including the engineer Bodiansky and the

African office of ATBAT, were faced with very intricate planning problems which arose, not only from the inevitable complexity of the multi-purpose type of building so common in French administrations, but also from the dual nature of that administration in Africa—offices were required for a Pasha as well as the Mayor. Such offices as these, however, together with the services and the circulation (which requires careful segregation since it must handle persons as diverse as wedding parties and patients visiting the health

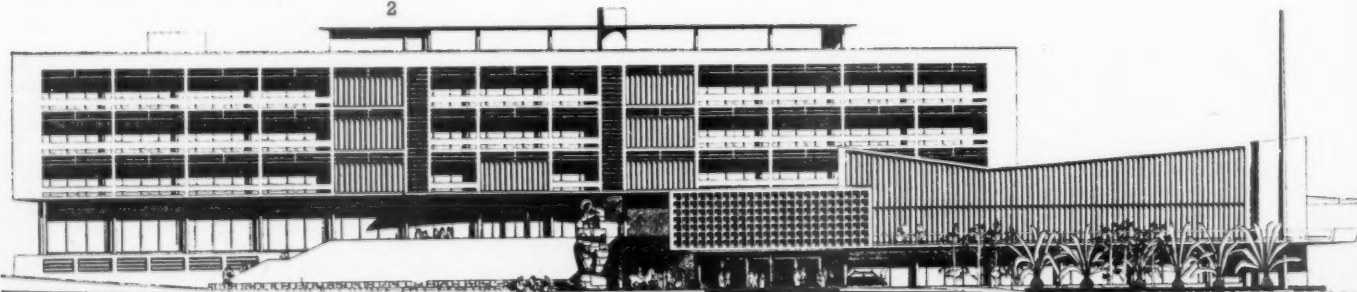


department), could be regarded as constant factors in the functioning of the building, whereas the rest of the office accommodation had to be regarded as subject to continual change, as social policy developed, and has been designed simply as bulk space with movable partitions which can be moved as office needs change.

P.R.B.



2



AN EYE IN THE HIGH

OXFORD OBSERVED. By Dr. Thomas Sharp. *Country Life*. 12s. 6d.

The true significance of Dr. Sharp's new book might easily be overlooked by those who have become accustomed to the discussion of townscape problems in *THE ARCHITECTURAL REVIEW*, for the subject will not be a new one to them. Nevertheless, *Oxford Observed* is the first book wholly devoted to this particular study. Sections of the London and Oxford plans (Dr. Sharp again) were devoted to this aspect of town planning, and there has recently appeared Frederick Gibberd's book on *Town Design*, but we must acclaim Dr. Sharp as the first writer to devote a whole book to what is, in fact, a new art—the first to publish a book devoted to the analysis of the appearance of a city in the true terms of the English Picturesque tradition.

The only fair test of the book is to take it to Oxford and explore the same streets, seeing whether its conclusions find an echo. They do, to a surprising degree, for reactions to townscape must be among the most personal of all, as they involve such a complicated spatial sense and depend on all sorts of casual things, from weather to the state of the viewer's eyes. It is only in the streets of Oxford that one can realize the depth and subtlety of Dr. Sharp's observation, as features which even an observing eye has not seen are exposed—created, in effect—without didactics. His sycamore in the High, once noticed, is not easily forgotten, and is certainly Not As Other Trees Are—but previously, if appreciated at all, it was firmly embedded in the subconscious, as the eye swept on round the corner past Queen's. Somewhere in the book, each component sensation of townscape is mentioned, and the reader proceeds by analogy, though the rest of the town—for instance, the description of the 'disappearing road' at the north end of Catte Street causes one to realize the same thing at Carfax seen from the south. Each person's and each day's Oxford are different, but they are all enriched by having their common ground revealed, and its extent is remarkable. Personally, the only point of difference which I have been able to rationalize is this: that, in considering streetscapes, Dr. Sharp emphasizes the play of buildings on the horizon too much, and the moving tube of space enclosed by the street too little. To me, the westward view of the High does not flag when the variation of new buildings is worked out; the interest is maintained by the noble continuous curve of the street, and deepened because it is its own streetscape.

There are bound to be a few quibbles over detail, varying from person to person. I feel that Dr. Sharp's predilection for trees as an essential of townscape doesn't take sufficient account of Oxford being a Cotswold town, suffering from the depressing uniformity of Cotswold stone in large buildings. In many

brighter towns, trees would foil in another sense than Dr. Sharp's, especially the small multi-coloured eastern English towns around a market-place, like Thirsk or Swaffham. Some form of map would have been helpful, as it is extremely difficult to remember the exact relation of streets and buildings even if one knows Oxford on the college-and-main road level.

There is one serious point of criticism, and that is the divorce Dr. Sharp has propounded between townscape and architecture, and his view of the present Oxford townscape as accidental. Nearly all the best Oxford townscape depends on architecture, not casually but with calculation, and the finest in the book, Catte Street and the High travelling east, depend on the purely architectural qualities of the Radcliffe Camera and Magdalen tower. Here Dr. Sharp has led the aesthetic of townscape to a crossroad to which he refuses to act as signpost. His view of townscape is organic, but his critical values remain formal, and there seems a fundamental absurdity in this. Happily this impasse has been evaded in the book, which remains an architectural guidebook, by streets-in-movement instead of by buildings. A truly organic idea of townscape needs a poet to integrate, and not a scholarly guide to analyse. The result would be a complete view of the town and the people in it, and in Oxford this means Carfax traffic lights as much as Tom Tower, and the Top Sergeant from Upper Heyford as much as the fellow of All Souls.

Ian Nairn

GEOMETRY AND GRACE

BARBARA HEPWORTH: CARVINGS AND DRAWINGS. With an Introduction by Herbert Read. *Lund Humphries*. 3 guineas.

This is a handsome book, and an indispensable visual record of the greater part of Barbara Hepworth's work. It opens with a plump dove carved in marble in 1925, and, coming through to the figures at Harlow and the *Three Vertical Forms* commissioned for Hatfield Technical College, closes with an olive branch to Society. The artist divides her work into six periods and prefaces each group of half-tones with an apposite autobiographical fragment, printed on an effectively decorative light brown paper. Four excellent colour plates of drawings in water-colour add further adornment to the solid fare of half-tones.

In the last section of her personal statement, covering the years 1949 to 1952, Miss Hepworth has interesting things to say about 'man-made space' and the relation of sculpture to architecture, but a number of her recent works disclose a somewhat illustrative approach to the humanizing process, and it is to the section she calls 'War, Cornwall, and Artist in Landscape' (1939-1946) that one finds oneself returning, for the purity and intensity of the carvings and drawings executed in this period of creative certainty lend her recollections of it a kind of magic.

Sir Herbert Read, in a cool and brilliant Introduction, discerns in the work of this

period a dialectic between Geometry and Grace, and with his usual scrupulousness he defines his terms to establish the exact nature of their opposition. It is an illuminating generalization, and is not invalidated by Sir Herbert's curious use of it when examining specific works: but it is disconcerting, to say the least, to find that he condemns her most distinctively feminine group of drawings—the pure abstracts—as mere Geometry, refers to a loose, slight drawing of the nude as an example of Grace, and cites a sheet of stilted, angular anthropomorphs as an example of Geometry informed by Grace. Also, his reference to Jung's *anima* and *animus* seems anything but revealing in this context: the notion that 'man projects his "Eve" and woman her "Adam"', receives little support from Barbara Hepworth's 'geometrical' drawings and the hollowed-out, painted and strung carvings to which they are related. These beautiful, cold abstracts, these little sepulchres of physical experience, whited within and without, these concavities and inceptive whorls and guarded entrances seem to me triumphantly to confirm the sculptor's own belief that 'the sensation of being a woman presents yet another facet of the sculptural idea.'

Robert Melville

COLONIAL AND AFTER

THE ARCHITECTURAL HERITAGE OF NEWPORT, RHODE ISLAND, 1640-1915. By Antoinette F. Downing and Vincent J. Scully, Jr. *Harvard University Press*. London: Geoffrey Cumberlege. 120s. net.

EARLY AMERICAN ARCHITECTURE FROM THE FIRST COLONIAL SETTLEMENT TO THE NATIONAL PERIOD. By Hugh Morrison. *Oxford University Press*, New York. 27s. 6d.

Newport, Rhode Island, is fortunate not only in its heritage of fine buildings, but in having a strong body of enlightened citizens devoted to preserving and properly recording that heritage. With these ends in view the Preservation Society of Newport County, through the generosity of the late Mrs. Michael van Beuren, has sponsored the publication of a noble quarto volume—*The Architectural Heritage of Newport, Rhode Island*—which provides a survey of its building history from 1640 to 1915, by Antoinette F. Downing and Vincent J. Scully, Jr.

The first three parts are Professor Downing's; in part four Mr. Scully contributes a most perceptive study of the extraordinary series of villas, chalets, palaces and chateaux that were built during the late nineteenth and early twentieth centuries, forming the millionaires' summer colony. Here we encounter the respected names of H. H. Richardson, Richard Morris Hunt, Carrère and Hastings, and McKim, Mead and White, in connection with an astonishing display of architectural caprice, invention, eclecticism and pedantry.

This book is, I think, a model of its kind and an inspiration to any architectural historian who might have the rare good fortune to find a wealthy patron. As to the contents, they make it clear that Newport's older buildings are interesting and charming, and present,

collectively, a fair picture of the progress of colonial taste and achievement in architecture, from honest warmth to cold affectation. For instance, the brick-and-stone Colony House of 1739, attributed to the housewright Richard Munday, has just that quality of comfortable opulence that would flatter a wealthy merchant community. It is not a good design by purist standards, the small-scale rustications to the windows and the fussy centrepiece with its truncated gable would never have been sanctioned by Munday's successor, the pattern-book Palladian Peter Harrison. Yet Munday's Dutch-looking building has more warmth and personality than Harrison's highly competent Brick Market of 1761, so closely derived from Inigo Jones. It is the same with the religious buildings. Newport's Trinity Church, built in 1725 by Munday, is a copy in wood of Boston's Old North Church, in turn derived from such Wren churches as St. James's, Piccadilly. Despite some very gauche details, the clap-boarded exterior of Trinity has an endearing simplicity, while the interior has the atmosphere of a church. On the other hand, Harrison's very skilful combining of Palladian motifs in the Touro Synagogue interior resulted in a setting more appropriate to a polite assembly than the sombre ritual it was designed to house.

It is sad that Newport's finest colonial houses have vanished. Collectively, however, Newport's buildings form a microcosm of the wider field of colonial architecture that is surveyed by Hugh Morrison in his *Early American Architecture*, an octavo volume of nearly 600 pages with some 500 text-illustrations, dealing with the building history of the English, Dutch, French and Spanish colonies. He shows how building styles and constructional methods survived in the colonies long after they had been superseded at home, and he stresses the dependence of the later architects and builders on the English stock pattern-books. It is all the more surprising, therefore, to find among so many lesser Colleshills and Rainhams, a powerful Vanbrughian building like Stratford, Westmoreland Co., Va., built in 1728. One notes with regret, by the way, that in assessing English architectural achievements Professor Morrison applies standards far harsher than those he uses for the colonial work of which he writes with such understanding. And so, by finding Hardwicke Hall 'a monstrous and inept pile' and seeing no more than 'a certain elephantine majesty' in Vanbrugh's masterpieces, he is able to offer the surprising conclusion that 'the American Georgian style was the inheritor of the best rather than the worst that the English Renaissance produced.' **Walter Isaac**

UNQUESTIONED GENIUS

THE AGE OF WREN. By Ralph Dutton. Batsford, 1951. 42s.

Architectural, like other historians, tend to fall into two classes, those who are engaged in original research, and those who retail the sum of established knowledge to the world at large. The modest contributions of the former lie for the most part concealed in the pages of periodicals which do not always reach the eyes of those who, like Mr.

Dutton, are attempting to survey the achievement of an age within the compass of 136 pages. Luckily the 20 volumes of the Wren Society's publications are well enough known not to have escaped Mr. Dutton's notice. But, with this important exception, the reader might be pardoned for supposing that little has been or can be done to add substance to the brief lives of English architects of the seventeenth and eighteenth centuries written by Beresford Chancellor in 1909. Of Hugh May, Mr. Dutton declares that his 'origins and early years remain in the mists,' despite the fact that his pedigree is set out for all to see in Dallaway's *Sussex*; of William Samwell, whom Aubrey tells us was the architect of Eaton Hall, Grange Park, and several other 'delicate houses,' he has nothing to say; and even the substantial figure of Francis Smith of Warwick, perhaps the greatest master-builder in English history, is dismissed as 'vague,' and written off (quite wrongly) as that of a disciple of Lord Burlington.

This would be less serious were it not for the fact that Mr. Dutton's approach is essentially biographical. For him the 'Age of Wren' consists of the lives of Wren and his contemporaries: there is no attempt to examine the nature of seventeenth-century architectural practice; no discussion of the status of those master-builders who (as Mr. Dutton rightly observes) 'had sufficient experience to produce plans for buildings in the style of their master'; no account even of the Office of Works of which Wren was for so long the director. Yet if the idea of an 'Age of Wren' is to be allowed any historical validity it must surely be sought in the King's Works, where (in the absence of any formal system of pupilage) the Surveyor General found his truest disciples among the clerks of the works and 'patent artisans' who executed his designs. It must also be sought in the architectural pattern-books by whose agency the local master-builder was able to keep in touch with contemporary fashion, and which, despite Mr. Dutton's disapproval (nothing, he says, 'could have been more likely to lead to architectural disaster than for the ignorant to suppose they could build successfully with the aid of a book of plans, elevations and mouldings') do more than anything else to explain the remarkably high standard of English provincial architecture in the eighteenth century.

Finally, if the 'Age of Wren' is to be more than merely a convenient title in a publisher's catalogue, it must depend for its interpretation on an understanding of Wren's own approach to architectural problems. For architectural design can never be wholly a matter of intuition, and Wren himself was an architect whose intellectual powers are manifest in his works. Here again Mr. Dutton fails us by taking Wren's 'genius' too much for granted. There is no hint in his pages of that 'Tyranny of Intellect' of which Mr. Summerson has written so suggestively: nor has he anything fresh to say about the triangular relationship between Wren, Hawksmoor and Vanbrugh out of which English baroque was born.

Howard Colvin

Shorter Notices

LINCOLNSHIRE AND THE FENS. By M. W. Barley. Batsford. 15s.

The *Face of Britain* series appears to be nearing completion, only North-Eastern England now being without its special volume. It was, I suppose, inevitable that Lincolnshire and the Fens should be one of the last areas to be treated, for few districts are less visited. Admittedly, it isn't easy to enthuse about the landscape, not because the views are so featureless (they aren't always) but

because so much of the land is under the plough, so little is pasture or woodland. For the quality of its churches, however, this part of England is surpassed only by East Anglia: and there are some very good towns.

Mr. Barley has written an excellent book. A Lincolnshire man, he knows his county intimately, and obviously loves it. Plenty of research has gone into this book, and the comprehensive social and economic picture of the region has been brought right up to date. The author is amusingly opinionated about apples. Very properly great prominence is given to architecture, which will be particularly useful to students of local styles and materials. There are many interesting details about brick-work (of which Lincolnshire has some of the earliest surviving examples in the country), wood and thatch, as well as about various kinds of stone.

Only outside the limits of Lincolnshire is Mr. Barley less than adequate. Ely, Thorney, Wisbech and King's Lynn make a number of appearances, but, among notable Fenland churches, no mention at all is made of the Wiggenhalls, Leverington, Emneth, Upwell, St. Wendreda at March (with its superb angel roof), Whittlesey, Sutton-in-the-Isle and Soham. There are other indications, including the limits of the map, that the Fens outside Lincolnshire were brought in as an afterthought.

Alec Chilton-Taylor

DIE KUNST DER STADT ROM. By Leo Bruhns. A. Schroll, Vienna. 2 volumes. £8 6s.

It has often been said recently that the kind of learned tome which in the hundred years before the First World War came to be expected from Germany has now become the prerogative of America. Yet a book like Professor Bruhns's *History of Art in Rome* could still not be the product of any other country but Germany. For, with its over 600 pages of text, it is not written for the scholar, but entirely for the layman—a layman, however, remarkably eager to read and learn of art and its history and to spend money to acquire the tools for doing so. The book costs more than eight pounds (and is worth it), and it is, in spite of its over 450 illustrations, not a picture book. The writing is warm and leisurely, enthusiastic without being melodramatic, and the knowledge on which it is based deserves the highest respect. Professor Bruhns can in his foreword refer to his seventeen years in Rome. They were years of study, the promotion of young scholars' studies (he was director of the Biblioteca Hertziana) and of a kind of earnest and conscientious enjoyment which ever since Goethe and the Nazarenes has been the attitude to Rome of the best of the Germans. Professor Bruhns's work is a monument to this attitude.

N.P.

BRITISH FURNITURE TODAY. By Erno Goldfinger. Alex Tiranti, London, 1951. 7s. 6d.

Modern British furniture is a microcosm of the international design picture. A study of this book reveals that with one or two exceptions our inspiration stems from the triumvirate, Italy, Scandinavia and the United States, with an occasional backward glance to Germany of the early thirties. The author outlines briefly and efficiently the first principles of furniture design, though the limitations of size have precluded attention to construction and problems of material and production. The ninety-eight half-tone illustrations provide a good general picture of the situation in 1951, apart from the utility scheme, which is not mentioned.

I. McC.

SKILL

A MONTHLY REVIEW OF BUILDING TECHNIQUES AND INDUSTRIAL DESIGN

In the past the REVIEW distinguished between the art and the technique of building by calling one Design, the other Craftsmanship.

Our portfolio of craftsmanship lapsed during the war and hasn't been—can't be—revived under the same title because the word 'craftsmanship' has become hopelessly dated. Why? From its association with handicrafts? From its unsuitability as a definition of precision building and manufacture? Possibly.

And yet the craft of building in the wider sense remains vital to any decent architecture and was never in greater need of encouragement by word and deed.

The editors feel the time has come to discuss the issues involved with a good deal of frankness if only to award all possible publicity to those who are keeping the flag of quality flying. They believe that the architect, and the manufacturer, will welcome a new, a bolder and a more critical approach to the whole subject. Hence this monthly feature, SKILL.

The Building Exhibition 1953

The British building industry is fortunate to have a recurrent shop window at Olympia in the shape of the biennial Building Trades Exhibition where architects and builders are given the opportunity of bringing themselves up to date about new devices, materials and plant, of comparing the new with the old and of reminding themselves of the range and proper employment of more familiar products. Concurrently with the exhibition are held lectures and discussions which allow the professional man, the contractor, the manufacturer and the trade union official to discuss together their common problems, political and organizational as well as technical.

This year's Building Exhibition commands special attention because it is celebrating its twenty-fifth anniversary, and the Review editors have considered this an opportunity to examine what lies behind this twenty-five-year-old shop window—what progress can be seen, looking through it, as it were, into the back of the shop, to have taken place during a quarter-century of change and development. The exhibits shown at Olympia are only the end-product of a long internal process by which the building industry adjusts itself to changing needs and

possibilities, so although this month's *Skill* contains a preview of the developments of most interest to architects that will be appearing on the exhibitors' stands, it logically begins with a survey of the building industry itself, because here alone can be traced the movements of which the exhibits of Olympia are only the evidence: the processes which produce the goods that go into the shop window.

Mr. Ernest Watkins's article therefore examines the questions: what is the state of the building industry after twenty-five years of unprecedented change? How well is it adapted to fill the role the present day demands of it? What are its resources in relation to this role? What signs does it show of adapting itself to the changing needs of the present times? These signs—or many of them—can be seen in three dimensions at Olympia, and readers must peruse the preview of the exhibition that follows the article on the look-out for them as well as on the look-out for guidance about what is worth seeing.

THE BUILDING INDUSTRY

Ernest Watkins

Everyone knows that only one-seventh of the iceberg can be seen above water. There is no standard by which anyone can make a comparable calculation on how the proportion of the building industry visible at Olympia compares with all that lies behind this shop window, but at least the iceberg might be kept in mind. The Exhibition is primarily a display of the materials and implements a man uses, or can use, in building, and unless these are seen as clues to the nature and characteristics of the men who will make use of them the Exhibition can be no more than a display of gadgets. What, in short, does go on at the back of the shop?

The building industry is vast, in size and importance. It begins with an individual figure, the jobbing builder, who makes a living as a self-employed man, often enough without employing anyone unless it be a wife to keep his books, and it ranges in one direction to the factories that mass produce every kind of article used in a building, or for the construction of a building, in another direction to the contracting firms of civil engineers who have already spread their operations over much of the Commonwealth, and in a third to those undertakings which produce a complete prefabricated building ready to be dumped on a site and which at first sight seems to mean an end to the traditional crafts that have been a part of the industry since man first erected a permanent shelter for himself. All that is implied in the spectacle at Olympia.

The general building trades are commonly taken to comprise general building and civil engineering contractors, and the trades traditionally employed in the construction of an average building, such as carpenters, plumbers and

glaziers. The specialist trades are thought of as those that limit themselves to a particular material or fitment, the electricians, the concrete specialists, the heating, lighting, flooring and ventilating contractors, and those that hire out plant (the division is now to some extent artificial since many firms in the general group are specialists). Roughly, there are ten men in the general trades to every one in the specialist trades. Of every ten 'employers' in the general trades, four work alone without any employees. In the first quarter of this year there were, on the average, some 1,250,000 men employed in the whole industry, and of these two out of every ten worked for a concern employing between 100 and 500 men, one out of every ten for a concern employing five or fewer men and only about one in every thirty-five for a concern employing over 5,000 men. These figures are part of the evidence of diversity in organization as well as in activity, and a warning of the dangers inherent in legislating for, even in thinking of, the 'building industry' as a uniform whole.

Any industry which employs a million and a quarter men is important in the economic life of the country; that is over one-twentieth of the total labour force of the country. The building industry has another importance besides its numerical strength, because it handles so large a proportion of the total spent by the country in capital investment. Last year, the gross fixed investment in the United Kingdom was about £2,000 million. Of this, the central government and the local authorities were the agencies for the spending of £718 million, the nationalized industries for the spending of £410 million, and out of the government expenditure £350 million went directly into publicly owned housing. About three out of every four pounds spent on capital investment in this country goes into, or through, the building trades. If the industry

could increase its efficiency by ten per cent, the sum saved—and it would be saved mainly by public authorities—would be the equivalent of what the individual would gain if a shilling were knocked off the income tax. Because the industry has failed to increase its efficiency, the country as a whole will be paying at least that much more, in the shape of housing subsidies, for the next sixty years. And yet a ten per cent increase in productivity would do no more than restore the level of output in the industry to what it was before the war.

For that is the third remarkable thing about the industry: its failure to regain its pre-war standards of output. The amount by which the level of productivity of the country as a whole has risen in the fifteen years since 1938 is a matter of argument, but nobody disputes that it has risen. In the building industry, again as a whole, it has not. Nor can the industry claim that it is catching up fast after a period of disorganization produced by the war. Taking one final set of figures, recently published, compiled by *The Economist* from the Government's Blue Book on National Income and Expenditure over the seven post-war years, these show that, between 1948 and 1952, the overall increase in 'real' production generally was 10 per cent, in employees' incomes 35 per cent, in profits also 35 per cent. In the building trades, the comparable figures are: 4 per cent, 38 per cent, and 18 per cent; in agriculture, forestry and fishing: 14 per cent, 14 per cent and 26 per cent; in mining and quarrying: 9 per cent, 33 per cent and 5 per cent. The trade has experienced a more than average rise in wages, a less than average rise in profits and a poor showing in rise in productivity. The situation can indeed be put more succinctly; in 1938, a man could buy a new house for the cost of two popular motor cars. A comparable house today would cost the equivalent of the price of three. So, whatever is going on in the shop window of the Exhibition, there cannot be entire satisfaction in the office at the back of the shop.

Broadly speaking, the work of the building industry can be divided into four main activities: new housing, new building other than housing, repair and maintenance work and civil engineering. Civil engineering accounts for about 10 per cent of the total, and the remainder is divided very roughly in thirds between the other three fields, with the proportion devoted to new housing tending to creep up. The total output must be a product of skill in preliminary planning and organization, the output per man-hour on the site, the amount and variety of mechanical equipment made available and the use made of it. It is fairly obvious that the civil engineering firms should be able to take full advantage of planning and organization and the use of equipment, and should therefore be the most efficient. It is equally obvious that the small jobbing builder can neither afford nor use much equipment, nor plan far ahead, and that these handicaps will be only partially offset by his chances of tighter control over his men on the site. It is the middle range of activity which is the more typical, the concerns that employ from 25 to 250 men, and who build both for industry and housing. If efficiency rose there, its effects would be both valuable in themselves and as they spread through the remaining sections of the industry.

It is important to keep in mind one essential difference between manufacturing industry and the building industry.

In manufacturing, everything, labour and materials, is brought to the productive machine, the factory, and the finished product is transported to where it is needed. In the building industry, everything needed, labour, material, equipment and power, must be brought to the site where the finished product will remain its whole useful life; even the prefabricated house does not wholly escape this rule. It is obvious, therefore, that the search for efficiency must start at the site, for that is where the largest single cost in building, that of labour, is incurred. The Building Trades Exhibition is essentially a display of the materials and equipment used in an open-air, temporary and mobile factory.

There is little point in this article in attempting to survey the progress made in the provision of new materials and equipment for the building trades in Britain. They are there to be seen, and year by year the Exhibitions have shown a continuous increase in the ability of manufacturers to devise new products and new processes. Today, if there is anything missing, that is more likely to be the result of a lack of adequate demand than of an inability to supply. What should be of greater value, in an article such as this, is an attempt to weigh up the other side of the picture, what might be termed the negative drags on incentive. At some time or other during the last seven years most industries in Britain have been compared with their counterparts in the United States. In virtually all these comparisons—and the building industry is no exception—the verdict has been that the industries in the United States show a higher level of productivity, and in most of the reports there has been a second comment, that the best in the United Kingdom equals the best in the United States; it is the general average that is lower. Is the British industry condemned to an inferior place for ever? From which direction is improvement likely to come?

The building industry has been the subject of two such surveys, one made by a Working Party appointed by the Minister of Works in July, 1948, whose report was published in 1950, the other made by a Productivity Team that visited the United States and whose report was published by the Anglo-American Productivity Council, also in 1950. These reports have many features in common, although perhaps the Productivity report puts its conclusions the more forcefully. Both emphasize the importance of the general approach to the job. Improvement in the level of production, the Working Party report said, 'depends fundamentally on the recognition by the operative that his real interests . . . depend on maintaining a high level of efficiency in the industry and that his whole-hearted co-operation is necessary for that purpose.' The Productivity report said: 'Acceptance of the need for high productivity as an essential factor in industrial life is universal in America, and it permeates the will and action of the operatives as well as the professional and employer groups.'

The second conclusion, in both reports, is on the paramount need for good organization. 'The efficiency of the American building contractor can be simply explained,' the Productivity report said. 'Operating in a free and competitive market and being supplied at the earliest possible date with full information of the work to be done, he has both the incentive and the opportunity to organize the constructional work and to carry

it out with speed and economy.' Since it is the duty of management to manage, it would seem more valuable to look at its side of the house and not to evade the issue by laying all the blame on restrictive, or other, practices among those whom it should manage.

It is generally agreed that the most productive period in house building in this country during the last forty years was during the building boom of the 'thirties. Then, some 350,000 houses were built each year, a rate equal to one per man per year. Now, in some areas, the rate has fallen to one per man every two years. The majority of these houses were built to sell at from £400 to £500 each, and they were built by medium to large organizations who became exceedingly skilful in the continuous supply of a very standardized article. The keynote of success was not mechanization. It was an exact and detailed organization on the site and in the channels of supply to the site, together with the employment—often ruthless employment—of teams of specialist craftsmen. The remaining element was skilful salesmanship in the face of competition. These builders enjoyed a great deal of freedom. They decided what land to use, what type of house to build, when to start, whom to employ and at what price to sell. Their products can be criticized from many angles, but at least it can be said that only during those years, out of the last forty, was Britain both improving the general level of its housing and building new houses faster than the older ones decayed.

These organizations were broken up by the war, and when they did begin to reassemble themselves one immediate difficulty they faced was the demoralization in the standards of work produced by the 'cost-plus' system of paying for repairs to war-damaged property. But, as the construction of new houses gradually got under way, the builder found himself working under a very different system. A great many of his former freedoms had gone. He could no longer choose or reject his site; that was a matter for the local authority. He could no longer draw any profit from the actual development of the land; that accrued to the local authority. He no longer had the same time in which to plan his operation; that time was used by officials rather than given to him. Supplies of materials and components were scarce and uncertain in deliveries, yet the specifications were more rigid and substitution less possible. He had less freedom to hire and fire his sub-contractors; they were nominated for him. His labour was more scarce and he could drive it less hard. Above all, there was less competition within the whole system. The builder of houses became a contractor to a public authority, and no one can argue that the tendering system really produced the same competition, while, to the builder of a factory, cost was less important than the permits from the two Ministries authorizing him to build in the first place. Nothing wholly effective was put into the system to replace this lost competitive element. One can either give an engine the fuel for which it was designed or re-design the engine. One does not get good results if one persists in using the wrong fuel.

To describe the state of affairs prevailing over the last seven years in this way does not necessarily involve a rejection of the social values that produced it. It may, or it may not, be desirable to concentrate house ownership in the hands of some

public authority, and to subsidize it. It may have been necessary to restrict the use of scarce materials, and balance the various uses of capital expenditure. It is still necessary to maintain control over the way in which each area develops and redevelops, but that is not to say that we have gone about securing these things in the best possible way. Public authorities did fail to secure greater efficiency from the industry by use of the power their monopoly position gave them; if they could produce so remarkable an advance in the mechanics of school building, could they not, together, have done more to standardize other fittings and measurements? It is hard to accept the proposition that the public authority is the ideal instrument to manage the actual construction of houses and factories with an honest affirmative.

But that omelette has been made, the housing subsidies will remain a burden and there has been another seven years decay to a great deal of existing property. If this period is coming to an end—as it would seem it is—what will succeed it? Prophecies are diverting, but in print boomerangs. None the less, it should be possible to identify certain of the trends leading into the future.

We are nearing the end of the post-war period of concentration on building new houses and new factories on new undeveloped sites. Instead, there will be a greater concentration on reconditioning existing structures and on redevelopments and replacements within the confines of existing built-up areas; and 1954 is likely to prove the turning-point.

There are various reasons for this. As the total composite picture emerges from the approved development plans of the counties and the county boroughs, we shall find that many areas are reaching the end of their periods of permitted geographical expansion. We have also been given some useful object lessons in how effective reconditioning schemes can be, and their effects are spreading. We may well be approaching the point at which we have enough houses—not desirable houses—for the total of households in the country. Population trends show that the country will reach a peak of households in 1955, when the figure will be approximately 14½ million, and that after that it will decline. Up to the end of last June 1,406,575 new permanent houses and flats had been built, which, with other temporary buildings, brings our total of dwellings very near to our 1955 total of households. In non-residential building the same trends are apparent, with the added factor that it is less likely that the nationalized industries will be allowed to pre-empt so great a proportion of our total capital resources. Private industry needs fresh capital construction, too.

All these tendencies point towards greater competition within the industry, to a slackening of the pressures from 'over-full' employment, and to a demand for greater skill on the part of management. If individual firms are free to rebuild, they are likely to insist on competitive conditions among tenderers—and so, for that matter, is the Monopolies and Restrictive Practices Commission. If local authorities have to undertake, and private owners are induced to undertake, more reconditioning of existing property and more redevelopment in and around existing sites, they will be less willing to accept what might be called the run-of-the-mill tender, framed just to keep within a Ministry limit. Local authorities in particular will be searching for occasions on which to save

[continued on page 339]



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money since there are so many factors at work increasing automatically the burden of the rates. Faced with a greater measure of competition, what will the industry do?

In effect, it faces alternatives. It may try to reduce costs by paying lower wages, to reduce that uncompromisingly large item in every cost-sheet, labour. If it does, it will undoubtedly run its head into a brick wall. Not only will that mean trouble with the unions. It will diminish the chances of attracting into the industry the very men who can most successfully adapt themselves to the use of machines. The other alternative is to pay higher wages to fewer operatives, by planning in advance the use of resources in a way that both the post-war surveys have emphasized should be done, by insisting on still greater standardization and prefabrication,

and by making fuller use of the materials and implements that the Olympia Exhibition shows so plentifully.

And what of the architect himself? He remains the essential balance at the centre. He has certainly a mounting duty to see that his work saves cost, that his foresight matches that of the best organizers in the engineering professions, but he has a more comprehensive responsibility than this. He alone can impose a constructive imagination on the work of the builder and the engineer, and ensure that their new buildings do not destroy old towns. He sees the arrangement of buildings as a whole. He exists to understand the men, women and children who will some day live and be shaped by the bricks and stone and steel that the craftsmen so cunningly fit together.

EXHIBITION PREVIEW *

BUILDING BOARDS

One of the most interesting developments in wall panelling is the technique of incorporating original designs, such as water-colour drawings and even photographs, in plastic sheets. The designs are protected from damage by a film of clear synthetic resin which causes no loss of detail during fabrication.

The technique was introduced comparatively recently by Waverite, who will be exhibiting examples of this form of panelling, together with photographs showing how it is being used for large murals, diagrams, etc., in public and other buildings; also in ships.

Waverite plastic sheets in different colours will also be shown in use as counter and table tops, and part of the stand will consist of a section of a toilet in a railway coach, with walls, ceilings and fittings entirely lined with Waverite materials. They have many hard-wearing properties and are easily cleaned with a damp cloth.

Masonite will be showing their 'Tempered Presdwood' with a plastic finish, making it particularly suitable for table tops and kitchen furniture. The surface is impervious to acid, heat and cigarette burns, and the boards are available in five standard colours. The same firm will also be exhibiting their full range of wall boards, including their standard Presdwood, which is given a brilliant finish in white, cream, green or black, or in plain or imitation 4-inch or 6-inch tilings. The finish is obtained by a special plastic stove enamelling process.

A recessed edge plaster wall board with a special joint filling system which ensures perfectly flush joints and true surfaces for decoration will be shown on the stand of Gyproe Products, who will also be exhibiting for the first time a fire-resistant cove composed of a Gypsum core encased in an ivory coloured millboard liner. The cove is designed to provide flush seating for true contact to ceiling and wall at their angle of intersection. The weight of this cove is 1 lb. per foot run, and it has a 5-inch girth with $\frac{1}{4}$ inch square members on wall and ceiling lines. It comes

in 10 foot, 12 foot, 14 foot and 16 foot lengths.

The exhibit of Stramit Boards has been designed as a practical demonstration of the many and varied uses of lightweight 'Stramit' building slabs. The fire-resistance of the material is also demonstrated.

The 'Celotex' stand, apart from the timber framing, is constructed entirely of the Company's products. Particular prominence is given to the decorative scope of their insulating board with the new 'highlight' finish, and to their new fire-resistant insulating board.

The flax industry is now turning its attention to building boards and the Gliksten stand will be showing a structural panel made by a Belgian flax firm from its waste products which are bonded by resins to produce standard 8 feet by 4 feet panels of varying thicknesses and densities. Distributed in this country as 'Glinex,' the board is recommended for a wide variety of uses. Enquiries as to its special properties should prove worth while.

This stand will show other boards and demonstrate Gliksten's patent method of fixing suspended ceilings.

BUILDINGS AND EQUIPMENT

A series of mockups showing the construction of insulated sidings and roofs for domestic and industrial buildings, employing the Kynalok secret-fix system, will be seen on the stand of Imperial Chemical Industries. The components consist of corrugated light alloy outer weathering sheets, and the interior linings which are erected and fixed at the same time, using only one set of fixing bolts and clips for each major component.

The corrugated sheets are asymmetrically formed of V-shaped corrugations interspersed with flat sections of varying widths. The individual sheet units, approximately 1 foot 8 inches wide, are assembled side by side in courses which can vary in length from 8 feet to 16 feet.

One of the advantages of the Kynalok system is that it enables a building to be completely dismantled, and, if necessary, re-erected on another site.

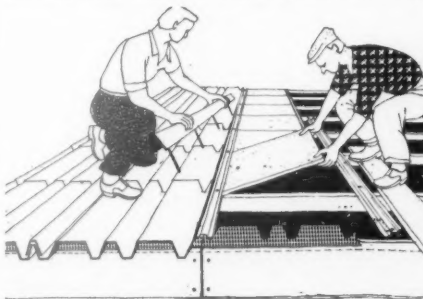
The Thermagard Mark III System of Construction for schools, which is based on the

3 foot 4 inch horizontal module and the 2 foot vertical module as recommended by the Ministry of Education, will again be exhibited by Gardiners. The system comprises a structural steel framework, and incorporates A-F Castellated beams and stanchions of modular lengths and spacings.

The windows are the firm's standard aluminium school windows designed in conjunction with the Ministry of Education, and include aluminium cover plates to stanchions and pressed aluminium soffits and cills.

The framework is prepared to receive modular roofing slabs, floor slabs, ceiling slabs, and concrete eaves units which are manufactured by other firms who have co-operated in producing the system. The wood wool modular roofing slabs shown are manufactured by Thermacoust. The cladding of the outer walls is designed to be carried on perimeter beams of a special design to enable a variety of building materials to be secured with equal ease.

Most architects who have been concerned with the building of schools will be familiar with the Medway system of construction. A completely new system, known as the Mark IV, which allows for something like 2,000 places in one school has recently been introduced. Full information about this system will be available on the stand of Medway Buildings & Supplies. The construction is based on a 6 foot module in which wall, floor, roof and partition panels are prefabricated from imported soft wood. The system offers basic roof spans of 6 feet, 12 feet, 24 feet and multiples; the 24 foot span having a low-pitched roof and the other spans flat roofs.

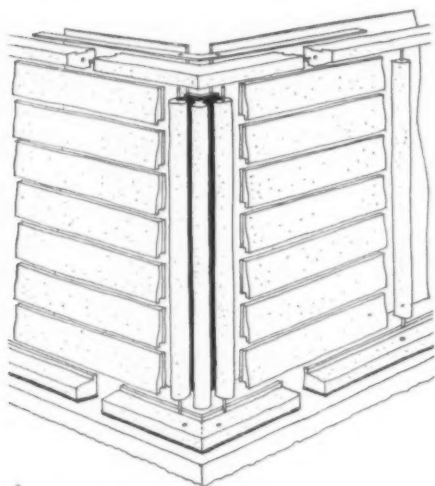


The Kynalok system

* Material in this section was assembled and written by R. Dudley Ryder. The drawings are by B. A. Spearpoint.

Multi-layer built-up felt is used for the roof covering, and curved perspex roof lights are provided which open to give cross ventilation. The ceiling height averages 9 feet 4 inches in classrooms and 8 feet 6 inches elsewhere. The external wall sections are made up of vertical moulded timber boarding. With the flexible Mark IV system architects are given ample opportunity for the expression of their own individual planning ideas. It is claimed that the system makes it possible for permanent schools to be built at a lower cost than by any other method of school construction.

The Stafford Building Unit has been designed for single storey buildings, such as schools, offices, pavilions, canteens, workshops, garages, etc., with heights of 7 feet, 8 feet, 9 feet and 10 feet to eaves. They consist of only five different pre-cast units,



The Stafford Building Unit

which enable single-span buildings to be constructed from 8 feet to 28 feet wide and 8 feet to 100 feet long. Wider and longer buildings in multiple spans can also be supplied by John Ellis & Sons, who will be exhibiting several examples.

The Unimer system of construction is featured on the stand of B. Finch & Company. Constructed on a framework of tubular steel these buildings conform to the modern conception of prefabrication in that they aim at low cost and speed of erection with a minimum of labour.

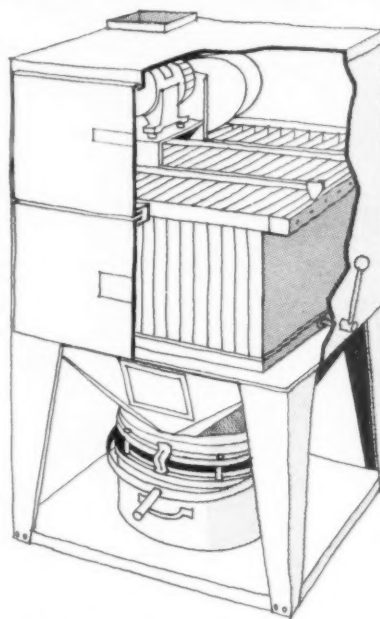
Aluminium framed construction is featured on the stand of S. M. D. Engineers. Scale models and photographs demonstrate the wide range of building types, from prefabricated hutments to aircraft hangars.

The control of dust in factories concerned with wood working, grinding and polishing, plastics, ceramics and foundry work, etc., is becoming increasingly recognized as important, not only from the point of view of the health of workers, but also in relation to plant maintenance, wear on machines and the general inefficiency that the presence of dust causes, often resulting in delays and unnecessary expense.

Dallow Lambert Company will be drawing particular attention this year to their new 'Dust Master' unit dust collector, which is made in three sizes DM. 50, DM. 100, DM. 150

—the figures denote the square feet of fire-proofed fabric filtration area.

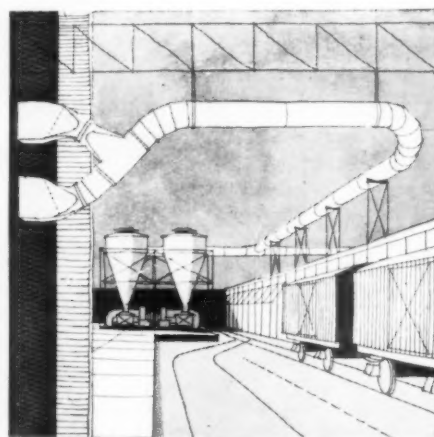
The dust-laden air is introduced into the bottom hopper of the unit, in which heavy particles are separated by a drop in conveying velocity and deposited into quick release bins which may be arranged to be withdrawn from any of the four sides of the unit. The dust-laden air passes upwards through a series of pads carried in an easily removable frame. Cleaned air only passes upwards into the fan chamber at the top of the unit and is



The Dallow Lambert 'Dust Master'

discharged vertically. Each collector is provided with a totally enclosed motor, and inspection doors give ready access to the fan and motor or filter assembly.

More specialized plants are also made, and photographs will be displayed showing some of the installations which have been carried out by the firm. The shape and general appearance of the large cyclone fans and dust



Dallow Lambert dust control plant

collectors shown in these photographs are most interesting, and architects might well consider incorporating the equipment in the design of new factories, in such a way that it forms a feature of the building.

CEMENT AND CONCRETE PRODUCTS

This year's exhibition, on the initiative of the organizers, pays special attention to the development of pre-stressed concrete, one of the most discussed techniques in the building trade. The feature on it has been prepared with the assistance of the Pre-Stressed Concrete Development Group who will be showing all known methods of pre-stressing.

The British have profited by the experiments and experience of pioneers elsewhere, notably in France, and pre-stressing now plays an important part in the export side of the building industry. It was recently announced that the 15 mile long Tampa Bay Bridge in Florida has 363 spans of pre-stressed concrete designed on the British Lee-McCall system, post-tensioned with special alloy bars exported from this country.

There seems to be a tendency in this year's exhibition to focus attention on light-weight concrete products. The Cement Marketing Company will be giving particular emphasis to their Leca light-weight expanded aggregate, and the structural portion of their stand will be of pre-stressed concrete, and Leca Blocks designed to show various methods of roof and floor insulation with Leca in-fills. Other exhibits will include Blue Circle cement products for decorative work, cast stone made with Snowcrete; terrazzo made with Colorette; surfaces painted with Snowcem and examples of Cullamix Tyrolean finish in a range of colours.

The new method which enables aerated concrete to be made of any density down to 20 lb. per cubic foot will be shown by Pyrene. The wet mix employed can be cast in situ or used for the production of a wide variety of pre-cast products. The method is known as the 'Phomene' light concrete process.

Another new development to be seen on this stand will be the 'Phomene' mortar plasticizer. This is a material which is added to harsh mortars with the idea of reducing their cement content. It is claimed that mortars made with this plasticizer are less liable to crack than richer mixes, and therefore lead to greater durability.

Sealocrete will be showing for the first time their 'sealocre' concrete curing liquid. This is sprayed on to any concrete surface immediately after it has been laid, forming a quick drying film, which will retain the maximum water content in the concrete for a period of seven days or more, ensuring complete hydration of the cement. It is also claimed that this liquid greatly increases the strength of concrete, and prevents surface crazing and high shrinkage.

Another light-weight concrete material to be seen will be Dohm Vermiculite, which is produced in five grades depending on a particle size ranging from $\frac{1}{2}$ inch to $\frac{1}{16}$ inch. Weights per cubic foot vary from $3\frac{1}{2}$ lb. to 8 lb., and thermal conductive 'K' from 0.252 to 0.45 BTU/Hr. This material, which is being shown by Dohm, is chemically inert, rot and termite proof, and is not affected by temperatures of less than 2,000°F. Vermiculite cement blocks will also be exhibited. These light-weight blocks measure 18 inches by 9 inches, and vary in thickness from 2 inches to

[continued on page 341]

SKILL

4 inches, their average weight per cubic foot being 28 lb., with a 'K' factor of 0.6.

A complete set of standard specifications covering almost all classes of water-proofing work will be available on the stand of Kerner-Greenwood, who will be demonstrating the water-proofing qualities of cement treated with their well-known Pudlo cement water-proofer. One model, which has been designed to interest plasterers, will show how efflorescence may be avoided by the use of Pudlo.

An 18-inch centrifugally spun concrete pipe will form a special feature of the comprehensive display of building materials shown by Eastwoods. In addition concrete tiles of plain and interlocking types in a variety of colours will be exhibited on the stand by a subsidiary of theirs, Leighton Buzzard Tiles.

Reinforced concrete rafts and suspended structures, as well as examples of the application of 'Bricktor' wall reinforcement, and of prefabricated joists made by the Benfix Steel Company will be seen on the stand of the parent company—Johnson's Reinforced Concrete Engineering Company.

CLAY PRODUCTS, BRICKS, TILES, ETC.

As usual, several firms will be exhibiting bricks of many different types and colour. The Accrington Brick & Tile Co. will be displaying their Golden Brown Rustics, Russet Rustics, Multi Rustics, Red Sand-faced, Multi Smooth-faced and Pressed Red bricks.

Another stand well worth seeing will be that of Eastwoods, who will be exhibiting their Fletton bricks, which are made in many colours, in Bedfordshire and North Hants. Also to be seen will be stock bricks manufactured in Kent, Essex and Hants, which vary from the familiar yellow to a warm red.

The well-known Acme Bricks and Tiles, including wire-cut engineering bricks, floor and partition blocks and tiles, will be seen on G. H. Downing's stand.

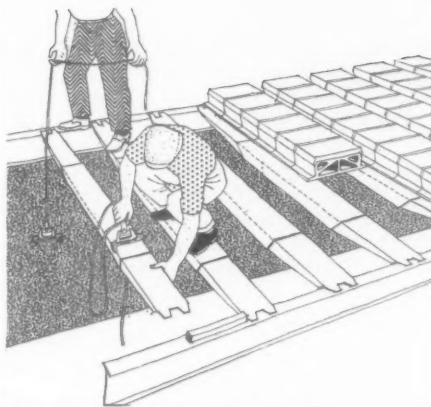
The stand which is being erected by Carters, of Poole, promises to be of great interest. It will have a large panel designed by Gordon Cullen, showing the decorative possibilities of screen printed and plain coloured tiles used in combination, and a wall in the form of a 'sampler' designed by Peggy Angus. It will display, in a series of panels, all the standard colours produced by the company as well as nearly all the patterned tiles now included in their range.

John Steventon, manufacturers of faience and sanitary ware, will be exhibiting for the first time specimens of floor tiles, but these are not yet available at the time of writing.

FLOORS AND FLOORING

A system of two-way reinforced concrete flooring consisting of patent hollow concrete blocks with blind ends placed in pairs which permit the use of reinforcement, will be shown again by Smiths Fire Proof Floors. These are suitable for long or short spans, and although they are in themselves light in weight they are capable of carrying high point loads.

Another exhibit on this stand will be the Trianco steel telescopic centres, on which



Adjustment of a Trianco steel telescopic centre

Smiths fire-proof floors are constructed. The use of this form of shuttering leaves the floor space below clear of obstruction, so that other work on the building may proceed unhampered.

A new range of 36 plain and marble colours of Dunlop's rubber flooring will be shown on the stand of Semtex, who will also be featuring the new colours that have recently been added to their range of Semastic Decorative tiles. These tiles now fall into six price groups and four colour sequences, in which each pattern is interrelated. The colours have been chosen, as in the case of the new Dunlop rubber flooring, after consultation with the British Colour Council.

The familiar oast house will readily identify the Marley stand where, in addition to roofing tiles and other products, the full colour ranges of the Marley floor tiles will be shown. Recently developed by this company are the Marleyflex floor tiles, based on a synthetic plastic, polyvinyl chloride, for which are claimed an exceptional degree of resilience and flexibility.

Emphasis is being placed on the use of Accotile and cork tiles, the latter as a wall surface as well as a floor covering, in the domestic sphere on the ground floor of Armstrong Cork's two-storey stand. The upper floor will be covered entirely with cork tiles, and it should be instructive to see the different tones that can be obtained with this material.

GLASS

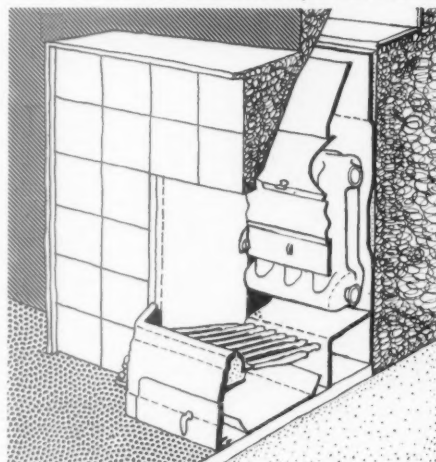
Full size sections of a living room, bathroom and office in which a wide range of glasses is employed, will be seen on Chance Bros.' stand. Although there are no new products or designs as such shown this year, several new points will be made, for instance the painting of Figured Rolled Glass will enable architects to specify it ready painted in any colour, and after a lapse of 20 years Chances are once again producing Pot Opal Glass, which it is claimed is superior to similar glass imported from the Continent.

Making the most of 'light' is Pilkington's theme this year. Plate glass is used to show how it is possible to open up new views and obtain more light. Dark corners are made bright with mirrors combined with ingenious lighting, and mirrors are also used to give the impression of greater space.

Heating problems which arise through the use of large areas of glazing and by picture windows can be reduced by the firm's 'Insulight' double-glazing units, which may be glazed into wood or metal, presenting only two surfaces to clean. The insulating and decorative values, as well as recommended methods of fixing 'Insulight' hollow glass blocks, will be illustrated by sections of glass walling.

HEATING

Housing architects should not miss the new No. 2 'C' Neo Fire exhibited by Ideal Boilers



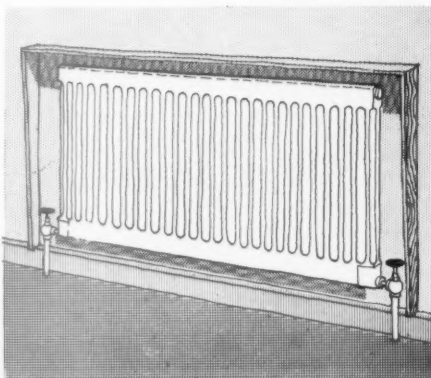
The 'Neo-fire' by Ideal Boilers

& Radiators. It incorporates a gas ignition burner and a special damper to control the burning rate of the fuel. The fireplace is backed by a boiler of special design which supplies hot water for baths and other domestic uses as well as for heating three radiators in other rooms.

The 'Ideal Autocrat' domestic boiler for hot water supply only, which is thermostatically controlled, will also be on view.

Another thermostatically controlled boiler for hot water, called the 'Tayco,' which is of a very neat design will be exhibited by Robert Taylor.

Panel radiators up to and even over 30 feet in length, for placing along corridors or in school classrooms, have been made by Gulf Radiators, who will be showing examples of these light-weight radiators. They are much easier to install and clean than the more conventional type. On the same stand will



A lightweight panel radiator by Gulf Radiators

be the Hurseal oil-filled electric, gas and oil radiators, as well as the new Hurdapta continuous burning fire. The interesting point about this fireplace is that it is a complete unit, requiring no bricking up or alterations to an existing fireplace. If desired it can be removed for storage in the summer, or refitted into another room or house. It is available in marble, copper lustre, cream and black finishes.

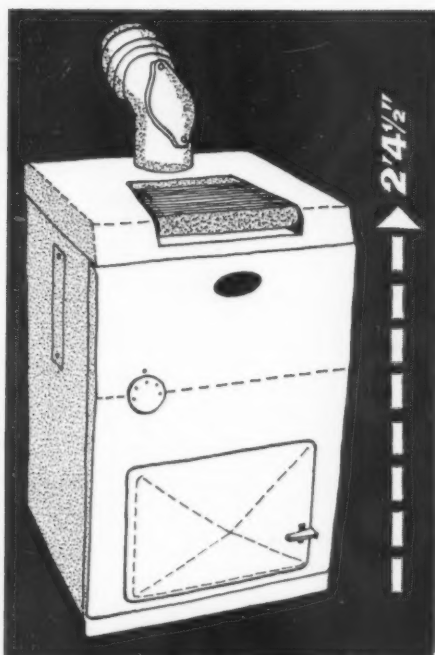
A new back-to-back grate will form the principal exhibit on the stand of Allan Ure, who will also be showing for the first time their 'Kepp' continuous-burning fire.

The Electric Development Association will be making a special feature this year of floor warming and thermal storage of the solid pattern, as used in cookers, and of the type used for heating water.

Equipment for water heating, space heating, etc., will be found on the stand of the Gas Council, whose comprehensive exhibit is always worth seeing.

One method of obtaining hot water supplies from a domestic back boiler without the necessity of lighting fires is being shown by Flavels, of Leamington, exhibiting for the first time since the war. On their stand will be a gas-fired attachment which is clipped on to the boiler and joined to the gas supply by flexible tube and plug-in connector. It is mainly intended for providing bulk supplies of hot water for baths and laundry work. This firm's boilers and continuous-burning open fires will be on the stand.

A new and very attractive design of automatic boiler for the smaller household,



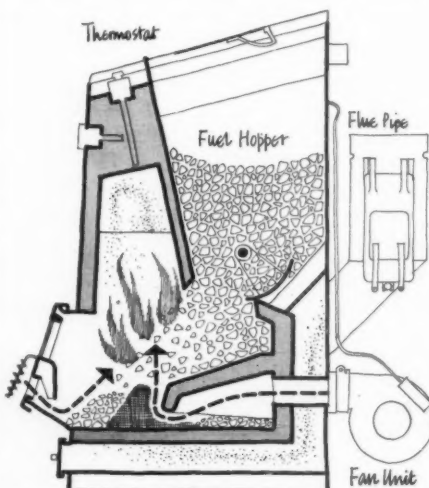
The new 'Agamatic' by Aga Heat

known as the Agamatic 25/40, will be on view on the stand of Aga Heat, in addition to their well-known cookers and heating equipment.

Yet another thermostatically controlled boiler for hot water and space heating which should be inspected is the Trianco. A control

knob enables the boiler to maintain the warmth of the house or the heat of the water at the right temperature. The general principle of operation is that sufficient fuel for a relatively long period is stored in a hopper integral with the boiler. The fuel falls by gravity through a valve at the bottom of the hopper into the firebox below. As the fuel drops on to a flat plate forming the base of the firebox, it builds up into a cone which completely covers and surrounds a water-jacketed tuyere situated immediately below the hopper mouth. This tuyere is a part of the water-filled wall of the boiler, and through it combustion air is fed to the fuel bed by a motor-driven fan.

As hot water is withdrawn, or when there has been a fairly heavy heat loss in the system, the forced draught fan is automatically switched on by a thermostat, and when the required temperature is again reached in the system, the thermostat automatically cuts out the fan motor. By this arrangement a



The 'Trianco' for water and space heating

considerable economy in fuel is obtained, while the consumption of electricity for operating the fan is negligible. The boiler is made by Trianco.

Two new additions to their wide range of appliances are being shown by Copperad. The Jetstream heavy duty Unit Heater has been designed for forced air heating of large areas. Mounted on floor, wall or ceiling or on an inverted mounting and able to swivel through 360 degrees, various sizes give from 250,000 to 1,000,000 B.T.U.'s per hour.

A new fan cooler is particularly noteworthy for the clean, trim lines of its cabinet and all Copperad convectors are now fitted with unobtrusive damper arrangements to facilitate simple and speedy regulation of the heat output.

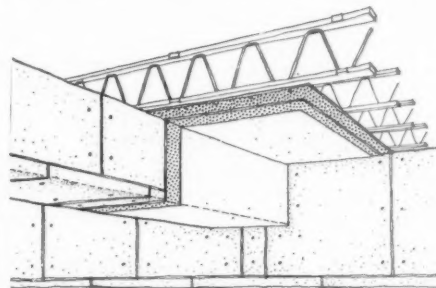
INSULATION

Insulation is a question of vital importance, not only to architects and builders, but also to the general public. Proper insulation will substantially affect the cost of heating buildings and reduce complaints of inadequate sound proofing. From a structural point of view there is the problem of insulating

steelwork against fire. Many ways of tackling these problems will be seen on different stands in the exhibition.

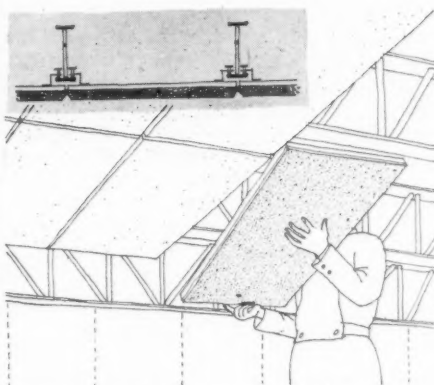
The properties and uses of incombustible asbestos insulation board, known as Asbestolux, will be displayed on the stand of The Cape Asbestos Company, and demonstrations will be arranged to show how this material provides a high degree of fire protection, either as a suspended ceiling or as a casing to steel stanchions under load.

'Asbestolux' board has good thermal insulation qualities, is strong and light, and is not affected by water or steam. It is also immune to attack from termites or mould growth.



'Asbestolux' insulation board by the Cape Asbestos Co.

A wide selection of insulating materials which will include 'Rocksil Quilts,' 'Bonded Rocksil' and 'Rocksil' for sound insulation and acoustic purposes as well as 'Kenercrete'—a vermiculite-based composition for the protection of structural steel against fire—will be exhibited by Meta Mica. Preformed cladding also designed for the fire protection of structural steelwork will be shown.



'Kenercrete' vermiculite based composition board

'Thermalite' in the form of standard building blocks of nominal face dimensions of 18 inches by 9 inches in various thicknesses are strong enough to carry normal floor and roof loads. These blocks, which have a low thermal conductivity, are provided with a dense textured skin which ensures an excellent key for plaster or rendering. They may be seen on the Thermalite stand, which will demonstrate relative heat losses through walls of different types of construction. There will also be a thermal block under compression, demonstrations of the ease of cutting and chasing the material and various types of external and internal treatment for walls built with thermalite blocks.

[continued on page 343]



TIBOR TEXTUREPRINT

A NEW DEVELOPMENT IN FURNISHING FABRICS—"HARVEST" DESIGNED BY TIBOR REICH, F.S.I.A. IN ACID YELLOW AND WHITE DEEP TEXTURE BACKGROUND WITH DARK GREY MOTIFS USING A BLEND OF THE NEW "ARDIL" FIBRE

PRODUCED BY TIBOR LTD.
STRATFORD-ON-AVON.

HORACE HOLME FURNITURE

"PYTHON" CHAIR DESIGNED BY A. J. MILNE, M.S.I.A.

UPHOLSTERED IN TIBOR'S "TIBET".

MADE BY E. HORACE HOLME LTD.,
GT. YARMOUTH

BANBURY CARPETS

"ARAWA" DESIGNED BY TIBOR REICH FOR IAN C. STEELE AND CO., BANBURY. OLIVE GREEN WILTON CARPET WITH WHITE AND MUSTARD MOTIFS



BRITISH NATIONAL ELECTRICS LTD., NEWARTHILL · MOTHERWELL · SCOTLAND



SKILL

Fibre glass used for the structural insulation of houses, factories, etc., and made up in bitumen bonded rolls, and in the form of quilts of different types, may be seen on the stand of Fibre Glass.

A fire-proofed perforated plaster board designed for acoustic purposes will be seen on the Gyproc stand; also Gyplite vermiculite insulating plaster.

A new product known as Murlite, which is a ready mixed plaster containing a light aggregate, will be exhibited by Cafferata. The main qualities of the plaster are ease of application, good fire resistance and thermal insulation, freedom from condensation and greater resistance to cracking. It is recommended for use in two coat work on all wall surfaces and on breeze block.

Another material of interest to be seen on the same stand is a ready mixed acoustic plaster, which is marketed under the name of 'Thistle.' It gives very good sound absorption at a low cost, as well as being durable and easy to apply, either to flat or curved surfaces.

JOINTING AND SEALING COMPOUNDS

This is a field which presents frequent problems to both architects and civil engineers and many notable developments have taken place in recent years. A good deal of valuable information should be gained by visiting the stands of Expandite and Secomastic, whose various sealing compounds have so many applications.

Expandite are placing main emphasis on materials for joints in concrete structures, prefabricated timber buildings and roadways. Aerolastic is a hot-poured compound chiefly intended for concrete runways which must withstand the fierce heat of jet aircraft engines, and for concrete floor joints in factories, garages, etc., where resistance to solvents is essential. A rubber-bitumen compound, R.B. 200, extruded in strip form is for insertion between bolted concrete slabs, pipes and sectional timber structures.

Evolved originally for the exclusive use of the makers of certain prefabricated buildings, the Secomastic products now meet many requirements of the building industry and practical applications will be demonstrated on this firm's stand.

KITCHEN AND BATHROOM EQUIPMENT

Now that there is so much well-designed kitchen and bathroom equipment on the market, it is not always easy for the architect to make a choice. For this reason W. N. Froy are making a special feature of planned kitchens. These have been arranged using standard components chosen from six makes of kitchen equipment. They will also be showing a series of planned bathrooms.

Particular attention will be focused on fitted kitchen furniture by Staines Kitchen Equipment, who will be showing different ways in which their standard units can be arranged.

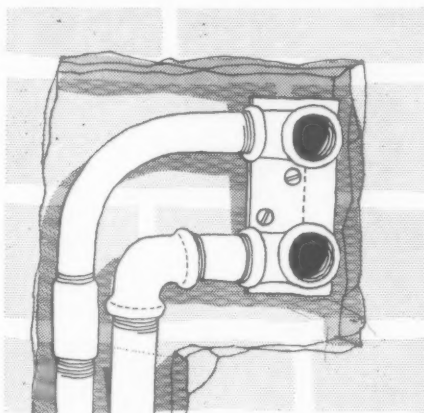
Other kitchen fittings made to the standards laid down by the English Joinery

Manufacturers' Association, and by the British Standards Institution will be seen on the stand of Sharp Bros. & Knight, and a complete bathroom in colour, and two alternatives in white, as well as a new range of lavatory equipment designed for schools will be exhibited by Ideal Boilers & Radiators.

The Gas Council will be featuring models and plans of some of the latest housing developments in all parts of the country, including the new towns, modern estates, large blocks of flats, and their adjuncts community centres, schools and communal laundries. They will also show examples of the latest gas equipment for cooking, refrigeration and for laundry work.

Ascot's stand is always interesting, and this year will be no exception. Emphasis will be laid on the Ascot 715 balanced flue multi-point instantaneous gas water heater, and on the Ascot jugged wall fitting.

This fitting is being installed in increasing

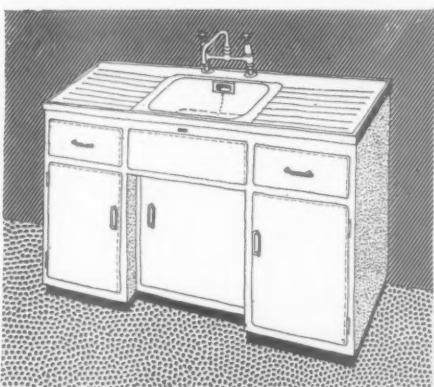


The Ascot jugged wall fitting

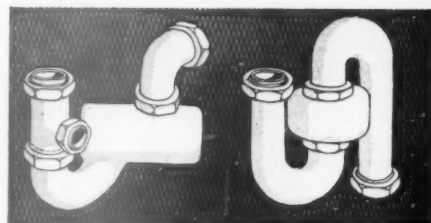
quantities by Gas Boards, and is saving housing authorities and tenants a considerable amount of money when sink heaters are put in after the building has been erected. The fitting is incorporated in the construction of the wall, and is concealed by a small cover plate until required.

For plumbing and heating installations copper tubes have many advantages, and a typical layout is illustrated in a transparent house model exhibited by the Copper Development Association.

Articles of plumbing equipment are too numerous to deal with in detail, but mention should be made of a new re-sealing trap which

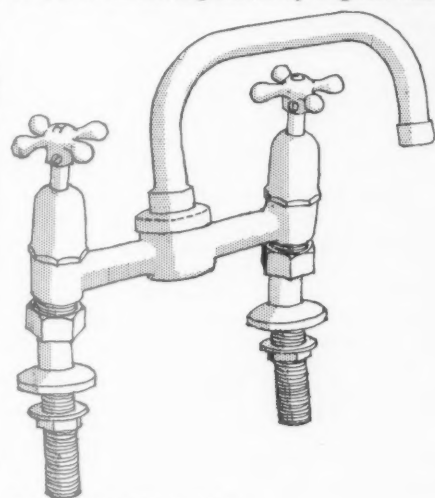


One of the standard Staines kitchen units



The new resealing trap by Econa Modern Products

is being shown for the first time by Econa Modern Products, and of the 'Prestex' dual flow sink fitting shown by Peglers. This



The 'Prestex' dual flow sink fitting

fitting has been approved by the British Water Works Association, and by the Metropolitan Water Board, and can be fitted direct to mains, a practice normally forbidden by Water Authorities.

PAINTS AND RENDERINGS

During and since the war a great deal of research has been carried out with the aim of improving the qualities of paints. Most people rarely bother to find out if there is any difference between one paint or another, but merely regard paint as a material for covering a surface with an attractive finish or as a method of protecting wood or metal against weather and damp.

Architects should make a point of visiting the stands of several paint manufacturers who will be exhibiting in this year's exhibition. The special characteristics of plastic emulsion paints should be studied. Blundell Spence & Company will be showing an entirely new surface treatment for exterior and interior decoration known as Panmastic, which consists of a plastic emulsion coating with a plasticized Polyvinyl Acetate base. It has the appearance of a flat oil enamel, and can be applied direct to new plaster and cement. It needs no primers or undercoats and allows moisture in new plaster walls to dry out through the paint film without damage to the paint's appearance.

Other advantages of this new paint is that it dries in one or two hours, is free from any objectionable smell and gives very good adhesion.

Duresco Products will be making an effort

to show diagrammatically by means of panels the qualities of their four main wall finishes on widely different types of surfaces, information normally only available in tabular form.

Another demonstration will illustrate the effect of varying degrees of light reflection in the firm's standard range of flat finishes. These will be set up with shades arranged for inspection in their relative positions in the light reflection table. One of the most interesting exhibits on this stand will consist of a block of paint, at least an inch thick, which depicts many coats applied over the course of years. This exhibit emphasizes the fact that Duresco paints may be applied coat upon coat without fear of flaking or disintegration.

In addition to their normal paints Charles Turner & Son will be exhibiting their 'Charterplast' plastic emulsion paint, 'Charter' enamel wood primer, their metallic rust-proof paint and their liquid stone paint.

Liquid cement water-proofers, concrete surface hardeners, concrete curing components and anti-freezing materials will be exhibited by Tretol, who will also be illustrating special paint systems for protecting steel work against corrosion caused by acid and alkali attack, or by exposure to marine conditions.

Water-proofed specimens of rough cast, distemper, cement work, wood, wall boards, canvas, etc., will illustrate the effect of a water-proofing solution, Grade 1210, which is being exhibited by Grangersol. This solution may be brushed or sprayed on to any wall damp or dry, inside or out. Another water-proofing process, Solution Grade 125, consists of a transparent proofing containing a filler which provides protection for walls exposed to gales.

Architectural metal work such as steel casements, metal trim, iron door furniture, etc., rustproofed by the Sherardizing process will be shown on the stand of the Zinc Alloy Rust-Proofing Company, who specialize in carrying out this process for the manufacturers of metal building components. The stand will take the form of a technical information bureau providing full particulars of the process, and details of the many uses to which it may be put in the building industry.

PARTITIONS

Useful means for saving floor space, time and money are promised by the 'Wall Span' curtain walling, which is being exhibited for the first time by Williams & Williams. This is a flexible method of prefabrication which gives an architect scope for the use of glass and other light infilling materials.

Construction is based upon a system of mullions and transom members, which are carefully machined to length from hollow extrusions specially designed for lightness and strength. Mullions are available in three sizes to cover vertical spans up to 20 feet, without intermediate support. The mullions and transoms are completely fabricated in the factory to the drawings and requirements of architects.

The walling is erected independently of the main columns, and is supported by the floors of the building. This is particularly advan-

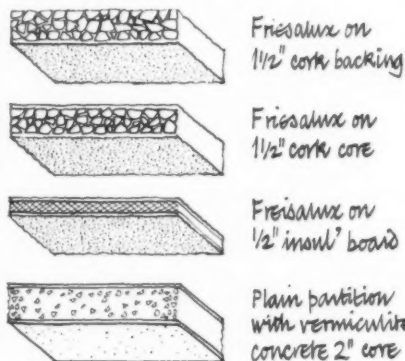
tageous where a cantilevered type of floor construction is used. Fixing to the floor is by special brackets and rawlbolts. Expansion and contraction in both mullions and transoms is provided for by means of spigot supports upon which the members slide. All joints are weather-proofed by mastic which is not affected by normal movement or climatic conditions.

In these days when the high rent of floor space makes it necessary in some cases to divide up a large area into small rooms for use as offices, etc., light partition materials can be used to great advantage. Plaster partitions and suspended ceilings will be seen on the stand of the Expanded Metal Company, using for background their BB expanded metal lathing for the partitions, and their new Rib-lath expanded metal for the ceilings.

Other developments shown on the stand are flattened 'Expamet' with a smooth, flat surface, and safe-mesh 'Expamet' with no rough edges. Both are suitable for open partitions and balustrading as well as for open mesh panels. 'Expamet' is also made in anodized aluminium which makes it particularly suitable for decorative use.

Partition panelling will be a special feature of the William Mallinson exhibit. The production of plywood in a very wide variety of forms has always been a Mallinson speciality, and their present range, which includes impregnated plywood, compressed plywood, curved plywood and 'Armourply' metal covered plywood, is extremely comprehensive. Their exhibit will also include examples of decorative wood veneers applied to metal surfaces. If you are looking for a low-cost material 'Lydneyboard' should interest you.

An entirely new series of partition panels, designed for use in schools, factories, offices, lavatories, etc., has been developed and will be shown by John Ellis & Sons. These are composed of a sandwich of various insulating materials between two sheets of hardboard



in sizes of 4 feet by 4 feet and 8 feet by 4 feet, and are shown in conjunction with samples of Frieslux finishes suitable for bath or wall panelling.

For long there has been a demand for a low cost lightweight dry partition involving the minimum of labour on the site. After much research and experiment the 'Paramount' dry partition consisting of two plaster wall-boards, separated by a fibrous interior in the form of square cells, has been produced by British Plaster Board. These partition boards,

which form rigid constructional units resistant both to fire and vermin, are obtainable in standard sizes of 7 feet 6 inches by 3 feet and 8 feet by 3 feet with thicknesses of 2 1/4 inches or 2 1/2 inches, according to the thickness of the facing boards. Other forms of plaster board, and a new system of roof and wall insulation known as the 'Paraclip' system, will be shown on this stand which will, in fact, be an information centre for all matters relating to the use of gypsum plaster.

ROOFING

Now that supplies of copper are no longer restricted, its use in building is becoming more widespread. The fact that the metal resists corrosion and requires no maintenance makes it particularly suitable for all types of roofing, flashings and weatherings and for other rain-water purposes.

The Copper Development Association, who will be demonstrating uses of copper in the construction of their stand, will also display models illustrating the ease with which copper sheet and strip may be shaped and jointed for use on pitched and flat roofs.

A new aluminium roof decking known as the Anderson Aluminium 'E' Decking will be shown in the form of a canopy over the office on the stand of D. Anderson & Sons.

A two-tier stand showing the full range of their products, under working conditions, has been planned for the Ruberoid Company, the second tier being designed to demonstrate the use of Ruberoid steel and aluminium decking. Mineral surface roofing and strip slates in a number of different colours will also be exhibited with some of the lesser known Ruberoid products, such as bituminous mastics and compounds, as well as Ruberoid jet and fuel resisting expansion jointing.

Curved corrugated Perspex sheeting, which is made in various radiuses to suit the curve of the roof for which it is required, will be shown for the first time by Imperial Chemical Industries. They will also be exhibiting Perspex lantern domes for flat roofs—another new development in the use of this material in building.

The stand of W. H. Heywood, of Huddersfield, will show their system of roof glazing, based on lead-clothed galvanized steel and aluminium alloy bars, with its variants of vertical, double glazing and opening lights, roof lights, etc. This firm also tackles the related problem of heat losses, and their thermal insulation systems for both roofs and walls are also demonstrated.

With copper roofing finding increasing favour in housing design, as well as in the larger scale applications, the stand of Holloway Metal Roofs should be worth a visit to see examples of copper and zinc roofing for both flat and sloping roofs, and a collection of photographs illustrating various types of buildings recently roofed.

Mainly concerned with showing the versatility of asbestos cement sheeting in its various forms, the stand of Turner's Asbestos Cement Co. will draw particular attention to two recent products in the 'Everite' range, 'Doublesix' corrugated roofing sheets, with

[continued on page 346]

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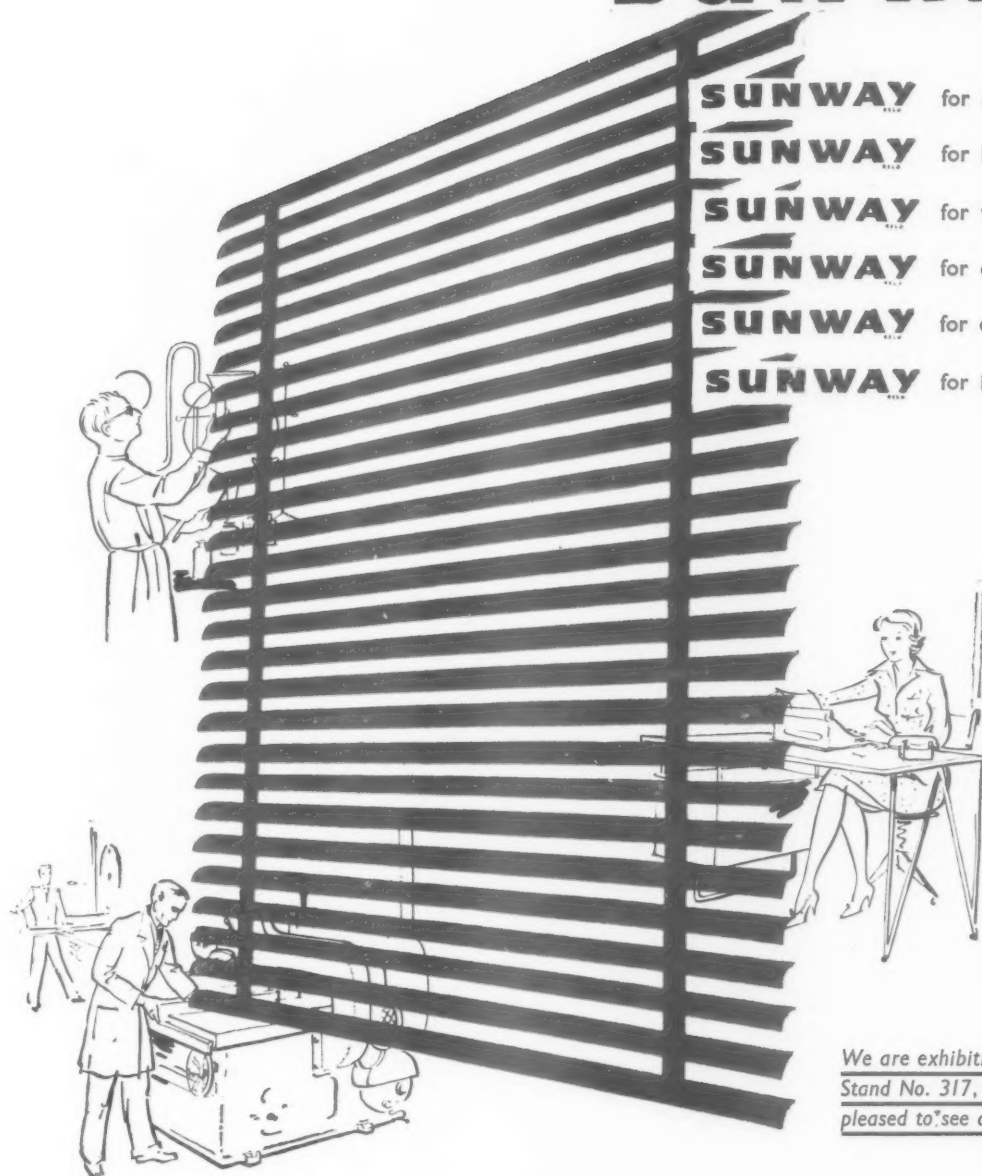
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continued from page 344]

high tensile steel wire reinforcement contributing to an exceptional strength, and panel sheets of distinctive texture for exterior wall cladding.

TIMBER AND TIMBER PRODUCTS

Much space in the exhibition will be devoted to wood-working machinery, ranging from the largest equipment for a complete saw mill down to small hand-powered tools, which are being used in increasing quantities.

Apart from the machinery section a great deal of valuable information covering the characteristics and uses of timber in the building industry will be available on different stands, as well as problems of preservation of timber, and control of termites and fungi.

The new system of rigid frame construction using lengths of solid timber connected by steel joint plates and timber connectors will be demonstrated by the Timber Development Association in the form it would take if incorporated in a church or village hall. Among other points of interest on this stand will be the Association's developed system of house construction utilizing thinnings which are becoming available in increasing quantities; a suspended ground floor for housing and the type B trusses designed to take suspended ceilings of spans ranging from 25 feet to 45 feet.

The preservation of timber and window frames by the pressure method will be explained with the aid of a new 16 mm. colour and sound film entitled 'Timber for To-

morrow,' which will be shown on the stand of Hickson's Timber Impregnation Company.

Facts concerning the decay of wood and the damage caused by wood boring insects will be found on the stand of the Department of Scientific and Industrial Research, and also on the stand of Rentokil, who will be exhibiting special injectors produced for the building trade to assist in the eradication of wood worm. Two interesting films, 'Wood Worm' and 'Dry Rot,' lasting 15 minutes each, will be shown by Rentokil.

Many people now realize the importance of subcontracting to specialists the highly important work of dealing with all matters relating to the decay of timber. A special servicing organization has been set up by Wood Worm and Dry Rot Control who will be taking part in the exhibition. They employ entomologists, mycologists, chemists, surveyors and building experts, and are prepared to survey and report on any building and carry out whatever work is required in treating timber against insects and wood-rotting fungi.

WINDOWS, DOORS AND FITTINGS

Most architects are already aware of the wide range of standard metal and other windows produced by the leading manufacturers. These will, as usual, be employed in the construction of their stands at Olympia.

Architects will be particularly interested in the 'Allday' sliding picture window which has been in production in Australia for some time, but which is new to the home market.

This is made up of panels of $\frac{1}{4}$ inch plate or $\frac{3}{8}$ inch drawn glass held in a double hard alloy channel at the top. At the bottom there is a further double channel in which stainless steel ball-bearings are held. On these the panels slide easily, the surplus water draining over the lower outside edge of the channel. These windows will be shown on the stand of Sharp Bros. & Knight.

The new system of 'Wallspan' curtain walling already described will be used for the main structure of Williams & Williams's two-tier stand. Examples of their steel and aluminium windows will be arranged as infilling materials for this curtain walling. Other interesting features of the stand will be the Teleflex system of gearing for operating top-hung windows; specimens of Aluminex Patent Glazing and a number of models including a suite of six Roften toilet cubicles.

A range of vertical patent glazing 20 feet high and 14 feet wide, constructed with a new aluminium glazing bar and clear plate glass, will form the main feature of Henry Hope's stand. Hand and electrically operated tension gear controlling continuous opening lights will be incorporated.

Among other exhibits will be a section of continuous window façade in extruded aluminium extending over two storeys; a combined window and jalousie designed for tropical and sub-tropical climates, and a display of steel door frames and components.

Standard windows for housing finished by the hot-dip galvanize process, purpose-made windows, pressed steel door frames, etc.,

[continued on page 348



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Architects : F. R. S. Yorke, E. Rosenberg and C. S. Mardall, in association with F. W. B. Yorke and H. M. Barker.

New School at Oldbury

THE Causeway Green County Primary School, illustrated above, is yet another example of the many fine buildings recently completed with BISON Prestressed. Since the war, BISON has been specified for more than 1,000 new schools—an achievement of which we are proud.

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Lichfield 2404

FALKIRK
Etna Road, Falkirk.
Falkirk 1585

EDINBURGH
Sighthill Industrial Estate,
Edinburgh
Craiglockhart 1729

continued from page 346]

will be incorporated in the stand of the Crittall Manufacturing Co. An exhibit of special importance will be the new standard metal window with pressed steel outer frame providing all the advantages of a subframe or wood surround. Another new exhibit will be the 'Solomatic' venetian blind which may be fitted inside or outside a window. A single control raises, lowers and tilts the flexible radiused aluminium slats.

A new version of the double-hung sash made from extruded sections will also be shown on the Crittall stand as well as a number of products designed primarily for use overseas. These will include verandah screens, aluminium sunbreakers, standard doors fitted with an aluminium flyscreen and movable steel and glass louvres in rolled steel and pressed steel outer frames.

Burglars seem to find little difficulty in obtaining access to buildings through windows. To meet this situation a new lock specially designed for metal windows has been produced by Chubb's, who will also be exhibiting a model of a medium-sized house illustrating the application of their master key system.

Two of the most interesting things to be seen on the Pilkington stand will be the latest pattern 'Armourplate' glass door and the new 'Armourcast' standard glass door. The former will be shown fitted in an all 'Armourplate' glass surround. Uninterrupted vision and a sense of space are obtained by this method, which eliminates the transom or portal frame. New 'patch' fittings simplify the fixing of these doors, and will soon be

available in modified form to enable glass fins to be incorporated as bracing, thereby making it possible to increase the size of openings.

The 'Armourcast' door has been designed for interior use where borrowed light has to be combined with adequate privacy, as in the case of hospitals, offices, hotels and flats. These standard doors are made 78 inches high by 30 inches or 33 inches wide in $\frac{3}{4}$ inch rough cast toughened glass. A 'Champion' door check and closer, butt hinges, a lock and so on are provided with each door.

Three new applications of the Esavian principle of sliding and folding doors will be seen at the exhibition. A heavy duty aluminium door of medium size suitable for bus garages and industrial purposes; a standard draught and weatherproof aluminium glazed loggia door with concealed fittings designed for openings of 9 feet by 7 feet and an economical internal domestic screen based on leaves of British Standard size with the Esavian sliding pilaster.

An entirely new design of hand-operated upward lifting door, 8 feet by 7 feet in size, is being introduced by the Bolton Gate Co. A similar door 16 feet wide will be exhibited. This door is worked by electricity and controlled by special floor switches in such a way that a garage can only be used by one particular motor car fitted with a complementary part of the door's switch-gear.

Quantity-made doors sold complete with fittings are a boon and make for economy on large scale contracts. Gliksten's exhibit will show their Mark 9 and Mark 10 doors which

are now marketed with quality furniture made by Evered and fitted with Yale locks or with latches.

Woven Furnishing Textiles: Correction

The author of the article *Woven Furnishing Textiles* in the October issue was incorrectly given as O. S. Sutherland. This should have read O. S. Sullivan.

CONTRACTORS etc

House at Otham, Kent. Architect: Brian Peake. General contractors: G. E. Wallis & Sons. Sub-contractors and suppliers: Electric: G. E. Wallis (Electrical) Ltd. Heating: Dulrae Ltd. Electric water heaters: Aidas Electric Ltd. Metal windows: Williams & Williams Ltd. Bricks: Medway Valley Brick Co. Bricks for fireplace: Stonehenge Brick Co. Stone: A. H. Hooker & Sons. Roofing contractors: D. Anderson & Sons. Kitchen floor: Semtex Ltd. Sanitary fittings: W. N. Froy & Sons. Door furniture: A. J. Binns Ltd. Venetian blinds: J. Avery & Co. Double glazing: Pilkington Bros. Sliding door gear: Silent Gliding Doors Ltd. Wallboard ceiling: Merchant Trading Co. Marble flooring: Art Pavements & Decorations Ltd.

House in Bedfordshire. Architect: Macfarlane Widdup, of Peter Dunham, Widdup & Harrison, Luton. General contractors: B. F. Parish. Sub-contractors, specialists and suppliers: Hot water engineers and plumbing: Frank Moody & Co. Drive and external works: F. Nodder & Co. Roof slabs: Stramit Boards Ltd. Roof covering: Standard

[continued on page 350]

This Cistern successfully applies contemporary Industrial Design to Sanitary Engineering

THE 'LYNX' is available in high and low level models, capacities 2, 2½ and 3 gallons. In the glossy black Duranite finish there is a reversible side lever, a sensible and important feature that cuts out the need for duplicate stocks. The 'LYNX' is available also in WHITE and COLOURED ware. Fixing brackets are entirely concealed. The powerful flush syphon conforms to B.S.S. 1125 and to Water Works Specifications.

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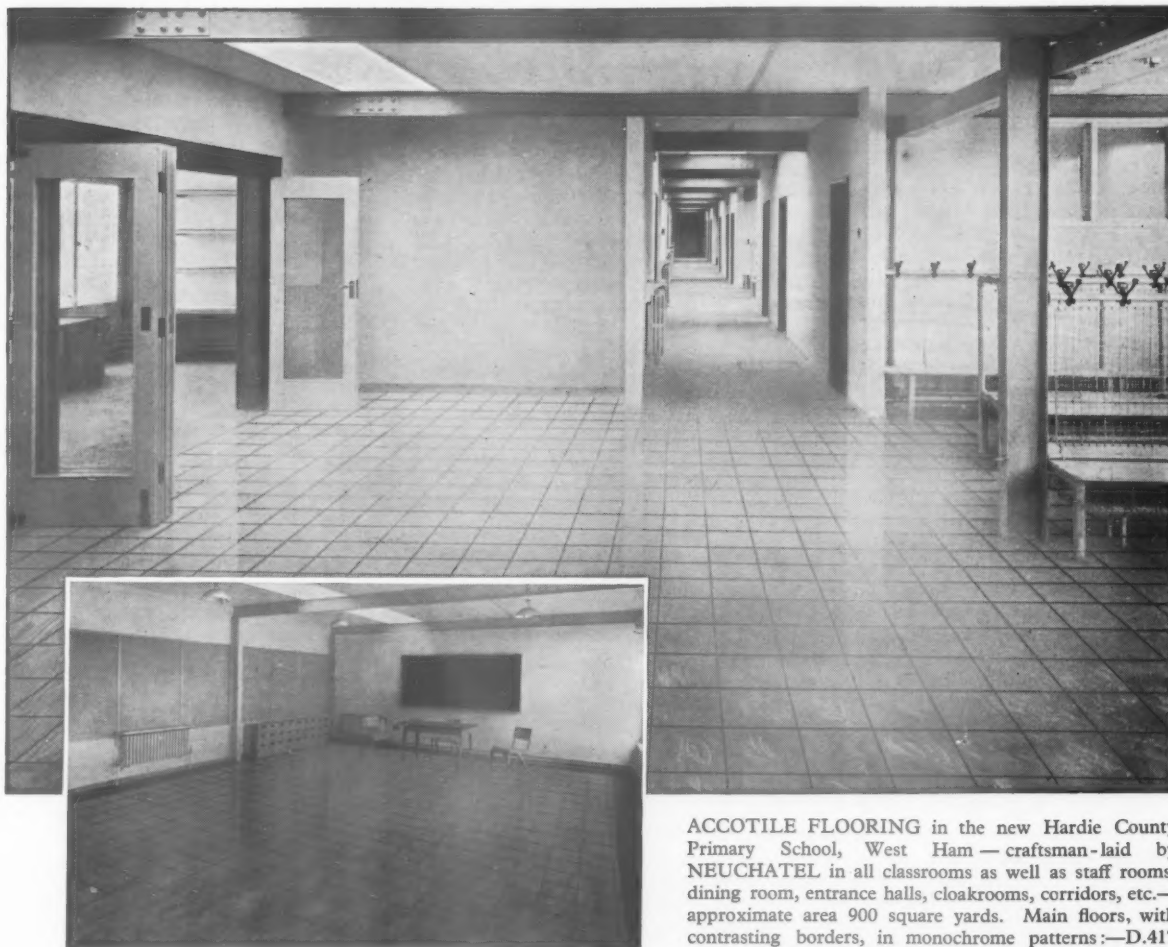
Specified by Leading Authorities, the 'LYNX' Cistern is Patented, Registered, and is covered by full Guarantee. It is made by the largest manufacturers of Moulded Cisterns in the country, who also make W.C. Seats and Flush Pipes. Full details of all SHIRES productions are available from the manufacturers (Division G).



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continued from page 348]

Flat Roofing Co. *Sanitary fittings*: Gibbs & Dandy Ltd. *Door furniture*: Dryad Metal Works Ltd. *Flooring, cork and acotile*: Gabriel Wade & English. *Heating boiler*: Crane Ltd. *Paint and 'Synflat'*: Smith & Walton Ltd. *Metal windows*: Crittall Mfg. Co. *Electric wiring*: R. Clark. *Wallpapers*: John Line & Sons; Arthur Sanderson & Sons ('Early Bird' designed by Sylvia Priestley; 'Mexico' designed by Armfield Passons). *Acoustic tiles*: Merchant Trading Co. *Garage door gear*: Acrow (Engineers) Ltd. *Sliding door gear*: E. Hill Aldam & Co. *Venetian blind*: J. Avery & Co. *Dining furniture*: Bowman Bros. Ltd. *Chairs* (designed by Robin Day): S. Hille & Co. *Table*: Gordon Russell Ltd. *Lounge fire*: 'A.B. Fires,' Federated Sales Ltd. 'Homer' boiler: The Interoven Stove Co. *Stone—York*: Low Giddings Ltd. *Stone—Cotswold*: Demolished Barn, Milton-under-Wychwood. *Bricks—Facings*: Chesham Brick Co. *Quarry tiles*: Dennis Ruabon Ltd. *Hardwood beams*: West African—Aback. *Light fittings, shelf units and plant box*: Made by the Architect and J. P. R. M. Tucker. *Curtain fabrics*: David Whitehead Ltd. (designed by Terence Conran and Marian Mahler).

Works Canteen in Middlesex. *Architects*: Leslie Gooday and C. Wycliffe Noble. *General contractors*: Janes (Builders) Ltd. *Sub-contractors*: *Steelwork*: Fabrication: Concrete & Structural Products Ltd. *Erection*: Richard Abel Ltd. *Floors*: Hollis Bros. Ltd. *Roof covering*: Permanite Ltd. *Asbestos roof panels*: Turners Asbestos Cement Co. *Windows, special*: James Couper & Co. *Windows, standard*: Ideal Casements Ltd. *Lighting installation*: Troughton & Young Ltd. *Lighting fittings*: Merchant Adventurers Ltd. *Heating, ventilation*: Matthew Hall & Co. Ltd. *Paints*: International Paints Ltd. *Special paving*: Standard Pavements Co. *Sanitary fittings*: Adamsez Ltd. *Door furniture*: Alfred G. Roberts Ltd. *Clocks*: Baume & Co.

Landscape gardening: Winkfield Manor Nurseries. *Sun blinds*: J. Dean. *Special metal counter brackets*: Universal Metal Furring & Lathing Co. *Counter top*: Waverite Ltd. *Furniture*: Primavera Ltd. *Metal chairs*: South Bank Exhibition.

Health Centre at Woodberry Down Estate, Green Lanes, Stoke Newington, N.16. *Architect*: Robert H. Matthew. *Senior architects (General Division)*: W. J. Durnford and A. E. Miller; *Mechanical and electrical services*: J. Rawlinson. *General contractors*: Tersons Ltd. *Sub-contractors*: *Aluminium alloy loft ladder*: Loft Ladders Ltd. *Steel doors*: Haywards Ltd. *Ironmongery*: Lockerbie & Wilkinson (Birmingham) Ltd. *External blinds*: Tidmarsh & Sons. *Wall tiling*: Parkinsons (Wall Tiling) Ltd. 'Semastic' tiling: Pilkington's Asphalte Co. *Composition flooring*: Granwood Flooring Co. *Terrazzo*: Malacarp Terrazzo Co. *Sanitary fittings*: Dent & Hellyer. *Wood strip flooring*: Stevens & Adams Ltd. *Rubber flooring*: Lewis Gilder & Co. *Brick-colour surfacing*: The En Tout Cas Co. 'Rapid' precast floors: The Rapid Flooring Co. 'Myko' roofs and canopies: The Artificial Stone & Concrete Co. *Fireplaces*: Bratt Colbran Ltd. *Reconstructed stone and precast concrete*: Wettern Bros. *Joinery*: Rippers Ltd. *Floor and wall tiling*: Harradine Rouse & Co. *Paving stones*: Noelite Ltd.

Primary School at Oldbury, Worcestershire. *Architects*: F. R. S. Yorke, E. Rosenberg and C. S. Mardall, in association with F. W. B. Yorke and H. M. Barker. *Associate-in-Charge*: T. R. Evans. *Assistant-in-Charge*: J. G. Fryman. *Consultants (Structural)*: Clarke, Nicholls & Marcel. *(Heating)*: Oscar Faber & Partners. *Quantity surveyor*: Oswald Wainwright. *General contractors*: Edgar Crowder Ltd. *Sub-contractors*: *Venetian blinds*: J. Avery & Co. *Roofing and tanking*: William Briggs & Sons. *Chimney and water tank*: Chimneys Ltd. *Cloakroom equipment*: Clark Hunt & Co. *Prestressed precast roofing*: Concrete Ltd. *Playground and road pavings*:

Constable Hart & Co. *Specialist joinery fittings*: Educational Supply Association. *Electrical installation*: Etna Lighting & Heating Co. *Cast iron shoes*: Gasel Ltd. *Classroom floors*: Granwood Flooring Co. *Roller shutters*: Haskins Rolling Shutters. *Assembly hall steelwork and roof*: Hills (West Bromwich). *Metal door frames*: Henry Hope & Sons. *Concrete tiling*: Jaconello Ltd. *Hornton stone*: London & Sussex Merchants. *Fibrous plaster*: H. H. Martyn & Co. *Meta Mica spray ceilings*: Meta Mica Ltd. *Handrails and railings*: Mountford Bros. *Bricks*: London Brick Co. (common); Richard Parton (Uxbridge flint lime bricks); Himley Brick Co. (external facing bricks); Titford Brick Co. (engineering bricks). *General ironmongery*: Rennis Ltd. *Wall tiling and tank tiling*: Carter & Co. (suppliers), fixed by R. G. Robertson (Tiles) Ltd. *Heating installation*: Rosser & Russell Ltd. *Flush doors*: Saro Laminated Wood Products Ltd. *Gloss and flat paints*: Parsons & Sons. *Flat internal and external paints*: Screeton Paintmakers. *Steel reinforcement*: Square Grip Reinforcement Co. *Sanitary fittings*: Stitsons Sanitary Fittings Ltd. *Lamp posts*: Tarslag Ltd. *Aluminium lavatory partitions*: Venesta Ltd. *Wood block floors*: Vigers Bros. *Metal windows and doors*: Williams & Williams Ltd. *Wood wool slabs*: Stella Building Products Ltd.

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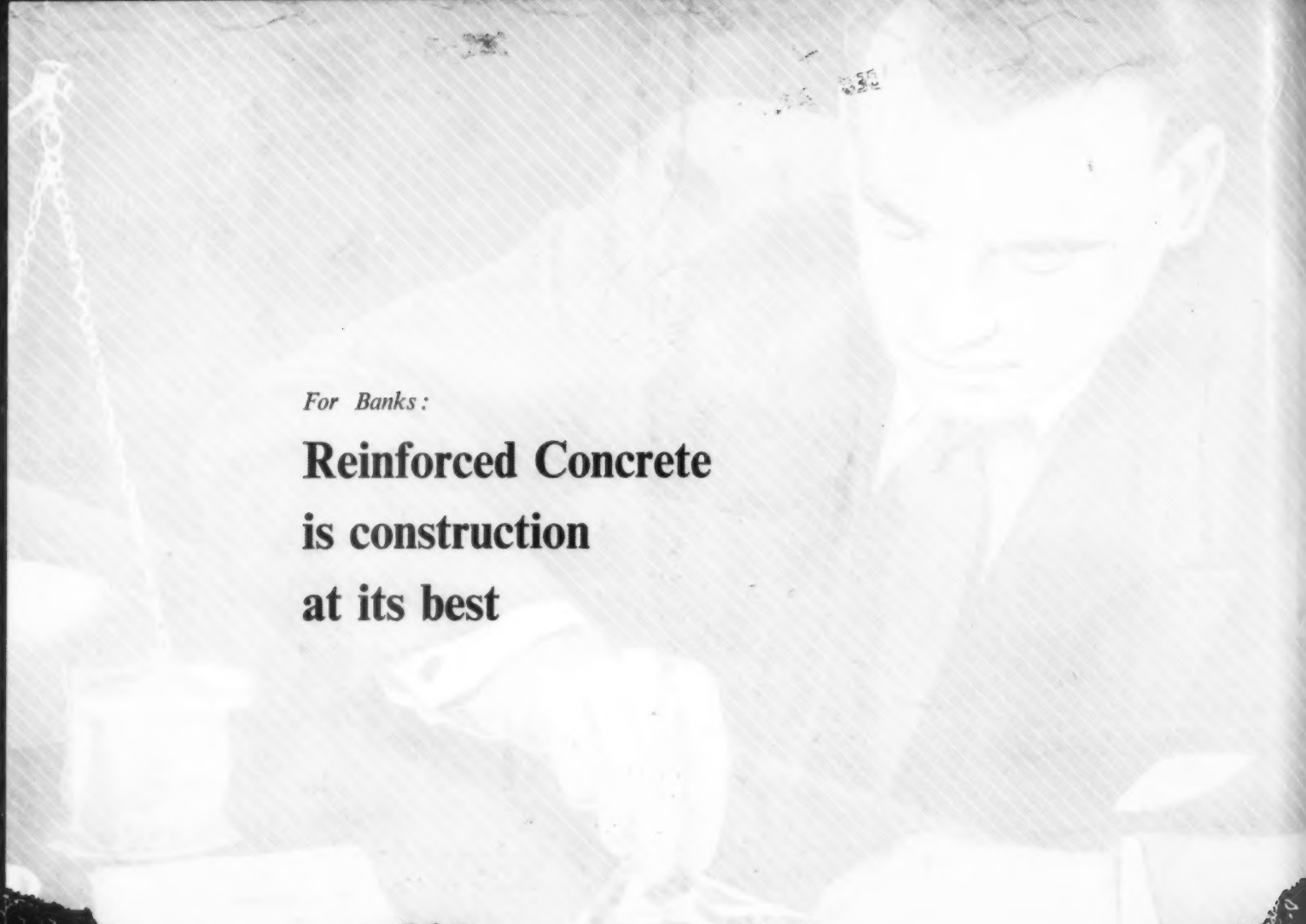
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