



THE ARCHITECTURAL REVIEW VOLUME CXX
NUMBER 715 AUGUST 1956 FIVE SHILLINGS



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MARGINALIA

SGI VERNACULAR. Though less publicized than INA-Casa, the *Società Generale Immobiliare* (SGI) and its numerous *ad hoc* dependencies, is at present the busiest semi-public finance company in Italian building, and is responsible for much of the apartment house construction that goes to build up the picture of a new Italian vernacular that the visitor carries away from cities such as Rome. The quality of SGI-financed architecture is inevitably variable, but the average of recently completed work, as illustrated in the



4, 5, 6

Società's 1956 report, is remarkable. Fair examples are the *Piazzale della Balduina* development, 3, and flats in the *Via Trionfale*, 4, both in Rome; flats in the *Viale Campania*, 5, Milan; and, in the subsistence-rental bracket, the *Via Falsesia* development in Rome, 6. The showpieces of SGI's recent work are undoubtedly the *Balduina* development, and the spectacular star-block scheme at *Vigna Clara*, 1. Now more than three-quarters completed, this latter will comprise, as the plan, 2, shows, three star-blocks, one point-block, a chapel, a commercial block with shops under, swimming pool and sports facilities, set in a luxurious and spectacular garden, and enjoying equally spectacular views of Rome.

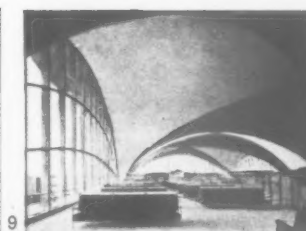


Bilancio 1955

CAVALIERI-HILTON, ROME. Few Hilton Hotel projects can have had so stormy a reception as that for Rome, where anti-American political sentiment combined with urbanistic alarm at the choice of site to produce



8



strong resistance to the whole scheme. After some hard bargaining, however, between IANA (the sponsoring company, a co-dependency of SGI and Hilton Hotels International) the necessary waivers to the Rome master-plan were conceded by the City's town-planning commission on a majority vote. There, however, the scheme appears to have run aground again, a sub-committee having temporarily reversed the decision and there has been no further action except that SGI (*Società Generale Immobiliare*) have at last published drawings of the project. The present state of the design (the unpublished first state was abandoned in the face of urbanistic opposition) is the work of Lucciamenti, Pifferra and Ressa, and is an indented ten-storey block, following the contour of the site, 7, with the fashionable 'missing' floor at the sixth. The plan of the site on the Monte Mario, 8, shows that the original town-planning objection still stands—the hotel is still too close to the church of the *Madonna della Rosaria*, but its new form is felt, apparently, to be less self-assertive than the first project.

U.S. CHANCERY IN LONDON. The modified version of Eero Saarinen's prize-winning design for the new U.S. Chancery building in Grosvenor Square, 11, is thought to represent closely the design which will be built. With all its external structural elements faced in Portland stone, the new design is still symmetrical in plan, but the main floor has been recessed and increased in height, thus giving a clearer architectural division between the public rooms and the offices which occupy the four floors above. The parapet of



the highest floor has now been set back from the façade line, and has become, in fact, simply a screen wall to hide the lift machinery and other roof-top impedimenta. Estimated cost is now outside \$4,000,000, work is expected to begin this autumn, and may take more than five years to complete.

AIRPORT CONCOURSE. Unlike most contemporary airports, whose dominating architectural features stem from the multi-level circulation by which bags and travellers are processed (AR, July, 1955) the new buildings at St. Louis emphasize the covering rather than the circulation.



Architectural Record

The architects, Hellmuth, Yamasaki and Leinweber, have housed all handling facilities under three giant concrete cross-vaults, 9, which shelter the upper, land-side concourse. Passengers go out to the apron by a covered walkway (finger), which starts a floor lower than the concourse, and baggage trucks circulate a floor lower again, at apron level, 10. The architectural effects under the great vaults are almost without parallel in recent American architecture, and it is not surprising to learn that they have earned Yamasaki a First Honor Award from the AIA.

Soane Drawings at Kenwood

For the first time in the history of the Sir John Soane's Museum drawings of the master have been allowed, by special Act of Parliament, to leave their home in Lincoln's Inn Fields. Since Soane's house, which must by his wish be left unaltered, is too full to allow any display of its multitude of drawings this emigration has given the public a rare opportunity of seeing them. At Kenwood one can now walk through the whole landscape of Soane's *œuvre*, as it were, and enjoy his buildings singly and together, for far from being highly technical plans, sections and elevations, the drawings on exhibition are large watercolours, giving a three-dimensional view of the intended building in such a way that at

first glance they look like records of a building rather than designs for one. By this method Soane's aesthetic and artistic intention becomes much clearer: each building is set into its context; i.e., town or garden, with the light and shade distributed according to the architect's ideas. Although these designs were mostly not by Soane's hand but done by his assistants, no doubt they expressed his wishes.

A most revealing feature of the exhibition is the way it illustrates Soane's manner of lighting: the sources of interior lighting are, wherever possible, concealed or in diverse and unexpected places, transforming the seemingly cold and hard neo-classical architecture into



picturesque mellowness. To give a few examples: the '3 per cent Consols Office' windows behind a screen of columns, as though in a Gothic cathedral behind the triforium; the complex ceiling in the new Law Courts; the cellar-like appearance of the vestibule in Bentley Priory lit by stained glass windows; the lack of any visible light source in rooms in Aynho Park; the deep shadows on the façade of his own house, brought about by the double skin.

The drawings fall into two parts: Soane's own buildings and London buildings of the seventeenth and eighteenth centuries, many now destroyed, drawn by his workshop; e.g., Adam's *British Coffee House* in Cockspur Street, *The Courier Office* in the Strand, an 'early' Egyptian example, Burlington House and Carlton House. Soane must also have been the first architect interested in street furniture; there is a sheet with six different lamp-posts, and two with a pump-cum-lamp-post.

The exhibition, which is explained in a detailed and most excellent catalogue by Dorothy Stroud, will remain open until September.

Homes of the Academy

Several proud owners of eighteenth-century houses in London have of late brought out well produced pamphlets to tell and illustrate the story of their houses (Boulton & Paul, 41, Stanhope Gate; Royal Worcester China, 30, Curzon Street; Pilkington Brothers, Selwyn House; Consolidated Zinc Corporation, Ely House, Dover Street). The Royal Academy has joined them and its librarian, Mr. S. C. Hutchison, has indeed much to say and much to show.

The Royal Academy started life in 1768 in Pall Mall. The schools and administration then moved to Old Somerset House, and when Somerset House was rebuilt by Sir William Chambers, whose share in the creation of the academy had been great, the academy was given new and much enlarged quarters in the Strand range. The rooms are still there, although deprived of their former glamour. Access is from the gateway, by turning right. In 1836 the academy moved into Wilkins's building for the National Gallery, occupying its east half. But the gallery soon needed all the space and so, finally, in 1868, the academy entered its present home, Lord Burlington's house, built for him about 1715-16 by Colen Campbell, and the first purely Palladian house in London. By the time Sydney Smirke had finished with the exterior, it was no longer so pure, but more of the original building survives in the present façade than most people realize. One of Mr. Hutchison's illustrations shows the old front, another Smirke's drawing for the new.

The text of the pamphlet also takes in the development of the north side of the building and the Burlington Arcade. The history of the interior of Burlington House is extremely complicated; and Mr. Hutchison unravels it admirably. The pamphlet is called *The Homes of the Royal Academy* and can be bought for 2s. 6d.

St. Paul's

The Holford scheme for the precincts of St. Paul's Cathedral has been approved in principle by the City of London Court of Common Council, the London County Council and the Royal Fine Art Commission.

CORRESPONDENCE

Et Tu, Brute?

To the Editors,

SIRS.—The origin of the New Brutalism (see your article of last December) has become a subject for academic research, and you may be interested in the following letter which I have received from Hans Asplund, son of the late Gunnar Asplund: 'In January, 1950, I shared offices with my esteemed colleagues Bengt Edman and Lennart Holm. These architects were at the time designing a house in Uppsala. Judging from their drawings I called them, in a mildly sarcastic way, "Neo-Brutalists" (the Swedish word for New Brutalists). The following summer, at a jollification together with some English friends, among whom were Michael Ventris, Oliver Cox and Graeme Shankland, the term was mentioned again in a

jocular fashion. When I visited the same friends in London last year they told me that they had brought the word back with them to England, and that it had spread like wildfire, and that it had, somewhat astoundingly, been adopted by a certain faction of young English architects...

'The situation seemed to me rather amusing, but I did not think more about it until the number of articles in THE ARCHITECTURAL REVIEW abounded, and the question of the movement's origin arose. Therefore I write this letter. I include a photograph (foot of page) of the first New Brutalist building by the architects Bengt Edman and Lennart Holm, even if they were not at the time conscious of the honour of being the founders of a new architectural movement. I personally think that it is still one of the very best buildings within this movement. I take no special pride in being the inventor of the word New Brutalism, being a Paleo-Sentimentalist myself. Yours affectionately, Hans A. plund.'

Yours, etc.

ERIC DE MARÉ.

Harry Seidler, architect of the five buildings in Australia, illustrated on pages 84-92; born in Vienna in 1923, remembers as a boy watching the workmen on the housing projects then being built by Vienna City Council. At 15 went to school in England and in 1940 was interned



and sent to Canada. After release, studied at the University of Manitoba and obtained his B.Arch. in 1944; won a scholarship for a post-graduate course at Harvard under Gropius, and received his master's degree in 1946. After a spell with Josef Albers at Black Mountain College, N.C., he became Breuer's assistant in New York, and then went to work with Niemeyer in Rio, before joining his parents who had emigrated to Australia. There he has come to be labelled a revolutionary, particularly by local government authorities with whom he has constant arguments over outdated regulations and policies. These fights usually end up in court, but he has never lost a case yet and proceeds to build his houses. A bachelor, he lives and works in a house on the edge of Sydney Harbour.

Architects of the house in Tynemouth, illustrated on pages 105-107: Gordon Ryder, born 1919. King's College School of Architecture, qualified 1944, Diploma in Town Planning 1945. Lecturer in the School of Architecture until commencement of work with Lubetkin at Peterlee, where he met Peter Yates, born 1920. Regent Polytechnic Diploma 1942. 1944 with SHAEF Advanced Field Headquarters. Worked with Clive Entwistle and Ove Arup on pyramid scheme for Crystal Palace. Assistant Chief Designer for Unité d'Informations Visuelles, Paris, an international



group designing exhibitions. Started joint practice 1950 at Newcastle-on-Tyne. Their work includes industrial buildings for British Ropes and British Plaster Board, two new gypsum and anhydrite mines, and two sailing clubs on the Northumberland coast.

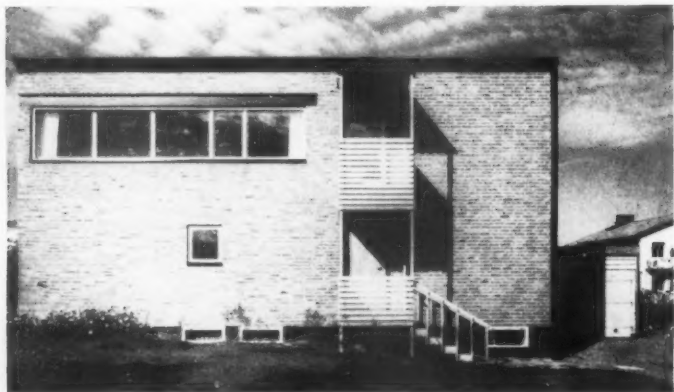
Herbert Morel, architect of the house at Scarborough, illustrated on pages



107-108, is 31 years old and married to a physiotherapist. Educated in England and Canada, and served in the Royal Canadian Navy from 1943 to 1946; started his own practice in 1954. Last year joined R. Mountford Pigott and Michael Pigott in partnership.

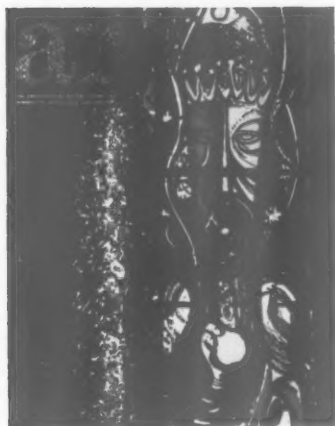
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COVER, Galwey, Arphot. MARGINALIA: page 72, lamp standards, by permission of Curator of Sir John Soane's Museum; Brutalist House, Sundahl. FRONTISPIECE, page 74: Dell & Wainwright. ATELIER D'ARTISTES, pages 77-83: P. R. Banham. BUILDINGS IN AUSTRALIA, pages 84-92: 1-4, Associated General Publications; 5, Max Dupain. TELFORD AND THE GÖTA CANAL, pages 93-9: 8, Akta; rest, E. de Maré. BINGHAM'S MELCOMBE, pages 100-4: Galwey. HOUSES AT TYNEMOUTH AND SCARBOROUGH, pages 105-8: Galwey. ALPHABET, pages 109-114: 1, 7, British Museum; 4, Galwey; 5, 6, Anderson, Rome; 10, Pickard of Leeds, Ltd.; 11, 12, Mrs. R. Ettinghausen. CURRENT ARCHITECTURE, pages 155-7: Cattle Market at Gloucester, Galwey; Factory at Poole, Toomey, Arphot; Assembly Hall at Offley, J. R. Pantlin. MISCELLANY, pages 118-124: Cannon Street Station, Nairn, Arphot. Piper window, Galwey. Exhibitions: 1, R. B. Fleming; 5, Butt, Doncaster Civic Centre, Wainwright. SKILL, Design Review, Victoria and Albert Museum. Techniques: 1-4, Charbonnages de France; 5, 6, S. Lambert.



The first New Brutalist building: see letter on this page.

THE ARCHITECTURAL REVIEW



The cover is based on a drawing, made specially for this purpose, by John Piper; it depicts part of one of the three stained glass windows that he has designed for the school chapel at Oundle—see pages 118-119. They were executed by Patrick Reyntiens, and consist of nine lights, each with a symbolic figure of Christ. The figure shown symbolizes the Living Bread and occupies the central light of the middle window.

71 Marginalia

72 Correspondence

74 Frontispiece

75 *Ateliers d'Artistes* by *Reyner Banham*
Oversize windows are a commonplace of Modern Movement building practice, but though they may be regarded in the abstract as a good thing, there are very sound practical reasons for avoiding them—unless one has an overriding functional justification. One class of client alone had such a justification in the early 'twenties, the artist, and Mr. Banham's article studies and surveys the part played by the need for ample north-lighting in the early work of the masters of the school of Paris. Mallet-Stevens, Andre Lurcat, Le Corbusier inherited, along with the studio-house as a building-type, a variety of vernacular practices which they re-used and re-grouped according to their own new aesthetic principles. They thus created a new vernacular which, by the beginning of the 'thirties, was able to continue under its own momentum without the impetus of major designers. But at the same time they created, in their compact artist-quarter developments, the first characteristic street-scapes of the Modern Movement, and the ranks of giant north-light windows passed into the popular imagination as proper to the movement as a whole.

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84 *Five Buildings in Australia: Architect, Harry Seidler*

93 *Telford and the Göta Canal* by *Eric de Maré*
The Göta Canal, a term which now describes a chain of navigable lakes and rivers, as well as the man-made cuts that join them, was the dream and life-work of a Swedish nobleman, Admiral Count Baltzar von Platen. The earliest project for such a canal had been devised as early as 1780, by two Swedish engineers following the principles of English canal builders, but the Count did his own research, published in 1806, and state support was voted for his project in 1809. The scheme was carried out under the supervision of a staff of English and Scottish engineers, following a master-plan drawn up by Thomas Telford, who laid down the line to be followed in a mere twenty days in the August of 1808. Between Telford and the Count there then ensued a correspondence that lasted until the year of the Count's death, 1829, three years before the canal was completed. The Count's letters have been preserved in England; Telford's, long thought to be lost, have been largely recovered by Mr. de Maré, and enable him to give a serial and sympathetic picture of the reciprocity of two determined and energetic minds.

100 *Bingham's Melcombe* by *Gordon Cullen*
England's growing body of absentee landlords, the public authorities, who control large areas of countryside they do not live on, have evolved a number of rule-of-thumb compromises for dealing with landscape problems, rules of thumb that arise from a conception of landscape not as something seen, but as the battle-ground of warring pressure groups. How disastrous such rules may be in their effects can be demonstrated by the case of Bingham's Melcombe, a scheduled house in a valley that has also been recommended for scheduling. Here the rule of thumb that power lines should be taken through valleys in order to avoid conspicuous siting of pylons on hill-tops has resulted in a serious threat to a landscape of recognized value. The new owner of the house managed to get the Local Planning Authority and the Central Electricity Authority to agree to a modification in the routing of the power-line, but the Local Authority have subsequently changed their minds. Mr. Cullen shows with photographs and drawings what is at stake, and proposes a more radical re-routing of the wires.

105 *House at Tynemouth: Architects, Ryder and Yates*

107 *House at Scarborough: Architect, Herbert Morel*

109 *Alphabet* by *Nicolette Gray*
If Trajan is not the be-all and end-all of lettering, and if it is admitted that the classical theory that goes with it covers only a small part of the possibilities of lettering as an art, what then is the nature and extent of that art? Mrs. Gray scouts the idea that legibility is all, any more than function is the whole of architecture as an art, and she sets out to survey the range of possibility, the qualities of meaning, the sense of geometry, of material, and setting that are covered by the heritage of non-Trajanic, and non-European lettering that we possess. She finds the meaning of the words, the intentions of the artist and his response to the mode in which the message is to be presented to be among the most vital factors in determining the quality of any piece of lettering, architectural or otherwise, and shows that even legibility is not dependent on any rigid canon of letter-form.

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125 *Doctors' Room at Colchester: Architect, R. D. Russell*

126 *Design Review: A Calendar of English Furnishing Textiles: 1775-1905*, by *Peter Floud*
While preparing a recent historical exhibition of English chintzes, Mr. Floud was able to study more than 30,000 unpublished but dated patterns in manufacturers' books. His article provides a systematic pictorial sampling of the material covered, and shows that far from there being a single traditional English style there was a very rapid turnover of styles and fashions for almost a century and a half.

134 *Techniques: How Should We Use Plastics?: by Bruce Martin*

140 *Contractors, etc.*

Author: Peter Floud, born in 1911, and at the Victoria & Albert Museum since 1935. Organised the V. & A. Centenary exhibition, 1952; especially interested in the textiles and prints, and decorative arts generally of the last hundred years.

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FIVE SHILLINGS



The massive abutment arches of Cannon Street Station, opposite , are among the solid triumphs of the Functional Tradition in the Nineteenth Century, just as the flanking towers of its riverward gable are a rare instance of a successful architectural flourish on a building of this kind. Such architecture begins to be valued at its true worth these days, but a sense of its value is still lacking in some quarters—so lacking indeed that a series of alterations, amounting to mutilations (detailed on pages 118-119) of a sort that no-one would dare to suggest for an eighteenth-century building, including lowering the roof and removing the towers, has been proposed by British Railways.

Reyner Banham

ATELIERS D'ARTISTES

PARIS STUDIO HOUSES AND THE MODERN MOVEMENT

Though the concept of the all-glass façade has been an article of faith in Modern Architecture ever since it became conscious of itself in the early 'twenties, the popular idea of contemporary fenestration is apt to be a solid wall with large windows punched in it. This indeed is often the layman's total conception of modern architecture, apart from the flat roof, and out of the variety of historical accidents which have combined to build up the popular idea of the New Architecture those connected with the large window are among the most important, and the most closely connected with the facts of history rather than the pious hopes of Modern Movement hagiography.

As an architectural element the large window is recognized as an expensive luxury, and a winter-time heat-waster which in summer can turn the room behind it into a furnace. Whatever the aesthetic attractions of large areas of glass, these practical disadvantages are likely to have been insuperable when building, as most modern architects have had to, against a very tight budget—except where a client had valid functional reasons to insist on it. A brief survey of the work of the masters of the 'twenties will show at once who that client was—the artist.

In Paris, the artist's studio-house had become by 1900 a recognized building type, and Le Corbusier, for instance, distinguishes between *villas* and *ateliers d'artistes* throughout the period covered by Vol. I of his *Oeuvre Complète*, even where an examination of the plans would hardly reveal any difference. The distinction existed in the mind of the Paris estate agent long before Lurçat was talking of designing every house *selon son programme particulier*, just as the studio-house (and the studio apartment-block) had existed since

the turn of the century and had become a profitable speculative venture as Paris became the irresistible magnet of painters from all over the world.

The functional and structural problems of this wide-glazed building type were not readily soluble within the range of precepts which could be acquired in a *Beaux-Arts* training, and the studio-builders of the *Art-Nouveau* epoch had begun to look elsewhere. Twenty years before the pseudonymous contributors to *l'Esprit Nouveau* had begun to sing the praises of industrial buildings, the studio-house vernacular had taken up the flush window and vertical glazing-bars, not to mention the combination of window and hauling-up hatch, which were established in warehouse and workshop building practice all over northern Europe (this device appears to be of Hanse gothic derivation, even) and they had also taken up from the Paris workshop tradition a form of frame-and-fill construction, equally usable in wood or concrete, which visitors to Le Corbusier's *Palais du Peuple* will have noticed in factories in the area between the Avenue des Gobelins and the Rue des Cordeliers.

Thus the architects of the 'twenties took over an existing problem and with it some existing solutions—their peculiar contribution was to devise an architectural idiom into which they could be incorporated without strain. They examined the existing vernacular elements in the studio-house tradition, they took over new ones, and subsumed them in a new aesthetic whose formal discipline drew on the experimental painting of the post-Cubist epoch. The result of these labours, and of the peculiar economic situation in which they took place, was the evolution of the first truly contemporary vernacular.

The part played by the economic situation was specific and unprecedented. Possibly under the influence of the Wiener Werkstätte, the idea of an artist-colony designed largely or exclusively by a single architect had some currency in Paris in the early 'twenties, and was regarded as a proper field of speculative activity for the young designer. Thus, Mallat-Stevens built the *rue* which bears his name, though it is fast disappearing under a tidal wave of high-rental apartment-blocks, André Lurçat built most of the Villa Seurat, and Le Corbusier launched developments in Boulogne-Billancourt, and Vaucresson, the former moderately successful, the latter emphatically not so.

The consequence of this colony-building activity, which accounts for a very large part of the output of these three architects, was that when the visitor to Paris went to look at the New Architecture he was liable to find himself in a street lined on at least one side with giant windows punched into white-rendered façades. This would be the visitor's first impression of the new architecture, and therefore the best remembered.

But, further, the parasite classes who make the Paris art-world economically workable—the critics, dealers and collectors—were soon moving into these artist colonies as well, and finding that the standard two-storey studio with its double-height window made an uncommonly exciting living room. But at least one great modern architect, a studio-house builder himself, had discovered this as early as his *Maison Citrohan* of 1922, and from then on, throughout Le Corbusier's career, the standard studio-house section, deep in plan, windows across the narrow ends, high living-room with bedroom-balcony at the back, persists like a *leit-motif*. It appears in the *Pavillon de l'Esprit Nouveau*, in the single house at Wiessenhof, in the *Maison Guiette*, in the *Clarté* flats, and reaches its apotheosis at Marseilles. Even if we can't all become artists, Le Corbusier has helped a lot of people to live like them.



1

the problem

The basic problem of studio-house design is clearly established, 1, by this pre-Modern Movement example at 12, Rue des Artistes. To create, within the limits of a Parisian house plot, even within the limitations of a standard Parisian house structure, a room large enough to serve as a studio is not difficult. To give that room the fenestration it needs is not structurally difficult either, but to bring that fenestration within the normal disciplines of façade-composition was another problem, not to be solved by Beaux-Arts rules of thumb.



2

vernacular exemplars

Though the asymmetrical freedoms necessary to solve the problem of the studio-house façade were ultimately to come from painting, there were powerful hints to be gleaned from the vernacular architecture of old Paris. Sanctioned as interesting by the art of Utrillo, buildings like 2, a saddler's shop near the Place du Tertre, offered not only a functional-traditional suavity of untutored composition, but also a window-type whose square form with a central step-down for a door often reappears in studio-houses. The characteristic glazing of studio windows, with tall narrow panes, also derives from a local industrial vernacular, and can be found all over Paris. The particular example seen in 3 is the street-front gable of a garage, dating back to the first years of the century, in the Boulevard St. Jacques. Through industrial needs this window type broke through into the realm of 'fine' architecture independently of studio building, and appears on the characteristic type of Paris electricity sub-station, built in the early 'twenties. 4 is an example from near the Gare St. Lazare.



3



4



5



6



7



8

pre-modern

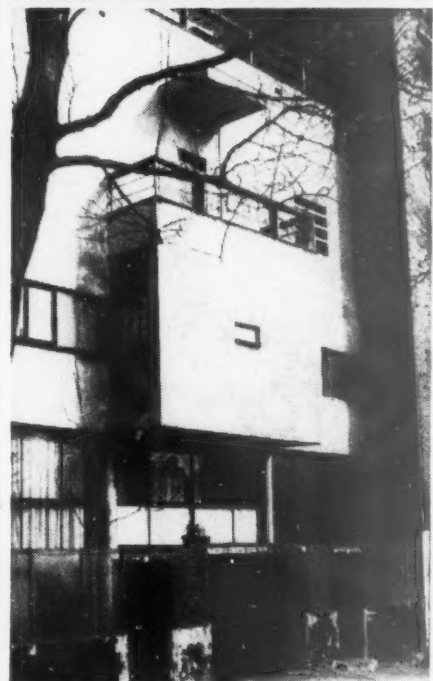
As a building type, the studio-house was already well established in the first decade of the century. In 5 are seen early spec.-builders' studio-apartment houses in the Boulevard Rochechouart at the foot of Montmartre. The use of the central step-down in the cill of the main window appears to be merely formal in the nearest example, or else this is a vision window provided because the main spread of illuminating glazing is above the occupant's eye level. In architect-designed examples, the compositional difficulties presented by the oversize window were sometimes avoided by spreading the studio window right across the top floor, as in these two in the Rue Cassini, 6, of which the further one, by Henri Guérin, is dated 1906. Only occasionally are the compositional difficulties exploited for picturesque effect, and 7, which has the rare advantage of a corner site, is a fine omnium-gatherum of vernacular usages (such as the boxed-out window), arts-and-crafts woodwork, industrial glazing, and a portico that must surely have come from Giotto's frescoes in Padua.

vernacular in use

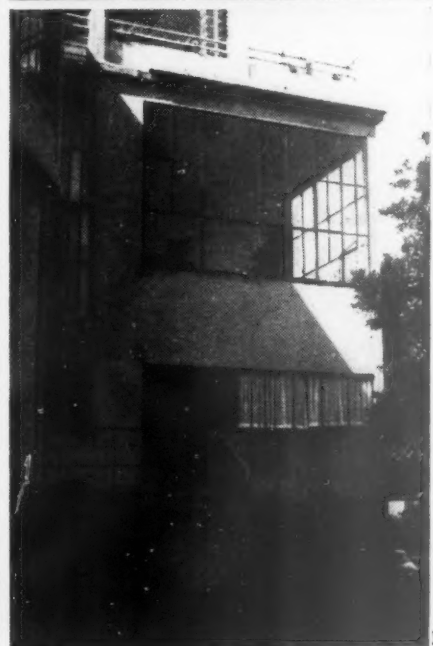
The use that the pioneer moderns could make of these various vernacular elements is well shown in the earlier studio-houses of Le Corbusier. Nowhere among the studios of the 'twenties does one find the oversize window and the tall narrow glazing used with more ease and conviction than in his Meisthaninoff and Lipchitz houses, 8, where the vernacular elements have been fully digested, but have not become arty, as did some other parts of these houses (see 34, below). The boxed-out window is also used by Le Corbusier, but usually



9

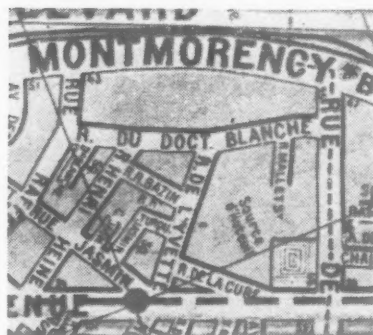


10



11

in a rather skittish way—on the Jeanneret house in the Square du Docteur Blanche, 9, it boxes two separate storeys together and on Maisons Plainex, 10, notoriously one of his most 'mannerist' compositions, the whole idea of the box-out as a means of providing a giant window is wittily contradicted. Neither witticisms nor mannerisms affect the Maison Ozenfant, 11, at the end of the Square du Parc Montsouris. Now deprived of its saw-tooth northlights, the house reveals more clearly than ever how Le Corbusier, faced with the same problem as the architect of 7, has solved the corner-studio problem with ease and elegance—ease and elegance that owe more than a little to the art of Mondriaan and van Doesburg.



12

mallet-stevens

Much studio building of the 'twenties was concentrated in compact developments, of which the most opulent was the Rue Mallet-Stevens, 12. The sites allow elbow-room for experiments in massing, and the pyramidal composition of 13 is fairly typical. The area is being rapidly redeveloped, but half the Rue Mallet-Stevens still survives, and quite near at hand the visitor will find 9 and 7.



13



14

montsouris

The happiest hunting-ground for the studio-house fancier is the triangle of land between the Parc Montsouris and the Rue de la Tombe-Issoire, a north-facing slope that edges off toward the greenery of the park on the east. Handy for the Cité Universitaire, served by the Ligne de Sceaux, cooled in summer by the Reservoir de Vannes, it is an admirable, if over-crowded, site for an artist quarter. Here one will find 1 and 11; the mysterious Rue Gauguier (see 38, 39, 40) as well as the buildings that are about to be dealt with in the



15



16



17



18

Villa Seurat and the Rue du Douanier. (Both Georges Seurat and the *douanier* Rousseau lived in this area and gave their names to streets. By this token the Rue Gauguet ought by rights shortly to be renamed *Impasse Nicolas de Staël*.) The most important single development within this area is the Villa Seurat, of which André Lurçat was the leading promoter, and designed



eight of the houses in it. Like the Rue Gauguet, on to which it backs, it is an *impasse* and although its development was not consistent, the buildings are nearer 1930 as one approaches the closed end.

In 14 (preceding page) one sees practically the whole south side of the *Villa*, and this shows the variety of styles with which 'modern' had to compete. Closer inspection reveals, 15, a tiny house by Lurçat with his characteristic symmetrical pattern of glazing bars



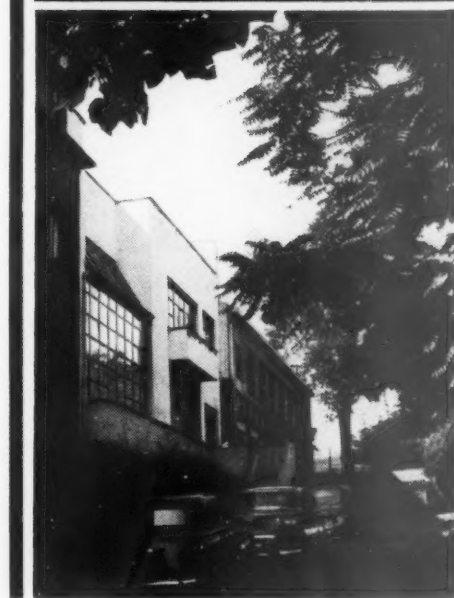
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20



21



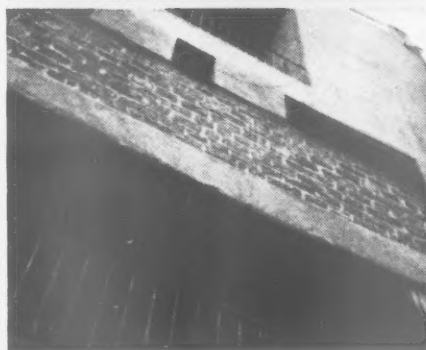
22

and a roof terrace, and in 16, cheek by jowl with a rare piece of French Expressionism, Chana Orloff's house by Auguste Perret, perhaps the most distinguished piece of architecture in the district. Nearer yet to the open end of the street are two more excellent houses by Lurçat, 17, still inhabited by their original owners of the post-Cubist generation, such as André Gromaire, and Lurçat's famous brother, the *tapissier*. The house actually on the corner, Lurçat again, is not one of his happiest designs, 18, and is in a poor state of repair, but right back at the other end of the street, 19, a cluster of apparently architectless studios contrive to look well, and have weathered well.

On the north side of the street, where the houses have their northlight windows on the side away from the thoroughfare and there is no need to build up solidly to the pavement, designs are free and varied. Here, 20, 21, on a small scale, Lurçat has room to achieve almost the freedom and picturesque silhouette of the Rue Mallet-Stevens. But it is only on the side toward the park that this area really affords much opportunity for adventure in design, and the steep fall of a street like the Rue du Douanier, where Braque lives, makes even relatively dull buildings, 22 and 23, look attractive among their trees.



24



25



26



27



28

montmartre

Curiously enough, Montmartre has practically nothing of interest to offer from the 'twenties, apart from some humorous examples of late Art Nouveau —and the house which Adolf Loos built for Tristan Tzara in the Avenue Junot. Although it is hardly correct to call this a studio-house, its originality and its site seem to justify its inclusion among the studio class of building. Trees now mask its façade, so that one tends to see its extraordinary management of the upper storeys, rising out of a mass of foliage, 24, a setting that enhances the strangeness of illuminating two whole floors from windows boxed back into a re-entrant like Maison Plainex (see 10, above) inside out. However, a view up the façade from close quarters, 25, emphasises that this is a glyptic exercise in cutting holes in a flat wall. The back, accessible from an alley called L'Hameau des Artistes, is quite different in feeling, 26, and makes a much stronger show of structure, fenestration and grillage.

rue du belvedere

The studio-house is a suburban, as well as a central-area, building type. Just beyond the circuit of the boulevards, in the Rue du Belvedere in the southerly part of the Bois, one finds this nicely contrasted pair: a Lurçat of 1927, and an exercise (by an unknown hand) in the style of Perret's Orloff house (see 16, above). The Lurçat, 27, exploits the site and the functional programme to create an asymmetrical frontage to the street, while the Perret-follower, 28, emphasises his frame in order to pull the same unbalanced elements (small front door, large garage door) into a balanced composition. But one observes that in the glazing of the studio window itself Lurçat (as in 15, above) has contrived a symmetrical pattern like a pair of Mondriaans backed up on one another.



29

chaos in the bois

Beyond the Rue du Belvedere, deeper into the pines and gravel of the Bois, one comes on one of the strangest areas of stylistic confusion in the whole of the Paris suburbs. It announces itself at the first kilometre-post of the Autoroute de l'Ouest with this mad, though obviously deliberate jumble of studios, 29, known locally as *le Kasbah*.



30

Quite near at hand (just out of this picture to the right) is the sampling of façade treatments seen in 30. As far as can be ascertained the centre house is the oldest, presumably by the same hand as the *Kasbah*; the neo-Classical affair (which appears to have a studio behind the pedimented window) is next, and the most distant house, as might be guessed from its pre-cast cladding, is the most recent. The mental superficiality that accounts for this outward confusion is well shown by another neighbouring group of houses whose fronts, 31, are *très moderne*, but whose backs, 32 could have been designed almost any time over the last two centuries.



31



32



33



34



35

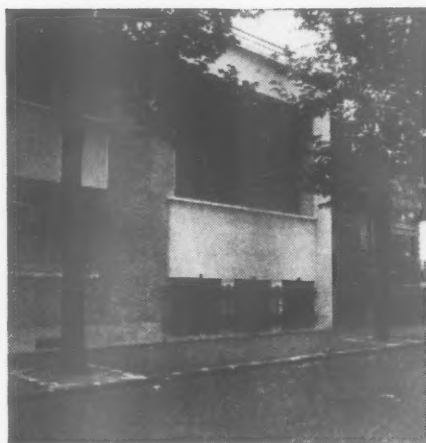


BOLLENE Porte d'Ante 1. Travaux Modèles Boulle-Boulle-Solignac-Saint-Clément 1.45 Fr. 100
L'ÉTENDUE POUR VILLAS ou ATELIERS D'ARTISTES, terrain disponibles, sur copropriété de 1000000
Prière s'adresser par écrit chez M. Pierre JEANNERET, Architecte à Paris, 91, Rue de Valenciennes

36

le corbusier

But within the triangles of roads that meet in 29 this fuss and ostentation is forgotten; one enters a world of ideal Paris suburbia where exotic trees peer over garden walls and gravelled roads glisten in the impressionist sunlight of the Seine Valley. It is here, 33, that one finds Le Corbusier's documented, but rarely visited, Boulogne development, at the crossing of the appropriately named Rue des Arts and Allée des Pins. The Lipchitz and Meistchaninoff houses, which are here, found Le Corbusier in his most machine-aesthetic frame of mind. This, undoubtedly, accounts for the excellent handling of the studio windows (see 8, above) but it also accounts for the game of ships which he plays with the Meistchaninoff house, 34, with its smoke-stack-shaped stairhead, the busy display of nautical handrails and look-out posts—and the bridge at second-storey level which can be seen running out of the picture to the left. For some time after the house was completed (1924) this bridge stopped in space, supported on the party-wall of a building that had still to be erected. When that building was completed, 35, it did not look much like a work of Le Corbusier, nor has he ever admitted authorship of it, yet the site was one which he had advertised in 1923 in *L'Esprit Nouveau*, 36, for development *sur esquisses de le Corbusier*. Conceivably this was one of his speculative ventures that went astray, as at Vaucresson where the same advertisement showed eight plots for development at the back of his ill-fated villa of 1923, though not one of these plots has a house by Le Corbusier on it now.



37



38



39



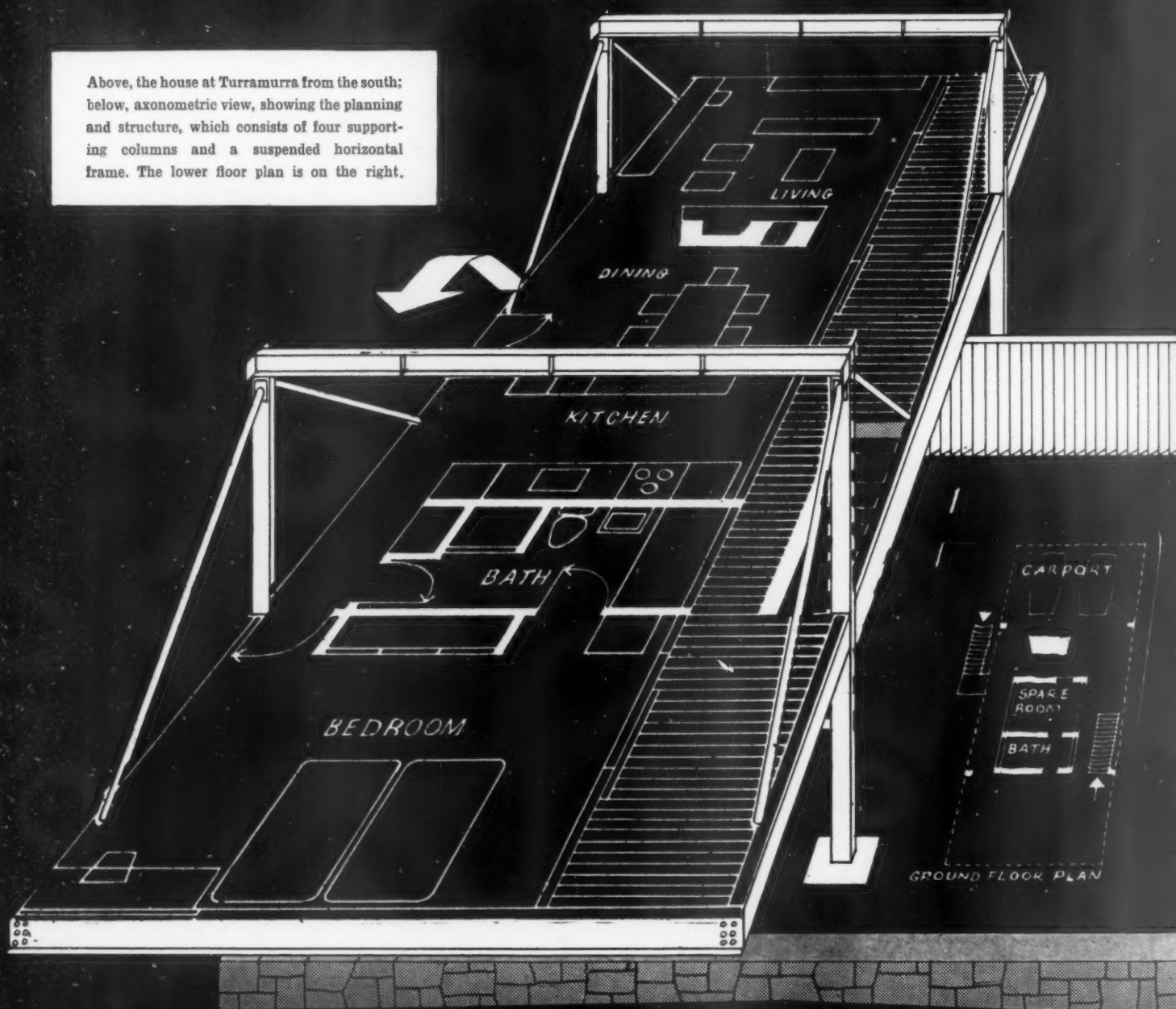
40

a new vernacular

Vernacular in their ancestry, the Modern Movement's contributions to studio-house building practice passed back into vernacular usage, and established the norms of what little studio-building continued after the slump. In a small studio-house on the marketplace at Montrouge, 37, they are seen in combination with elements of vernacular modernistic detailing, of super-cinema extraction, and the rough-cast rendering that goes with inexpensive construction. The actual point at which they were passed back into the vernacular can probably be fixed in the three baffling eclectic houses in the Rue Gauguier. They occupy one side of a short *impasse* that all but joins up with the Villa Seurat, which can be seen in the background of 38. The house at the end of the Rue Gauguier, with the staircase tower, is of no great architectural interest, though as the home of the late Nicolas de Staël it may have some interest to amateurs of painting. The other two houses are more suggestive of a moment of eclecticism at the end of the 'twenties, when an architect of talent, but not so much so that his name would be recorded, could bring together a number of his predecessors' inventions and make of them the clichés of a manner. Thus 39 has a Lurçat cross-stair in front and deep square-edged window reveals *à la* Roux-spitz, while 40 has essentially the square window with central step-down of Le Corbusier's *Immeuble Villas* project, and an almost literal quotation of the boxed-out window of his villa at Vaucresson. Local folk-memory, as embodied in the block of flats on the opposite side of the street, insists that the architect was 'Un Russe qui est déjà mort,' and a name like Zylinsky has been remembered vaguely. But no traceable architect with a name of this kind will admit to paternity. The author, who has neither the years nor the money to spare to worry his way through the town-planning files of the Préfecture de la Seine in search of this missing eclectic, would be grateful if any reader could shed any light on this designer who so clearly closes the inventive phase of Modern Movement studio-house design.



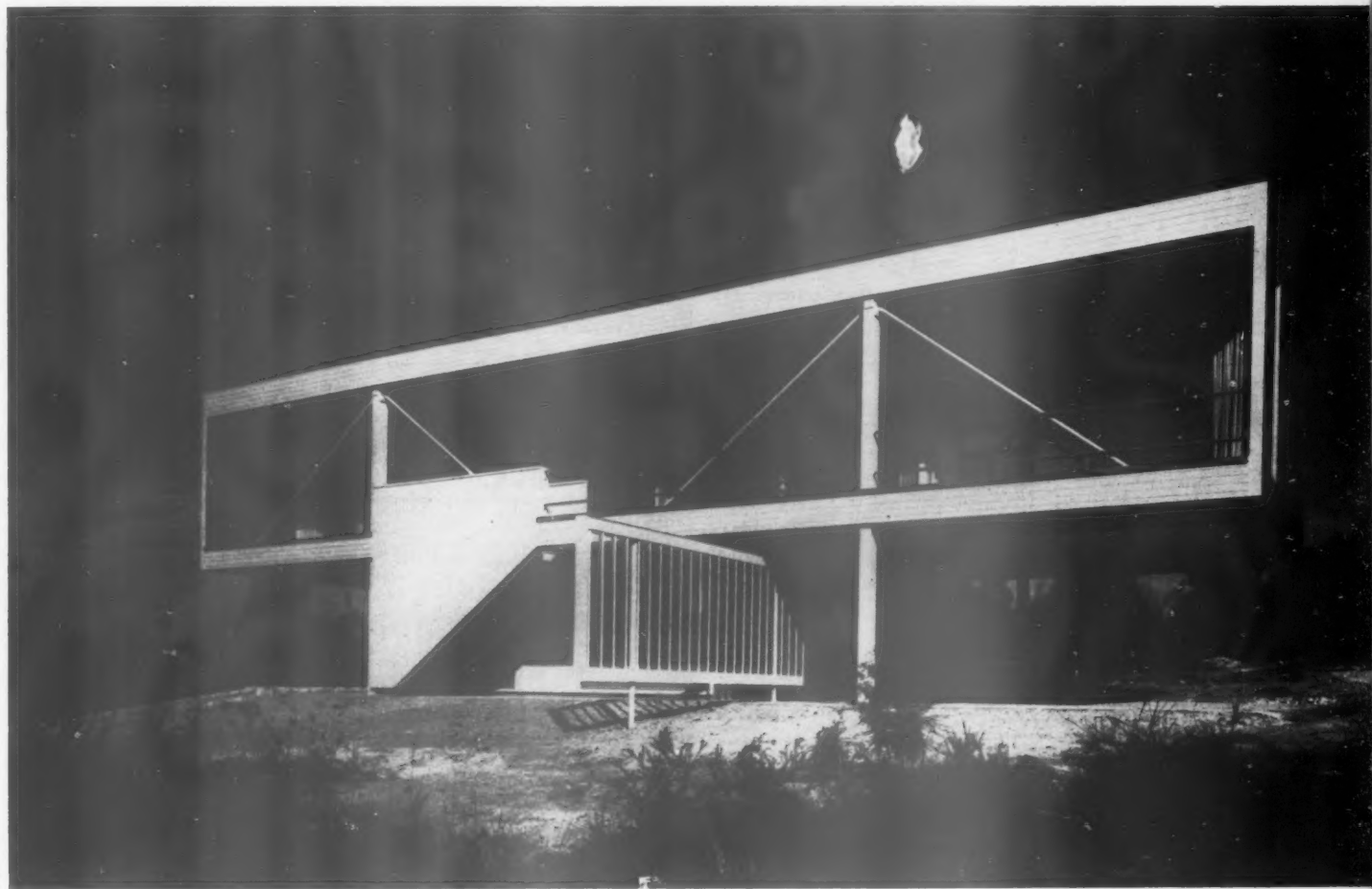
Above, the house at Turramurra from the south; below, axonometric view, showing the planning and structure, which consists of four supporting columns and a suspended horizontal frame. The lower floor plan is on the right.



FIVE BUILDINGS IN AUSTRALIA

ARCHITECT

HARRY SEIDLER



2

1. HOUSE AT TURRAMURRA, N.S.W.

This house,* on the edge of Ku-ring-gai Chase public bushland reserve, is for a couple and their grown-up daughter, who wanted self-contained accommodation for occasional visits. The house is raised off the ground to benefit from the splendid views; all rooms face north, towards the valley reserve. The terrace roof affords sun protection to the glazing in sliding doors which completely fills the north side. The kitchen and bath, which are back to back, separate living and sleeping quarters.

*Illustrated, among others in a recent book on the architect's work: "Houses, Interiors, Projects 1949-54", Sydney Associated General Publications, 1954. £3 8s. 6d.

2, from the north, showing the steel tie-rods from which the floor is suspended. The carport is separated from the garden by a louvred screen.

The daughter's bedroom is on the ground floor with a second shower room serving also for laundry.

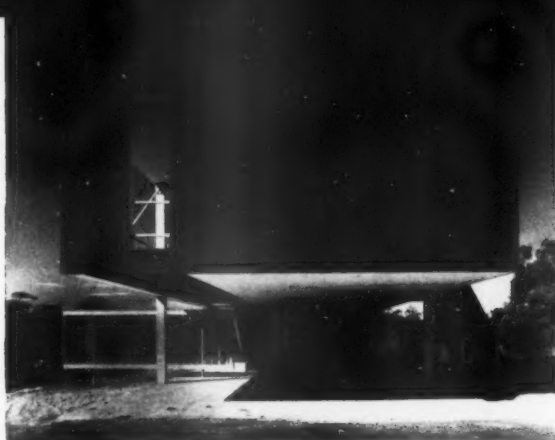
The structure consists of only four supporting columns with a horizontal frame supported by diagonal steel-pipe hangers (see opposite). The infill is brick below and timber for the upper level. All structural elements are exposed. Under the houses on the west is a double carport, with a louvre screen giving privacy to the garden from the access road.

The walls consist of 4-in. by 2-in. Oregon studs at 18-in. centres with sisal-reinforced waterproof building paper

HOUSE AT TURRAMURRA, N.S.W.

filling, and 4-in. by 1-in. tongued and grooved V-jointed vertical boarding. The interior end walls have horizontal cedar boarding. The windows have 6-in. by 2-in. rebated Oregon framing, with steel sliding doors and standard steel casements, with fixed fly screens. The floor has Oregon joists at 18-in. centres and hardwood flooring: the terrace decking is 4-in. by 2-in. tallowwood with $\frac{1}{4}$ -in. open joints. The roof joists are at 2-ft. centres, with rough boarding and aerated concrete insulation sloping from 4 ins. to 2 ins. to the interior roof drain, and asbestos finish with two layers of pure aluminium foil. The entrance stairs have 12-in. by 2-in. hardwood treads and the solid rails have a $\frac{3}{8}$ -in. waterproof plywood core.

3, from the west, showing the open ground floor. The aperture in the boarded wall gives views to the west from the terrace. 4, looking across the terrace from the living-room.



3



4

2. OFFICE BUILDING IN SYDNEY

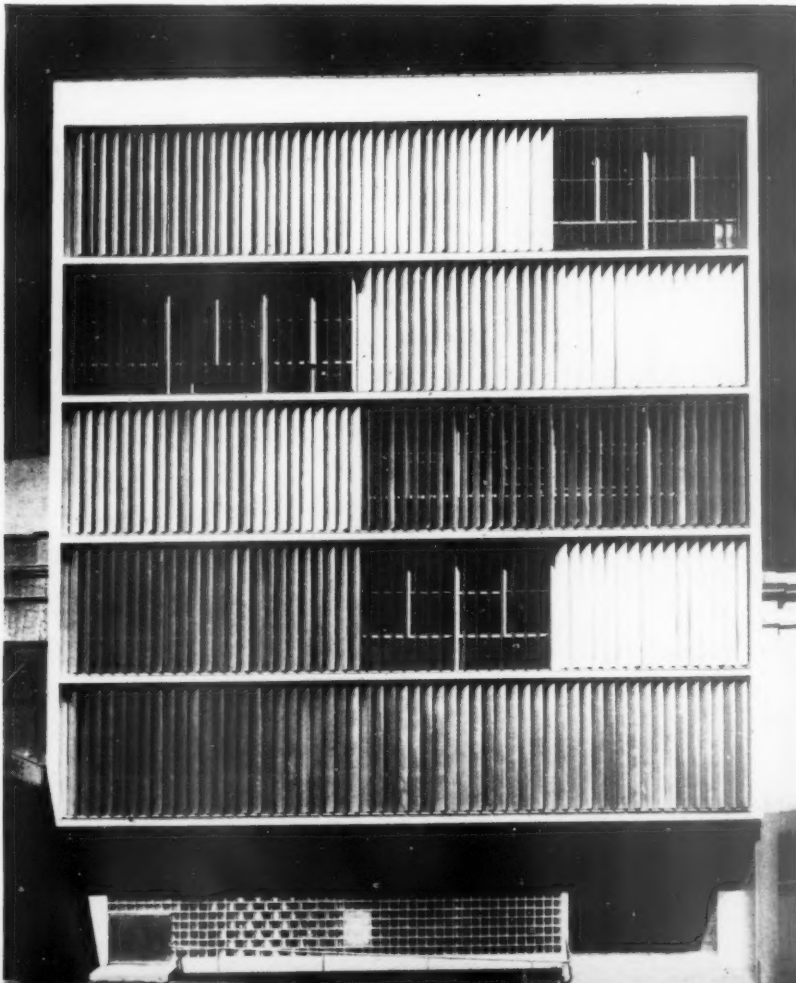
This office building is for a publishing company and occupies a wedge-shaped site. Since the site faces due west an efficient system of sun control was needed, and this was achieved by movable vertical aluminium louvres, which completely stop radiant heat and produce pleasant combinations of diffused daylight inside. They are approximately 12 in. wide and 9 ft. high, and swivel on grease-packed ball-bearings which are permanently sealed from the weather by individual caps.

The side walls of the building formerly standing on the site were left up to the third floor, only the



5

5, inside the ground-floor reception area. 6, the street façade. The sun screen is of movable vertical aluminium louvres. The recessed ground-floor windows are of glass bricks.



6

6. lobby, reception and waiting, inquiry counter, switches.
7. general office, filing and storage, book sales manager, women's w.c., velvet curtain, receptionist, secretaries, shower, men's w.c., managing director, board room, governing director, sliding doors.



7. an interior on the directors' floor, showing the use of folding screens to allow the offices to be thrown together. The screens are of silver ash.



internal structure of six steel columns being new. The floors are of flat slab, high-strength reinforced concrete and the side walls above the third floor are all vertically poured reinforced concrete. The columns are recessed 10 ft. behind the frontage, and the floor slabs cantilevered outwards from them.

The interior finishes are designed to require as little maintenance as possible. The exposed external faces of concrete are covered with light grey glazed ceramic tiles; all windows and louvres are in anodized aluminium. The entrance doors are frameless armour-plate glass. The lighting of the ground floor and half-basement floors is achieved with glass blocks for the

ground reception floor, to give privacy from the street, and a glazed light area for the basement. A bridge and aluminium doors give access to a goods chute into the basement storage area. The intermediate floors contain office space which can be divided as necessary.

The top floor comprises directors' suites, designed to be opened up, if necessary, for entertaining by means of opening sliding-folding full height silver ash doors, which open the entire front of the floor. All furniture is of silver ash, with aluminium box sections or tubes used for supports, and contrast is provided by primary-colour Eames fibre-glass chairs and by black glass sliding doors on storage cabinets.

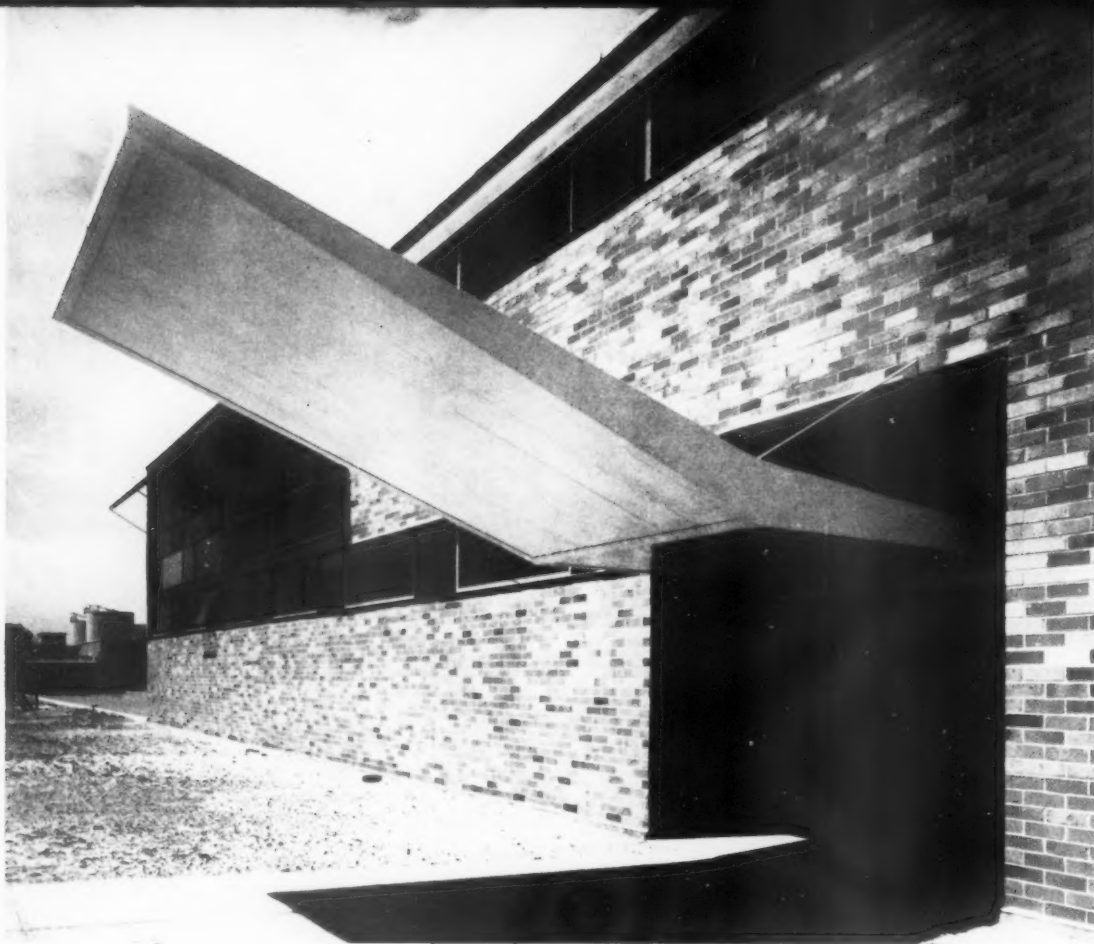
3. WELFARE BUILDING, BANKSMEADOW, N.S.W.



8. side elevation. The workshop area lies behind the steel doors on the right of the passage through.

At the Australian Oil Refinery's distribution centre. The problem was to provide facilities jointly for two oil companies at the distribution centre at Banksmeadow.

The upper floor contains lockers, w.c.s and showers, and a common dining-room for 120 with servery for ready-cooked meals, together with dish-washing and tea pre-



9

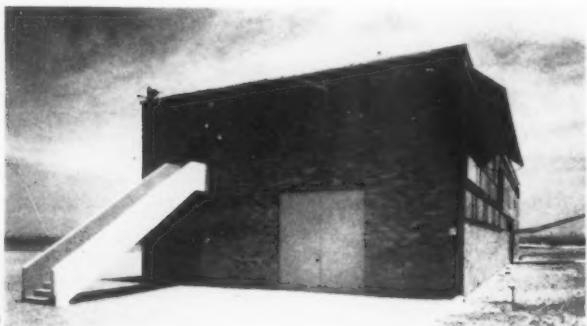
paration sinks for men bringing their own lunches. The lower floor accommodates greasing, repair and workshop areas separated from the rear trucking area by steel roller shutters with separate toilet facilities accessible from the yard.

The floors and roof are of flat-slab reinforced concrete, cantilevered out from circular columns within the building. Exterior walls are of 11-in. cavity facing brick. All glazing is in zinc sprayed steel hopper-type opening sashes, and door panels and doors are steel.

The locker and toilet rooms have ribbon windows above eye level for privacy and the dining-room is fully glazed on both south and north sides, with the northern glass wall protected by a sloping pressed steel sun protection awning. Some of the exterior glass walls have solid steel panels with enamelled primary colours on the outside. Interior finishes are designed for hard wear and no upkeep. The main stairway (lit by an overhead sky light), the main corridor and one wall of the dining-

9, entrance to the passage through the ground floor, with cantilevered reinforced concrete canopy. 10, end view showing external stair leading straight to dining-room.

WELFARE BUILDING, BANKSMEADOW, N.S.W.



10



11. inside the first-floor dining-room. On the left is the servery; the door on the right leads to the outside stair.

11

room have facing brick exposed on the inside. All floors are covered with ceramic tiles. A hot air forced heating system serves the entire top floor. The low ceiling in the centre corridor masks the main heating duct which is extended through the centre of the dining and shower

rooms. The system can be used for ventilation in the summer. The building is designed for future extension to the east: the reinforced concrete stair on that end can be lifted off by crane and reused. The final total capacity will be for 200 men.

4. STAFF HOUSING, KURNELL, N.S.W.



12

These houses for superintendents of the Australian Oil Refinery at Kurnell are built in a reclaimed swamp area filled to seven or eight feet with pumped-up sea sand. The surface is level and the sand was found to have good bearing capacity. The foundations consist of 'floating' reinforced concrete rafts with edge beams and subsidiary beams stiffening a 4-in. thick slab.

Access to the group is from the south into a cul-de-sac with the houses arranged around. The units are essen-

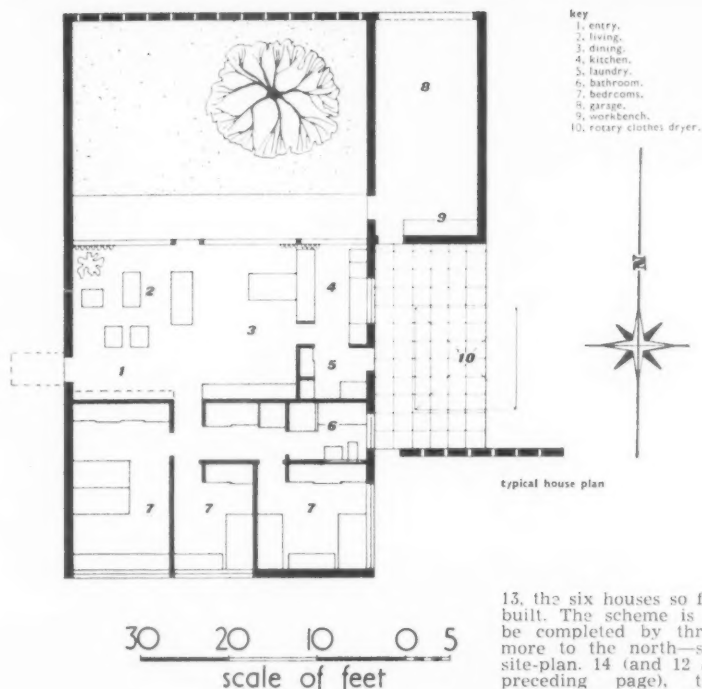
tially the same in layout. The living space in each faces due north with a plate-glass wall looking into a private outdoor living area. Screen walls, solid and pierced, produce privacy between units; one house has a completely enclosed courtyard because of the traffic around its north side. Laundry drying areas are also sheltered by screen walls. To create variety of views and avoid repetitive housing atmosphere, plan layouts were reversed and varied, while essential elements remain



13

STAFF HOUSING, KURNELL, N.S.W.

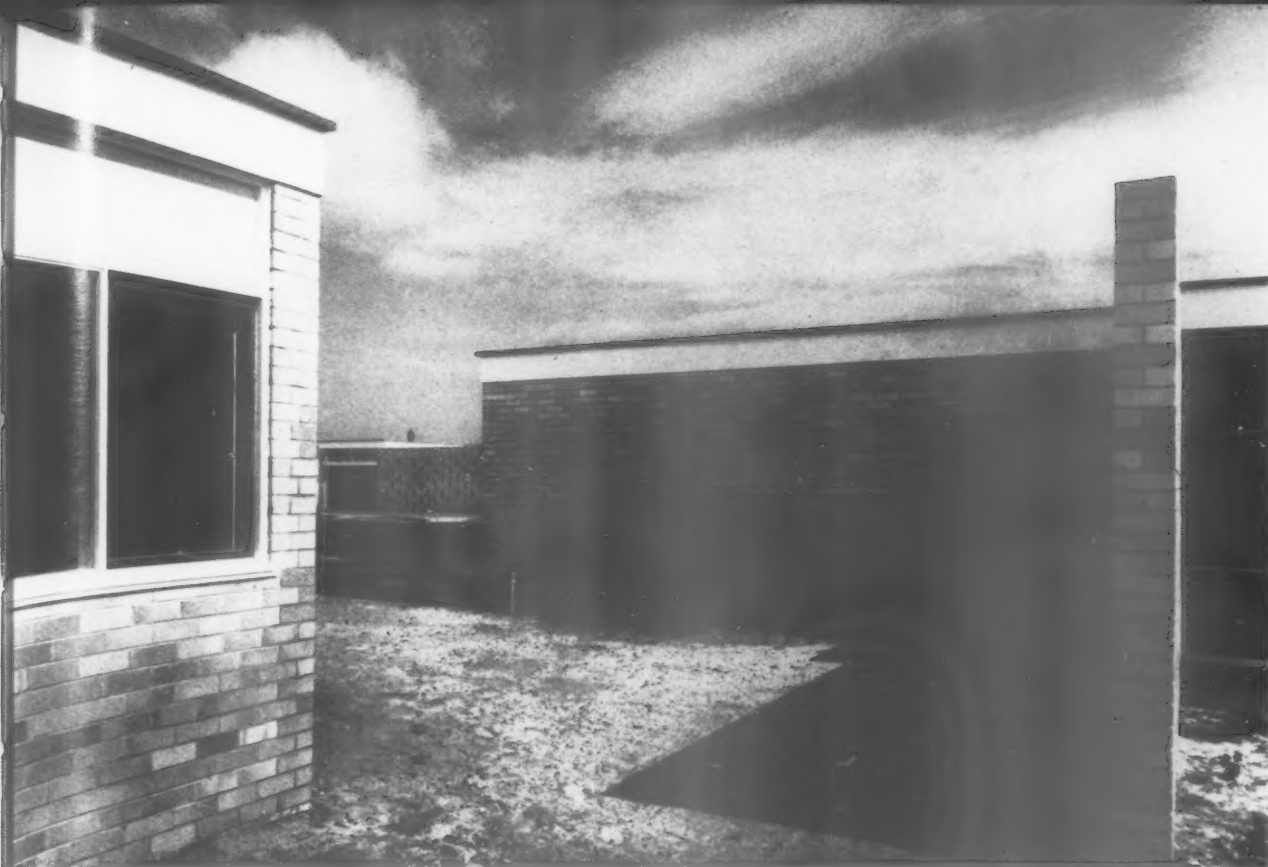
identical, making for economy in the production of identical windows, structural framing, built-in cupboards and kitchens, etc. Walls are biscuit-coloured facing bricks, and exterior walls are 11-in. cavity construction. One end wall of the living space is exposed on the inside: other interior walls are 4½ in. common bricks, plastered. Roofs are of Oregon timber joists with two open web steel beams spanning the living space and producing an overhang on the north side. Spaces above the bedroom windows are filled with asbestos cement sheets insulated with a backing of insul wool; these eliminate the need for brick courses over wide openings and provide areas for external colour. Interior door frames are pressed steel; all floors are covered with grey asphalt tiles. Heating is by electric resistance cables on 3-in. aerated concrete insulation all over the floors of each house, thermostatically controlled.



13, the six houses so far built. The scheme is to be completed by three more to the north—see site-plan. 14 (and 12 on preceding page), the houses from the central space showing the system of screen walls to ensure privacy



14



15

15. looking between two houses into the central space, showing the end of one of the pierced screen walls. 16. a typical kitchen. 17. a typical living-room, looking into a not yet completed patio.



16



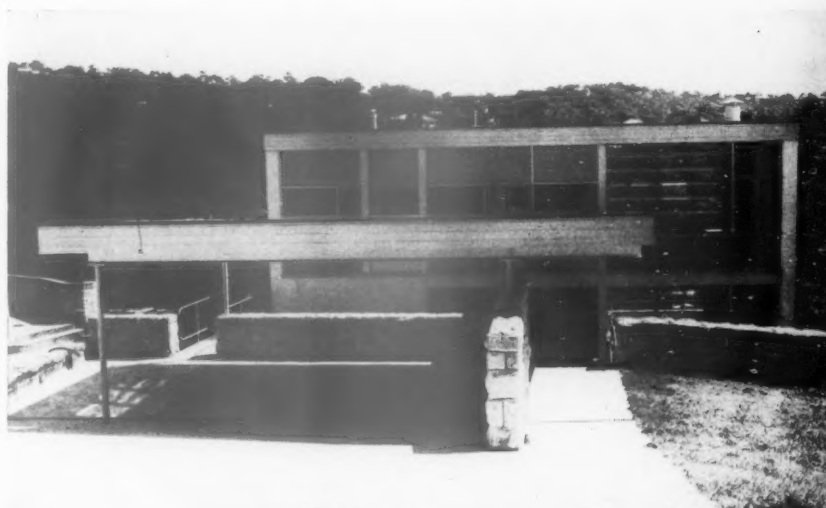
17

5. HOUSE AT NORTHBRIDGE, SYDNEY

This house is between existing buildings on a narrow site, sloping towards a harbour inlet. A high rock ledge cutting across the site remains untouched, with the house placed below and approached by a bridge. The open carport remains on the upper part off the road.

To gain privacy, sun-exposure and view, all main rooms face north. The living area (entrance, dining, living, music) is entirely open, with the stair and furniture freely placed. This horizontal openness is continued vertically with part of the living space carrying up into the second floor study, which becomes a balcony. A mobile wire sculpture hangs in this high portion of the living-room.

Sun protection is provided by fixed sloping awning-type projections on all north-facing glass areas, with horizontal louvres in the upper part of the living-room. Construction is of brick painted off-white, light steel

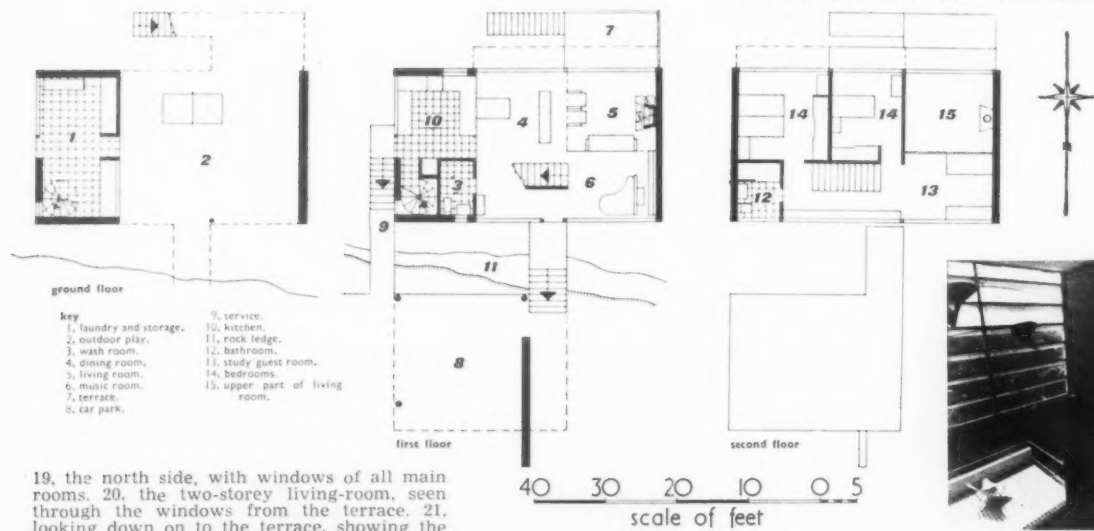


18

18. the entrance front, looking across the carport and showing the bridges by which the house is approached at first-floor level.

HOUSE AT NORTHBRIDGE

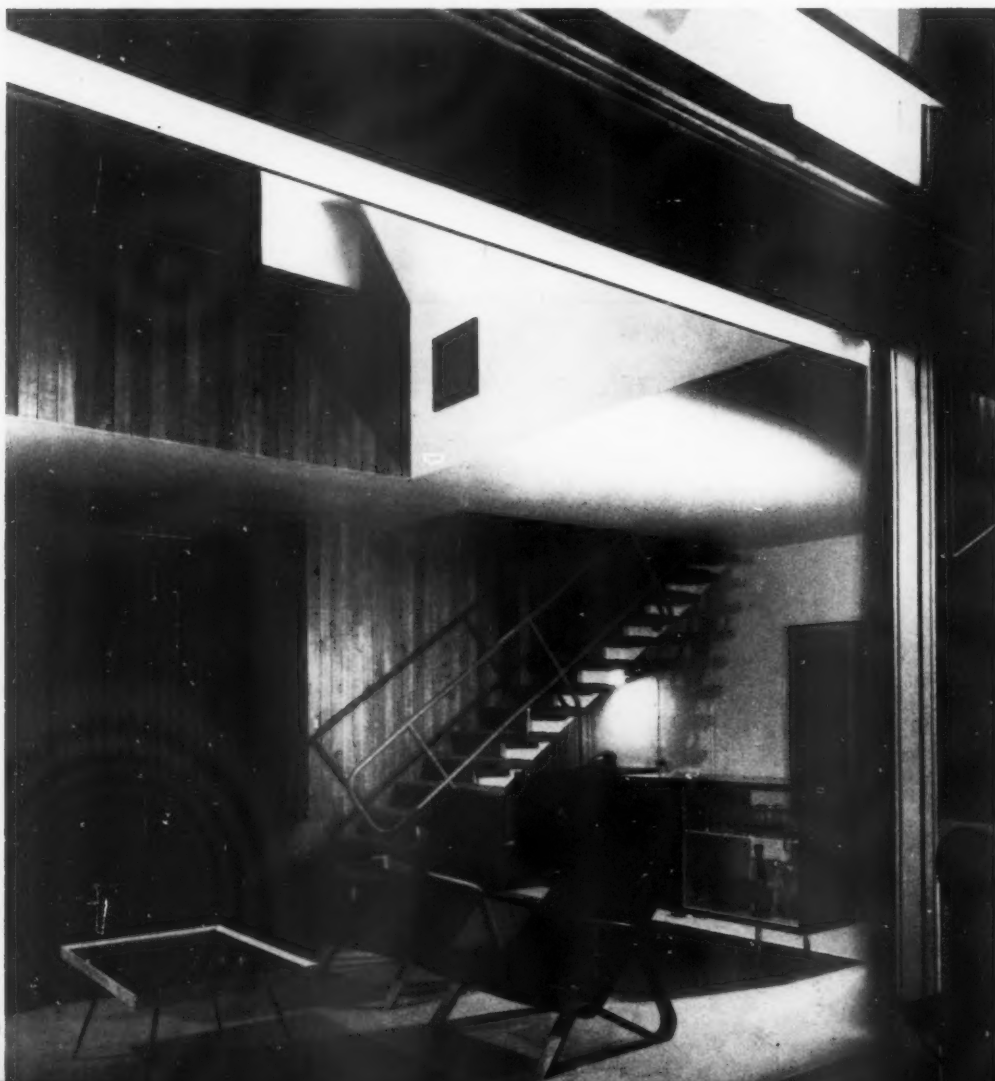
beams and columns, and wood floors. Glass is in fixed wood frames with opening steel casements. Some areas in these wood frames are solid, using bright colours on the exterior.



19



21



20

92

TELFORD AND THE GÖTA CANAL



1, the final opening ceremony on the Göta Canal on September 26, 1832. It took place at Mem. The ship is the royal yacht, Esplendian, and aboard were

King Karl XIV Johan (Bernadotte), his Queen and the Crown Prince (from a painting by J. Berger, 1855, in Linköping museum).

The Count

Admiral Count Baltzar Bogislaus von Platen (1766-1829), Knight of the Sword and Member of the Swedish House of Nobles, was an outstanding figure of his generation. Though he was a competent naval officer in his youth (when he was captured and interned in Russia for two years) and later both an important Minister and a leading member of the Riksdag, his national fame rests mainly on his realization of a project which had been a Swedish dream since the sixteenth century—the uniting of the North Sea and the Baltic by an inland navigation right across the country. Platen was not a Swede by blood for he was born on the island of Rügen in Pomerania, then a Swedish province, but he was a fervent Swedish patriot, not least in doggedly propounding his scheme of defensive strategy in which the building of the Göta Canal formed an essential element.

The building of that canal was the Count's life work. One of his peers declared him to be 'a liberal despot and a despotic liberal,' probably because, although his views were far-sighted, progressive and disinterested, opposition to any line of action he had decided was right and proper was liable to produce in him an explosion of irascible but effective rhetoric. At the same time he was an amiable character of spontaneity, simplicity and integrity, who owned something of that cosmopolitan charm which is common to all naval officers. His energy was tremendous.

Yet the Göta Canal needed more

than the drive of a Platen to become a reality. It needed the skill and experience of a group of British craftsmen and overseers to control and instruct the regiments of Swedish infantrymen who were employed on the canal in their thousands during the years between 1810 and 1832 when the canal was building. It also needed the knowledge and advice of the foremost engineer in the world at that time—Thomas Telford (1757-1834).

During those twenty years of building Telford and Platen were writing to each other fairly regularly about the affairs of the canal and about many other things too. It is an interesting correspondence, especially so the letters of Platen, which are far more outspoken and far longer and more numerous than the terse, factual, impersonal, though always courteous, letters of Telford, who never wasted his energy, not even on a needless word. The whole correspondence throws the vivid and fascinating light of reality upon the daily scenes, problems and human relationship which occurred during the building of one of the major works of the early engineering period.

The Platen letters have been preserved in the library of the Institution of Civil Engineers in London since the death of Telford, who was the first ICE President. The Telford letters, according to Sir Alexander Gibb's biography of Telford, were said to have been missing, but, when exploring the Göta Canal in the summer of 1954, I found most of them scattered about

the basement archives of the Göta Canal Company at Motala—twenty-seven in all.* Before quoting from them I must fill in the background.

The Göta Canal

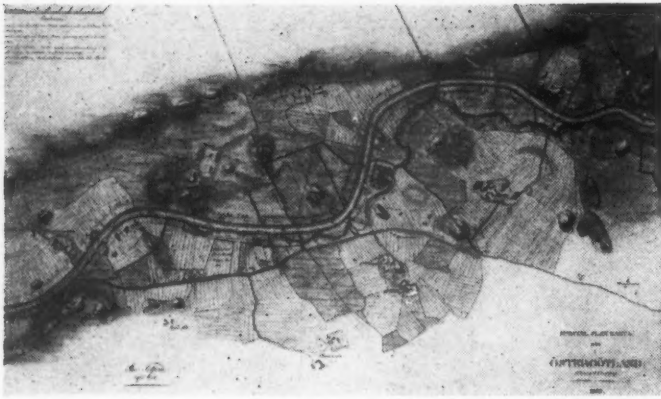
Today the whole of the inland navigation between Gothenburg on the west and Stockholm on the east is often called the Göta Canal, but strictly speaking the Göta Canal is only that part of the navigation which lies between Vänern, Europe's third largest lake, and the Baltic. It is divided into two parts: the Western Line between Lakes Vänern and Vättern and the Eastern Line between Vättern and Mem, the village which lies at the end of an arm of the Baltic called Slätbaken. It is this part of the whole navigation—between Sjötorp on the eastern shore of Vänern and Mem on the Baltic inlet—which Platen and Telford created. The total navigation between Sweden's main port and her capital is completed on the west by the Trollhätte Canal, which is mainly composed of the Göta River, and on the east, first by the waters of the Södermanland archipelago, and then by the old, short Hjälmare Canal running north into Lake Mälaren to the east of which lies the capital. The whole navigation between Gothenburg and the Baltic is mainly composed of rivers and lakes, the man-made cuts being only 59 miles in the aggregate; along the navigation 64 locks raise ships 278 ft. above sea-level to the summit

* Extracts are quoted by kind permission of Göta Kanalbolaget.

at Lake Viken in Västergötland and down again to the sea.

Though an attempt had been made by the first Swedish engineer, Christoffer Polhem, to bypass the great falls at Trollhätta early in the eighteenth century, the attempt was abortive and Vänern did not acquire a navigable outlet to the sea until the year 1800 by means of a scheme in which Platen was involved. That was encouraging and, after considerable research, Platen published in 1806 a work on canals in which he enthusiastically advocated the joining of Vänern with the Baltic so that the two seas might at last be united.

In 1809 came the bloodless revolution when the Frankophobe, Gustavus IV Adolphus, was deposed in favour of his frail and childless uncle, Carl XIII. A new constitution giving greater power to the Riksdag was adopted at the Diet of that year, and Platen had a good deal to say in its framing. At the same Diet, an important one in several ways for the country, State support for the proposed Göta Canal was voted. In 1810 Bernadotte, one of Napoleon's marshals, was elected as Crown Prince of Sweden as a result of one of the more curious events in history, becoming King Karl XIV Johan at the old king's death in 1818. Though he never learned to speak Swedish adequately, he made a good ruler and fully supported Platen's canal scheme and defensive strategy; he regarded him, indeed, as an indispensable adviser. Even while Crown Prince, Bernadotte was the virtual



2, one of the coloured maps of the Göta Canal project drawn according to Telford's scheme in 1809.

leader of the country, and his support was therefore vital to the Count.

The basis of Platen's scheme was the line proposed and surveyed by Daniel av Thunberg and Elias Schveder in the 1780s, the principles being those of the English canal builders, notably Brindley, who believed, first, that rivers did not make good navigations in themselves but existed to supply canals with water and, secondly, that locks should be grouped together in the canals as far as possible. As Platen saw it, apart from its military importance and the independence it would give ships from the tolls charged in the Sound between Sweden and Denmark, the canal would be valuable for the transport of such materials as timber, grain, copper, herring and salt and would greatly increase foreign trade, especially with England. The canal, he thought, would be able to obtain at least 5 per cent. of the merchant shipping which went through the Sound and that would provide ample profit. In spite of Platen's acquired knowledge about canal construction and because of the size of the project, it was decided that advice should be obtained from the country most renowned for canal building at that time and the King therefore issued the following instruction in February, 1808:

'His Majesty graciously requests that any of the most experienced Canal Engineers in England, and particularly amongst them Mr. Telford, to whom the execution of the Caledonian Canal is said to be entrusted, may be prevailed upon on proper terms to take a view of this undertaking and give his opinions and council thereupon.'

On August 8th, 1808, Telford arrived in Sweden with two assistants and within the remarkably short period of twenty days the line was marked out and lock positions were fixed with, as a contemporary remarks, 'absolutely incomparable diligence, perseverance and drive.' No doubt Telford was anxious to return home to his many jobs as soon as possible and he was, in any case, a man dedicated to the God of Work. His fee was five guineas a day—a high rate in Sweden at that time. In September Telford and Platen visited a number of existing Swedish canals to see how they were weathering and then Telford settled down for a few days at Platen's manor of *Frugården* to write his report. He accepted Thunberg's scheme to a large extent, though he altered the line in many places and recommended locks of greater size and number. He also recommended that the depth of the canal should be 10 ft., the width at bottom 42 ft. and at top about

82 ft.; also that the width of locks should be 24 ft. 3 ins.

In 1809 a set of very beautiful coloured maps of the canal, drawn to a large scale, were prepared by four of Platen's assistants, all bearing the copied signature, 'Thos. Telford, September, 1808.' On these maps new towns were drawn in at four places—towns which Platen was certain would grow up as a result of the canal's existence; in the end only Motala achieved the status of a town. The maps together with a translation of Telford's report were presented to the Riksdag and in 1810 the Canal Company was formed, four days after men of the Östgöta Grenadiers had already begun digging at Motala. Shares were over-subscribed by 100 per cent. Everything looked promising in that brief period of boom.

In spite of several reminders from Platen, Telford never seems to have sent a full sheet of costs, but eventually he gave a rough estimate of £400,000. Another estimate made by Samuel Bagge, the engineer of the Trollhätte Canal and a friend of Telford's who became chief engineer for the Göta Canal, came to slightly less; in the end the cost was more than five times the estimate. The time the canal would take to build was estimated at ten years at the outside; in the end the time taken was 22 years.

Because of the extra cost and the slowness of the work, Platen was compelled to fight many long and bitter battles in the Diets, as his letters reveal; at one point, indeed, he nearly gave up the struggle in despair. But at long last the canal was completed, three years after Platen's death. It had been a tremendous undertaking for so small and poor a country; it had been initiated at a time of revolution, and built during one of the most stringent periods in Swedish history—a period of rapid inflation and financial instability—and in earlier years a period of international tension and war as well.

The building of the canal was not merely a matter of digging the ditch itself, but of blasting through many a granite escarpment (rock blowing, as Platen called it), and of constructing 35 bridges, three dry docks, 58 large locks, many of them in long flights, of erecting demountable timber barracks for the thousands of soldiers and their officers who were employed on the works, as well as of building houses for administrative staff, hospitals, stores, cook-houses, bakeries, stables, barges, bridges, pumps, cranes and so on.

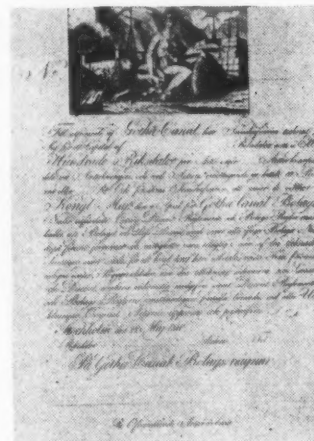
And in the end the Blue Ribbon of Sweden was not the financial success that had been expected. The tolls at the Sound were removed in

1857, the railways came as serious competitors in the 'sixties, and, finally, the Platen defence scheme was out of date. Nevertheless, the canal has acted since its completion as a useful alternative means of communication across the country, not least as a popular route for summer tourists. The Canal Company belongs now to Stockholms Enskilda Bank who maintain the canal in good condition, and in recent years have been content to lose money on it because they receive adequate compensation from the forest concessions owned by the Company. Regarded in realistic terms, however, the Göta Canal has always been and remains a national asset—one might almost say a national monument. Since a Royal Commission sat in Sweden between 1916-22, there has been some talk about increasing the size of the Canal and of decreasing the number of its locks and bridges, but so far nothing has been done.

The Telford-Platen letters reveal that the building of the canal was something of a nordic saga of endeavour, tribulation and final achievement. Its hero was Baltzar von Platen.

The Letters

Platen invites Telford to visit Sweden and give his advice on the proposed canal. On June 2, 1808, Telford replies from Inverness: 'I am particularly desirous of affording every assistance in my power to the accomplishing so noble and useful a work and no trifling obstacles or inconveniences shall stand in the way.' Telford then travels to Sweden in a British man-of-war, the northern seas being infested at that time with Danish and French privateers.



3, share certificate of the Göta Canal, 1810.

Having accomplished his survey and made friends for life of the Count and his wife, he boards a ship at the beginning of October at Gothenburg for the journey home. From Gothenburg, October 3, 1808, the Count sends a letter to the ship which reveals something of the ever-growing respect and affection Platen feels towards the Scottish crofter's son:

'Sir! A few hours after your departure I found how well it would have been to see You once more tho' this has had no influence on the bad wind I understand keeps you nearly in the Road. . . . As looking at the levelling instrument I found I had better take a lesson of You about it, than standing talking nonsense last evening up stairs; but as this was not the case Selfinterest should bring me even for this reason to wish You back for a little while.

'Lastly You see mankind are

always so foolish either to run away from or run after each other now as in the beginning running away would not do for our business we soon found since that it would not do neither for our affections; and that the reason why I now find myself always in the habitude of running or looking after You.

'Well make of it what you can but I think if to morrow morning there is a fresh westerly wind You may as well come a shore once more for to fetch a better wind, seamen always do this and find it answer very well.'

January 12, 1809, Platen writes to ask for the tools which Telford has promised to send over as examples to be copied in Sweden, and on March 2 he writes again about obtaining a first engineer from England in place of Samuel Bagge, who seems disinclined to come home from Norway:

'My dear Friend! . . . I wish to speak about a little more at long; viz the way of getting a first Super intender as well as the other Capital workmans for the Canal business. . . I have absolutely done with Mr. Bagge!'

In fact he has not done with Mr. Bagge who takes up his position as Chief Engineer in April, 1809.

An account to the Swedish Government from Telford dated May, 1810, shows expenses for his two assistants during the visit to Sweden; also a charge of £105 for six drawings of a canal lock, stop gates and swing and draw bridges; also £52 for sample tools sent, viz., three rail road waggons, three wheelbarrows, three picks, three shovels, six pieces of cast-iron rails. There is a great deal of trouble about shipping the tools to Sweden, for the situation between the two countries is now strained owing to the new Swedish overtures to France.*

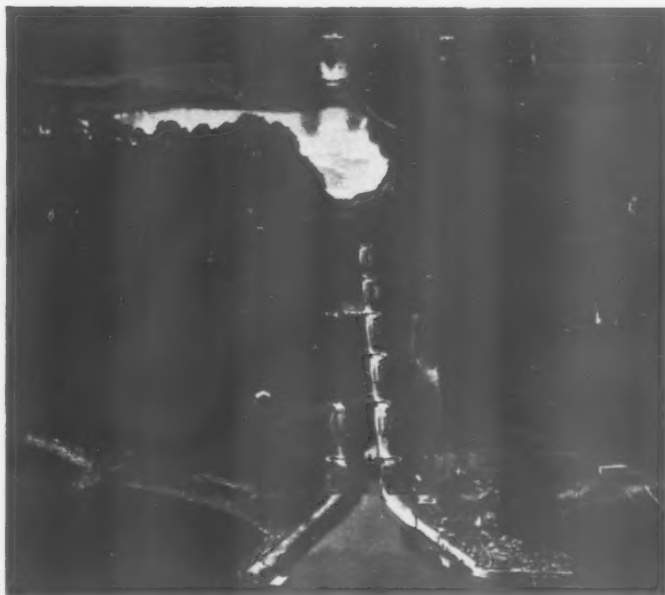
For the first four years all seems to have gone well with the canal operations in spite of lack of British overseers and workmen, because the work then consisted mainly in digging. In 1811 5,000 men were employed, the bulk being Swedish infantrymen working a twelve-hour day; there were also a few hundred lay workers and some 150 Russian captives, 'that have deserted on the road home being tired of their despotic government,' as Bagge writes. Most of the work had to be suspended during the frozen winter months, of course.

In 1813 Telford paid his second and last visit to Sweden to inspect work in progress. He recommended that the job should henceforth be concentrated at certain points so that some lengths of canal could be opened to navigation as soon as possible. That year the first two British workmen were sent over by Telford, namely James Simpson and John Wilson. The following year five more were sent over—James Smith, David Lyon, William Urquhart, Alexander McKenzie and Alexander Fraser. At the same time

* The situation in Sweden was thus: At the Revolution, with France's bitter enemy deposed, the Swedish government tried to invoke Napoleon's goodwill as a support against Russia. But Napoleon would give no help and in the end Sweden was compelled to accept Russia's peace terms by which the last remnants of Sweden's Baltic Empire—Finland and the Åland Islands—were handed over to Russia. Sweden was then forced to obey the behests of France, officially broke off connections with England, and took part in the Continental blockade. But Bernadotte was an astute man; trade with England went on in a quiet way. Then in 1811 Napoleon forced the Swedish government to declare war on England—a strange war in which not a shot was fired by either side. In 1812 Napoleon occupied Swedish Pomerania at a time when war was developing between France and Russia. The outcome is well known; open friendship between England and Sweden became possible again.



4



5

4, the headquarters of the Göta Canal Company at Motala in central Sweden.
5, locks at Berg, on the eastern line of the canal. They climb down to Lake Roxen.
6, the canal at Söderköping, near the Baltic.



6



7



8



9

7, the English bascule bridge built about 1812 across the Göta Canal at Forsvik, where the first lock was completed—as English as an iron bedstead,* as a modern Swedish writer describes it. It is now threatened with demolition. 8, iron lock-gates, based on an English prototype and imported in 1820. 9, rolling bridge near Borensberg, on the eastern line of the canal. 10, lighthouse and lock-gates at Sjötorp, where the canal leaves the eastern edge of Lake Vänern.



10

two promising young Swedish lieutenants, J. Edström and G. Lagerheim, were sent to England at the Canal Company's expense, to gain experience for nine months under Telford. In later years other British masons and craftsmen were to go to Sweden; in 1817, for example, 18 were being employed. Their wages varied from £70 a year to more than £200, plus travelling and living expenses—good pay in those days. Many of these men were Scottish, and Platen preferred them to others, for, as he wrote to Telford on one occasion, he found them 'easier conforming to the people and country.' But whoever they were, Platen seems to have treated all of them well, acting towards them, as one employee wrote home, 'as a father and friend.'

1814 was a year of sporadic but not violent war with Norway and this affected the canal works in that the troops employed on them had to be withdrawn. After 1814 no further warring occurred; in fact, Sweden has avoided war from that year up to the present time. The troubles on the canal henceforth were financial. However, a worse calamity than war happened to the canal in 1814—at least so it seemed to Platen who wrote from Pomerania, August 11:

'The very worst Canal news that possibly could happen have reached me here! viz that Major Bagge in the middle of the Wattern has oversett in a gale of wind in that small boat in which you went together to the Freestone Quarrie, and has been drowned with all his company! . . . Poor Bagge . . . so he thought himself a seaman and really he was one for fine weather; but as for the Canal business he was more to me in all respects than ever can be filled up by any boddy in Sweden, even particularly in some respects the Young people (i.e., Edström and Lagerheim.—E.M.) will be of great use to me, and I feel more than ever how much I am indebted to You. . . .'

Telford is consoling in a letter from Stonehave, October 31, 1814:

'I can readily conceive your distress at the loss of Major Bagge; in the language of our Shakespeare "You could have better spared a better man." But you must make men for your purposes, as I have done; Messrs. Lagerheim and Edström have been fairly initiated into Engineering and by attending to practical operations, and studying the disposition of Workmen, I have no doubt they will be valuable assistants; others, in the subordinate branches, will gradually make their appearance and, until your native talents are unfolded, our British workmen will prove singularly useful. . . . I shall be glad to learn how they are employed, and have a short account of each of their conducts.'

'I am fully convinced that the check given the Canal Operations by the War has been, on the whole, advantageous; This Year was required for the gradual introduction of Masonry operations, to which your people not having been much accustomed, require some time to get familiar with, that is to say, with work carried on by means of machinery, and in forms which to them are unavoidably new. . . . A practical School, once established, requires only employment to spread its scholars over the Kingdom. . . .'

Platen is now in Christiania (Oslo) working for the Scandinavian Union. This is ratified on October 20, 1814. 1815 is the critical year in which Platen nearly resigns from the Canal Company. He writes on August 27:

'Peace and the union of Norway performed, a Diet was the consequence of this; and having found by the calculations made at the end of the last year that the funds of the Company by no means were adequate to the work as yet to be performed. . . . I published the bad news in the middle of March, the Diet having been assembled a fortnight! What a damned noise! What an outcry! All the sence and nonsense of the whole Country at once in motion. . . . All sort of reproaches from all sides, were merciless thrown out and till beginning of August I have mostly alone been standing in Butt in the House of Nobles! A fine and pleasing occupation when we think ourself actuated only by zeale for common welfar! but there were two Devil of things wich people never could get rid, or account for! viz, my imperturbable calmness and tranquility, and the danger and improbability of stopping so large an undertaking in so many ways connected with General welfar, after it was so far advanced!! it's shocking! it's odd! but it's unavoidable! that the Diet has, after all this struggle, been obliged to give a yearly supply of 800,000 RD (Riksdahler.—E.M.) in Six Years to the Company besides the conformation of the loan Banque and doubled its fund of Credit in the Banque! . . . Dam them all they have embittered a whole Summer to me. . . .'

'Meanwhile the work has gone on pretty well tho' we would have made a fine banquerupt if the supply had failed; and newer was a Year more propitious to the execution. Mr. Wilson has two locks nearly finished, the sealock at Berg founded and advanced above the invert and the next above will be founded these days. Wilson is exceedingly well pleased as well as his two workman, as the Crown Prince was there newly founded the Sealock, shook hands with him and gave him a golden box, his inferiors getting some ducats. He has been an excellent man all the time, but now his is nearly over spirited! The whole Regiment and he are equally satisfied with each other, as he frequently tells that newer he had better workmen in his life as those he has trained bewixt them. His only objection is that we sometimes should as he thinks give them a little more pay and that he fears he will not have the same regiment next year again! I hope we will settle both. . . .'

This year Platen asks the King to institute a survey of the work accomplished and in progress, in order that unjust criticisms may be stilled. The surveyors report that so far as the quality and efficiency of the work is concerned there can be no complaints.

There is more human comment on the British workmen in a letter from Platen of September 19, 1815, especially about Simpson, who is getting the highest pay, but whom Platen seems increasingly to dislike:

'Your countrymen are all well and have acted to the general satisfaction, as I hope they are satisfied; there may be an exception on both sides as to Mr. Simpson. . . . a man not much to be depended on in his business, as he allways will make more for a shining appearance than for true solidity; he has a deal of pride, thinks himself superior to his Countrymen and endeavours by no means to sustain this superiority by a strict conduct, but drinks heartily along with them at their expence as he is a good econome of his own, whilst his turn of day passes very soberly. This was the case in the



11, contemporary drawing of the dredging machine imported from England in 1822 for use on the canal. The vessel was made to measure in Sweden.

beginning but his Countrymen being sober and quiet people separated from him after a fighting or two. . . . Mr. Wilson continues to give general Contentment . . . if some times a little whim appears it is always the produce of zeal. . . . As for Mr. Ashworth he continues in his old way to the great contentment of every body, his religious zeal keeping within doors; certainly he tells me sometimes with a plentiful portion of Yorkshire-talking that he thinks he should have a little more pay, but as yet we are only about talking, certain it is that we will be badly off without either him or Wilson or any of your Countrymen, and perhaps will be obliged to augment their numbers. . . . Mr. Urquhart has had a little dealing with some Soldiers in which he may be glad at the strictness of Swedish discipline as well as the docility of the Swedish man as he was terribly wrong. All is well over without loss of neither ear nor eyes. Fraser, Carlile, Mackenzie, Lion and Smith are all well, beloved and appreciated by all who have to do with them; and as far as I know contented with us. I finish with to confess to you that never did I expect in getting over such a number of strangers to settle so easily and quietly as I have done with them wich certainly and only is to be ascribed to your penetration and good choice. . . .'

'Carlile and Fraser differ a little in opinion with me about the water edge of the Canal they wish to turf it as the cheapest way to preserve against the washing of the water, but I have an idea to cower the water edge all along with small stones whereof we have such a quantity in some places and they may be brought along the Canal by boats after the water is in; certainly this will be more expensive but I should think it will in future prevent the coarser Water grass to grow wich I think very troublesome in Canals and forming for the future a continual expence for removing it, I should thank you for your opinion on this point. . . . (Platen got his way).

In the winter of 1815 some of the British workmen return to England for Christmas, including Simpson who returns for good. But there is some personal trouble, for Wilson seems to be in his most trying and whimsical mood. From Linköping on Christmas Eve 1815 Platen writes in some perturbation:

'I hope your Countrymen are safely arrived before this and have delivered my letters; I am sorry to be under the necessity of giving you some informations regarding the very last week of their stay in this Country. . . . I sent a Young man who speaks English along with them, I ordered a tour to be taken in the way to Trollhättas as they wished to see the place, and at the express desire of Wilson already expressed to me when at Berg I desired my brother in law to endeavour to get a passage for all four by a good Merchant Vessel straight to Scotland

as the passage upon the paquet would be more circuitous to them and consequently of no use tho more expensive. Mr. Ekman had found out a fine brig whose Capter in all respects seemed to be a clever man, and as very often in a transport even a General should be glad to find an accomodation like this, I should think their Excellencies Wilson, Simpson, Ashworth and Carlile, particularly as the Cabin was to their disposal, could form no just objection against it; but. . . in Gothenburg. . . . Wilson in the name of the whole company who was present, tho' he the only speaker, not only declared to my brother in law that they preferred not only the passage in the paquet, but the first places, probably for to keep company with a Russian Princess, for this time the only passenger of that rate; upon Mr. Ekman's remark that this was contrary to my instruction and a full doubled unnecessary expence to the Company, Mr. Wilson fell out in insolent expressions and several reflexions of the kind wich he desired my brother in law to communicat to me, all in presence of the other his Countrymen who were silent hearers, tho' some seemed to disapprove his behaviour, even the Young men I sent along with them was present; betwixt number of fine things unnecessary to repeat here Wilson declared contrary to what we had agreed that he was determined under no condition to return to this Country; If you did not know my brother in law to be a moderate and cool man you will find it by his only telling them that for to cut short he would pay them necessary money and they might take their passage where they pleased; even on this suggestion impertinent reflexions did not fail, but Ekman, as he tells me, only acted by the supposition that their return was of absolute necessity kept his temper; the three other gentlemen absolutely silent uttered not a word of disapprobation to the conduct of Wilson tho some discontent appeared in the countenance of the two; and of the event for to take their station aboard the paquet I suppose to the great comfort of the Russian Mylady particularly as our gentleman were engaged in a warm quarrel and nearly boxing between them on boarding the paquet. And there is the end of my foolish story. But as for all that I wish if possible to see tree of the company back again. . . . as certainly they can be of great use to us, but rather than be imposed upon by them I prefer to be without them. . . . I always learned and lastly of you never to be in dependance of any man I never patiently suffered any injustice of a king consequently not of Mr. Wilson, but I forgive him easily considering what opinion I have of him. . . .'

Once more Telford is soothing, and writes from Ellesmere, January 27, 1816:

'You are well aware that much trouble attends governing mankind,

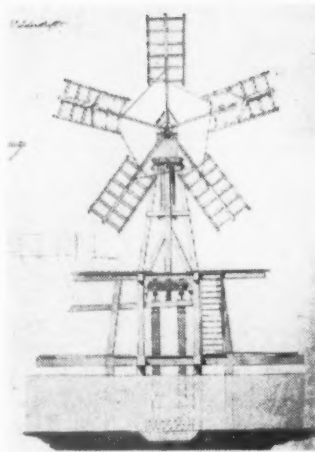
I have my share of it in managing Overseers. And altho' when matters are unfortunately brought forward, I never give way, yet I am often glad to seem not to know lesser improprieties unless they are forced upon me. You are also aware that there is a tendency in the manners of Englishmen, and more especially Artisans, in the northern parts of the Island who affect independency. You also have a just conception of Wilson's character which neither you nor I, nor himself can now change. You are much better than I capable of judging how far your future operations will be promoted or retarded by his presence or absence . . . (The letter goes on to suggest rises in the British workmen's pay and gives various pieces of advice about digging of earth, seasoning of timber, the working of quoins and copings, the use of horse runs, the use of Parker's Cement to cure the leaking of hollow lock quoins at Forswick Lock, and the regulation of the division of labour 'so that the same men may as much as possible be always employed on the same sort of work'.)

In a letter of January 26, 1816, Platen considers the use of steam vessels on the canal, and declares how much he wants to hear 'some thing from your immense undertakings as the Caledonian Canal, the Bridge by Iron Chains, the Bridge over the Mersey, etc.' On May 11, 1816, he writes that Ashworth, Wilson and Carlisle have arrived safely back in Sweden and remarks: 'It seems to me as if a turn in England is a good physik to our friends for mor than one reason!'

There is more trouble at the Diet assembled late in 1817 and from Stockholm, February 22, 1818, Platen writes:

'I have very displeasing occupations here at the Diet after having thought every thing to be settled and over. The failure of our loan banks and the general disturbance occasioned by this in the general finances of the Country, brings the whole thing back to the former state of uncertainty where it was last Diet, we are once more debating if the whole thing is to be continued or not . . .'

But the necessary new loans were forthcoming in the end and the job went on, though its speed and the number of men employed had to be reduced. A pair of iron gates were ordered from England through Telford's agency and after two years' delay arrived in Sweden, were fitted to a lock and proved their worth. Thereafter iron lock gates were made in Sweden on the English pattern. A dredging engine fitted into a craft made specially in Sweden was also ordered from England and eventually worked well. At about this time, too, Platen decided, in order to save the great expense of importing foreign products, to establish an iron works that would make iron bridges, lock gates and so on for his canal in preference to more temporary works of timber; later on he hoped also to make steam engines there. Telford obtained the services of an English iron worker who stayed a season in Sweden; that first attempt, however, came to nothing. Eventually the Canal Company did build an iron works at Motala under the direction of an able Scot, Daniel Fraser, who now lies buried in Motala churchyard. The works proved their value, but financial difficulties arose, and in 1840 they were sold to a private company. Today those works, known as Motala Verkstad, are among the most important industrial concerns



12, wind pump, as used in constructing the canal.

in the country; the little, trim white passenger steamers, which ply along the canal in summertime and take two and a half days to make their delectable journey between Gothenburg and Stockholm, have been made there.

In March, 1822, Platen visits Telford in England and makes a tour with him. He writes, May 11, while waiting at Harwich for a fair wind home: 'Yes, my dear friend I shall leave this shore perhaps for ever but certainly these last 5 weeks of stay in England will be remembered for ever by me as an immense augmentation on the considerable debt I already stood in with You, to whom I own all the Success of latter years; nay more, the strength of fighting the obstacles thrown in my way; but You are no Friend of words and so no more of the subject. . . .'

The same month Fate is kind to Platen in its paradoxical fashion, for he writes from Gothenburg, May 22, in a postscript:

'A man who always was a strong opponent to the Canal with considerable talents in the house of nobles; probably often a tool to some high people, and who last Diet nearly had carried the question of my arraignment has cut his throat. So we will have no more fihgt' [sic].

1822 is a big year for the canal because the western line between Vanern and Vättern is opened in the autumn with great ceremony. Platen describes it in a letter from Mariestad, September 29:

'Dear Friend! The 23 of this Month the Great Ceremonie of the kings passage from the Wenner to the Wiken on the Gota Canal took place with full success a particular Wessel was fitted out for this purpose and was accompanied by to large Gunboats schooner rigged and several other Wessels the Water in the Canal was between 8 and 9 feet and under an immense crowd of people parading Regements with their bands and firing of diferent batteries the Scene was realy grand. The only thing missed not only by me but by many other was the presence of You dear Friend; but I know You are not found of Ceremonys. The king was delighted by the Scene and extended his tour to the new forteresse* at the Shore of the Wetttern, every body seemed now convided of the goodness of the plan who long enough was threatened a speculating folly and I deemed those two days to have a full victory. The two uppermost Locks on the West end of the Level were given your name and the king paid particular attention to the perfect-

* Karlsborg.

ability of the work as the result of your aid. I was happy to see this justice done and am sure you rejoice with me at the Success.'

Another Diet took place in 1823 and Platen was in the wars again. This time he had an easy win. From Stockholm, March 18:

'The 1st of March our Sir Francis gave me a good opportunity by an incendiary production to exert my small oratory talents in a full house of about 700 members and I was successfull beyond all expectation of me and others! Roaring acclamations and individual praise poured on Your Friend from all sides to a degree never heard before, and the inimical party was quiet interdicted . . . my spirit was flowing that day and my tongue unfettered. . . .'

On October 17, 1823, he writes:

'I have had a hard stand as usual but the 15 of this month I carried the question in the House of Nobles with a Majority of 138 against 26, tho with a fighting for all the different questions of a whole day! I remember pretty well when I was glad for a Majority of 7 voices but the opened navigation has made an effectual impression. . . . The Navigation on the west line has been far beyond expectation . . . the inner parts of the Country are already vivified to a visible degree. . . .'

There were delays during 1823, and 1824 was the worst year in the history of the canal's building, mainly on account of costly troubles in Lake Viken where dangerous under-water rocks in the fairway had to be blasted away and where the dam had to be entirely rebuilt. But Platen pressed on. He wrote from Gothenburg, November 22, 1824:

'The performances of the year at an end at all other places except Forsvik, where very nearly I was in a scrape with the whole business retarded by the failing of the cofferdam, and the bad season advancing fast upon us with ice and snow and the water in the upper part of the Lake rising hourly; happily I had one of the hardest Regements of the Country tho' a very stubborn one. As Commander I declared them in front; some individuals having uttered a wish to see their home, that neither they nor I would see our home before we had finished the task! and after this open declaration, with some dexterity, daily and hourly attendance of mine and some brandy and ale I never heard a murmur of 517 men quartered on the Rocks of Wiken in almost open sheds and often working in water to the knees tho' the ice in other places was strong to bear a man! happily I was in good health tho' I was with them every hour and at the 25 of Octobre the bataillon left the place without a single sick under laughing and singing. . . .'

In England Telford has a bout of illness and tries to reduce his responsibilities, but with the death of Rennie in 1821 work pours in. He writes from London, April 11, 1824:

'My dear Count, . . . In regard to my Avocations they are so numerous and extensive, I scarcely know how to proceed to describe them. I shall therefore only amuse you with slight notice of a few of the most important. Beginning at the North End of the Island.

'1.—The Caledonian Canal, has been much frequented since the Regulating Weirs ensured 13 feet water in the shallowest parts. . . . From Gothenberg, and the Baltic, Timber Vessels may now pass direct through the Caled. Canal and the Clyde, to Ireland, or Liverpool. By this means, the detentions and ship-

wrecks in the passage by the Orkneys will also be avoided—and much time saved in foggy, dark and Stormy Weather. It may be important to let this be generally known in all the Swedish Ports, as well as the Norwegian. Vessels cross between the East and West Coasts in 3 or 4 days with perfect safety.

'2.—The Highland Roads and Bridges remain in a perfect and useful state.

'3.—The Dundee Harbour, nearly completed. . . .

'4.—The Edinburgh Water Works nearly completed. Wilson superintending the great Reservoir Works.'

Telford goes on for another eighteen points, including roads, canals and harbours, the masonry of the Menai Bridge nearly completed and the iron work prepared, the Conway Bridge in a forward state, a plan for New London Docks prepared and presented to Parliament. He concludes: I think you will admit I have not been idle. . . .'

What a man! He even has time to ask Platen about the cask of pine seed requested to be sent to England for planting on the estates of Lord Colechester, former Speaker of the House of Commons. Telford has been asking for these seeds with polite but dogged insistence since 1816.

Another letter from Telford of July 11, 1824, shows that canals are booming in England. In spite of the boom, there was more opposition to the completing of the Göta Canal in the Diet of 1828 to 1830, but now the battle was finally won. Since the beginning, all the arguments had, of course, been about money and bank loans, but the time had long since passed when abandonment of the project was possible.

In 1829, before the Diet had adjourned, Platen was sent to Christiania as Viceroy with the commission of trying to save the Union. Like Telford, he was now tired and aging. Both men had driven themselves hard; as Telford wrote on one occasion to Platen: 'I keep talking of avoiding employment, but when undertakings of



13, the Count von Platen, from a contemporary portrait.

magnitude and Novelty are forced upon me, the temptation is too great to resist'—and on another occasion, when urging Platen to visit England: 'If you do not come this Year or next there is a risk of the Game being over with us both. We play with so much eagerness—we cannot last long, but we are too far committed to recede.'

After a fortnight's illness Platen died of cancer in Christiania in December, 1829. An extract from his last letter to Telford reads with the pathos of a rather weary old man:

'I have done my duty, tho' with little gratitude. . . .'

But he achieved his object.



14



15

14, the first lock, at Sjötorp, on the stretch of the Göta Canal east of Lake Vänern. The locks are still worked by hand. 15, a timber lighthouse on the shore of Lake Vänern. 16, a passenger steamboat approaching a bend in the canal near Borensberg.



16



The power line from Poole to Yeovil is planned to pass through this valley, in which is the Scheduled country house, Bingham's Melcombe, left. An alternative route is proposed which would avoid both. The only house that would then suffer is the villa, below. The diversion is opposed by the Dorset County Planning Committee, whose rule-of-thumb planning is criticized on the following pages. The single-circuit 132 kv. line is to be used, carried on pylons like that illustrated here. We shall see a lot of them.



Gordon Cullen

BINGHAM'S MELCOMBE

OR THE RULE OF TOM THUMB

The curse of the English landscape is the absentee landlord. The old landlord, the man who created it, has been taxed out of existence and the new landlord, local and national authority, lives in town or suburb. Consequently that sense of personal responsibility arising from a knowledge and love of a particular piece of countryside is missing and is replaced by a generally beneficent but remote control: the difference between a parent and a foster parent. (How often do we come across some village which at once stands out from the general run of untidy, outraged and decaying hamlets by its trim and homogeneous air only to discover that it is still the responsibility of a family.)

Add to this the fact that authority, almost by definition, is more interested in the art of government than the art of landscape, then what happens to the landscape will be the political resultant of the various pressure groups involved. On the one hand there are the pressures arising from the necessity for new housing, power stations, power lines, railway electrification, military installations, airfields, car parks and roads, radio transmitters, mining and quarrying, etc. And on the other hand are the pressures exerted by the preservation groups such as the C.P.R.E.

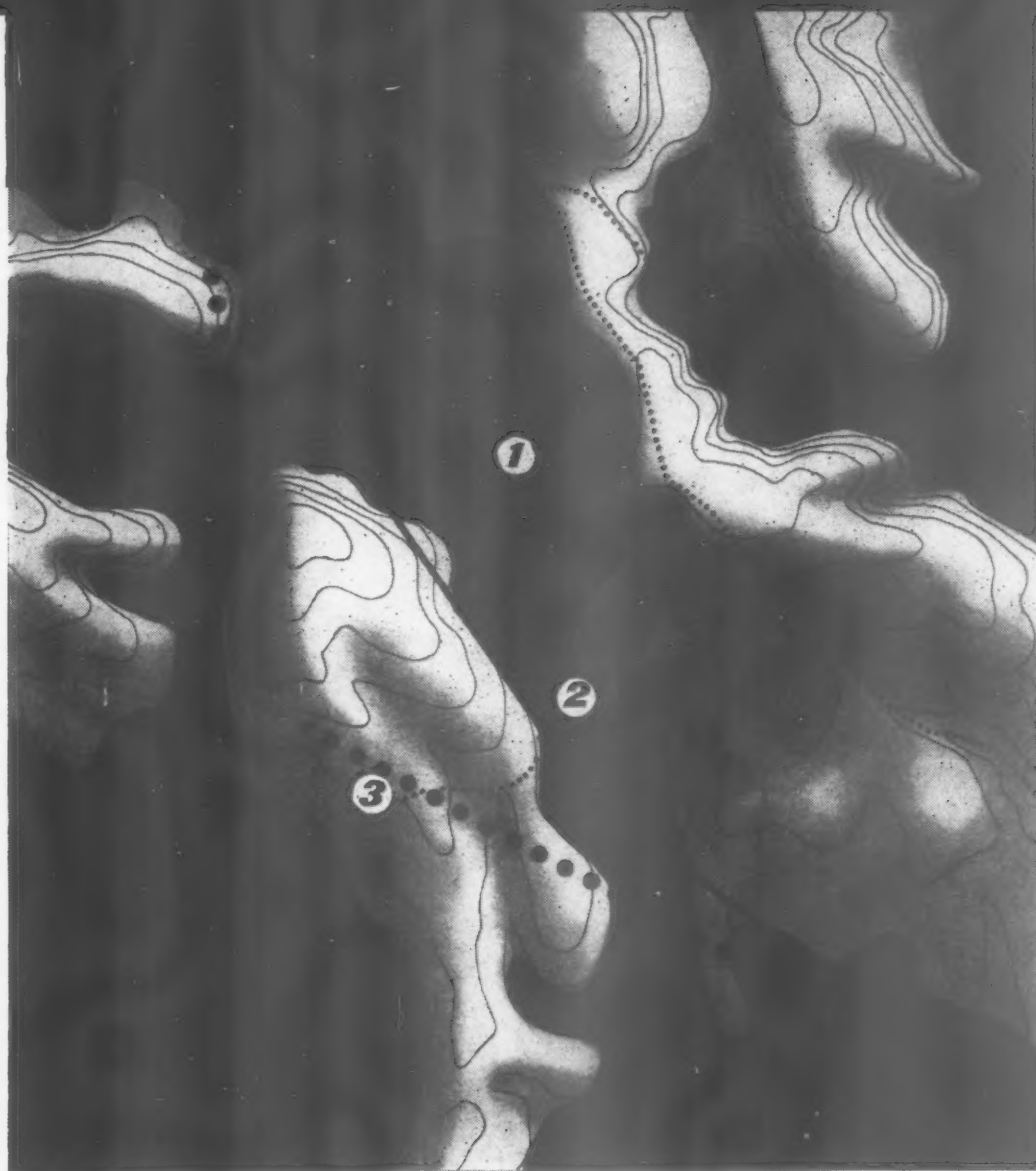
It is not surprising therefore that authority, in its attempt to resolve these pressures into a single resultant, will evolve certain broad principles which, by and large, work or make the best of a bad job: rule-of-thumb planning. This, however, cannot be more than an alibi for imaginative design. It is carried out by absentee landlords who have only a marginal knowledge of the art of landscape. In the nature of things it is bound to lead to abuse and outrage. Perhaps this can be clarified by a homely simile. Generally speaking the Smith family have a roast of lamb on Sunday. Mrs. Smith, however, is a good shopper and if the quality of the lamb on a particular day is poor she buys something else. Mrs. Smith falls ill and Mr. Smith does the shopping. He knows next to nothing about shopping but he does know that they generally have roast lamb on Sunday. Hence he insists on buying a leg of lamb that turns out to be a disaster. Rule-of-thumb shopping is no substitute for skilful shopping; neither is rule-of-thumb planning an effective substitute for the practice of the art of landscape. Fortunately the countryside has not yet been entirely abandoned. There are still those 'village Hampdens' who

have humbly studied their own bit of countryside and are prepared to defend it against the steamroller let loose by rule-of-thumb planning. Here is such a case.

Upon the death of its owner, Bingham's Melcombe, the Dorset country house, was purchased by Sir Francis Hopwood. The house, a comfortable and snug manor house, has great charm in itself and nestles informally in a spacious valley. The fact that it is a scheduled building is an indication of its recognised worth. The valley itself is of great beauty and it also, according to our information, has been recommended for scheduling as being of 'the highest landscape value'. But these are not two separate things, building and valley. If you destroy the setting you lessen the building, and by the same token if you replace the building by a gasworks you devalue the valley. Upon taking over the property Sir Francis Hopwood found that he was engaged in the battle against outrage from the start. For just as damp and the death-watch beetle had put the actual fabric of the house in jeopardy, so the agents of outrage were creeping through the valley. On his own land, and closing the view of the valley, a completely incongruous row of villas was clearly visible. He has planted a clump of chestnuts to screen them and so preserve the sense of unity. Battle was joined with corrugated iron. Later it transpired that a hill flanking the valley was up for sale, but the standing timber, deciduous, had already been sold separately to a timber merchant. The owner thereupon purchased the land and, before the trees could be felled, bought them back from the timber merchant.

The next threat, and it is with this that we are here concerned, arose when it was learnt that the Central Electricity Authority proposed to bring a new 132 kV. line through the valley since it happened to be on the route between Poole and Yeovil. A meeting was held on the site between the owner, a representative of the County Planning Officer and of the C.E.A. and it was agreed to adopt an alternative line which avoided the valley and passed through more elevated arable country with little habitation. Except for one or two pylons this line would be invisible from any public road or place. This alternative route was then agreed in principle by the County Planning Committee and the C.E.A. Some months later the owner learnt, indirectly, that the County Planning Committee had rescinded their agreement to the diversion and recommended a return to the original line through the valley, although there was no change of heart on the part of the C.E.A. At this point and subsequently the owner found himself treated like K in Kafka's *Castle*. He could get no information concerning the decision and those to whom he wrote replied evasively. That is how the position rests today.

It doesn't make sense. At least, it doesn't make sense until you realise that the local authority is trying to preserve the amenities of Dorset, and all the indications are that the particular rule of thumb applied here is that since pylons are offensive they must be hidden. Consequently they must avoid the skyline and at all costs pass through valleys. You've got to have roast lamb on Sunday even if it poisons you. Quite clearly the power line should avoid the valley and pass along the alternative route. If this is done it will be established that no longer is the uncritical enforcement of rule of thumb to be tolerated even though it is undertaken with the best will in the world. We all now know that Bingham's Melcombe lies on a line between Poole and Yeovil; what may not be realised is that it is five miles from Tolpuddle and thirteen from Crichel Down. Planning has gone a long way since Tolpuddle; it must be kept alive, vigorous and imaginative, and not allowed to end up a casualty to bureaucracy.



THE COCKPIT

A relief map of the area, in which 1 indicates Bingham's Melcombe, from which it can be seen clearly that the suggested diversion (dotted line), simply takes advantage of the contours to protect the house and valley from the outrage of wires. The alternative to a valley route is not necessarily a route which clings to the highest ground; it is the alternative to rule of thumb, which is to exploit the contours and natural features with skill and ingenuity.

Key to map:

- 1, Bingham's Melcombe.
- 2, Bramblecombe Farm, a charming nineteenth-century building, whose owner is also opposed to the proposed route of the power line.
- 3, the villa, the only building directly affected by the suggested diversion.

Proposed power line.



Suggested diversion to avoid valley.



Public roads.



Main valley bottoms.

THE BATTLE AGAINST OUTRAGE (below)

Left, the scene today. In the foreground is Bingham's Melcombe. We are looking in the direction of its main prospect which is marred by distant villas and farm

buildings. Centre, the owner has planted chestnuts which, in time, will screen these buildings and preserve the unity. But all would be confounded if the proposed power line were to be erected, right.



THE ROUTES COMPARED: the valley route



View from the garden of Bingham's Melcombe, showing how pylons would mar the setting of an important and scheduled country house.

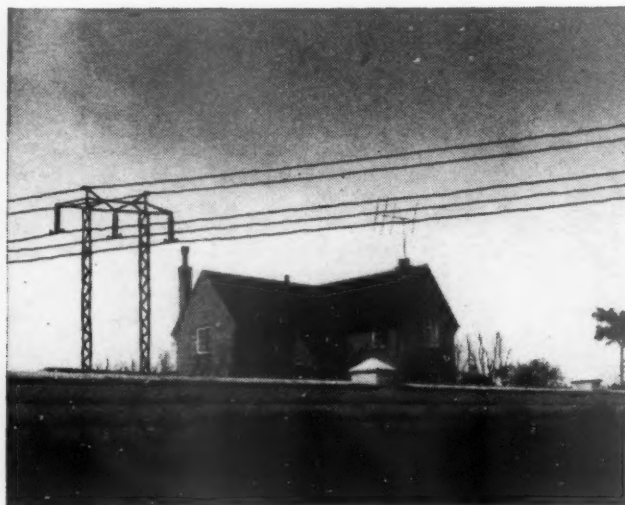


The pylons accompanying the valley road. Rule of thumb planning ensures that they will be seen by most of the people most of the time.



View in the valley showing how the pastoral scene would be shattered by the pylons which, incidentally, due to the desirability for straight runs, would clip corners and necessitate the felling of trees.

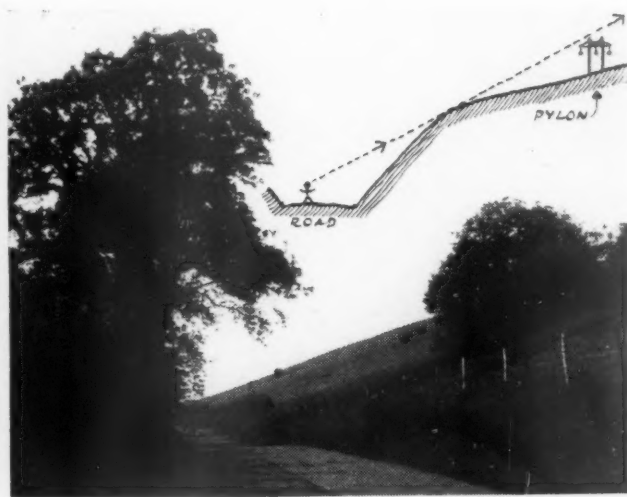
the suggested diversion



The pylons would affect this one house, but if it is a choice of evils there are few who could seriously maintain that this is the greater.



The road for a great part of its route is heavily screened by a tall hedge, thus cutting out any view of the pylon behind.

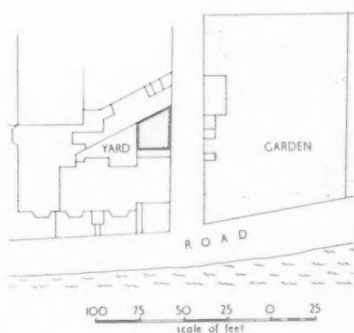


Where the hedge stops the line of pylons would be hidden by the slope of the hill, as illustrated in the diagram. It is this sort of careful landscaping we need in place of rule of thumb.

HOUSE AT TYNEMOUTH

**ARCHITECTS,
RYDER AND YATES**

1. north-west elevation of the house. The screen at ground-floor level is of precast concrete units. The panels between the first- and second-storey windows are of dark-green plyglass.



site plan (the house shaded)



The site is a triangular backyard behind a four-storey Victorian terrace. It is shut in on all sides except the north-west. However, this aspect is remarkable in that it faces along the coastline and commands an excellent view of St. George's Bay and the headland at Cullercoats.

It was necessary to provide a small house linked to a flat on the first floor of the existing terrace. The new house, however, had to be complete in itself, and the design was severely restricted by the shape of the site, by rights of light of the surrounding property, and by

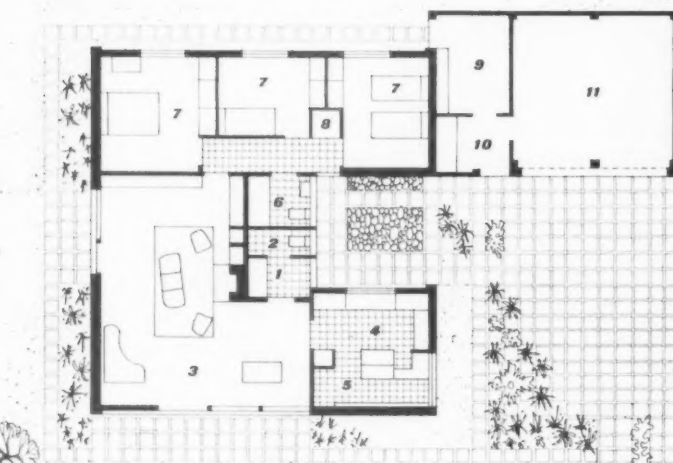
8

The house is based on the architect's winning design in the 1953 *News Chronicle* 1,000 sq. ft. house competition, but the area is larger and the finishes different from the competition design. It is in North Park Road, Scalby, near Scarborough.

The structure is in Leicester buff-brown facing bricks and 4-in. concrete block, contrasted against vertical secret-nailed Lagos mahogany boarding, on one layer of building paper on timber studding, lined with 1-in. glass silk insulation and $\frac{3}{8}$ -in. aluminium foil-backed plaster-board. All fixed lights are double glazed and opening

windows are purpose-made galvanized steel in timber sub-frames. External softwood trim around the mahogany boarding and front door are painted olive green; window frames, fascias and garage doors broken white. The living-room, bedrooms and bedroom passage have 1-in. sapele mahogany block floors; the kitchen, cloak-room and bathroom, terracotta-coloured synthetic tiles. The bathroom has oyster grey tiles. Heating and hot-water services are by a gas-fired system, having concrete ducts in the floor, with register outlets, and a double solid fuel stove.

HOUSE AT SCARBOROUGH



- key
- 1, entrance.
 - 2, cloak.
 - 3, living room.
 - 4, kitchen.
 - 5, store.
 - 6, bathroom.
 - 7, bedrooms.
 - 8, linen.
 - 9, workshop.
 - 10, fuel.
 - 11, garage.

30 20 10 0 5
scale of feet

plan



8 (top of page) south-east view of the house, 9, the entrance court, cobbled in the centre. The entrance wall is mahogany boarded, 10, interior of living-room, with door into kitchen, left.

ALPHABET*

If we have rejected the theory that an alphabet based on the Trajan column lettering is the end-all of monumental lettering, if beyond that we have decided that the theory of classical lettering formulated at the Renaissance covers a part only of the possibilities of lettering as an art, what then is the nature of that art? By what other criteria can we judge it? How can we tell what is good and what bad, what legitimate and what, if anything, illegitimate, or when indeed a letter is a letter?

It has been usual in modern theories to start with the idea that the essential element in lettering is legibility. I would like to suggest that this element bears very much the same relation to the art of lettering as the function of building does to the art of architecture. Indeed the nature of the two arts seems to me very similar. When the intention of the writer or builder is purely utilitarian, his work has virtually no artistic element, though it may be quite adequate to its purpose. Elements of treatment and relation which, for some reason or other, are pleasing to the mind and the eye can be incorporated into this utilitarian purpose, and the result is a work of art; as well as being an efficient building, or a legible notice. But finally the artistic element may completely overshadow the utilitarian. That it seems to me is a question both of the purpose of the artist and of his view of the function of his work. After all a building may have a function which is not utilitarian, for instance a triumphal arch, or a cenotaph, or indeed a cathedral. They are built surely not for material ends but primarily to embody and convey ideas. In the same way lettering, I think, at its highest, can embody the connotations of the words it transcribes in purely aesthetic terms, ideas entirely beyond the meaning which may be conveyed by the habitual action of reading.

I want to make this clearer by taking some examples, but first I would like to point out another similarity between lettering and architecture. Both, in so far as they are arts and not utilities, are abstract arts. In both there is an unescapable basis of geometry,

* In her series of Miscellany articles (A.R., December, 1953; April, June, August and October, 1954, and April and December, 1955) Mrs. Gray dealt with the alphabet as such. Here she moves on to consider more particularly its relationship to architecture, from the point of view of character as well as function.

which we have surely discovered recently to be one of the poles of all abstract art, providing the ultimate symbols of stability and objective knowledge; and which we have seen to be the basis of the classical theory of lettering. The baroque antithesis, the range of abstract expressionism, which we have also rediscovered, has of course long been exploited in Chinese calligraphy. These poles represent to my mind the possible aesthetic range of lettering.

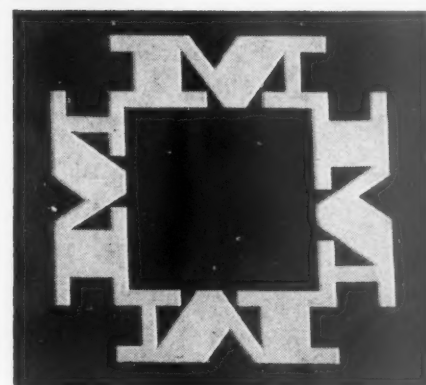
There is something else which we have learnt about abstract art in the last decades, not for obvious reasons in architecture, but in painting and sculpture; that is the physical entity of a work of art. We have only painfully, through collages and constructions, and through the destruction of the frame, come to see pictures as what they physically are, become conscious of them as something known only through the senses, not read like a book, or looked through, like a window. Clearly this is an acute difficulty in the case of lettering. I have tried in previous articles to stress the importance of the physical circumstances of lettering, its size, colour, light, position, material. These are attributes in virtue of which lettering, outside the printed book, may be architectural detail and ornament, quite apart from any message it conveys. If beyond that it is also, as it may occasionally be, a higher sort of work of art, this can only be through its own particularity, through the making, siting, and charging of a particular combination of strokes and curves. It is in order to bring out this particularity that even in these articles which have been concerned with types of lettering I have always shown particular examples and never alphabets. For an alphabet is only a beginning; the way in which it is used is as important, at least, as the type which is chosen.

I have illustrated in preceding articles many examples, widening perhaps the current idea of



2, left, page from a Carolingian gospel: a geometrical pattern of lettering, but also a dramatic conception in a three-dimensional setting.

3, right, a brilliant modern example of purer geometrical design: from a greengrocer's shop in Bishopsgate Road.



1, as in 1 on facing page, exploration of the aesthetic possibilities of the individuation of particular letters—only in a different mood. These are drawn by Inre Reiner.

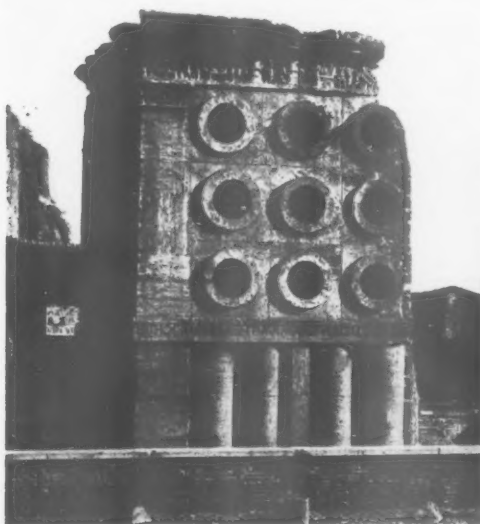
possible intentions and uses of lettering, but on the whole they have been examples of modest and everyday usage. I want in this article to explore the limits of achievement, and for this purpose we need to think of the subject as a whole. It is a subject which includes various highly technical subjects, typography, calligraphy, paleography, epigraphy, which are usually studied in water-tight compartments and only surveyed, as far as I know, by the mind of Mr. Stanley

Morison. There are also the highly developed arts using Chinese and Arabic characters. Out of my own ranging and erratic experience I have chosen some examples which seem to represent the highest points of my experience. In the West, at least, the richest field is the manuscript book. I went the other day to look again at the Lindisfarne Gospels, 4, to try to discover why through periods of entrenched representational art-theory this example of pure abstract art should have been valued so highly (for no one has ever suggested that its value lies in the Evangelist pictures). The conclusions I came to were not quite what I expected. I was struck first by the relevance of the text. Mr. Ruari McLean in a recent book says that 'beauty in lettering has nothing to do with the meaning of the words.' I do not agree. Normally it is the meaning of the words which is the letterer's starting point, and if he should be an artist it surely determines his mood and the intensity of his work. The high seriousness of the great series of Insular Gospel opening-pages seems to me due entirely to the



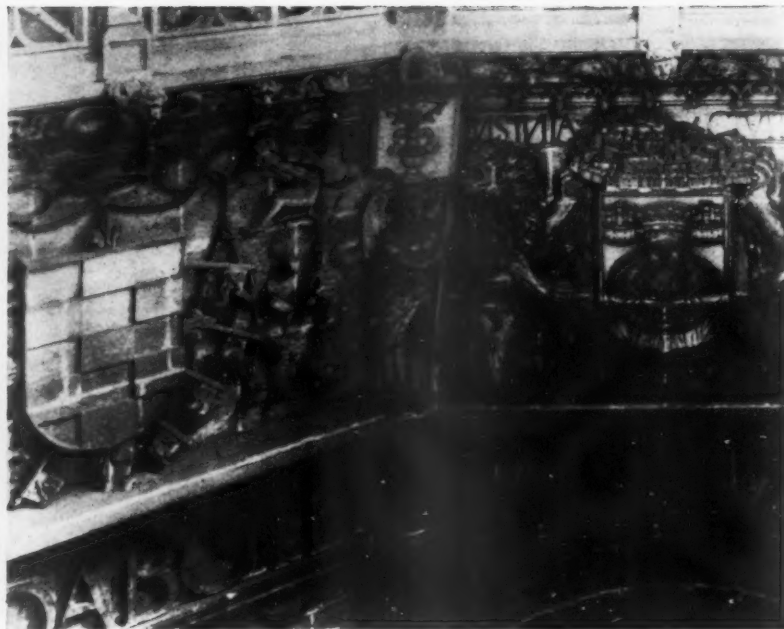
4, a page from the Lindisfarne Gospels. Immense aesthetic scale and power is achieved through an intensification of the formal nature of a particular letter.

- 5, The Roman invention; the monumental procession of the Latin alphabet; used as architectural ornament. The tomb of Eurisaces, Rome.
6, The Pantheon. The letters were released 1892-3.

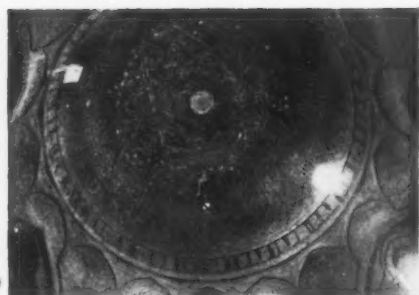




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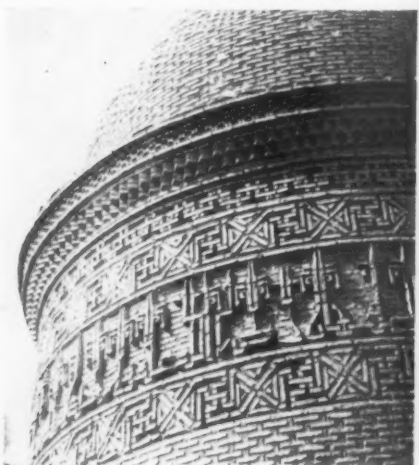


7, imaginative incorporation of lettering into architectural design: the lantern of Burgos Cathedral seen from below. 8, detail of relief lettering within the lantern.

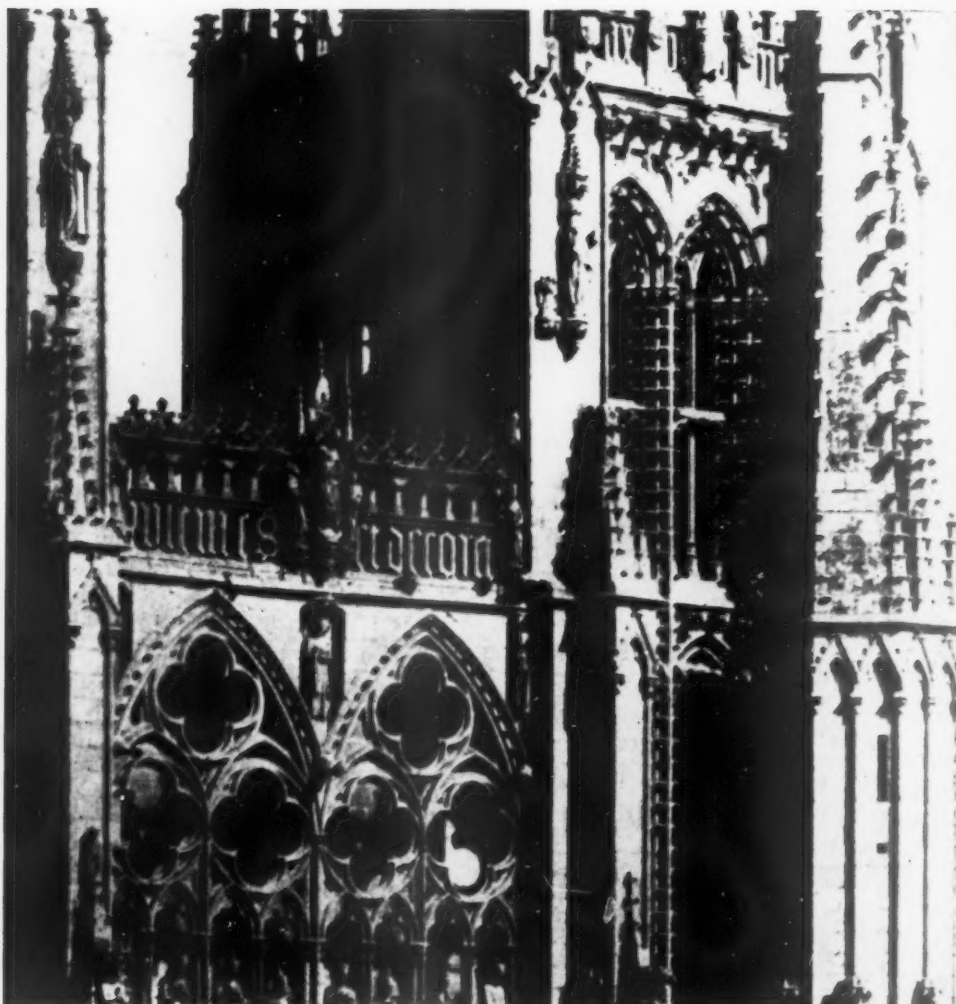


9

9, Kufic relief lettering round one of the domes of the great mosque at Isfahan: a positive, formally integrated element in a highly serious design. 10, lettering round the tomb-tower at Damghan, North Persia: the focus of the pattern of surface textures. 11, a European example comparable to 9 and 10, the façade of Burgos Cathedral. Was the influence here Islamic?



10
11



artist's attitude to his text, which he regarded of transcendent importance. Secondly, looking through those pages in the Lindisfarne Gospels it seemed to me that the way which he had chosen of making lettering significant was that of enhancing, intensifying, extending the character of the key letters in each page, Q, N, L. The page reproduced is dominated by X which contains surely all meaning which the human mind recognizes in curves and diagonals; moving, pregnant with growing life, dynamic, dramatic, and yet controlled, balanced by other forms, conditioned to a rhythmic order, like the divine plan which the words announce.

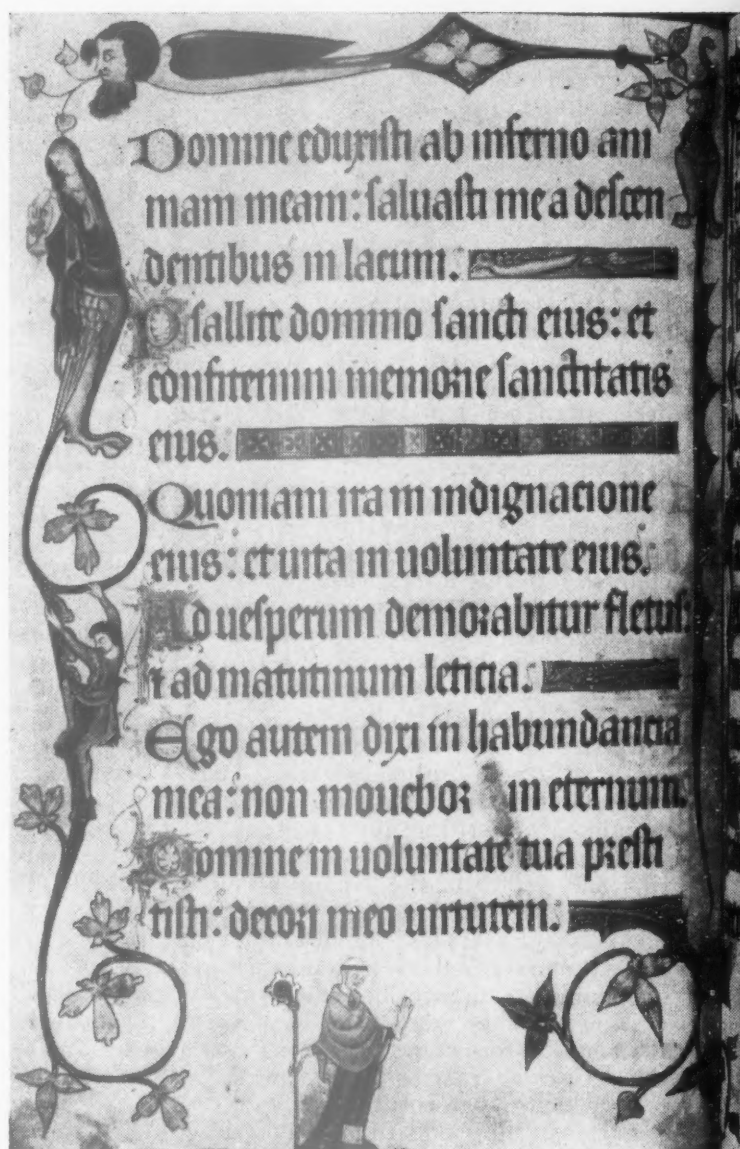
This concentration on the character of the letter is revived today in the work of Imre Reiner, 1. Can one deny that his letters are imaginative creations? Less obviously one sees the same treatment in some of the magnificent Regency inscriptions (e.g., 'Fat-face,' AR, April, 1955, page 273) where the character of the whole is dominated by the treatment of letters such as G, R, M and the tone, as befits the use, is purely worldly.

2 is also a Gospel opening-page, from the early ninth century (Carolingian Gospels of Saint Médard). Again it embodies a sense of the immense import of the words transcribed, but by quite different means. The page is dominated by the beauty of the unadorned uprights and curves and repeating diagonals, and by the drama and mystery of the individualization of this non-representational N.PRIN into a setting of column and arcade which repeat its motives in another dimension. Here it is the geometrical basis which is the starting point, out of which a significant particularization has been made—something more than a pattern—and this is conceived in a setting.

Of such particularizations and patterns one knows of course infinite examples from the monogram upwards, though few outside MSS. of great interest. Again one notes that the intention of the artist, conditioned by his word matter, must count. There are many stages of seriousness and importance, though not necessarily of success in design, beginning with an example such as 3, where the starting point is commercial advertising.

This treatment of lettering primarily as design, and in particular also the combination of such a design into an exterior setting, is, of course, of particular importance in considering architectural lettering. And here I think we might consider Roman lettering. One forgets that the Latin alphabet was not to them as to us a taken-for-granted inheritance. It was their creation. That is why I think a simple procession of Roman letters on a great monument has such power, 5 and 6. It derives from the letterer's immediate sense of the common basis of geometrical forms in architecture and letter, of the stability, permanence, and objectivity of that basis. One might note the difference between the effect of these examples and those, such as the Ponte Fabricio, or the Pyramid of C. Cestius in Rome, where the lack of symmetry creates an impression of relativity and of vitality which another age—such as the Carolingian—might have expressed by variation of letter form or size.

These are juxtapositions in which the formal element is predominant. At the other end of the



12, from the Luttrell Psalter: lettering as an expressive element in the Gothic world. The page is an imaginative as well as a formal unity.

scale I reproduce, 12, a page from the Luttrell Psalter (English about 1340) where the imaginative, if not the surrealist element, is predominant. It has been said that the illumination of this book has nothing to do with the text. Again I disagree, particularly in relation to the artists who executed the first part of the book. There are three characters in the Psalms: God, the Psalmist, and the enemy, who are legion. The great black verticals of the text which form the pattern of the book, page after page, constant and yet each one different, are a symbol surely of the Psalmist's and the artist's belief in God, stable as a vertical, mysterious as black, infinite variety in sameness, a belief without which he would not have dared to fill his margins with the strange and Protean figures of his imagination, and the humble and defenceless human beings who meet them there.

On an architectural scale we find a similar (though not so masterly) imaginative juxtaposition in the incorporation of an inscription in the design of the lantern of Burgos Cathedral, 7 and 8, where the fact

that the immense ciphers have a meaning gives to the stone relief lettering a quality quite different from the stone components of the balustrade above.

Similar again, in a classical form, is the idea of the inscription on the sky-line at Temple Newsam, 13. I have unfortunately not seen it but from the photograph it appears that the infinite air is incorporated into the design of these elegant letters in order to convey their heavenly message.

These are examples of more or less successful incorporation of imaginatively charged lettering into architectural design. They are mostly, one feels, experimental; they lack the mastery of the manuscript artists. The architects who had a comparable mastery were the Seljuk architects who in the eleventh and twelfth centuries built in Persia mosques and tomb-towers, and enriched them with inscriptions in the Kufic style of Arabic lettering. Here is a version of an alphabet purposely adapted and developed for monumental writing; one which fits the building material: how beautiful it looks in relation to the brick ribs and arches in the Masjid-i-Jami at Isfahan, 9. Like the Latin alphabet it is concerned with perpendiculars and verticals, but instead of our great curves it has the sweep and drive of cursive forms. Even though one cannot read them one knows that these bands of writing are charged with a deeper æsthetic meaning than any pattern of ornament. Is this not again due to the designers' sense of the seriousness of the religious texts which they record?

Lettering, it seems to me, is capable of being used as a vehicle for anything from mere utility to the highest forms of abstract art. In between lies a great range of more modest usage, with which from a practical point of view we are more immediately concerned. But, as I see it, the illuminating ways of thinking about all these other uses and possibilities is derived from a consideration of the potentialities of the whole art of lettering. The considerations we have been discussing connect up with the qualities and characteristics which we have noted in previous articles. The meaning of the words is not only always relevant; if they deserve it we may have a work of high art, or on a less spiritual level something grandiose, or something gay and lighthearted, at the lowest let us have something suitable to the purpose in hand. It is the key also to another criterion, the artist's intention; it is by recognizing that, surely, that one judges for instance, quite easily, the difference between a piece which is exuberant and one which is merely showy?



13, a classical example comparable to 8: Temple Newsam with its balustrade of letters.

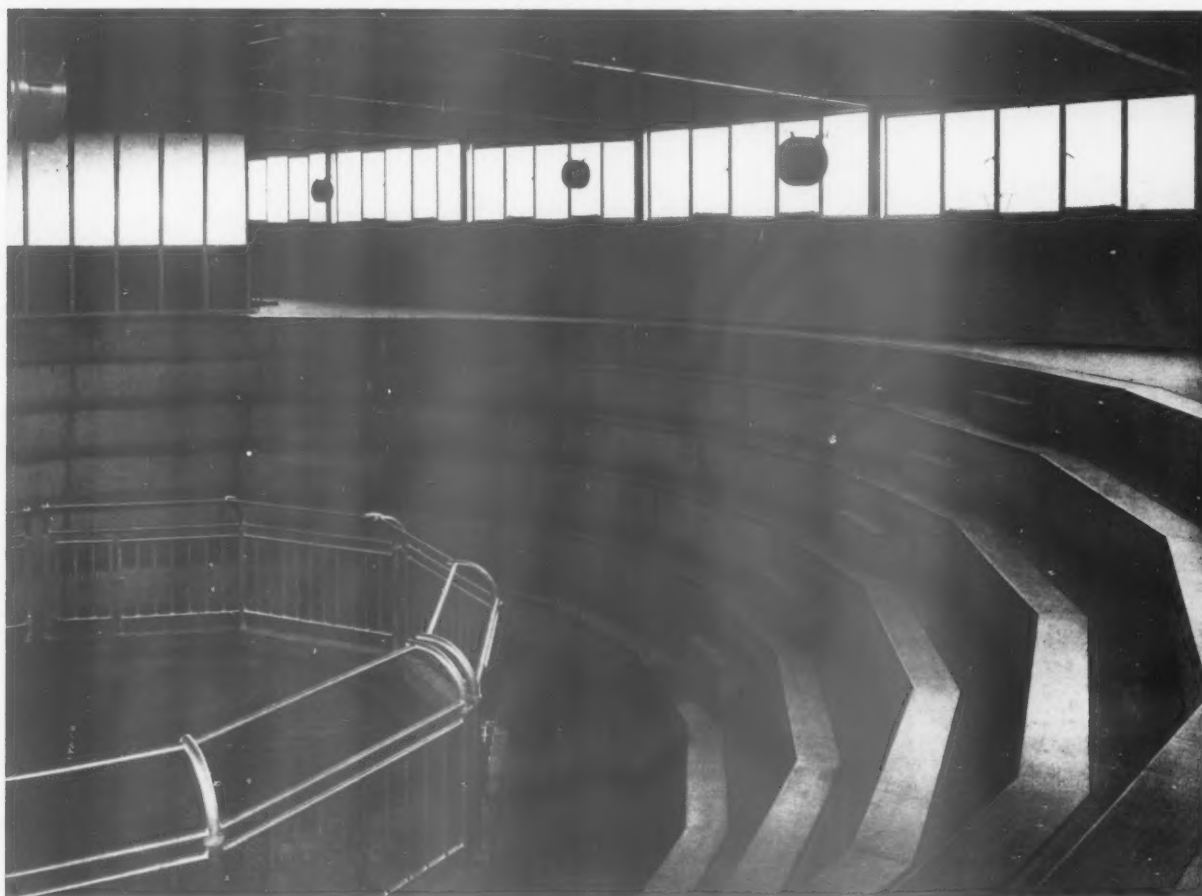
From highest to lowest, inescapably, lettering has the quality of mood, and is always to some extent expressionist. From the complementary visual point of view, lettering is always design, a design worked out in each letter, in combinations of letters, in lettering as part of some other design; design with a predominantly imaginative, or formal, or utilitarian intention.

And in every case there is the particularizing element of the material, which transforms the letter out of an abstract idea in the mind—where it has so often been thought to have its chief existence—into something which is, or might be, a work of art. Today, in architecture, the immense variety of materials and processes makes this a consideration which it is at last impossible to ignore.

And finally we return to that first consideration of function, which in architectural lettering at least is likely always to be present; though the idea that function is to be equated with legibility is a simplification which I hope I have disproved both in my first article (AR, November, 1953, page 294) and by some of the examples in this. One might indeed draw one further conclusion from the latter. The idea of legibility as the primary function of lettering has led us to the bare bones, lowest common denominator idea of a letter. If on the other hand we think of a letter as having a certain character, derived from both its form and its sound and usage, that character can be intensified, extended, exaggerated. In so doing the shape of the letter may even be violently distorted, and yet we can recognize that this is meaningful, whereas a much slighter distortion can make the same letter unrecognizable and meaningless. We have an explanation and a criterion for distinguishing, instead of condemning.

In succeeding articles I wish to discuss examples of this art under these headings of mood, design, material, and purpose, which, multiplied together in varying ratios, seem to me the significant factors in the idea of lettering.

current architecture recent buildings of interest briefly illustrated



1, sale rings interior. The seats consist of precast concrete units capped with wood planks. 2, general view from entrance road, with vaulted cattle standings left, sale rings centre and public lavatory block right.

CATTLE MARKET AT GLOUCESTER

GLOUCESTER CITY ARCHITECT, J. V. WALL

ARCHITECT-IN-CHARGE, A. J. AULT in succession to J. H. PROSSER

The site of the market, at St. Oswald Road, Gloucester, has been reclaimed from flooding by tipping, and is adjacent to the Gloucester by-pass about one mile from the city centre. Provision had to be made for display of livestock (650 dairy and store cattle to be accommodated), administration and commercial activities, and catering and social amenities for dealers. The twin cattle standings are covered by reinforced concrete barrel vaults on columns and give in each case clear floor areas of 158ft. by 63ft. They give good light reflection and

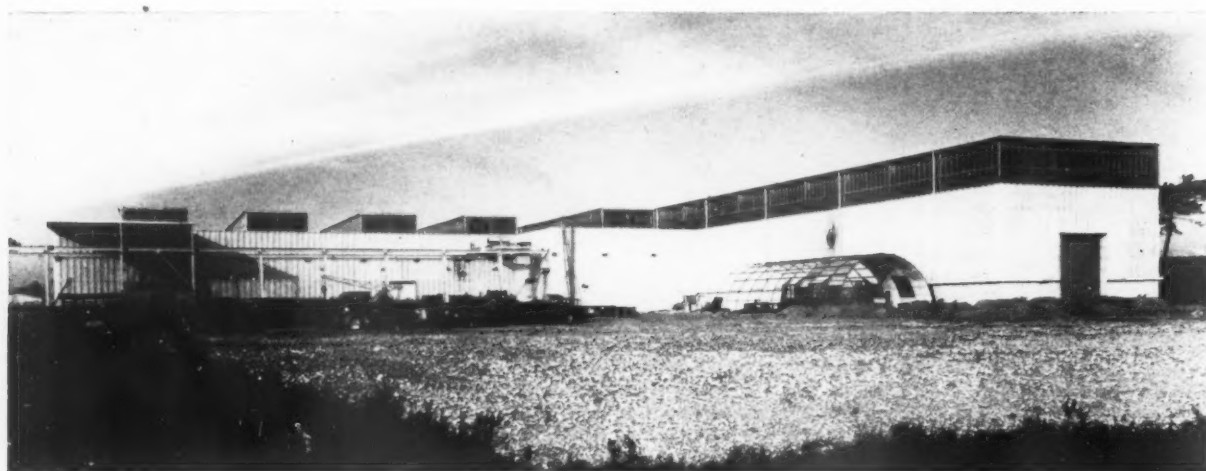
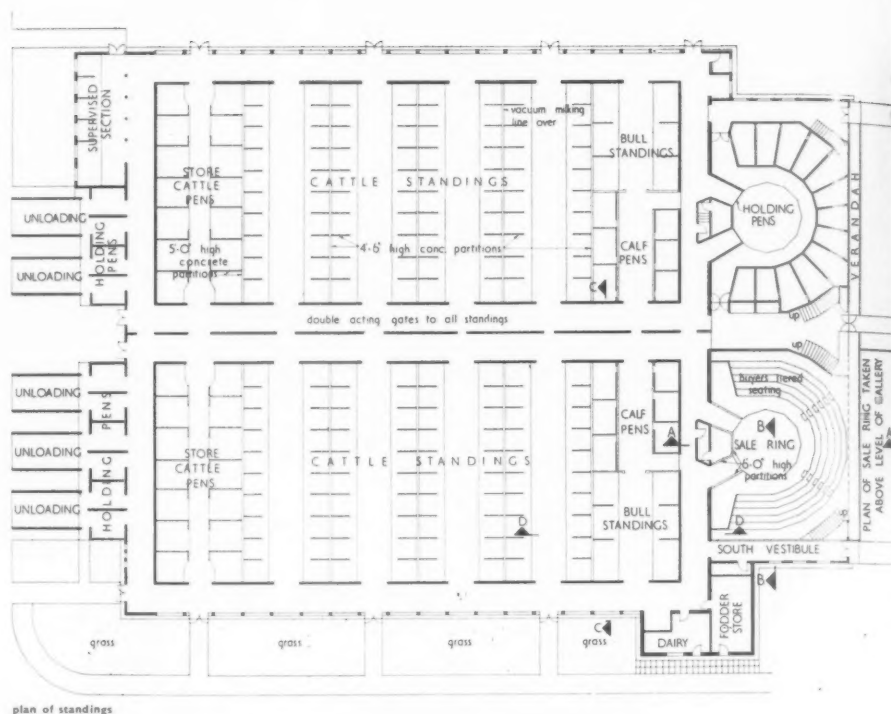


2

Cattle Market at Gloucester

natural cross ventilation. The sale hall block is steel framed. The concrete tiered seating is supported on reinforced concrete walls over raft foundations. Unloading bays and external corridors have mass concrete walls. The entrance serving the sale ring is finished with purpose-made precast concrete facing blocks, and untreated vertical cedar boarding.

The soffit of the roof overhang is painted red and that of the first storey overhang yellow. The line of windows to the first storey, defining the contours gallery running behind the sale rings, has wood-wool slabs above and hollow clay blocks below, all with grey cement rendering. The latter conceal a lattice perimeter beam, and are unrendered on the inside, providing sound absorption in the rings. A public convenience to the east has brick-faced cavity walls as gable ends and along the two long sides softwood framed plywood frames, in a chequer pattern of grey and yellow, below steel windows.



3, the factory from the south.

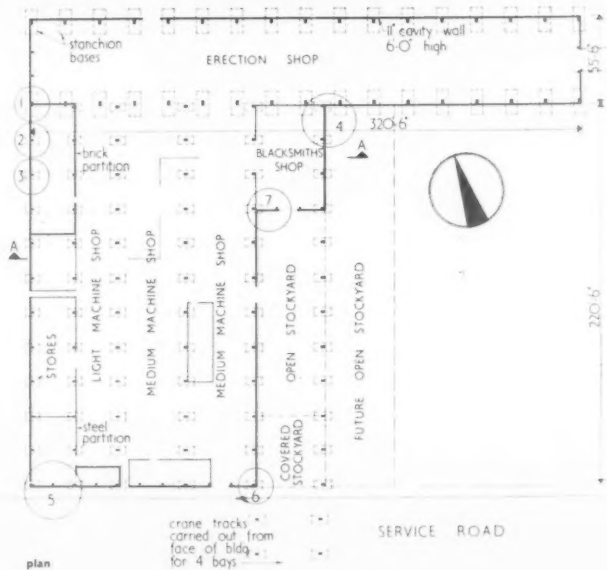
FACTORY AT POOLE, DORSET

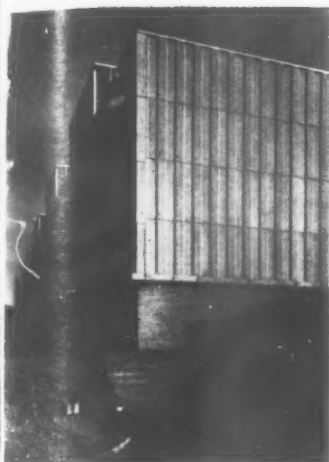
ARCHITECTS, FARMER AND DARK

This factory, for the Loewy Engineering Co. Ltd., is off Wallisdown Road, Poole, Dorset, in a new industrial area. The firm's administrative offices and canteen (by the same architects) are on the same site but separate. Quick completion and adaptability for future extension were both necessary; good natural lighting was another important requirement. The site consists of sloping heathland, with a subsoil of sandy gravel with patches of clay.

The machine shop bays and stores run north-south at right-angles to

the large erection shop. The employees and all goods enter at the south end from the service road; finished products leave by the east end of the machine shops by a large roller-shuttered door. The open stockyard to the east of the main machine shops is convertible into an additional machine shop. The construction is reinforced concrete slab, and steel frame on mass concrete footings. The walls are 11-in. cavity brickwork up to 7-ft. level, with asbestos cement corrugated sheet cladding above, lined with 1/2-in.





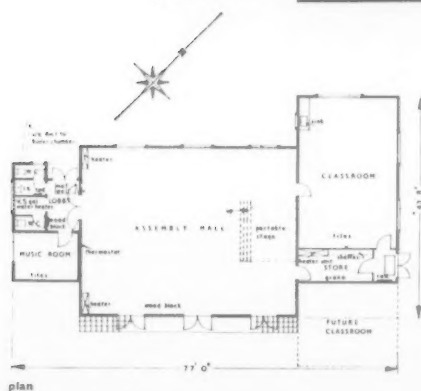
4, left, south-west corner of factory. The external walling is based on the need to minimize accidents from swinging loads carried by cranes, and damage to the structure at low level. A continuous rainwater gutter runs at the junction between the asbestos cladding and brickwork. 5, right, erection and testing shop interior, looking east.

Factory at Poole, Dorset

insulation board. Patent glazed monitor rooflights are used, and insulated aluminium roof deck, with two layers of bitumen felt. In the erection shop, the roof level is higher than elsewhere and there is continuous patent glazing on all four sides above the crane rails. The overall floor finish is 2-in. granolithic screed, grey except in the gangways which are red. Warm air is circulated by fans through directional grilles from free-standing oil-fired heaters. The method avoids the need for a boiler house. Remotely controlled opening lights in the patent glazing provide natural ventilation.



6, the hall from the east.



ASSEMBLY HALL AT OFFLEY, HERTS

ARCHITECTS, WOODROFFE, BUCHANAN AND COULTER

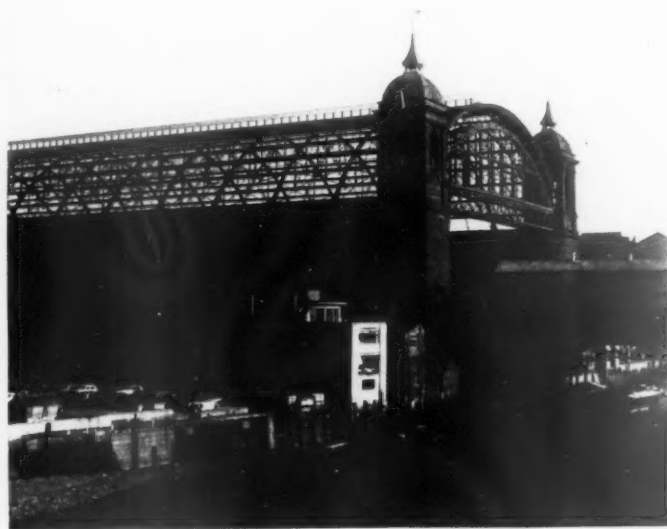
The assembly hall stands in the mature garden of Offley Place, an early nineteenth-century building by Smirke, which houses a teachers' training college. The walls are interlocking solid hardwood timbers, 5 in. by 3 in. thick, and forming a single strip. The roof is flat and consists of built-up softwood timber beams, finished with boarding and two-layer roofing felt. The ceiling is of 40-in. squares of insulation board with the centre dropped to accommodate the wide-span trusses. The load of the beams is taken on the walling. All windows and doors are framed in red meranti hardwood, the internal doors being flush plywood painted white. Heating is by an oil-fired automatic boiler. The floor finishes are hardwood block in the hall and entrance and thermoplastic tiles in the classrooms.

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

miscellany



Stained glass windows in Oundle School chapel, designed by John Piper and executed by Patrick Reyntiens — see note opposite. 1, the main lights of the central window, in which the three figures of Christ symbolize respectively the Vine, the Bread and the Water of Life. There are three windows, each of three lights, at the east end of the chapel. 2, the left-hand and the central windows.



2 Cannon Street station, a noble Thames landmark threatened with mutilation—see note opposite. 1, from the river; 2, close-up of corner turret.

APPLIED ART

STAINED GLASS AT OUNDLE

John Piper's talents are so clearly suited to the art of stained glass

that it is surprising that he has not worked in this medium long ago. He has recently, however, completed his first commission as a stained-glass designer, working closely with the stained-glass craftsman Patrick Reyntiens: a group of three windows at the east end of Oundle School chapel. Piper's powerful but sensitive use of strong colour, and Reyntiens's skill in the combination of various etching and staining techniques, have together produced a notable contribution to the revival of the art of stained glass which is also exemplified in the windows for Coventry cathedral, designed in the Royal College of Art and placed on exhibition, as these pages go to press, at the Victoria and Albert Museum.

The Oundle windows, which have the



difficult architectural role of enlivening a dull building by Arthur Blomfield, contain nine figures of Christ, symbolizing the Way, the Life and the Truth; the Vine, the Living Bread and the Water of Life (see photograph 1, opposite, and the cover of this issue), and the Judge, the Teacher and the Shepherd (see John Piper's own sketch herewith).

S.O.S.

CANNON STREET STATION

One of the brighter sides of living in a utilitarian age has been the way in which Georgian houses like Antony

and Knowsley have been shorn of unwanted elephantine Victorian additions since the war. But removing the bounty of the 1850's and 1860's is not always praiseworthy; and certainly not in the case of British Railways' modernization of Cannon Street station, which has just started.

Congestion on the North Kent suburban lines leading to Cannon Street means longer trains (10-coach instead of 8-coach); longer trains need longer platforms—so far, so good. The platforms are to be lengthened and 'a certain amount' of Southern House (the ex Station Hotel) will be demolished—which would in itself be a loss, because it is the best thorough-going station building that is left in London—of higher quality than Paddington or Euston, and not compromised in a grimly humorous way like Charing Cross. In the final stage of the reconstruction, however, 'opportunity will be taken to lengthen platforms Nos. 7 and 8, and a start will be made on the removal of the towers and famous high arched roof which will be replaced by a new roof at a lower level,' to quote from an official statement.

Now this would be a tragedy. Of all the big termini, Cannon Street is the only one where the train shed received adequate expression outside as well as inside. It has no 'back' that can be conveniently lost among marshalling yards, because the end of the shed is almost on the bank of the Thames, and the designers, apparently Hawkshaw and J. W. Barry, the engineers, felt obliged to give something more than a utilitarian end elevation. They equipped the huge roof with a pair of simplified Baroque towers in a sort of Versailles Cathedral style, 1, that exactly match both the London stockbrick and the scale of the shed. The combination is one of the few accents along the whole Thames waterline that is circumstantial, but not pompous, and the style is so unaffected that it has not the lightest period revival overtones, 2. They made the side walls into a superbly expressive job too—see frontispiece to this issue. The roof lost almost an acre of glass in the blitz, but remains as impressive as ever, 3, and the towers are as finely scaled from inside as they appear from the sidewalk of Southwark Bridge.

To demolish this and replace it with a lower roof would be a loss which the waterfront can ill afford, already depressed by buildings like Shell Mex House and Adelaide House: an accent which does the same for its surroundings as the Imperial Institute tower—recently in danger—does for South Kensington. If reglazing is impossible, why not build the new lower roof inside the old without demolishing it?

—which would keep the view from the Thames intact, if not the interior. Better still, why not provide light platform aprons like those which perform so well at Potters Bar? In either case, the saving might be quite an item in the 1½ million pound programme: even taking into account the increased maintenance of the



old roof. But perhaps the rebuilding is just being carried out for 'prestige' reasons or because British Railways thinks that Cannon Street looks shabby or is in some way beneath its dignity. In that case, a good hard bit of rethinking is needed on the difference between surface grime on a noble building and a cut-rate remodel which might well show a fundamental lack of architectural conviction or emotive power.

Ian Nairn

EXHIBITIONS

PAINTING AND SCULPTURE

The Arts Council has been exhibiting paintings by Spanish artists who stayed at home, and the I.C.A. has been showing a group of works by Venetians who live in Venice, but neither exhibition is distinguished enough to prove that the painters have gained anything by remaining where they belong. The most interesting of the Spanish painters were born in the nineteenth century: Nonell's portraits of gypsies have a melancholy elegance and Cossio's studies of figures and objects losing definition in a failing light are even more muted and refined, but Gutierrez Solana is the only painter in the exhibition whose art is not in some way repressed or tentative. He is a robust decadent. His huge and somewhat Belgian set-piece of skeletons rounding up the naked for the final reckoning is more concerned with the juxtaposition of cold bone and warm flesh than with gleeful visions of retri-

bution, and his picture of Washerwomen, 1, with its massing of soiled clothes and its disclosures of sumptuous flesh is a sensual masterpiece. His eroticism and his feeling for the macabre relate him to Beckmann and Balthus. Some younger



1

men are trying with a notable lack of success to involve borrowings from Picasso and Miró in their studies of Spanish life and landscape, and a painter who has reached the age of thirty-three even tries to hispanicize an otherwise non-figurative picture by casting across it the melodramatic shadow of a priest holding a cross. The Venetian pictures are all post-cubist, and on the whole the exhibition looks less provincial than the Spanish one, although it is evident that its contribution to the Italian 'revival' is weaker than that of Milan or Rome. Pizzinato is a sober representative of the neo-realist school, Santomaso is a serious abstractionist,



2



3

and Vedova reflects the uneasiness of the times by jumping from one metallic style to another like a cat on a hot tin roof.

Keith Vaughan has been showing new figure compositions and landscapes at the Leicester Galleries. The figure compositions contain so many eccentricities that they verge on the farcical. The tall cretinous figure in 'Winter Landscape with Figures,' 2, which greets a fugitive from an early Chirico with all the verve of a lump of plasticine, is modernistic distortion on its beam ends; the dark silhouette in the background is a flat, dead, space-filling caricature of Sutherland's animistic tree-forms, and the rectangular colour patches, like a picture-restorer's sample cleanings, add a final touch of irrelevance to a very tired conception. Fortunately, some of the smaller landscapes in the show are among Vaughan's best work. 'Wallingford Churchyard,' in which the scattered tomb-stones have been used very discreetly as space-indicators, is particularly successful.

Denis Wirth-Miller has been holding his second exhibition at the Beaux Arts Gallery, and, as in his first show, which was devoted to a series of variations on the theme of a semi-transparent dog taking a leap in the dark, a rather modish air of obsessiveness is obtained by restricting the exhibits to the evocation of a flat, melancholy, water-logged landscape, 3. The effect is striking enough to make one wish to believe that the painter is a single-minded visionary, capable of spending a lifetime watching grasses ruffled by the wind, but at the same time one cannot avoid seeing that ends and means have somehow become reversed and that the landscapes are only pretexts for demonstrating a pictorial system which is a cold and clever travesty of the physical make-

up of the paintings of Francis Bacon.

I know only a few of the people who have sat for portraits to Louise Hutchinson, and cannot say how many of the bronzes in her recent show at the same gallery are successful likenesses. All I can say with certainty is that she has made a fine, objective likeness of Herbert Read, 4, and that her portraits of Mrs. Lessore, Peter Gregory, David Sylvester, Philip James, Patrick Heron and J. P. Hodin leave me with the impression that she has



4

thought of the sitters a little too arrogantly as clay in her hands. Their portraits have been pinched and pulled out of countenance, and although I faintly recognize the remains as having some relationship to this or that familiar face, the vital resemblance has been replaced by a subjective presence conjured up by the sculptor's zest for self-expression. I would like to know what psychological factors



5

came into play to protect the likeness of Herbert Read from this dybbuk-like invasion of another personality, but I am not likely to find out and must be content to record the fact that the pleasure which Mrs. Hutchinson derives from ploughing and excavating the human head has in this case come to terms with her powers of observation, and the result is a work of a kind rarely found in contemporary art; an almost veristic portrait which is an interesting sculptural object.

Barbara Hepworth has taken up once more an aspect of her interest in abstract forms which has always had fruitful results, and has recently exhibited at Gimpel's some wood carvings, pierced or strung, which are among her happiest achievements. They have a monumental delicacy and a kind of smiling remoteness which make them almost abstract equivalents of some of the Buddha images. The exhibition included her first experiments with bronze castings. In the example illustrated, 5, the polished outer surface is a delightful pale golden colour, and the plaster residue has been left on the rough inner surface; this contrast of



6

textures and colours imparts a lively sensuousness to a gracious little object.

Fred Uhlman has celebrated his first visit to New York with a group of nocturnes, exhibited at Zwemmers, dedicated to the fabulous skyline. In some of these oils, the skyscrapers are lit up, which means that the artist has patiently filled his tall rectangles with thousands of yellow dots; in others, the lights are out, 6, and the buildings become solid monoliths which turn New York into an abstract Easter Island.

Robert Melville

TOWNSCAPE

DONCASTER CIVIC CENTRE

We are all too familiar with the way new civic building in town centres either disrupts the organic shape of the town or, at best, fails to bring any positive improvement to the town as a whole. Development plans for town centres take the form of a road and use-zoning map, and the rest (including the type of environment eventually to be created) is left to chance and expediency.

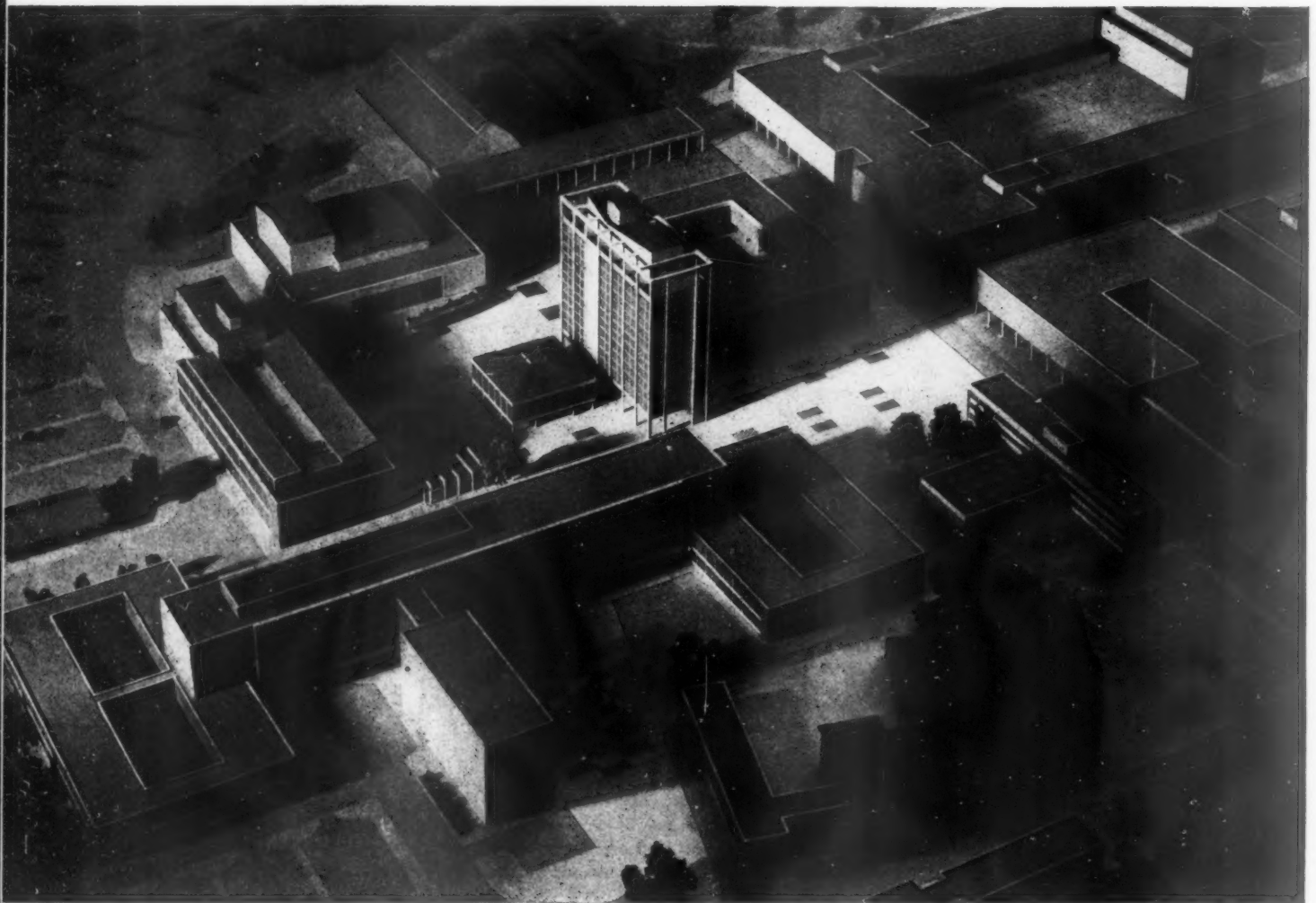
Something more far-sighted is needed, and in Doncaster it has been provided. The replanning of the central area has been regarded by the city as a problem of town-design, and the plan, with its system

of periphery car-parking and inner pedestrian piazzas, tackles, as few other cities besides the well-known example of Coventry have done, the problem of the impact of the motor-car on the inner core. The plan, which was approved by the Council last November, is the work of Frederick Gibberd, in collaboration with Martin Cawley, the borough engineer and town-planning officer, and L. J. Tucker, the borough architect.

At present Doncaster has a lively and prosperous shopping centre, but no civic focus; furthermore, the social and entertainment buildings are either scattered or inadequate for their purpose. The development plan defined a civic centre of some thirty-seven acres adjacent to, and south of, the existing shopping centre. The site is bounded by a new inner ring, or loop road, on the south and west, by a pleasant road lined with trees and distinguished houses, South Parade, on the east and by Waterdale and the shopping centre on the north. The core of the site is now largely open space.

The plan provides an over-all master design for the centre, and meets the urgent need for sites for a new technical college and a health centre. It defines the civic space and car parking, the methods of circulation, and the broad mass and silhouettes of the buildings. Except for the technical college, which has been designed by the borough architect, and on which work has already started, the proposals for the individual buildings are tentative and will be modified when the detailed requirements are known.





Doncaster serves a regional population of at least 150,000 people and, in consequence, its central area attracts a great deal of motor traffic. The principles put forward in the design to solve the motor-car-pedestrian conflict are as follows. The buildings are grouped together to look inwards on to a series of civic closes or precincts from which vehicular traffic is excluded. They thus turn their backs on the main traffic route, the ring road. An inner peripheral road runs outside the building groups and follows the line of the ring road. Belts of car parks are situated between the inner periphery road and the inner ring road. Additional parking areas are provided on the north at each end of Waterdale. The inner periphery road is connected at each end to Waterdale; there is thus a circular route around the whole of the civic centre. Spur roads are provided to each building from the periphery road.

The effect of this plan pattern will be that casual motor traffic to the centre will always find a car park close to its point of entry; that visitors to a particular building will be able to circulate round the centre to their destination, where they will again

find a car park reasonably close, and that service vehicles can circulate round the area, where there will be a yard or lay-by adjacent to the service area of each building. In the core of the area there is no wheeled traffic at all. Pedestrian circulation links all the civic spaces together, and is connected through South Parade to the commercial hub of Doncaster.

The core of the civic centre is a civic place, of which the town hall occupies the south and west sides. The technical college and new Government offices form the east side and the north is formed by Waterdale and the shopping centre. The office section of the town hall is planned as a tall building to contrast with the technical college, and to form the focal point of the whole area; the tower is placed across the space subdividing it into a north square and a south square. But the plan is such that these two spaces extend into each other. The council chamber projects into the south civic space and the committee and other important rooms are grouped round a courtyard on the north. The south place is closed on the west by a theatre, and on the south by the proposed art school. The

theatre has a terrace overlooking the civic square.

A theatre precinct is formed on the west. It extends from Waterdale, with the entrance façade of the theatre as its focus. One side is formed by an extension to the public baths and the other by the town hall. The theatre precinct is also designed to form an extension of the south civic square. The technical college is such a large and important building that it was thought worth forming a small educational precinct or *place* adjacent to the south civic place. It has a connection at ground level between the civic space and the educational precinct, thereby fusing the two spaces into one and linking the college with the proposed art school. The precinct is left open on the east side to give a pedestrian way and a visual connection to the buildings and trees of the Parade. The area to the north of the civic centre is being redesigned as a new shopping centre by the borough surveyor and planning officer. The main shopping street or precinct will lead straight into the main civic place, thereby linking business with civic and entertainment functions.

NEO-CLASSICAL MASTER

BENJAMIN HENRY LATROBE. *By Talbot Hamlin. New York: Oxford University Press. \$15.00.*

Benjamin Henry Latrobe was born at Fulneck, Yorkshire, in 1764, son of the head of the Moravian school there—himself a remarkable man, who after his removal to London was to include people like Dr. Burney, the musicologist, and Dr. Johnson, the lexicographer, in his circle of friends. Having received most of his general education abroad (as was the Moravian way) and his architectural education in the office of Samuel Pepys Cockerell, he set up in private practice in London in 1791; in 1795, the death of his first wife two years before having come as a stunning blow to a spirit already depressed by money troubles and the climate of the times, he sailed for America. Within two years of his arrival there he received his first commission from the Federal government, and in 1803 he was appointed by Thomas Jefferson to the most important post the country offered to an architect, that of Surveyor of the Public Buildings. He died in New Orleans, of yellow fever, in 1820—a discharged bankrupt and all but penniless.

Such is the barest possible outline of the story that Talbot Hamlin tells in detail in this book. It is a story of the most varied interest: many of the famous (and some of the infamous) of the early days of the American republic had a part in Latrobe's life, while canals, waterworks and river-steamers, as well as buildings, engaged his powers of invention. Two themes run through it: Latrobe's unending search for financial security for himself and his family—a search continually bedevilled by over-optimistic estimates of the chances of speculative ventures and of the honesty of his associates in them—and his passionate addiction to architecture.

What is Latrobe's place in the history of architecture? There are some easy answers. He was, one can say, the first fully trained professional architect to work in the United States. He was the first American architect to take pupils (Strickland and Mills). He was the first American who (in his own words) 'endeavored and partly succeeded, to place the profession of architect and civil engineer on that footing of responsibility which it occupies in Europe.' There can be no questioning the debt of gratitude that architecture as a profession in the new world owed to him, and Professor Hamlin's biography shows nothing if not how hard-earned that debt was.

When we turn from Latrobe the professional man to Latrobe the artist, we may remember Mr. Summerson's assessment, in *Architecture in Britain, 1530 to 1830*, which is the more remarkable as coming from the familiar of the ghost of Soane: 'a Neo-classical master of a higher order than most, if not all of his generation in Britain.' (The architect himself wrote: '... in England the crowd of those whose talents are superior to mine is so great,

that I should never perhaps have elbowed through them.') Alas! the difficulty of judging is much increased by the destruction of so many of Latrobe's finest buildings, including the prison at Richmond, the Bank of Pennsylvania at Philadelphia, and the Exchange at Baltimore.* Nor does Professor Hamlin's book help here as much as one had hoped it might. The illustrations are rather small (and lack references in the text); there is no catalogue of Latrobe's works. Although Professor Hamlin can be very much to the point in his critiques of individual buildings—as for instance of Hammerwood Lodge, Sussex, Latrobe's first independent commission—he is rather too free for my taste with such phrases as 'perfectly studied proportion,' 'thoughtful and reticent detail,' 'a compelling sense of quiet monumentality.' (All those from one sentence on page 466.) And something more than an expanded paraphrase of the Vitruviano-Wottonian 'firmness, commodity and delight' is surely needed as a summing-up of the qualities of the work of an architect of Latrobe's individuality.

But to make such criticisms as these is by no means to deny that Professor Hamlin's biography is a most distinguished, scholarly and civilized book, written with a feeling for the English language that is not too common among his countrymen and with a breadth of outlook that in this age of specialization is rare anywhere.

Marcus Whiffen.

* At the time of writing, there is much reason to fear that the only part of the exterior of the United States Capitol at Washington that still stands as designed by Latrobe—the east, or entrance, front of the central portion—will shortly be destroyed for a new addition. M.W.

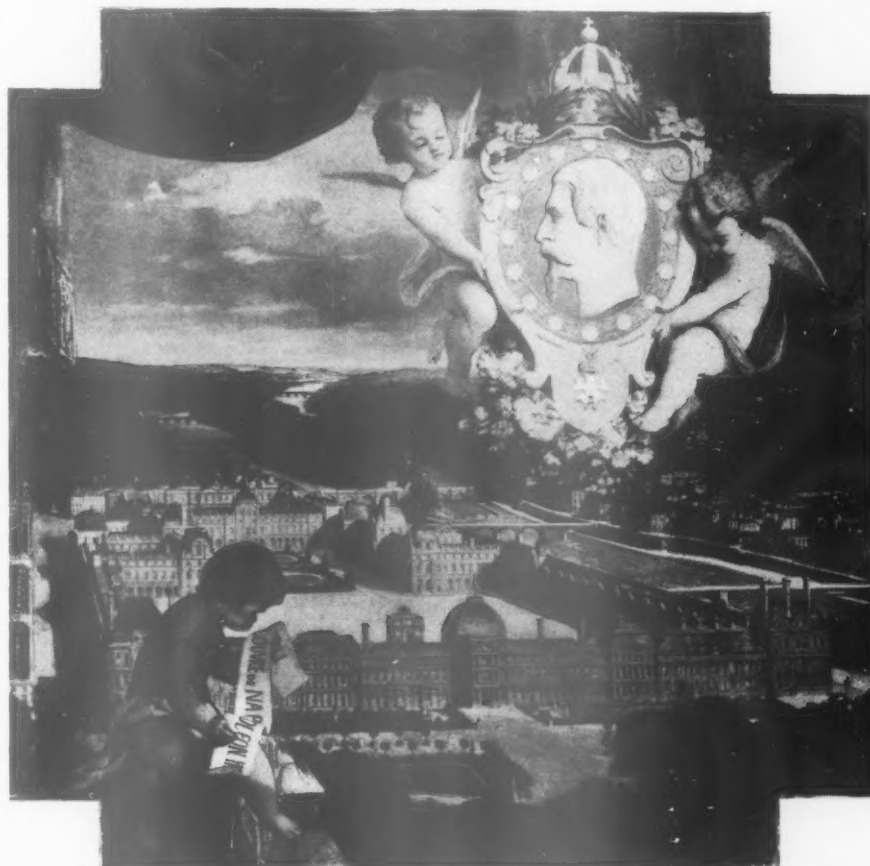
THE LOUVRE

LES TROIS SALLES DES ETATS and LE NOUVEAU LOUVRE DE NAPOLEON III. *By Christiane Aulanier. Editions des Musées Nationaux Paris.*

These continue the series of publications on the history of the Louvre. The 'Salle Royale,' the oldest of the three 'Salles des Etats' and the first Renaissance structure of the ancient castle, was built under François I by the architect Pierre Lescaut (begun 1527), Jean Goujon adding the sculptural décor in 1552-53. The author gives a vivid and colourful account of the many functions for which it served and of the spectacular ballets enacted within its walls. After 1678 when Louis XIV moved to Versailles the Salle Royale became successively the residence of the Royal Academies, the home of the court artists and craftsmen, and the meeting place of the Institut National before it was finally adapted as an exhibition gallery.

It was Napoleon who first conceived the idea of turning the Louvre into the greatest museum in the world. During his lifetime and under the Empire very little practical progress was made but under Napoleon III one of the most ambitious building programmes for the aggrandisement of the Louvre was carried out.

In the second volume, *Le Nouveau Louvre de Napoleon III*, the author gives a detailed description of the inception and progress of these plans. To Napoleon III and his architects Visconti and Lefuel goes



The Louvre of Napoleon III, after Victor Chavet. See review on this page.

the credit for having realized the long-cherished project of the French kings, the junction of the Louvre with the Tuileries, achieved by the building of a long gallery on the north side along the Rue de Rivoli and parallel to the Grande Galérie, joining the Pavillon Marsan to the old Louvre. But the triumph was short lived for in 1871, only 14 years after the junction had been effected, the Tuileries were burnt to the ground. However, the new buildings of Napoleon III remained, and in following their progress step by step down to the present day we witness the gradual accomplishment of Napoleon I's great aim. They comprise on the ground floor, which was to house the sculpture, the 'vestibule Denon,' today the main entrance, and the two adjoining galleries Daru and Mollien, the three transverse wings joining the new gallery to the Grande Galérie, known as Salles des 'Sept Metres,' 'Manege' and 'Mollien' respectively. Finally, the transformation of the two large staircases was begun, but not completed until 1914 and 1934.

Marguerite Kay

ORIENTAL PELICANS

THE ART AND ARCHITECTURE OF CHINA. By Laurence Sickman and Alexander Soper. THE ART AND ARCHITECTURE OF JAPAN. By Robert Treat Paine and Alexander Soper. Both Pelican History of Art. 45s.

The consequences of the fundamental decisions concerning the importance to be allowed to various aspects of world art that were taken when the Pelican Histories were first conceived (ARCHITECTURAL REVIEW, November, 1953) could hardly be more apparent than in the coverage awarded to China and Japan. In the teeth, one suspects, of growing body of oriental specialists, who are bound to declare the result disproportionately small, the editors have stuck to their opinion that Chinese and Japanese art are marginal interests for the English-speaking student, and have packed the East Asian art of practically three millennia into the six-hundred-odd pages of two of their standard volumes. The compression and high selectivity of facts that has ensued has taken its toll in readability (particularly in the case of Mr. Paine's text) in the sections dealing with the figurative arts, but has stirred Alexander Soper to produce two of the most agreeable and stimulating historical surveys of national architectures that have appeared for some time.

His view of East Asian architecture is an off-shore one—he tends to see China through Japan, rather as an American writer might equally easily see Europe through Britain. His manner of writing is easy, even—at times—colloquial, and sparked with patches of mundane humour. The reader soon finds that his viewpoint has been unconsciously shifted far enough to accept the very different meanings which such words as 'monumentality' must carry in an alien culture, and even to accommodate himself to the idea that a structure that has been rebuilt perhaps once every century can still be discussed as a work of a dynasty that perished before the Plan-tagenets. The importance of bracketing the relative unimportance of the overpraised

Japanese *sukiya* tradition, the niceties of the Chinese attitude to symmetry, the subtleties of pagoda-design—all these are brought out in a manner which cannot fail to awake in the architect-reader a sympathetic understanding of something that must seem, superficially, inaccessible to the western mind. For this reason it is, in a sense, disappointing that the reference to the *Chin p'ing mei* should belong to Mr. Sickman's, rather than Mr. Soper's, section of the Chinese volume, for that masterpiece of upper-class bawdy (available in a respectable English translation) gives so vivid a picture of the layout and functions of a great Ming household that one could almost draw its circulation-diagram.

P.R.B.

STYLES AND TASTE

THE VICTORIAN HOME. By Ralph Dutton. Batsford, 30s.

THE TASTE-MAKERS. By Russell Lynes. Hamish Hamilton, 30s.

Two interesting and well-illustrated books, one concerned with Victorian Britain, the other with the United States in the same period—and after. There is, perhaps, too much stress on the modes-and-manners aspect in each. For example, the open-air pastimes of the century's later years, referred to at some length by Mr. Dutton, while relevant to 'the home' in a general and social sense, take us some distance away from the house and its furnishings. To Mr. Lynes all is fashion and fun—'taste' it is true has an element of both. Architects or designers of deeply considered convictions, like Pugin or Morris, were not the only 'taste-makers.' There were the popularizers—Eastlake's *Hints on Household Taste* was influential on both sides of the Atlantic—the commercial exploiters of the middle-class desire for magnificence—while the public, prompted by various social pressures, played its own part in creating a vogue.

Of the results, between the triumph of Gothic and the advent of Art Nouveau, Mr. Dutton gives a thoughtful and useful description. The Victorian interior that assimilated many differently inspired objects into its styleless core of crowded comfort, is a rare survival nowadays and particular value attaches to some excellent photographic examples. With more than insular exuberance, though much influenced by insular efforts, America, on the way from log cabin to Wright house, wandered through Gothic, Rococo, 'Queen Anne' and other phases. The story told in lively fashion by Mr. Lynes has its own drama. A Pugin of the backwoods, Andrew Jackson Downing, popularized the 'Gothic' house as a social remedy for the barbarism of the log hut and the law of the Bowie-knife. The Gothic Revival was launched on the waters of the Mississippi, with the scroll-saw tracery of its paddle-steamers ('floating wedding cakes'). Rococo, transmitted from Europe via the Illustrated Catalogue of 1851, gives a wicked splendour to the Gem Saloon of New York in the 1850s (it may be compared with the Rococo of the Steamship *Atlantic* illustrated in *The Victorian Home*). 'Biltmore,' Chateau of Blois in Indiana limestone, set down in the midst of George W. Vanderbilt II's 130,000

North Carolina acres, was a millionaire's dream of Seigniorage. In due course came aestheticism (though Mr. Lynes does not mention Wilde). The peacock-feather, a design motif traceable to Rossetti, made its appearance in Mr. Tiffany's 'artistic' interior (the author traces its survival later on the front of a juke-box). Some less catholic enquirer is left to distinguish between the ugly and the fantastic, and to apply standards of good design; of which 'taste' is the rival and often the enemy.

William Gaunt

Shorter Notices

BURIED LONDON. By William Thomson Hill. Phoenix House, 25s.

A comprehensive account of the material remains of London 'from Mithras to the Middle Ages,' as revealed by chance or by systematic excavation. The author is the archaeological correspondent of *The Times*, so it is not surprising that the task has been performed with a keen eye for those piquant details that give actuality to what might otherwise have been a mere catalogue of broken brick and shattered masonry. The value of the book is further enhanced by plenty of clear diagrams, maps and photographs. The excitement engendered by the recent discovery of the Mithraic Temple has perhaps induced the writer to give this particular building a little more emphasis than it actually deserves. It is also curious that Mr. Thomson Hill should pay no tribute, either in the text or in the bibliography, to Gordon Home's *Roman London*, a work which his own volume does not entirely supersede.

Jon Manchip White

THE HALESOWEN STORY. By Hans & Lena Schwarz. H. Parker Ltd., Halesowen.

A local labour of love, and the opposite of what that normally implies. Locally written, drawn, printed and published: neat typography, a charming book jacket, crisp writing and thirty-eight line drawings, which, in their range and consistently high quality, make up the best set descriptive of one town that I have seen.

Halesowen is an angular, hilly nail-making town, of the Black Country, but not quite in it; and, as the book shows, in the nineteenth century it had incredible vitality. Now it tries hard to avoid being swamped by Birmingham—permanently, in the way of urban sprawl; temporarily, by the ebb and flow of the countryside-bound Brummies at week-ends. The genius loci also has to fight municipal rustic which has replaced pre-industrial cottages, and deplorable new estates, dumped on a John Martin industrial landscape which would be one of the sights of the country in less muddle-headed times.

In fact, whether the patient will live or die is anybody's guess. Meanwhile, in 146 pages, here is Halesowen, from the setts on Mucklow Hill to the golf clubs propped up against Shenstone's Leasowes—a brilliant piece of work. Ian Nairn

Books Received

DENMARK. Sacheverell Sitwell. Batsford, 21s.
SCHOOL FOR THE NEW NEEDS. Architectural Record. F. W. Dodge, 89.75.
LOOKING AT CHINA. Paul Hogarth. Lawrence & Wishart, 12.6.
THE STEEL SKELETON. J. F. Baker, M. R. Home, and J. Hegman. Cambridge University Press, 63s.
DER TURM ALS SYMBOL UND ERLEBNIS. M. Revesz-Alexander. Martinus Nijhoff.
ROMANIAN ARCHITECTURE. W. Heffer (distributors), 15.-.

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

- 1 interiors
- 2 design review
- 3 techniques
- 4 the industry



1, looking towards the glazed bookcases containing the hospital's collection of books, occupying the only blank wall. The furniture, in afrosmosia, was specially designed by the architect.

1 INTERIORS

DOCTORS' COMMON ROOM,
COLCHESTER

Architect: R. D. Russell

Though mainly intended for a doctors' common room this was also required to

house committee meetings of up to twelve people. The room itself is part of a pre-fabricated hutment extension to the offices of Colchester hospital, and as the prospect from its windows is no more than the detail of the windows themselves these are masked more or less permanently by Venetian blinds.

High-level glazed bookcases at the top

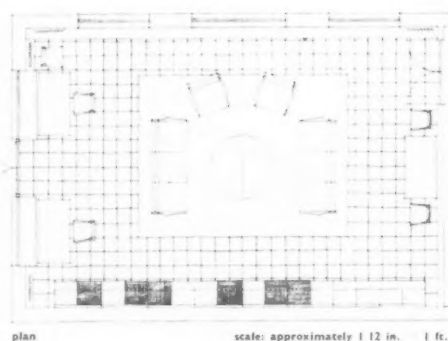
DOCTORS' COMMON ROOM, COLCHESTER

of dado units of moulded boarding contain the hospital's collection of books and are carried across the one blank wall. A continuous line of benches with loose cushions for occasional seating stands in front of the boarded dado, and on one of these benches is a case for magazines. Usually the circular table stands in the centre of the room with settees and easy chairs around it. In front of two windows are writing tables with a third similar side table on the wall opposite. For a committee the circular table divides into two halves and the three small tables are put in to form a single D-ended table.

The floor is covered with black thermoplastic tiling, the ceiling with paper in cool sand colour with a white pattern; the walls are white. The large rug is in natural white and the curtains pale grey and white stripe. The furniture and joinery are of afrormosia (a wood very similar to teak in colour and quality), except for the small chairs which are black, with rush seats. The loose cushions on the benches, settees and easy chairs are covered alternately with black and red material. Most of the furniture and all of the joinery was made by Aldous Successors Ltd., a local firm of yacht builders in Brightlingsea.



2, looking towards French windows that open on to a balcony facing south. The furniture is rearranged for committee purposes. 3, one of the three windows facing west.



2 DESIGN REVIEW

Peter Floud

A CALENDAR OF ENGLISH FURNISHING TEXTILES: 1775-1905

This month Design Review takes an historical form: in the course of preparing the Victoria and Albert Museum's exhibition, 'English Chintz: Two Centuries of Changing Taste,' shown at the Cotton Board Design Centre, Manchester, last December, Peter Floud was able to examine a large number of previously unknown textile-printers' pattern-books, containing between them over 30,000 dated patterns, running continuously from the late eighteenth century onwards. They provide a visual calendar of English taste in furnishings of a quite unexpected precision.

It has always been obvious that detailed research on the interior decoration of the late eighteenth and nineteenth century would show the need for a far more refined chronology than that implied by 'Regency,' 'High Victorian,' etc. Nevertheless it is surprising to find that since at least 1775—the date from which adequate records survive—fashions in printed furnishing textiles have changed so rapidly that almost any English printed furnishing can confidently be dated within a margin of five years. Similar

research on surviving records for woven fabrics and wallpapers would almost certainly tell the same story.

These changes are plotted on the following pages by means of 60 illustrations of printed textiles chosen as good representative examples of each of the main successive fashions in floral design for the period 1775 to 1905. The series has been deliberately limited to floral patterns in order to sharpen the comparisons, but as these have always accounted for the great bulk of English furnishing

fabrics, no serious distortion results. Although 1775 has been taken as the starting date it must be admitted that gaps in the earliest records justify some hesitation in datings for the period up to 1790. Thereafter, however, the supply of fully documented patterns is copious enough to guarantee the dates within very narrow limits. 1905 has been taken as a more suitable terminal date than the end of the century, as it marks the end—at least as a living fashion—of those 'Art Nouveau' tendencies which were already implicit in the developments of the 1890's.

The illustrations should dispose of the myth, fostered by twentieth-century interior decorators, that there is a single 'traditional' English style of floral design which has proved its worth through successive generations. There has never been any such stable fashion, and the stylistic mannerisms of the furnishing fabrics which are now turned out as 'traditional' usually owe more to the copying of Jacobean embroideries or French silks than to any study of real English chintzes.

A proper interpretation of these rapid changes in fashion, and in particular of their genesis and diffusion, will require a great

deal more research. Some, such as changes in the scale and delicacy of draughtsmanship, can be directly related to technical improvements in printing processes. A few of the changes in colouring—but by no means the majority—are the evident consequence of new dye-stuffs. Some of the sudden switches in the predominant subject-matter of prints have been occasioned by the publication of influential illustrated books, such as Audubon's 'Birds of America.' Many of the changes after 1875 can only be understood if account is taken of the influence of the personal styles of the leading artist-designers. These factors throw light, however, on only a fraction of the changes, and those which express themselves in more subtle forms, such as the constant fluctuations in the balance and organization of patterns, so far remain entirely unexplained.

All the textiles are in the Victoria and Albert Museum except the following: Messrs. G. P. and J. Baker, Ltd., 9, 10, 30. Miss Josephine Howell, New York, 11, 13, 22. Messrs. Turnbull & Stockdale, 54, 58. Messrs. W. H. Haynes, Ltd., 34. Museum für Kunst und Gewerbe, Hamburg, 55, 59. Musée de l'Impression, Mulhouse, 29. Patent Office, 36-38, 40-49. The photographs are the copyright of the Museum.

The numbers in brackets at the end of the captions refer to the fuller details given under the entries in the catalogue of the Manchester exhibition. (H.M.S.O. 2s. 6d.)

1775-1790

This period is characterised by meandering patterns, very loosely organized, and in the best examples giving a remarkable feeling of natural growth. Backgrounds are usually white, and repeats very large (often more than a yard square). In the case of the more expensive copperplate prints (almost always monochrome) the engraving was often detailed and delicate, while the cheaper wood-block polychrome prints were bolder and coarser. Colours were all vegetable and limited to indigo blue, weld yellow, and madder reds, purples and olives. In the absence of adequate documentation it is difficult to date individual examples at this period within a margin of less than 10 years.



1, 2, 3

c.1775. Paper-impression of copperplate from Robert Jones's Old Ford factory. The apparently haphazard disposition and delicate naturalistic detail are typical of the 1770's.



c.1780. Wood-block in reds, purples, black and blues. Peonies (see also No. 3), inspired by Chinese wallpapers, were popular in the 1780's. [50]



c.1780. Wood-block in reds, drabs and blue. The gnarled arborescent stem of this and No. 2 was a popular convention between 1775 and 1785. Coarsely drawn birds appear in the 1780's. [49]

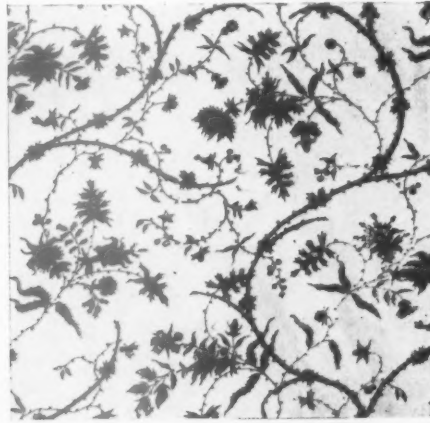


4, 5, 6

c.1785. Paper-impression of copperplate from Bromley Hall printworks, showing only a small part of the total repeat.



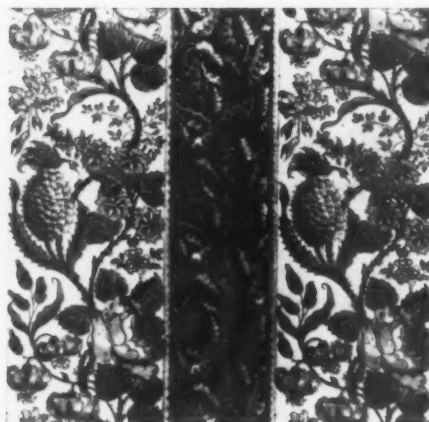
c.1785. Detail of another Bromley Hall paper-impression showing the taste for exotic plants. Precise naturalism remains, but no longer with the delicate drawing of the 1770's. [10]



c.1785. Wood-block in red, black and blue. The very thin stems and spiky 'Indian' flowers are characteristic of a whole group of furnishing and dress fabrics of the 1780's. [52]

1790-1802

Copperplate monochrome florals have almost disappeared; roller-printing (though invented in 1783) has not yet affected furnishing fabrics; and the field is therefore dominated by wood-block prints. London still produces the best work, but Lancashire is rapidly gaining ground. Designs continue to be loosely organized, but thin patterns on white grounds are now replaced by dense and opulent polychrome bouquets on dark purple or yellow or red grounds. Readily identifiable garden flowers (roses, poppies, tiger-lilies) are excellently drawn with three-dimensional naturalism. This can be regarded as the high-water mark of the English floral chintz.



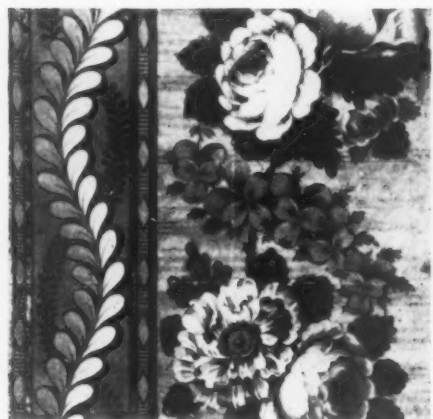
c.1790. Polychrome wood-block. The tiger-lilies, the alternating stripes, and the multi-coloured leaves are typical. [53]



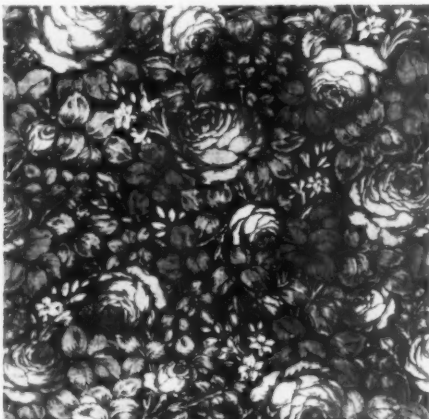
c.1790. Polychrome wood-block. Decorative ribbons often occur at this date. Striped designs such as this and Nos. 7 and 10, were often cut up for use as borders. [55]



c.1795. Polychrome wood-block. Exceptionally finely drawn. The fern background reserved in a lighter purple against an almost black madder ground is characteristic of 1795 to 1800. [60]



1796. Original design by J. Edwards, noted as the best chintz-designer of his generation (the nineteenth-century rule of anonymity for designers was not yet operative). [56b]



c.1800. Polychrome wood-block on dark purple ground. The rich dark colours, the boldly modelled flowers, and the skilfully masked repeats, are all typical of the very end of the century. [62]



1802. Polychrome wood-block on red ground. Commissioned by Richard Ovey, a London merchant whose furnishing designs dominated the trade from 1798 to 1810. [68]

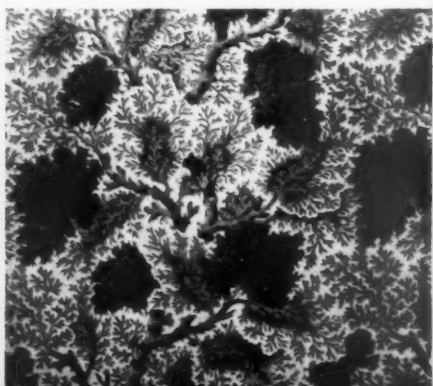
1802-1815

Wood-block prints still hold the field. After 1799, and particularly from 1802 to 1807, the rich palette of the preceding decade is replaced by drab colours (grey, beige, olive and yellow, sometimes with green added) for almost all indigenous floral designs, though there was a simultaneous fashion, especially from 1804 to 1806, for brightly coloured exotic designs, both floral and figural, in the Indian, Chinese and Pompeian taste. Draughtsmanship deteriorates noticeably, and careful modelling gives way to a broad slap-dash treatment. The best designs still retain, however, a bold decorative vitality. Printing becomes coarser (London is now completely overshadowed by Lancashire), though there is as yet no decline in the standard of the vegetable dyes used.

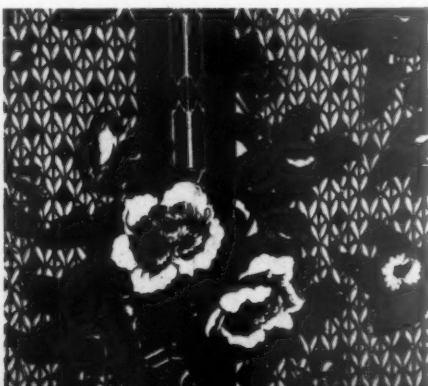
c.1805. Polychrome wood-block. The formalization of the flowers, derived from eighteenth-century Indian chintz palampores, is typical of the bright exotic designs of around 1805. [74]



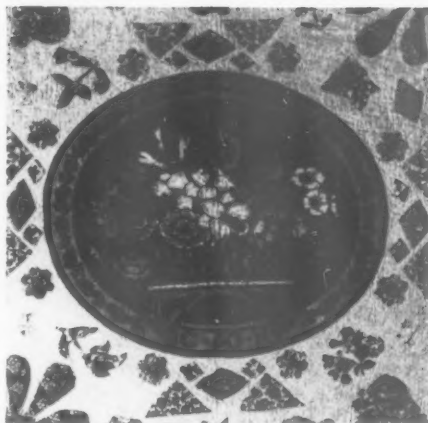
1805. Drab wood-block. The summary draughtsmanship and the emphasis on leaves rather than blossoms is typical for these drab prints. [82]



c.1805. Drab wood-block. Note the lack of detail in the flowers by comparison with the previous decade. Pillar-designs were an English speciality, intermittently popular from 1800 to 1835. [86]



16, 17, 18



1810. Polychrome wood-block. These panels first occur as chair-seats in about 1800; by 1810 they were being produced for use in patchwork quilts. The inscription refers to George III's jubilee. [101]



1812. Polychrome wood-block. Printed in the reds, dark greens and oranges which replaced the drab style after 1807. The growing tree and architectural motifs are typical for 1810 to 1816. [91]



1815. Polychrome wood-block. Printed in the same colours as No. 17. There was a fashion for game-birds under formalized palm-trees for a few years around 1815. [94]

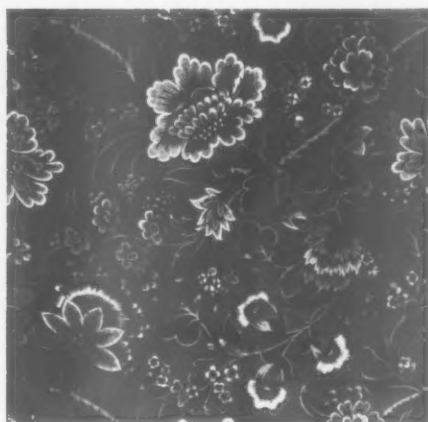
1815-1827

By 1815 furnishings printed by machine from engraved metal rollers had begun to compete with the traditional wood-block prints. The new technique led at first to a renewed attention to finely-engraved detail, and indirectly produced an improvement in the draughtsmanship of woodblock prints also, with a conspicuous emphasis on sharply defined outlines. Flowers predominate once more. Newly discovered chemical discharges and mineral colours (antimony-orange, 1817; manganese-bronze, 1823) begin to change the traditional madder-style palette.

19, 20, 21



1818. Two-colour roller-print. Neatly differentiated vertical stems and honeycomb backgrounds were much used for both dress and furnishing fabrics between 1815 and 1820. [145]

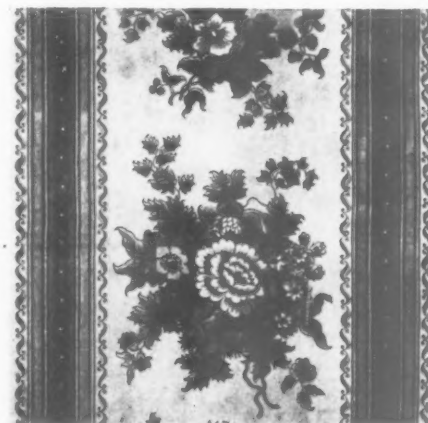


c.1820. Polychrome wood-block in bright reds and blues. The cross-hatched shading on the petals in this and No. 21 illustrates a sudden fashion from 1820 to 1824. [123]



1823. Polychrome wood-block. The floral scroll motif, reminiscent of wrought-iron work, was popular between 1815 and 1824.

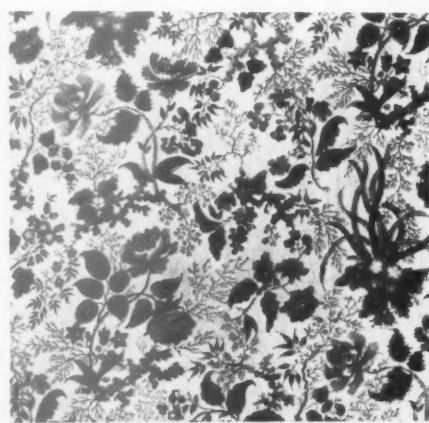
22, 23, 24



c.1824. Polychrome wood-block. Typical of its date, both in the neater draughtsmanship resulting from the competitive stimulus of machine-engraving, and in the alternating stripes. [124]



1824. Monochrome roller-print. A particularly well engraved example. [148]



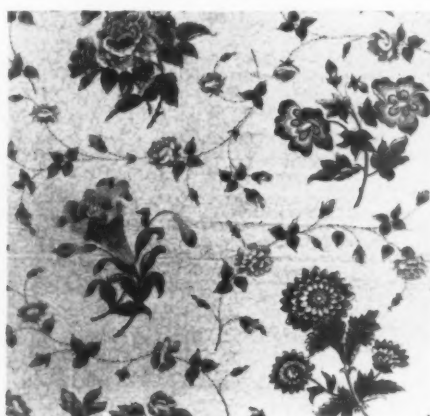
1827. Polychrome wood-block. A good example of the floral designs with lightly printed fern-like attachments which dominated chintzes from 1826 to 1830. [126]

1827-1835

With further technical improvements in roller-printing, fine engraving reached its highest point of excellence during these years. There was a return to more sparsely disposed patterns, often with very thin stems, and to precisely delineated flowers copied from botanical plates, (both trends reminiscent of the 1780's). The year 1829 saw a sudden fashion for birds (usually exotic) and butterflies, which lasted until about 1835 and was probably inspired by the publication in 1827 of Audubon's first plates. Colour standards begin to deteriorate under the influence of the new mineral dyes. (It was these new dyes of the 1820's that ruined textile colouring, not the aniline dyes of the 1850's and '60's as often supposed.)



1829. Polychrome wood-block. Isolated plants such as this, taken straight from botanical plates, and often 1 ft. or more high, were in vogue from 1828 to 1835.



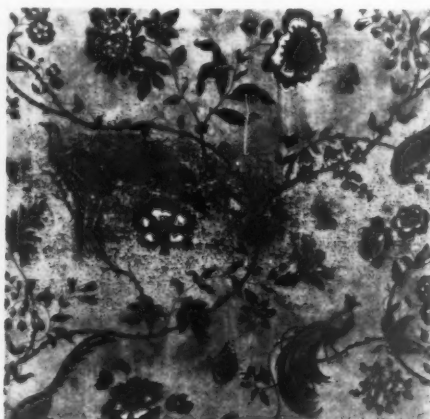
c.1830. Machine and block print. A variant on No. 25, with the outlines and the typical fancy background printed by roller and the additional colours printed by block. [133]



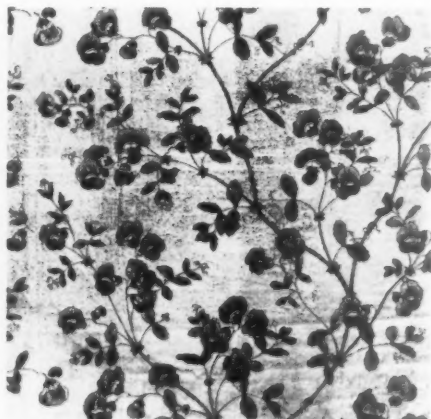
1830. Polychrome roller-print. An excellent example of the best Lancashire engraving. The stippled shading of the petals is typical of the 1830's. [169]



1831. Polychrome roller-print. The birds and some of the flowers are copied exactly from plates in Audubon. Printed in brilliant orange on a dark manganese-bronze ground. [167]



c.1832. Polychrome wood-block. The birds and butterflies of No. 28 translated into the coarser wood-block technique. This has the typical blotchy 'tea'-ground of 1825 to 1835. [136]

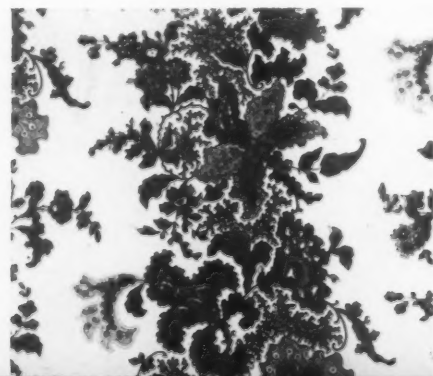


1835. Polychrome wood-block. The final stage of the traditional floral chintz before the onset of Victorianism. The thin stems and tendrils are very characteristic. [139]

1835-1846

A period of disorientation and deteriorating standards. Many well-drawn prints are still produced, but there is a rapid increase in ill-organized designs, unhappy combinations of naturalism and formalism, juxtapositions of incongruous motifs, and a lack of consistency in scale. The regular use after 1835 of a harsh acid-toned 'solid-green,' in place of the traditional soft bluish-green produced by the over-printing of yellow over Indigo blue, finally disrupted the balance of the old vegetable-dye palette, and simultaneously transformed the drawing of stems and leaves by eliminating the need for a dark outline to conceal misregistration in the overprinting.

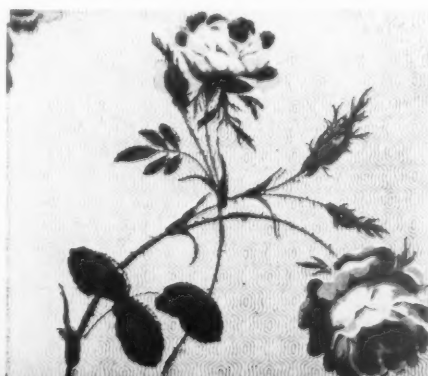
1835. Polychrome roller-print. An as yet restrained example of approaching Victorian eclecticism. The potted dots are typical of designs from 1835 to 1840. [175]



1836. Polychrome wood-block. The drawing marks the transition from the botanical-plate precision of the 1820's to the typically sketchy over-blown blossoms of the 1840's. [142]



1837. Machine and block print. This clearly shows how the drawing of stems and petals without outlines transformed the appearance of the floral chintz. The fancy ground is typical.





34, 35, 36

c.1840. Machine and block print. The picotée dots, the clumsy drawing of the cartouche and the blend of naturalism and formalism are typical of this period. [201]



1842. Machine and block print. A hangover from the pre-Victorian thin floral trail, but with a tight stippling on the petals much used at this date.



1846. Polychrome wood-block. The sprawling disorganised design, and the building up of the modelling by the overprinting of light tones without outlines is characteristic. [178]

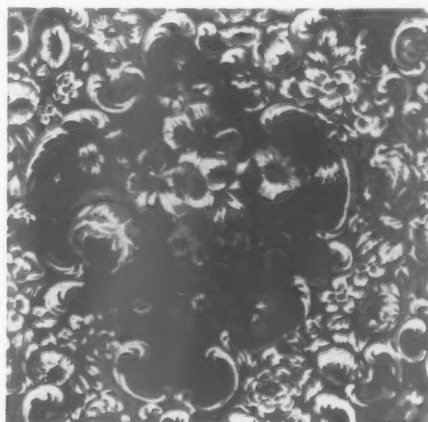
1846-1856

Although the general standard continues to decline, the floral prints of this decade achieve a certain consistency of style missing in the previous period. Large flowers are drawn with an eye to an opulent effect rather than to any authentic naturalism. A spurious three-dimensionalism is obtained by the superimposition of tonal washes rather than by precise modelling. This style later provided the prototype for the typical twentieth century 'traditional' chintz. The fine engraving of the earlier roller-prints has disappeared, and the drawing of the wood-blocks is much coarser. All restraint on the use of colour is abandoned and harsh greens and maroons predominate.



37, 38, 39

1846. Polychrome wood-block. A characteristic floral cascade in rich oranges and purples of a type which won the highest awards at the Great Exhibition. [179]



1848. Polychrome wood-block. Overall florals with no visible ground, like this and No. 40, were in vogue in the late 1840's. The muddle of rococo scrolls and flowers is typical. [180]



c.1850. Polychrome wood-block. Chosen by Sir Henry Cole as an example of 'False Principles in Design: Direct Imitation of Nature,' in a didactic exhibition in 1852. [183]

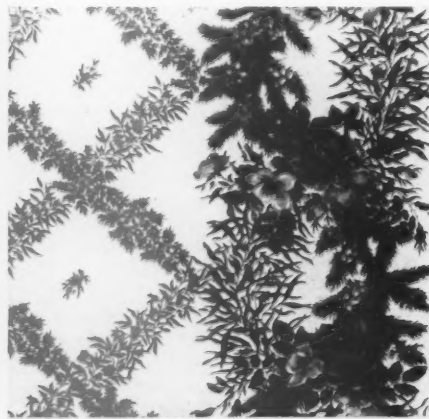


40, 41, 42

1850. Polychrome wood-block. A good example of the most expensive style of mid-Victorian wood-block chintz, printed only by Stead, McAlpin of Carlisle, and Clarkson of Bannister Hall. [182]



1856. Polychrome roller-print. A fair example of the cheaper style of mid-Victorian machine-printed chintz, imitating Berlin-woolwork. Backgrounds were usually green or salmon pink [213]



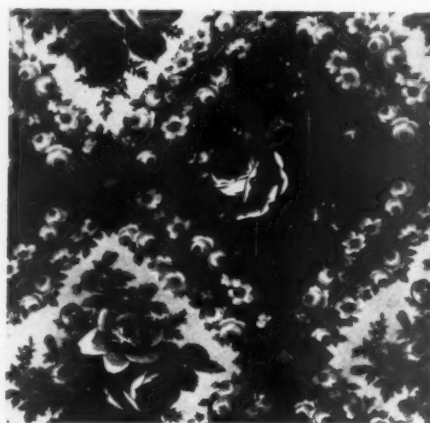
1856. Polychrome wood-block. One of the few new fashions of the 1850's was for border prints with trellis fillings, which were popular from 1856 to 1862. [188]

1856-1875

By this time the vast majority of English printed furnishings had sunk to a uniform level of vulgar and eclectic mediocrity, with little variation from year to year. A few original designs were remotely influenced by the anti-naturalistic and anti-three-dimensional teachings of Pugin and Owen Jones, but far fewer than in the case of woven fabrics and wallpapers. From 1865 onwards the English market for high-class chintzes came increasingly under the influence of sophisticated Parisian fashions, and even the most enterprising English manufacturers copied the latest stylistic mannerisms of their French and Alsatian competitors.



1858. Polychrome wood-block. An example of a now forgotten fashion for fern designs which lasted from 1856 to 1860—the last spark of originality before the Morris revival of the 1870's. [190]



1860. Polychrome roller-print. A type which won awards at the 1862 Exhibition. More exaggerated versions incorporated not only the jewel effects but Paisley and tartan motifs as well. [214]



1863. Machine and block print. An unusually good example of a short-lived fashion at this period for chintzes in reds and browns, excluding all blues and greens. [192]

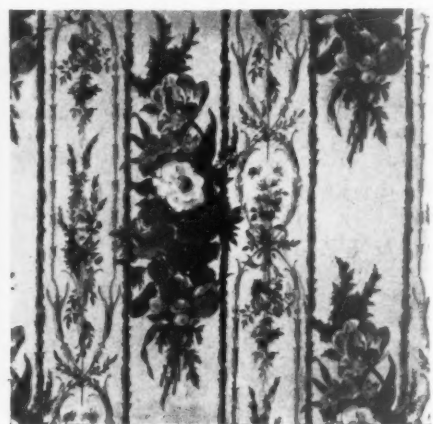
43, 44, 45



1867. Polychrome wood-block. A rare example of a chintz indirectly and belatedly influenced by the designs and teaching of Pugin and Owen Jones. [194]



1869. Polychrome wood-block. A typical Stead, McAlpin chintz under strong French influence, printed in brilliant colours on a dark green ground. [196]



1871. Machine and block print. Another Stead, McAlpin print under even stronger French influence. The thin red line round the white petals is a standard mannerism between 1868 and 1875. [200]

46, 47, 48

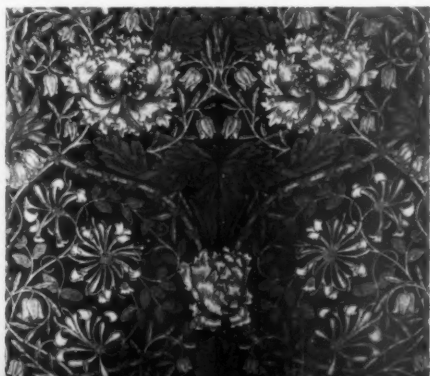
1875-1890

In the mid-1870's an entirely new element was introduced into textile-design by the emergence of the artist-designers, led by Morris. Their designs were at first ignored by the trade, but later copied with minor alterations as soon as their popularity was apparent. Not until the late 1880's, however, did the trade-studios make any attempt to assimilate the new principles or to adapt their own designs in the light of them. This period also saw the rapid supersession, after about 1875, of the standard garishly coloured and heavily glazed chintz of the mid-Victorian period by the typical late-Victorian cretonne printed in pale shades on a heavy cotton twill.

1875. Bruce J. Talbert (1838-1881). An example of his pseudo-Japanese style. Influenced by Morris's early wallpapers, but anterior to the latter's first chintzes. [222]



1876. William Morris (1834-1896). The 'Honeysuckle.' The best-known of his early chintzes. Less of a break with the English tradition than either Talbert (No. 49) or Mackmurdo (No. 52). [230]



1883. Polychrome roller-print. An example of the best trade-studio work of this period, printed in pale biscuit and beige tones on a thick unglazed cretonne.



49, 50, 51



The Mitre Hotel in the High Street, Oxford, was established over 600 years ago. Several of its rooms have fireplaces and panelling of the early XVIIth century. But The Mitre's standards of comfort are wholly present-day. It has an oil-fired heating system, which is supplied with fuel by Shell-Mex and B.P. Ltd.

A XIVth CENTURY INN WITH XXth CENTURY COMFORT

The Mitre Hotel in Oxford has oil-fired central heating

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This last is a most important point. Britain is already forced to import millions of tons of coal a year, and the difference between demand and available home supplies is likely to grow considerably. It has been reliably forecast that the country may be faced with an 'Energy Gap'

of some 50 million tons coal equivalent by 1960. Realising the seriousness of this situation, many hotel proprietors as well as industrialists and private householders have changed their heating systems to oil-fuel. Would you like to know if your premises are suitable for an installation or conversion? Shell-Mex and B.P. Ltd. have had 40 years' experience in the economical applications of oil-fuel, and their knowledge and advice are at your service. Please write to Shell-Mex and B.P. Ltd., Fuel Oil Dept. 12G., Shell-Mex House, Strand, London, W.C.2.

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Universal (Royal Navy) Extinguisher Model 1301 for Class A fires
Air Foam Extinguisher Model 1400 - - - - - Class B fires

Approved by the Fire Offices Committee

Universal (Royal Navy) Extinguisher Model 1301 for	FOC Ref. No.
Air Foam Extinguisher Model 1400	Class A fires 104/6
Auto (CTC) Extinguisher Model 1003	Class B fires 104/3
Auto (Chloro-flash) Extinguisher Model 2003	Class C fires 104/5
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All these models comply with British Standard specifications, where these exist. No British standards exist for chlorobromomethane extinguishers or double-action nozzles like that of the Universal extinguisher. But special FOC approval has been given to these Nu-Swift features because of their increased efficiency.

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1875-1890



52, 53, 54

1884. A. H. Mackmurdo (1851-1942). The 'Cromer Bird.' Produced for the Century Guild, and clearly demonstrating his characteristic anticipation of 'Art Nouveau' and influence on Voysey. [241]



1887. William Morris (1834-1896). The 'Trent.' Typical of his later designs in its diagonal disposition and emphasis on formalised floral symbols.



1888. Lewis F. Day (1845-1910). An example of Day's influential reinterpretation of the traditional English chintz in the light of his knowledge of Renaissance pattern. [244]

1890-1905

By 1890 the influence of Morris, Mackmurdo and Lewis Day (and after 1895 of Voysey) on sophisticated taste was sufficiently pervasive to force the leading trade-studios to employ a new type of art-school trained professional designer. The best of these, such as Lindsay Butterfield and Sydney Mason, though basing their styles on an eclectic amalgam of Morris and Voysey, were gifted enough to raise the best trade designs to the highest level of technical competence reached in this country. From 1897, and particularly between 1900 and 1905, they turned their talents to adapting the extreme Parisian brand of 'Art Nouveau' to English tastes.

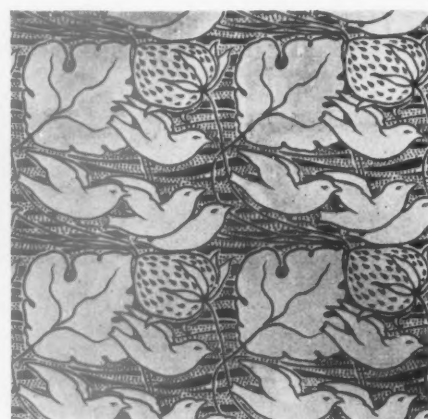


55, 56, 57

1891. Lindsay P. Butterfield. Characteristic of the fresh treatment of floral conventions inspired by the general liberating influence of Morris and the Arts and Crafts movement.



1893. C. F. A. Voysey (1857-1941). An example of his earliest and simpler style, influenced by Mackmurdo, but not yet showing the interaction with continental influences. [256]



1895. C. F. A. Voysey (1857-1941). An example showing his characteristic papery treatment of leaves, which was much copied around the turn of the century. [257]



58, 59, 60

1901. Lindsay P. Butterfield. The papery flowers are inspired by Voysey, but the exaggerated twisting and the emphasis on odd details shows the influence of Paris. [260]



1903. Christopher Dresser (1834-1904). The full impact of French 'Art Nouveau' interpreted by Dresser—the eccentric mid-Victorian designer and writer—at the very end of his life. [265]



1905. Harry Napper (d.1930). French 'Art Nouveau' as assimilated to English tastes by one of the most skilful of the professional eclectics. [264]

3 TECHNIQUES

HOW SHOULD WE USE PLASTICS?

The 'all plastic' house at this year's Salon des Arts Ménagers in Paris did not draw so much informed comment from architects and from the building industry as it deserved. For whatever we may say about the house as a house, its production forms a convenient record of the penetration of building by this revolution in chemistry. Here Bruce Martin describes and sets down his thoughts on the house.

The house exhibited at the Salon des Arts Ménagers held in Paris in February and March this year was described as the first all-plastic house. It was sponsored by the journal *Elle*, the Salon, the Charbonnages de France and the Houillères du Nord with the collaboration of the Gaz de France and the French Chemical Industry.

The decision to design and construct the house was taken in April, 1955, following a proposal made to the sponsors by a young architect, Lionel Schein, to make use of the complete range of plastics materials now available for building. The work was carried out by a design team of ten, including architects, engineers, contractors and artists, who were supported by the leading firms and associations in the French plastics industry and a number of specialist sub-contractors. Other organizations contributed to the furnishing and equipment of the house. Sketch plans were prepared during July and August and working drawings in the following two months. Construction started in November in a special workshop set up in one of the Exhibition Halls, where forty workmen were employed to fabricate the elements and components of the building. In the early stages it was decided to plan to a human scale, to make the most of the technical possibilities of the materials and to bear in mind mass production. The house was therefore designed to be split up into as few and as large elements as possible. In a sense this determined the plan form; a central rotunda was divided into eight equal segments each capable of being made in the same mould; an eighth of a wall frame and an eighth of a floor frame forming one unit cast in a single piece. To this central rotunda could be added one, two or three bedrooms (the plan shows three) and the main wall unit for each of these rooms was cast in the same mould. Each of these bedrooms was connected to one-eighth of the perimeter of the rotunda. The eight structural frame elements, made of polyester reinforced with glass fabric, were assembled around a central hollow post which served as the main rain-water pipe. The roof units were connected by eight long cover jointing strips which also served as beams. The moulds for these units were, in the case of this prototype, made of wood and were coated with suitable separation agents to allow of removal of the casts, which were made by adding the polyester resins to the glass fabric. Polymerization of the resin solidified the whole unit. The partitions were of sandwich construction 3 cm. thick containing a central filling of insulating wadding. The floor panels consisted of stratified layers on either side of honeycomb plastic filling about 4 cm. thick, the total floor consisting of two such panels of a total thickness of 8 cm. Window walls were of Perspex

acrylic sheet formed to a curve on plan and bolted by means of a plastic cover strip to a joggle in the main structural frame units. Perspex was also used for benches and for the desk in the living room. All interior equipment, including furniture, decoration and furnishing fabrics, was carried out in a number of different plastics as shown in the attached table.

The area of the house was about 1,000 sq. ft. and contained the accommodation as shown on the plan opposite. In describing their design the architects refer to the possibility of continuity of structure made possible by employing materials of this kind, and to the curvilinear surfaces which tend to be suited to certain of the materials. They claim that the insulation in the plastic panels has good thermal capacity and sound absorption and brings

about additional comfort in the rooms. They also point out that the washable surfaces lead to little maintenance both inside and outside, and that the continuous surfaces prevent the collection of dirt and the formation of moisture and mould.

This design undoubtedly achieves the first objective, which was to demonstrate the use in a single house of a wide range of plastic materials in order to show that plastics are no longer limited to toys, household objects and similar small articles. In recent years the range of plastics has widened considerably so that the requirements of a particular building component may be satisfied by using the most suitable plastic material. But the concept of 'components' is itself relatively new, and it is clear that with new materials the form of a

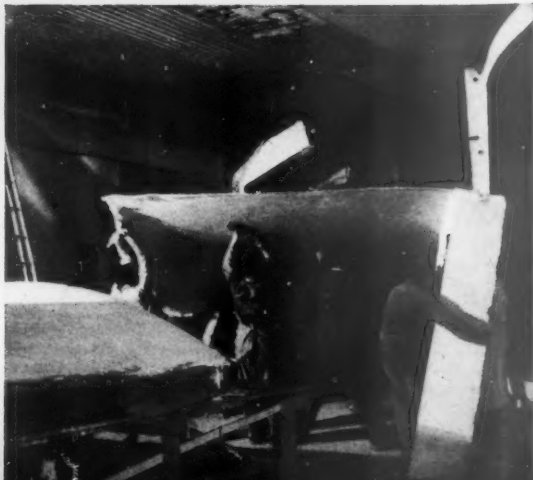
traditional component may change radically. It will take time and experiment to discover the forms needed to link the new material with its particular application as part of a building.

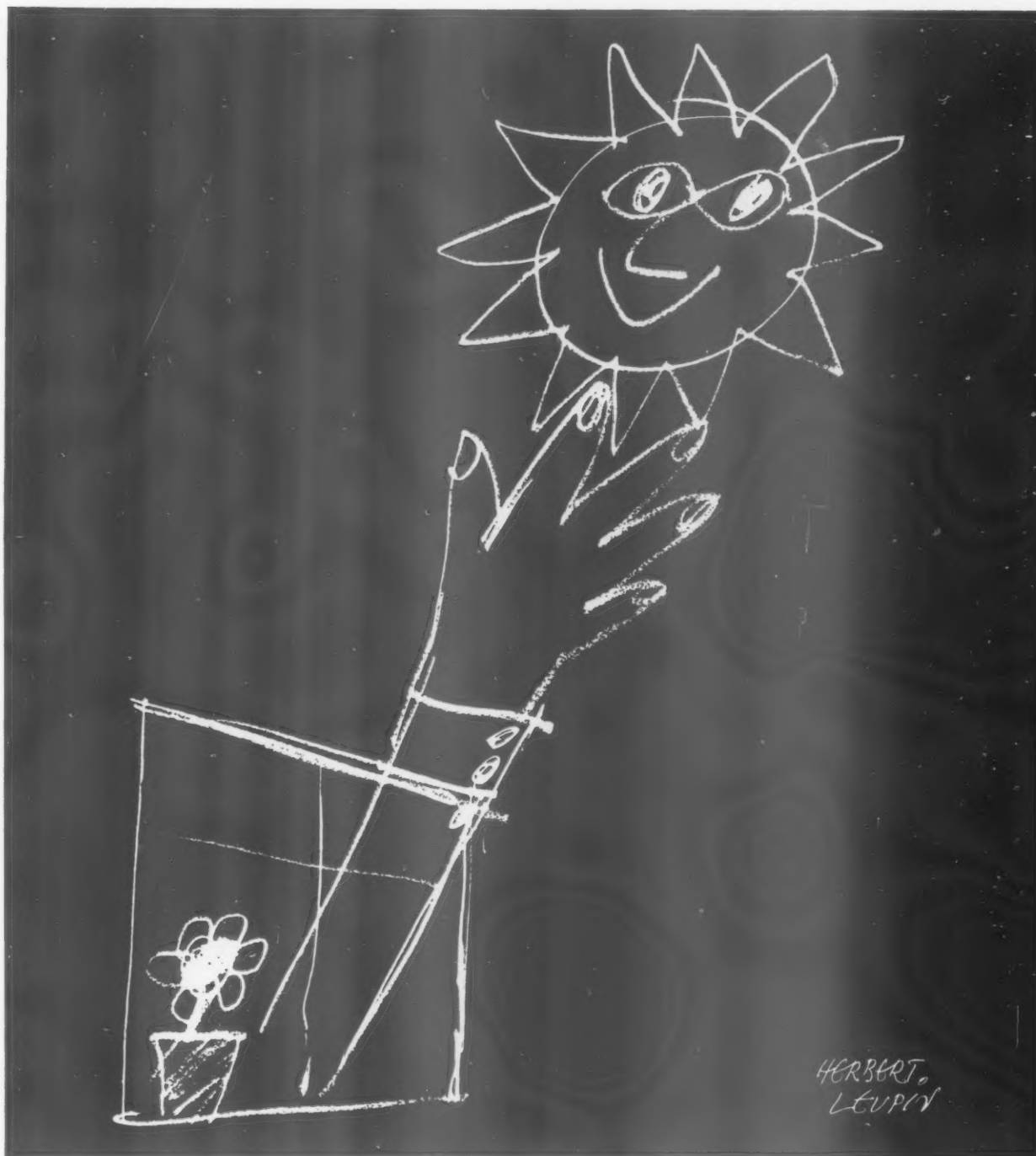
In this house, the shapes of the floor panels and of some of the walling are very doubtful. They are designed, of course, to fit the plan, which in turn results from the structural system, but the plan in fact is rigid and determinate because of the form of the panel components and the way they have been fixed to the structural units. Their shape has very largely determined the plan. Furthermore they could not be used to take up other positions in this plan or in another. Similarly the cupboards are built right into the walling system, giving inflexible storage arrangements: the position and amount of storage are governed by the initial decision of the architects. The beds are also fixed in space and time and the shape of rooms is such that alternative furniture arrangements are almost impossible. The living room sofa is another example of this rigid planning suitable for a waiting room but out of character with the domestic lounge, where it is unfortunate if the members of the family are obliged to sit in a long line with their backs to the acrylic glass sheet.

The plan is said to be free and open, but in fact it provides the same inflexible accommodation as normal little house plans associated with

[continued on page 136]

1, the main structure of the rotunda. 2, placing the floor panels of the rotunda. 3, fabricating the screen wall of the entrance vestibule. 4, removing one of the bedrooms from its mould; note the inconvenience of handling units of this size and shape.





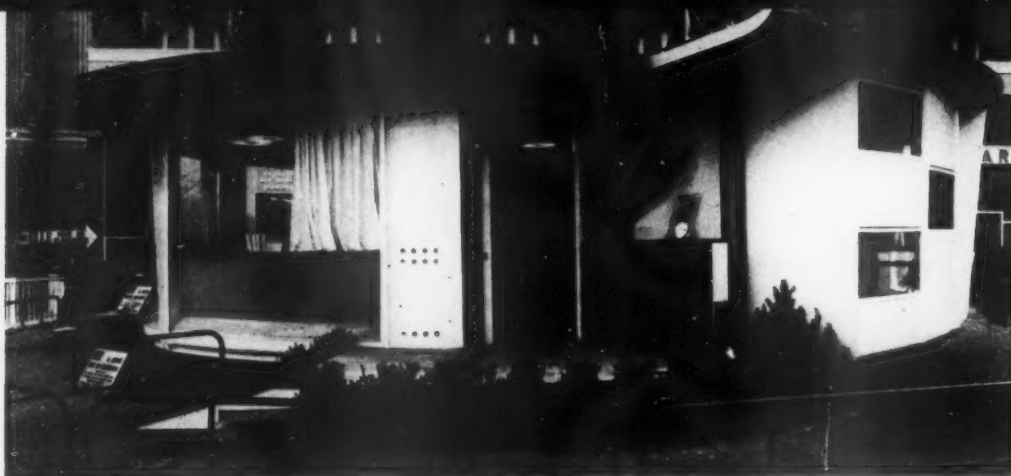
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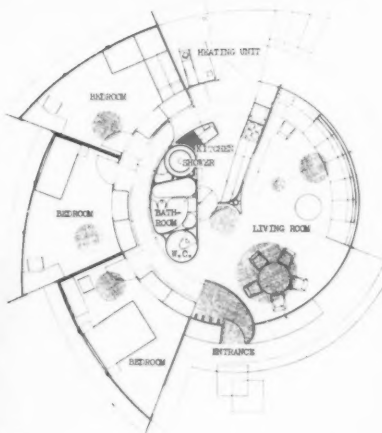
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5



6



7

continued from page 134]

load-bearing construction and semi-detached development.

In addition, the plan is a 'type plan' on the lines of a motor car or an aeroplane. It is the 'prefab' house—a complete object designed for production as a complete unit in which all parts contribute to a single fixed and unalterable pattern. Yet, for purposes of fabrication, of handling and of design, it is broken down into component parts. Why then is it necessary for these parts to be designed to go together always in the same way for every family, for every site and every mode of life?

There is, without doubt, a great future for plastic components in building, but they must be designed and used to bring about new and varied plans, which are possible just because of the material's particular virtues. It is light structural frames that allow of light walling, and it is light walling that allows of alternative plans and a flexible use of space.

Finally, a world of plastics alone is too much of a good thing. The all-plastic house is a valuable experiment, but could bring about an unbalanced environment. Plastic components must be treated as valuable additions to our stock of building parts, but not as replacements and substitutes for all of them. Their qualities and colours are determinate and characteristic. For some environments, they may still be quite inappropriate.

5, general view; note position of the solid fuel heating unit. 6, living room interior. 7, plan. (Circular hatched areas represent ceiling lights.)

On page 138 is a chart showing the derivation and uses of the plastics used in the house.



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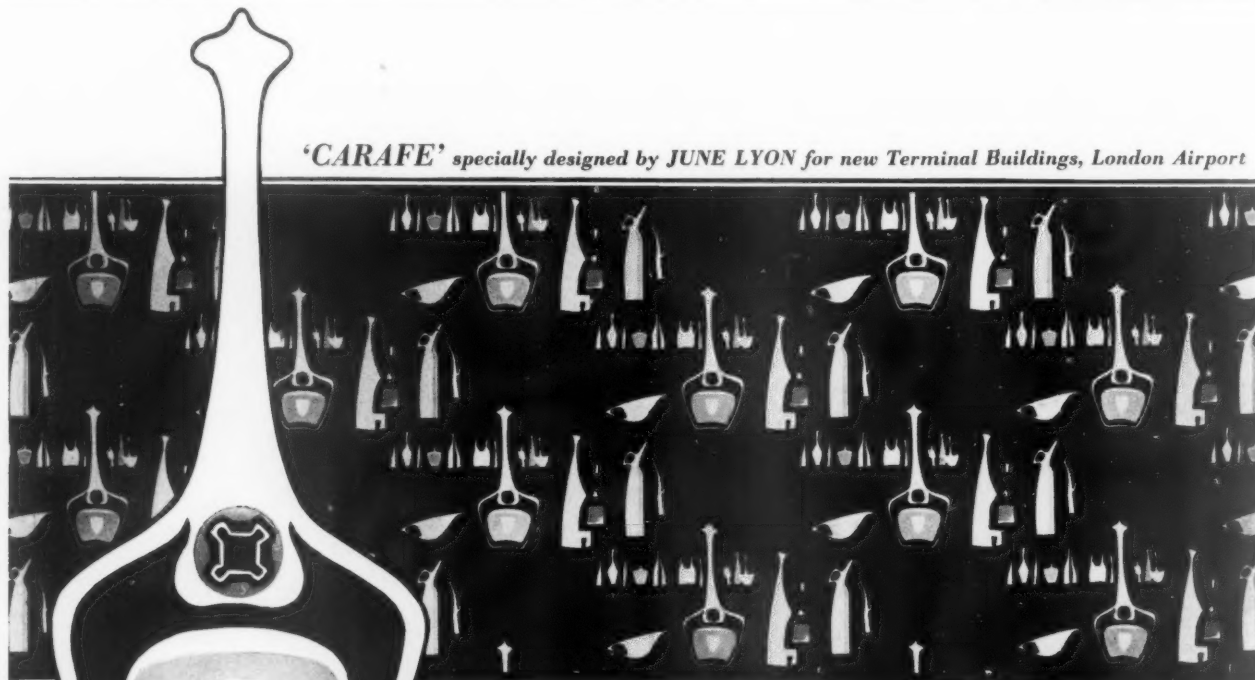
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This chart shows, on the left, the derivation of the plastics used in the house discussed on the preceding pages and, on the right, the uses to which they have been put in the house, and in the building industry generally. In the extreme right hand column are some of the more familiar English trade names in the field, placed opposite the plastics products they represent.

Derivation	Plastic Materials	Use in the Plastics House	Other Uses in Building	Trade Names
Gas	Hydrogen — Ammonia — Urea — Methanol — Formaldehyde — 1 Aminoplastics	Small electrical equipment	Household accessories and utensils, radio sets and seat tops	Pers. ex.
	Hydrocyanic acid — Acetone — Methyl methacrylate — 2 Polymethyl methacrylate	Transparent and translucent surfaces, shaped benches with back, desk, table and toilet objects etc.		
	Methane — Acetylene — Acrylonitrile — Acrylate — 3 Acrylic resins	Seat coverings	Floor coverings, paint	
	Ethylene — 4 Polyacrylic resins	Lingerie, clothes and furnishings		
	Ethylene — Ethanedio (ethylene glycol) — 5 Polythene	Household utensils (buckets, boxes) toilet flasks, pipes, electrical insulators		
Benzol	Xylole — Terephthalic acid — 6 Glycol	Clothing		Nylon
	Maleic anhydride — 7 Polyesters	Lingerie, clothes and furnishings		
	Styrene — 8 Polyesters (reinforced with glass fabric)	Shell floors, roofing, partitions, sanitary units and furniture	Translucent and opaque panels and elements	
	Phenol — 9 Polystyrenes	Telephonic apparatus accessories and household utensils	Radio and television sets, lighting apparatus, tiles (for wall coverings), wadding for insulation	
	Phenol — 10 Superpolyamides	As cloth: lingerie, curtains, clothes	Pipe work, door handles, etc.	
Coal	Phenols — 11 Phenolic plastics	Radio and television apparatus	Telephone apparatus, seat and table tops, household accessories	Bakelite, Holoplast
	Naphthalene — 12 Glycerophthalates	Paints		
	Phthalic anhydride — 13 Vinyl resins	Carpets, mackintoshes, gramophone records, pipes, electrical insulators, household accessories	Gutters, continuous flooring (vinyl and cement), paint	
	Acetylene — Vinyl chloride — 14 Vinyl textiles	Curtains, cushions, furnishings, lingerie, clothing		
	Cyanamide — Melamine — 15 Melamine resins	Door panels, sink	Panels (for walls and furniture)	
Coke + Lime	Calcium carbide			

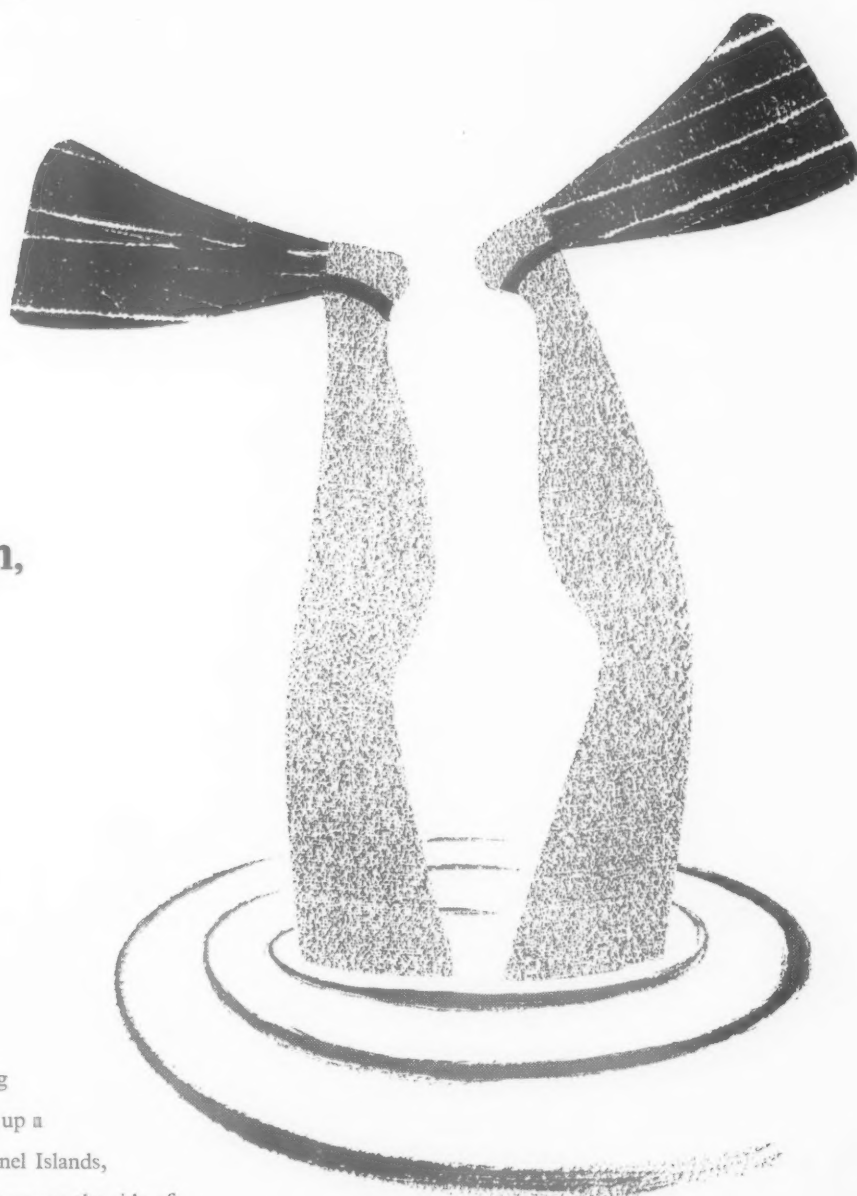
[Contractors for buildings in this issue on page 140]

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said the
frogman,
"to look
at our
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