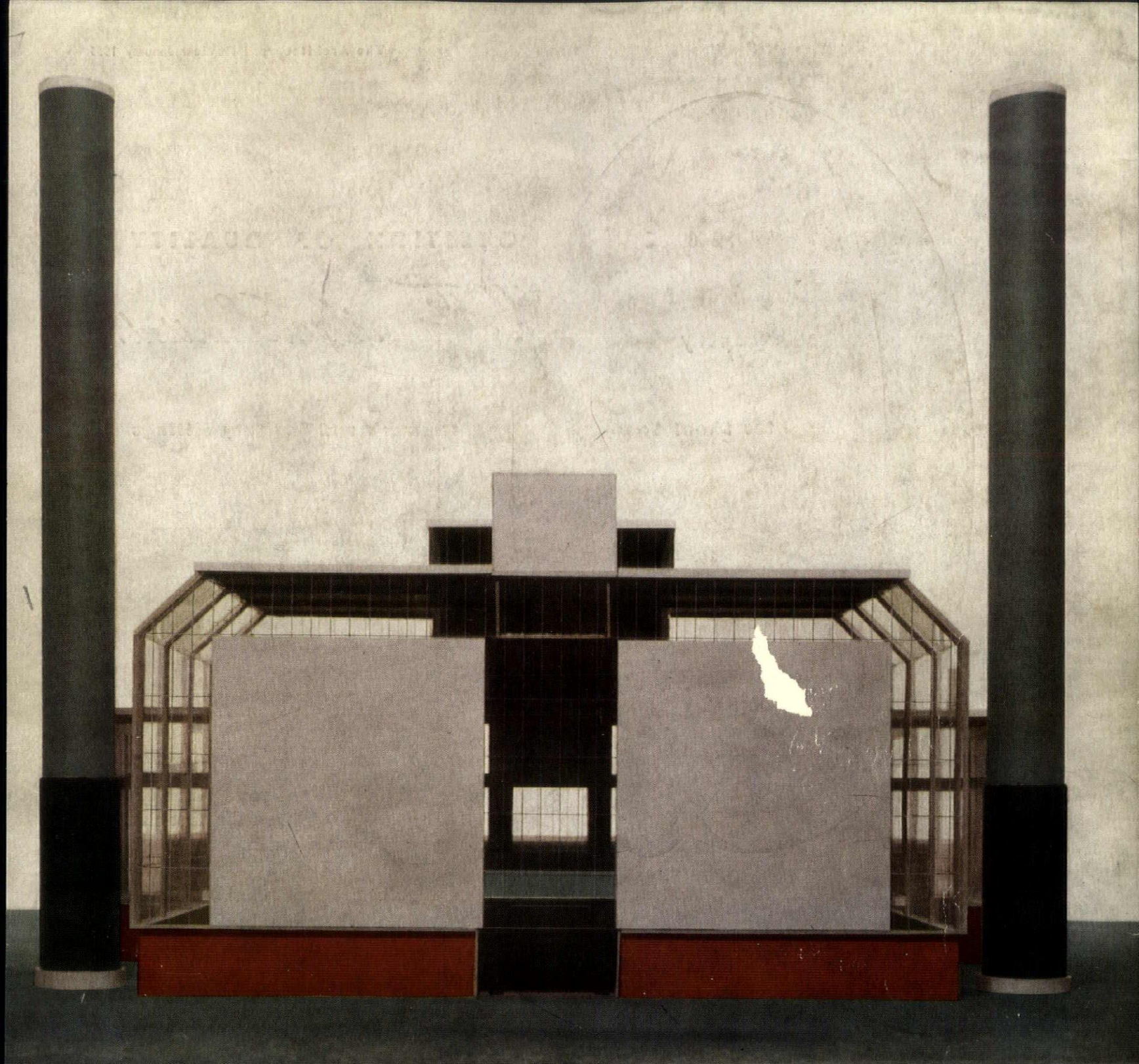

THE ARCHITECTURAL REVIEW

VOL. CXVII No. 697 JANUARY 1955 5/-

preview

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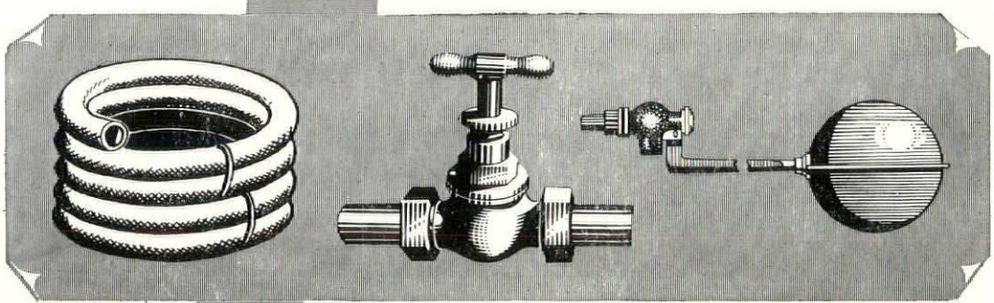

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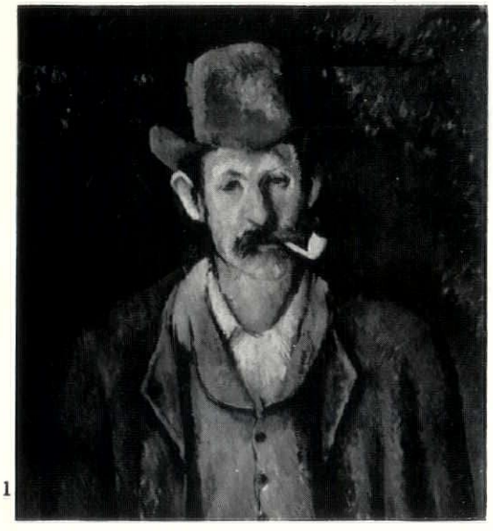
L.I.

MARGINALIA

Cézanne in London and Paris

Two important Cézanne exhibitions were held this year; one in Paris, the other in Edinburgh and London. The Paris exhibition, which was devoted to work between 1864 and 1880, is commented on below. The other exhibition reviewed Cézanne's development as a whole; it covered all the phases of his portraiture and landscape painting, but was less rich in still life and baigneuses. As an exhibition it lacked a focal point and needed a really large canvas on the far wall: if Philadelphia's *Grandes Baigneuses* had been included it would have demonstrated all the pathos and grandeur of Cézanne's failure to paint a 'living Poussin in the open air,' though it should be added that the studies of bathers selected for the show—they began with the decorative formalism of a small 1875 picture and culminated in the wonderful stirring and rustling of the complex, uncentred *Esquisse de Baigneurs*, painted after the turn of the century—conveyed the sense of a tireless and absolutely undeflectable gathering of forces.

In the atmosphere generated by the immense popularity of the exhibition, the pictures tended to turn into the sacred relics of a painter-martyr, and the tribute money that poured into the Tate would have seemed to celebrate the completion of a kind of holy trinity, and indicated that Cézanne has joined Rembrandt and Van Gogh in the painting section of the popular cult of the tragic failure who isn't really a failure. It is doubtful if there will be another. It is just possible that Picasso will be forgiven cubism for the sake of his dove, but he cannot show a succession of self-portraits that read tragically, and his solidarity with the people is expressed in symbols of an elegance that casts doubt upon his sincerity. He has never made a humble statement of the order of Cézanne's



1

Man with a Pipe, 1, and in this matter the instinct of the public is unerring: only a painter whose ultimate subject is the splendours and miseries of the toil of painting is likely to become eligible for its pantheon.

* * * *

'*Hommage a Cezanne*' at the Orangerie, included works from an anonymous private collection incorporating parts of the Pellerin collection and some from the Louvre. Though it could be called unbalanced it was also revealing, particularly to the visitor from London who is most familiar with pictures of the master's 'classical' period. Pictures, that is, of balanced colour and comparative calm. As the Tate has now acquainted us with the full range of Cézanne colour, so Paris gave an insight into the antecedents, often violent, sometimes verging on the



2

brutal, always passionate, as the *Déjeuner sur l'Herbe* (c. 1868-70), 2, shows clearly, the struggle of the painter to arrive at his classic style, which towards the end of his life gave way to a new excitement. Paris did what London failed to do; it gave the *Grandes Baigneuses* the place of honour at the end of the exhibition gallery so that it could be studied from a distance or quite close. Several sketches of 'baigneuses' showed the nearly life-long occupation of the Master with this subject, whose fascination may well have lain in the opportunity of showing figures in the landscape, or, better, of uniting the human figure with a landscape.

Preservation

The first report of the Churches Preservation Trust covering the period September 1 to December 31, 1953, shows that grants totalling £59,950 were voted to 143 churches and 7 Free churches, and loans amounting to £4,000 were made to 4 churches.

It is estimated that at least £4 million must be raised over the next ten years to supplement what parishes could reasonably be expected to do themselves in repairing churches after ten years' enforced postponement of work. County trusts, affiliated to the national body, now exist in Cheshire, Essex, Kent, Lincolnshire, Staffordshire and Wiltshire.

Middlesex. Twickenham. Horace Walpole's 'chapel in the wood' at Strawberry Hill, a beautiful 'Gothick' structure built for him in 1767, has been restored and was dedicated in June by the Cardinal Archbishop of Westminster.

Suffolk. Lavenham. The fourteenth-century weavers' cottages in Water Street are being restored and converted into business premises. The fronts will be preserved.

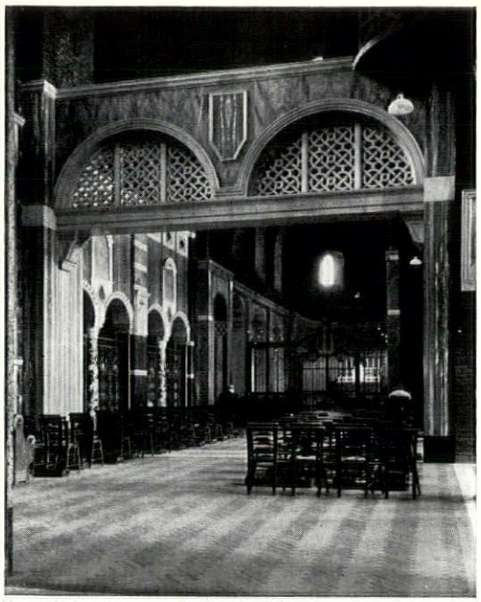
Sussex. High Salvington, Shipley and Halnaker. The West Sussex County Council has recently authorized expenditure up to £4,000 for the preservation of three early wind and water mills at High Salvington (Worthing), Shipley and Halnaker. High Salvington mill, which is the only remaining post mill in the county, was built about 1700. At Shipley, King's Mill was built in 1897 from parts of other and older mills; it is a smock mill with a timber weather-boarded cap and four sails. The tower mill at Halnaker was built during the first half of the eighteenth century.

Ancient Rome

Professor F. E. Brown, of Yale, devoted three talks, given last autumn at University College, London, to the origin and early appearance of Rome. With admirable clarity and in a perfectly matter-of-fact way he disentangled the facts from myth and legend and nonsensical archeological reconstructions and interpretations, and gave, for the first time, a plausible picture of how it all happened and what royal and republican Rome was like. The site of Rome was highly desirable, controlling as it does the main waterway of central Italy at a point near the sea and at the only spot for a long stretch where the Tiber could be bridged (a situation repeated in London), using the Tiber island either as one pier or as breakwater. In the eighth century B.C. four villages sprang up on four hilltops, leaving the marshy plain well alone, until an Etruscan prince (the last three kings were Etruscans), realizing the importance of the site, established the city of Rome—even the name may be Etruscan—by draining the marsh through the Cloaca maxima, building a Forum and connecting this newly created city centre with the four villages by radiating streets. The Capitoline hill, so far uninhabited, then became the Arx and the most sacred temple was erected there. The Etruscans were the main city building and civilizing force in Italy, and even after the Romans had liberated themselves the Etruscan influence in town planning and matters architectural overrode all other influences, including the Greek.

Thus the overhaul of the walls in the fourth century followed on Etruscan prototype, the temples repeated Etruscan models and modules, and the plan of the Roman colonies derived from the Etruscan Marzobotto. These Roman colonies were what Rome might and should have been; they were executed Utopias and thus fill an important gap! Nothing is known about the Roman Forum but its site. But from a colony like Cosa (excavated a few years ago by Prof. Brown) the shape of Compitium Curia and the public buildings can be reconstructed.

When, after the Punic wars and the conquest of much of the Mediterranean world, Rome was rebuilt, its narrowly defined, and somewhat closed world became at last open to Greek influence. Again, it is Cosa and also Pompeii which provide information about the early basilicas, the porticos which æsthetically





Complaint was made in the March, 1954, issue that the central column of the arcade leading from the north transept of Westminster Cathedral into the Chapel of the Blessed Sacrament had been removed, and the verde antico shaft (installed by Bentley himself) had been sold to the trade. The left-hand photograph was published to show the unfortunate effect resulting. Following widespread criticism the Cathedral authorities have bought back the column and the right-hand photograph, recently taken, shows it restored to its place—a rare and admirable instance of second thoughts promptly acted upon.

unify streets and squares, are paved for the first time, and the triumphal arches, which began to spring up in Rome. Rome now has to express also in town planning its new position in the world, as the dominant power still full of unabated vitality.

Looking at the coloured lantern slides which illustrated the lectures the ancient city of Rome became alive again, and real in the mind's eye of the listener fortunate enough to have been present.

Developments in York

The programmes of architectural research and studies sponsored by the York Institute of Architectural Studies are already well known, and seem to have been the spearhead of further developments in the architectural life of the city. At the end of August last the formation of the York Guild of Building was announced—such guilds being something of a northern peculiarity, with those at Doncaster and Hull among the best known. The aim of the guild is to bring together all sections of the industry, including architects, surveyors, operatives and employers, for the advancement of design, management, science and craft in building. Membership is open to those involved in any of the foregoing categories, resident or employed in York and district, and enquiries should be made of the Hon. Secretary, York Guild of Building, 13, Lendal, York.

It also now appears certain that the National Trust Summer School on *The Great Houses of England*, which has hitherto tended to concentrate its activities on the west and south-west, will this year move to York for the second part of the course (which will open as usual at Attingham Park in Shropshire) and will base itself at St. Anthony's Hall, the headquarters of the Institute for Architectural Studies, for its survey of the great houses of the north-east.

CORRESPONDENCE

To the Editors,
THE ARCHITECTURAL REVIEW

Facade

SIRS,—The article on 'Façade' in your November issue is notable for what it leaves out. In stating the problem as whether to show or conceal the contents of the building, it implies that the type plan of the flat is something which the architect has to accept, and make the best of.

The single-storey flat with access gallery on every floor is at best a poor type, lacking privacy from the gallery, and offering few acceptable logical expressions for that side of the building. If you had included in your illustrations the Duplex 5-storey Blocks B.1 and B.2 at Pedregulho by Affonso Reidy (illustrated long ago in the REVIEW), the problem might have presented itself differently. These flats achieve a façade of great interest and quality by the logical expression of their content, and the duplex flats of the Marseilles Unité do the same. There seems to be little appreciation of the vast new field of design which lies in the development of duplex, interlocking duplex, and single-storey flats interlocking with duplex flats of different plan area; also two-storey-height flats where these can be afforded. These all dispense with the need for galleries on every floor, and offer the chance of basic contrasts on all elevations; they present almost unlimited opportunities for expression on the façade, and on very high blocks the introduction of specialized floors (for example, shops) brings new elements into the material available for façade design. There is no reason why these 'vertical towns' should not be as diverse and complex in elevation as the present horizontal town is in plan, and yet they need not divorce structure and function from expression.

The problem is not whether to show or conceal, but to find something worth showing. Our architects need waste less time thinking up the somewhat unsatisfactory jig-saw puzzles of Paddington, and our apologists need waste less printer's ink inventing excuses to account for them.

Yours, etc.,
ROBERT BAILIE.

[The author writes: '*I presume Mr. Bailie has a rather limited experience of the conditions under which high-rise apartment blocks are designed nowadays, otherwise he would know that the planning of the dwelling units which they contain is often the part least under the architect's control, particularly when working for a local authority's housing committee. On the plane of absolutes and ideals his objection may be valid, but on the more serious plane of how to build blocks of real flats it is rather unreal. But even on his own level I suspect that his view is really only another example of the tendency I referred to in my second paragraph, of trying to find non-æsthetic explanations for the way a facade is assembled. The kind of "layer-cake" treatment he seems to advocate may offer æsthetic cowards another "morally sound" excuse for shrugging off some of their æsthetic responsibilities—but it is noticeable that those whose æsthetic courage is not in doubt have often scorned these excuses. In spite of what Mr. Bailie says, the elevations of Marseilles have always seemed to me an independent creation deriving almost nothing except their dimensional grid from the duplex flats behind; Oscar Niemeyer in his Maua scheme (AR, October, 1954) has an evenly gridded facade in spite of his ingenious semi-duplex plans; and the LCC team responsible for the Bentham Road scheme, which I illustrated in my article, settled, after close and impassioned study, for a treatment in which the duplex plan merely results in a doubling of the scale of their screening grid. But, in any case, the benefits which Mr. Bailie expects to draw from duplex plans are only really relevant on the access side, and the other face of the block will still present a stack of apparently identical spaces between floor slabs, and throws back on the architect's shoulders the æsthetic responsibilities he may have thought to escape by adopting a particular plan-type.*']

Intelligence

Three new members have been appointed to the Committee which advises the Minister of Housing & Local Government on matters concerning buildings of special architectural and historic interest. Professor Sir William Holford is chairman of the Committee and the new members are Lord Euston, J. D. K. Lloyd and W. A. Eden.

Houses at Toy's Hill & Ham Common

Acknowledgment should have been given in the December issue to Messrs. Finmar Ltd., Kingly St., W.1, for the loan of furniture which appeared in the photographs of these houses.

ACKNOWLEDGMENTS

COVER, Galwey, Arphot. MARGINALIA, page 1: Déjeuner sur l'Herbe, Vizzavona; page 2: Westminster Cathedral, Galwey, Arphot. FRONTIS, Aerofilms Ltd. 1. Scientific & Medical, pages 9, 10: Alfred Cracknell. 2. Office buildings, pages 13, 14, 15, 16 bottom: Galwey, Arphot; page 16 top: Alfred Cracknell; page 20: Toomey, Arphot. 3. Religious, pages 23, 25 top: Toomey, Arphot. 4. Housing, pages 31, 32, 33: Galwey, Arphot. 5. Public buildings, pages 37, 38: Galwey, Arphot. 6. Transport, page 42: Peter Pitt. 7. Educational, pages 44, 45: Alfred Cracknell; page 46: S. W. Newbery; page 51: Galwey, Arphot; pages 52 top, 53: Toomey, Arphot; page 56: LCC Architects Dept. Photographic Unit. 8. Industrial & Commercial, page 63: Galwey, Arphot; page 64 top & centre; S. W. Newbery; page 64 bottom & 66 top: MOW, Crown Copyright Reserved; page 68: Toomey, Arphot. Biographies: Dr. Bradbury, H. T. Cadbury-Brown, Louis de Soissons, Peter Shepheard: Galwey, Arphot; Donald Gibson, Fox Photos; Frank Scarlett, Basil Spence, Sam Lambert.

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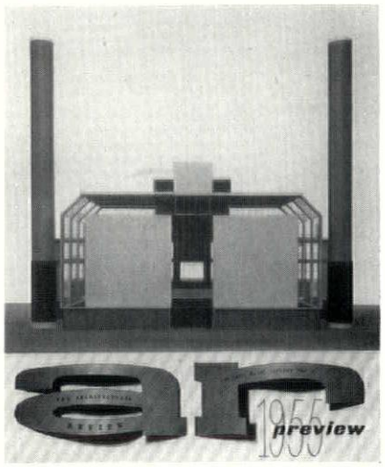
1955 *Volume 117 Number 697 Jan 1955*

SPECIAL PREVIEW ISSUE



The cover illustrates a model of a power-plant at Clydach, South Wales, designed by Basil Ward (of Ramsey, Murray and White) for the Mond Nickel Company's refinery, in conjunction with Merz and McLellan, engineers. Plans and other photographs are on pages 62-63. It is one of 54 projects, at present under construction or shortly to begin, illustrated in this second special Preview Issue of the REVIEW. The first was published a year ago.

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49 Primary School: Kensington *Chamberlin, Powell and Bon*
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50 Primary School, Hornsey *H. T. Cadbury-Brown*
53 Secondary School, Great Baddow, Essex *Harold Conolly (County Architect)*
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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS



Coventry Preview *To illustrate this special issue devoted to advance news of buildings on which British architects are now engaged, below is an aerial preview of the centre of Coventry, which of all the heavily bombed cities has most consistently pursued the ideal of a city centre redesigned and rebuilt in accordance with a predetermined plan. This photograph (to be compared with the aerial view on the left, taken at the end of the war) shows how much has already been achieved under the determined leadership of Donald Gibson, the City Architect. Buildings soon to be constructed, including those flanking the pedestrian shopping precinct leading towards the bottom right-hand corner from the replanned Broadgate, are drawn over the photograph in white. The new buildings, completed or projected, are distinguished by numbers, as follows:* 1, *cathedral (see last year's Preview issue);* 2, *Owen Owen store (now completed);* 3, *Broadgate House;* 4, *British Home Stores;* 5, *Woolworth building;* 6, *Marks and Spencers;* 7, *hotel block;* 8, *theatre (see page 35 of this issue)—just off the bottom of picture.*

FOREWORD

Since the war architects have been struggling to advance their art under the handicap of an outlook no broader than that afforded by a prison cell with three of its walls labelled schools, housing and factories and the fourth just allowing a glimpse of a few more glamorous enterprises (like the new London Airport or the BBC Television Centre, illustrated in the corresponding issue to this a year ago) which had managed to escape the prevalent licensing restrictions and which were all we had to enliven what had become, in spite of the solid achievements of the new educational, housing and industrial architecture, a somewhat dreary scene.

But as this article is being written the end of licensing is announced, and, though the projects illustrated on these pages were still conceived under the shadow of licensing, they bear evidence of its progressive relaxation. If the architects represented have not been let out of the cell altogether, they have been given wider views of the interesting country beyond, such as the post-war generation has not previously known.

The first signs of liberation were already discernible last year, when the field of educational architecture was slowly broadening to include, besides the primary and secondary schools which had been given first priority in the years after the war, a few university buildings and technical colleges. The broadening process continues, and this year a new type of educational building makes its appearance: the comprehensive school, posing a difficult

problem that architects have still to work hard at to find the right solution. A more startling development is that this year a virtually new category of architecture enters the scene for the first time since the war: office buildings, which were previously given licences only in exceptional circumstances. In compiling the present issue there were many office projects to choose from, mostly in London, and several of these, it is encouraging to note, are in the City of London, where new buildings of a standard of design even approaching that which qualifies for inclusion on these pages have been sadly lacking since the war. That it is not only better architecture but the better co-ordination of architecture that is required in the City is a matter outside the scope of this issue.

Factories were always among the buildings for which licences were obtainable, but now there is a marked increase in buildings that serve industry indirectly, such as research laboratories, welfare buildings and accommodation for the administrative side of industry. Housing remains of first-rate importance, but it has not been given so much space in this issue as last year because so much housing consists of variations on themes fully represented by projects previously shown. But here nevertheless are typical examples of high-density flats and low-density cottages to show in what direction advances are being made—including advances in the shape of the judicious mixing of the two.

Finally, community buildings and buildings for public purposes play a larger part in this issue. These have suffered especially from the restrictions imposed since the war, and architecture has suffered at the same time, because it is this kind of building that, more than any other, challenges architects to develop an idiom of living significance to the public.

However, we shall not be able to provide an answer to the question, so often asked, 'Are modern architects successfully evolving a universal idiom?', until the end of licensing begins to show results. Meanwhile this issue can be regarded as the last of the prison-cell issues. As such, it reveals a great deal of vitality behind bars. Architecture is eagerly shaking itself free of the restrictions that have shackled it for so long, and next year it should be possible to employ a survey like this as a test of what the contemporary architect can do instead of, as hitherto, a record of the limitations within which he has to work.

As in last year's Preview issue, the purpose is twofold. First to give advance news of building projects—a trailer, as it were, thrown on the prison cinema-screen at the beginning of a new year, offering a foretaste of the liberation dramas that will be unrolling themselves in three dimensions during the months to come. For it may be emphasized here that the projects illustrated on the following pages are not mere architects' dreams. They are commissioned buildings. Many are already on their way up. Others are in the contract stage and construction will start during the next few months. A few are not yet fully detailed and may not start building for a year or more.

Together they provide a conspectus of next year's architecture, which we must look at in the form shown here—that of drawings and models—if we

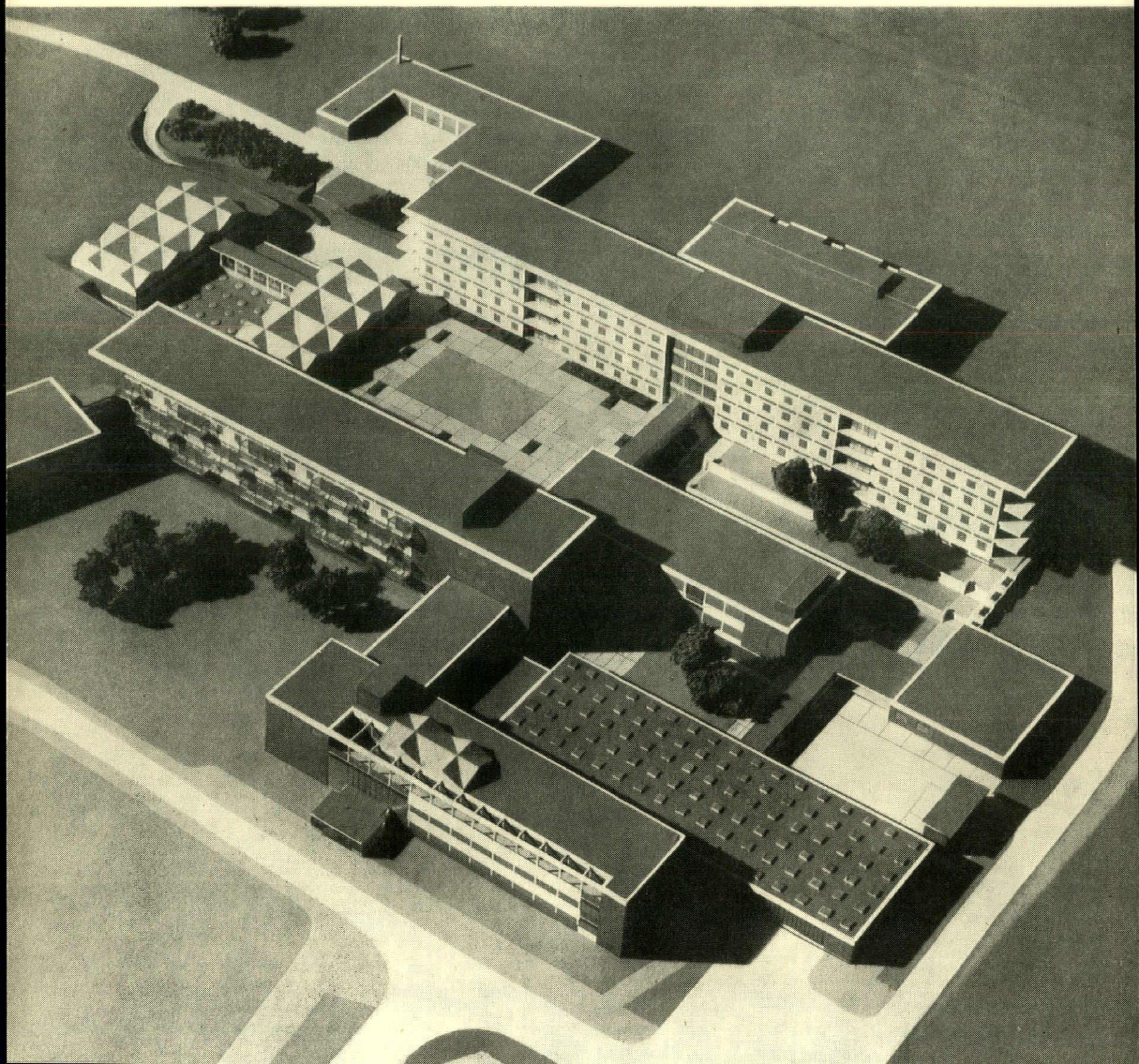
want to get an idea of what is passing through architects' minds at this moment. In these days of many official restrictions and regulations, so slow is a building's progress from conception to completion that if we were to base our conspectus of contemporary architecture on photographs of buildings newly completed we would only obtain a view of what was in architects' minds several years ago.

This brings us to the second purpose of the issue: to set before readers a sample survey of the more interesting buildings now on the way up, as a basis on which they can observe the progress architecture is making and the direction in which the most interesting developments are taking place. Even though, as we have noted, the real test is only just beginning, these straws in the wind are important. If plenty of ideas can be seen to be passing through architects' minds while they are still under prison conditions, can we not hope for real progress after liberation?

1955 is for modern architecture in Britain a year of challenge. It will show us whether the post-war restrictions have become inhibitions too deep-rooted to be shaken off, or whether the time of waiting has been used to acquire a mastery of principles and techniques that will allow the next steps forward, into the open country beyond the prison walls, to be undertaken with an assured sense of direction.

1 SCIENTIFIC AND MEDICAL

Ulster Hospital, Dundonald, near Belfast, by Frederick Gibberd: model seen from the south-east.

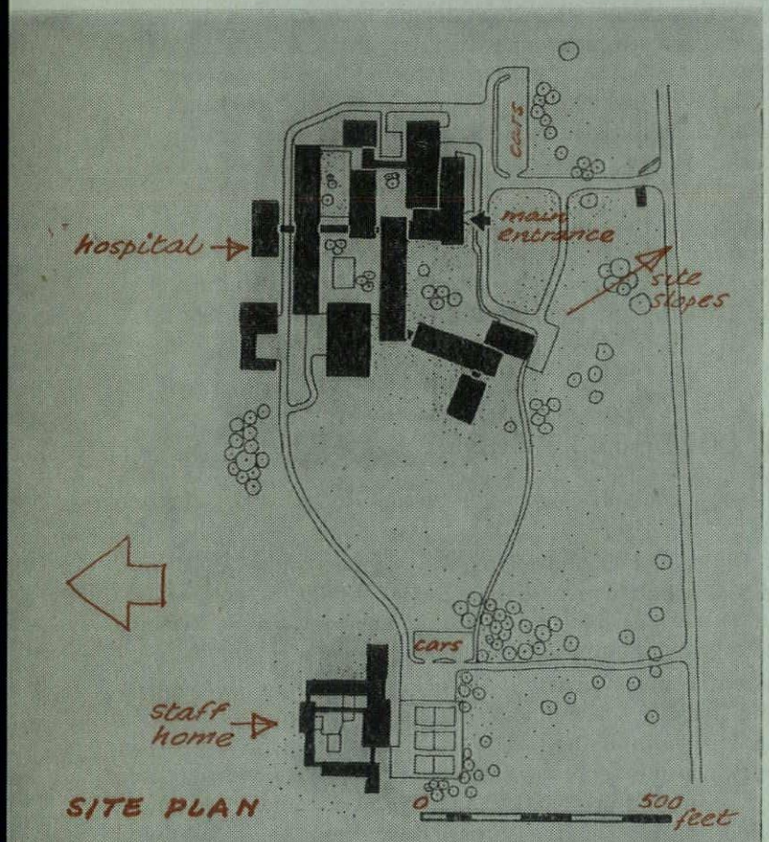


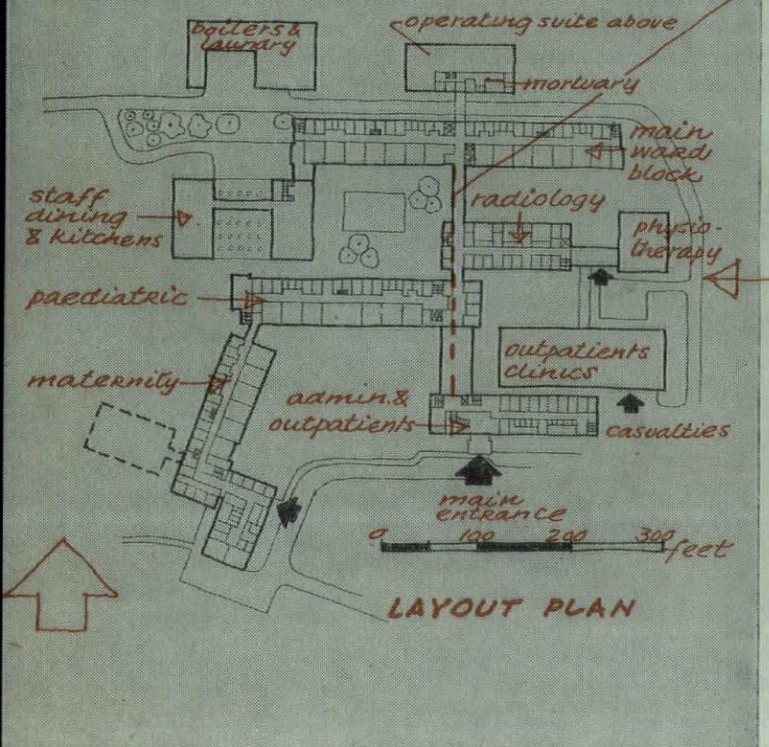
HOSPITAL: DUNDONALD, N. IRELAND

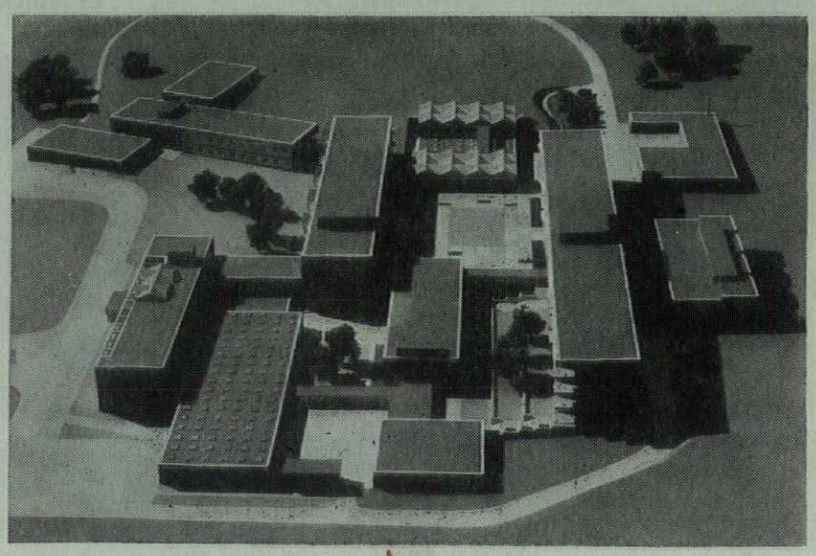
Frederick Gibberd

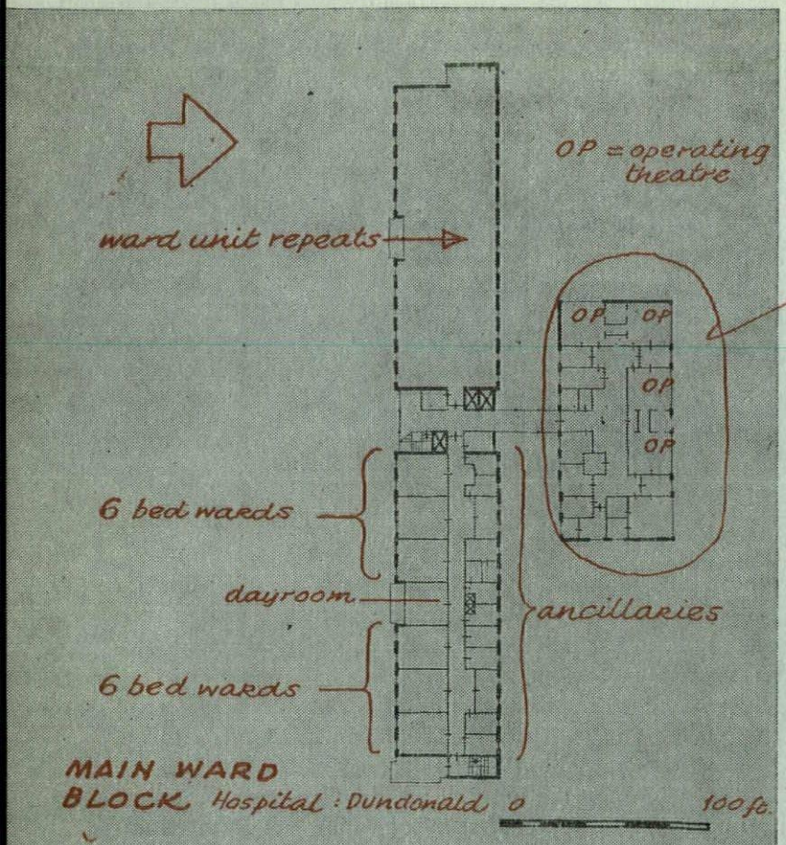
A 500-bed hospital, designed for the Northern Ireland Hospital Authority, on a sloping site on the outskirts of Belfast. It is designed as four distinct buildings: for children, adults, maternity and out-patients. With these four buildings are associated other blocks containing the common services, such as radiology, physiotherapy and kitchens. A staff home and staff houses are on an adjacent site, but in the interests of economy they will make use of the dining and heating facilities provided by the hospital proper. The main buildings are grouped round three garden courts, all of which can form extensions of the hospital spaces and one of which forms the principal focus for the group. Although the blocks form quadrangles, the end of each building is unobstructed so that it can expand if the need arises. Since maternity patients are not sick, the maternity building is less intimately related to the other buildings and has an independent entrance and out-patients' department.

From the main entrance, a central spine provides circulation on two levels (lower ground and ground floor), which connects up to the dispensary, the children's or pædiatric block, pathology, radiology and the main ward block on the north. Staff use the lower level and the public the upper. The administrative department is above the main entrance hall. All ambulances enter a casualty wing adjacent to the out-patients' department. A standard ward unit has been designed for all three ward blocks based on a grid of 10 ft. 6 in. with a depth of 24 ft. Two of these bays form six-bed wards for the general and pædiatric blocks and four beds and four cots for the maternity block. In the general block the six-bed wards are on the south side, where they have the best view, and the ancillaries









on the north. Each floor provides 40 beds, sub-divided by their services and equipped with two nurses' stations, to form 20-bed units. The pædiatric block is on a similar plan, except that each ward of six cots has its own fully-glazed balcony, staggered on plan to avoid overshadowing. An operating wing is provided on the north side of the general ward block; the pædiatric block has its own operating suite on the fourth floor; and the maternity hospital has a wing designed as the delivery suite. The greater part of the out-patients' accommodation is placed in a large single-storey rectangular block, top lighted, as this gives the greatest possible flexibility in re-arranging the department. The main hall extends on to a garden court and local waiting bays with clear views are provided to the various clinics. The staff home consists of three three-storey blocks of bed-rooms, linked with communal lecture rooms and an assembly hall. Each block contains a sitting room with a terrace.

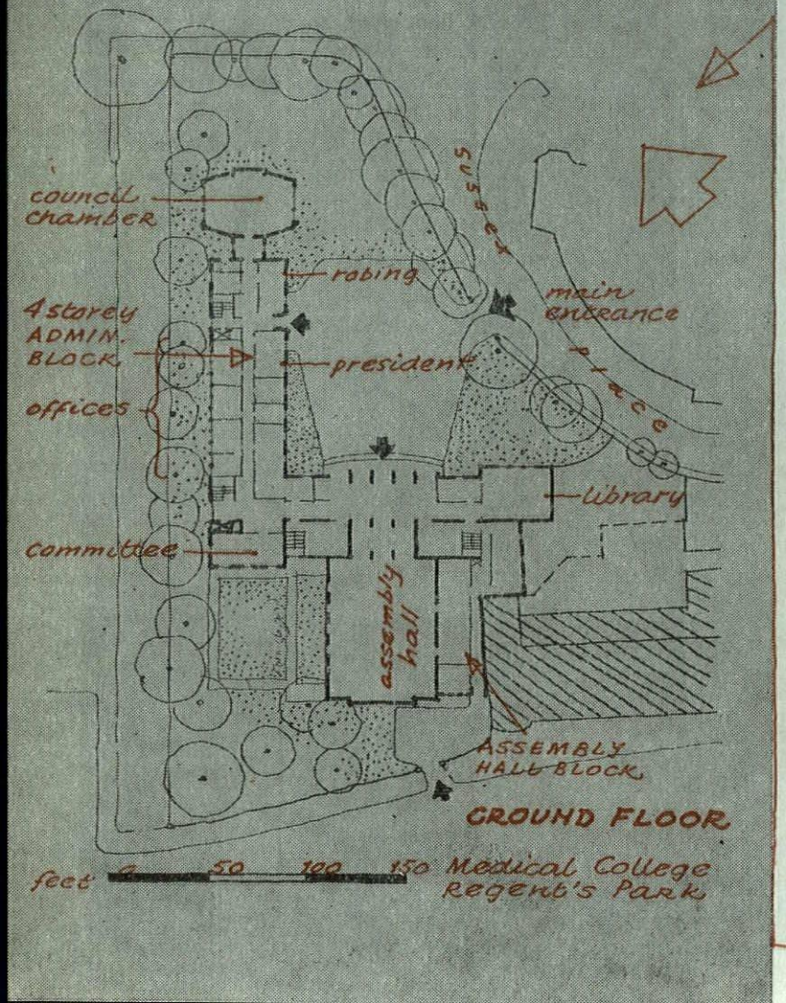
Construction is steel frame with prestressed concrete floors. All floor beams are contained within the general thickness of the floor slab, to give flush, unbroken ceilings. The wards have continuous high-level glazing to give a general even standard of light over the whole area. In addition, individual windows at vision level are provided in each bay.

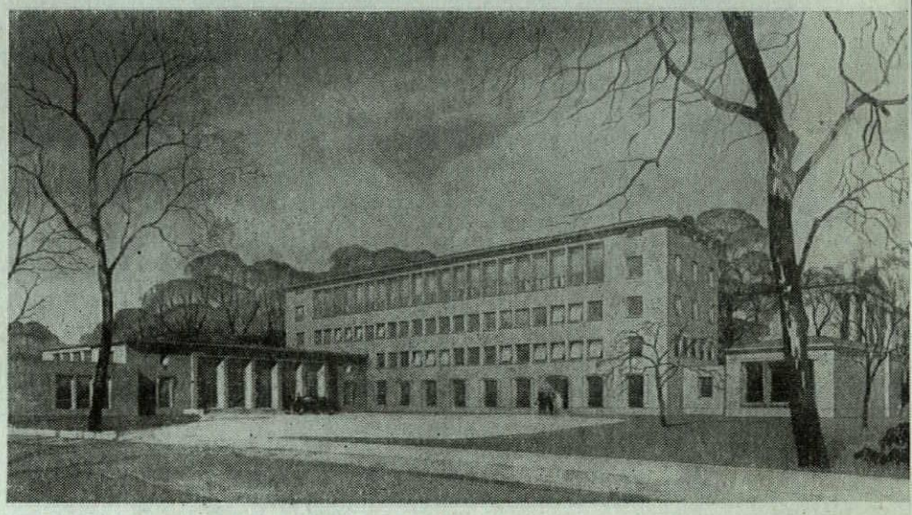
Work is expected to begin in the autumn of this year. Consulting structural engineer: F. J. Samuely. Consulting services engineer: J. R. W. Murland. Quantity surveyors: W. H. Stephens and Sons.

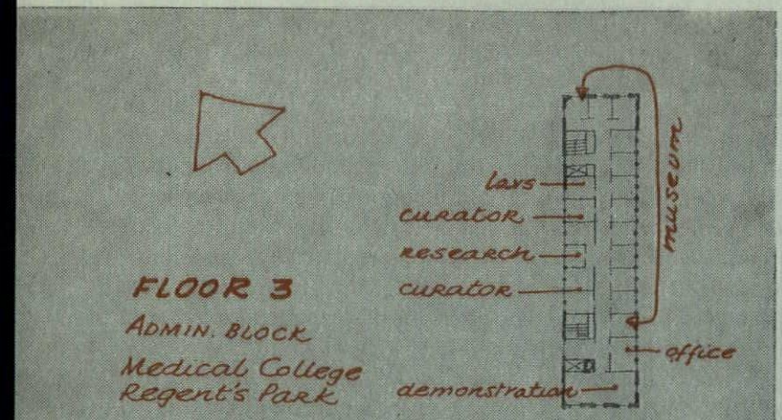
MEDICAL COLLEGE: REGENT'S PARK

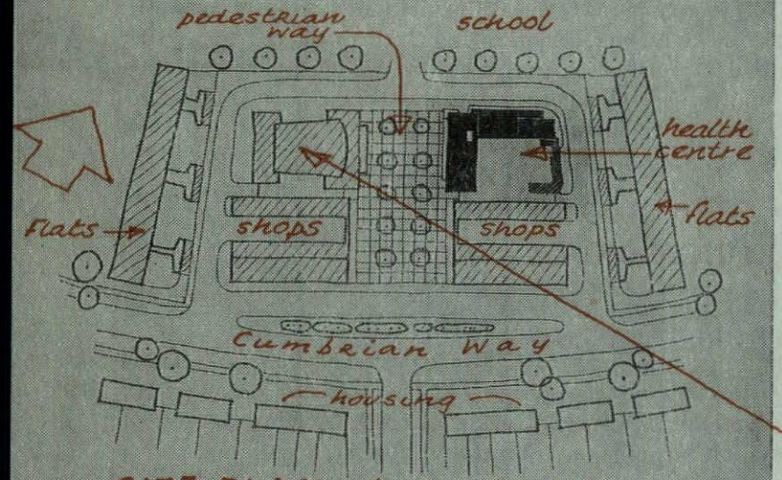
Louis de Soissons, Peacock, Hodges and Robertson

The Royal College of Obstetricians and Gynæcologists. The site, of about one and a half acres, adjoins Sussex Lodge, which will be demolished, and contains some fine trees. It has views over Regent's Park and its lake. The building is planned as two wings at right angles: a four-storey administrative block, running north-east and south-west and forming a terminal to the ends of Kent and Hanover Terraces, and an assembly hall. The administrative block contains on the ground floor the secretary's and president's offices, a robing room and (in a single-storey block adjoining) a council chamber; on the first floor, offices; on the second floor, members' rooms and president's and caretaker's flats; on the third floor a museum. This is the most important room in the building and is planned in twelve bays, each devoted to one section of gynæcology and each with space for two examiners and a student when the museum is used for oral examinations, based on the exhibits. The museum will also be used for

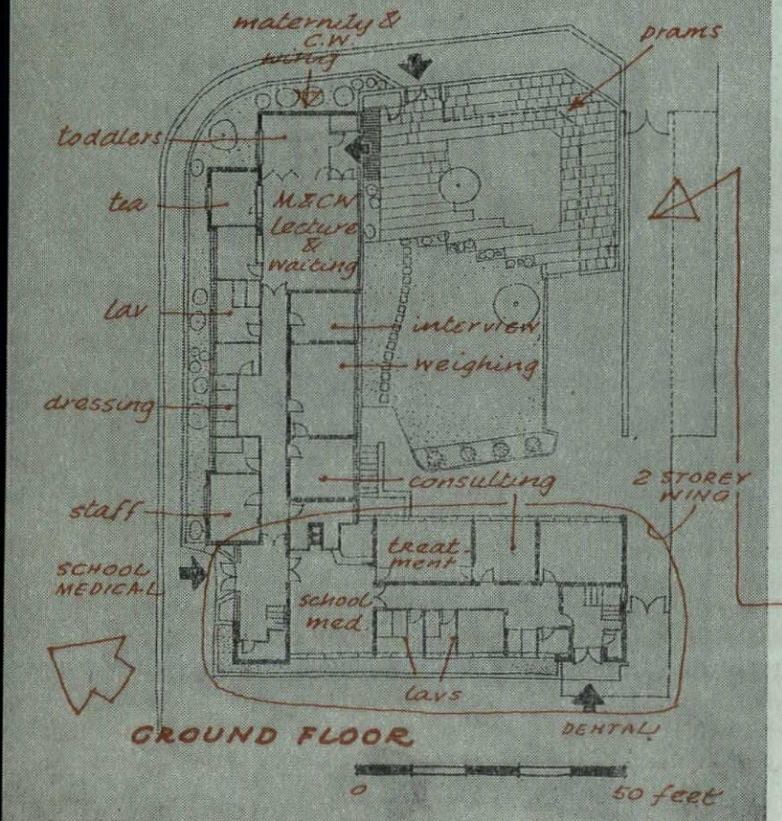








SITE PLAN : Health Centre Southampton



study and each bay has a bench, microscope, etc. A research department, with accommodation for two curators, is at museum level, and in a mezzanine running across the north side of the museum are photographic rooms and laboratories for the preparation of specimens. The mezzanine also contains the lift motor rooms to avoid projections above the roof.

The assembly hall will be used for lectures, etc., and for written examinations, so there are cloakrooms and lavatories for public and students and a projection room. There are also serveries, etc., so that the College can hold dinners in the hall. These are reached from Park Road. There is no service access to the building from the park. Adjoining the assembly-hall block is a single-storey library which links up with the existing Nash wall in Sussex Place.

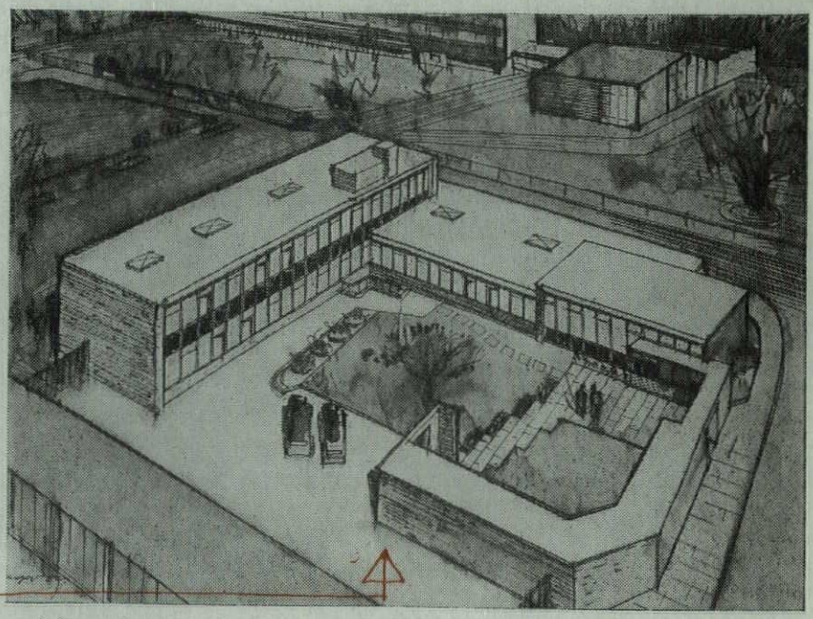
The administrative block has a light steel frame with brick external walls. The remainder is of load-bearing brick faced with 2 in. Portland stone slabs, except where not directly visible. Here a grey facing-brick is used; also for the centre part of the north wall of the administrative block, facing Kent Passage. Pitched roofs are in copper. Windows are hardwood, of centre-hung pivot type in the museum, and side-hung elsewhere. They are double glazed. Assembly hall and council chamber have artificial ventilation, but not the museum owing to its size and height and the fact that few people will use it at one time.

It is hoped to start work towards the end of this year.

HEALTH CENTRE: SOUTHAMPTON

L. Berger (Borough Architect)

To provide school medical, maternity and child welfare and dental care services to part of a post-war housing estate now nearing completion at Millbrook, on the north-west outskirts of Southampton. It is located within a small local shopping group which also includes a community centre and adjoins a new junior and infants' school. The treatment rooms overlook a small garden, enclosed on one side by the main building and on the other by the pram shelter



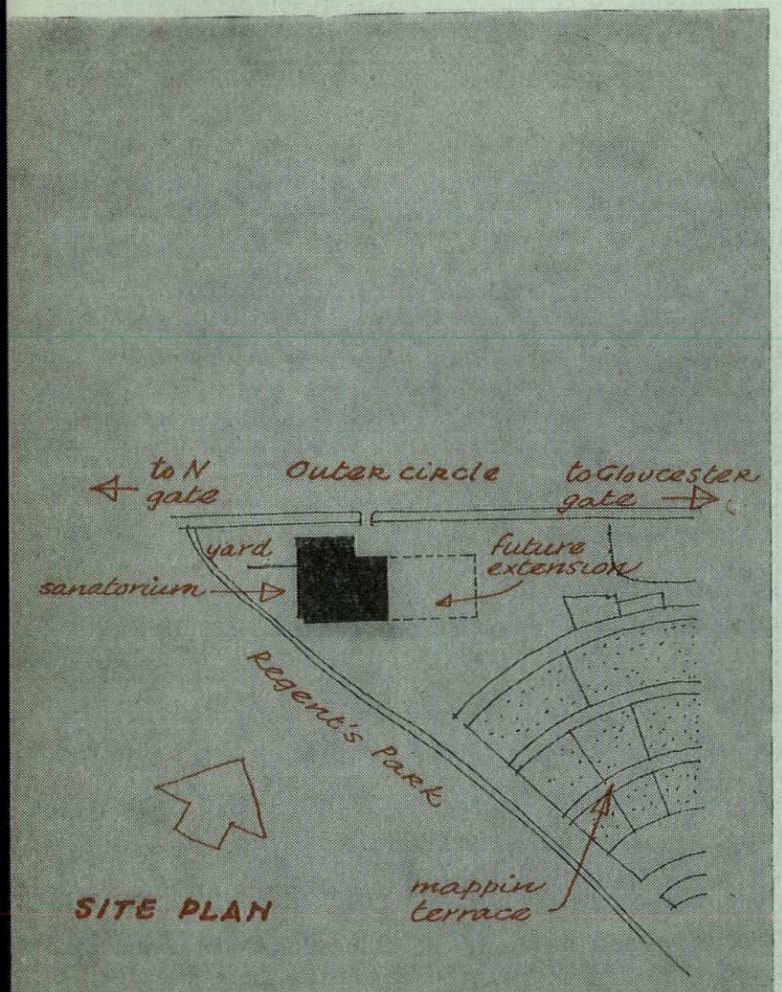
and boundary wall of the adjoining block of shops. The maternity and child welfare and the school medical wings are on the ground floor, and the dental wing on the first floor, facing the pedestrian way. These have separate public entrances but are linked internally. Apart from vehicular access to the basement boiler-house and fuel

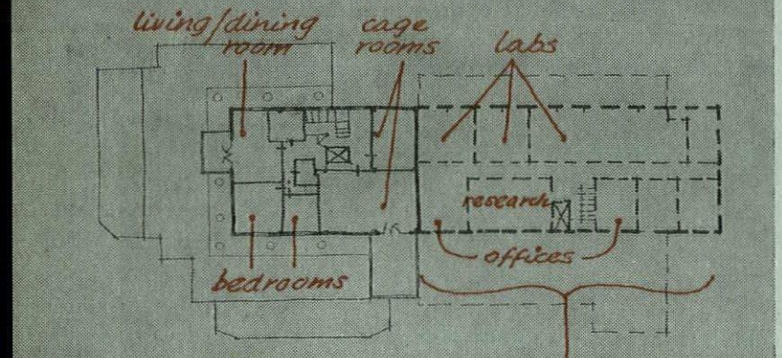
store, and space for parking three or four cars, the site is grassed and paved as a play garden for waiting children.

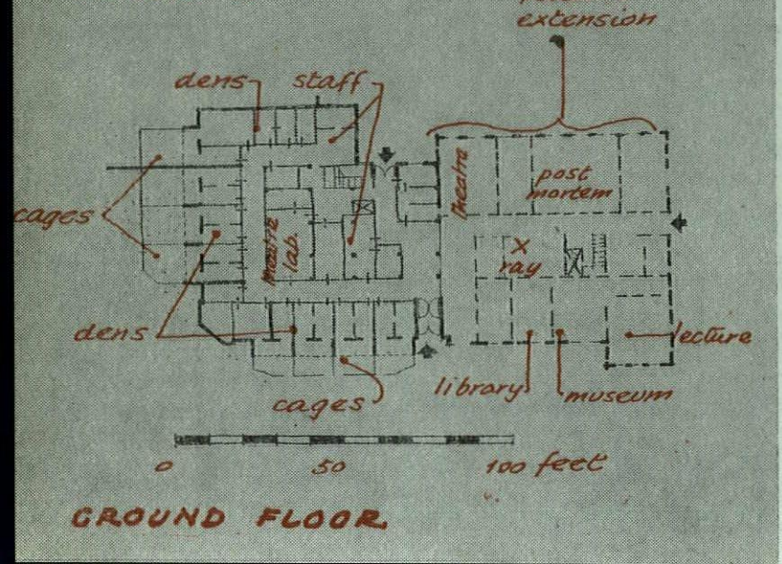
The maternity and child welfare wing is approached from a garden entrance adjoining the pram shelter. From the waiting room opens a small playroom for toddlers and a records office and room for the sale of tea and health foods. The remaining accommodation comprises interview, weighing, changing and consulting rooms together with lavatories. The school medical wing has a waiting room and records office, treatment, consulting and light-treatment room, changing-room, hair-wash and bathroom and lavatories for both sexes. The dental wing on the first floor comprises waiting room and records office, consulting room, two dental surgeries with a common recovery room between, workroom, darkroom and store, and lavatory accommodation for public and staff. A second staircase allows patients to leave without repassing the waiting room. A rest room and cloakroom for staff are provided on the ground floor and the heating chamber and fuel store are in the basement.

Construction is of load-bearing brick cross and flank walls with *in situ* reinforced concrete floors and roofs. The main elevations are clad with window walling, to suit which the building has been designed on a 3 ft. square grid, and fittings planned on internal walls. Facing bricks are light buff. Flooring is of thermoplastic tiles, with terrazzo in the dental surgeries and lavatories. Heating is by radiators from a solid fuel low-pressure hot-water installation.

Building began in November, 1954.



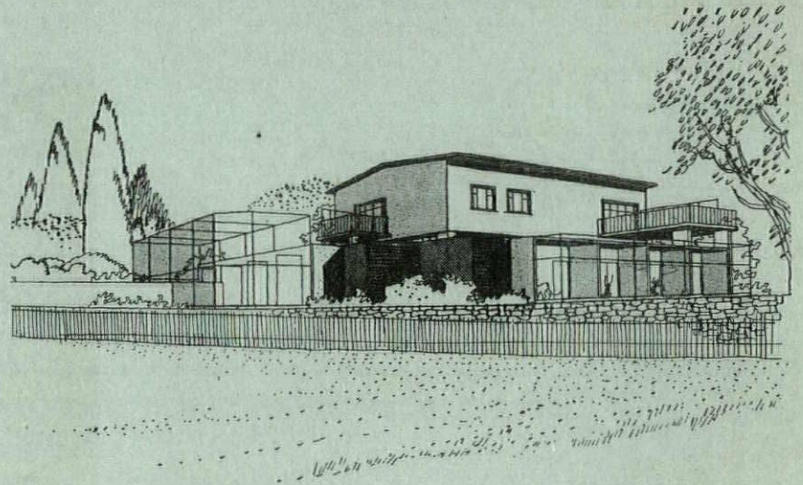




SANATORIUM: LONDON ZOO

F. A. Stengelhofen

The first building to be constructed under a comprehensive scheme involving rebuilding and replanning a large part of the Regent's Park gardens of the London Zoological Society. A sanatorium and quarantine station for animals to replace the present building, which



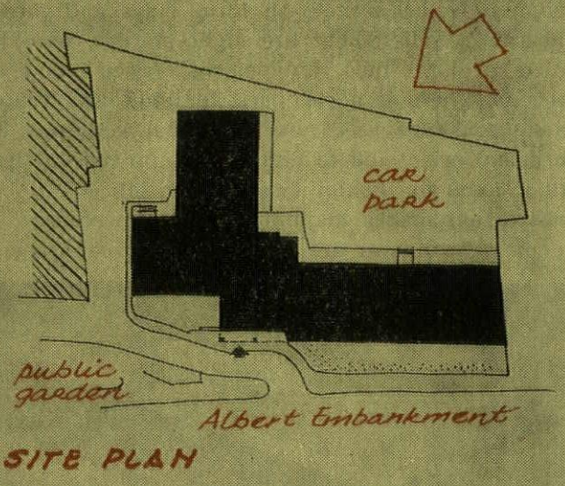
has become obsolete. The site adjoins the outer circle, and is directly accessible from the road and the gardens.

Accommodation: sanatorium rooms and dens, with service rooms, including laboratories and staff living quarters; a quarantine section, with similar dens and service rooms, planned to allow complete segregation from the sanatorium, but also to allow the sanatorium to be extended from a minimum of five dens to a maximum of eleven.

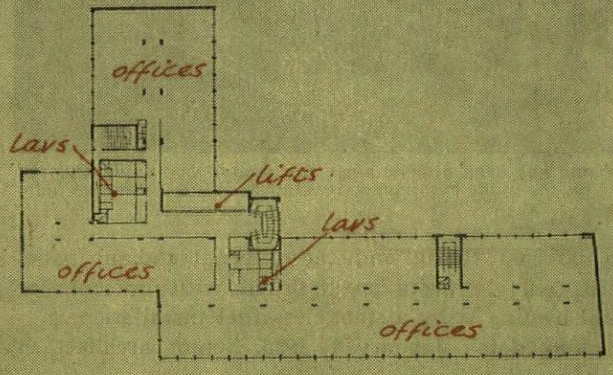
A framed building with concrete floors and brick cavity panel walls. The dens have asphalt floors and fair-faced brick walls. Staff quarters have tiled or linoleum floors and tiled or plastered walls.

Work began December, 1954. Assistant architect: B. de Pourbaix.

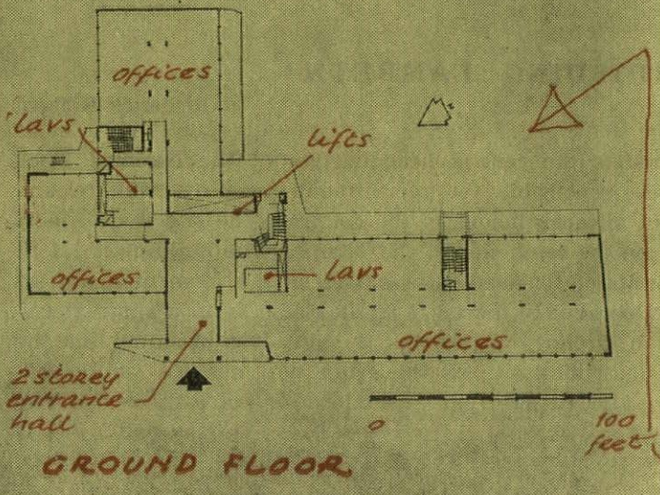
2 OFFICE BUILDINGS



SITE PLAN



TYPICAL FLOOR



GROUND FLOOR

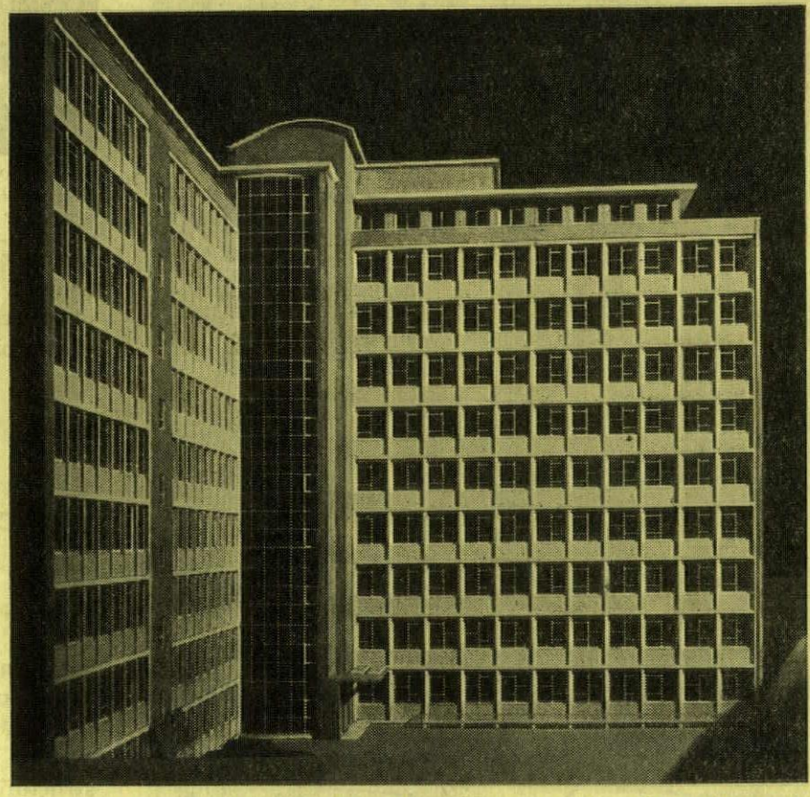
OFFICE BUILDING: LAMBETH

T. P. Bennett and Son

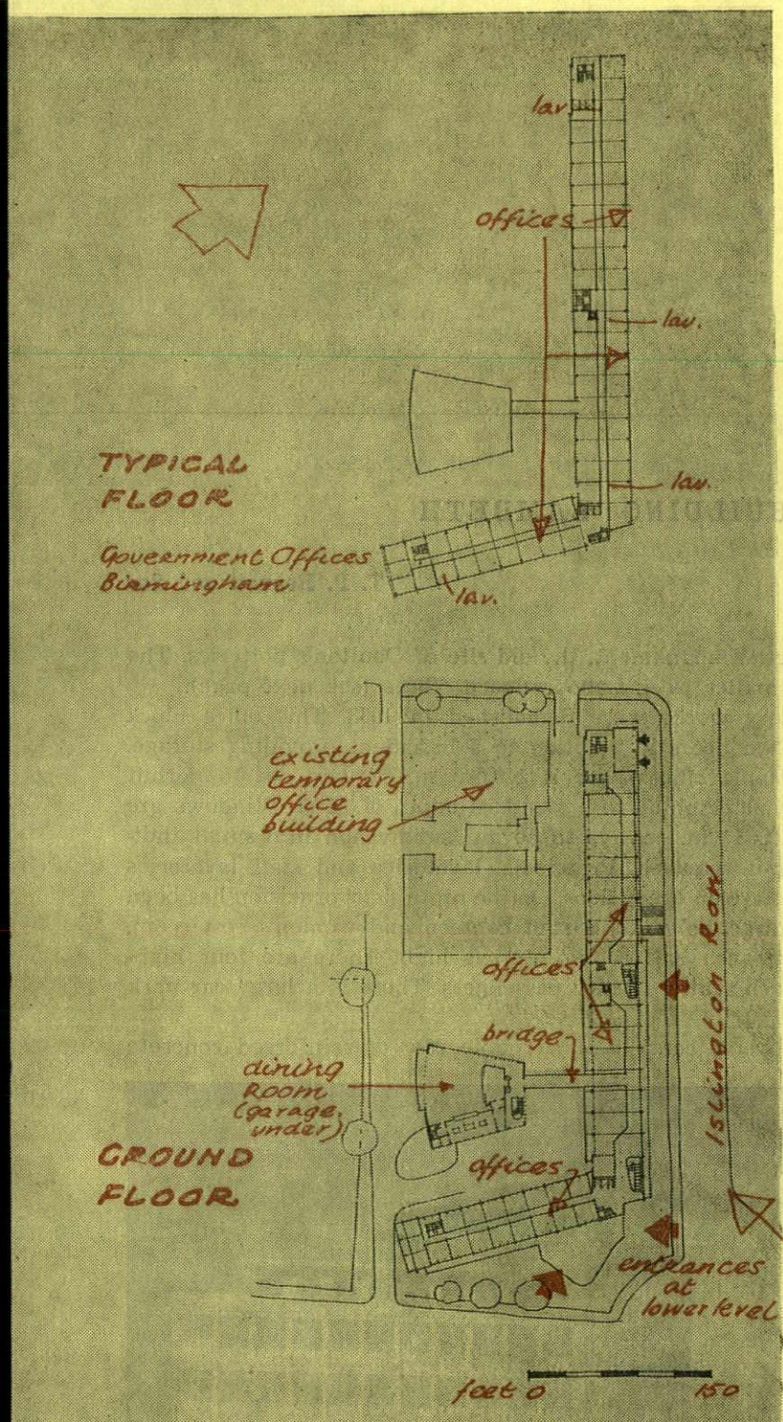
At 20, Albert Embankment, the old site of Doulton's potteries. The adjoins the smaller Dock Labour Board offices (see next page).
derelict pottery works were demolished in 1953. This office block

There are ten floors in addition to a basement providing storage. The total lettable office space is 110,000 sq. ft., laid out to permit flexible internal planning to a standard depth of 21 ft. Windows are spaced at 6 ft. 10 in. centres to permit subdivision into small individual offices if required. Principals' lavatories and staff lavatories for both sexes are on every floor. On the ninth floor provision has been made for a directors' suite, a staff canteen and women's rest room. The main entrance hall is two storeys high. There are four high-speed lifts, each taking twenty passengers. There is a large car park at the rear.

Structural frame consists of a double row of reinforced concrete



Lambeth offices: the side away from the river, showing the staircase tower in the angle between the two wings.



columns cast *in situ* with a 9 in. precast, prestressed plank floor spanning on to outer precast columns, 13½ in. by 7 in., spaced at 6 ft. 10 in. centres. At the spine the floor is thickened to 15 in. to form a precast, prestressed plank beam between columns. The north wing is faced with Portland stone. The south is framed in Portland stone with vertical infilling of artificial stone and brick infilling below windows. Marble is used around the main entrance. The tank room is roofed with copper. Central heating is by oil-fired boilers.

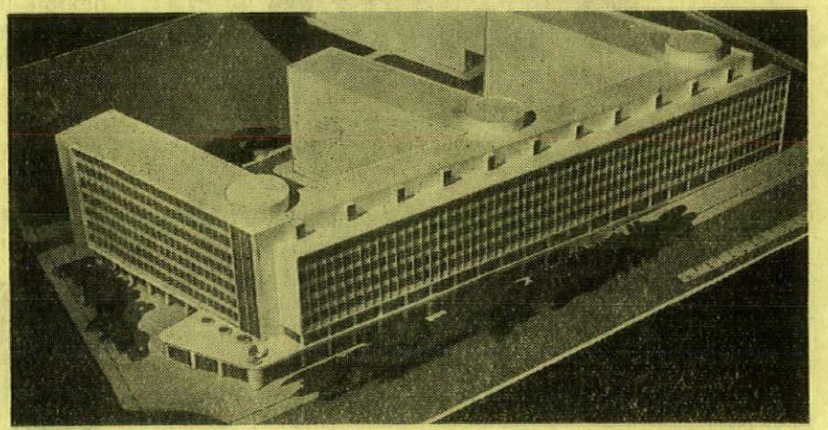
Work is expected to start early this year. Consulting engineers: Ove Arup and Partners.

GOVERNMENT OFFICES: BIRMINGHAM

Ministry of Works

To house the regional staff of several Government departments. The site, in Islington Row, has streets on three sides and gardens on the fourth (the south) side. There are eight storeys, providing office accommodation for 1,300, plus canteen, conference rooms and garage for official cars. There is a car park for staff and visitors. The canteen is designed to be used also for social activities. The building is designed and orientated to give maximum natural light. Standardized partition units give flexibility of subdivision.

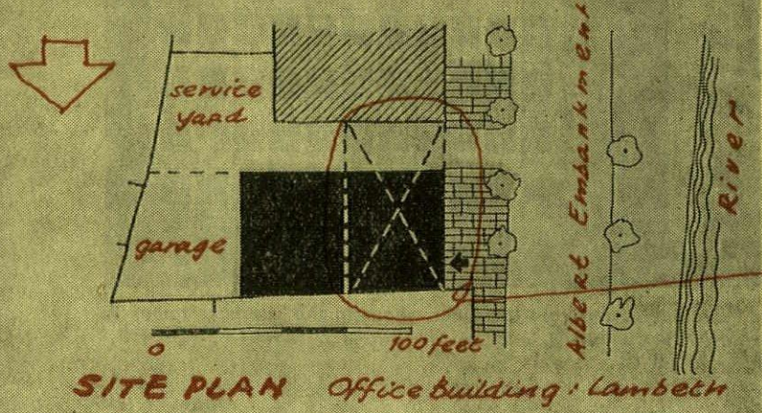
The framed construction makes maximum use of prefabrication. For example, the metal windows are set in prefabricated panels



From above. The scheme has been altered since the model was made and the two wings projecting on the right eliminated, leaving a simple L-shaped plan.

incorporating the external facing and the internal radiant panel heating. Reinforced concrete floors are finished with linoleum or plastic tiles. Central heating is by a smokeless fuel installation.

Approximate starting date: January 1, 1956. Senior architect in charge: L. G. Pargiter.



OFFICE BUILDING: LAMBETH

Frederick Gibberd

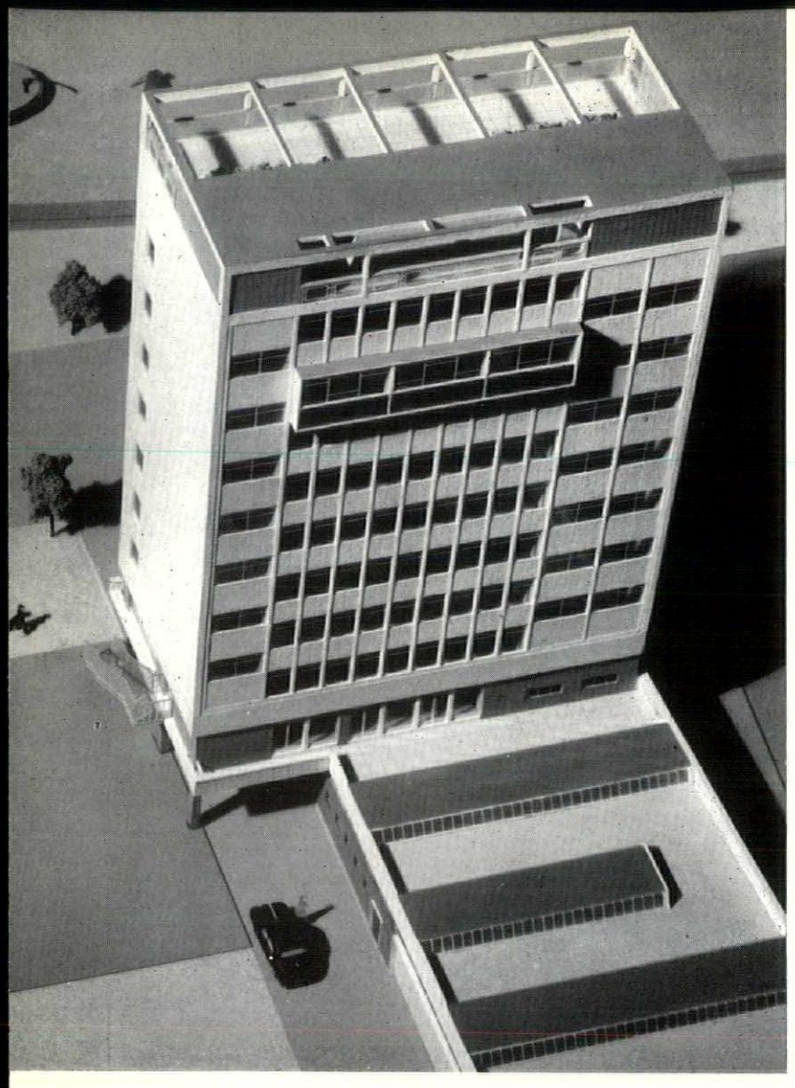
To accommodate the central headquarters of the National Dock Labour Board, responsible for recruitment, training, welfare and employment of all dock labour in the country. The site is on Albert Embankment on the south side of the Thames. The building is 111 ft. high and consists of ten storeys of offices in the form of a narrow vertical block, parallel to the river front, rising from a single-storey structure which extends over most of the site. It is proposed that the owner of the adjoining site on the south will build a similar but higher tower, also rising from a single-storey structure. The two

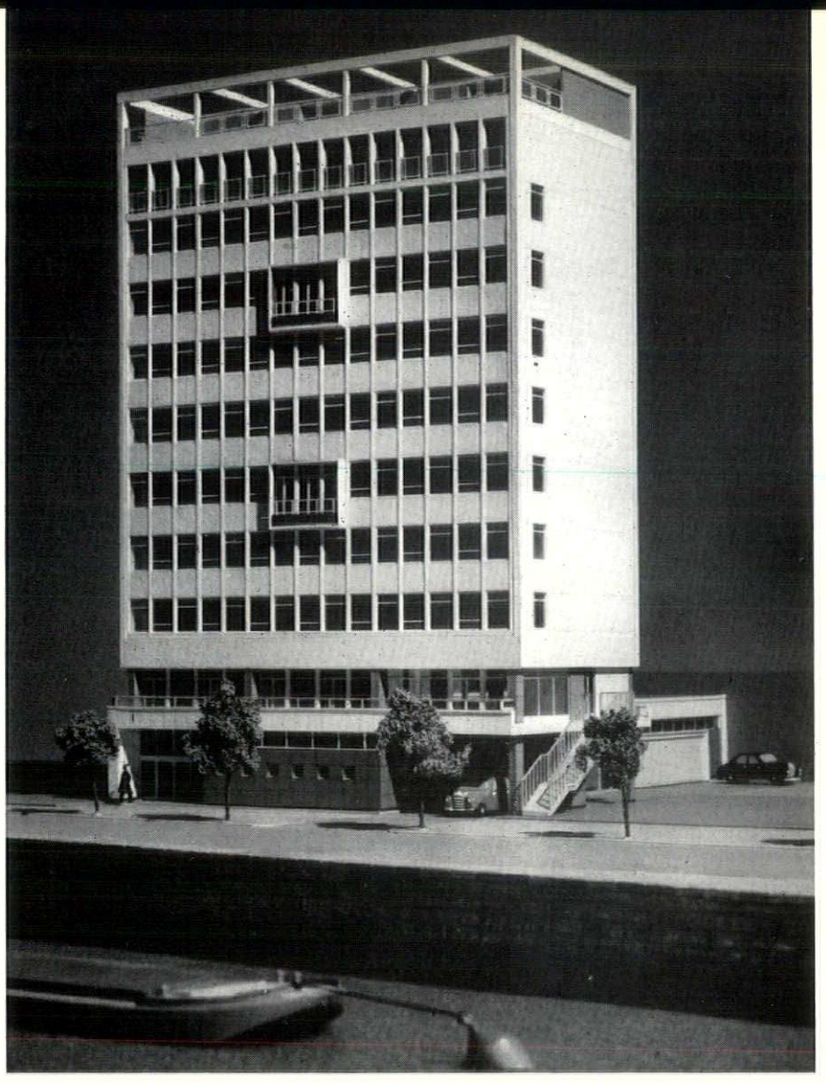
[*continued on page* 17



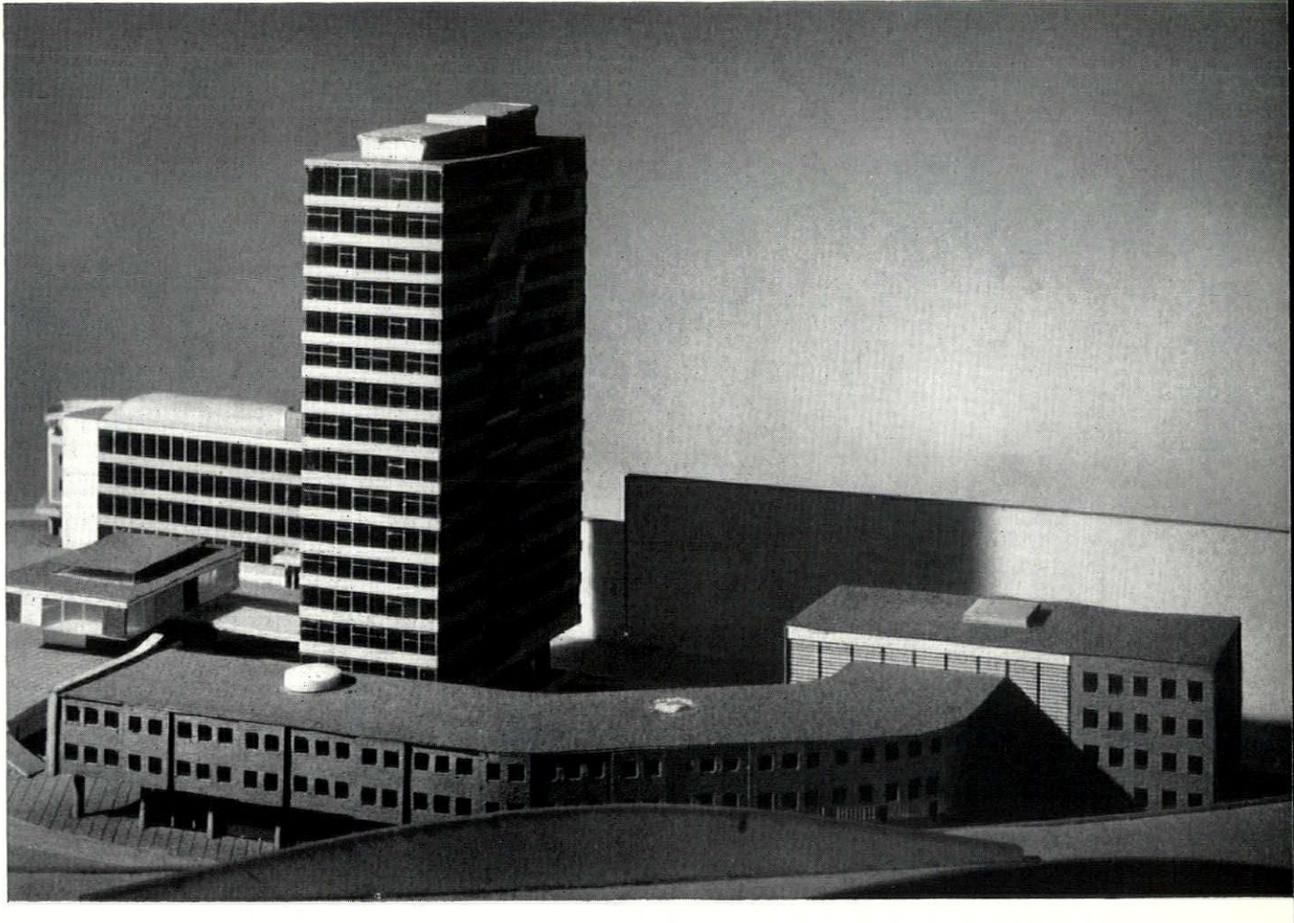
Above, offices on Albert Embankment, Lambeth, by T. P. Bennett and Son: view from the river. Right, Government offices, Birmingham.

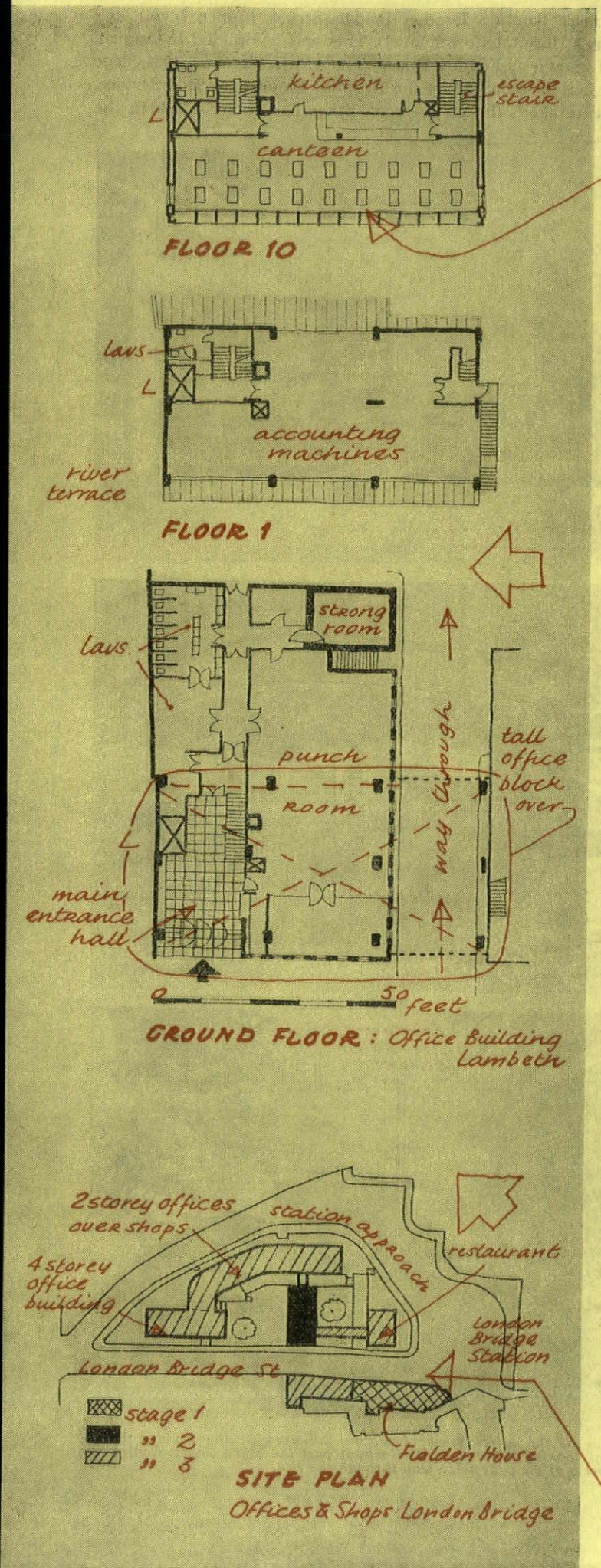






Above, offices on Albert Embankment, Lambeth, by Frederick Gibberd: on the left, from the side away from the river; on the right, from the river. Right, the complete scheme for offices and shops on the island site facing London Bridge station.





continued from page **14**]

buildings will then be linked together by their ground-floor portions, the roof of which will form a first-floor terrace overlooking the river. The office space can be sub-divided transversely at 4 ft. 6in. centres into rooms of various sizes as required. The general manager's suite is on the fourth floor and the board room on the seventh. Each has a projecting balcony to give views over the river. On the tenth floor is a staff canteen, with glazed doors extending the full length of the river frontage. The main roof is designed as a garden.

Construction is of reinforced concrete, the greater part of it precast. Up to first-floor level (that is, the beginning of the tower proper) the construction is of *in situ* reinforced concrete frame with infilling panels. The tower itself is designed without internal columns, and utilizes window mullions for structural support. These are complete precast concrete units of 'H' shape, one storey high. The 'H' is formed by the vertical mullion members and a horizontal cill and head member. The individual units are connected by a special tube and nut assembly to form a monolithic frame. The floors, spanning from the internal spine beam to the external concrete web, consist of precast, prestressed, inverted 'T'-shaped beams, only 6 in. deep with 2 in. of *in situ* topping screed to make the whole monolithic. The spaces between the legs of the 'T' are used as service ducts. The wall filling in between the precast grid consists of centre pivot-hung metal windows or Portland stone faced slabs, suspended from the mullion frame. The end façades are clad with Portland stone faced concrete slabs. The single-storey ground-floor structure has a facing of polished marble slabs.

Work began in November, 1954. Consulting engineer: F. J. Samuely.

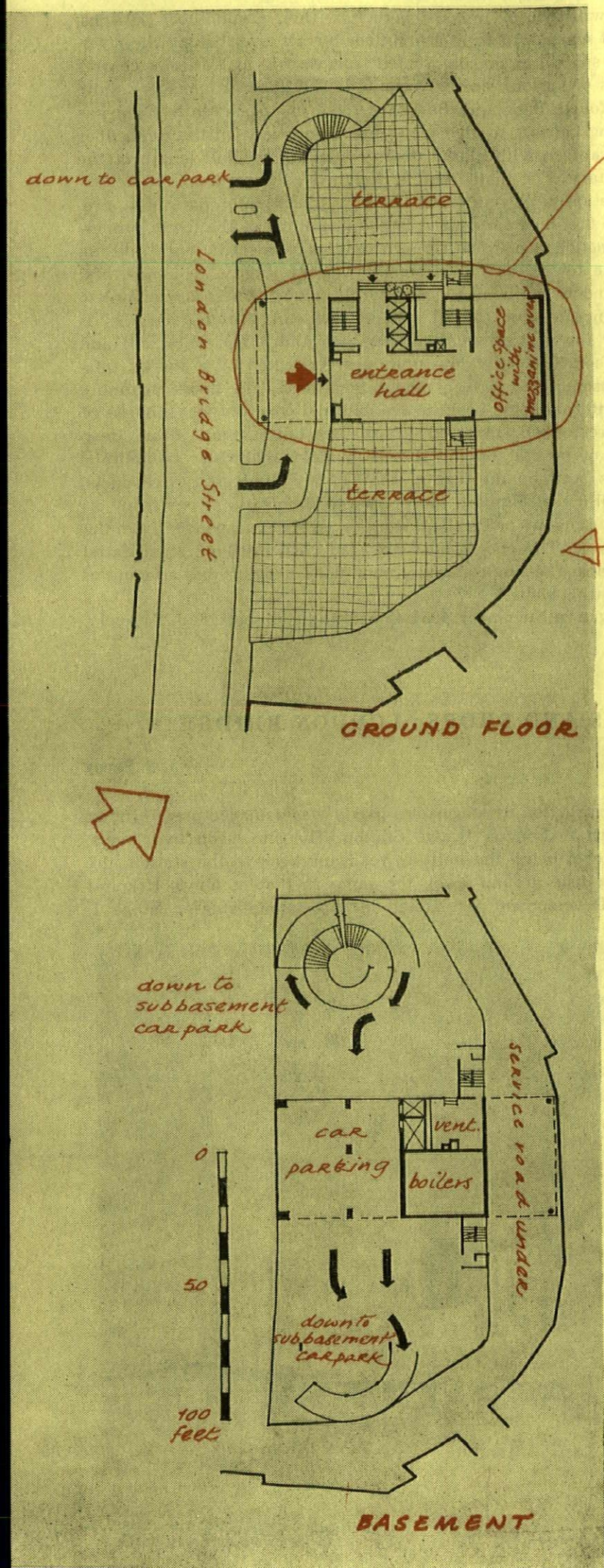
OFFICES AND SHOPS: LONDON BRIDGE

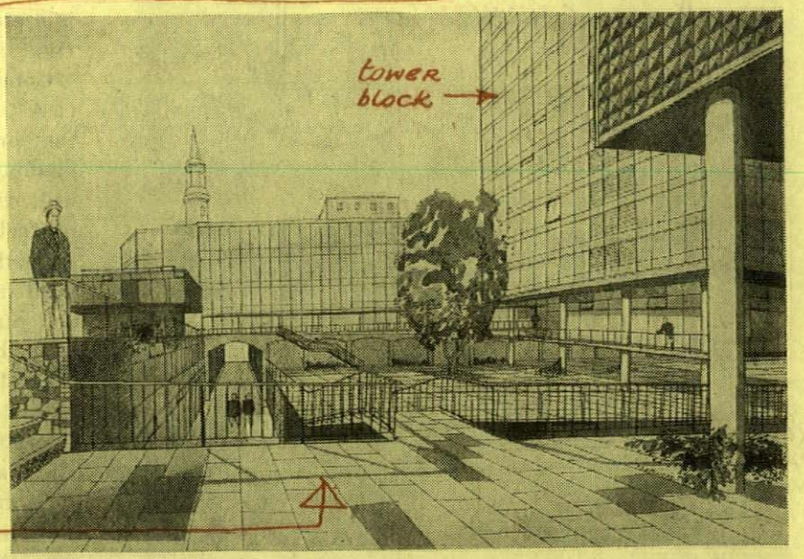
J. S. Lacey

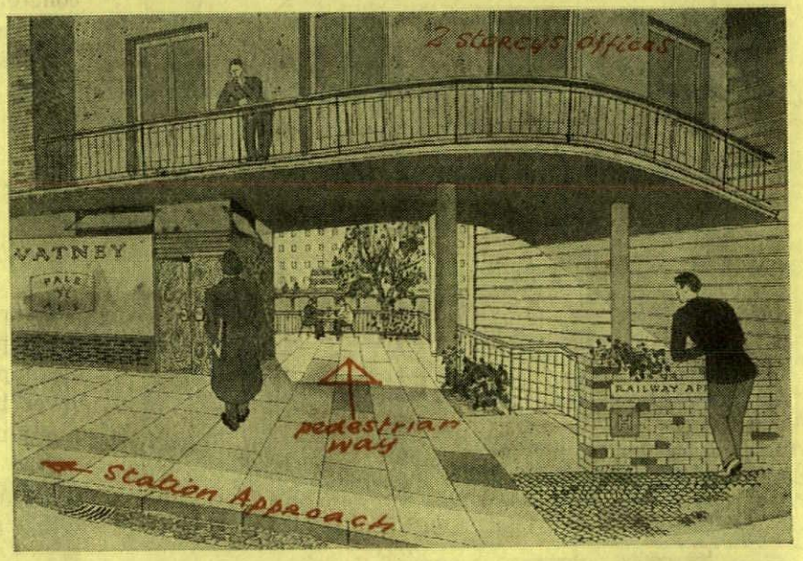
The reconstruction by stages of a partly war-damaged area forming the approach to London Bridge Station. The site is on two levels, the upper level being the built-up road approach to the station, the lower being true ground level, the same as that of Guy's Hospital adjoining. Development is planned in three main stages: Stage 1,

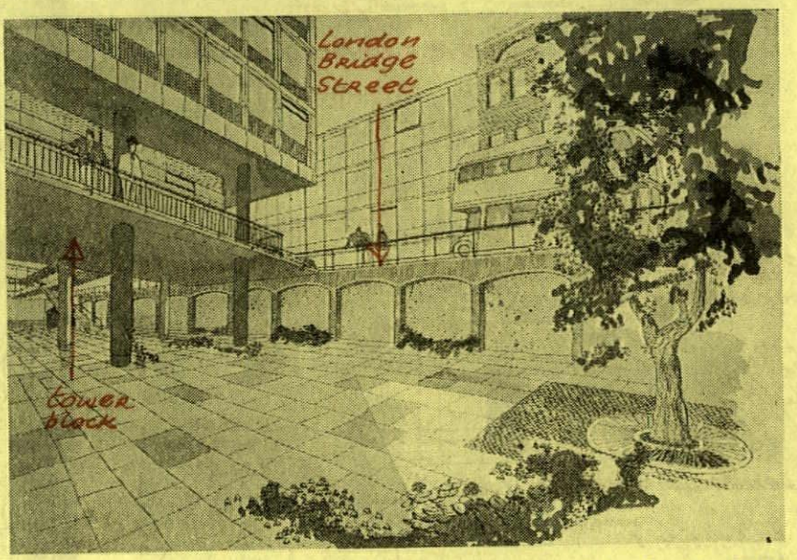


a terrace block flanking London Bridge Street (upper level) and opposite Guy's Hospital (lower level). This was completed in August, 1954, and is known as Fielden House (see *AR*, September, 1954, page 184), and is largely occupied by the Hospital Emergency Bed Service. There is a caretaker's flat on the roof. Stage 2, a tower block in the

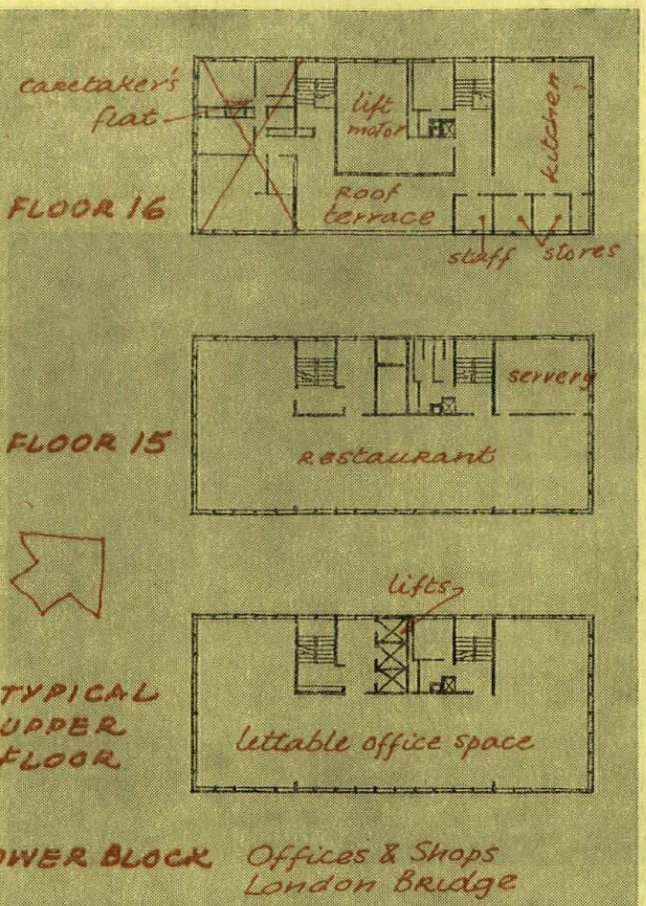


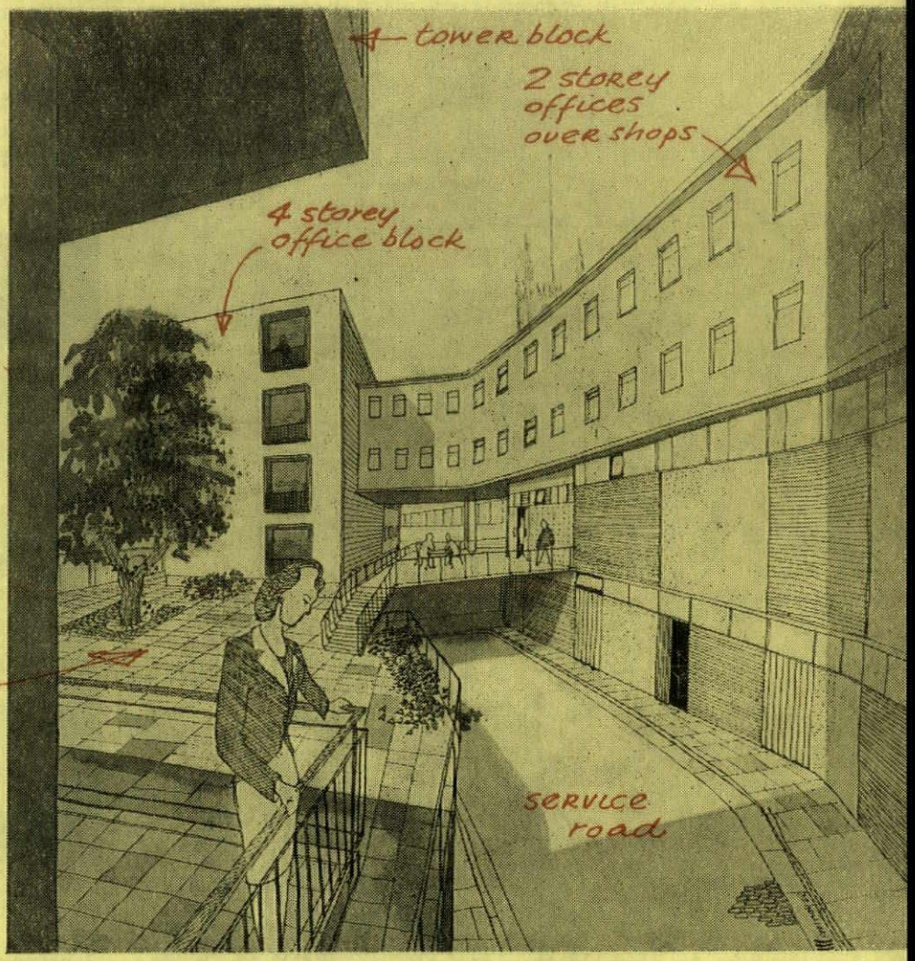






Three views of the interior spaces within the area of the London Bridge scheme. Top, looking towards Guy's Hospital past the office tower. Centre and bottom, aspects of the pedestrian way through the site.



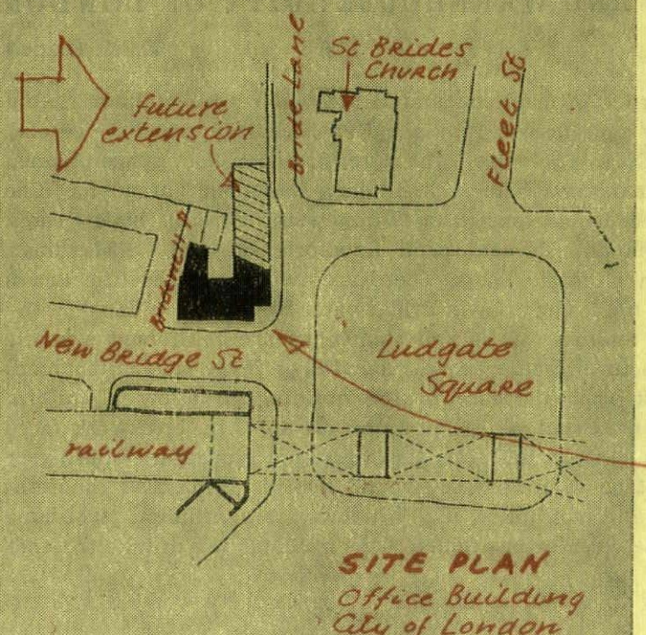


The high-level pedestrian terrace overlooking the low-level service road leading to garages, etc.

centre of the crescent-shaped island site bounded by London Bridge station and station approach. The tower allows open development at ground level, relieving present congestion, and opens up the approach to the station. Work on Stage 2 has reached the point of detail drawings. Stage 3, the completed development of the island site, and completion of terrace development adjoining Fielden House. Accommodation consists largely of offices, with some shops and a restaurant. There is a pedestrian way through the site. The completion of these is dependent upon the falling in of leases, mainly in 1967.

Precast concrete frame construction is used, with prestressed concrete floors and panel walls of brick.

Associate architect: C. F. Timothy. Consulting engineer: F. J. Samuely.

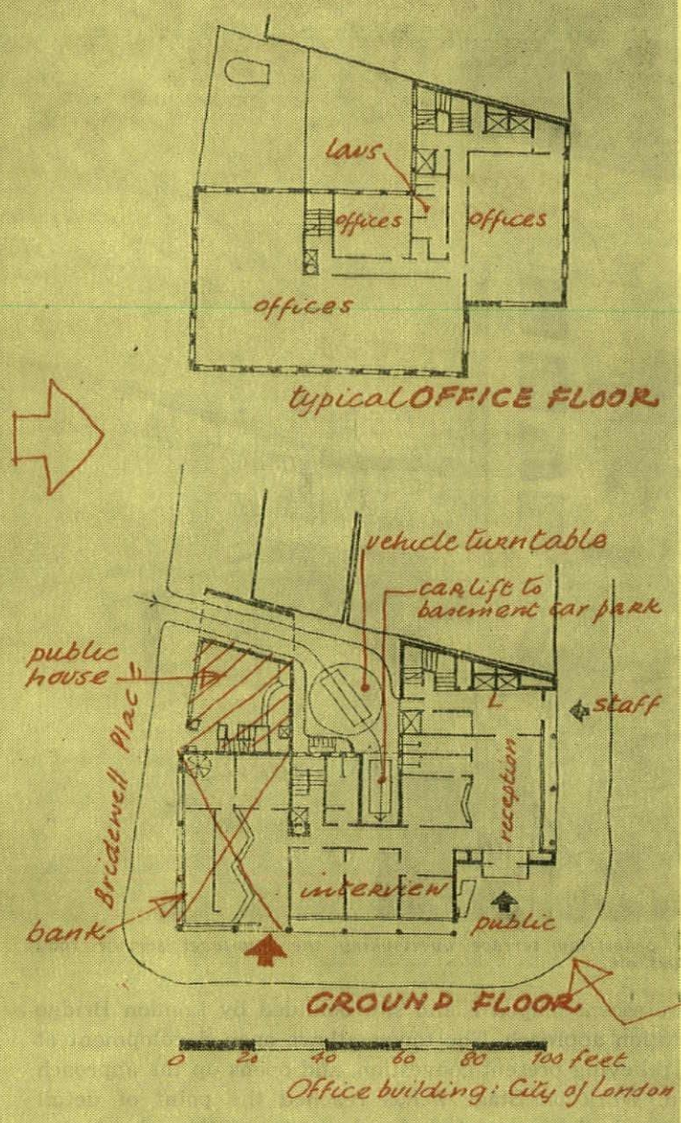


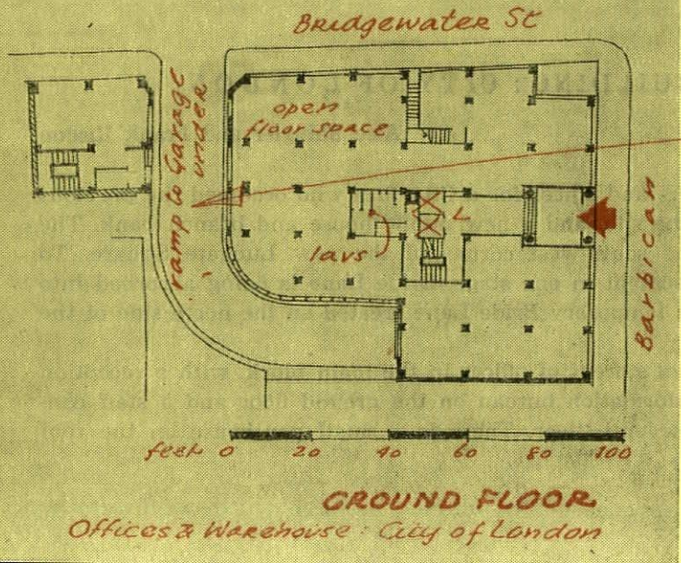
OFFICE BUILDING: CITY OF LONDON

Alec Shingler and Frank Risdon

Headquarters and offices for a City firm who occupied the previous building on the site, and a new public house and branch bank. The site forms the south-west corner of the new Ludgate Square. To permit development in one stage, Bride Lane is being absorbed into the site and a temporary Bride Lane created on the north side of the new building.

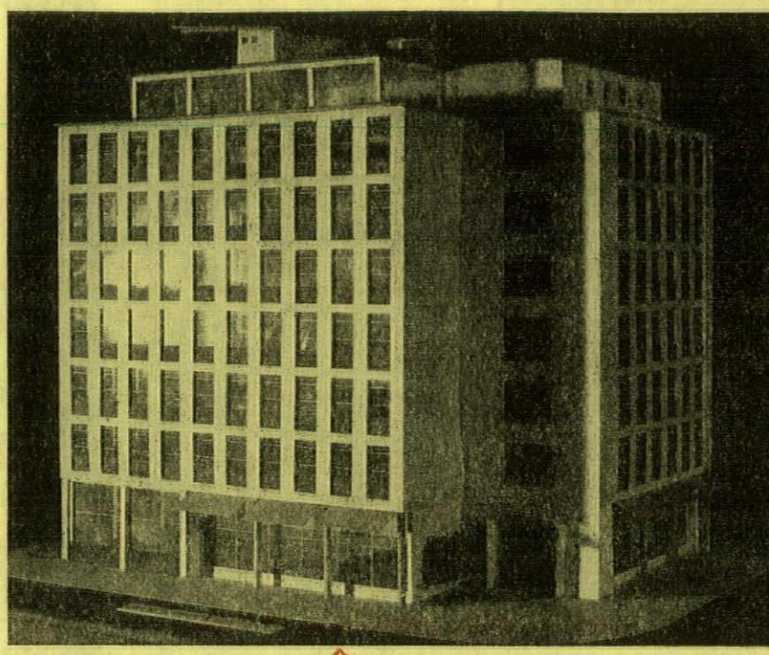
There are six storeys of offices in the main block, with a reception centre and information bureau on the ground floor and a staff canteen on the seventh floor. There is a small penthouse on the roof





of the main building and an underground garage served by a lif The public house forms a separate four-storey block facing Brid well Place, with the branch bank on the corner of this road ar New Bridge Street. 4,150 sq. ft. of office space is provided on eac floor level.

Steel framed construction with prestressed concrete floors to reduc the number of beams. The main block is carried on concrete pile



as the site bounds the course of the River Fleet, with reinforce concrete retaining walls to the basement and sub-basement. Wi dows are pivoted double hung hardwood sashes. External facing Portland stone, with unpolished Swedish green marble panels benea windows. The colonnade is faced with plate glass and Italian marb with a sheathing of black granite to the stanchions. The water tan is covered with eggshell glazed coloured tiles and the sculptur group at the entrance is to be carved in red granite.

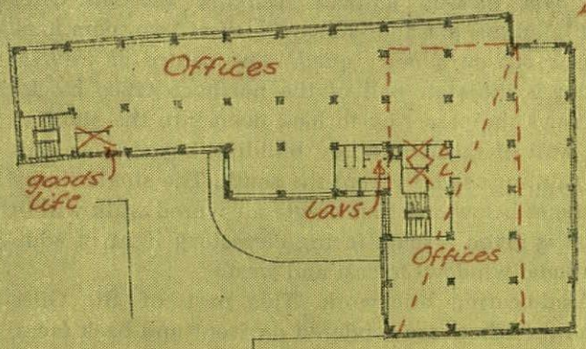
Work on the first section of the project (the public house) is begi ning this month and it is expected that the main block will beg in June of this year.

OFFICES AND WAREHOUSE: CITY OF LONDO

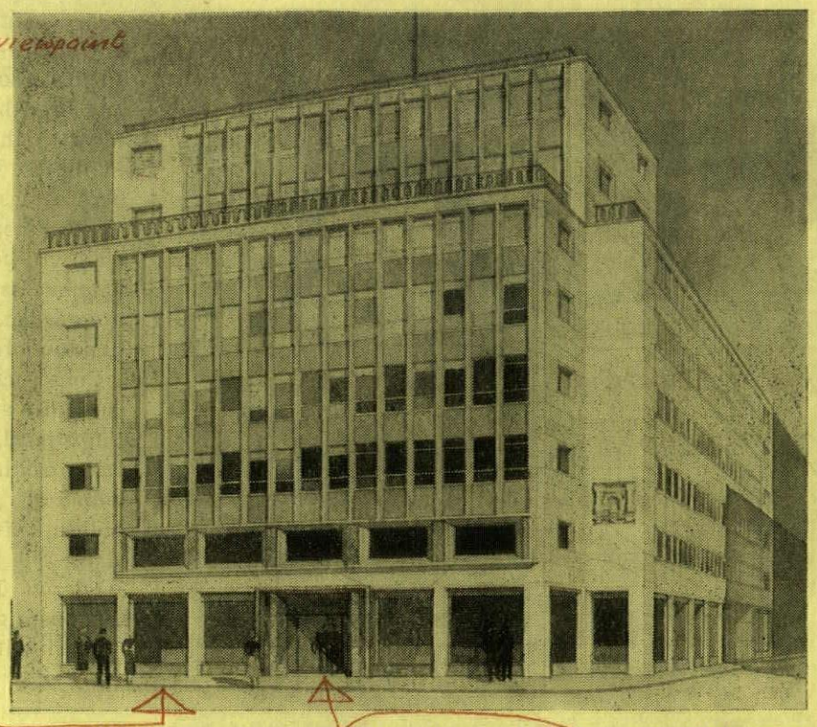
Frank Scarl

At the corner of Barbican and Bridgewater Street (immediate north of the area occupied by the New Barbican scheme—see *A* December, 1954). There are eight storeys of open floor space planne to provide maximum natural lighting, a basement garage for ni cars (reached by a ramp from Bridgewater Street), boiler-room service rooms and storage space. Lavatories are on half-landing the sexes on alternate floors. There are two passenger lifts and goods lift off the loading bay in Bridgewater Street.

Basement retaining walls and stanchions are reinforced concre and the structural frame above ground-floor level steel. Stanchio are set back from the face of the building to allow a unifor glazing module. Panel walls and spandrels are 9 in. brickwork fac with Portland stone and (on the Barbican elevation) bluish-gr terrazzo, treated as a veneer. Ground floor is reinforced concret upper floors and roof hollow tile. Windows are aluminium pivot-hu casements, between reconstructed stone mullions which take the en

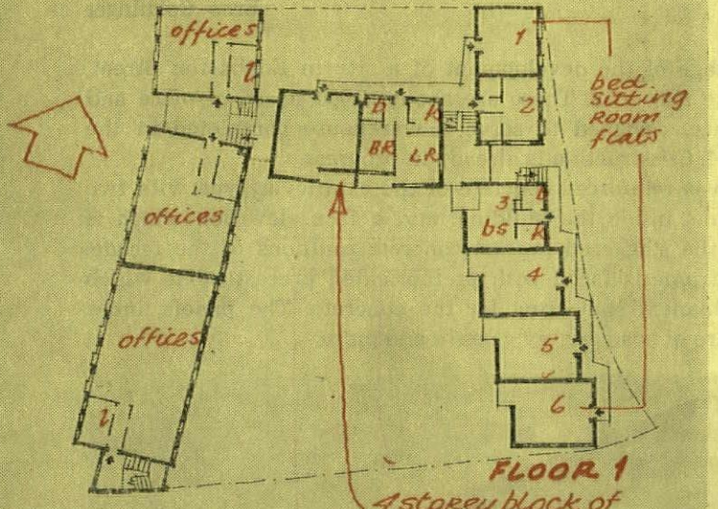


typical **UPPER FLOOR**
Offices & Warehouse: City of London

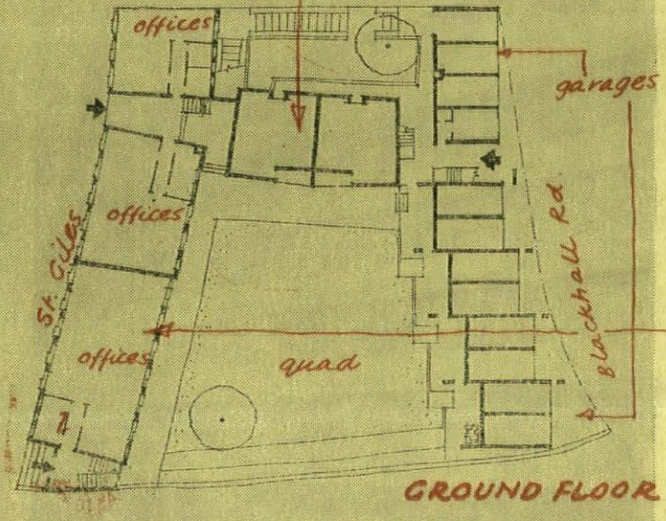


of partitions when required. The entrance hall is in Swedish green marble with hardwood trim and aluminium counter.

Structural work began in December, 1954.



FLOOR 1
4 storey block of 2 room flats

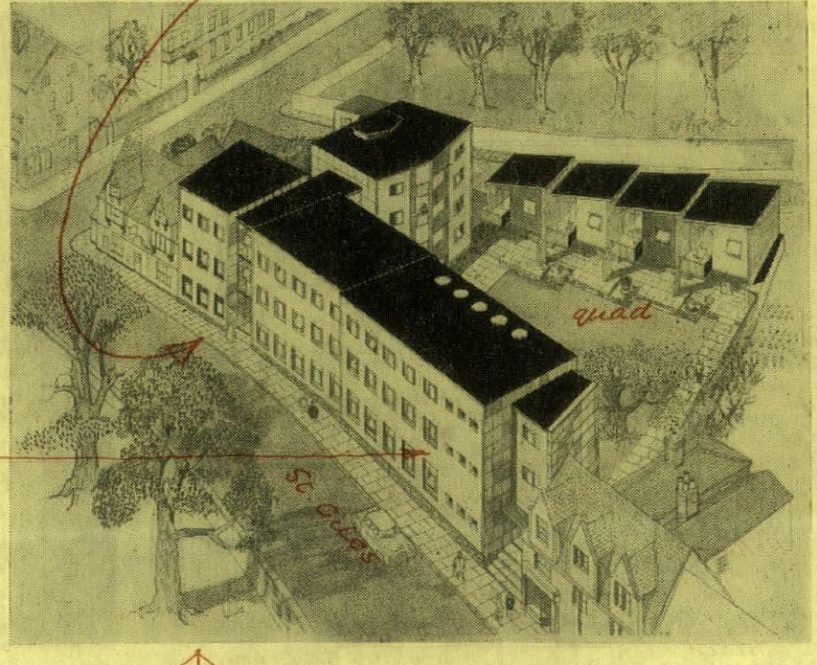


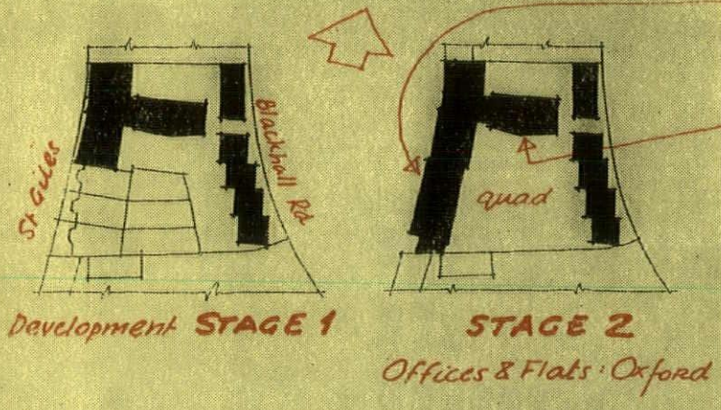
GROUND FLOOR

OFFICES AND FLATS: OXFORD

Lionel Brett and Peter Bosanquet

For St. John's College: the redevelopment of a site which fronts on to St. Giles on the west and a small parallel street on the east. The St. Giles frontage consists at present of a variety of undistinguished buildings of which the northern three can be demolished now; the rest is occupied by 'Balliol Hall,' a huge Victorian pile, of which the leases expire in 1962. Development must therefore be in two stages. Along the St. Giles front are planned two office buildings, angled in sympathy with the curve of the street, the northern





one forming part of Stage 1, and the southern—with a separate entrance—of Stage 2. Along Blackhall Road at the back are bed-sitting room flats over lock-up garages. Linking the St. Giles and Blackhall Road buildings is a four-storey block of two-room flats. Most of the flats look out on a new 'quad.' The centre of interest in the St. Giles front is the stair hall of the northern office block: here a glass wall allows the passer-by to look deep into the site and see the stone flank wall of the four-storey building beyond: on this wall will be mural paintings side lit from the south. The single-storey flats oversail the garages below and thus create a covered walk within the garden. Each flat is given a south-facing clerestory light in addition to more conventional windows to east and west.

Construction is load-bearing brickwork. This part of St. Giles is mainly stucco, and the offices are rendered on front and back faces, the slightly different colours of each panel helping to bring the scale of the building down to that of its neighbours. Flank walls, which are important elements in the sharp perspective views of the building from up and down St. Giles, are stone faced in thin slabs. The plinth is coursed rubble. The garden elevations are mainly rendered. The Blackhall Road elevations are brick, in keeping with the existing brick buildings alongside.

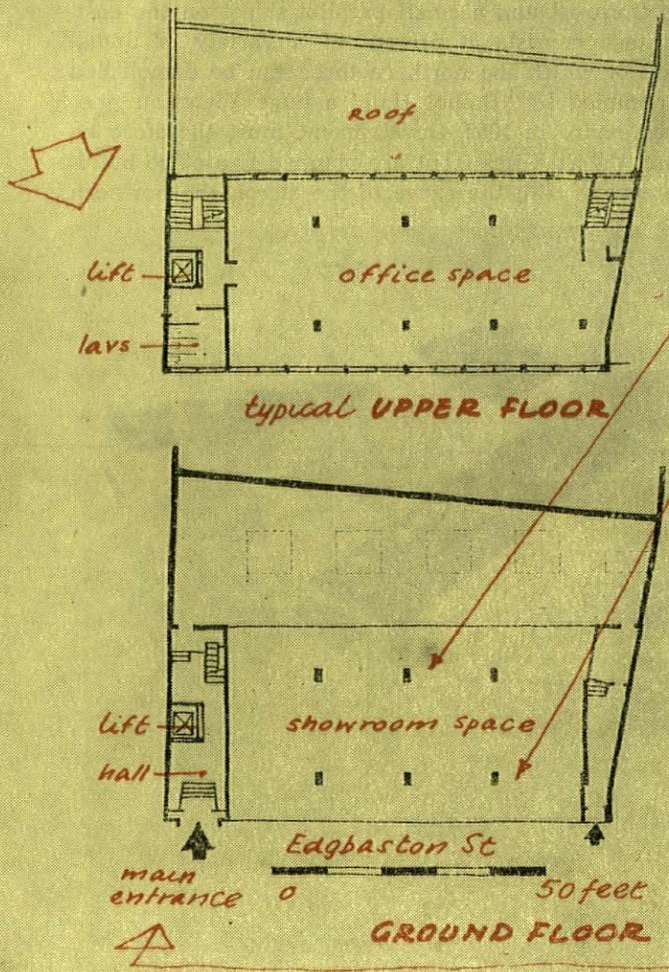
Work will probably start this year.

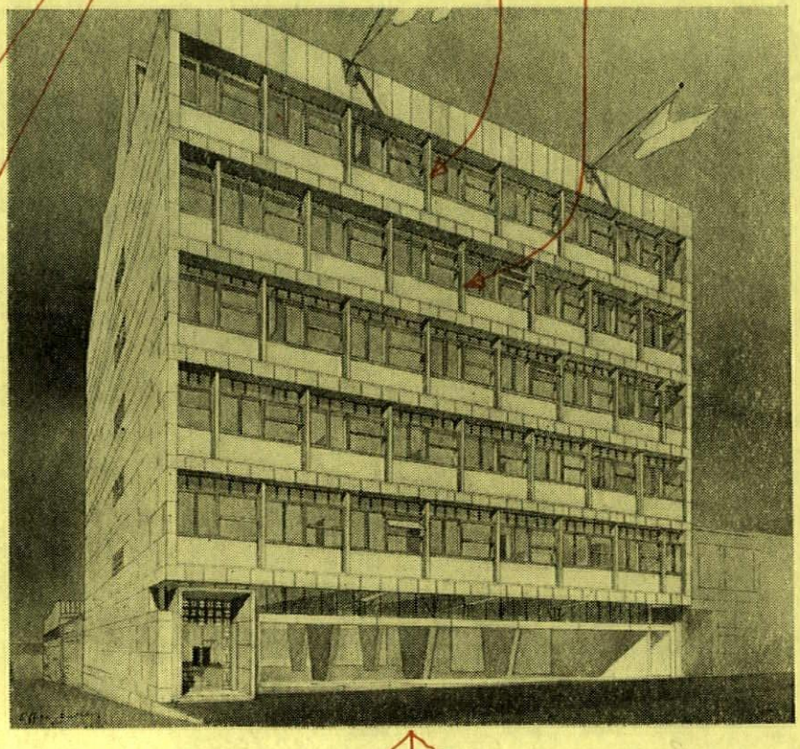
OFFICES AND WAREHOUSE: BIRMINGHAM

Erno Goldfinger

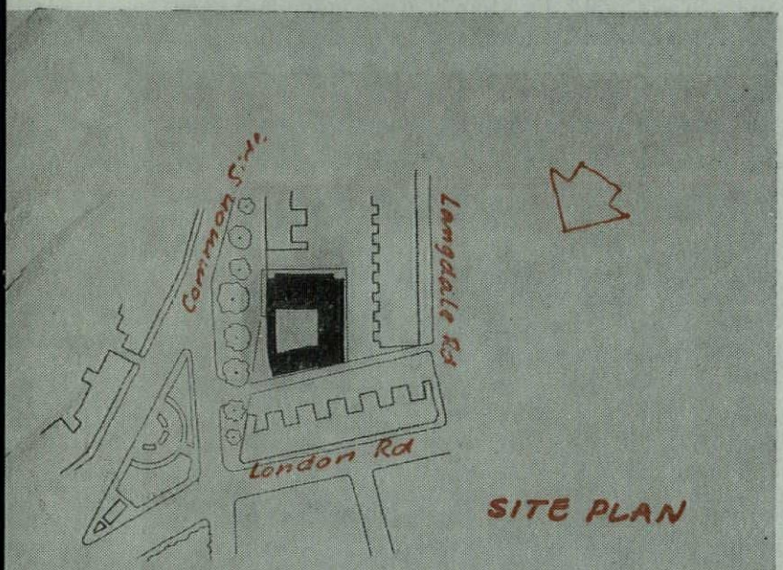
The third stage of the development of a site in Edgbaston Street, near the future ring-road. There are about 18,000 sq. ft. of office and showroom space, designed to serve a warehouse completed in the summer of 1954. Construction is already in progress.

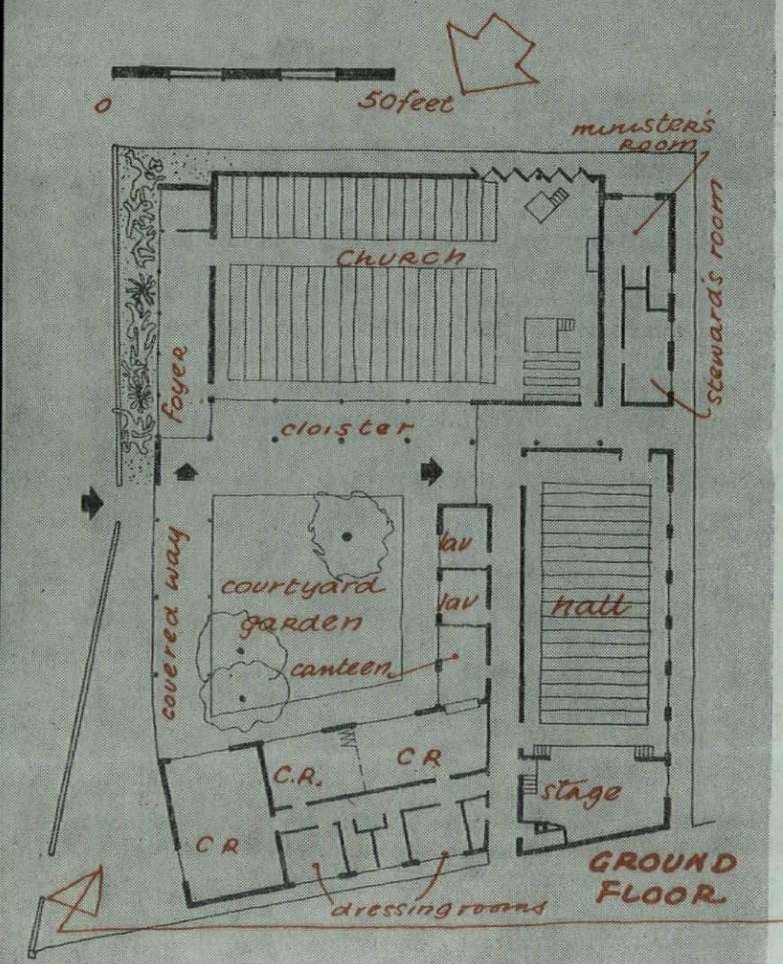
Construction is reinforced concrete of the cantilever type with two rows of columns inside the building, and a free elevation which is expressed by the staggered precast concrete mullions of the façade. The external frame is faced with prefabricated precast stone which served as permanent shuttering for the concrete. The panels under the windows are of opaque grey glass in one piece.





3 RELIGIOUS



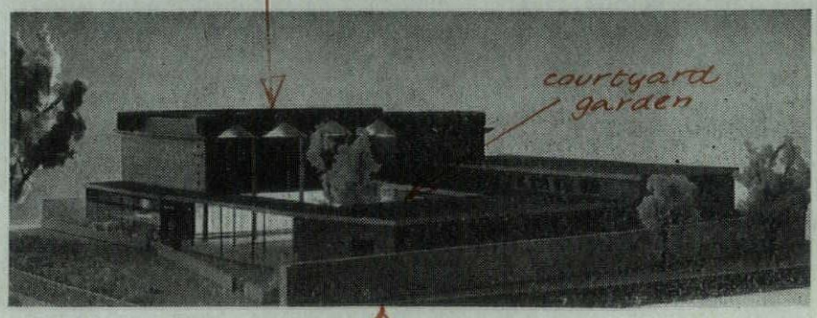


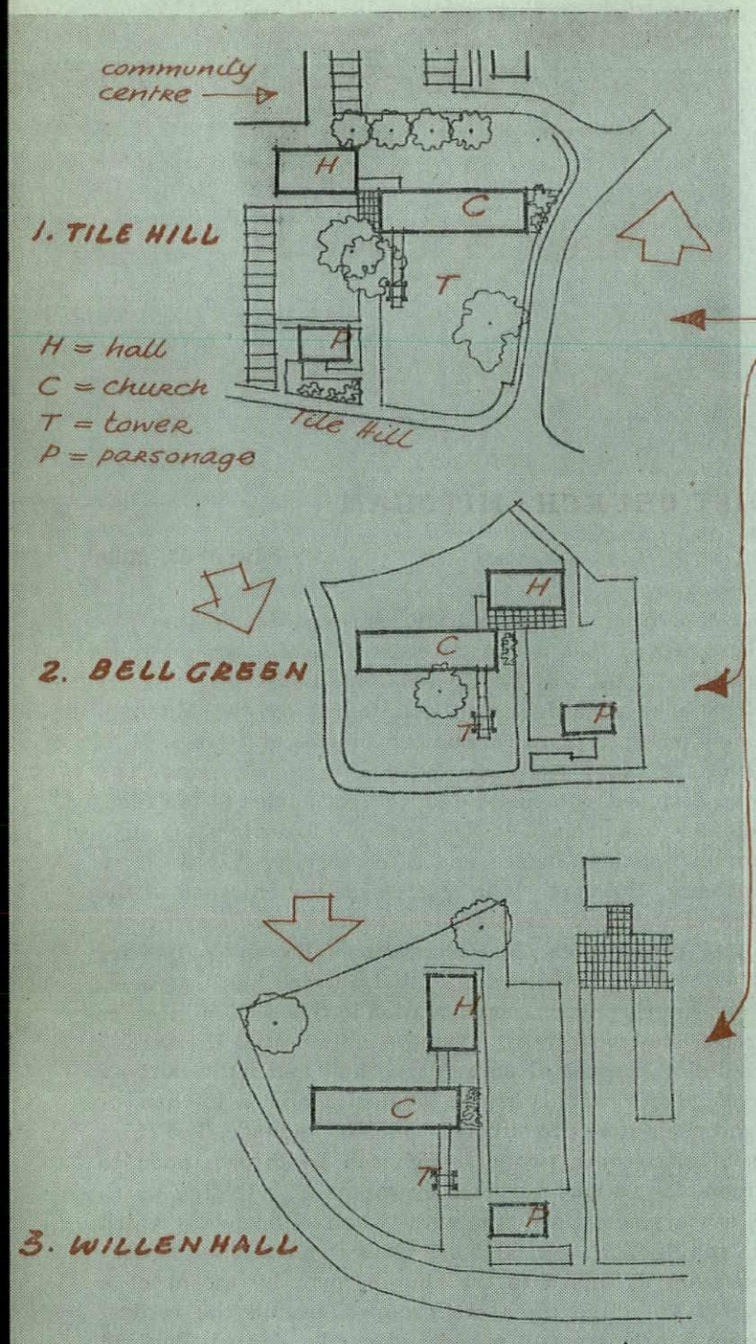
METHODIST CHURCH: MITCHAM

Edward D. Mills

To replace a church and Sunday-school destroyed during the war. It has been designed so that it can be constructed in two or three separate stages. The total cost will be about £35,000. The site, at Fair Green, overlooks a garden strip maintained by the Mitcham Borough Council which contains a number of fine elm trees. It is noisy because of the heavy traffic on the main road adjoining. The church has been designed as a single unit at right angles to the road, seating 340 people with a choir of 16. The entrance foyer is big enough to allow informal meetings before and after service. A cloakroom adjoins the entrance. The organ is in a loft over the entrance to the church hall. The church itself has low-level windows overlooking the cloisters and courtyard garden. The communion table and pulpit are lit by long windows placed at an angle so that diffused lighting comes from a concealed source. Other accommodation in this section includes a minister's room, stewards' room, lavatory and storage. The second wing of the building consists of an entrance hall and multi-purpose hall to seat 245 people with a stage, lavatories and a kitchen. A boiler-house and chair store are situated beneath the stage. The third wing consists of classrooms, two of which can be thrown open to form a long room for various purposes by means of a folding partition, separate lavatory accommodation with two dressing rooms which can be used in conjunction with the stage or as small meeting rooms. This classroom wing is linked to the church foyer by means of a covered way and the three units are grouped around the central courtyard garden which is partly paved and partly planted. Parking space for motor cars and bicycles is provided off the public footpath at the front of the building.

Construction on the church is reinforced concrete frame with a concrete folded slab roof. Other buildings have load-bearing brickwork with concrete or timber flat roofs. Windows are metal. Woodblock flooring is used in the classrooms and halls; tiles in the lavatories and kitchen. Heating is by low-pressure hot water from solid-fuel or oil-fired boiler with floor-panel heating in the church and



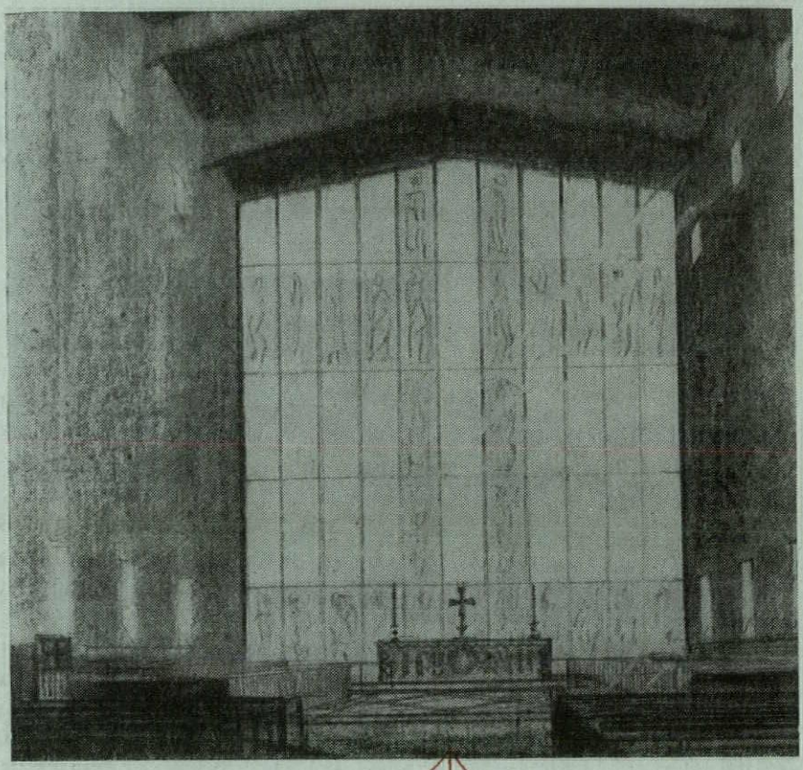


radiators elsewhere. It is hoped to begin work on the hall, lavatories and classrooms early this year. The hall will be used as a temporary church.

CHURCHES: COVENTRY

Basil Spence

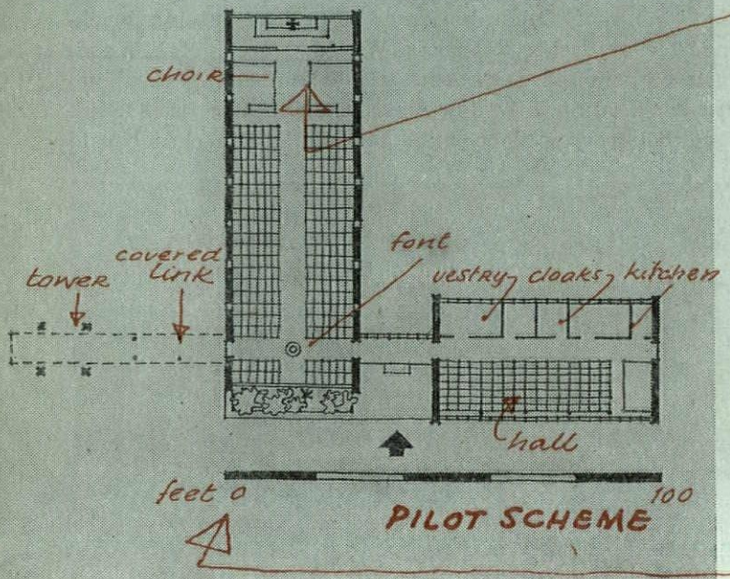
These three Anglican churches are located in three new housing estates (Tile Hill, Bell Green and Willen Hall) designed by D. E. E. Gibson, the city architect. The problem was to provide them at a very low cost (£50,000 for the three, including the parsonages), and for this reason each element—the church itself, the hall and a detached bell-tower—has been standardized so that all three groups

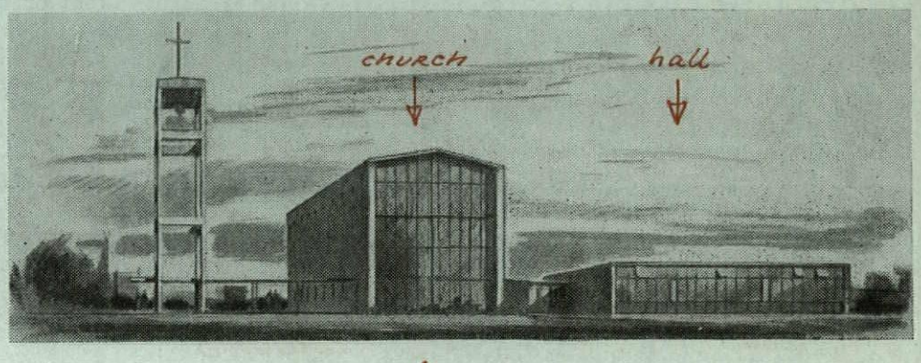


of buildings can be constructed as one operation by a large contracting firm. The standard elements are differently arranged in each case according to the demands of the site, to the position of existing trees and to the layout of nearby housing.

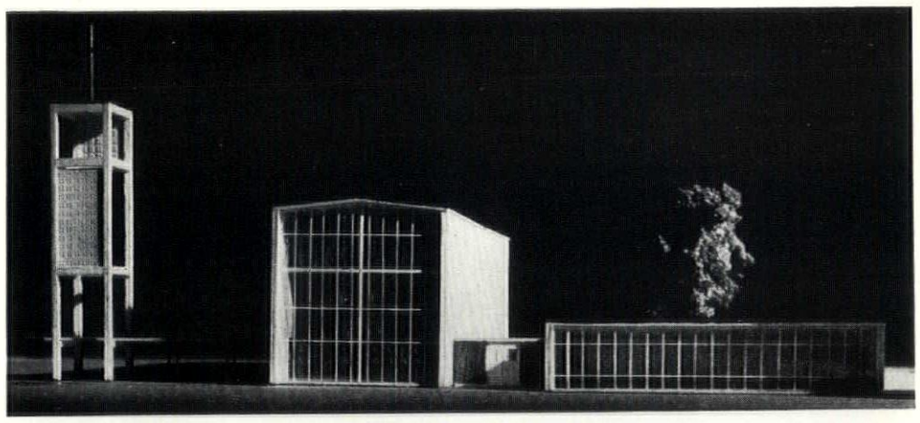
On each site is a church to seat 250, a hall to seat about 100, a vestry, cloakrooms and lavatories and a small kitchen and store. Construction is of poured concrete on the 'no-fines' system, with concrete roofs painted in bright colours internally and covered externally with bitumastic felt.

It is hoped to begin construction this year.

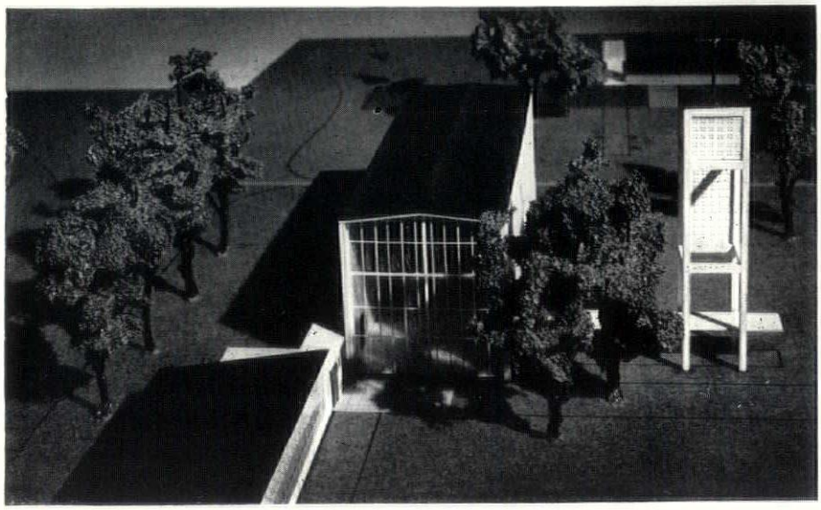


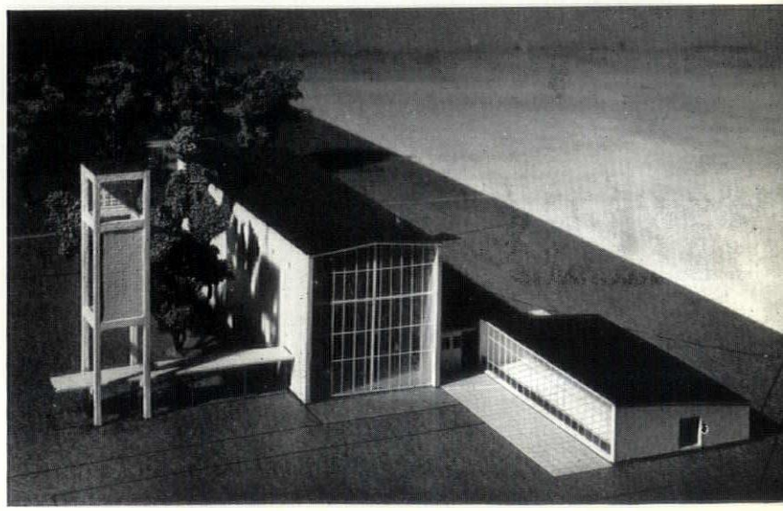


Above, Mitcham Methodist church, by Edward D. Mills: looking into the portico of the church across the courtyard garden. On the far side of the courtyard is a church hall and on the right are classrooms.



Right and below, churches at Coventry, showing the same elements—church, parish-hall and bell-tower—grouped in three different ways determined by the nature of the three sites.



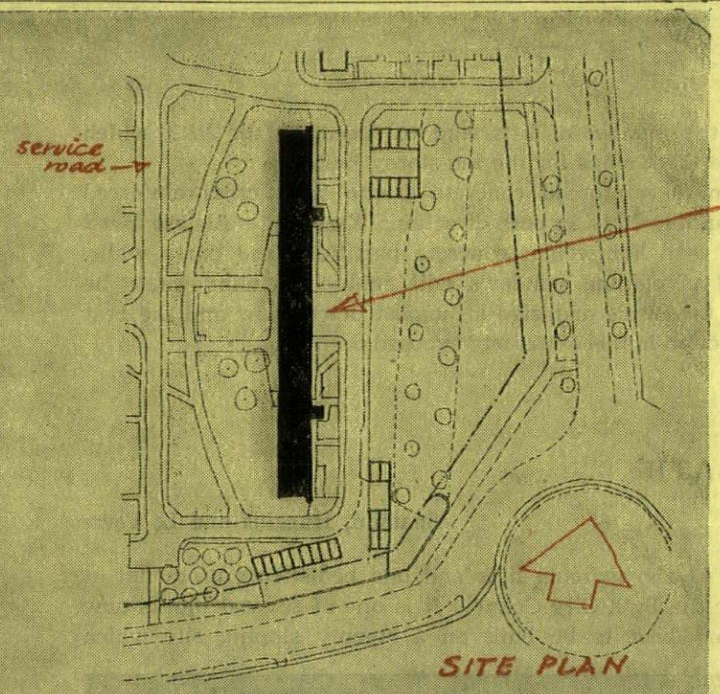


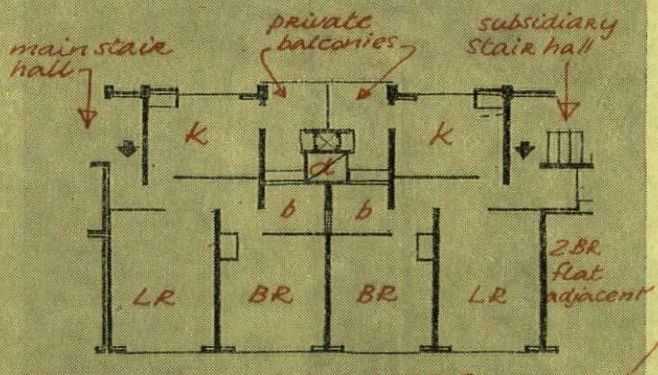
4 HOUSING



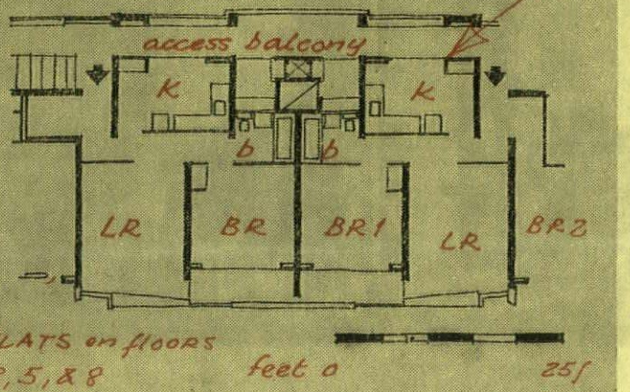
Flats at Liverpool: above, the living-room and bedroom side of the block; right, the bathroom and kitchen side.







FLATS on floors 1, 3, 4, 6, 7 & 9



FLAT PLANS Flats: Liverpool

FLATS: LIVERPOOL

Ronald Bradbury (City Architect)

A ten-storey block (to be called Coronation Court) in a new Corporation housing estate at Fazakerley. A service road encircles the building, giving access to the main entrance on the west (living accommodation) side and to the heating chamber, garages, store rooms, etc., on the east (bathroom and kitchen) side. There are 114 flats (32 bed-sitting room, 44 one-bedroom, 38 two-bedroom). The ground floor has six flats, three at either end of the block, the central space being used for entrances, stairs and lifts and 90 heated store rooms, 6 ft. by 3 ft., separately rented. There are two lifts serving the second, fifth and eighth floors (at which levels recessed access balconies run the length of the block), the intermediate floors being reached by climbing or descending one flight of stairs. Each flat has a private balcony and access to an ash-chute. In the penthouse are water-storage tanks and covered airing spaces.

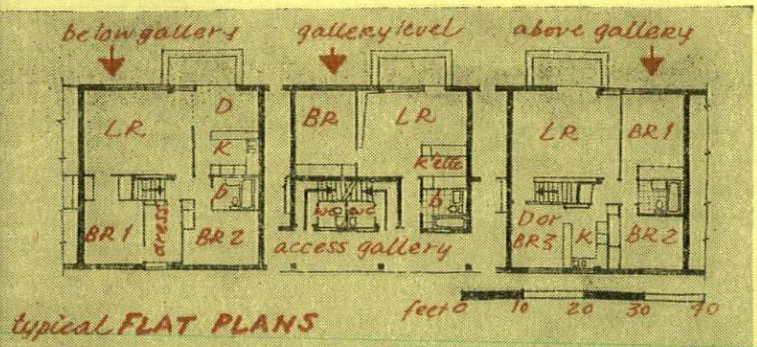
Structure consists of a reinforced concrete raft carrying reinforced concrete cross-walls running north and south and cast in with the floors. All structural walls above ground level are 6 in. thick and all floors 5 in. thick. External walling is 4½ in. brickwork, 2 in. cavity and 2 in. foam slag, the outer skin being reinforced horizontally and tied into the structural cross-walls. End walls are faced with brick. Floors are insulated with glass-wool blanketing and party walls with wood-wool slabs. The blocks have seven vertical ducts accommodating gas, electricity, telephone and water services and refuse disposal. Heating is by low-pressure hot-water radiators.

Site work began in February, 1954. Consulting engineer: W. V. Zinn and Associates.

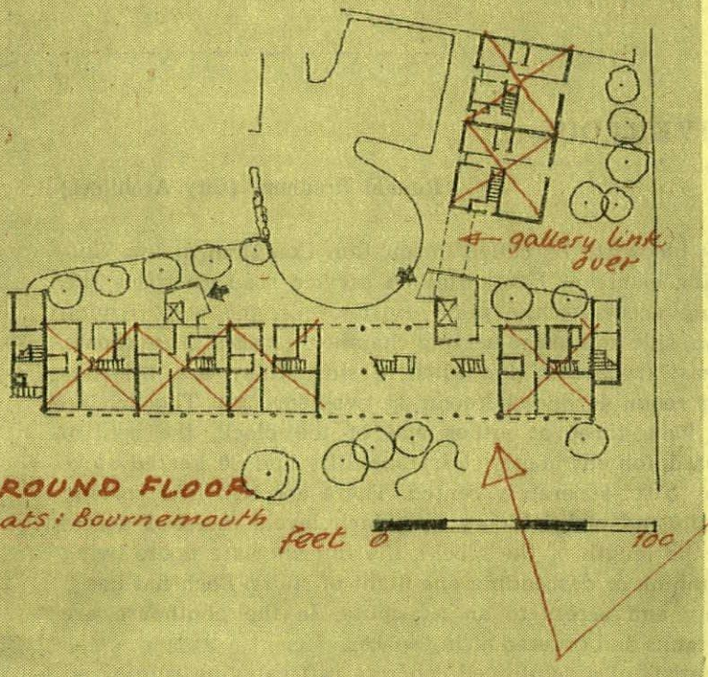
FLATS: BOURNEMOUTH

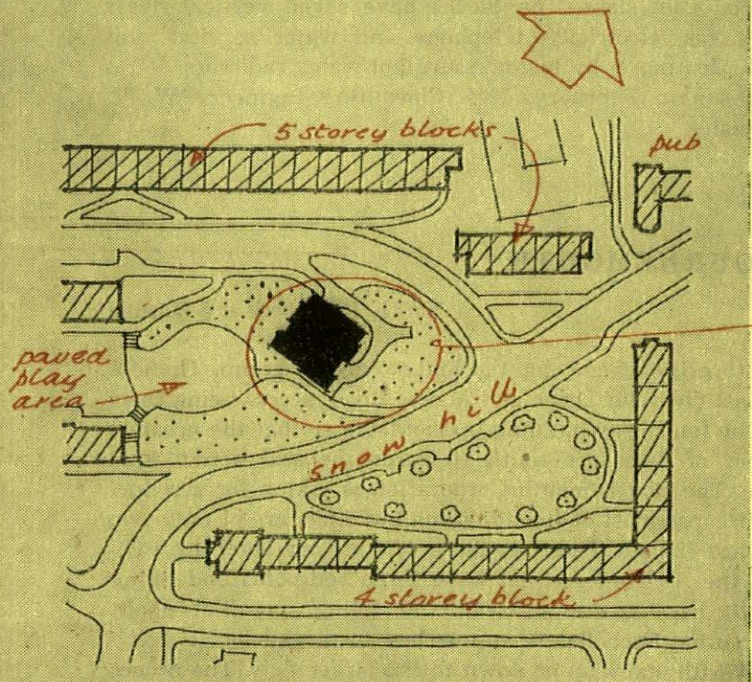
Yorke, Rosenberg and Mardall

A private enterprise scheme for the higher income group. The site lies between East Overcliff Drive and Manor Road, access being from Manor Road. The ten-storey building is orientated so that the greatest possible number of flats face south (towards the sea) across East Overcliff Drive. The Bournemouth Corporation is asking for a reduction in height because most of the adjoining buildings are of only two storeys. There are 72 flats. Those on the access gallery level are two-room flats and the remainder either have three bedrooms and living room or two bedrooms, dining room and living room, of about 950 sq. ft. floor area. Each flat is approached by a gallery at every third floor level with stairs up or down to the larger flats. The object

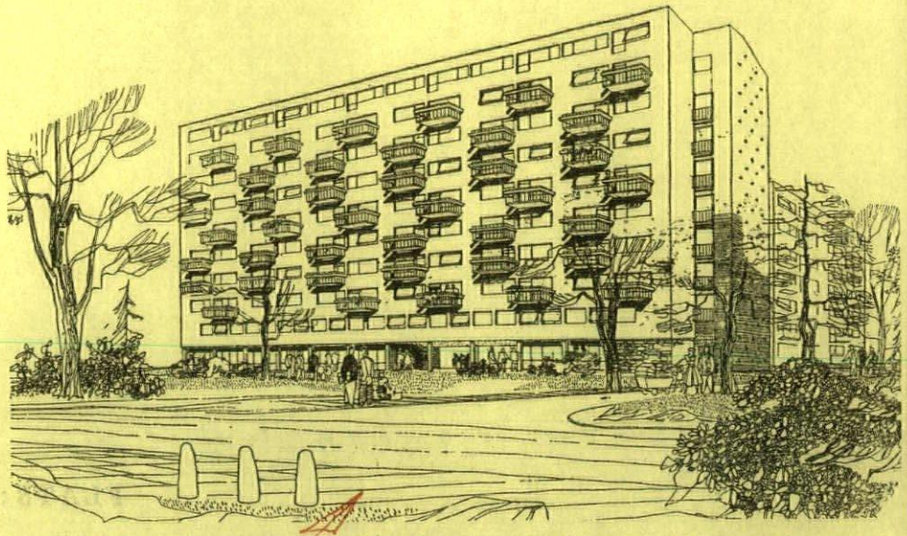


typical FLAT PLANS





SITE PLAN
Flats : Bath



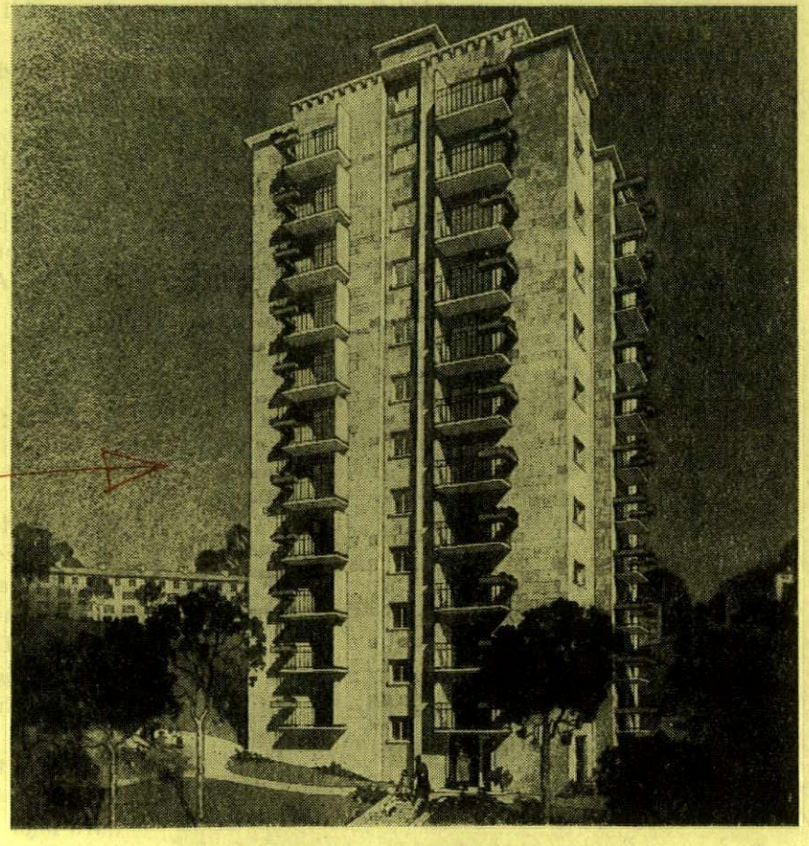
is to reduce the number of lifts, and to speed up the lifts, which will only have three stops for the ten-storey building.

Construction is reinforced concrete frame with cross-reinforced floor slabs spanning 15 ft. in both directions. External walls are faced in brickwork with lightweight concrete partitions and party walls. Double-glazed pivot-hung windows will enable all windows to be cleaned from the inside and give an unobstructed view and the best weather protection in this extremely exposed position.

FLATS: BATH

Snailum, Huggins and Le Fevre

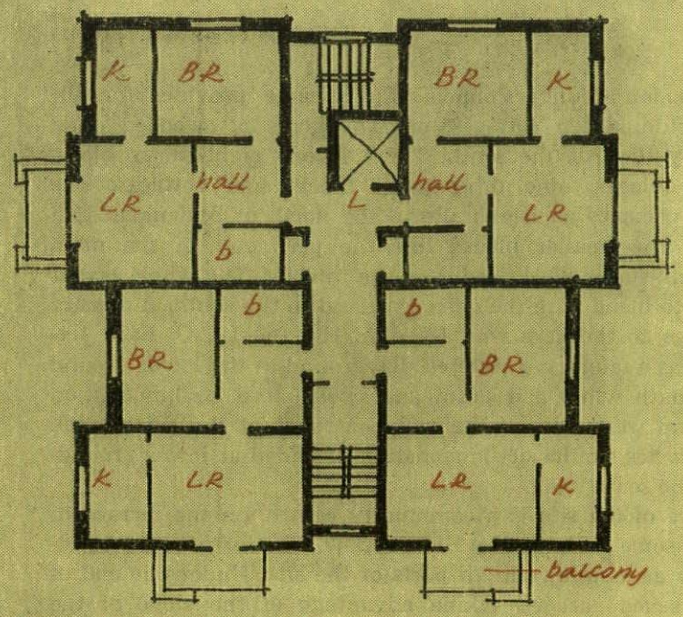
A block of 43 one-bedroom flats and one bed-sitting room flat at Snow Hill for the Bath City Council. It is one of several blocks now being built or about to be built on a steeply sloping site which



has been cleared under slum clearance. The site is near the centre of the city and is planned for high density development.

Construction is reinforced concrete for walls and floors. External walls are lined internally with wood-wool and externally with a 3 in. Bath stone ashlar facing. Floors of flats are floating boarded floors on fillets and glass quilt. Foundations are piled.

Work on this 11-storey block is expected to begin this month or next. Consulting engineers: Oscar Faber and Partners.



TYPICAL FLOOR Flats, Bath

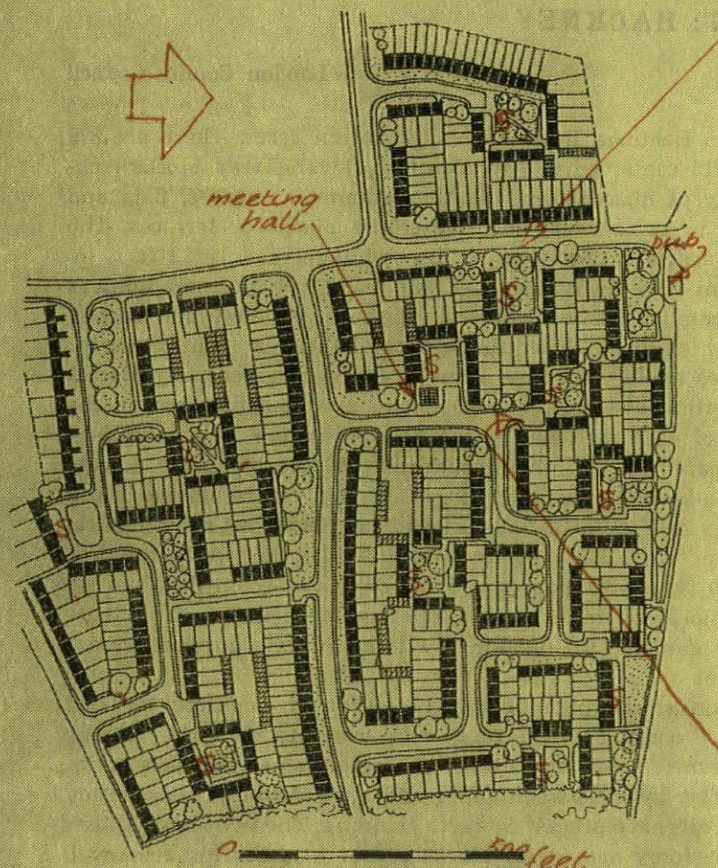
HOUSING: HARLOW

Architects' Co-partnership

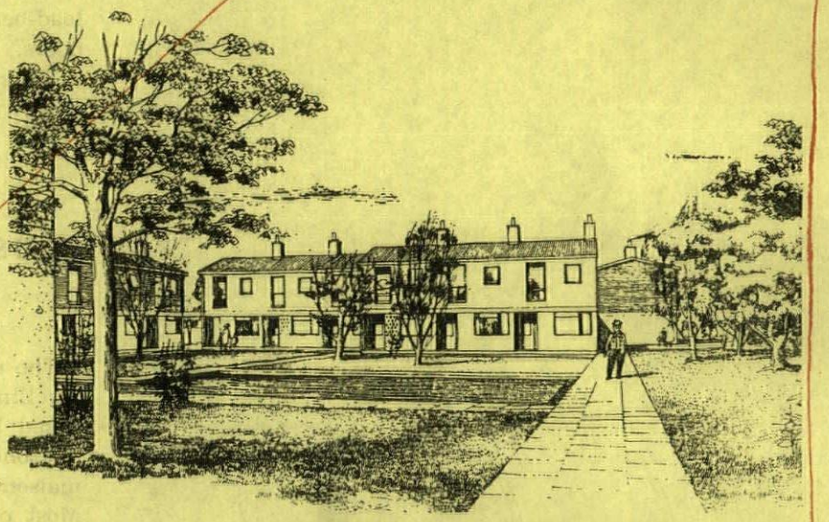
Occupies an area of 29 acres in the Tye Green residential area of Harlow new town. It is on the southern boundary of the town, overlooking Latimer Common. The site is flat, and has been laid out in the form of small squares (each with a distinct architectural character), some totally enclosed, with pedestrian access only; some with traffic moving through one side. A system of pedestrian passages links the squares independently of the normal road system. Four hundred and sixteen houses are provided, mostly of two storeys. Thirty-one of these are larger, high-rental, houses. They will probably employ a traditional form of construction.

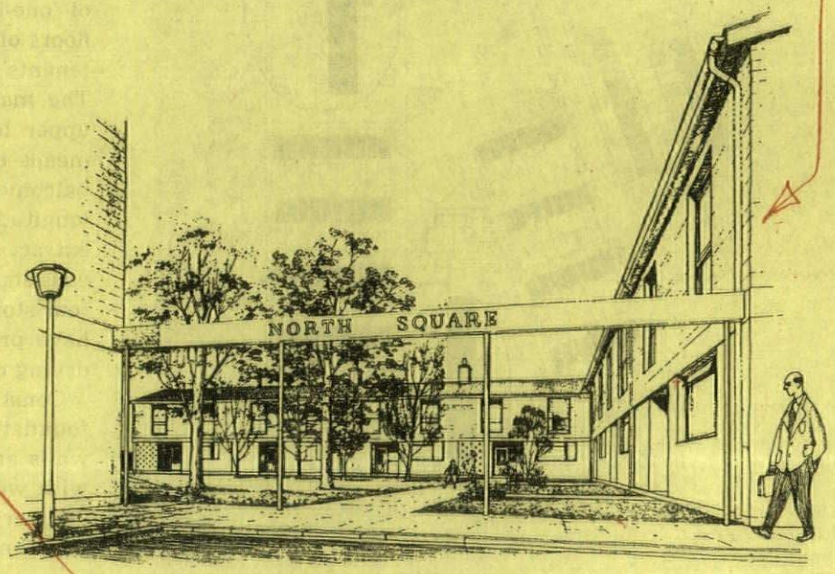
Work is expected to begin in September, 1956.

S = square

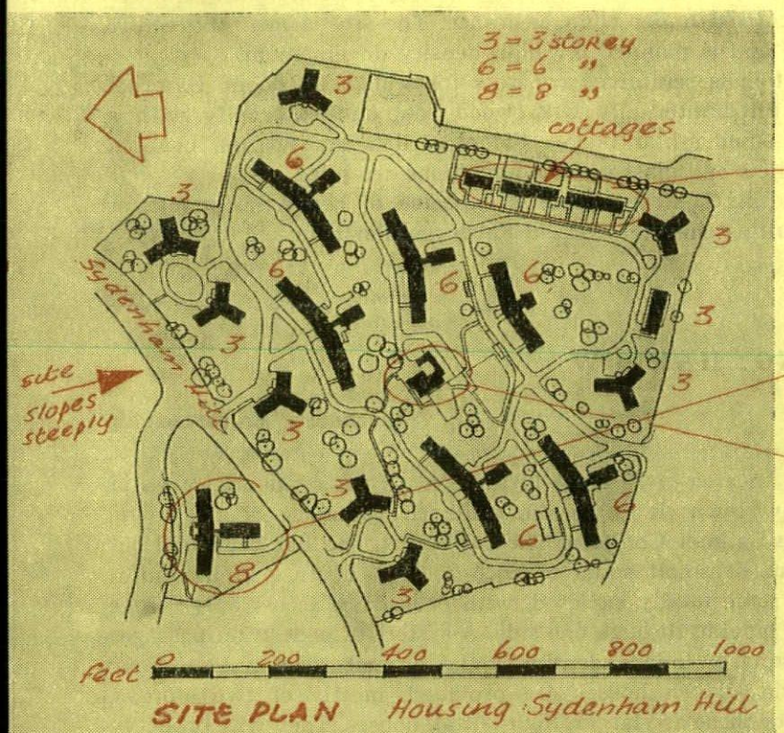


LAYOUT PLAN Housing: Harlow





square with pedestrian access only



SITE PLAN Housing Sydenham Hill

HOUSING: SYDENHAM HILL

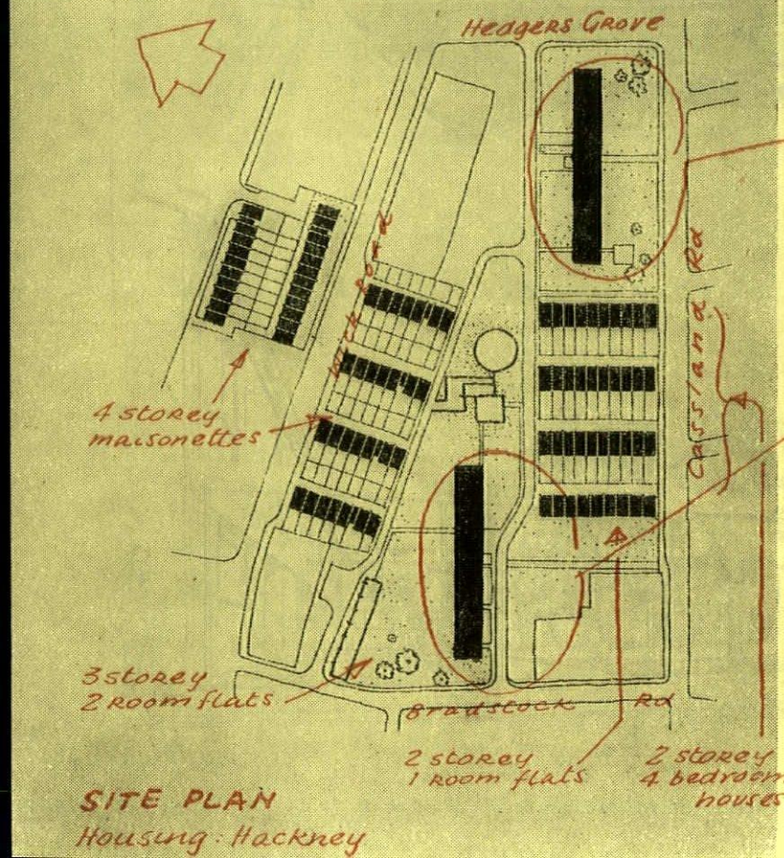
Guy Morgan and Partners

For the London County Council. The scheme provides for 406 dwellings, including ten cottages, on 17½ acres of wooded land sloping steeply towards the south. There is one eight-storey block, six six-storey blocks, nine three-storey blocks and cottages. The highest block occupies an island site to the north of Sydenham Hill thoroughfare. The smaller blocks line the perimeter of the main site with the six-storey blocks rising in the interior. The whole layout was designed to blend with the open parkland to the south. A density of 20 dwellings to the acre was asked for by the L.C.C. Each six-storey block has a laundry, a covered playground at the lower ground level of its south wing, and pram and cycle store accommodation on the east and west sides of the main entrance at the same level. The high block has similar accommodation provided at lower ground-floor level of the south wing.

In the centre of the site is a community centre, on the terrace of which will be some sculpture by Harold Dow. The terrace and buildings are easily accessible from all parts of the site. Under one end of the hall are seven garages, taking advantage of the slope of the ground, and over the garages and to the east of the hall are the estates maintenance workshops and yard. Nearby is a fully-equipped children's playground. A smaller playground for the high flat block is provided on its island site.

The higher blocks are all similar in construction: flats roofs, 13½ in. load-bearing brick walls with reinforced concrete spine columns and floors.

Work on the site began in January, 1954. Consulting engineers: Ove Arup and Partners.



SITE PLAN
Housing: Hackney

HOUSING: HACKNEY

London County Council

The site, in Bentham Road, covers about ten acres. There are 379 dwellings: 210 contained in two identical eleven-storey blocks composed largely of maisonettes, and the remainder (houses, flats and maisonettes) in two-, three- and four-storey blocks or terraces. The maisonettes are of a new type with a frontage of only 12 ft. 3 in. Most of them have two bedrooms, but there are a small number of one-bedroom and three-bedroom types on the first and second floors of the high blocks. The ground floor of these is open except for tenants' stores and a workshop. There are two lifts, centrally placed. The maisonettes have balcony access, and over the balcony, on the upper level of each maisonette, is a narrow gallery as a secondary means of escape. On the other (south) side of the block are private balconies. Bathrooms, etc., are placed in the centre of the block longitudinally and are artificially lit and ventilated by a mechanical extract system. The other accommodation besides the two high blocks consists of 30 two-storey houses, a block of 21 two-room flats and six four-storey blocks of four-room maisonettes. More than half of these have private gardens. All dwellings without private gardens have a drying cabinet.

Construction of the high blocks is reinforced concrete on raft foundations. Ground floors have *in situ* concrete columns, bracing walls and beams; above are precast concrete frames and floor units, with wood-joist floors between upper and lower level of maisonettes.

External walls have precast concrete cladding. The two-storey houses and the four-storey maisonette blocks are of load-bearing cross-wall

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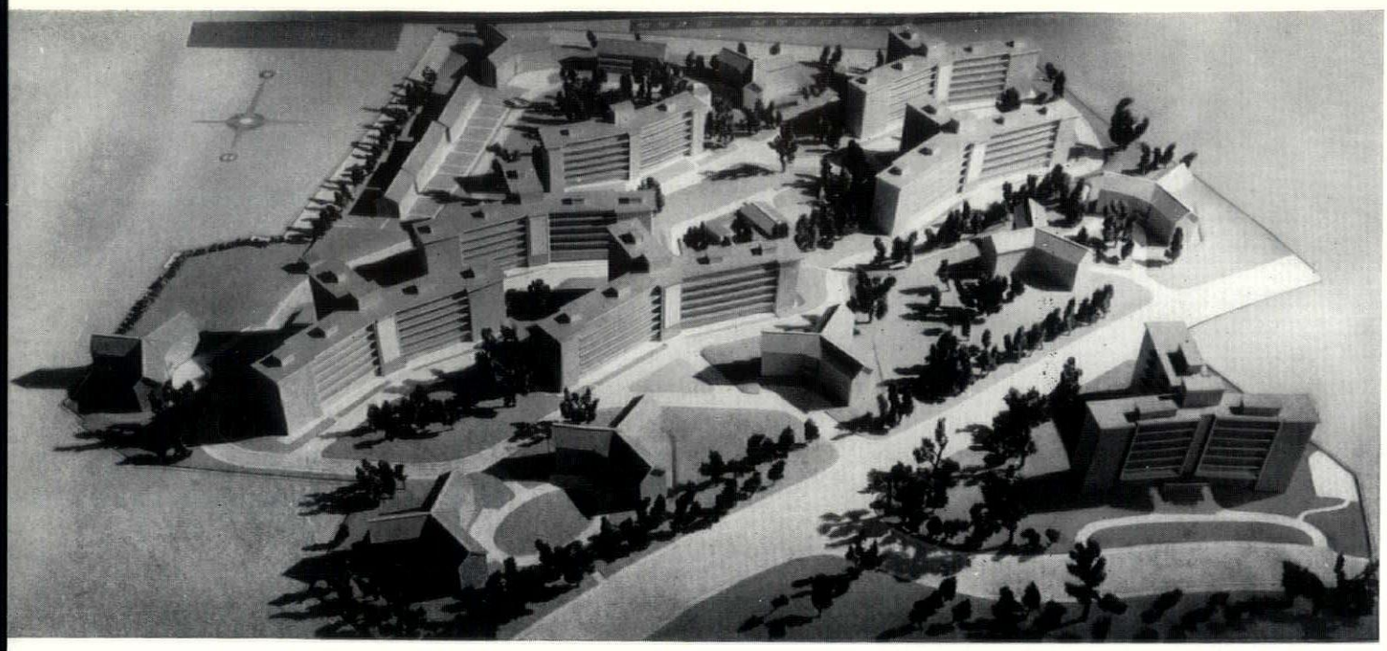
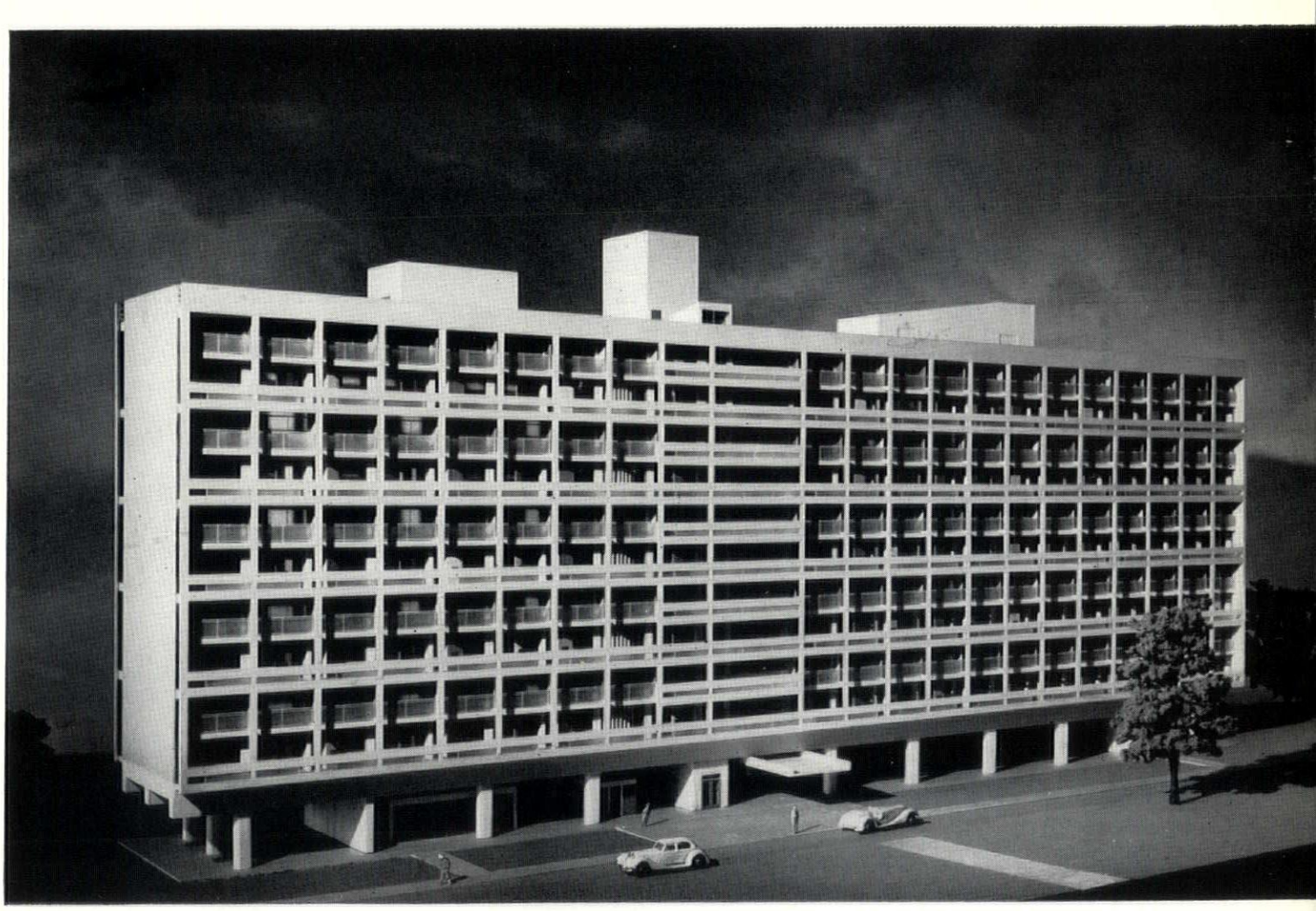
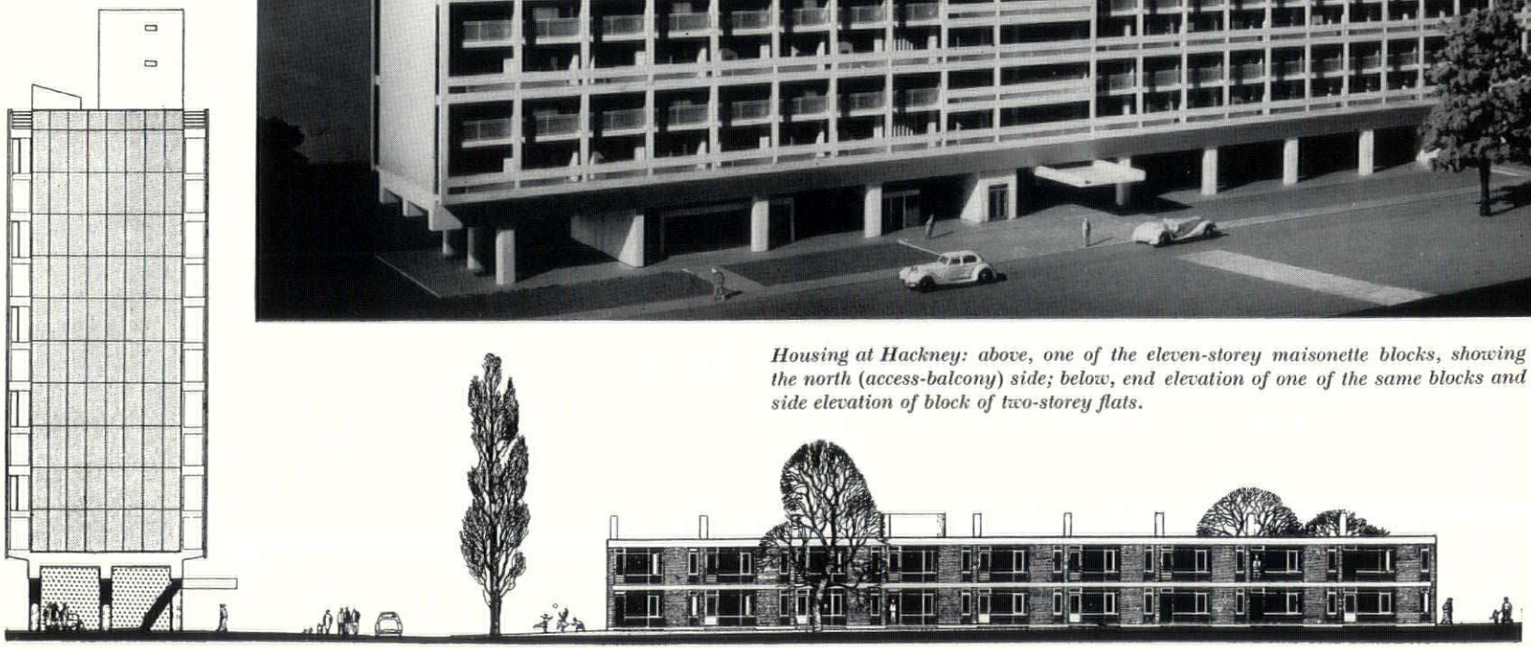


Left, flats at Sydenham Hill: aerial view.





Housing at Hackney: above, one of the eleven-storey maisonette blocks, showing the north (access-balcony) side; below, end elevation of one of the same blocks and side elevation of block of two-storey flats.

Police housing at Highgate: above, aerial view from the south-west; below, from the north-east.



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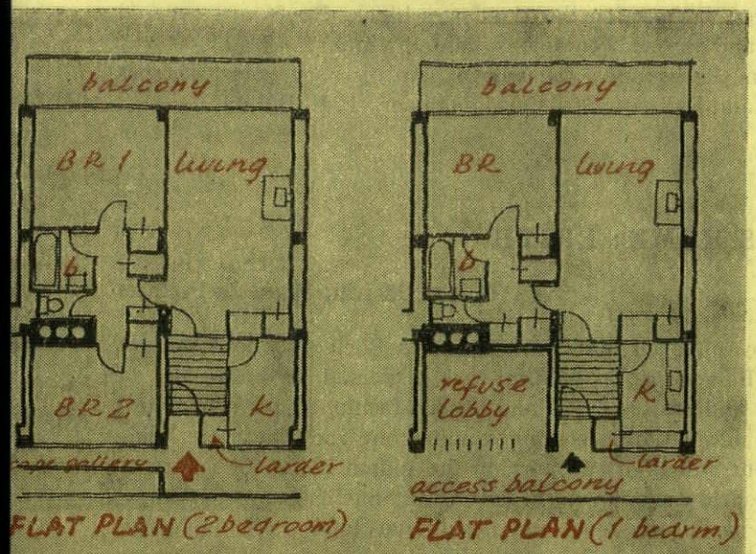
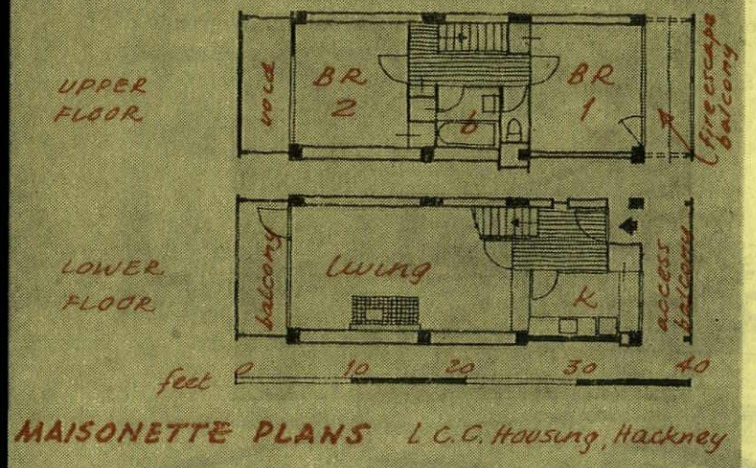
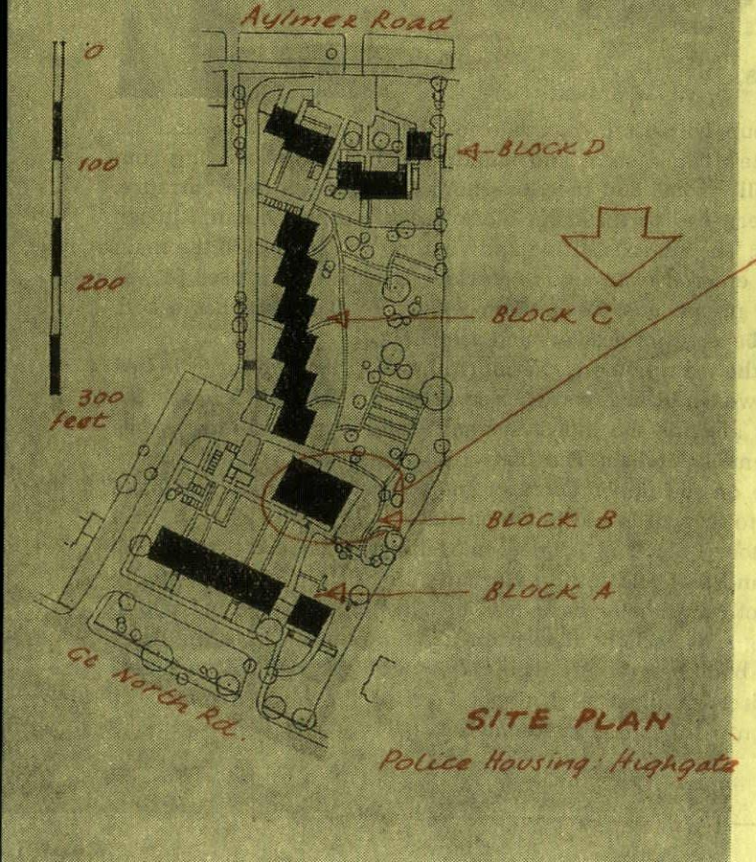
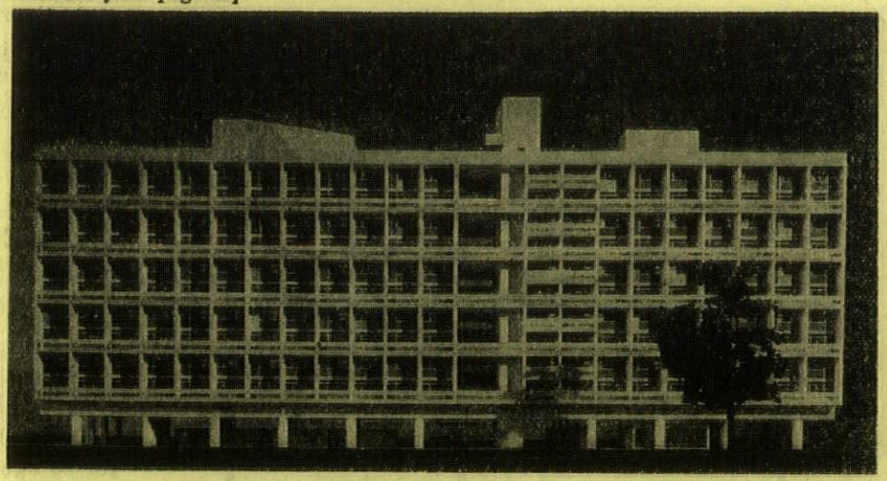








South elevation of one of the eleven-storey blocks.

construction. Solid fuel heating with back boilers is used throughout.

Work was scheduled to begin at the end of 1954. Architect to the Council: J. L. Martin. Architect in charge: C. G. Weald. Consulting engineer: F. J. Samuely.

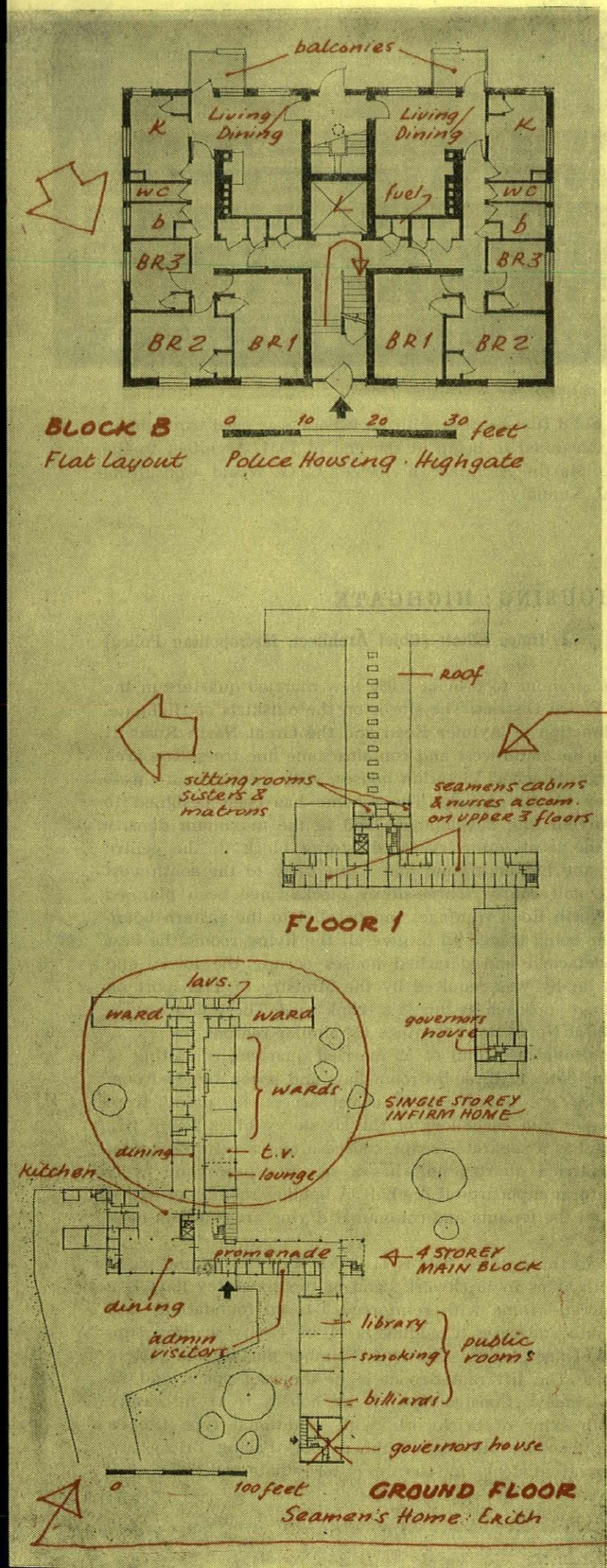
POLICE HOUSING: HIGHGATE

J. Innes Elliott (Chief Architect, Metropolitan Police)

Part of a programme to provide 5,000 new married quarters in the Metropolitan Police District. The site is on the outskirts of Highgate, close to the junction of Aylmer Road and the Great North Road. It falls steeply to the south-west and contains some fine trees. The area consists of large detached Victorian houses, with more recent three- and four-storey blocks of flats. The scheme has been designed to respect the surrounding development and to the maximum density agreed with the local authority. A six-storey block in the centre of the site on the higher ground has a fine view to the south-west over Highgate golf course. Three-storey blocks have been planned to the Great North Road frontage, and parallel to the eastern boundary, the latter being staggered to give all the living rooms the best aspect. Semi-detached and detached houses occupy the lower end of the site. A lay-by was required by the Ministry of Transport on the Aylmer Road approach as this is a trunk road. There is a service road on the Great North Road frontage for similar reasons.

The scheme provides a total of 52 married quarters, consisting of 33 two-bedroom flats, 12 three-bedroom flats and seven two-bedroom houses. The flats are planned with direct access, in pairs, from internal staircases and each floor of the six-storey block has a lift. This block also has a separate escape staircase and a refuse disposal chute. Each married quarter unit has a separate pram and cycle shed and a uniform cupboard off the hall. A hobbies room is provided for the use of all the tenants and communal drying areas adjoin each block.

Construction of three-storey flats is 11 in. cavity external and party walls, with both skins in brickwork; and of the six-storey flats is a reinforced concrete frame with reinforced T-beam foundations and *in situ* floors and staircases. Cladding is 11 in. cavity walling supported on nibs of floor beams. The roof is timber purlins and rafters on steel trusses. The lift motor-room is in the roof space and lit by a dormer window. Construction of the houses is 11 in. cavity walls with both skins of brickwork, with traditional type timber first floor and trussed rafter-type timber roof. Facing bricks are golden brown mottled stocks for the three-storey flats and the houses



and silver grey facings for the six-storey block. Roofs are covered with pantiles and exposed concrete is painted white.

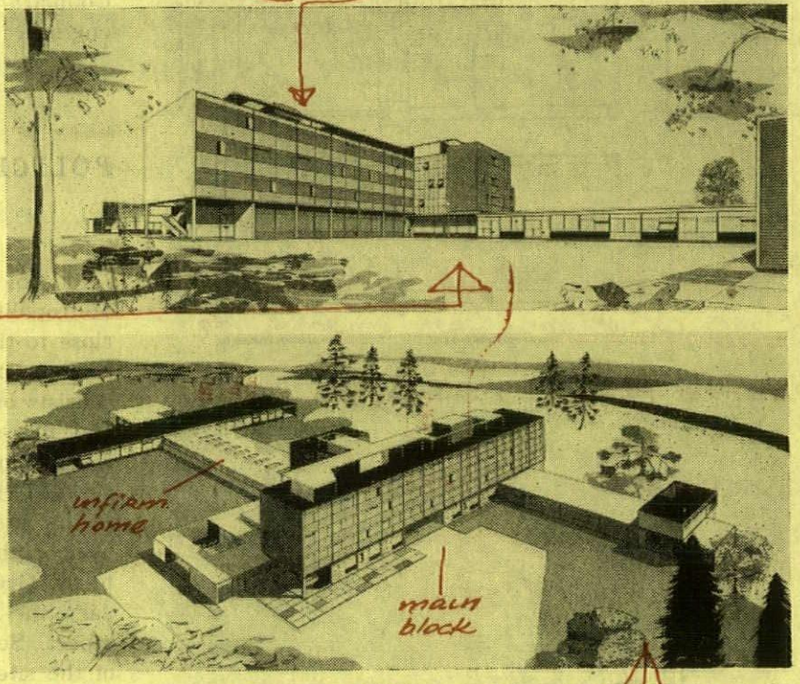
Architect in charge: S. J. Hauchet. Quantity surveyors: Thomas Barrett, Sons and Partners. Structural engineer: F. R. Bullen.

SEAMEN'S HOME: ERITH

Gollins, Melvin, Ward & Partners

For the Royal Alfred Merchant Seamen's Society, whose present buildings at Belvedere, Erith, Kent, are dispersed on both sides of a public road and are too small and too old-fashioned for economical running. The new building combines under one roof the main home for 80 aged but ambulant seamen and the infirm home for a further 48 who are bedridden or in need of constant medical supervision.

The site is practically level and lies in parkland, with fine trees, on the edge of a ridge overlooking the Thames Estuary. On the upper three floors of the main home are 80 seamen's cabins in groups of



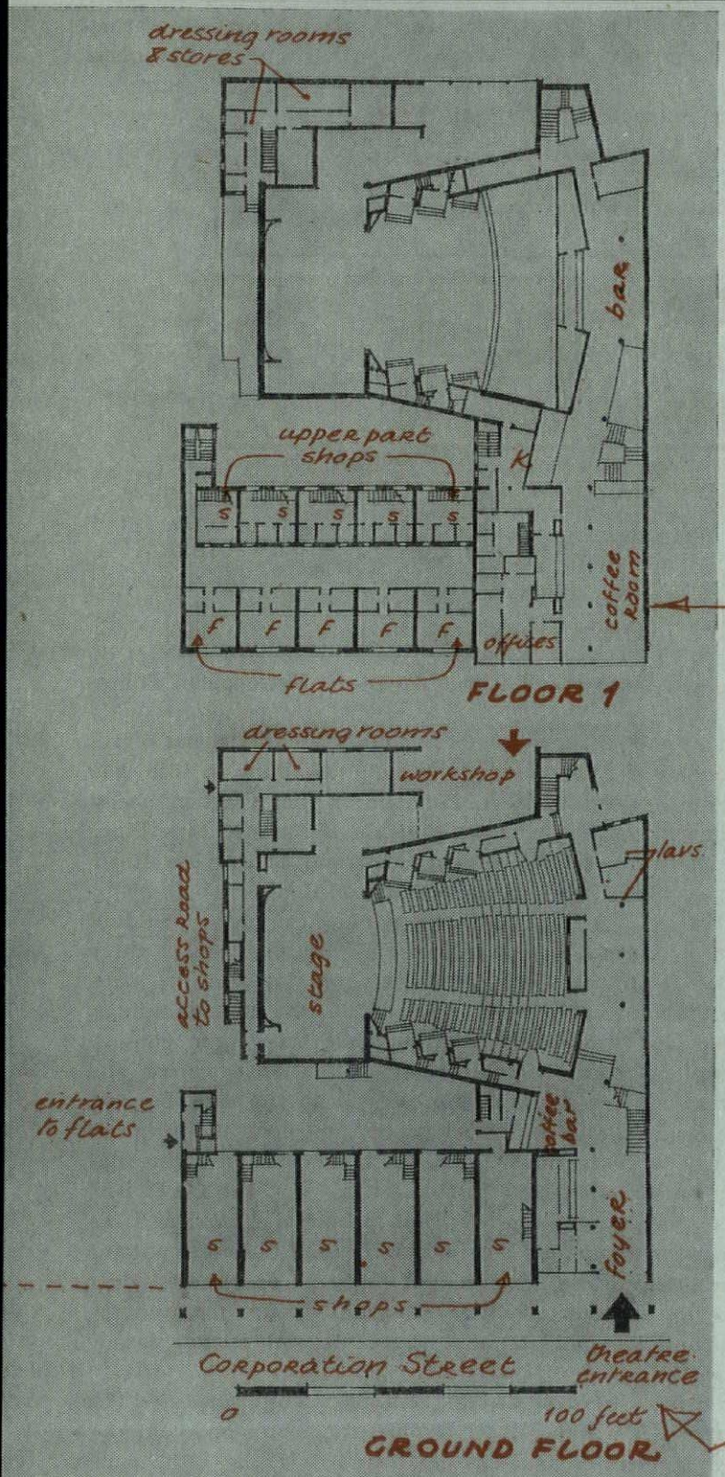
ten, each group with its own lavatories, bedrooms for the domestic staff, the mate's flat, a store and laundry rooms. A lower wing contains the public rooms and the Governor's flat with its own entrance. At the northern end of the main block are the dining room, kitchen and serveries. The administrative and visitors' rooms, beside the main entrance, are entered from a wide corridor which will be used in wet weather as a promenade. Each cabin is 7 ft. by 9 ft. and has a bed, fitted wardrobe, chest of drawers and armchair.

Adjoining the main home is the infirm home, with two large 16-bed wards and two eight-bed wards. Serveries for food-trolley service to the wards and for the infirm seamen's and nurses' dining rooms adjoin the central kitchen. The matron's, sisters' and nurses' accommodation are on the upper floors of the four-storey block and have access direct to the wards and to the outside.

The four-storey block is framed in reinforced concrete with fireproof floors and roof and faced externally in brick. The single-storey sections of both the homes have load-bearing brick walls and where there are long spans a light steel frame. The boiler-house in the basement serves both homes. An incinerator will receive refuse direct from the staircase hall on each upper floor of the main home.

Construction will begin next summer.

5 PUBLIC BUILDINGS

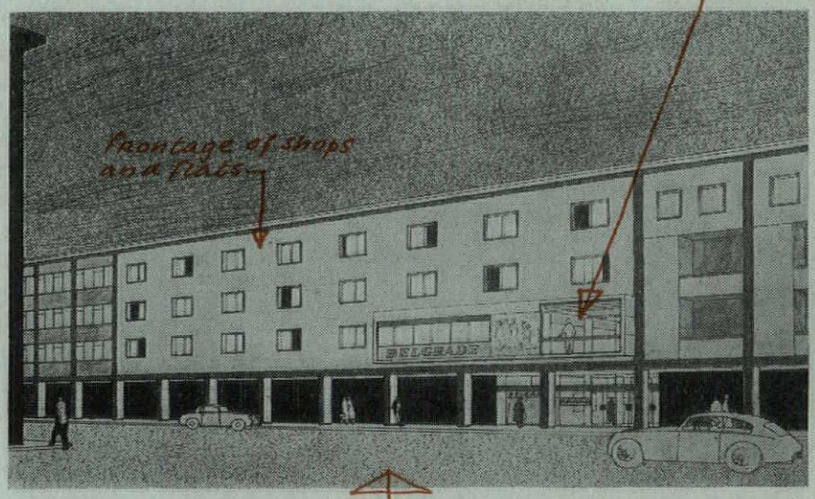


THEATRE: COVENTRY

D. E. E. Gibson (City Architect)

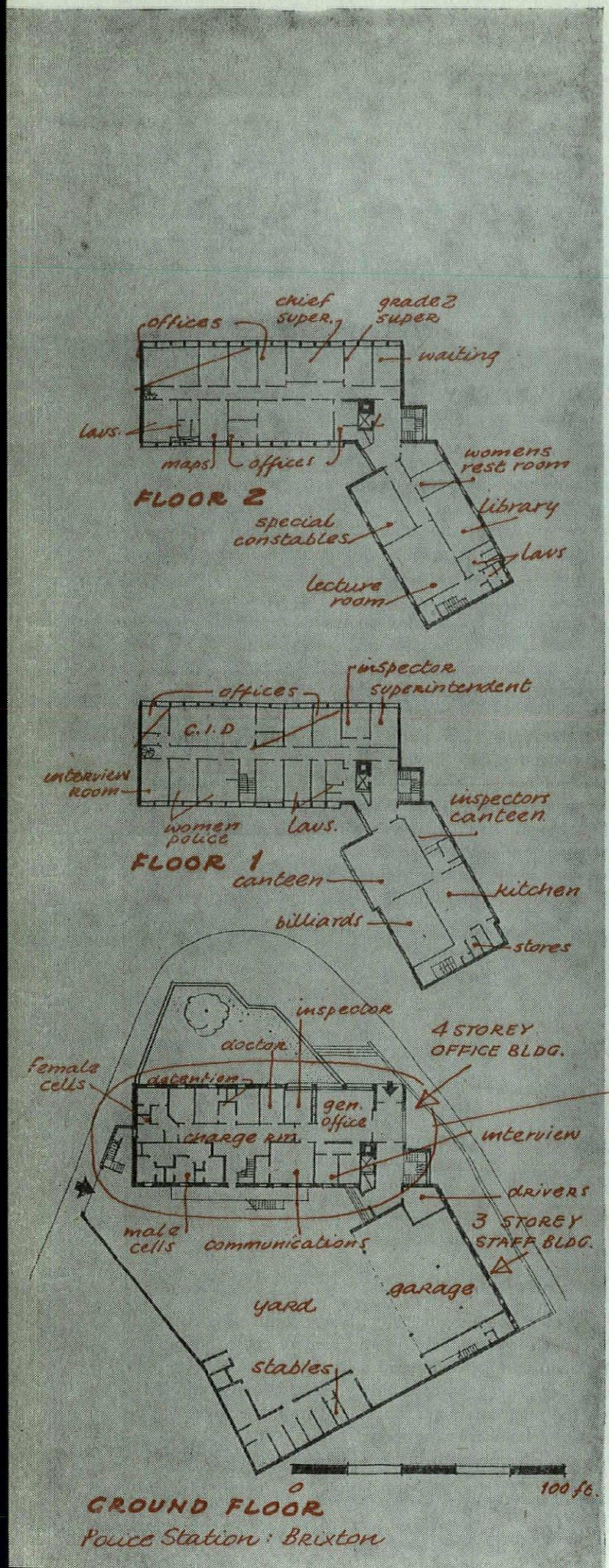
The Coventry development plan envisaged Corporation Street as the entertainment centre of the city. This civic theatre, with its façade of six shops and twenty-one single-room flats, will be the first post-war development of a permanent nature in the street. It will replace some temporary shops erected after the blitz. The theatre has been designed principally for straight plays, other types of theatrical entertainment being already provided for in the city. The site is practically level, but consists of made-up ground, with a high water table. Piles are necessary to transmit loads to the sandstone bed some 15 ft. below ground level. The theatre has been designed to seat 911 persons—367 in the circle, 496 in the stalls and 48 in 12 boxes. "Front of the house" accommodation includes a small coffee bar adjoining the ground-floor foyer, which gives access to stalls and the lower tier of boxes. On the first floor is a large coffee room overlooking Corporation Street, to be used as the Theatre-goers Club room and for morning coffee. The theatre bar is at the same level and occupies the space under the balcony.

The stage and fly tower contain a single-purchase counterbalance weight system. Adjoining the stage is the paint frame, the stage



workshop, and the electrician's workshop. Stage lighting is remotely controlled by a console switchboard in the control room behind the stalls. There are six dressing rooms and a dual purpose chorus room giving accommodation for a cast of thirty. Microphones and loud-speakers connect the stage manager, on stage, the stage director, the control room and the artists' dressing rooms.

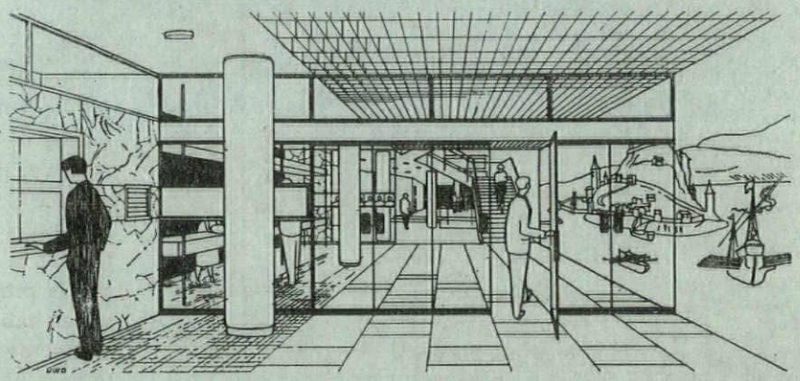
Construction is steel frame with brick panels. The shops with their



stores at first-floor level, and the flats, the workshops and the dressing rooms are load-bearing construction. The Corporation Street façade is of brick. Windows of the sliding type are used for the flats, surrounded by travertine. The outside of the covered shopping arcade has a Westmorland slate face and is lined with travertine. The projecting window of coffee room and administration offices are also faced with travertine. The external finish of the auditorium and the theatre buildings is for the greater part of brick, with rendering in certain places. The auditorium is lined with plywood panels. The floor is cork under seats and the gangways carpeted.

Mr. Martin Froy the painter has been nominated by the Arts Council and the Coventry Corporation to collaborate with the City Architect on the interior decoration of the theatre. The city of Belgrade presented Coventry with 60 standards of mountain-grain softwood for use in the construction, and a plaque commemorating this gift has been unveiled by Yugoslavian visitors to Coventry. The theatre will most likely be known as 'The Belgrade Theatre'.

Construction is expected to begin this month.



POLICE STATION: BRIXTON

J. Innes Elliott (Chief Architect, Metropolitan Police)

To house under one roof the district headquarters, divisional offices and the police station. The present police station, built in 1856, had outlived its usefulness and had been damaged by enemy action, necessitating the temporary transfer of the divisional offices to Nine Elms. The site is at the junction of Gresham Road and Canterbury Road, Lambeth, with a considerable frontage to Brixton Road.

Accommodation is in two main blocks: a four-storey office building facing Brixton Road and a staff building in Gresham Road three storeys high, the two blocks being linked by the stair and lift halls. Stables are in the yard at the rear, remote from the main buildings. On the ground floor of the office building are the public enquiry office with interview rooms, communications room, charge room and doctor's and matron's room in close proximity to the cells beyond. The remainder of the station offices are on the first floor and comprise rooms for the chief superintendent with his chief inspector and clerks, for women police sergeants and constables and for the C.I.D. The second floor is given over entirely to the divisional offices, and the district headquarters occupy the third floor. The staff building contains garages on the ground floor, kitchen and canteens on the first floor and special constables' room, reading room and lecture room on the second floor. The basement contains the divisional stores, parade room, lavatories, boiler room, drying room, etc.

Sub-structure, frame and floors over are reinforced concrete. The design of the offices is worked to a 11 ft. bay for beams and columns. The mullioned window framing is in Portland stone with panel infilling between window head and cills in quartzite or slate. The

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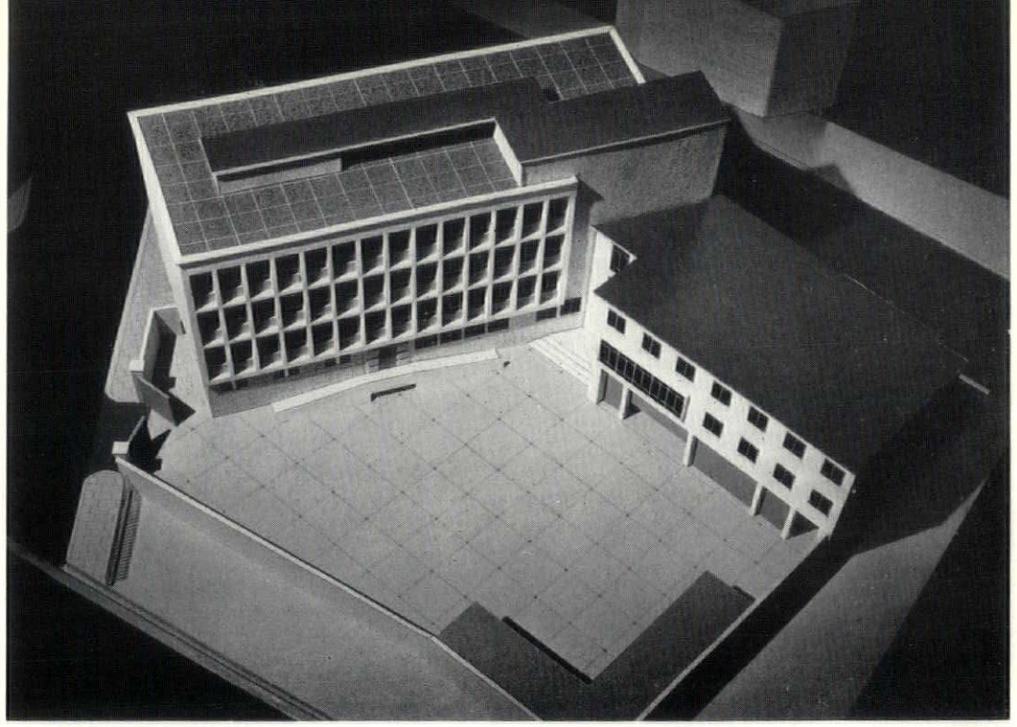
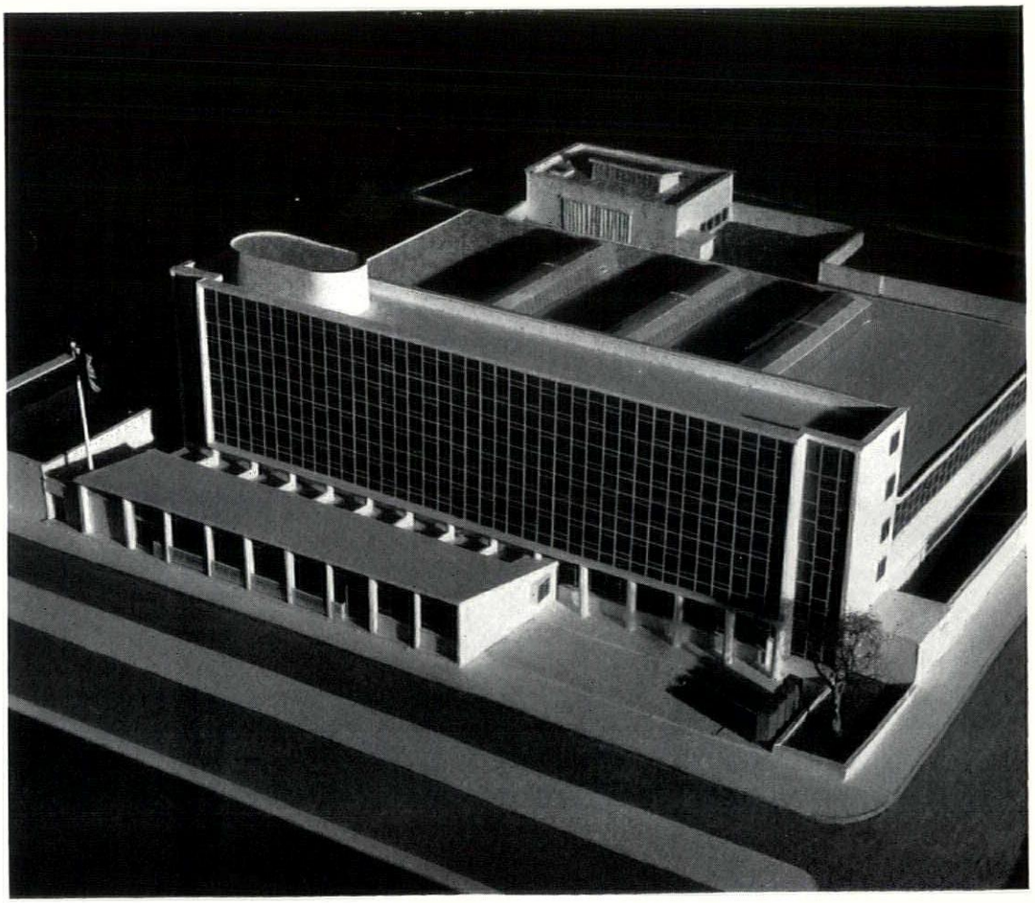


Police station at Brixton: right, looking down into the courtyard behind the four-storey office block, with the staff building above the garages on the right; below, the entrance front of the office block.

Luton post office: above, the Dunstable Road front, with the single-storey public office and the administrative building rising behind; below, looking down on the site showing the sorting-office behind the administrative block.



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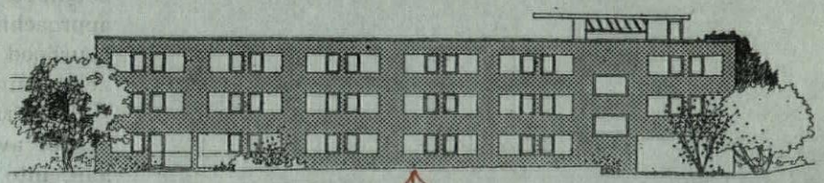
lower part of the building is in coursed stone slightly bolstered on the Brixton Road frontage. The lower part of the canteen block in Gresham Road and the walls of the staircase enclosure are in 2 in. Ancaster stone slabs fixed to fletton brickwork. Heating is by ceiling panels. Ventilation is natural, except for the cells, ground-floor offices and basement, which are served by mechanical extraction.

Construction is expected to begin in September, 1955. Deputy chief architect: C. R. Fowkes. Architect in charge: D. T. Edwards.

POLICE BUILDINGS: MAIDSTONE

Richard Sheppard and Partners

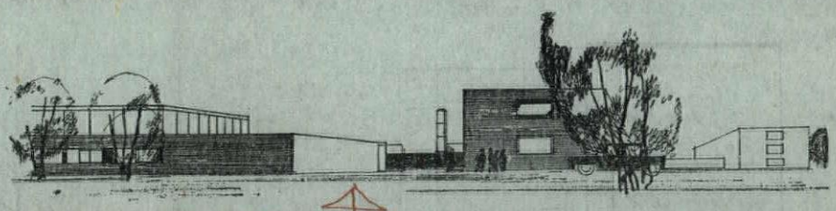
To accommodate the traffic control centre, together with normal police garaging, etc.; a driving school with workshops, garages and classrooms; a hostel to accommodate students who will come to take courses in driving and maintenance and traffic control. The



Above, west elevation of hostel block; below, view from main road.

site, just outside Maidstone, is bounded on the west and south by the existing police headquarters and police housing. It slopes gently to the main road on the north. Trees have already been planted along the north and west boundaries. It will be built in two stages. The first comprises workshops, stores, paint shop, welding and greasing shop, washdown, etc.; garages for police staff cars; boiler-house and fuel storage; and the office block, which includes traffic control centre, with rooms for officers and instructors. The second stage consists of a three-storey hostel with bedrooms, recreation room and ancillary rooms for 44, and three classrooms.

The office block and hostel block are constructed in load-bearing brickwork with *in situ* concrete first floors and timber-joist flat roofs



covered with wood-wool and three-ply felt. The workshops and garages are steel framed, with brick curtain walls and aluminium roof decks covered with three-ply felt. Finishes in the workshops, garages, etc., are painted brickwork, exposed steelwork and untreated aluminium deck ceilings. Windows are aluminium patent glazing or metal set in wood frames, and floors granolithic. The office block and classrooms have purpose-made metal windows.

POST OFFICE: LUTON

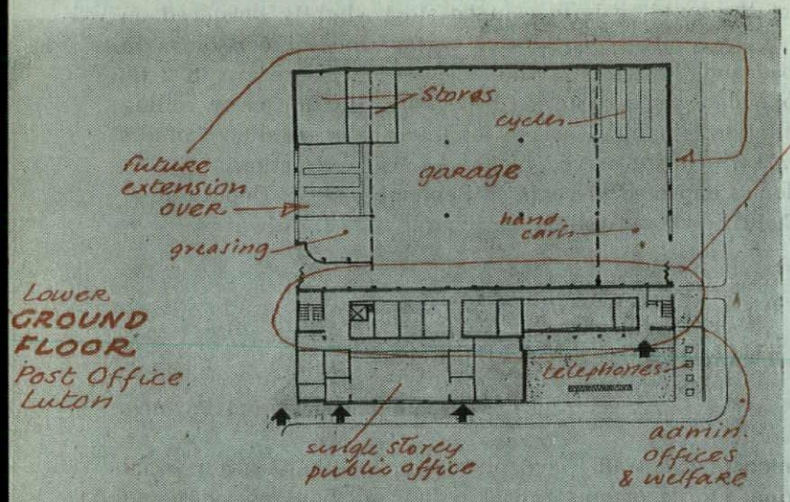
Ministry of Works

A head post office and sorting office. The site is in Dunstable Road, with a frontage of about 130 ft. The accommodation is in three parts: the public post office—a single-storey building fronting Dunstable

Road with a counter 48 ft. long and enquiry, accounts and clerical rooms; the administrative offices and welfare department—a five-storey block including offices for the head postmaster and a telegraph-instrument roof, and the sorting office and garage. This has an area of about 19,000 sq. ft., with a loading bay 180 ft. long in the yard at the rear. The garage for the post office vans is beneath the sorting office and reached by ramps at either end.

Construction is reinforced concrete frame with concrete and glass panelled infilling. Flank walls are of brick and stone.

Senior architect in charge: T. F. Winterburn.



COMMUNITY BUILDING: STEVENAGE

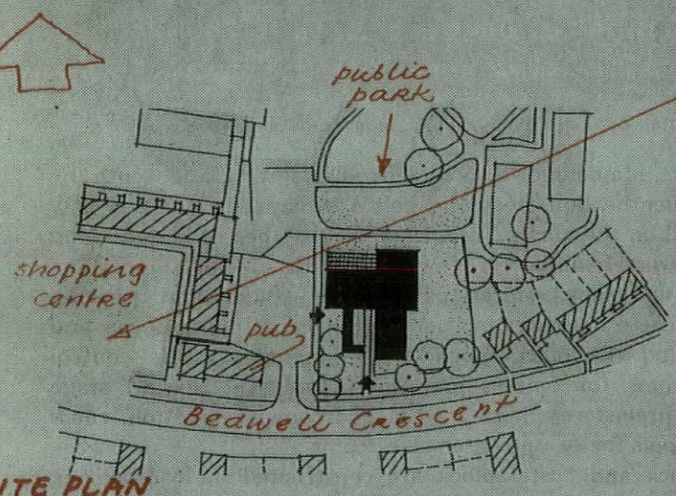
D. P. Reay

To provide for the cultural and recreational needs of Bedwell neighbourhood in Stevenage new town, which has a population fast approaching its optimum of ten thousand. The site adjoins the neighbourhood shopping centre and public house, with views on to the neighbourhood park.

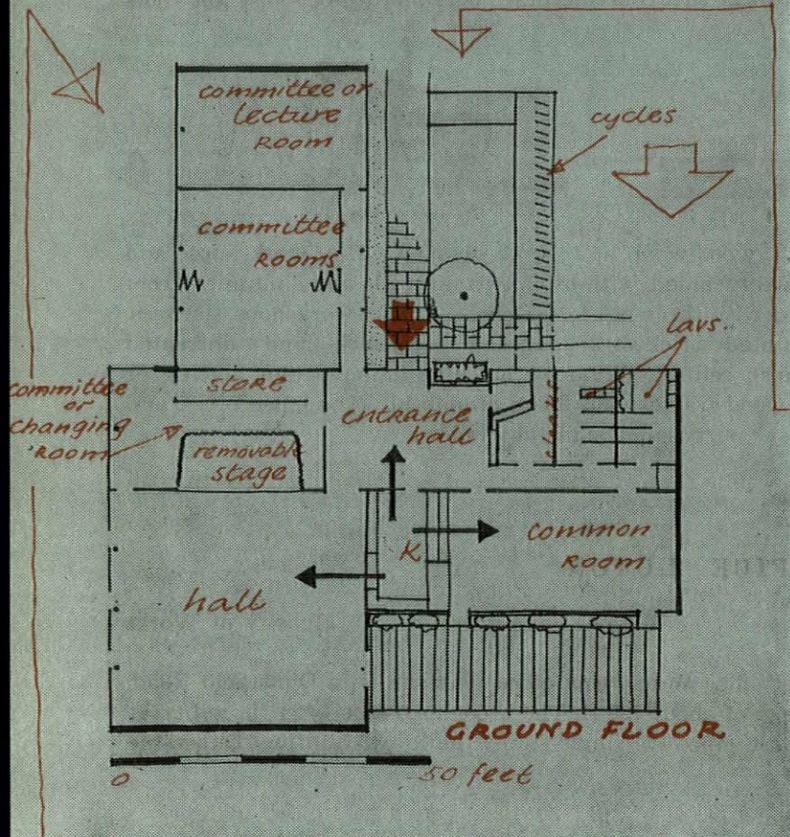
The form of the building is dictated by the need to make the most use of available space and to divide it, by means of the entrance hall, into three main components: main hall, common room, committee room, so that each can be used and heated separately. This flexibility is achieved by dividing two committee rooms by sliding-folding partitions and using the third as a stage space and changing room during dramatic productions. The stage is removable. The kitchen is planned to serve the main hall, common room and entrance hall, which is large enough to be used as a lounge.

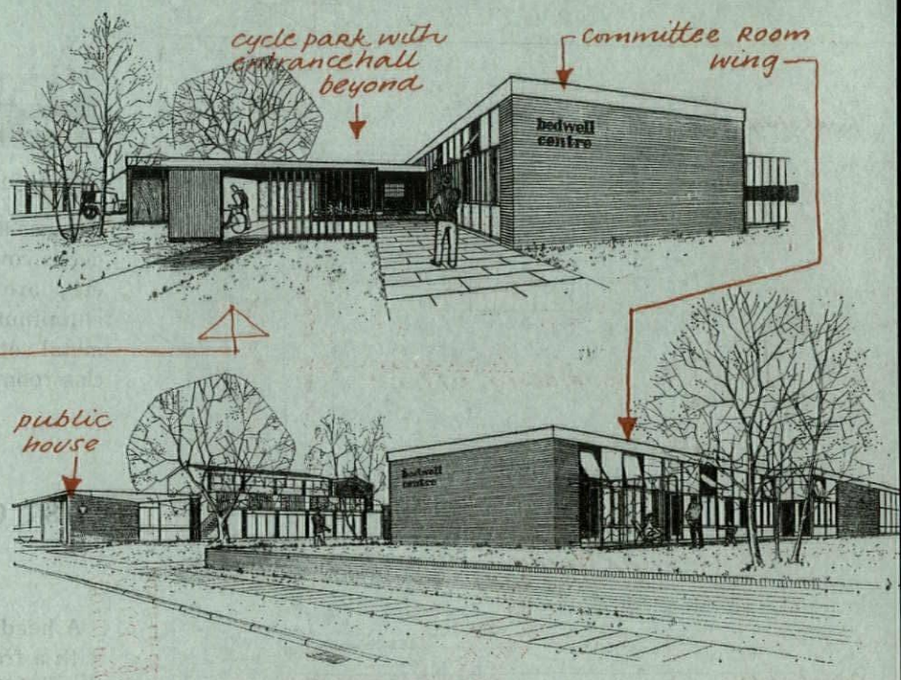
Construction consists of steel stanchions on mass concrete bases, and light lattice beams with panel wall infilling and facing bricks on end walls. The floor is solid with parquet or hardboard in the hall and common room. The roof is of asbestos trough units, insulation board and bituminous felt. Partitions are lightweight dry plaster board and lightweight block plastered.

It is expected that work on the community building will start in the spring of this year. Architect in charge: R. Gorbing.



SITE PLAN





The entrance and the view from Bedwell Crescent.

6 TRANSPORT

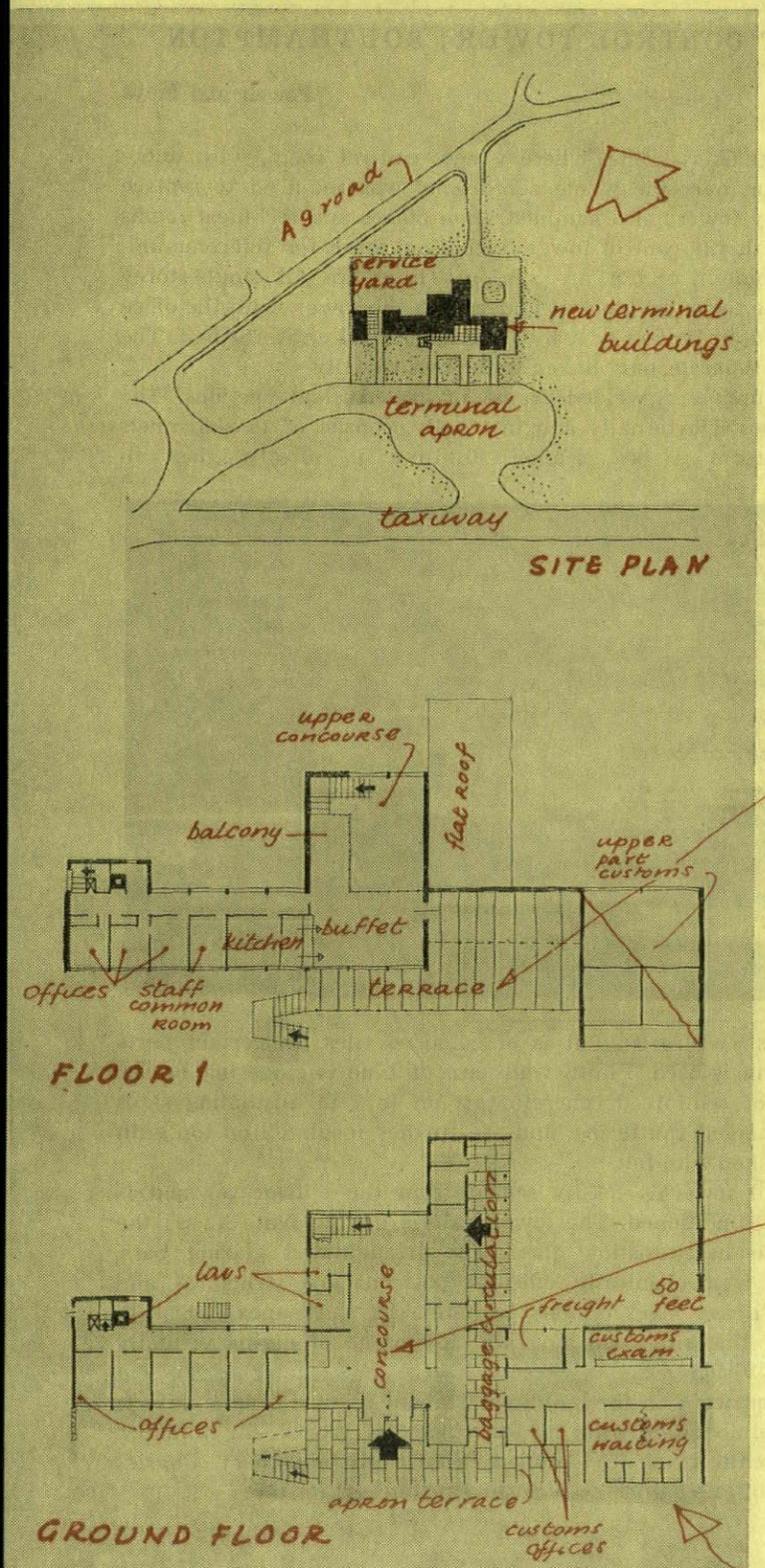
AIRPORT TERMINAL BUILDING: EDINBURGH

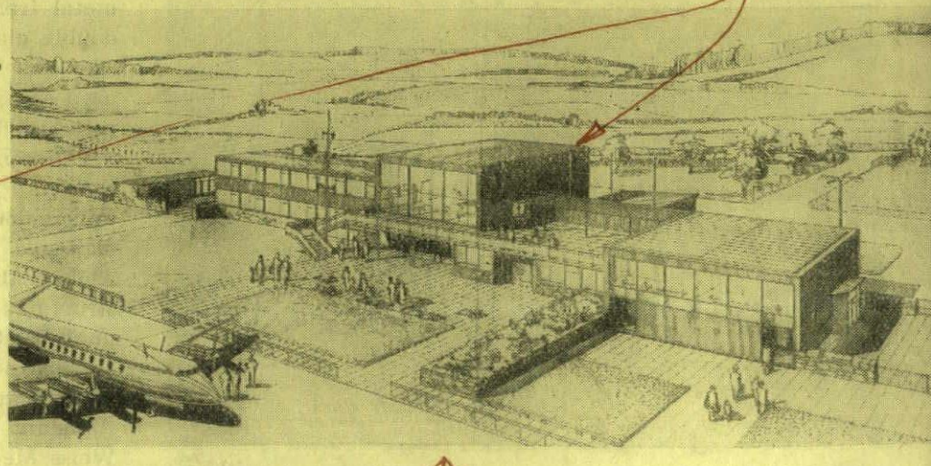
Robert H. Matthew

Passenger terminal at Turnhouse Airport, for the Ministry of Transport and Civil Aviation. The present terminal facilities at Turnhouse are provided in buildings now required for military purposes. The site for the new building, approximately a quarter-of-a-mile west of the main entrance to the airport, was selected with the object of achieving complete segregation of civil from military activities.

The main element in the scheme is a two-storey concourse which has traffic offices, processing counters and other passenger-handling facilities on the ground floor, with a buffet and bar on the first-floor balcony. Leading from the buffet is a spectators' terrace. East of the concourse, and separated from it by customs offices and the baggage circulation corridor, is the customs hall, comprising an examination area and a waiting room, which can be divided by a sliding-folding partition to permit the simultaneous handling of outgoing and incoming passengers. Two storeys of offices west of the concourse house administrative staff and operating companies' staff. The oil-fired boilers serving the central heating system are contained in the basement of this block. The building has been limited in the first place to the size necessary for traffic of the immediate future, but the design has to permit of easy extension at a later date, if the traffic increases substantially. Allowance has, therefore, been made for the customs hall to expand to the east, the concourse to the north and the offices to the west.

Steel frame construction and welded steel portals are used for the concourse, with steel channels carrying soft-wood framing for wall cladding. First floor and staircase are of solid reinforced concrete. Steel purlins support soft-wood roof framing. External walls are of natural stone or blue engineering bricks to ground-floor cill level,





and the main wall cladding is vertical hard-wood boarding and soft-wood framing, with glass fibre insulation and inner linings of plasterboard, plywood or hard-wood strip. Roofs are of fully-supported aluminium sheeting on soft-wood boarding and rafters; the terrace surfacing is asbestos-cement tiles on asphalt. Ceilings are of acoustic tiles in the concourse and V-jointed fibre board elsewhere. Floor finishes are wood block in concourse, cork tile on concourse balcony and buffet, quarry tiles in lavatories and kitchen and thermoplastic tiles elsewhere. Windows are of mill finish aluminiumin hard-wood or pressed aluminium surrounds.

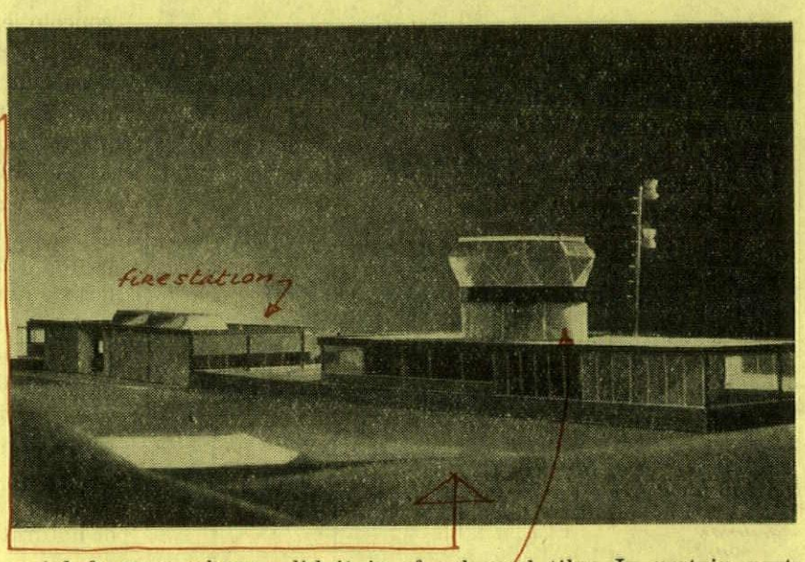
Construction began in August, 1954.

AIRPORT CONTROL TOWER: SOUTHAMPTON

Powell and Moya

At Eastleigh Aerodrome, where a new control room, with unobstructed vision over the whole aerodrome, was required to replace the temporary tower; also administration offices and technical rooms connected with the control tower, including space for telecommunications equipment, and a fire station. These are all single-storey buildings. The technical block is underneath the tower, with the office block alongside it, linked to it by a glass-enclosed entrance hall. The fire station is separate, only linked to the rest visually.

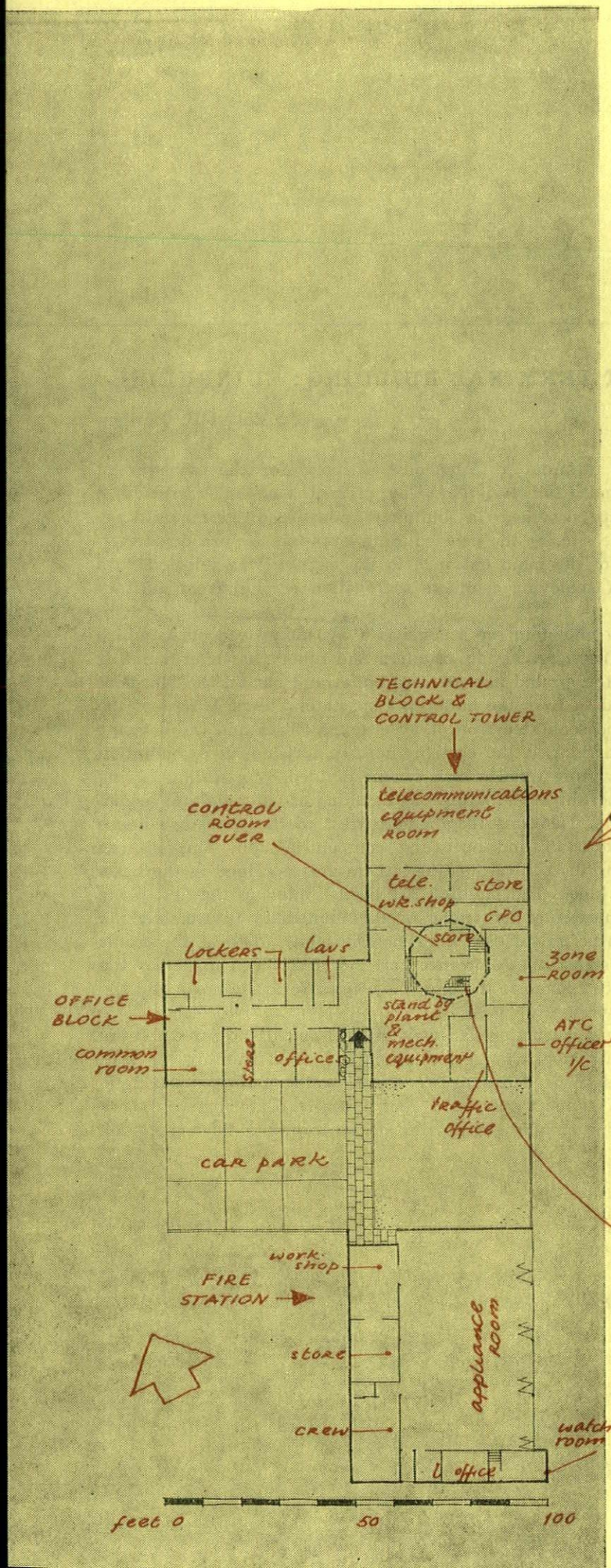
The structure is a welded frame of rolled steel sections. The columns, exposed externally and internally, consist of two channels welded to form a box section. Infilling is mostly glass in



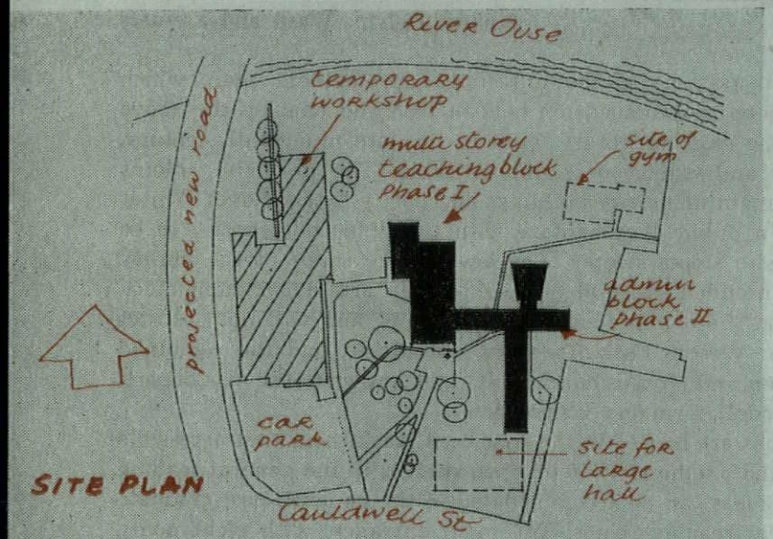
metal frames; where solid it is of coloured tiles. In certain parts double glazing is used. Plinth walls are of blue engineering bricks. The roof is of reinforced concrete cast on to 3 in. insulating slabs used as permanent shuttering, and are further insulated on top with cork and finished with felt.

The control tower is totally sealed from the outside air and is therefore air-conditioned. The lower half is double plate glass; the upper double heat-resisting glass. The triangulated glazing bars, arranged in a mechanically efficient pattern, are structural and replace the heavy steel cranked columns at each apex, usual in structures of this kind, and have the advantage of giving virtually unobstructed vision.

Construction work on the buildings is about to start. The architects worked in collaboration with the Directorate of Works, Air Ministry. Assistant architect: J. Calderhead. Structural engineer: Charles Weiss. Mechanical engineers: J. Roger Preston and Partners.



7 EDUCATIONAL

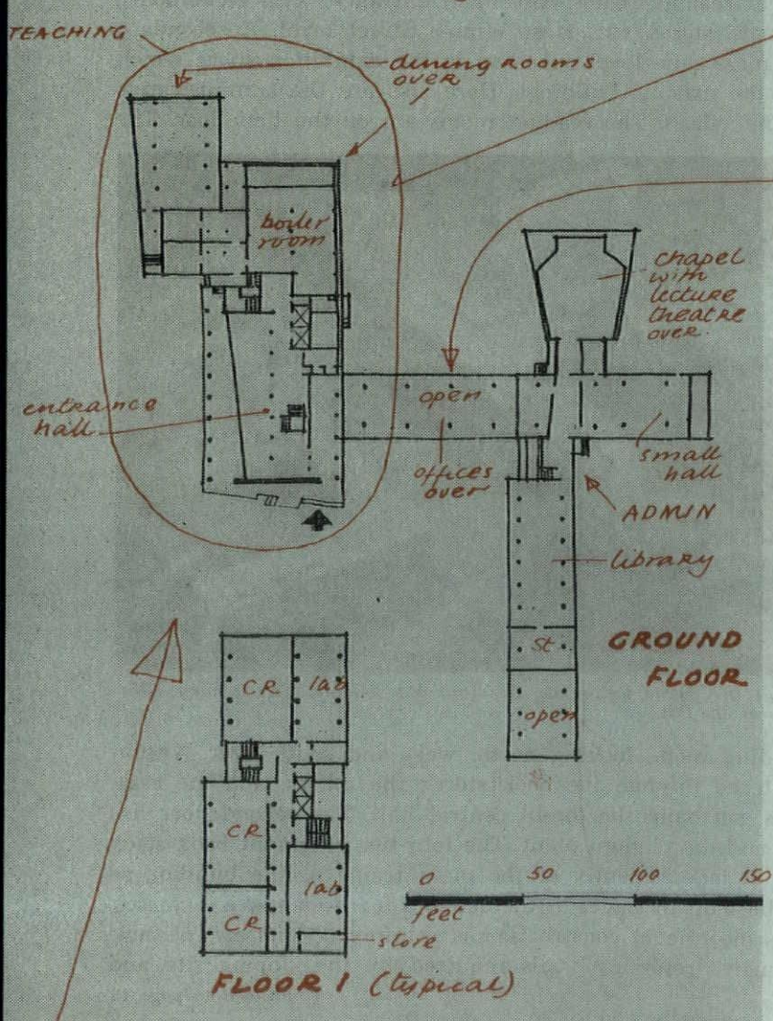


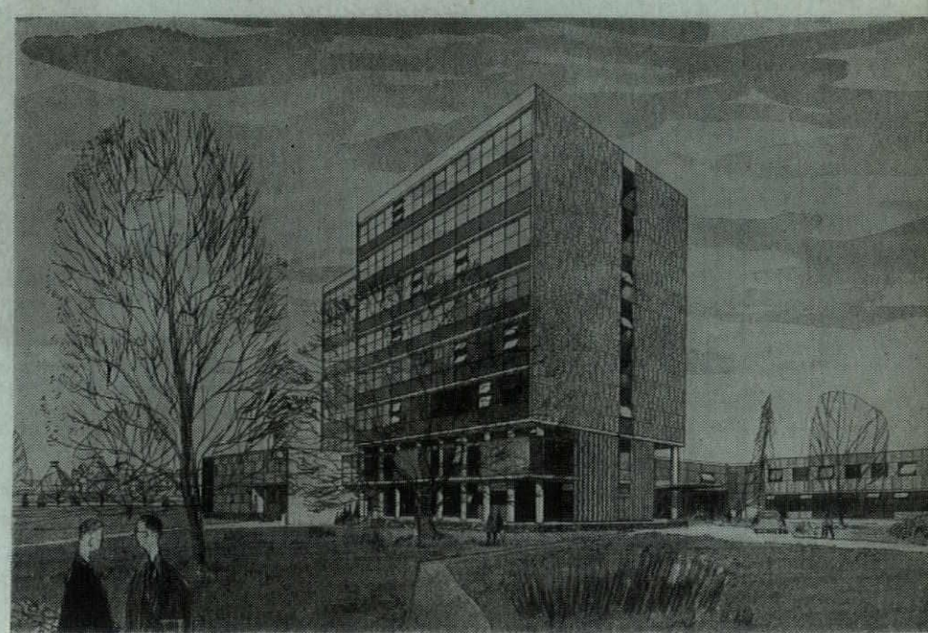
COLLEGE OF FURTHER EDUCATION: BEDFORD

S. Vincent Goodman (County Architect)

To serve north Bedfordshire. The site is on the south bank of the River Ouse, which flows through the centre of the town. Part of the site is already occupied by temporary buildings of aluminium and other construction forming a temporary College, and the design of the new building had to take these into consideration. The work has been phased to develop with as little disturbance of educational use as possible. This led to the provision of a multi-storey block as the main teaching centre, forming Phase I. Its completion will enable the existing temporary buildings to be released for use as workshops which will remain until they are replaced by permanent workshops facing the new road. The main goods entrance is provided here without disturbance of the College. From this nucleus will grow the other blocks to form the complete College. The accommodation for communal activities has been broken down into two groups; one group planned with the dining rooms, and the other with the library in a more academic atmosphere in the administrative block. Grouped together in the administrative block are the chapel, a small hall, lecture theatre, staff rooms, library and the administrative offices and committee rooms. This group is connected with the teaching block by a light glazed link permitting a view of the river from the south. The large hall is close to Cauldwell Street for easy access, and yet effective segregation when used by the public.

Construction generally is reinforced concrete frame with hollow





block reinforced concrete floors. Services are carried in main vertical ducts and branches lead along corridors in the false ceilings. End walls have exposed aggregate slabs and glazed tiles. The east and west elevations consist of steel windows from floor to ceiling, with patent glass panels backed by wood-wool in lower part. Columns have a granite aggregate exposed by grinding.

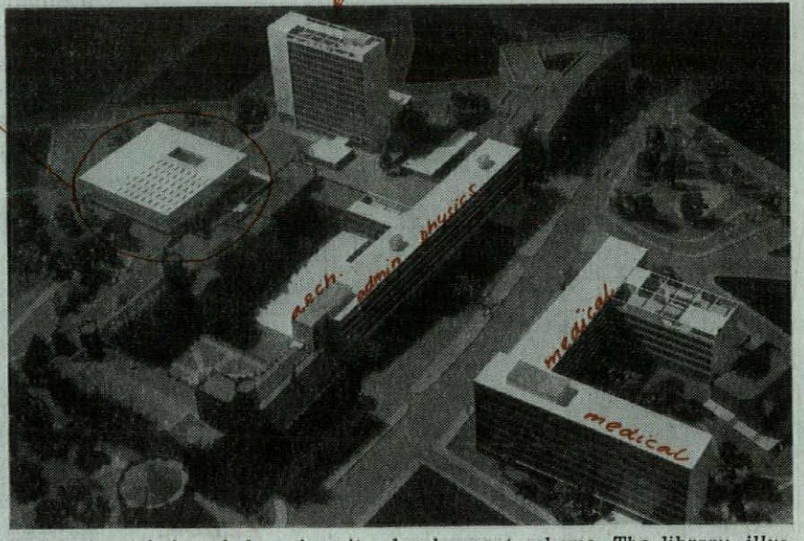
Work began in September, 1954. Deputy county architect: W. G. Walmsley. Assistants in charge: the late John H. Bramwell and Arthur W. Johns.

LIBRARY: SHEFFIELD UNIVERSITY

Gollins, Melvin, Ward and Partners

The first instalment of the university development plan, which was the subject of a competition held in 1953 and won by the above architects. The existing library, built in the late nineteenth century, is too small and extension is impracticable. The new site adjoins the existing main university buildings and partly extends over Winter Street, now a public thoroughfare with tramlines but shortly to be closed. The site slopes steeply. The low, square shape of the library building is intended as a foil to the 13-storey arts department block to be built on the opposite side of the campus, and will not obstruct its view over Weston Park. These two buildings, and the combined administration and physics building at right angles to the arts department (see model), form one composition.

850,000 books are housed in the basement stack-room (not accessible to readers) and another 150,000 on open shelves in the general reading room. 300 readers can be accommodated in the general, post-graduate and periodical reading rooms. The main entrance, with cloakrooms, cleaners' rooms, stores, etc., is at Winter Street level. A secondary entrance at mezzanine level opens on to the exhibition space which is linked to the existing buildings. Here also are the administrative and librarians' offices. The reading rooms are on the first floor. The



Aerial view of the whole university development scheme. The library, illustrated here, is on the left.

general reading room, looking north, west and south over Weston Park, is entered through the book store; the others, and the catalogue rooms, surround the top-lit central hall. The second floor has staff rooms and the plenum plant. The four-tier basement book stack is constructed independently of the main frame of the building so that it can be built in stages as the demand for book space increases.

Up to first-floor level construction is reinforced concrete, because of the extensive retaining walls required by the sloping site and

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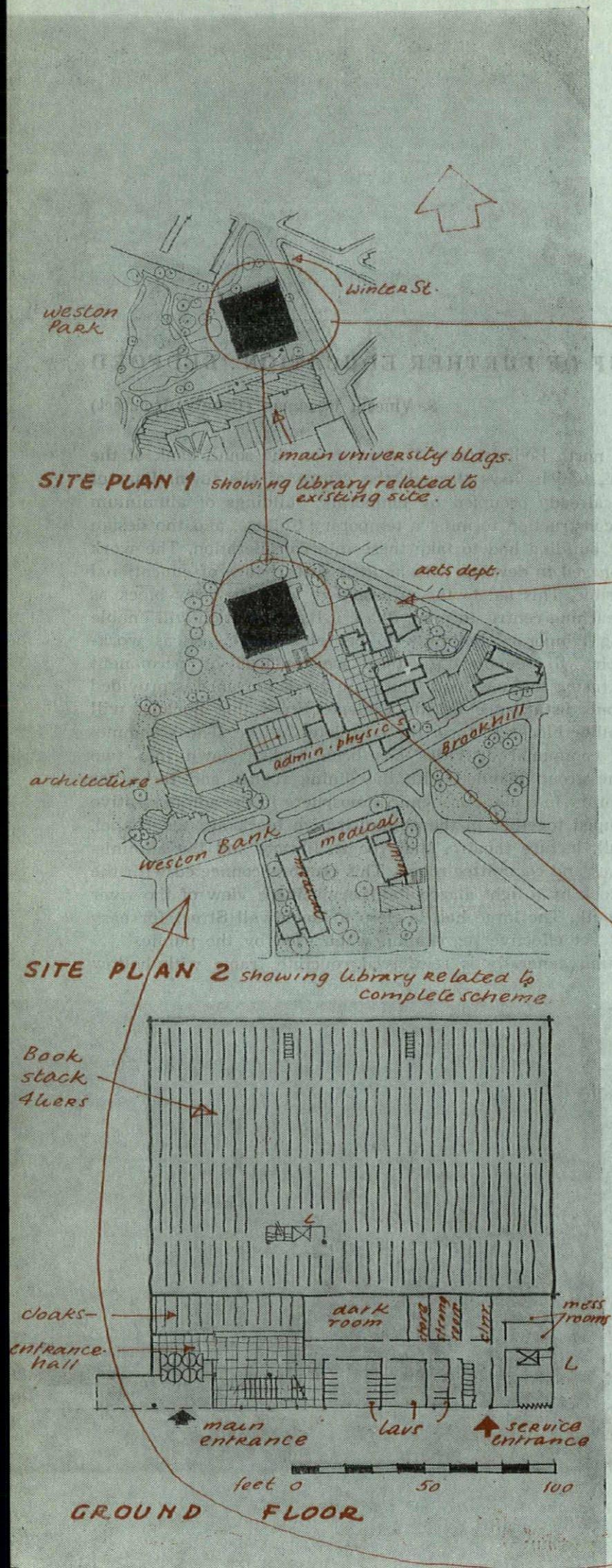
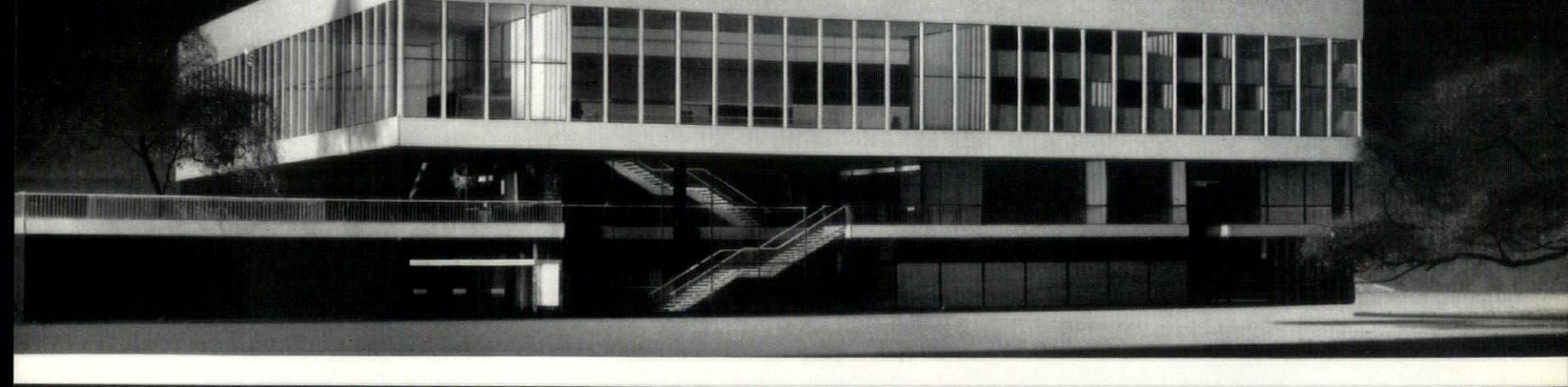
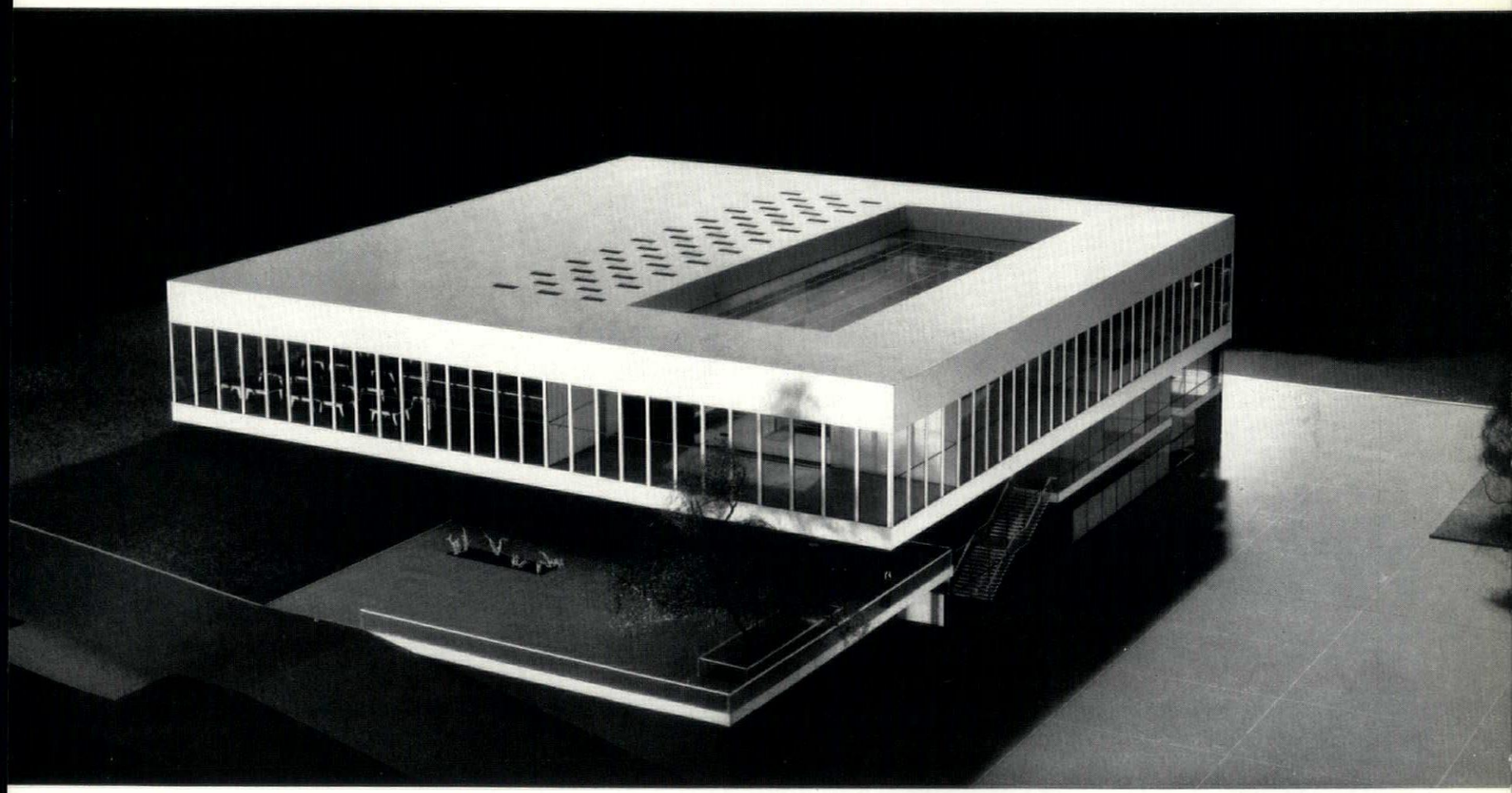
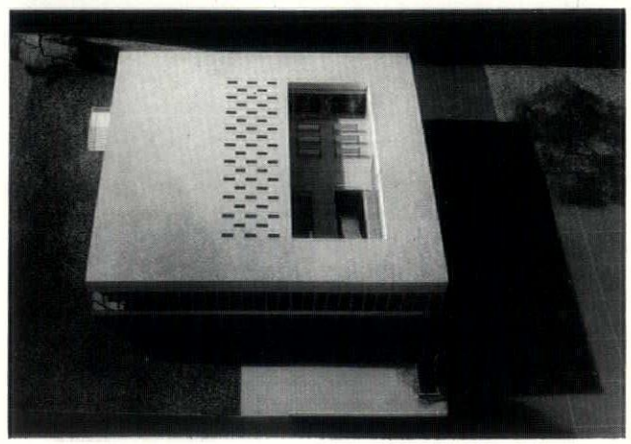


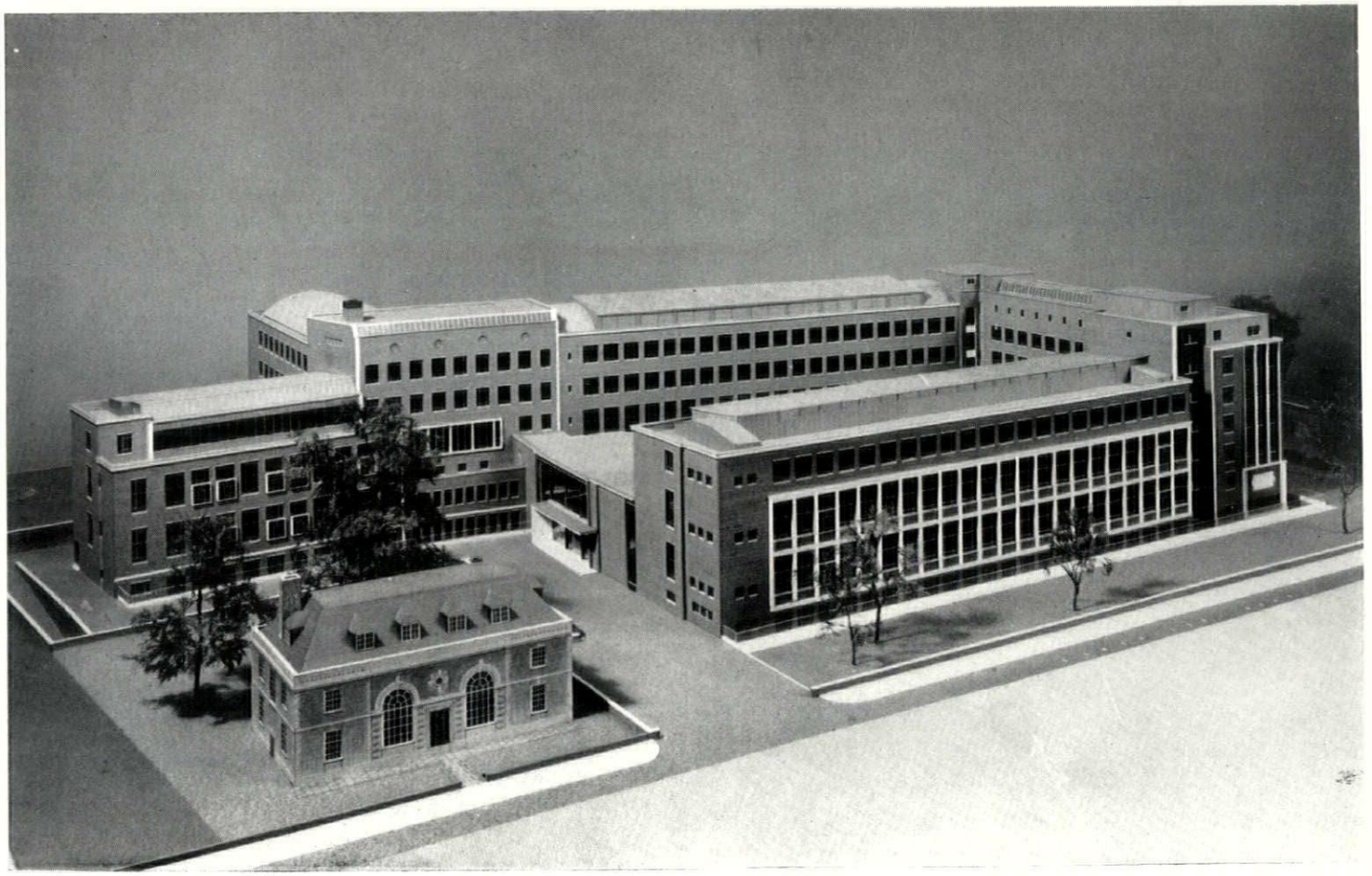




Sheffield University library: top, the entrance front; centre, view from existing university buildings; right, view from above showing top lighting of central hall.



Chemistry laboratories at Cambridge: above, main frontage to Lensfield Road; below, the whole scheme seen from above.



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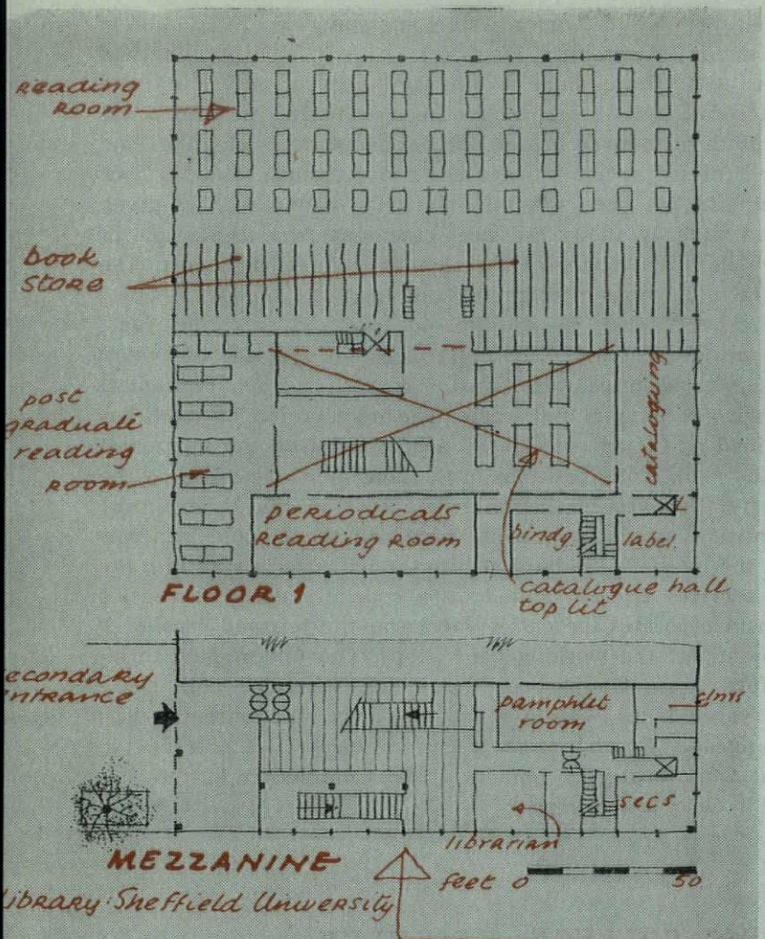
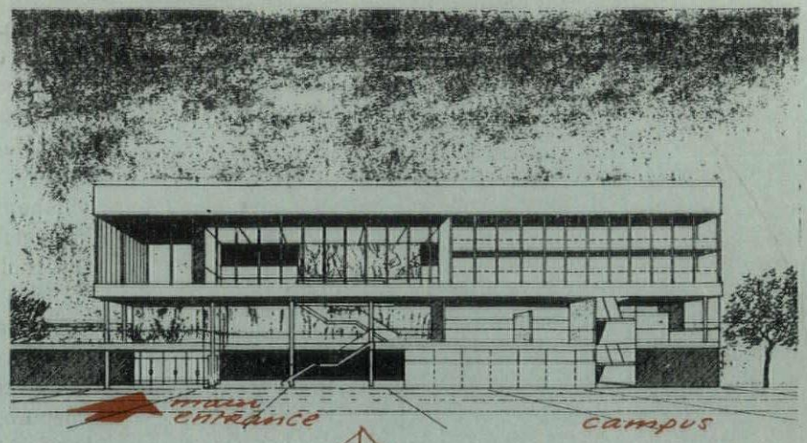




the depth of the basement book stack. Above, because of the greater spans required, a steel frame was preferred. Lattice girders span the general reading room, allowing space between the floor and a false ceiling for the ducts of the air-conditioning system. Below first-floor level the east (or campus) elevation is partly glazed and the other three faced with random-coursed Darley Dale stone. Above, each elevation has curtain walls of prefabricated metal with bronze mullions, with clear or obscured glass panels. At roof level is a horizontal band of polished granite. The halls on ground and mezzanine floors are paved with travertine and the walls panelled in hardwood. The staircase and first-floor catalogue rooms have a patterned floor of hardwood strip and marble, and walls veneered in hardwood. The reading room floors are of cork tiles. Shelving in the book stack is of the adjustable cantilevered metal bracket type, and in the reading room of pressed metal with solid ends.

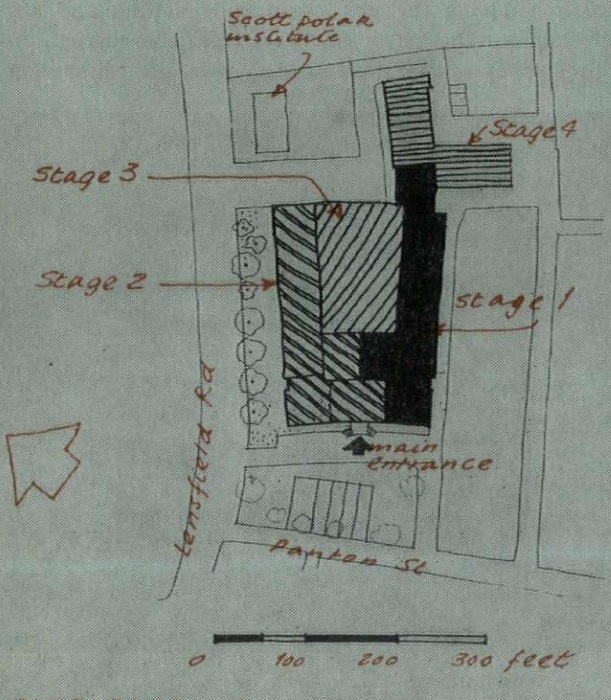
Construction will begin in the autumn of this year.

CHEMISTRY LABORATORIES: CAMBRIDGE

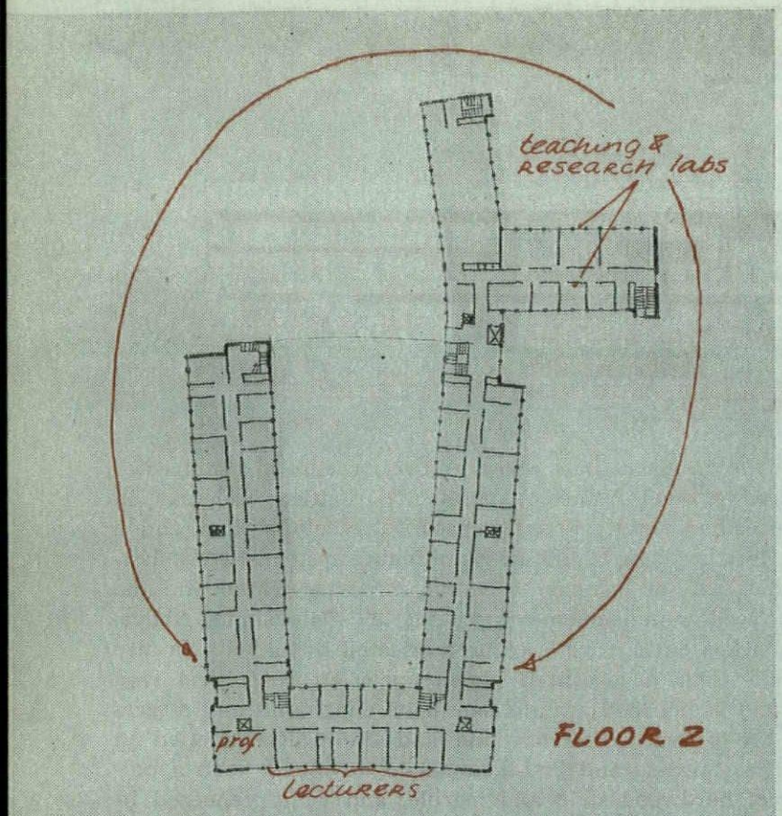
Easton and Robertson

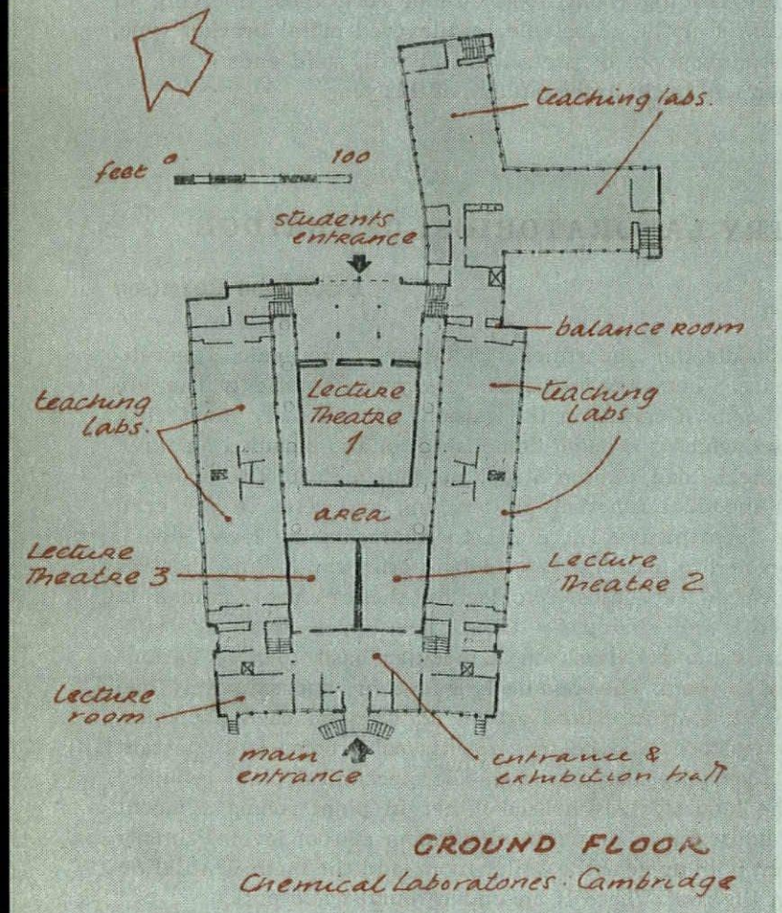
To accommodate the Departments of Organic, Inorganic, Theoretical and Physical Chemistry in the University of Cambridge. The site is south of the town centre in the gardens of two early nineteenth century houses which are being demolished, and is bounded on three sides by Lensfield Road, Panton Street and Union Road. The planning provides for the dual functions of teaching and research for each of the above departments. There are, therefore, on the lower floors, which are devoted to teaching, large laboratories and lecture theatres of varying seating capacities. The lecture theatres are common to all departments and shared by them. The upper floors are subdivided by movable partitions on a modular basis to give various sizes of research room. The module is 8 ft. 3 in., approximately one to each research worker. There are in addition on each floor preparation rooms, stores and balance rooms; cold rooms and constant temperature rooms are also provided. The mechanical plant required to service the laboratory is housed either in plant rooms adjacent to the boiler-house, or in the main plant room at roof level. Primary servicing plant is in or near the boiler-room, and the main ventilation equipment in the roof. There is an underground cycle park.

The building is steel framed on reinforced concrete strip foundations. The work below ground level is protected by asphalt tanking. The main laboratory wings have no internal columns, the floor trusses spanning the 45 ft. width. This was done to eliminate columns on the lower floors so that the large teaching laboratories were unobstructed, and above to give a greater flexibility of internal sub-



SITE PLAN Chemistry Labs Cambridge





Chemical Laboratories · Cambridge

division. Wall piers are of composite steel and concrete construction to reduce the amount of structural steelwork required (the building was designed in 1951). These piers are finished fairface internally and left unplastered. External walling is otherwise in 13½ in. solid brickwork faced with hand-made brown Buckinghamshire bricks. Portland stone is used for string courses, cornices and dressings. The top floor of the west end has been faced in quartzite and panels of green Westmorland slate. Windows are steel casements, and the whole of the roof, which is of wood-wool sheeting, is covered in copper. The ceilings to the main wings incorporate panel heating.

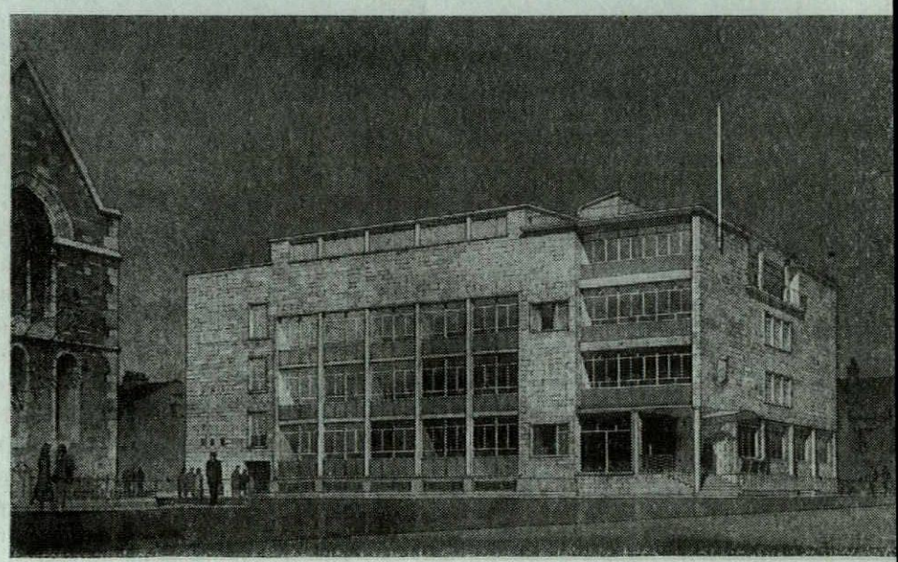
The services provided, in addition to inlet, extract and fume cupboard ventilation, are normal and boosted supplies of water, hot water service, distilled water, steam, compressed air, mechanical vacuum, town gas, oxygen and waste. The distribution of these has been simplified as far as possible by accommodating the horizontal runs from the main rising positions in the floor depth provided by the steel trusses. This gives considerable flexibility in the arrangement of outlet positions which in turn are based on the module in accordance with the over-all sub-division into rooms. After rising into the rooms, the services are distributed on a specially designed service rack, which incorporates the outlet valves on the top and cantilever brackets to support the working bench tops. The underbench furniture therefore forms no part of the bench structure and, being designed in accordance with a standard range, the various types are interchangeable. Bench tops are in Burma teak.

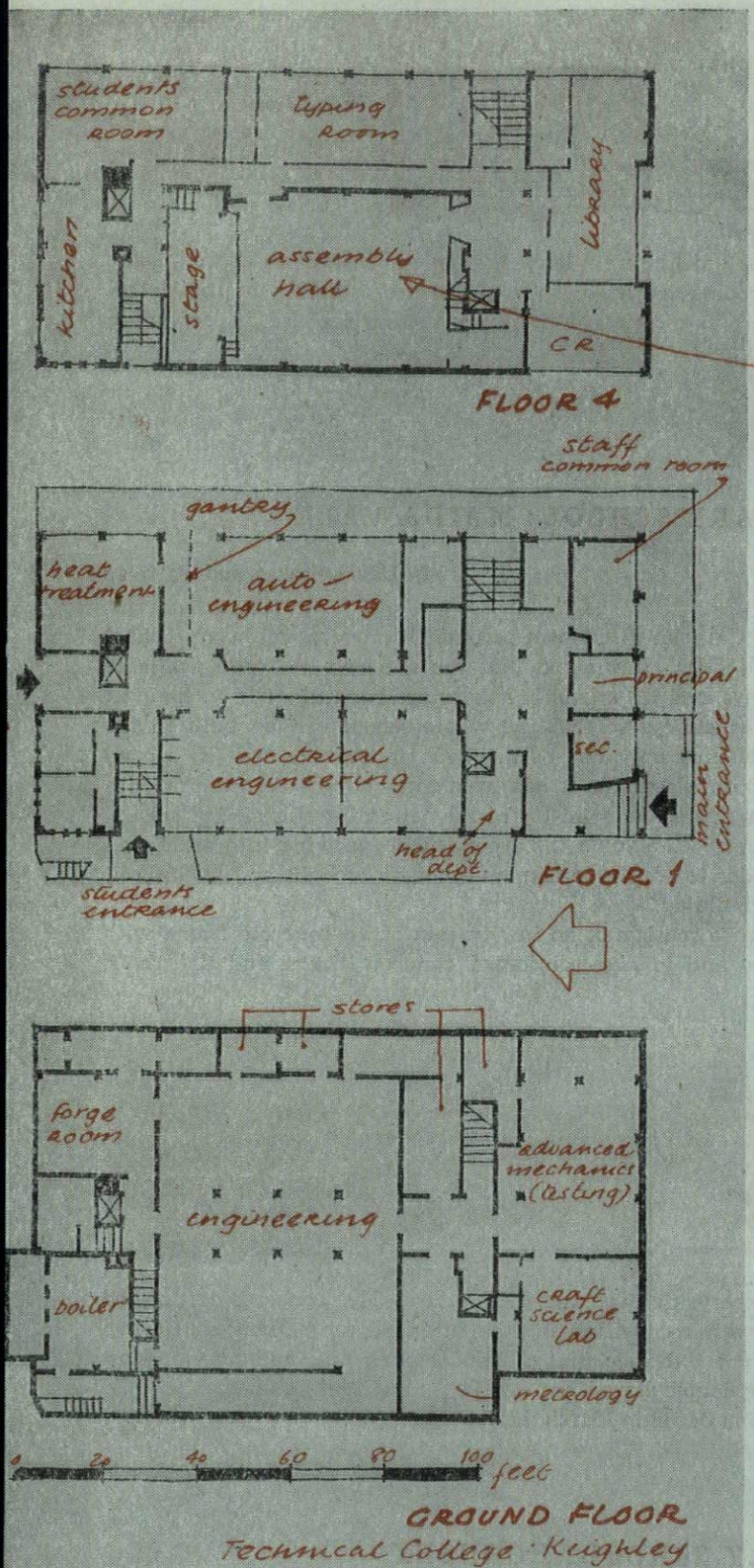
Structural work began in January, 1952. Completion of the first stage is due in October this year.

TECHNICAL COLLEGE: KEIGHLEY

Hubert Bennett (West Riding County Architect)

In the town square of Keighley—a 19th Century industrial town specialising in textiles and precision machinery for textile production. The site was formerly occupied by a chapel. The existing technical college is grossly overcrowded and the new building is designed to accommodate the whole of the engineering department as well as related subjects in order to relieve pressure on space in the old building and provide for its future expansion or reconstruction. It serves 3,000 students aged 15 years and upwards, most of whom attend part-time during the day or in the evening and are released from their jobs for this purpose. Apart from the curriculum the College also undertakes advisory work (e.g., machine calibration





and metallurgical analysis) for local industry.

The small area of the site demanded a five-storey building. In order to keep within local height regulations the ground floor is placed at the crypt level of the old chapel and the first floor thus comes four feet above the pavement. This difference in level is used to provide clerestory lighting for the ground floor, which extends the full width of the site. The upper floors, however, are restricted to a building line 10 ft. back from the site boundary. The resulting ground-floor projection is roofed over at pavement level and used for storage and services. The ground and first floors are devoted to engineering, the second floor to ancillary subjects and building trades, the third floor to mechanical drawing, science and commercial subjects, and on the top floor are the 2,500 sq. ft. assembly hall, kitchen, students' common room, library and further rooms for commercial subjects. Main meals are served by trolley in the assembly hall, which is also designed for public letting. The common room is used for light meals and snacks and can serve, with the library, as an ancillary space to the assembly hall on social occasions. The only rooms which face south on to the busy town square are the administration group on the ground floor, whose windows are double glazed, and the library at the top of the building. Access to the building is on the south and west of the first floor for staff and students and on the north for goods, which are delivered via a loading bay to a hoist for service to all floors, or to the ground and first floors by means of an overhead travelling gantry.

The building has mass concrete foundations with tanked brick retaining walls below ground level. The rigid steel frame is based on a 13-ft. square grid and encased in concrete. Floors are *in situ* hollow tile and precast concrete. Roofs (except for the assembly hall roof which is woodwool slab) are similar. The cavity walls have an outer leaf of 4in. local sandstone, carried floor by floor on the steel frame. Windows are metal with steel panel infilling below cill level. Ceilings are 2 in. plaster in which heating coils are embedded.

Construction is in two phases: the first three floors started in December, 1952, and are complete; the last two are now beginning and the building should be finished by mid-1956.

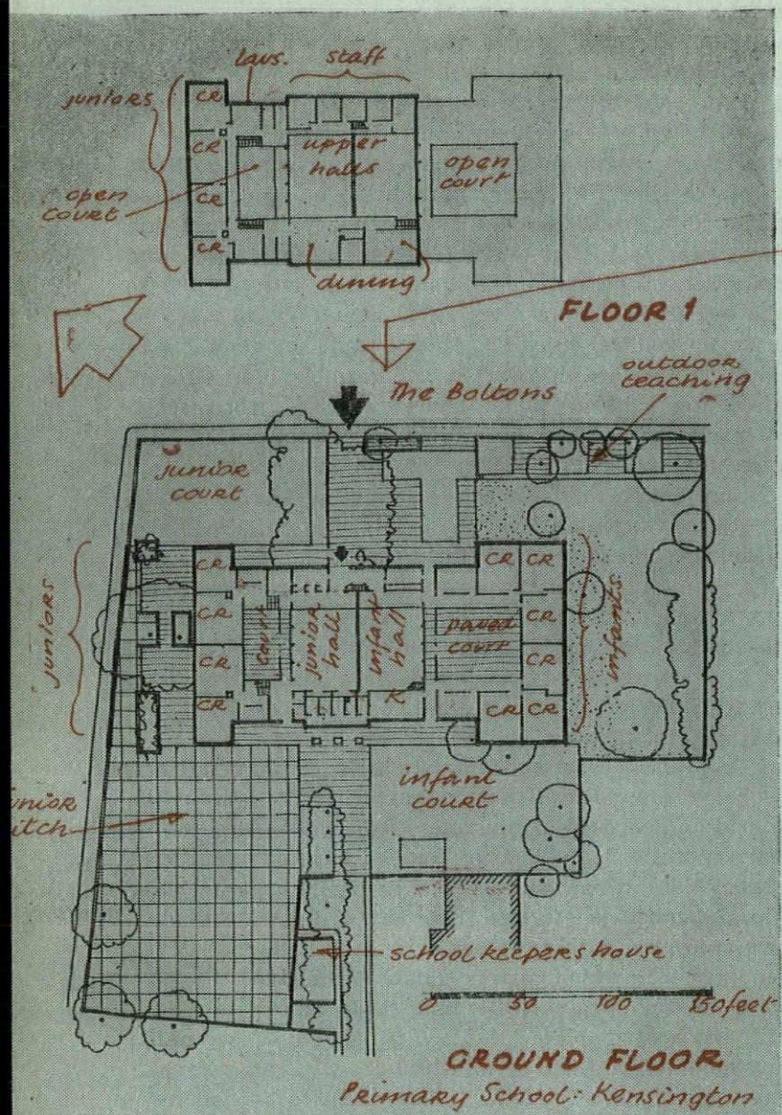
The following senior members of the County Architect's staff have been concerned with the design:—W. T. C. Walker, Deputy; A. Robinson, Chief Assistant; I. M. Hindle, Senior Assistant. Structural engineering consultants: Andrews, Kent and Stone. Electrical engineering consultants: Hoare, Lea and Partners. Quantity surveyor: Rex Proctor.

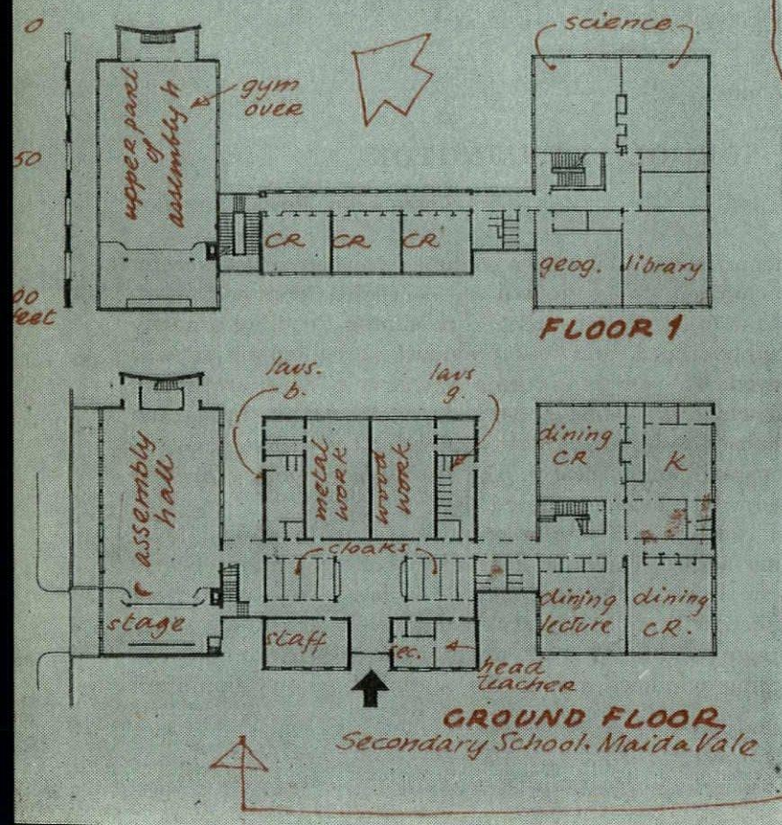
PRIMARY SCHOOL : KENSINGTON

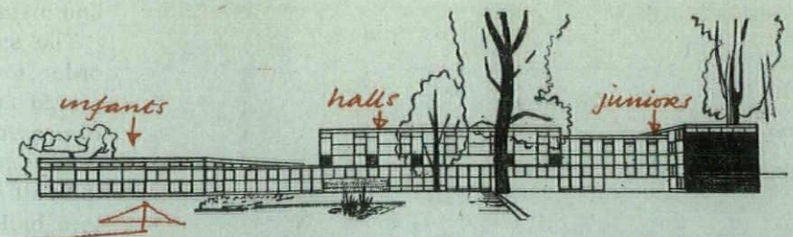
Chamberlin, Powell and Bon

For the London County Council: a junior and infant school accommodating 560 children, to be known as Bousfield County Primary School. The site is in the Boltons, off Old Brompton Road, a primarily residential neighbourhood, and was previously occupied by several houses, destroyed by bombing during the war. There are many standing trees, which are being preserved, together with the garden of one of the houses. A war-time static water tank is being converted into a small open-air amphitheatre. The site was previously divided by a public road, which has been closed.

Construction is brick and reinforced concrete up to ground level and steel frame above. The first floor and roof are timber beams supported on steel joists, the roof being insulated with wood-wool slabs and finished with felt. External panel walls are filled either with a dark brown sand-faced brick, a white glazed brick or coloured glass. All opening windows are of the sliding type in aluminium







frames. Floor finishes are quarry tiles in the insulation areas, plastic in the classrooms and hardwood strip in the assembly halls. Central heating is by fan convectors. All main services are in accessible under-floor ducts.

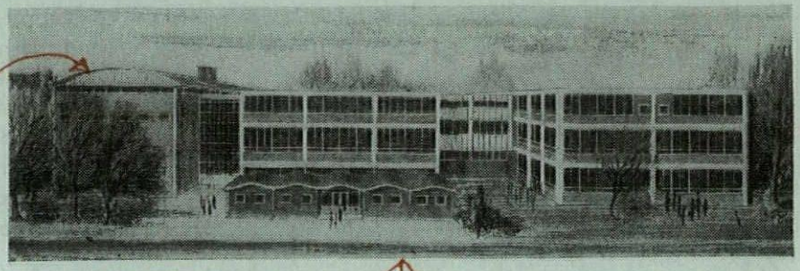
Work on the school began in May, 1954.

SECONDARY SCHOOL: MAIDA VALE

David Stokes and Partners

A Roman Catholic three-form secondary modern voluntary school for boys and girls. Only about half the site can be made available for some years, and the school has therefore been planned in compact form in three storeys so that the whole school can be built in the first stage, leaving only one of the two playgrounds for the second stage of the development. It has been planned (in accordance with the requirements of the Ministry of Education for this size of school) as a built-over rectangle on the ground floor, growing into an H-plan above, in order to get the maximum quantity of light and air into all parts of the building.

The structure consists of an *in situ* reinforced concrete frame with brick panels and *in situ* reinforced concrete floors and flat roofs,



with a barrel vault over the gymnasium. The concrete is finished externally with reconstructed stone used as permanent shuttering. The bricks are Uxbridge flint of two colours, buff and purple. Most windows are double glazed.

Construction began in March, 1954.

PRIMARY SCHOOL: HORNSEY

H. T. Cadbury-Brown

The site of the Hornsey Lane County Primary School (for the London County Council) was formerly occupied by four Victorian houses and contains a number of fine trees. It is about two acres in area and falls 25 ft. from west to east. The school will provide places for 280 infants and 440 juniors and is planned in three units: a four-storey junior classroom block with entrances at first-floor level from Hornsey Lane, a two-storey infants' classroom block with access from Ashmount Road and with open-air teaching terraces on the first

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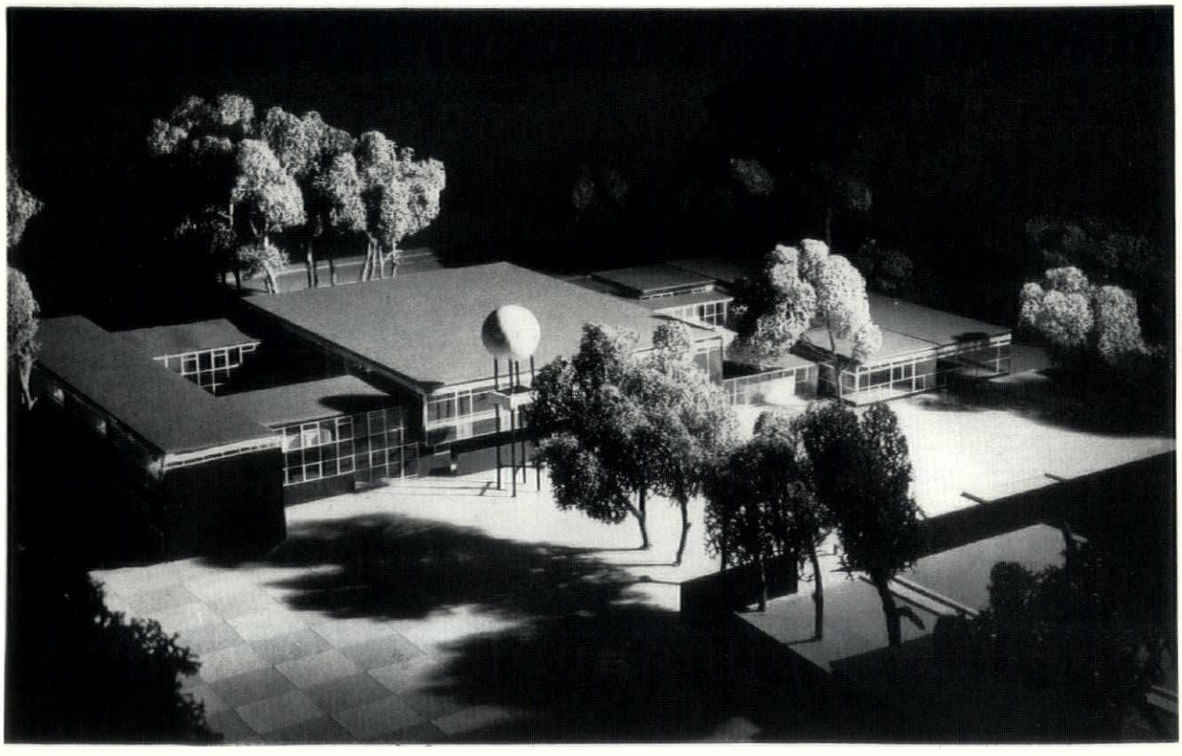
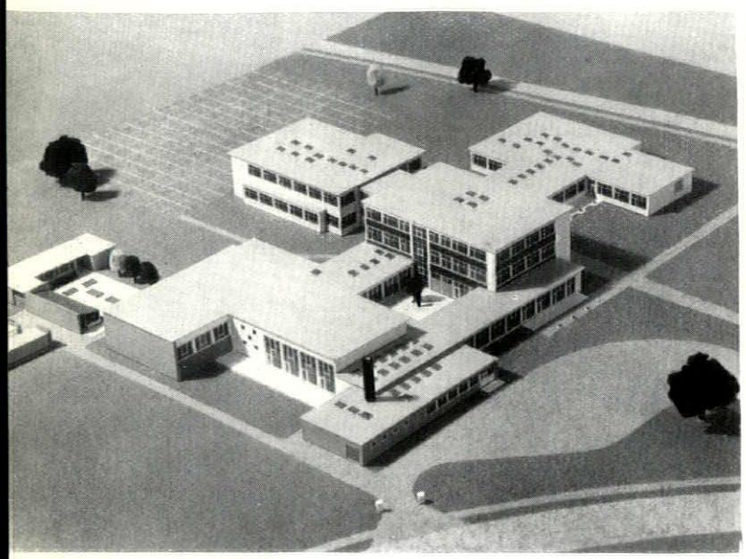
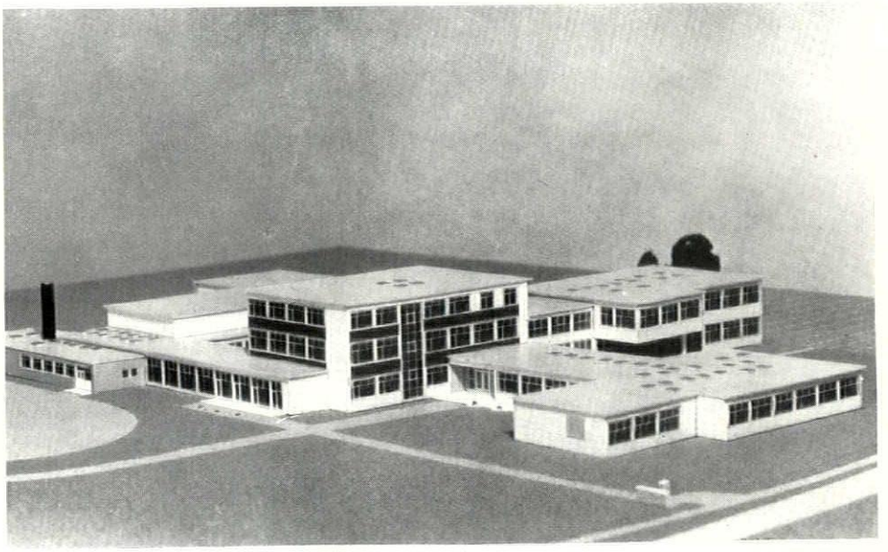
Primary school in Kensington, by Chamberlin, Powell and Bon, standing among trees in what were once the gardens of bombed houses. Above, from the east (the infants' side is on the left); right, from the north-west.



Above, primary school at Hornsey, by T. H. Cadbury Brown: in the background the four-storey junior classroom block; in the foreground the infants' classroom block with open-air teaching terraces on the first floor.

Below, secondary school, Great Baddow, by the Essex County Architect: the left-hand picture shows the central court linked with the assembly hall.





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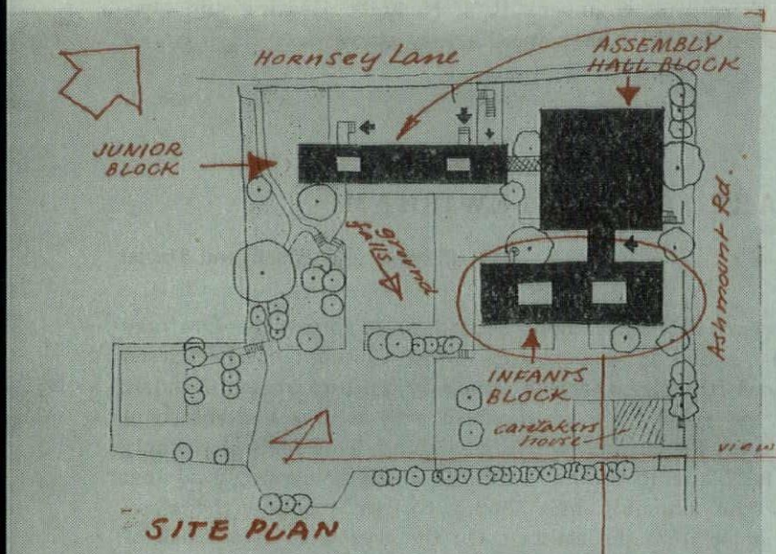
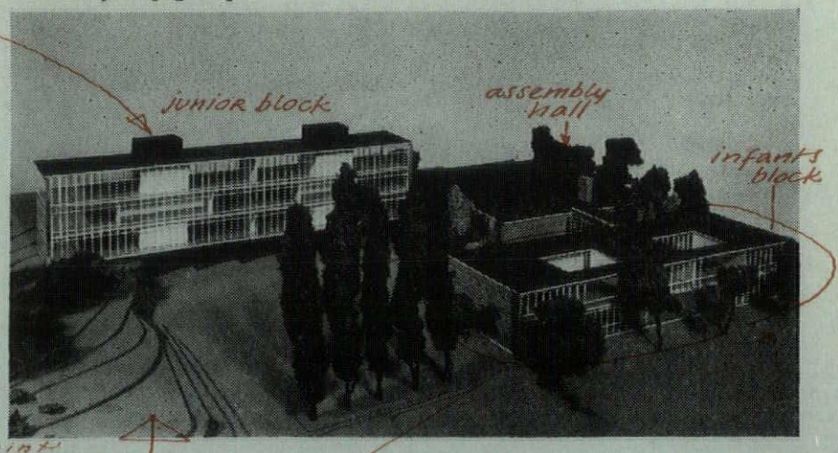
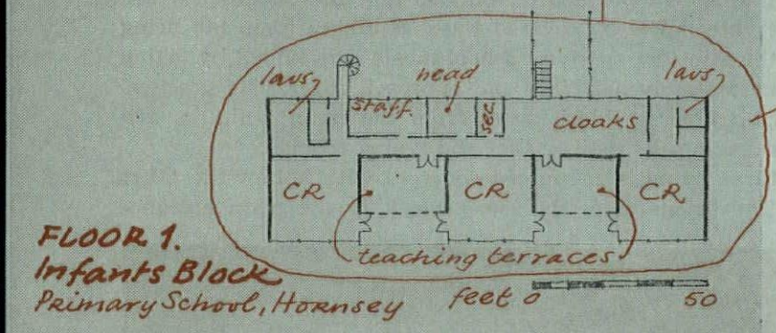






floor, and an assembly hall block containing the kitchen and dining accommodation.

The building has bored pile foundations and is mainly of light steel frame construction on an 8 ft. 3 in. grid faced with glazed curtain walling and panels of brickwork. The upper three floors of the junior block are entirely glazed. A special pressed metal eaves capping has been designed for use with the glazed curtain walling. It is also used, in conjunction with a steel fascia, over the panels of brickwork.

Construction began in November, 1954. Quantity surveyor: E. C. Harris and Partners. Consulting engineer: Bolton, Hennessey and Partners. Heating consultant: H. J. Knox.

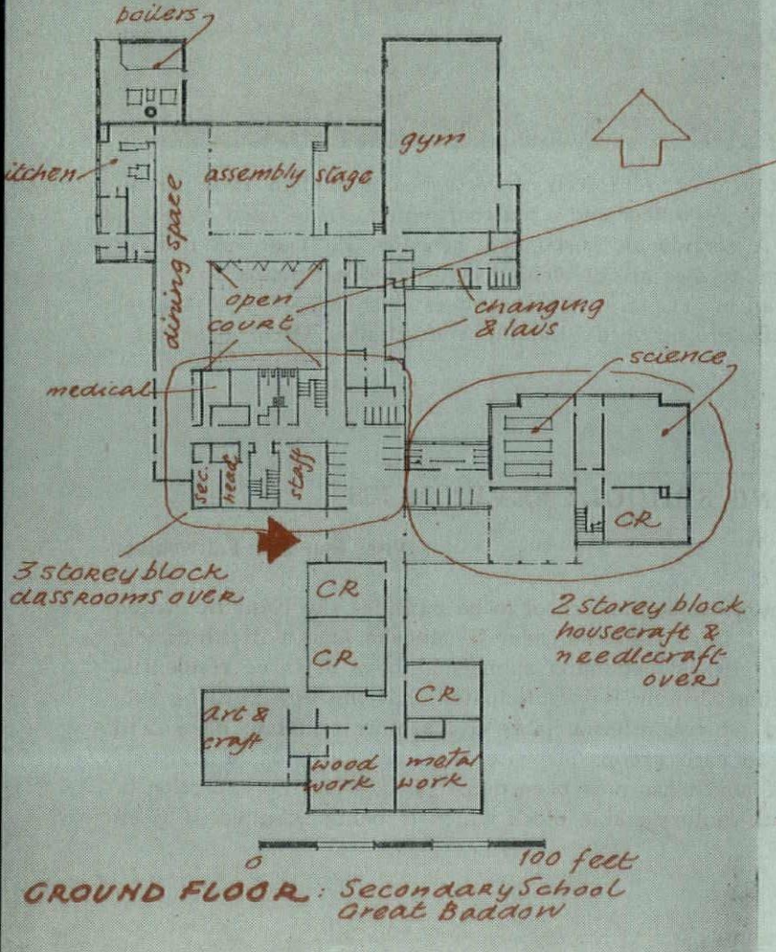
SECONDARY SCHOOL: GREAT BADDOW, ESSEX

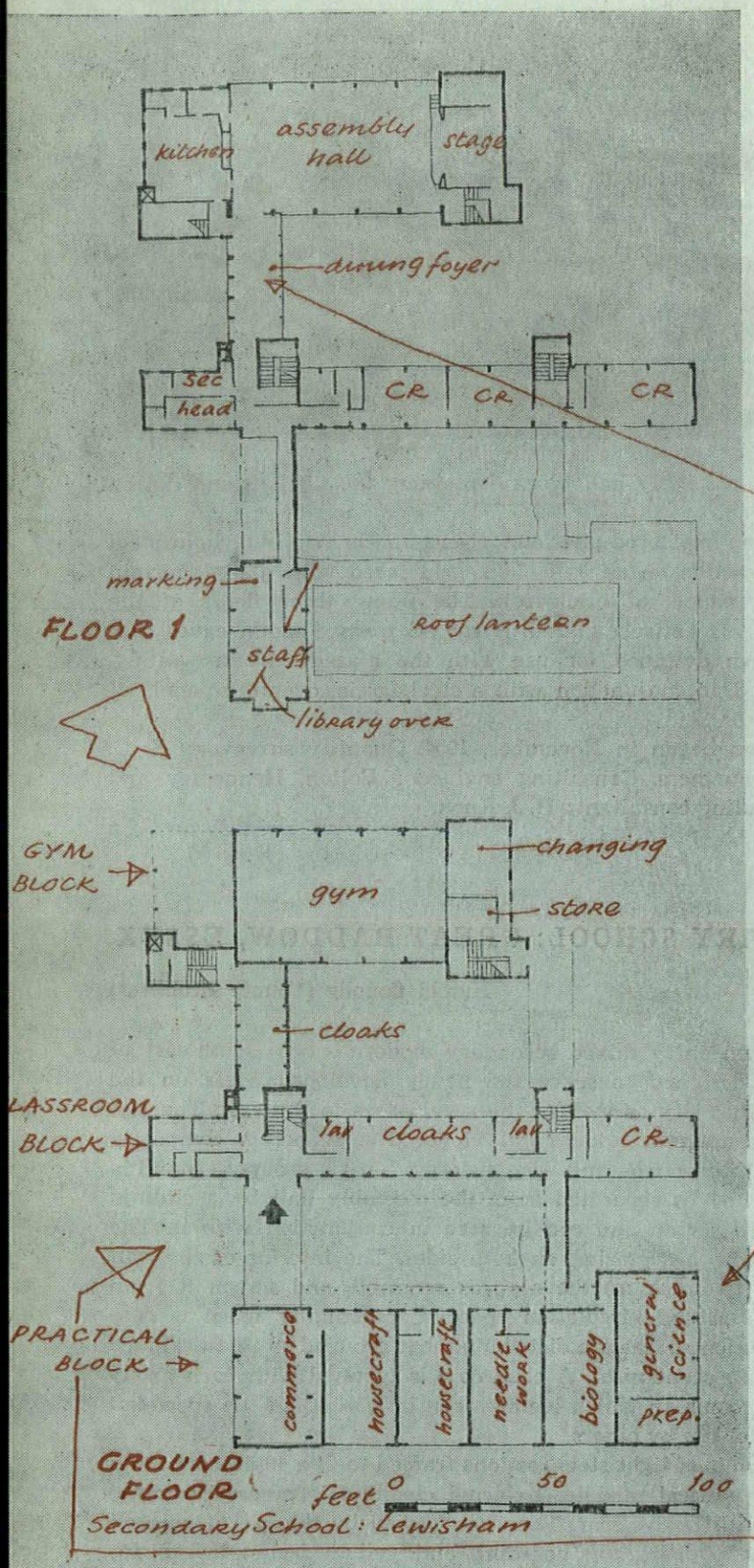
Harold Conolly (County Architect)

A three-form entry mixed secondary modern school south-east of Chelmsford, designed to serve the newly developed areas on the outskirts of that city as well as the rural areas to the east. The site is flat but commands wide rural views. The school is compactly planned in three- two- and single-storey blocks grouped round a courtyard, which is separated from the assembly hall by a sliding-folding glazed screen and can be used in conjunction with it. The dining area also has glazing on both sides. The interior of the hall has curtains to break up the area as required, and screen it from the dining area and circulation space. Coat-hanging space is centralized. Ablution spaces are distributed, but grouped so that drainage and sluices are economical. A classroom is planned with each group of specialist rooms, in which lectures can be given and the specialist rooms freed for use by others.

Construction is of light steel sections framed to fit a 40 in. horizontal and a 24 in. vertical module. External cladding is precast concrete slabs faced with Derby spar. These are varied by the use of painted asbestos panels, mahogany boarding and yellow facing bricks for the assembly hall, gymnasium and three-storey block. The inner leaf of external walls, and the internal walls, are of plaster panels filled with foamed plaster where required for sound insulation. These panels also provide fire protection for the stanchions. Roofs are formed of reinforced wood-wool slabs spanning 6 ft. 8 in. between beams. Ceilings are precast slabs hung from bearers, and where top lighting is required, a metal shaft is sunk through the roof space with a timber frame to take a sheet of armoured glass. Each shaft is designed to take black-out blinds and a heating coil to prevent down draughts.

Work began last summer. Assistant architect in charge: M. McP.





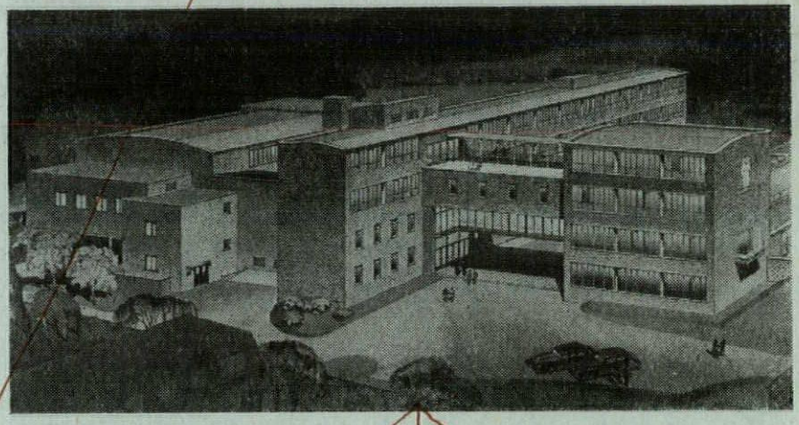
Crammond. Consulting engineer: B. J. Nicholls. Heating and electrical engineer: G. R. Hedingham. Quantity surveyors: E. C. Harris and Partners.

SECONDARY SCHOOL: LEWISHAM

Clayton and Black and Daviel

A three-stream Roman Catholic secondary modern school to take 450 girls. The site is in the grounds of the Convent of the Sacred Heart, Belmont Hill, Lewisham, in a densely built-up area of London, bounded on the north by a wood which acts as a sound absorbent to the railway in the cutting which lies behind. This feature strongly influenced the planning of the building, which is arranged so that the bulk of the assembly hall should further insulate the classrooms from noise from the railway. On the west side is a block of flats. The buildings are planned in units so that the classrooms face the sun. They are linked by covered ways. A dining room not being allowed by the Ministry, space for school meals is provided by taking in part of the assembly hall floor and approach foyer. The practical rooms are in a separate block away from the main building, and include dressmaking, domestic science and typing rooms.

The structural frame is reinforced concrete with hollow-tile floors and stairs. The bridge from the lower block to the main entrance



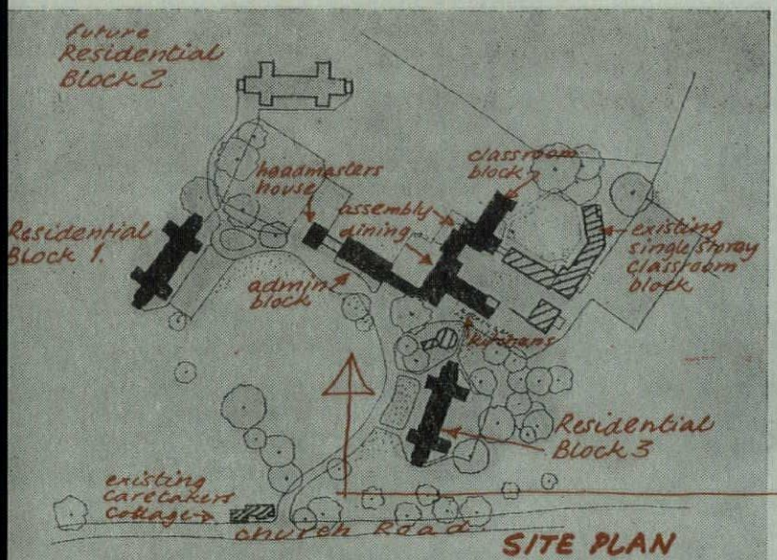
consists of two deep reinforced concrete beams clad in 4½ in. brickwork and carrying a floor and a flat roof which can be used as teaching space. A corridor is suspended beneath the floor on tubular hangers. Roof trusses are of welded bent-bar construction.

Work began in February, 1954. Architect in charge: J. R. F. Daviel (assistant: B. Brownsword). Heating consultants: Oscar Faber and Partners.

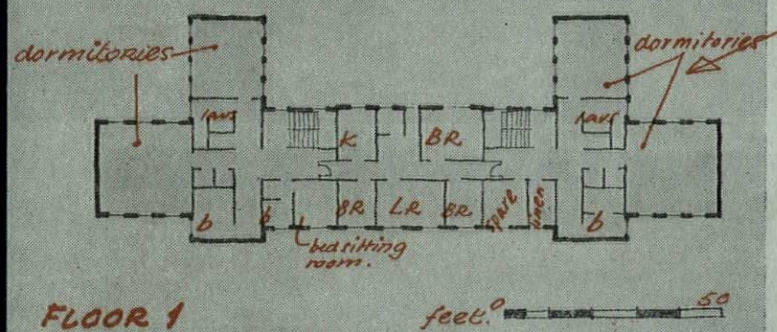
BOARDING SCHOOL: SEVENOAKS

Pite, Son and Fairweather

The first new residential school to be built for the Kent Education Committee. It is at Halstead, near Sevenoaks, and will ultimately accommodate 180 educationally subnormal boys in three residential blocks housing 60 each. It is anticipated that the boys will be subdivided into juniors, intermediates and seniors and one block will be allotted to each group. The site is in the grounds of Halstead Place, all of which has now been demolished, with the exception of an eighteenth-century stable block which is being retained. It is on

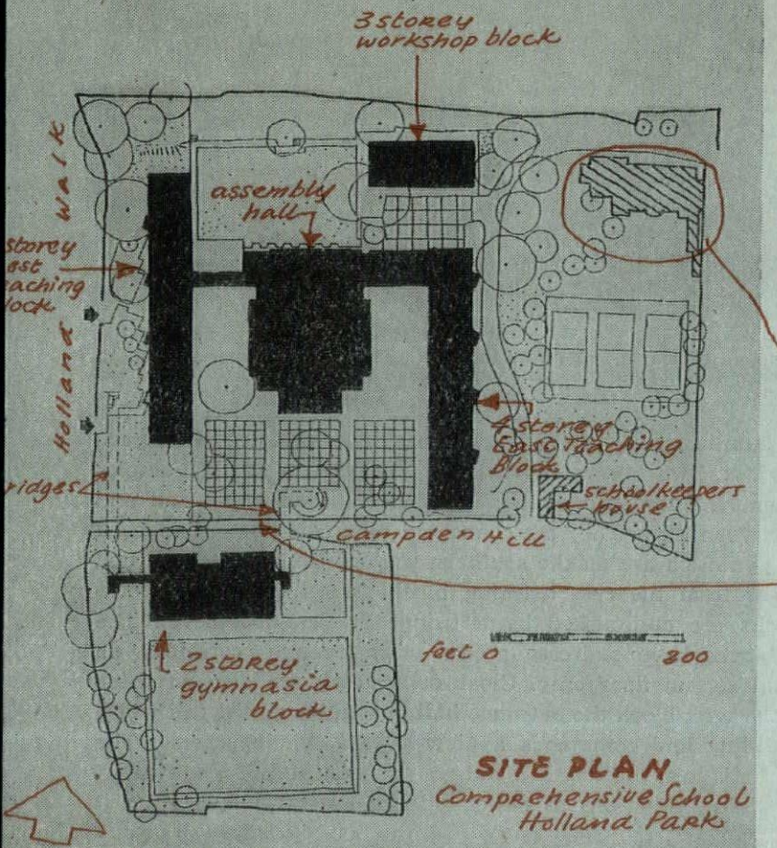


SITE PLAN

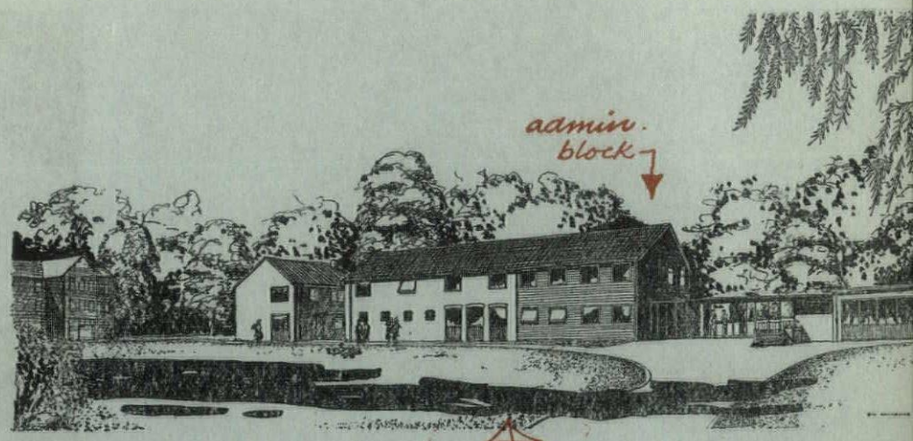


FLOOR 1
Residential Block
Boarding School : Sevenoaks

feet 0 50



SITE PLAN
Comprehensive School
Holland Park



high ground with fine trees. A disused burial ground on the site is not being disturbed.

In the first stage of construction the following accommodation is provided: two of the residential blocks; two self-contained flats for resident married staff and two bed-sitting rooms for unmarried staff; an administrative block containing offices, stores, sick bay and three bed-sitting rooms for female administrative staff; three separate dining rooms for junior, intermediate and senior boys; assembly hall and main kitchen with living quarters for the resident domestic staff. All ancillary accommodation now provided will ultimately serve the complete scheme. Classrooms provided in the existing buildings will be adequate for the first stage, and an additional classroom block will be added when the third residential block is built. Dormitories have been kept to a small size to suit the temperament of boys admitted to this type of school.

Construction is load-bearing brickwork with hollow-tile floors and timber roofs covered with pantiles. Internally finishes have been kept as simple as is compatible with the rough wear and tear they are likely to receive, with a view to keeping down cost.

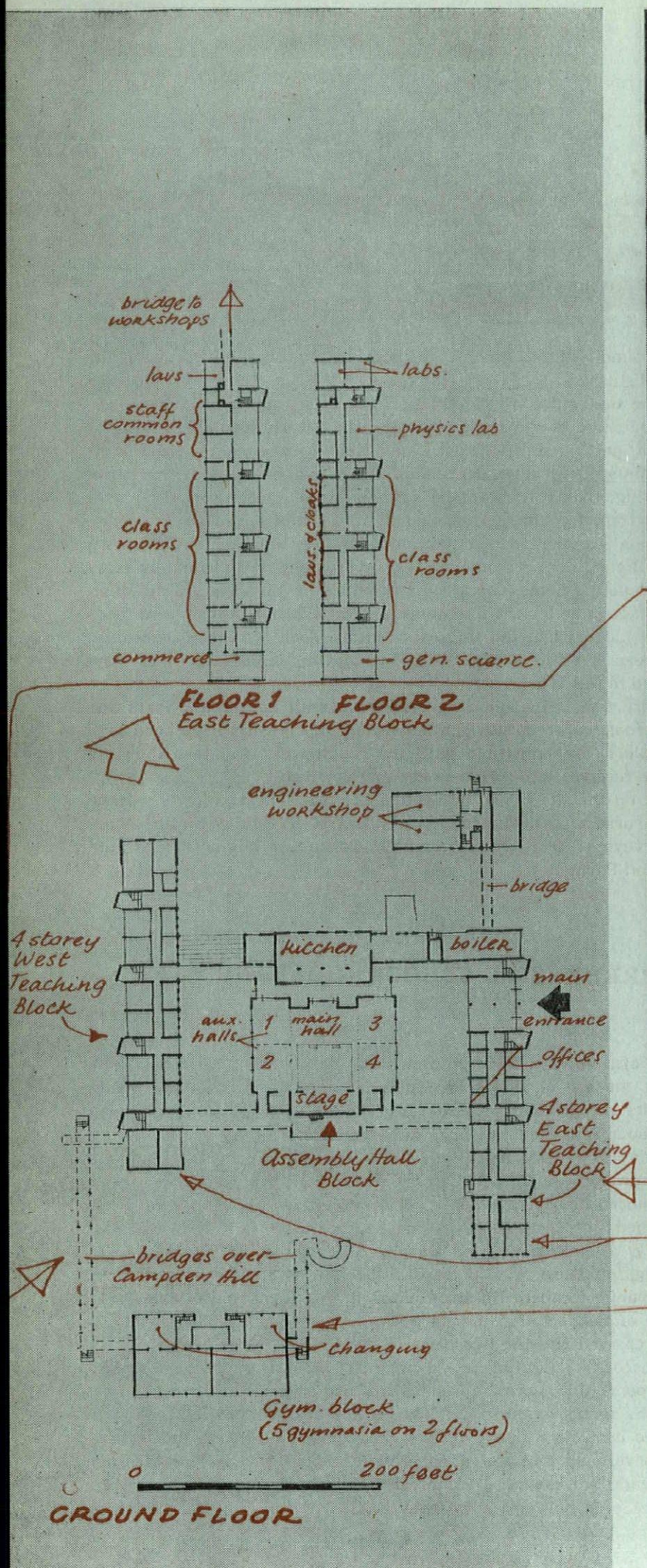
Work on the site began in September, 1954. The architects worked in collaboration with the county architect, E. T. Ashley Smith. Quantity surveyors: D. R. Nolans and Co. Consulting engineers: Stinton Jones and Partners.

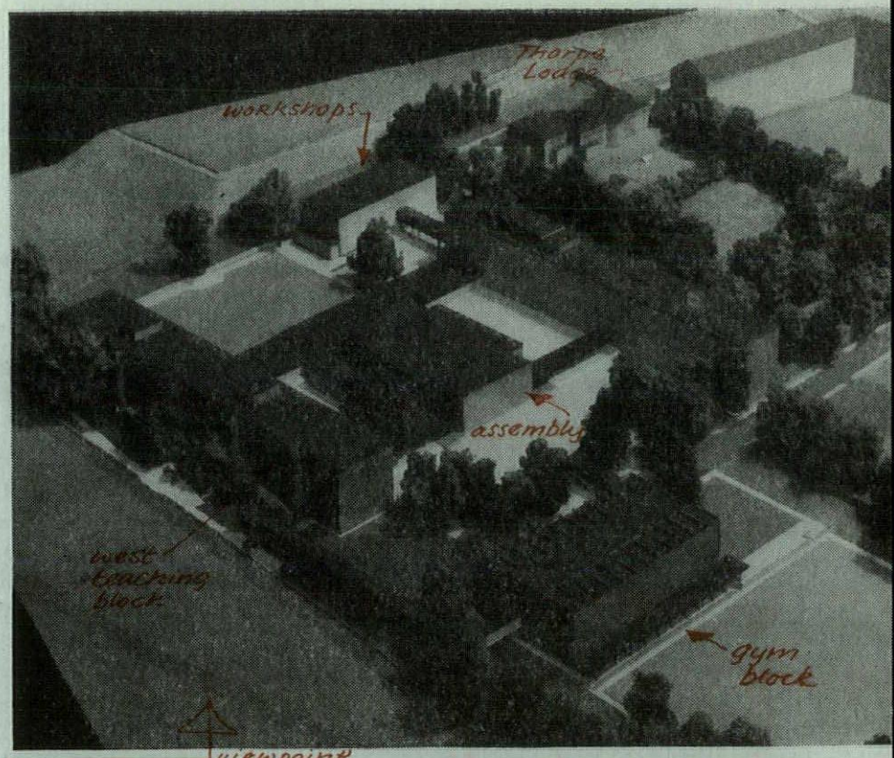
COMPREHENSIVE SCHOOL: HOLLAND PARK

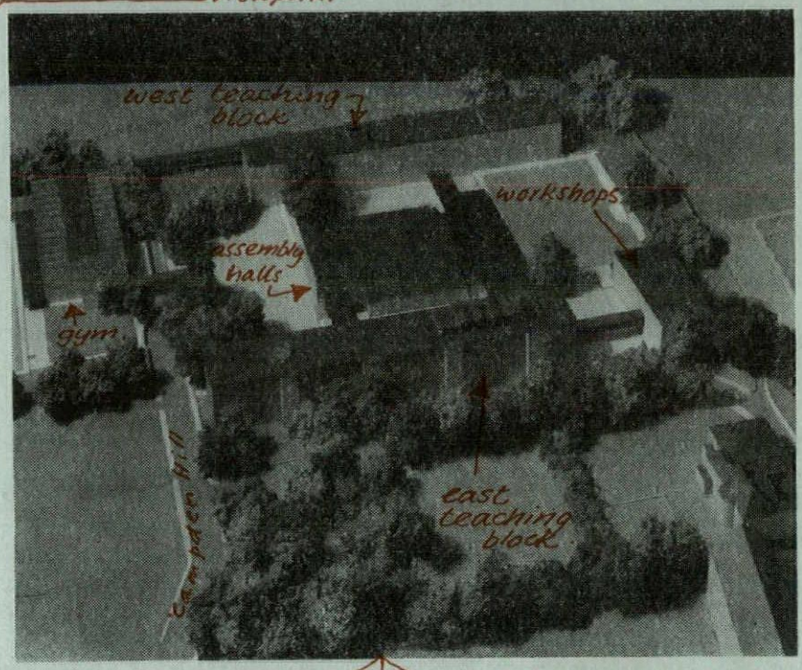
London County Council

A 13-form entry mixed comprehensive school for 2,160 pupils. The site, on the top of Campden Hill and bounded by Holland Walk, comprises the grounds of three large houses: Moray Lodge, Thorpe Lodge and Cam House. It has an area of nearly 8½ acres. Thorpe Lodge is to be preserved and used for sixth-form teaching. Its two-storey music room will become the school library and its kitchen an advanced housecraft centre. The other two houses are to be demolished but the fine trees in their gardens largely preserved, especially as groups. All the trees in the grounds of Thorpe Lodge and its gardens are to be preserved. The site is crossed by Campden Hill, a public footpath linking Campden Hill Road to Holland Park. In spite of the fact that it cuts in two an already small site, this is to be preserved and the two parts of the site linked by bridges.

The accommodation required was 43 general classrooms, seven study rooms, four music practice rooms, two history rooms, two geography rooms, seven science laboratories (with smaller rooms as advanced laboratories and preparation rooms, greenhouse and lecture room), seven arts and crafts rooms, seven housecraft and needlecraft rooms, eight workshops, a technical drawing office, a large assembly



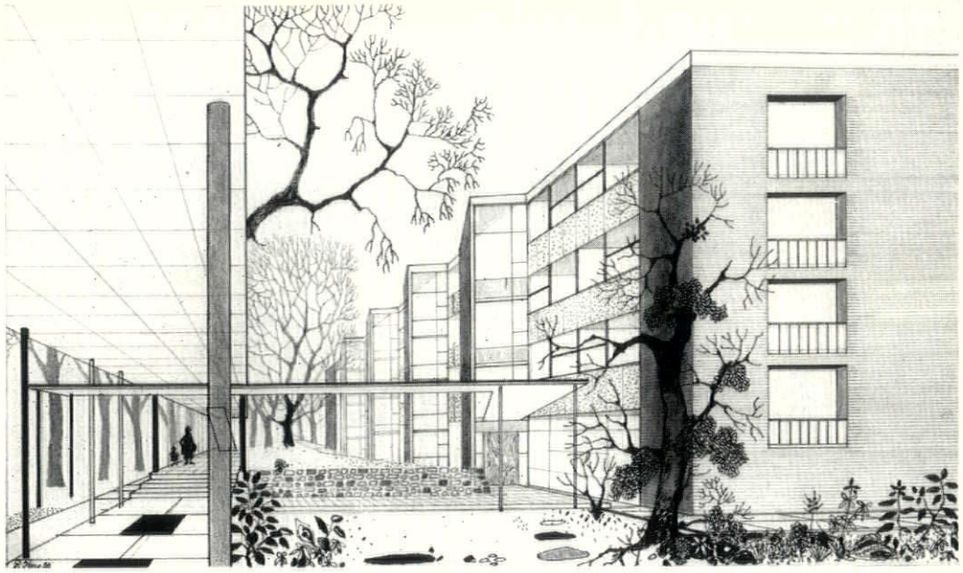




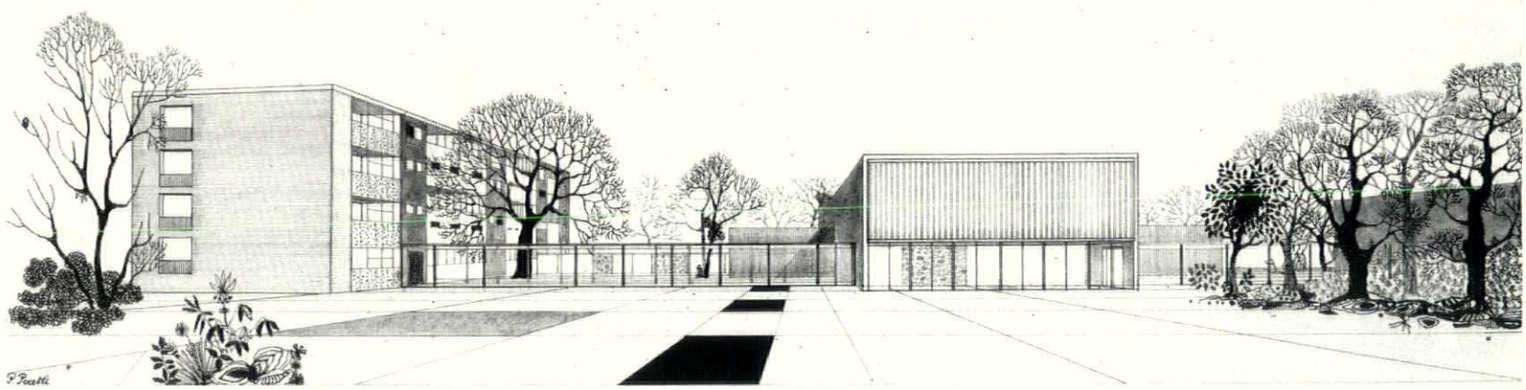
From the south-west and from the east. The public footpath crosses the top picture diagonally from left to right, and one of the bridges over it, leading to the first-floor level of the gymnasia can be seen on the left-hand side of the lower picture.

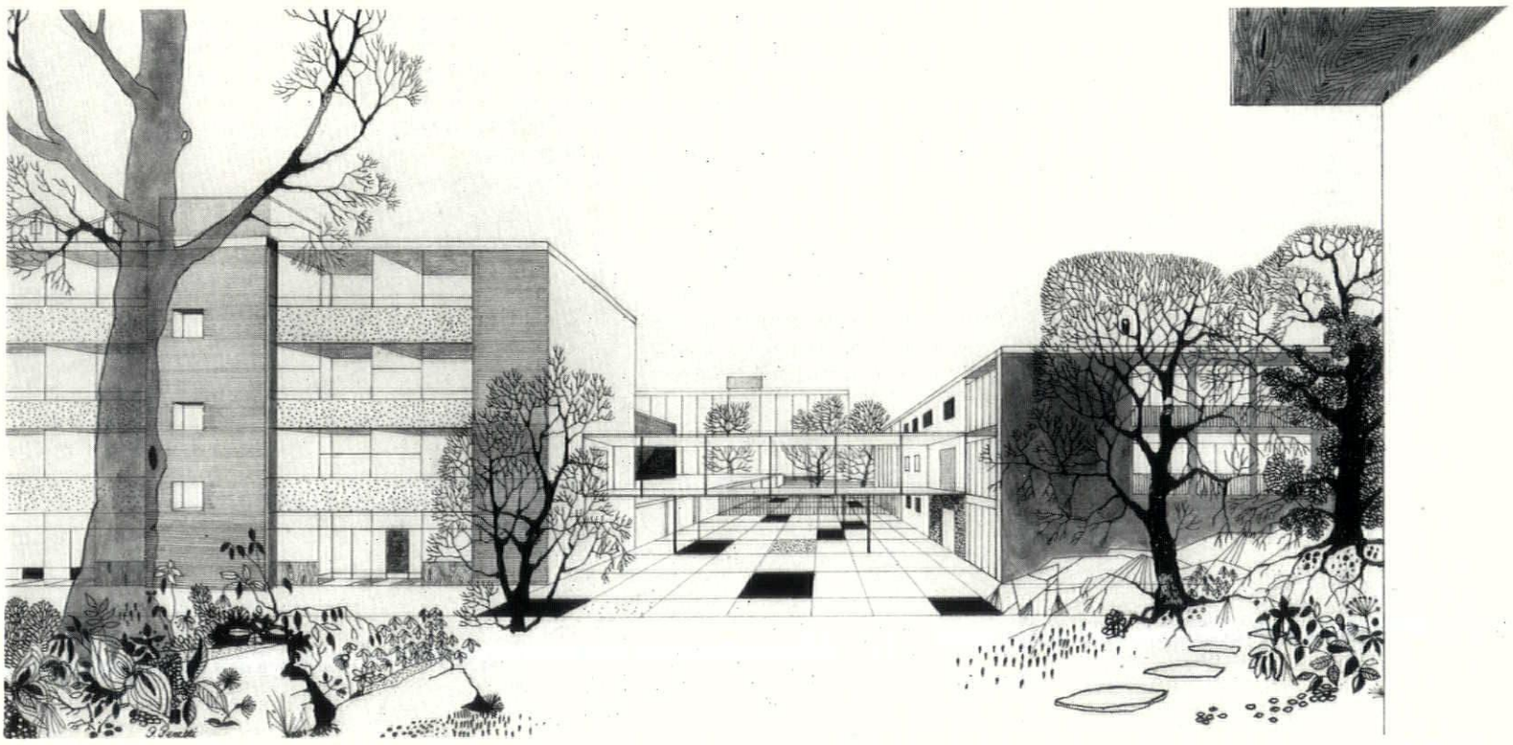
hall, four auxiliary halls and five gymnasia. The total teaching space is 87,470 sq. ft. Two four-storey teaching blocks run at right angles to Campden Hill, facing east and west, with the assembly hall and kitchen between them. They are connected by a corridor and covered way. The gymnasia are on the southern part of the site, approached under cover from the east teaching block. The three-storey workshops blocks are approached by a bridge at first-floor level. The teaching blocks have staircase access with through corridors on ground and second floor only. Cloakrooms, etc., are also on these floors. In the west block the entrance hall goes through the full width of the building and commands a view of the whole scheme. The assembly halls can be used together or separately. Electrically-operated sliding partitions at either side of the large hall close it

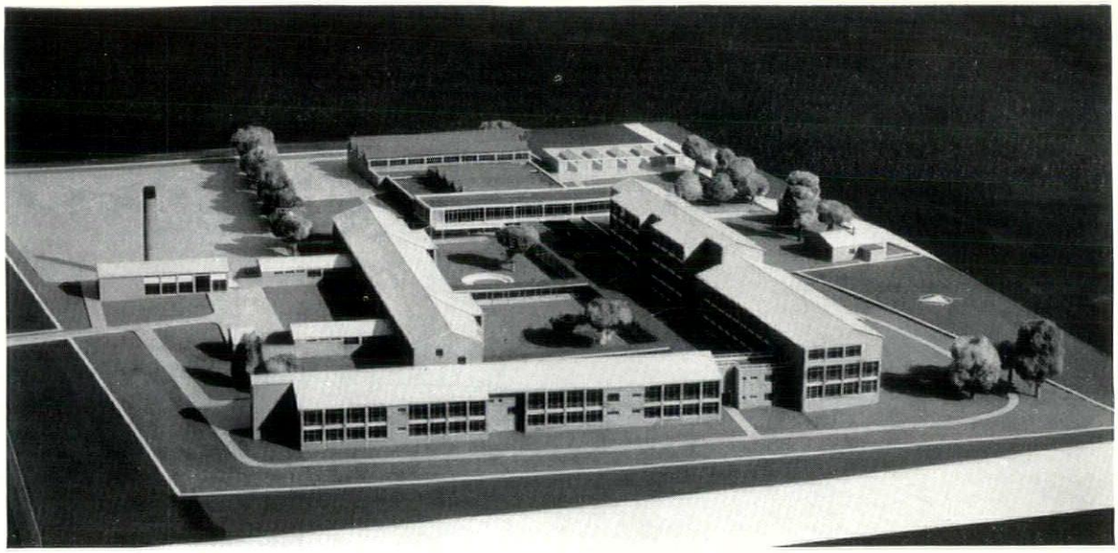
[*continued on page 59*



LCC comprehensive school at Holland Park: above, the west teaching wing from the south; below, looking across the courtyard from the south; bottom, looking westwards from the entrance.







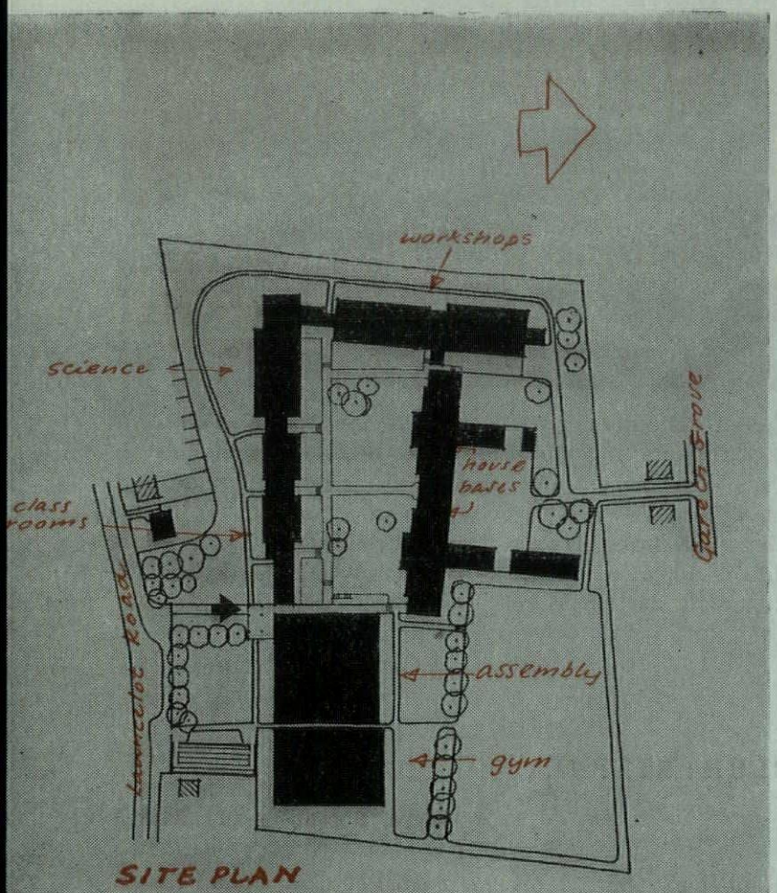
Comprehensive high school, Lewisham: right, from the west; below, from the south-east. The assembly hall and gymnasia are at the bottom of the picture and the main classroom and science blocks on the left.

continued from page 56]

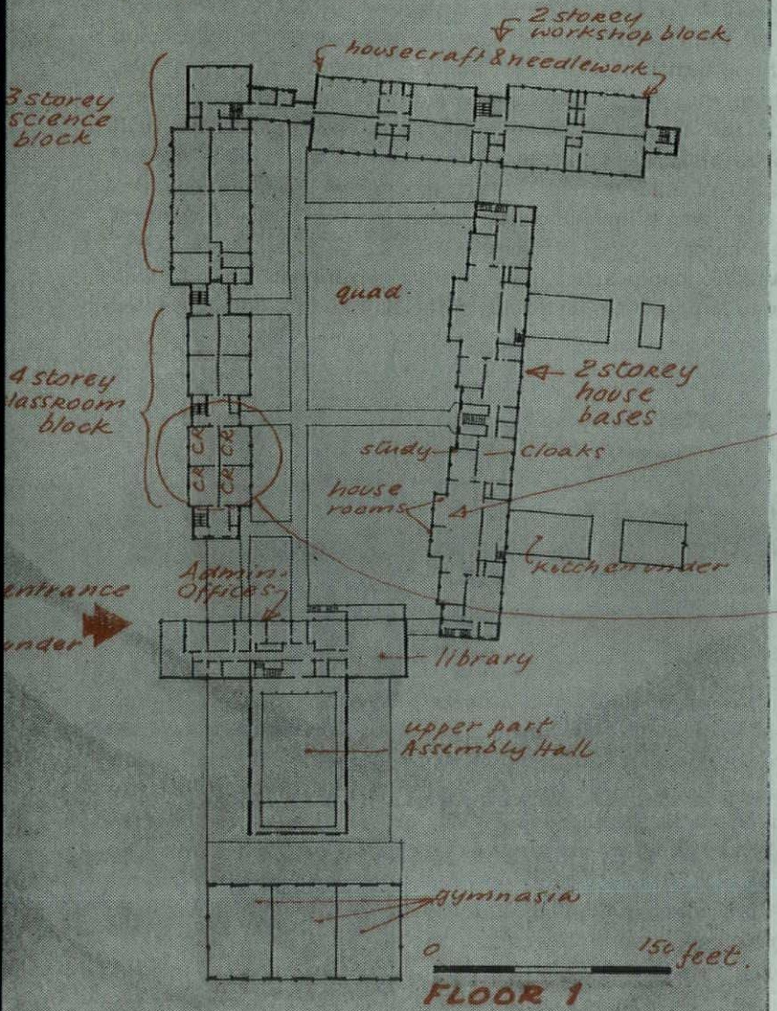
off from the halls on either side. They fold into the wing space of the stage and recesses in the small halls so that they are invisible when open. Manually-operated sliding-folding partitions divide the small halls from each other. All these partitions are soundproofed. Dining will take place in the small halls and the part of the large hall that is at the same level. The circulation space behind the stage in the large hall (which can be used for exhibitions) gives access to the first-floor music rooms, which can be used as green-rooms when stage performances take place in the hall. The large hall, with its gallery, seats 809. The five halls thrown together, including seats on the stage, seat 1,860.

Construction of teaching blocks and workshops is load-bearing brick walls supporting *in situ* concrete pot floors and roofs. Edge-beams forming walls below cills are reinforced concrete. Assembly halls, kitchen and gymnasia are reinforced concrete frame with load-bearing end walls in brick. The centre part of the main hall is spanned by steel trusses supporting wood-wool roof slabs on purlins. Concrete wall beams are faced with cast-stone slabs. Upper part of teaching blocks and assembly hall are faced with Portland stone. Top-hung steel windows are set in hardwood frames. Heating is by low-pressure hot water and radiators. Assembly halls have fan-operated convectors circulating warm air supplemented by pipe coils embedded in the floor.

Construction will begin in September of this year and the school will open three years later. Architect to the Council: J. L. Martin. Architect in charge: D. R. Stark.



SITE PLAN
Comprehensive School: Lewisham



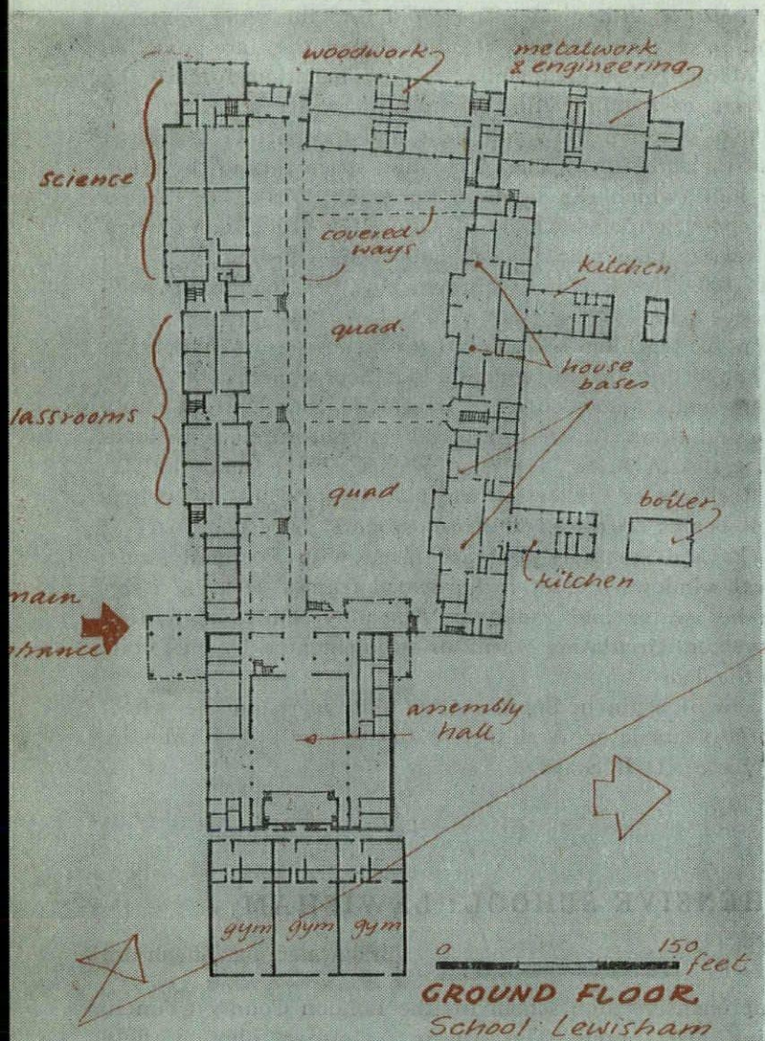
FLOOR 1

COMPREHENSIVE SCHOOL: LEWISHAM

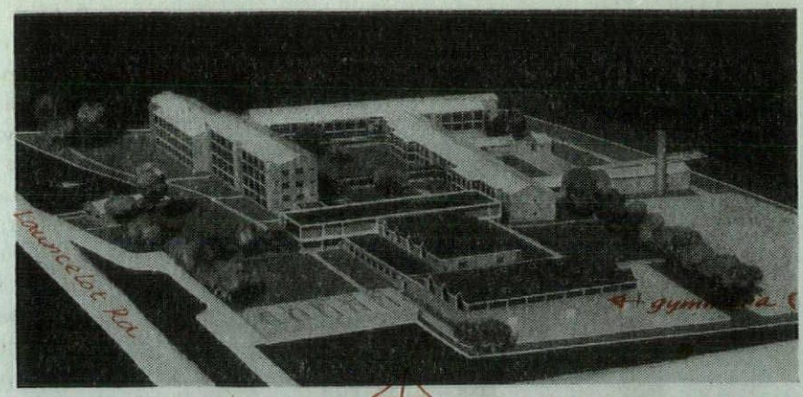
Bridgwater and Shepheard

Mixed comprehensive high school for the London County Council, accommodating 1,680 pupils. The site is a former playing field surrounded by the back gardens of two-storey terrace houses on the Downham Estate with an opening of about 300 ft. to Launcelot Road, and a narrow access to the north. It is planned on the house base system. This aims to mitigate the disadvantages of so large a concentration of pupils by providing eight house bases for about 210 pupils each, to which the pupil is attached for the whole of his time at the school. Each house base contains a large room for assemblies, discussions and the activities of pupils' societies, a smaller study room and a room for the housemaster, together with cloakrooms and lockers. The large rooms can be thrown together to make four dining rooms, the whole being grouped in a two-storey block with two kitchens attached. To find room for these extra house rooms and yet to keep to an over-all floor space per pupil of 73 sq. ft., it was necessary to plan the rest of the accommodation as compactly as possible. Circulation space has been saved by using staircase access to groups of four rooms for all teaching spaces. These staircases are connected at ground level by covered ways across the quadrangle round which the whole school is built. Pupils will enter from Launcelot Road, passing under the administration block into the main quadrangle. Vehicles will enter from the north by a road giving access to boiler-house, kitchens and workshops. The house bases and workshops (two storeys) form the north and west sides of the quadrangle. The science block (three storeys), and the main classroom block (four storeys) the south side, while the east is closed by the assembly hall and its auxiliary halls with the three gymnasia behind. The administration block also contains the library, which has a balcony facing west down the length of the quadrangle.

Construction consists of load-bearing brick walls and piers carrying prestressed, precast concrete floors, and timber truss roofs covered



GROUND FLOOR
School Lewisham



with corrugated aluminium sheeting. Walls are faced in London stock bricks with piers in Staffordshire blue bricks. The administration block sits over the entrance and foyer, and has a reinforced concrete frame. Windows are all of timber in a timber wall frame occupying the whole space between floor and ceiling, the space below cills being filled with wired cast glass with lightweight blocks behind.

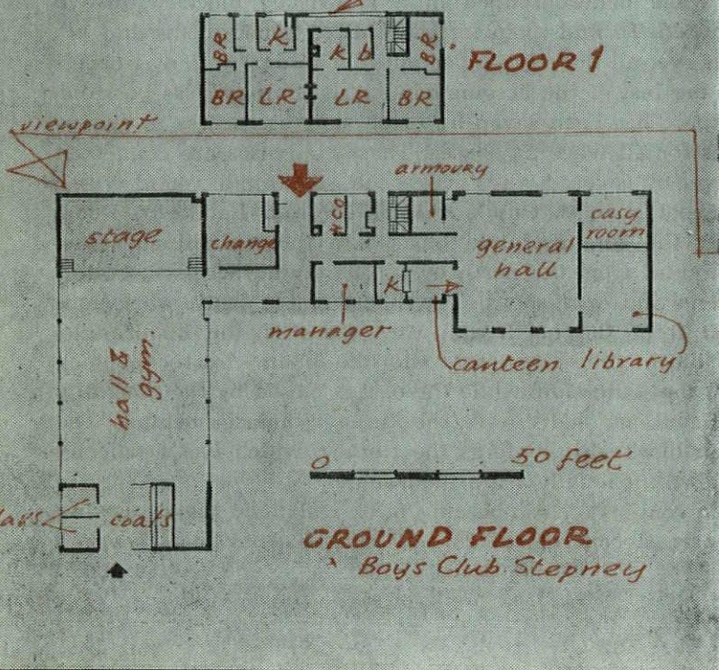
Construction will start in March, 1955. Chief assistant architect: G. Epstein.

BOYS' CLUB: STEPNEY

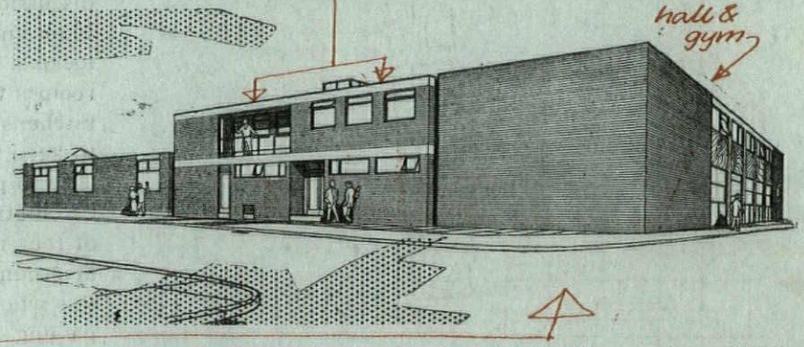
Yorke, Rosenberg and Mardall

For the Haileybury Guild, replacing a smaller club which was on the same site and was bombed. The club at present is in an Army hut but some distance away. The site is part of the L.C.C. redevelopment area, and the adjacent sites are to be used for another club and possibly a health centre. The scheme provides club facilities, offices, canteen, etc., and two self-contained flats, one for the manager and one for the caretaker. Outside is an extensive area for drill (Army Cadets) and outdoor games. Provision had been made for the future addition of a larger hall with stage, to be used for performances and as a gymnasium (changing rooms for which are in the first stage of the scheme).

Construction is load-bearing brick with a reinforced concrete slab at first floor to support the partitions of the flats, which are unrelated



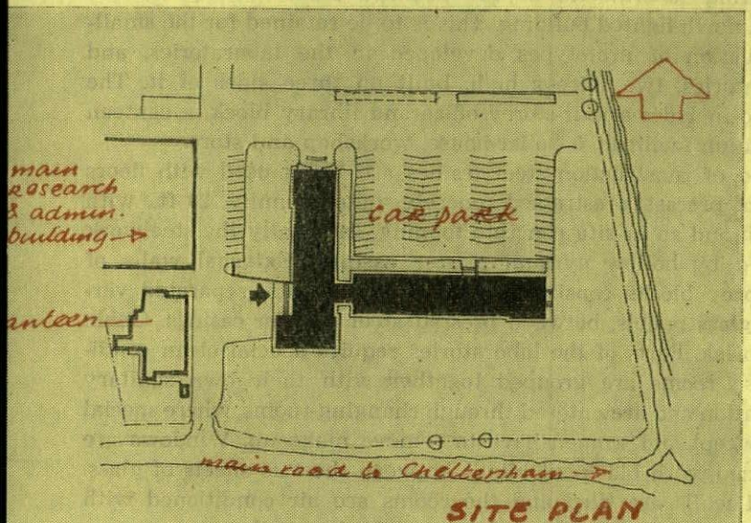
GROUND FLOOR
Boys Club Stepney



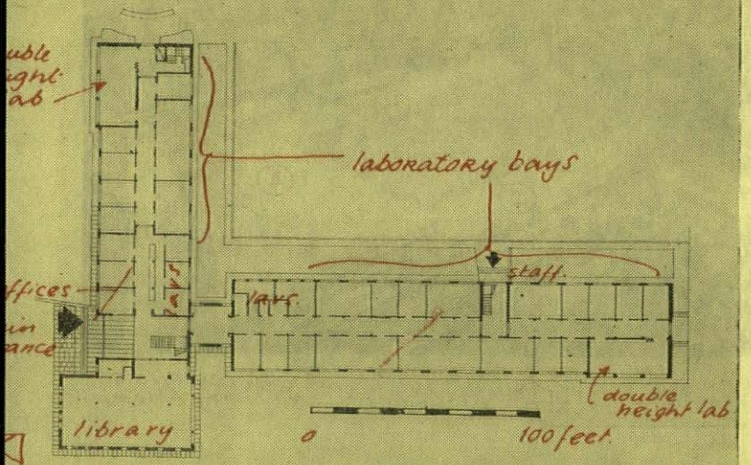
to ground-floor walls. Roofs are timber joist with wood-wool slabs and three-layer roofing felt finish. The clubroom has two welded steel lattice beams carrying exposed timber joists. External walls are of London stock brick. Interior walls on the ground floor are mostly London stocks, fairfaced and with occasional areas of plastered or painted brick. Windows are timber with metal opening lights. The club has central heating (to radiators) and a central hot-water supply from coke-fired basement boiler and calorifier. The flats have open fires with back boilers and immersion heaters.

Work began in October, 1954, and is expected to take six months.

8 INDUSTRIAL AND COMMERCIAL



SITE PLAN



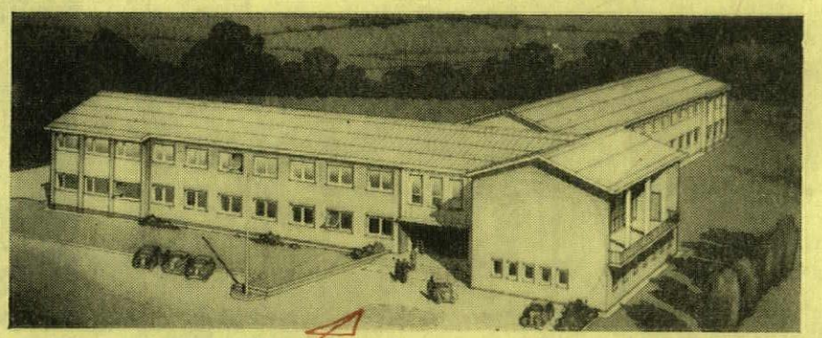
GROUND FLOOR

RESEARCH LABORATORIES: CHELTENHAM

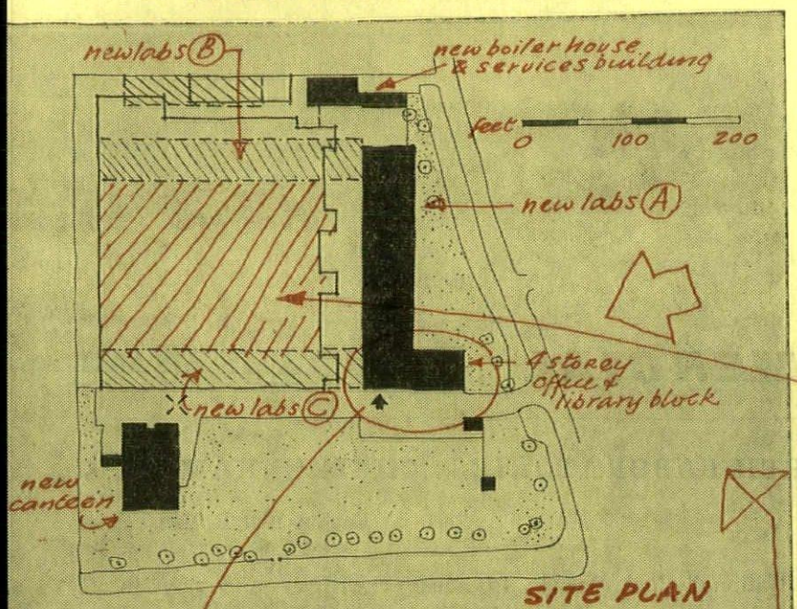
Easton and Robertson

For the National Coal Board; to house chemistry and physics departments, together with a further section to be known as the by-products department. There is an existing building where small-scale and large-scale experimental plant work is done. In this new building scientists and staff will do fundamental investigation on the application of modern chemical engineering techniques to the pretreatment of coal; the chemistry and physics of the changes introduced by these techniques; the kinetics of carbonization and fundamental physics of coke formation from coal in the plastic state; the formation of coal; the application of modern methods of solid state physics; the separation of impurities from fine coal and the surface chemistry and physics of the solids involved; the study of coal pyrolosis by modern methods of infra-red spectroscopy and other physical methods of analysis.

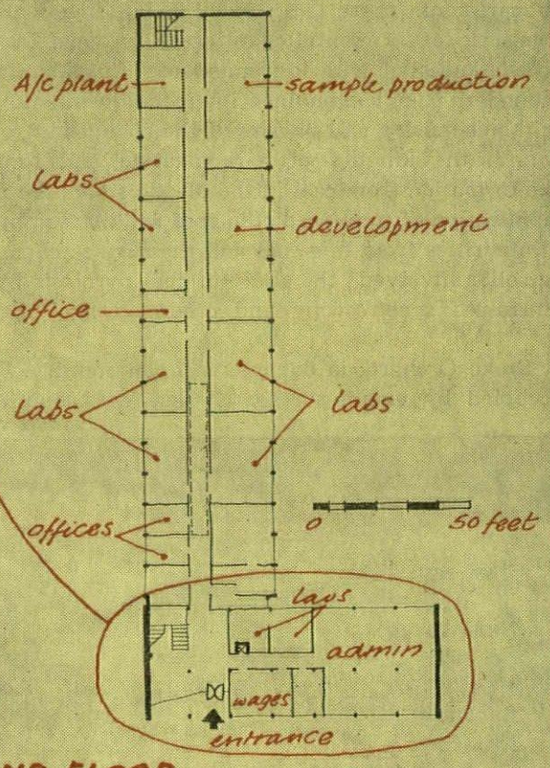
The site, at Stoke Orchard, is flat and in open country. Part of it is already occupied by existing research and workshop buildings,



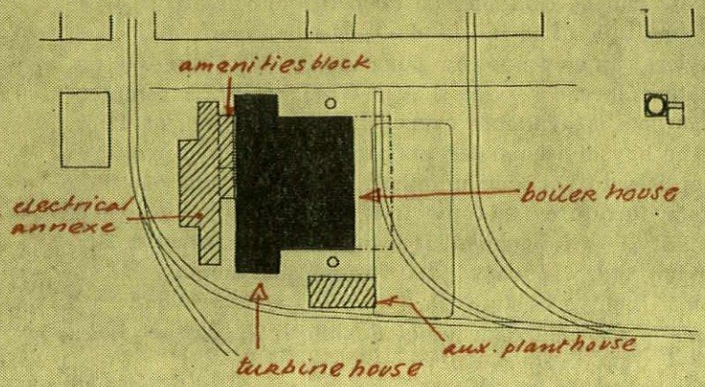
which were formerly Air Ministry property. Apart from the library, conference room, administrative offices and two special double-height areas, the building is not divided into specific laboratories. Either side of central corridors are continuous runs of laboratory bays, each bay being 16 ft. by 12 ft. This module represents the smallest working unit, and the bays can be combined to form laboratories 16 ft. wide by a length any multiple of 12 ft. The dividing partitions are of steel. Laboratory services run continuously along the inside of the external walls, underneath a special service shelf 3 ft. in height. A complete set of service outlets is available every 6 ft. In addition, at 12 ft. intervals (i.e., the bay divisions) tee-offs are provided, to permit the extension of services to portable units placed against the partition walls. Laboratory furniture is of the unit type, designed to allow maximum flexibility of arrangement. It is of polished hardwood. Service outlets for hot and cold water, gas, vacuum and compressed air are coated with a highly resistant plastic spray, and are connected to the main runs of piping by means of flexible high-pressure hose.



SITE PLAN



GROUND FLOOR
Office block & Lab. block A
Research Laboratories: Salfords



SITE PLAN: Power Plant: Clydach

Chemical drainage also is carried beneath the service rack, and is laid in polythene piping with vertical stackpipes every 48 ft.

A light steel frame supports a low-pitch roof covered in copper. Walls are cavity brickwork, with Leicestershire buff facings.

Construction began June, 1954. Quantity surveyors: Hamilton H. Turner and Son.

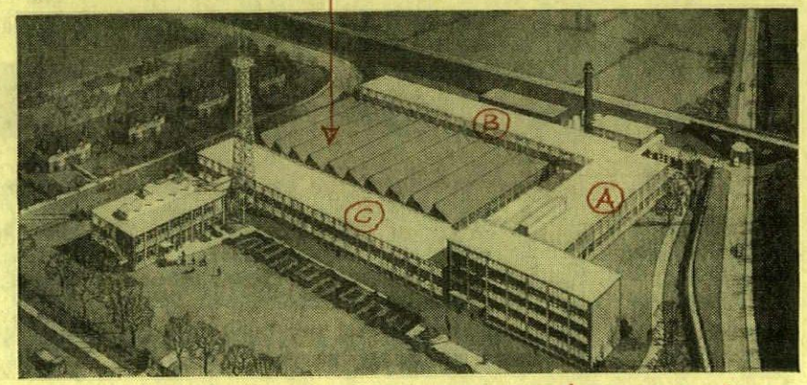
RESEARCH LABORATORIES: SALFORDS

Norman and Dawbarn

The existing laboratories of the Mullard Radio Valve Co. are housed in a north-lighted building. This is to be retained for the small-scale production of prototypes developed in the laboratories, and new laboratories, two storeys high, built on three sides of it. The scheme also includes a four-storey office and library block, a canteen with recreation facilities, a boiler-house, workshop and store.

For speed of construction steel frames are being used with floors and roofs of precast, prestressed concrete units spanning 20 ft., with pot infilling and an *in situ* concrete topping. Internally the steelwork is protected by hollow gypsum plaster casings. External walls of the two-storey blocks consist of steel window units, separated vertically by glass panels, between pressed steel column casings. Gable walls are brick. Parts of the laboratories require special clean conditions. These rooms are grouped together with their own sanitary accommodation and are entered through changing-rooms, where special clothing is kept and women have to remove make up. Windows are double glazed, with black-out blinds between the two sheets of glass. Floors and walls are tiled and the rooms are air conditioned with filtration designed to exclude all dust particles larger than one micron.

Work began in May, 1954. Architect-in-charge: Peter Clarke.



4 storey office & library block

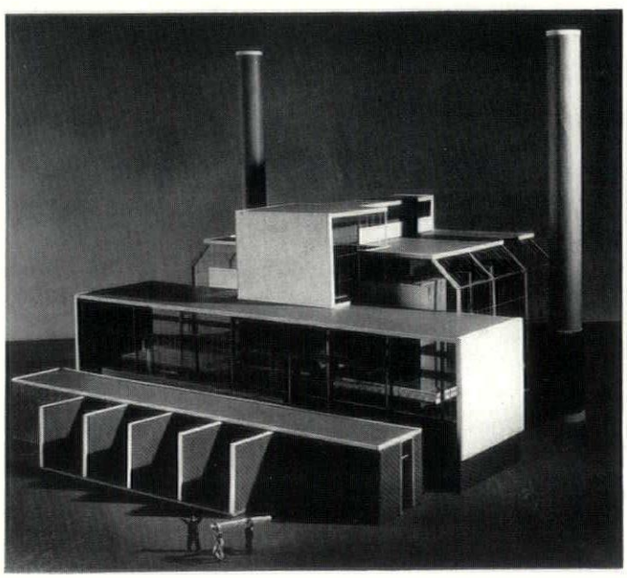
POWER PLANT: CLYDACH, S. WALES

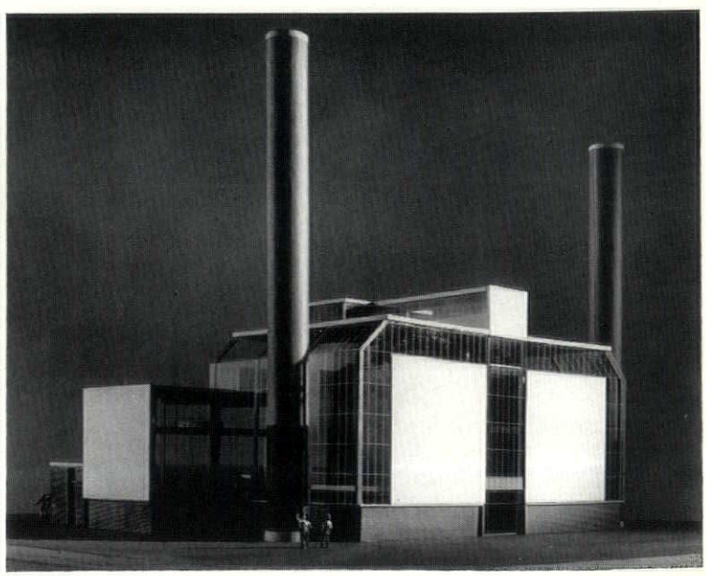
Basil Ward (of Ramsey, Murray & White)

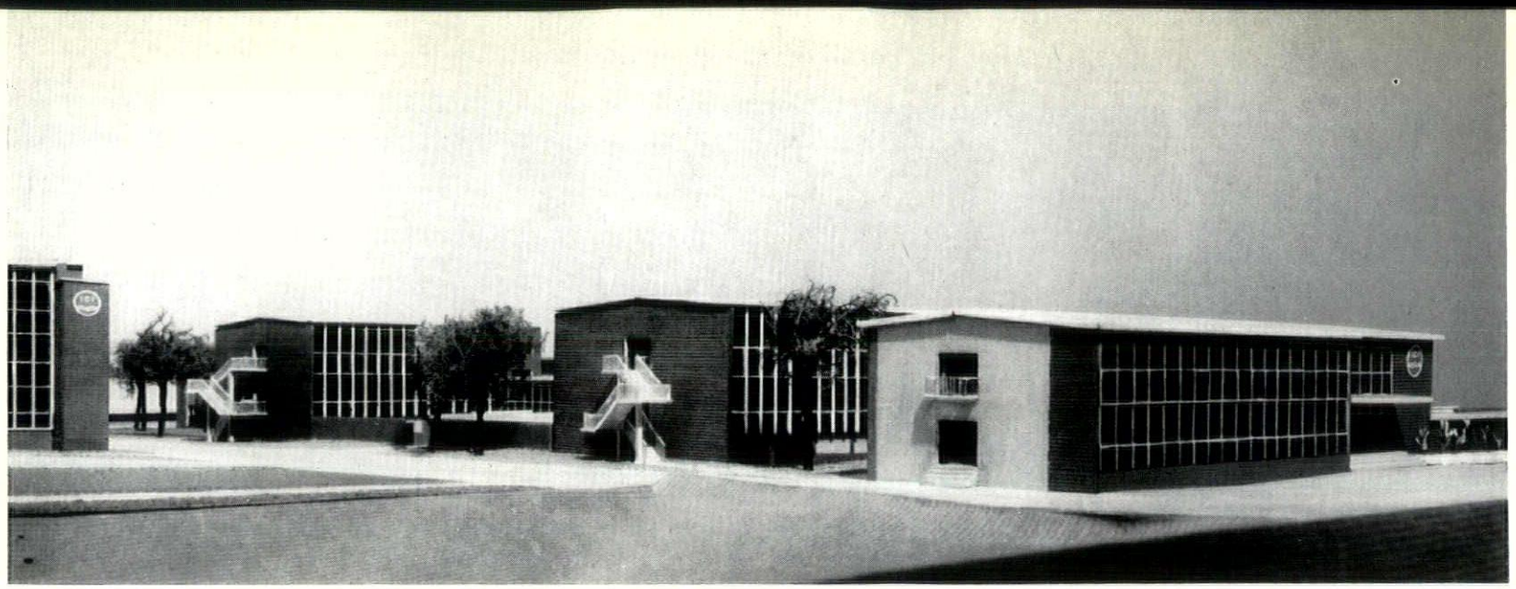
Designed for the Clydach refinery of the Mond Nickel Company by Merz and McLellan, consulting engineers. The architects are collaborating in the formal arrangement of the building, in the choice of cladding and other materials, and in the colour scheme. The site of the power plant occupies part of the present refinery site on which there are a considerable number of fairly large buildings of the older type in local brick, and of newer steel frame with cladding in sheeted materials and patent glazing. The equipment to be housed consists of boiler plant and turbo-alternators together with the ancillary equipment required to provide electrical and process steam supplies to the refinery. The plant will have its own foundations and the

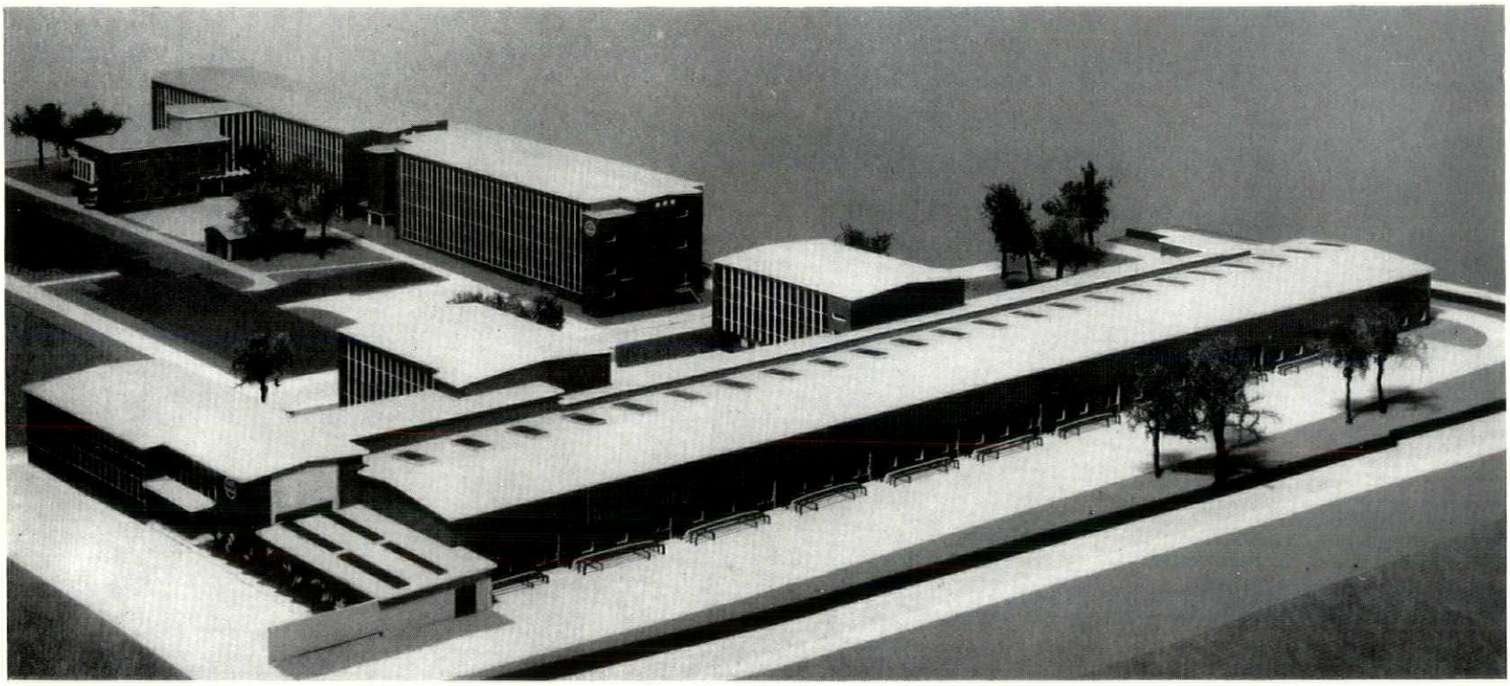
[*continued on page 65*

Power plant at Clydach: views from three directions—see also the cover of this issue.

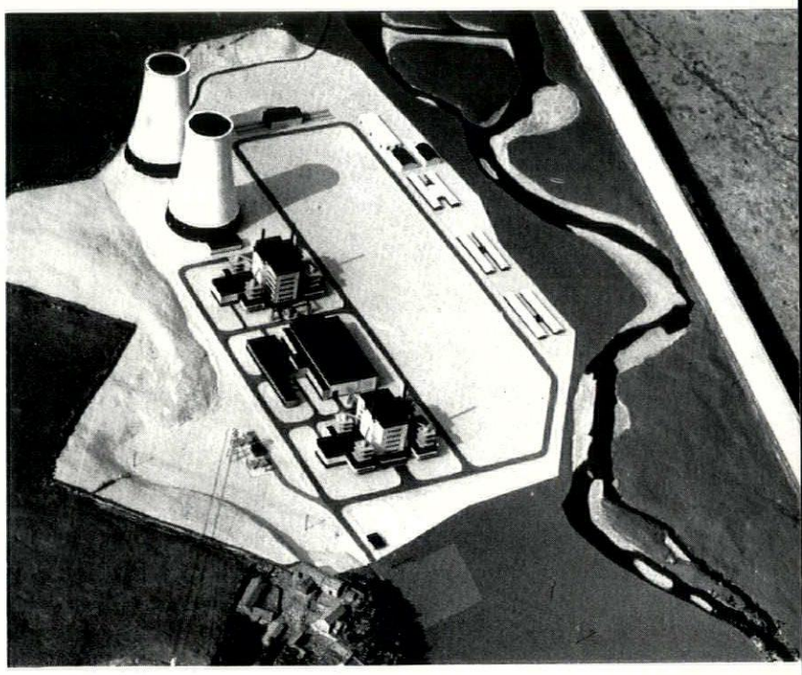






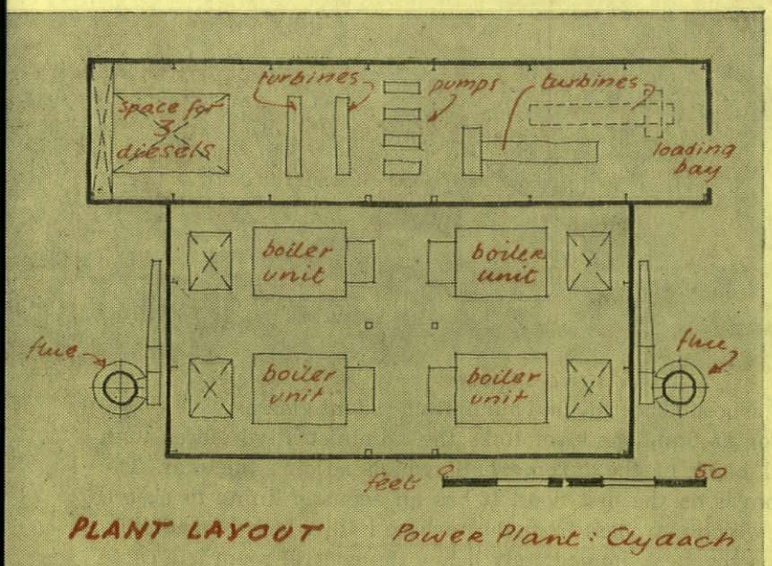


Above: development building at Welwyn Garden City for the Plastics Division of I.C.I.; upper, the two service laboratory blocks and administrative block projecting at right-angles to the workshop laboratory; lower, the whole scheme with the long workshop laboratory in the foreground and the already completed research laboratories in the background.

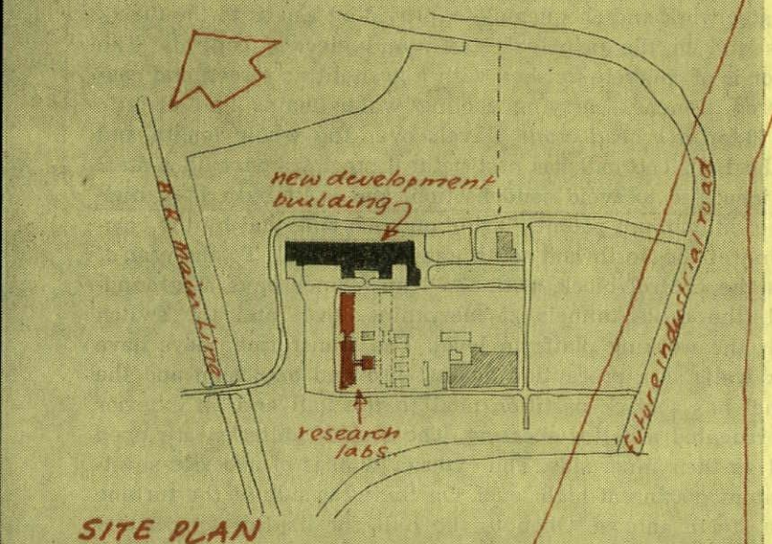


Right, atomic power-station, Cumberland, showing the symmetrical layout of the buildings alongside the two cooling towers.

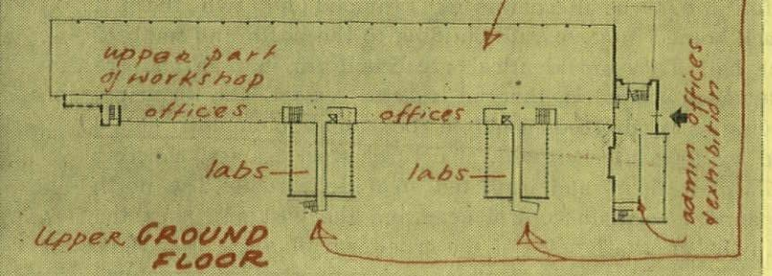
continued from page 62]



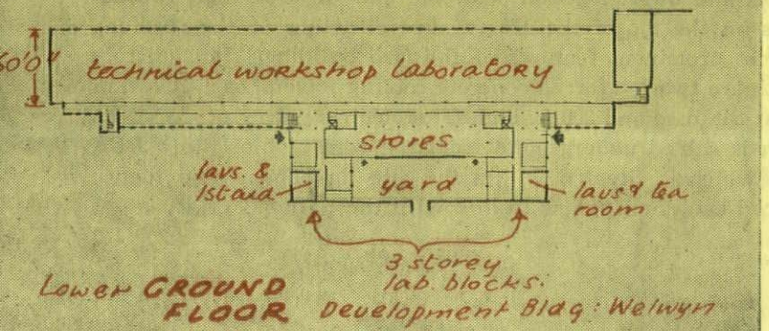
PLANT LAYOUT Power Plant: Clyaach



SITE PLAN



UPPER GROUND FLOOR



LOWER GROUND FLOOR Development Bldg: Welwyn

building itself is of lightweight construction with welded steel portal frames. It is clad with bitumen-faced steel sheeting and patent glazing. The plinth wall is brick.

The consulting engineers and the architects have worked in conjunction with the architect to the Mond Nickel Co., A. P. Lloyd.

DEVELOPMENT BUILDING: WELWYN

E. D. Jefferiss Mathews

To accommodate the Technical Services and Development Department of the Plastics Division of Imperial Chemical Industries as a complete unit with the department's administrative offices, service laboratories and technical workshops. Both in operation and architectural composition the development of the building is related to the research laboratories recently designed by the same architect.

Divided into three separate but related units. Predominant is the technical workshop laboratory, a one-storey building with clear, uninterrupted floor space, a storage area along one side and above this a gallery of offices for technical staff, the corridor serving which looks down upon the workshop space. The second unit is composed of two three-storey blocks each accommodating on the lower ground floor lavatories, tea and first-aid rooms, and on the two upper floors service laboratories. The third unit comprises the administrative offices of the department with exhibition and conference rooms.

Steel frame construction with precast concrete floor members and lightweight cladding. The technical workshop laboratory has a clear span of 60 ft., with lattice steel trusses, compressed strawboard roofing panels and continuous patent-glazed curtain walls above a cavity brick panel wall. The service laboratory blocks repeat the cladding and mullion principle of the research laboratory, and are formed of insulated plastic panels between mullion cases, which enclose either structural stanchions or vertical pipe ducts. The gallery of offices to the technical workshop laboratory has an external curtain wall cladding of plastic panels and windows in an aluminium assembly. Similar cladding is used along the frontage of the administrative offices. Windows are double glazed centre pivot hung timber casements. Where these occur in curtain walls they are incorporated with the cladding as part of the prefabricated assembly. Internal partitioning is demountable. The buildings are designed on a modular grid of 4 ft.

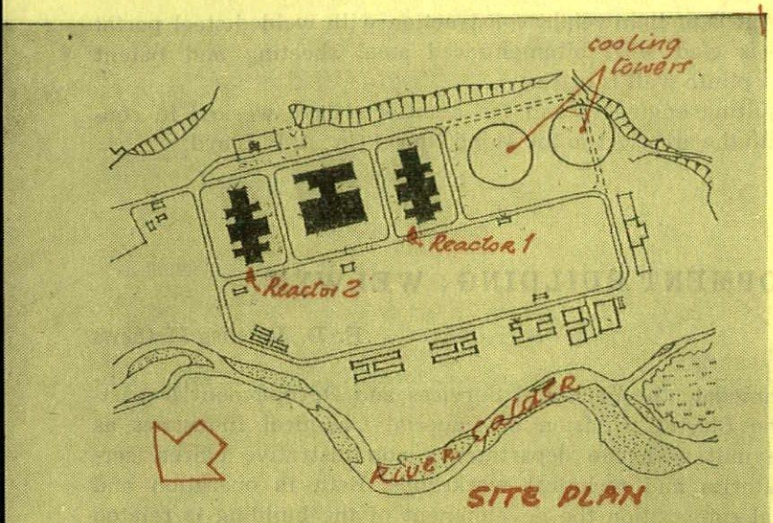
Site work began in July, 1954. The architect has worked in collaboration with the Engineering Department, Plastics Division, I.C.I. Chief assistant architect: R. S. Poole.

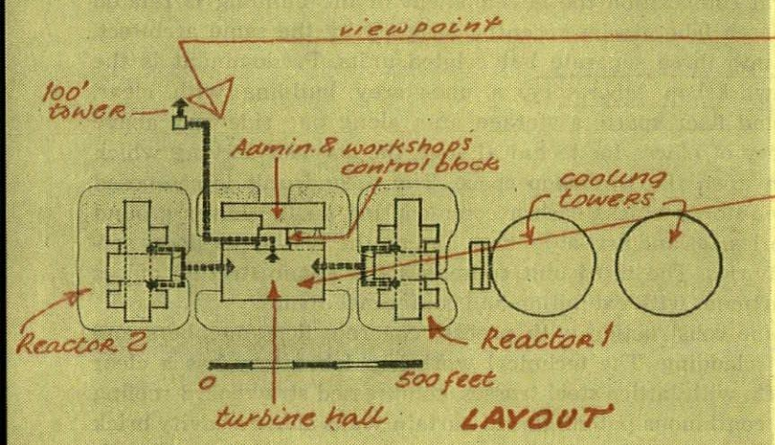
ATOMIC POWER STATION: CUMBERLAND

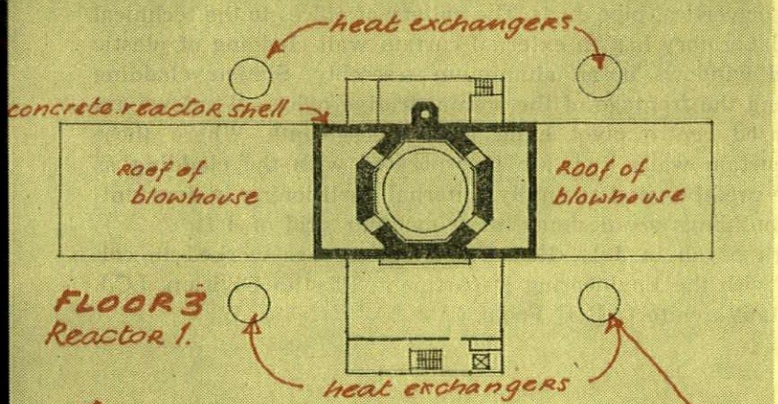
Ministry of Works

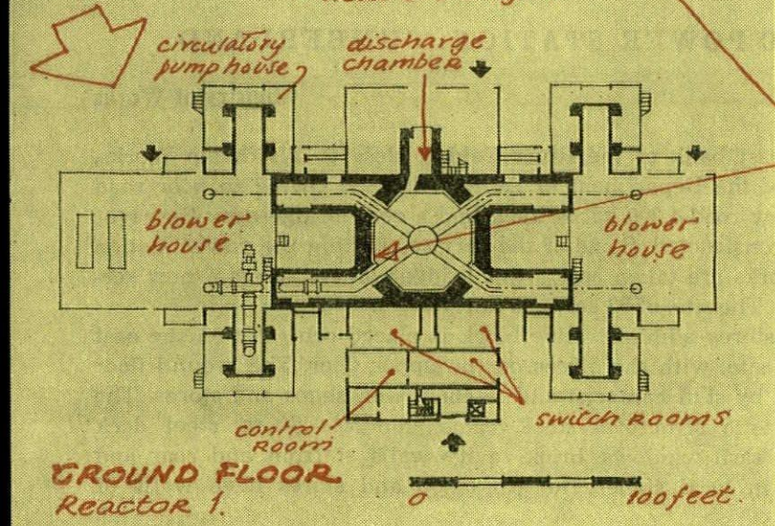
On the east bank of the River Calder, close to Windscale Works, a factory of the Department of Atomic Energy. Owing to poor road access a new road 1,200 yards long, and a road bridge over the river had to be constructed. Some of the services linking the power station and the works are taken across this bridge ; others across a new service bridge. The site, of 52 acres, is fairly level.

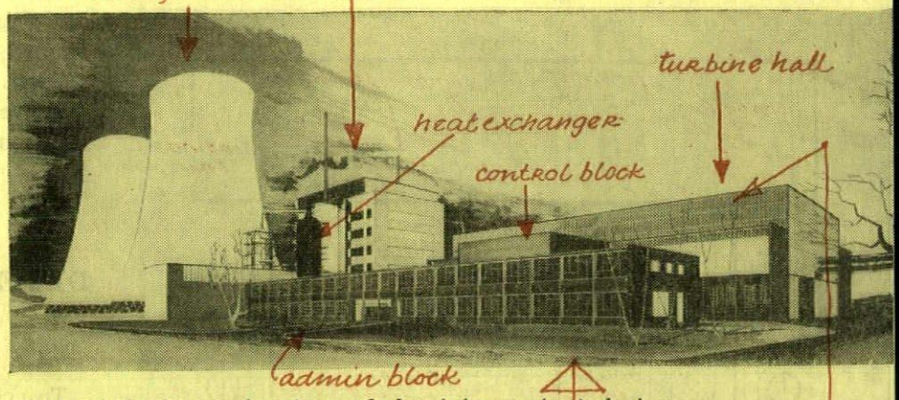
The two-storey administrative block is placed centrally on the east side of the site, with the offices on the upper floor. The ground floor is occupied by staff canteens and kitchen, workshops and stores. The building has a structural steel frame, concrete floors, steel deck roofs, steel sash windows, brick cavity walls at front and rear and end walls in local stone. The workshop and stores have walls of









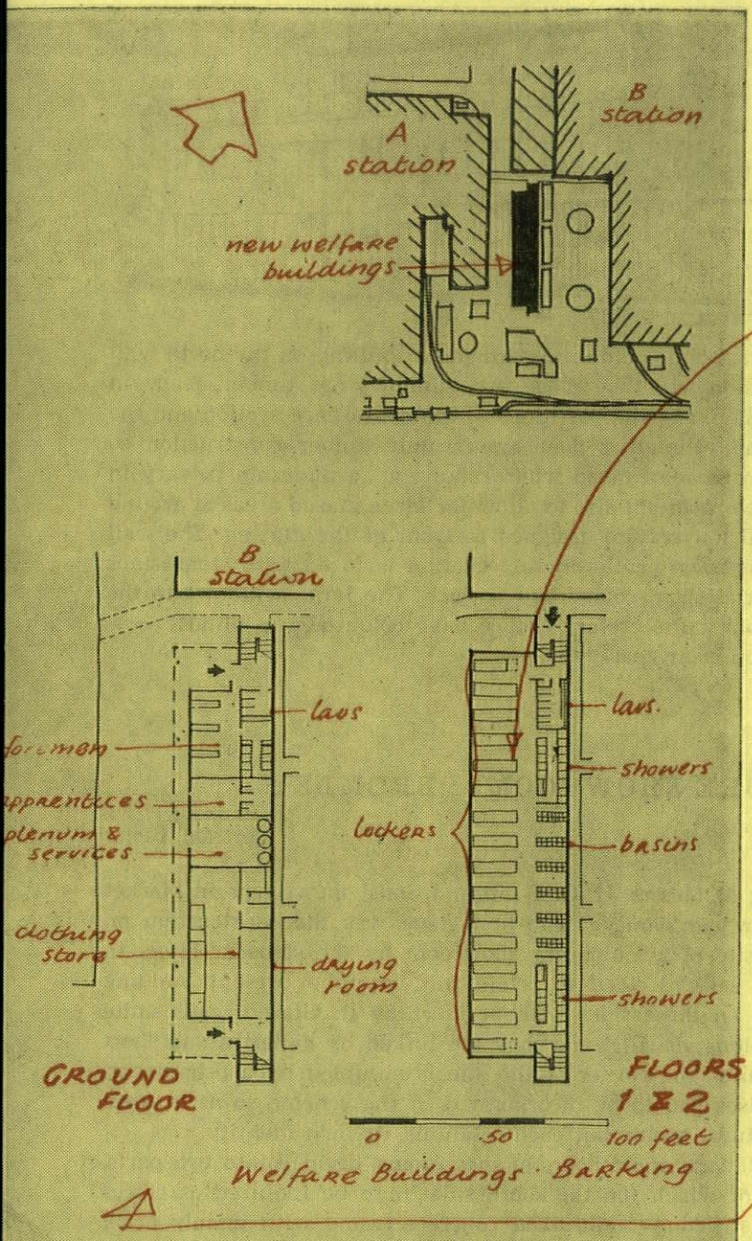


corrugated asbestos sheeting and aluminium patent glazing.

A corridor at first-floor level links the administrative offices with the central block of the turbine hall, which adjoins the rear. The control room is on the first floor. It has an acoustic lining to absorb any sound which may pass from the turbine hall, which immediately adjoins it on the west. Immediately below the control room is a cable mezzanine and on the ground floor are the H.T. switchgear and the battery room. The building has a steel frame with concrete floors, steel deck roof and brick cavity walls with steel sash windows.

The turbine hall, which is 240 ft. long by 80 ft. wide by 60 ft. high, houses four large steam turbines and alternators of the type normally used by BEA. They are mounted on reinforced concrete blocks 24 ft. above ground-floor level, and are flanked by working platforms of structural steelwork and chequer plate, providing access to the turbo-alternators and to the principal steam and electric controls. The ground floor is of concrete finished with a granolithic screed and contains covered trenches carrying cooling water mains and electric cables. A 60-ton overhead crane travels over the whole length and width of the hall. The hall has a structural steel frame with a steel deck roof insulated to avoid condensation, and is lit by a 15-ft. high clerestory of aluminium patent glazing on each side and by the complete glazing of the north and south ends of the hall. To the east of the hall is the control block, with the transformer bays at ground-floor level, the cable tunnels at mezzanine level and the switch galleries at the working platform level. The transformer bays have solid brick walls as a precaution against fire and explosion and the cable tunnel has a brick partition next to the hall and an exterior wall of corrugated asbestos sheeting. The switch galleries are open to the hall on their inner side. The exterior wall is of asbestos sheeting and patent glazing at high level. On the west side of the turbine hall is the steam annexe. Open to the hall for its full length and height, it has a structural steel frame, a steel deck roof, corrugated asbestos cladding, and aluminium patent glazing.

Steam for the turbo-alternators is provided by two thermal reactors each housed in a separate building to the north and south of the turbine hall. They are identical, are cruciform in plan and are each constructed around a thermal reactor vessel, the principal feature being a reinforced concrete octagonal biological shield surrounded by four annexes with structural steel frames, concrete and chequer-plate floors and insulated steel deck roofs. The north and south annexes contain control gear and the east and west the fans, etc. In the internal angles of the cruciform plan are four 90-ft. high heat exchangers or boilers which are supported in structural steel frames and these, together with the pair of 90-ft. high ventilation stacks on the top of the 125 ft. superstructure to the reactors, are the most prominent features of the two buildings. Immediately to the south are two reinforced concrete cooling towers, each 200 ft. in diameter at the base and 300 ft. high. The electric power produced by the station is cabled underground from the control block to a BEA compound which is situated within the site boundaries and thence via overhead cables on pylons to link with the national grid.



WELFARE BUILDINGS: BARKING

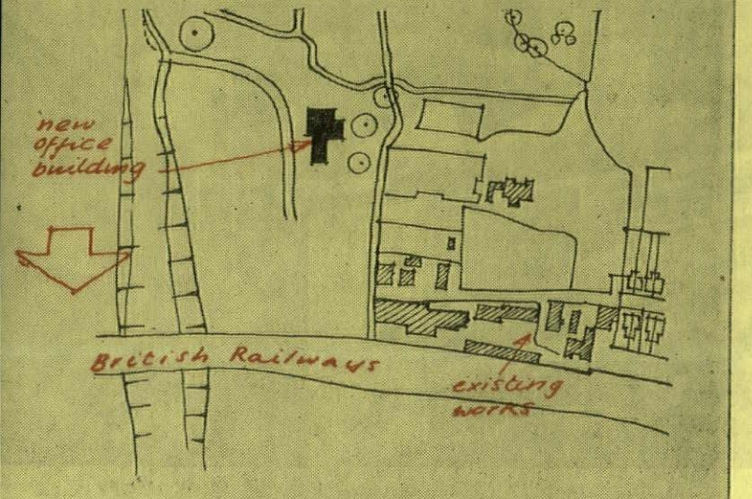
Farmer and Dark

Part of a scheme for improved welfare and amenities buildings at Barking Power Station, for the British Electricity Commission, London Division. It will accommodate a total of 1,180 manual workers. Construction is due to start early this year. A restricted site has resulted in a three-storey scheme with the main locker rooms on two



floors. They are connected on the staircase half-landing to a continuous gallery across the station. The ground floor provides for foremen, apprentices, the plenum room and a protective clothing store which will replace demolished accommodation on the site. Showers and lavatories have been grouped vertically at the back of the site.

A reinforced concrete frame is carried on pile foundations spaced to clear existing subsoil services. The cladding provides a smooth surface, resistant to dust and atmospheric pollution and requiring the minimum maintenance. Stone-faced precast concrete slabs are used on the flank walls and continuous glazing in aluminium frames, coloured and insulated below cill level, for the face. Staircases and ground-floor plinth are brick.



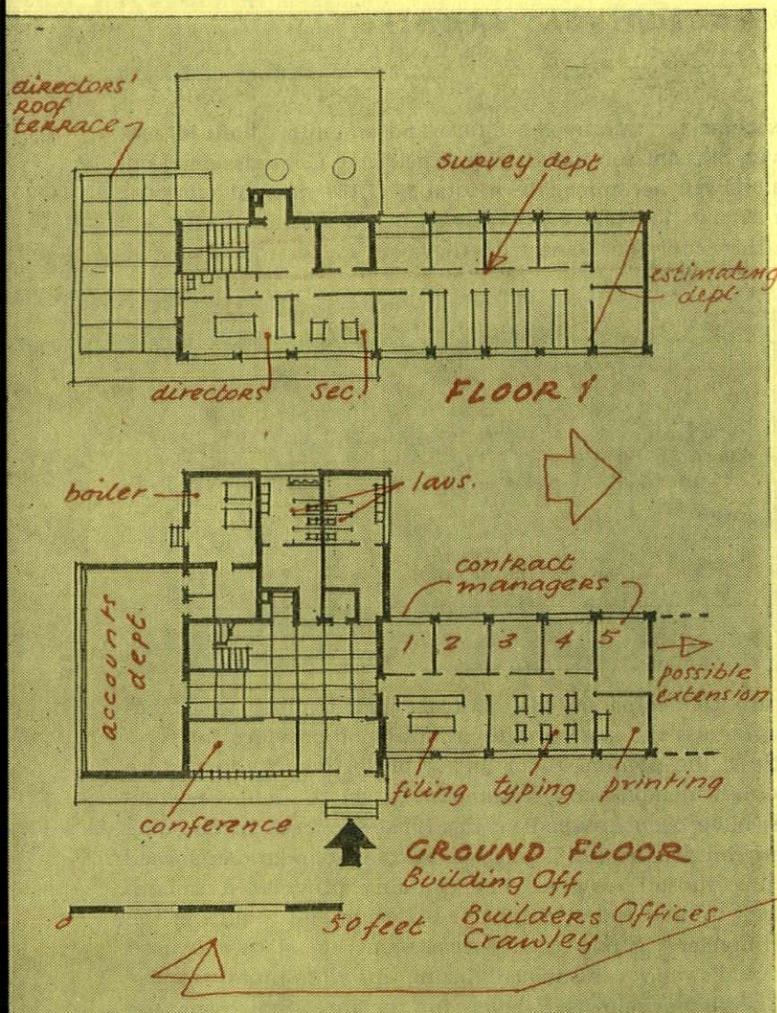
BUILDERS' OFFICES: CRAWLEY

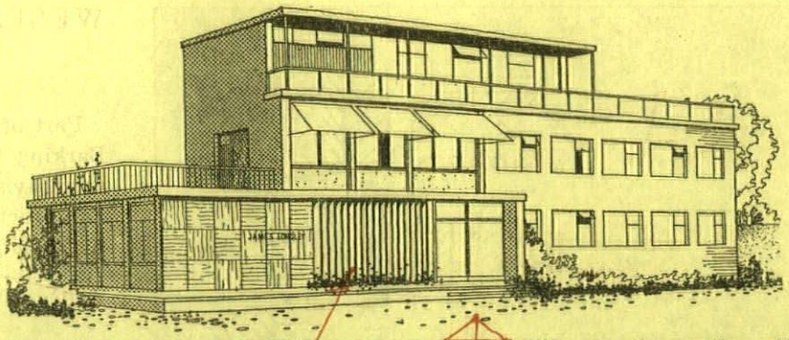
Edward D. Mills

Necessitated by the development of Crawley new town, where a new railway station and the rerouting of main roads will seriously affect the approach to the works of James Longley and Co., builders, part of which will be taken over for the construction of the station. The Company, therefore, decided to build a new administrative office and to replan their entire works, providing new joinery shops, maintenance shops, etc. This building is the first stage.

There is a central entrance hall at ground-floor level, with waiting and circulation space, and a conference room. The accounts department and the general office and contract managers' accommodation are also at this level. Separate access is provided for the small works department and a common filing room is planned so that contract managers can use this as a reference centre. The first floor accommodates the directors and secretary, together with the surveying and estimating departments. The directors' room opens on to a flat roof where meteorological instruments will be kept so that the firm can make its own weather forecast. The top floor consists of another director's office, archives and drawing store, and a drawing office opening on to a flat roof. The building has been planned so that the contracts accommodation, surveying department and drawing office can be extended to the north.

Construction is load-bearing brick walls with prestressed concrete





floors in precast units, and semi-permanent infilling on the north wall where extension will take place. All windows are timber, made in the joiners' shop, and the partitions to the conference section and the surveying and estimating floor are in unit timber construction so that they can be rearranged when required. To maintain privacy in the conference room but also to allow for large glazed areas at ground level, vertical louvres are designed in front of the glazing. The wall adjoining this room on the main elevation is faced with stone slabs to give a variation in colour and texture. The large windows to the directors' room and secretary's office have coloured sun blinds.

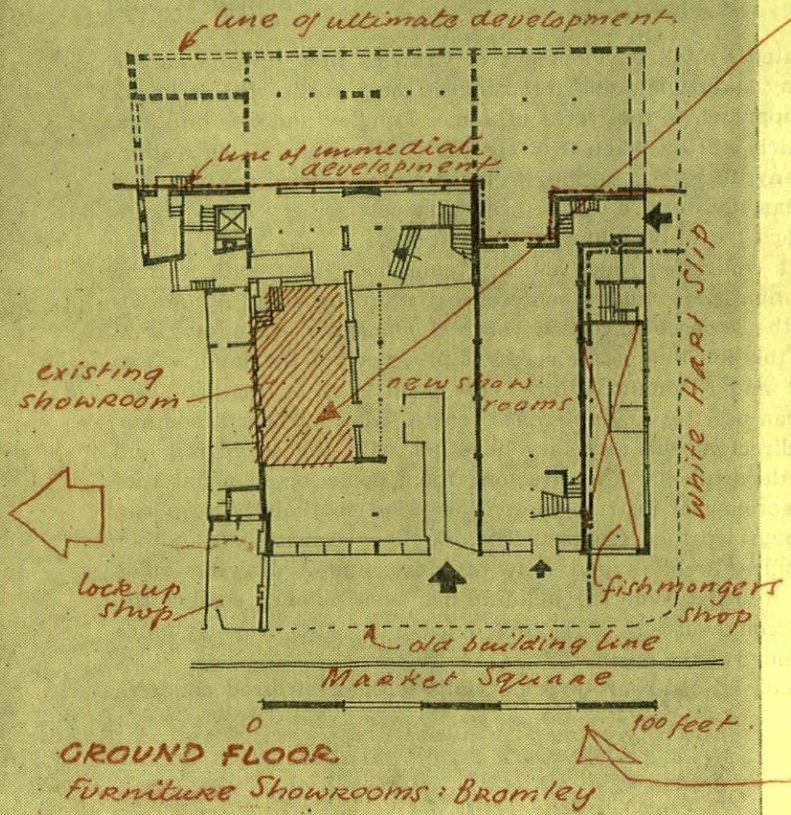
Construction begins early this year.

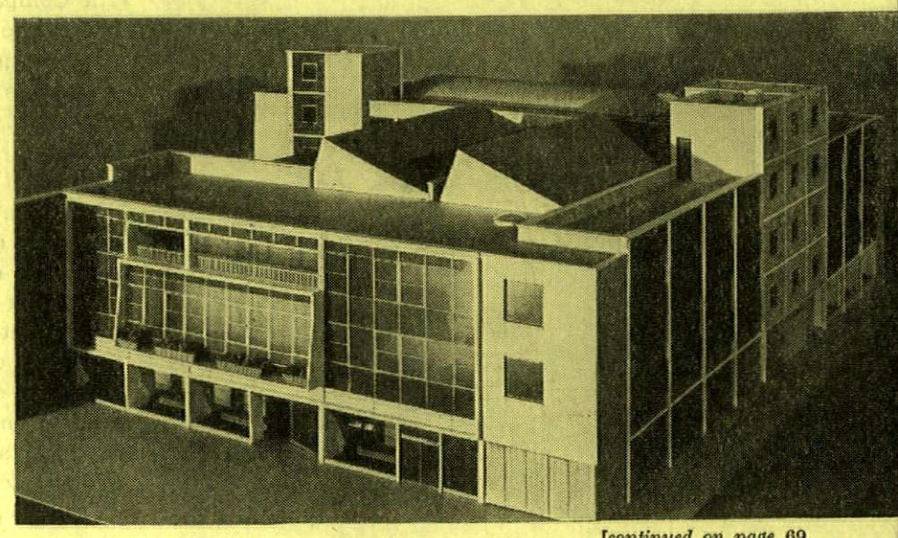
FURNITURE SHOWROOMS: BROMLEY

Bertram Carter

Rebuilding of Messrs. H. G. Dunn and Sons' showrooms in Market Square, after war damage. The first stage was the construction on part of the site of a temporary showroom by the same architect in 1948. It was later decided to retain this, and the present building surrounds it on three sides without touching it. Glazed walls unite the two portions visually, and they are linked by galleries and short flights of stairs. The corner of the site is occupied by a fishmonger, whose premises had to be incorporated in the scheme so as to form one architectural group, but each retaining its own identity.

Accommodation: three floors of showrooms, divided into two parts, the smaller of which (on the south side) may be required as offices instead. Construction: reinforced concrete frame with mainly brick walls, but certain panels of wire-brushed concrete. Floors: hardwood strip over reinforced concrete. Internal wall surfaces: mostly fair-face brick. A false ceiling, hung by light steel sections from the underside of the concrete floors, consists of removable panels, so that the light fittings they house can be rearranged to allow changing





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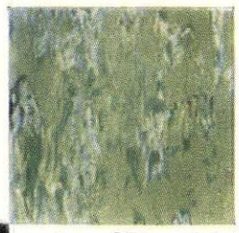
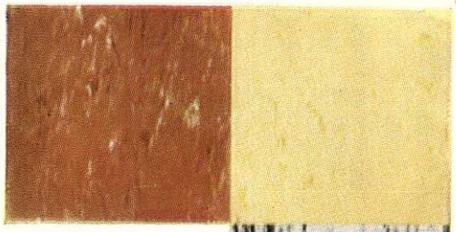
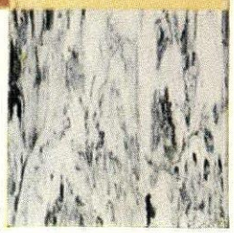
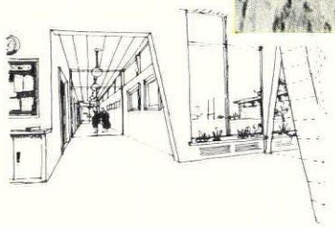
Rubber is so right... *in so many ways*

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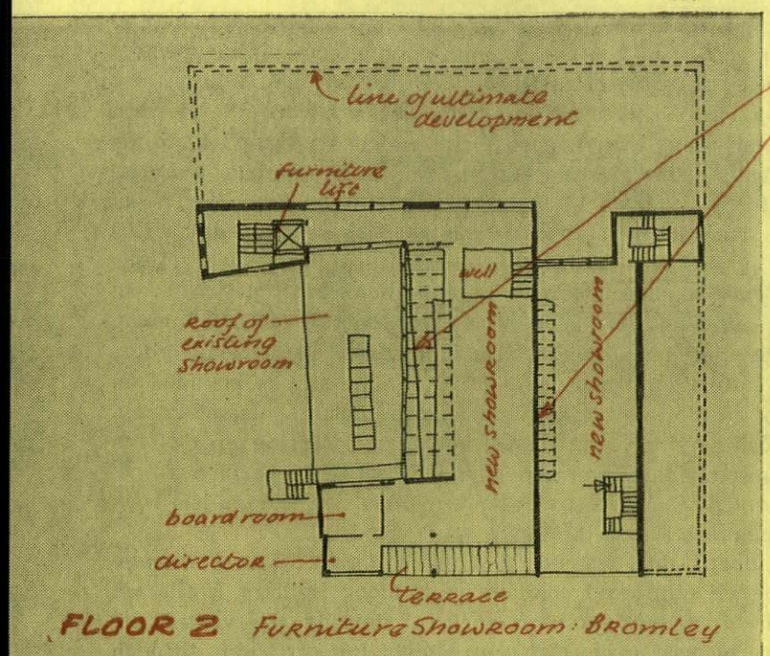
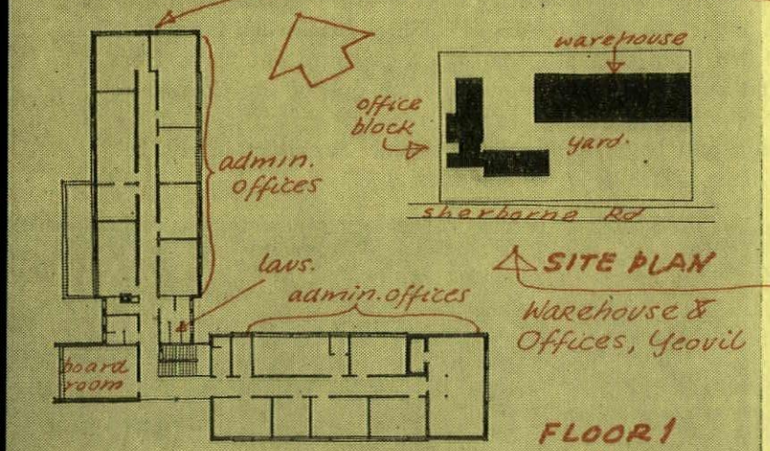
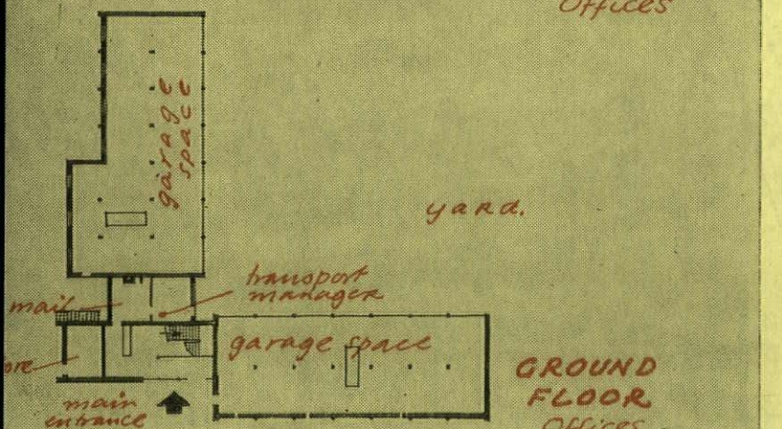


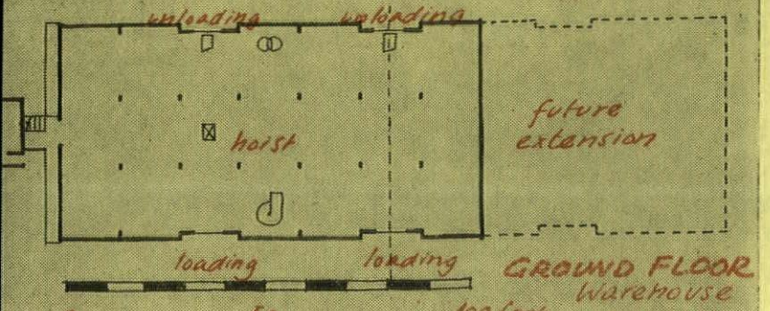
FLOOR 2 Furniture Showroom: Bromley



FLOOR 1 Offices



GROUND FLOOR Offices



GROUND FLOOR Warehouse

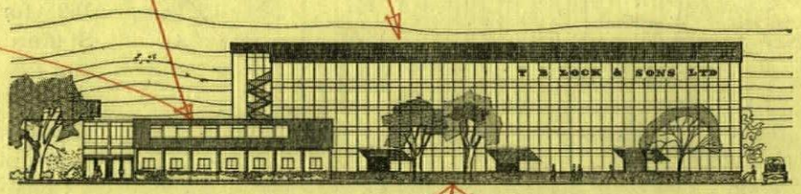
displays and exhibitions. The second floor is partially roofed by north lights.

Construction began in November, 1954. Quantity surveyors: Martin Sheffield and Bristow ; Reginald G. Read.

WAREHOUSE AND OFFICES: YEOVIL

Max Lock and Partners

A five-storey warehouse for the storage of seeds, and a two-storey block of offices and garages. The site faces Sherborne Road. Until recently it was used as a rubbish tip, and the subsoil consists of approximately five feet of consolidated refuse on a strata of alluvial deposit. The small site determined the placing of the administrative offices at first-floor level above the garages. There is garage accommodation for 14 lorries, and in order to provide a large enough turn-round space and wash-down yard the garages have been placed around the south and west perimeters of the site, thus screening the yard from the road. The warehouse consists of five floors, the



ground floor being 3 ft. 6 in. above ground level to facilitate loading from the backs of the lorries. There is a semi-basement for the storage of clover seeds only, under half the ground-floor area. Loading off the lorries is done by means of vertical band elevators.

Both buildings are steel frame, the two-storey office block having external walls of tongued and grooved boarding at first-floor level bolted back to the structure with an inner skin of 3 in. clinker block. At ground floor the garages have outer walls of 11 in. brickwork. The roof is three-ply mineral finish roofing felt on 2 in. strawboard slabbing. The first floor consists of precast concrete beams with a suspended 2 in. wood-wool ceiling in the garages to prevent downward heat loss from the offices.

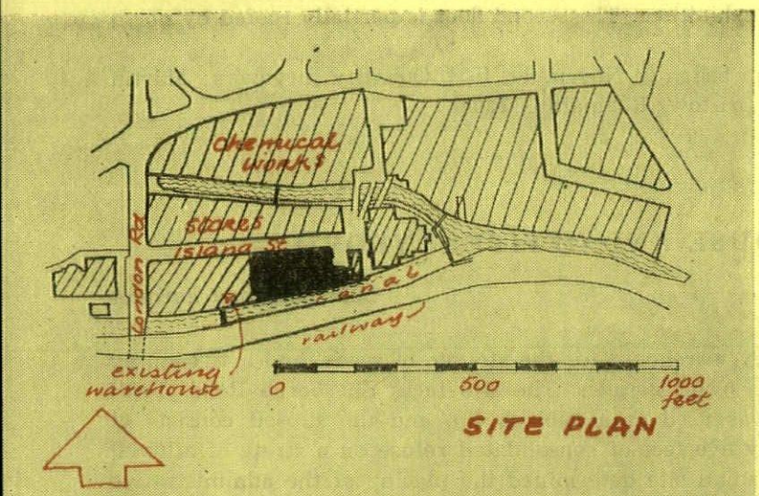
It was necessary in designing the warehouse to allow for sections of the floor being removed at a future date to accommodate new trunking, machinery and chutes should they be required. Timber construction was forbidden by fire regulations, and a series of pre-stressed concrete planks are used, bolted down to the main floor beams so that they can, if necessary, be hoisted out to allow the installation of new machinery which might be more than one storey in height. External walls are patent aluminium cladding. The internal skin consists of a 4 in. clinker block wall left unplastered to absorb all condensation. The roof is of corrugated aluminium. Owing to the nature of the subsoil, pile foundations are used for the warehouse, but not for the office block and garages, which are lighter structures.

Architect in charge: G. J. Easton.

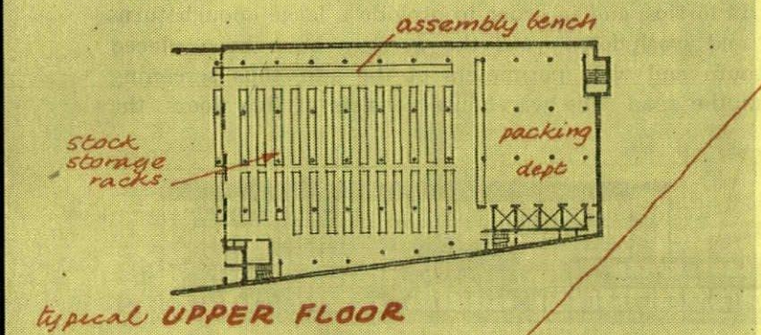
WAREHOUSE: NOTTINGHAM

C. St. C. Oakes

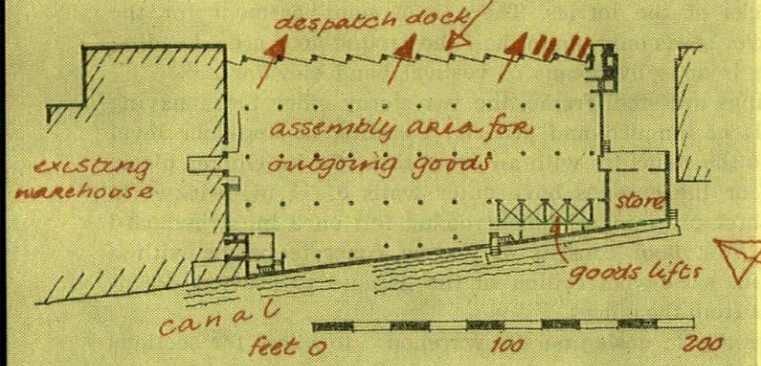
To provide an additional 142,000 sq. ft. of floor area to existing warehouses belonging to Messrs. Boots (chemists) for the bulk storage, packing and despatch of miscellaneous merchandise ranging



SITE PLAN



typical UPPER FLOOR

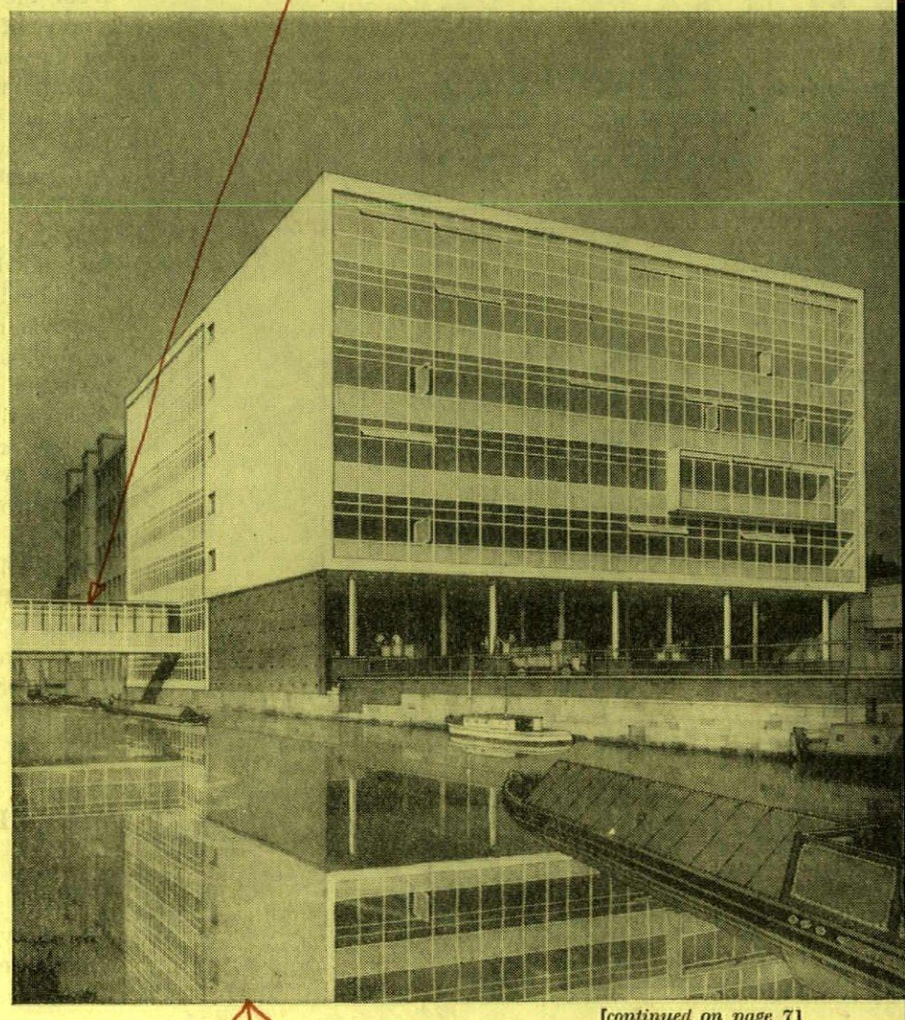


GROUND FLOOR

from stationery, small and large fancy and leather goods to toilet and surgical requisites and household requirements, comprising upwards of 20,000 different kinds of articles. Goods from manufacturers are delivered by road to existing unloading docks toward the western end of Island Street. These goods will be checked and stored on the upper floors of the existing building and of the extension. Retail orders for the Company's 1,300 shops will then be assembled from this storage space, in areas allocated for the purpose, packed, labelled and taken by lifts to a despatch dock on the ground floor of the extension. The despatch dock will accommodate twenty-one road vehicles. In addition there is to be a bridge across the Nottingham canal for the mechanical conveyance of some of these retail orders to railway sidings on the south side of it. The site is bounded on the south by the Nottingham canal and on the north by Island Street, a private road serving an industrial and manufacturing area of ten acres belonging to the Company. Island Street is to become a one-way street and to facilitate traffic movement a new bridge has been built over the north arm of the canal.

The structure is steel framed on pile foundations. Floors are pre-cast, prestressed reinforced concrete with block infillers. Walls are glazed to the maximum extent for natural lighting and ventilation. Windows are purpose made and centre pivot hung, turning through 160° for cleaning. In general the base of the building will be in Staffordshire blue brick, the eastern staircase tower in Stamford grey and the remainder of the solid areas in common brickwork faced with eggshell-finished faience. Heating is by low-pressure hot water from calorifiers fed with high-pressure steam from one of the Company's power stations adjoining.

Construction will begin in March this year. Architect in charge: C. Knight Adams. Quantity surveyors: Messrs. Gleed.



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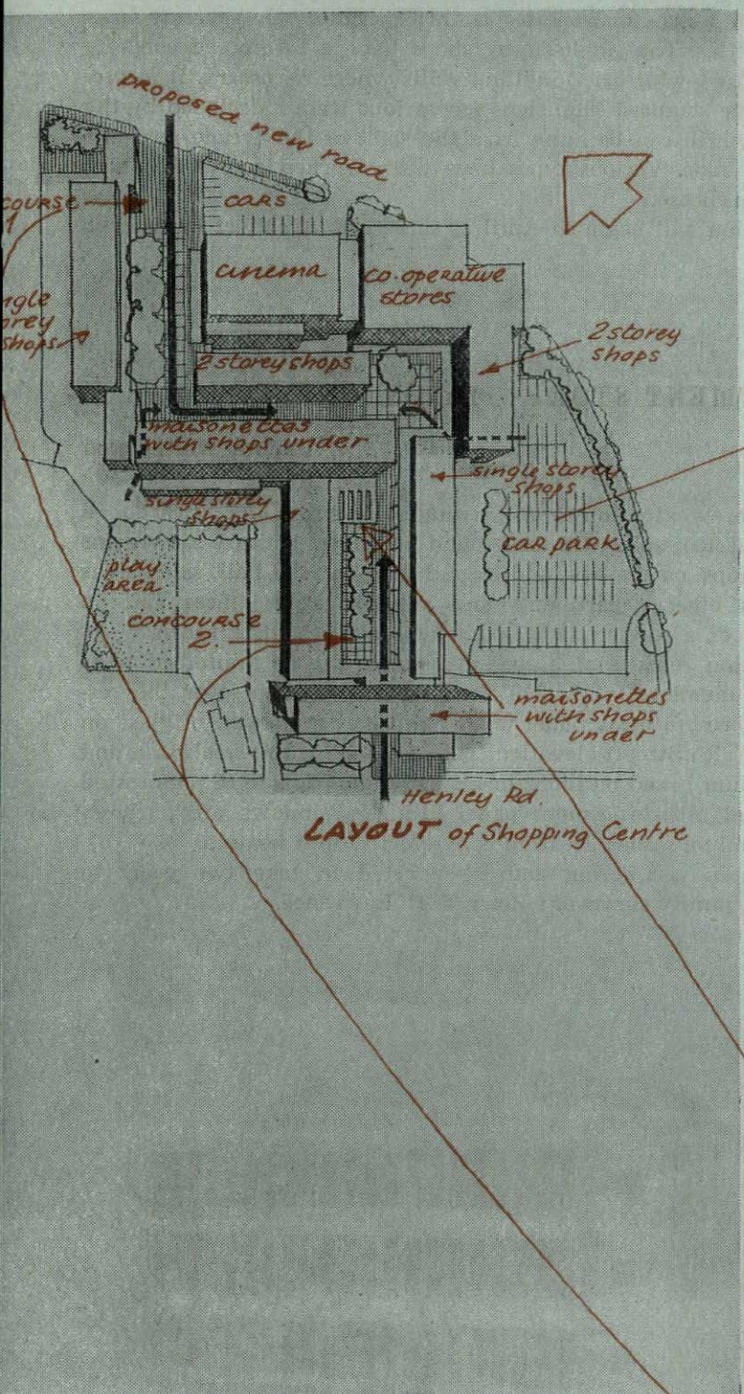
9 SHOPPING

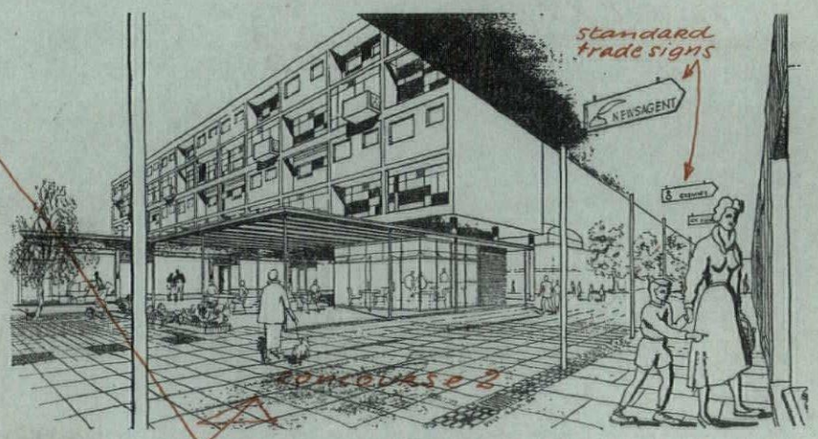


SHOPPING CENTRE: COVENTRY

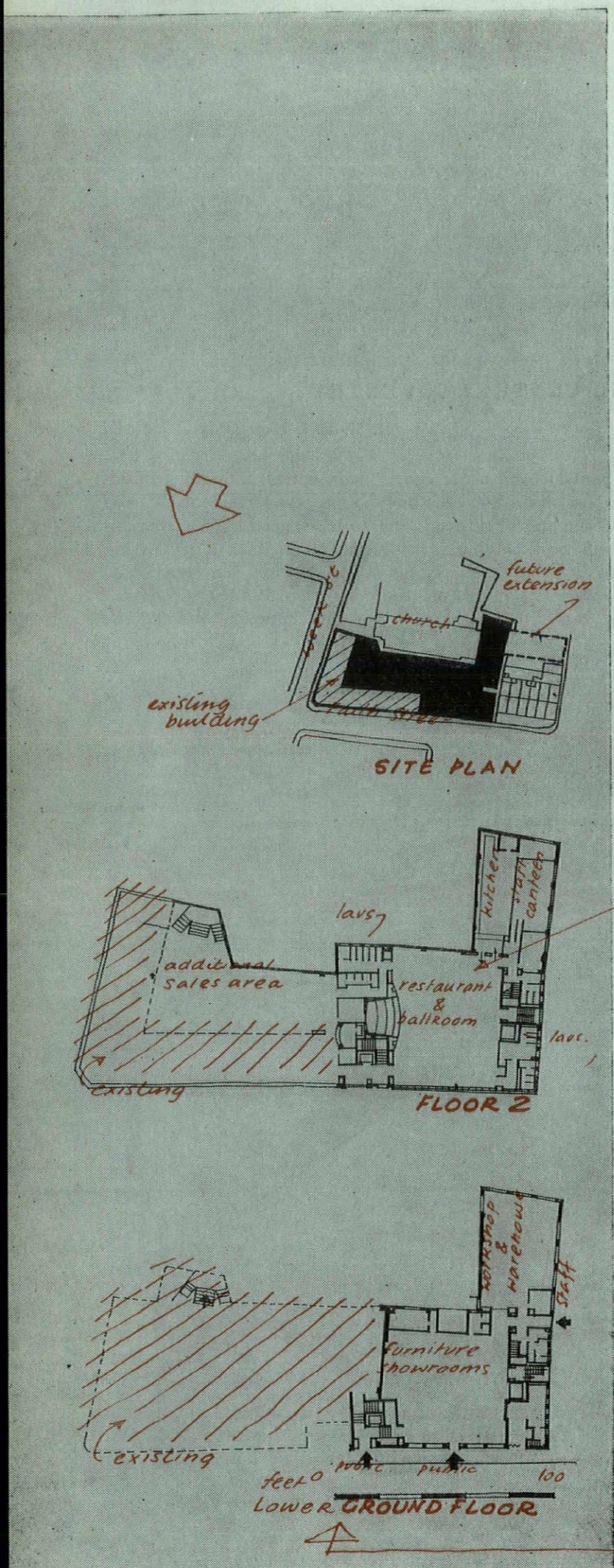
D. E. E. Gibson (City Architect)

A district centre, comprising shops, maisonettes and other buildings, designed to serve the existing and proposed residential areas in the Bell Green neighbourhood, and to have good road communication with other parts of the city. It is planned as a pedestrian precinct with extensive car parking at the rear of the shops. The site slopes towards a new link road between Henley Road and Manor House estate, between which lies the shopping area. To the





east of the new road are most of the public buildings, overlooking the River Sowe valley, which will be laid out as a public open space with playing fields. The whole scheme is built round two concourses with a connecting link. This will ensure that people



crossing from Henley Road to the new road have to pass all the shops. The position of the cinema on the north-east of the site will also encourage this. The Co-operative Store is considered to be sufficient draw in itself and closes both the main concourse and the link.

The ultimate population of the neighbourhood, 26,000, can support a district centre of 100 shops. The scheme will allow the number of shops to be increased as required. The first stage contains 34 single-storey shops with one kiosk and a café, 42 maisonettes and a car park for 70 cars. The second stage contains 13 two-storey shops, the Co-operative headquarters, the cinema and a smaller car park. The third stage contains 14 single-storey shops.

The maisonettes have a reinforced concrete frame, the lower floor of each and the roof having a reinforced concrete slab. The upper floors are timber. Walls are infilled with concrete and glazed panels. The shops under the maisonettes are brick, completely separate from the maisonettes. The single-storey shops have a reinforced concrete frame structure with brick infilling walls where necessary. It is proposed to have standard shop signs for various trades, designed by the architects, which can be hung from the soffit of the arcade near the appropriate shop. Various types have been worked out from which tenants may choose.

Construction will begin in April of this year. Architect in charge: F. Moate.

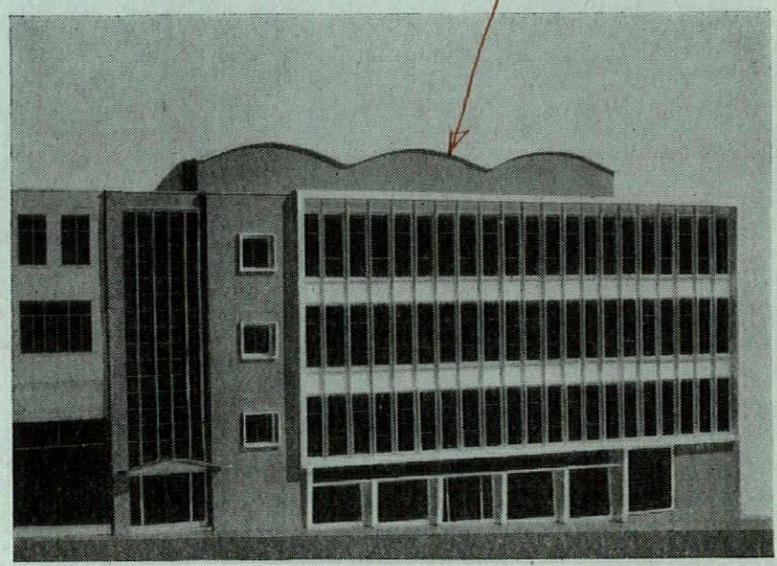
DEPARTMENT STORE: MAIDSTONE

Clifford Worthington

A four-storey extension to an existing store, providing 50,000 sq. ft. of additional floor space. On the ground floor are furniture showrooms and workshops, on the first and second floors a food hall, sales areas for various other departments and administrative offices and on the third floor a restaurant with kitchens and a staff canteen.

Construction consists of a steel frame on lightly reinforced mass concrete foundations, with shell-concrete barrel roofs over the restaurant. There are brick panel walls, with a curtain wall of glass on the main (Faith Street) elevation. This is hung on the steelwork, and has aluminium boxed mullions in a surrounding frame of prestressed concrete and asbestos-cement panel fillings. Windows are purpose-made aluminium sashes. Heating is by electric unit heaters.

Work began last spring and is expected to take two years to complete. Quantity surveyor: Peter T. B. Lawrence.



SOME BIOGRAPHICAL NOTES on the architects represented in this issue

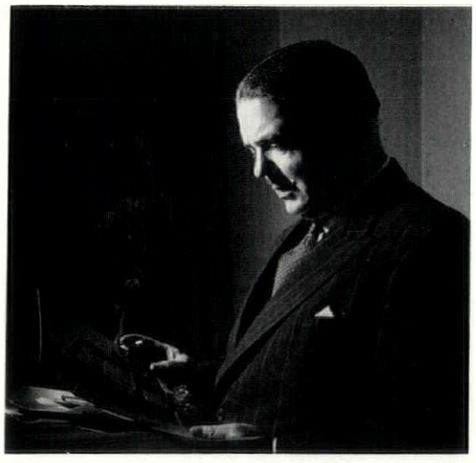
Architects' Co-Partnership: formed 1939, consisting of eleven members all of whom trained together at AA school; re-formed immediately after war by eight of the original group, seven of whom make up present firm: **Kenneth Capon,** 38; **Peter Cocke,** 36; **Michael Cooke-Yarborough,** 38; **Anthony Cox,** 38; **Michael Grice,** 36; **Leo de Syllas,** 36; **Michael Powers,** 38. Designed Brynmawr rubber factory; small private houses; parts of 1951 South Bank exhibition; primary schools for Coventry and Herts; secondary schools for Derbs., Yorks and Herts.

Hubert Bennett: born 1909; trained Manchester (Arthur Cates prizeman 1933, Soane medallist 1934, Neale Bursar, 1936, Godwin and Wimperis Bursar 1948); taught Leeds School of Architecture and Regent Street Polytechnic; practised simultaneously (school at Swinton, Manchester, 1935); Borough Architect, Southampton, 1943; County Architect, West Riding of Yorkshire, since 1945; work there includes schools, clinics, fire stations, police buildings, etc.; council RIBA since 1952.

Sir Thomas P. Bennett: born 1887; chairman Crawley new town; buildings include Naval establishments, theatres, banks, flats, offices, shops and housing schemes for LCC. Publications include *The Relation of Sculpture and Architecture* and *Architectural Design in Concrete.*

Leon Berger: born 1908; trained Liverpool; Borough Architect, Southampton, since 1948, having been Deputy Borough Architect since leaving Army in 1946.

Ronald Bradbury: born 1908; trained Manchester and Columbia University, New York; Athens Bursar, 1939; Lecturer, Durham University



School of Architecture and private practice in north-east until war. Director of Housing, Glasgow, 1945-48; City Architect and Director of Housing, Liverpool, since 1948.

Lionel Brett: born 1913; Ashpital prizeman, 1939; Council RIBA since 1950; member, Royal Fine Art Commission; architect-planner of Hatfield new town; broadcaster and writer in the architectural and lay press; author of *Houses* (1947) in the Penguin series.

H. T. Cadbury-Brown: born 1913; trained AA 1930-35; began private practice, 1937; taught AA 1946-48; work includes housing and a school at



Harlow new town and areas of the 1951 South Bank exhibition; member RIBA Town Planning and Public Relations committees.

Bertram Carter: born 1896; trained Royal College of Art and as pupil of Lutyens; works include hospitals, factories, shops, flats, etc. Hon. treasurer of M.A.R.S. Group since 1944.

Peter Chamberlin: born 1919; trained Kingston School of Art. **Geoffry Powell:** born 1920; trained AA. **Christopher Bon:** born 1921; trained Zurich and Milan. Partnership, formed 1952, has built London Shoe Co. shop in New Bond Street; Golden Lane housing scheme, City of London (see 1954 Preview issue).

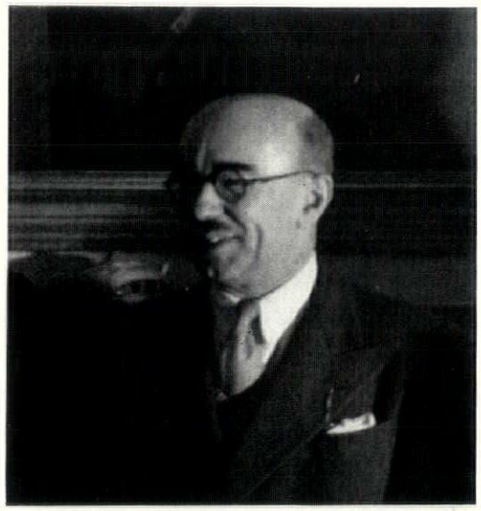
Clayton and Black and Daviel: firm founded 1872 in Brighton by the late C. E. Clayton; present partnership, **K. E. Black** (born 1897, trained Bartlett School and AA), **C. E. Petch** (born 1910, trained Brighton College of Art) and **J. R. F. Daviel** (grandson of C. E. Clayton, born 1913, trained Brighton College of Art and Regent Street Polytechnic); work includes schools, flats, housing, hospitals and commercial and industrial work generally, chiefly in Brighton and Portsmouth areas.

H. Connolly: born 1901; trained Leeds; deputy city architect, Bradford, 1937-39; city architect, Bradford, 1939-42; deputy county architect, Essex, 1942-45; county architect, Essex, since 1945.

Frankland Dark: born 1903; trained RA School; associated with F. Q. Farmer since 1931 (partnership since 1934; Farmer retired 1952). The firm has built power stations, industrial buildings, factories, schools, houses and showrooms.

Graham Dawbarn: born 1893; trained Cambridge; Saxon Snell prizeman, 1927; Godwin and Wimperis Bursar, 1931; specialist on airports; recent work of firm (Norman and Dawbarn) includes housing (St. Pancras, Harlow and elsewhere), University College of the West Indies (*A R*, October, 1953); BBC television centre, Wood Lane (see 1954 Preview issue).

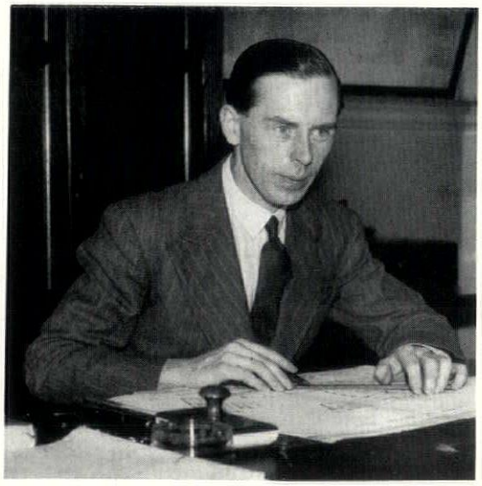
Louis de Soissons: born, Montreal, Canada, 1890. Articled to J. H. Eastwood; trained RA Schools and Ecole des Beaux Arts, Paris; Tite prizeman 1912; Henry Jarvis student 1913; architect for Italy, Imperial War Graves Commission; member Royal Fine Art Commission since 1949. Works include industrial and social service buildings,



shops, theatres, housing, war memorials, etc.; architect-planner, Welwyn Garden City; architect of George VI memorial now under construction.

J. M. Easton: born 1889; trained Scotland and London; Godwin bursar 1927; president AA 1939-40; Council, RIBA, since 1951. **Sir Howard Robertson:** born 1888; trained AA, London University and Paris; principal of AA throughout 1920s; Royal Gold Medallist, 1949; past president RIBA; member, Royal Fine Art Commission. Partnership, established 1919 (at first with late Stanley Hall), has built Royal Horticultural Society Hall, Gt. Ormond Street Children's hospital, Government exhibition pavilions, Hatfield Technical College, etc., etc.; also interiors of liners; recently appointed architects of new Shell office building, South Bank.

J. Innes Elliott: Chief Architect and Surveyor, Metropolitan Police, since 1947; born 1912;

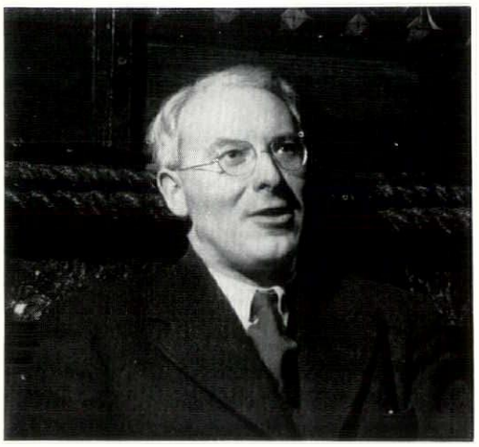


trained Liverpool under Reilly and Budden; Office of Works from 1935 including 4 years with Ancient Monuments Branch.

Frederick Gibberd: born 1908; studied Birmingham; past Principal AA School; Council RIBA since 1952 (vice-president 1950-51); member, Royal Fine Art Commission; works include Pulman Court,

Streatham, Hackney Housing, London airport terminal buildings, now under construction (see 1954 Preview issue); market-place at Lansbury neighbourhood, etc.; architect-planner of Harlow new town; author of *The Architecture of England* and *Town Design*.

D. E. E. Gibson: born 1908; trained Manchester; lecturer, Liverpool University School of Architecture, where he also studied Civic Design under Professor Abercrombie; scientific officer, BRS, Watford; deputy County Architect, Isle of Ely; first City Architect of Coventry, later also planning officer of Coventry (responsible for general



control of development in the new Coventry, and architect for Broadgate House and bridge); appointed County Architect, Notts, 1954; Council, RIBA since 1952.

Ernö Goldfinger: born 1902 in Budapest; trained Switzerland and France (Auguste Perret's atelier); came to England, 1934; has designed shops, houses, schools, offices; author of Penguin *County of London Plan Explained* (with E. J. Carter), *British Furniture Today*; English correspondent for *L'Architecture d'Aujourd'hui*.

Frank Gollins: born 1910; trained Birmingham; in practice before the war with R. A. Smeeton. **James Melvin:** born 1912; trained AA; worked in Paris and Vienna and was in partnership with Lionel Smith. **Edmund Ward:** born 1912; previously a partner with Sir John Brown and Partners. Present firm formed after the war; built own offices, Manchester Square; Sheffield technical college now under construction (see 1954 Preview issue).

Stanley V. Goodman: born 1894; studied at College of Estate Management and (after 1914-18 war) at AA. Worked with Beds Education Committee from 1920, designing schools; Beds County Architect since 1949; Council RIBA since 1951.

John Lacey: born 1916; trained AA; worked with Robert Atkinson, Ministry of Town and Country Planning (under G. A. Jellicoe); war service Royal Engineers in N. Africa and Italy; designed timber camps for 10,000 Hungarians in Austria.

Max Lock: born 1909; trained AA; head of Hull School of Architecture, 1939-42; director of surveys and plans for Middlesbrough, the Hartlepools, Portsmouth district, Bedford; work includes 8-storey flats and houses in Bedford; offices, houses, etc., in London, Herts, Beds. Present partnership (with Geoffrey Easton, Gerald King, Laurence Perlston) formed 1954.

J. L. Martin: born 1908; trained Manchester (Soane medallist, 1930); head of Hull School 1934-39; deputy architect, LMS railway 1939-48; deputy architect LCC 1948 (chiefly responsible for Royal Festival Hall); now architect, LCC; Council RIBA since 1953; author (with wife Sadie Speight) *The Flat Book*, 1937.

E. D. Jefferiss Mathews: born 1907; trained as a surveyor; subsequently took outside RIBA final and joined family firm of architects established by great-grandfather in 1830s; war service with REs, ending as Assistant Director of Works, Persia and Iraq; present practice (with two partners, Oswald D. Pearce and A. G. Nisbet) specializes in hospital and industrial work; vice-president RIBA since 1953; chairman ARCUK, 1951-53.

Robert H. Matthew: born 1906; trained Edinburgh; Pugin Student, 1929; Soane medallist, 1932; Arthur Cates prizeman, 1932; Bossom Gold Medallist, 1936; Council RIBA since 1950; architect and town-planning officer, LCC, 1946-52; previously chief architect and planning officer to Department of Health for Scotland; now Professor of Architecture, Edinburgh University.

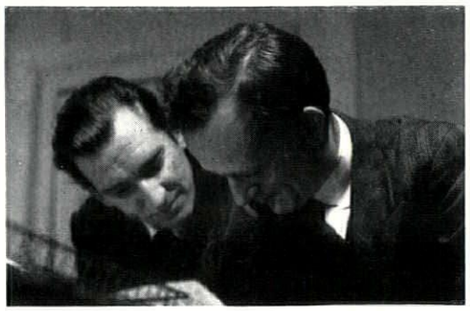
Edward Mills: born 1915; studied Regent St. Polytechnic; work includes South Bank 1951 administration block; flats at Hackney, etc., author of *The Modern Factory*; RIBA Bossom Research Fellow, 1953.

Guy Morgan: born 1902; trained London University; taught at AA for 5 years; has designed flats, housing, pubs, factories, hospitals, etc.

Colin St. C. Oakes: born 1908; trained Northern Polytechnic and Royal Academy; Rome Scholar, 1931; Arthur Cates prizeman, 1935; 1936-38, Deputy Chief Architect to Government of Bengal; 1938-39, Deputy Assistant Director of Works, War Office; 1946-49, partner with E. Playne (Sir Aston Webb & Sons) and teaching at AA; 1945-50, principal architect, Imperial War Graves Commission—Far East; since 1949, Chief Architect, Boots Pure Drug Co., for whom he has designed shops, laboratory, power station, etc.

Pite, Son and Fairweather: firm formed by W. A. Pite in 1919 when his son, Robert Pite, and H. M. Fairweather were taken into partnership; specialized in hospital work; W. A. Pite died shortly after the war and H. M. Fairweather in 1950; Robert Pite resigned 1949; present partners, **G. H. Fairweather, W. N. B. George and J. K. O. Trew.**

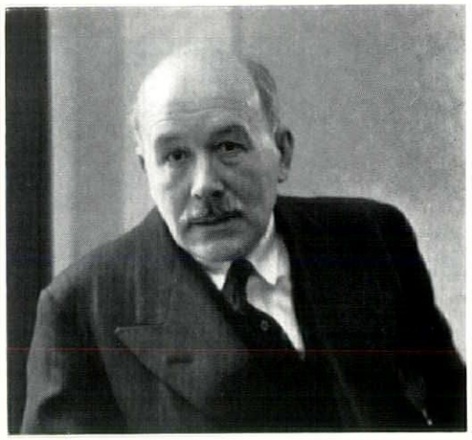
Powell and Moya: partnership formed 1946. Philip Powell: born 1921; trained AA; worked in office of



F. Gibberd; part-time teacher Kingston School of Art, 1947-49. Hidalgo Moya, born 1920; trained AA; worked in office of F. Gibberd; part-time teacher AA, 1947-48. Michael Powell (who left partnership in 1950 to become Assistant Housing Architect, LCC). Won competition for Westminster City Council's Pimlico Housing Scheme, 1946; other work includes flats, Gospel Oak (AR, Oct., 1954); small houses.

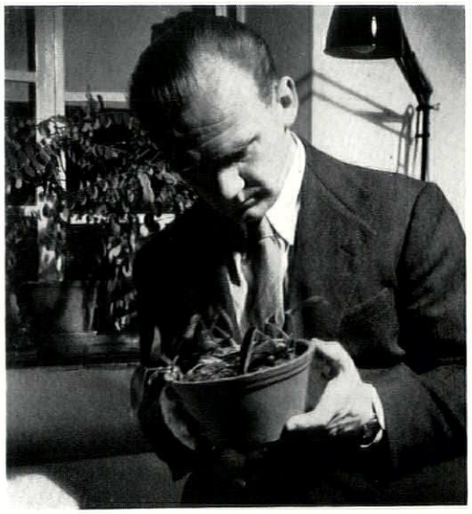
D. P. Reay: born 1914; trained Liverpool and Columbia University, New York; principal architect, Royal Canadian Air Force, 1940-45; Assistant Regional Planning Officer, Ministry of Town and Country Planning, 1946-48; Chief Architect and Planning Officer, East Kilbride New Town, 1948-52; Chief Architect, Stevenage New Town, 1952.

Frank Scarlett: born 1900; trained London University; worked under Maxwell Ayrton, also in Paris at the Atelier Pascal; Bossom gold medallist,



1929; worked afterwards in Dublin, where he taught at the National University of Ireland; after that in New York, under Corbett and Harrison; private practice since 1929, first job a house at Rye; has built flats, offices, etc.

Peter Shepheard: born 1914; trained Liverpool; 1937-40, assistant to D. L. Bridgewater, with whom he is now in partnership; 1940-43, Ministry of Supply, Royal Ordnance Factories; 1943-44 with Sir Patrick Abercrombie's staff on Greater London Plan; 1945-47, Ministry of Town and Country Planning, working on Stevenage master plan; 1947-48, Deputy Chief Architect, Stevenage



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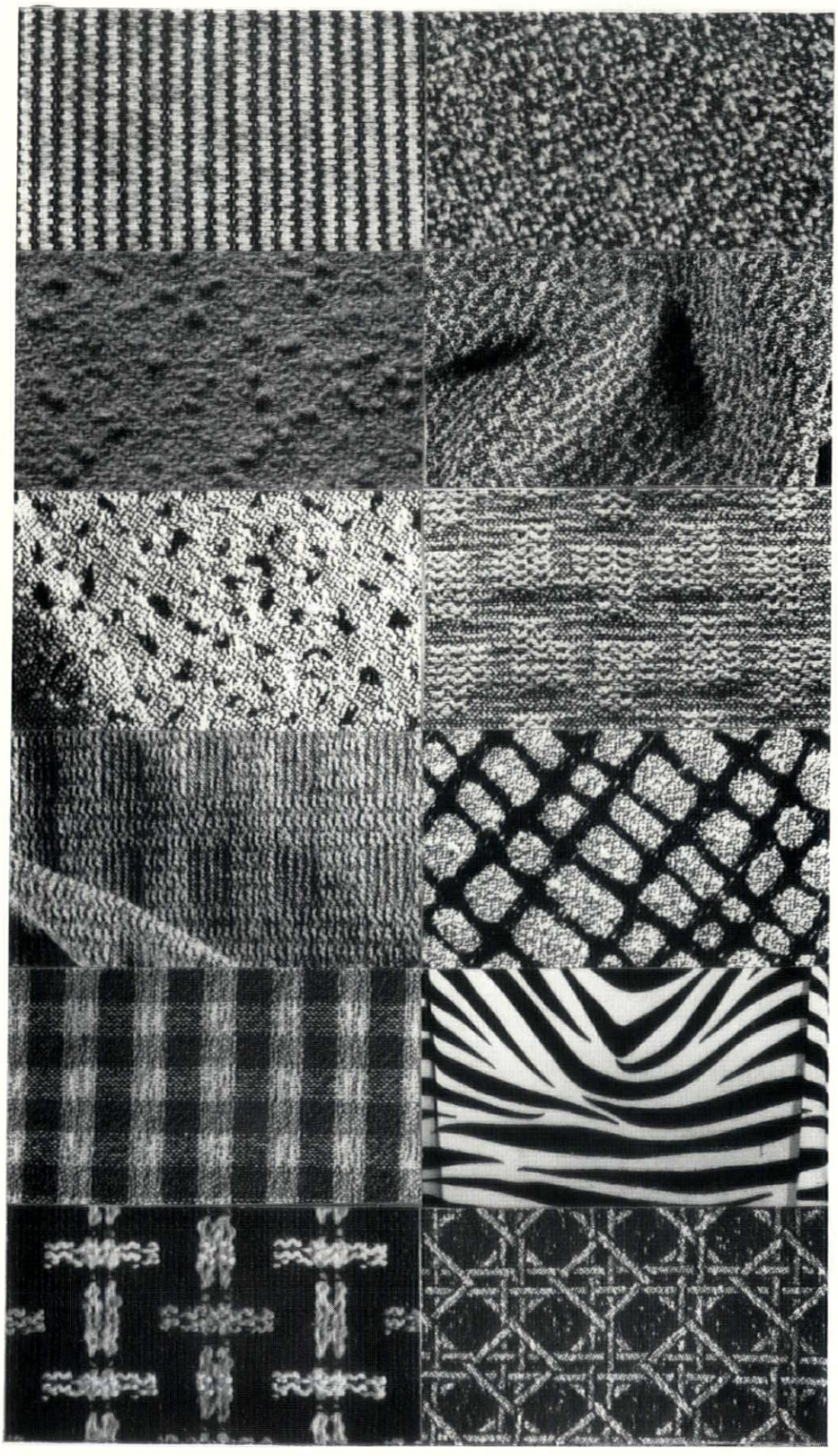

TIBOR REICH *has designed a number of new textured furnishing fabrics for Tibor Ltd., Stratford-on-Avon. The firm gained its reputation by adding each year to their range several new textures, which are not destined to replace the previous ones, but to add something fresh and usable to the existing designs. For 1955 twelve fabrics have been selected to go into production, and whilst some are suitable only for upholstery, others take their place as drapery fabrics for interiors, bed covers and loose covers for Chairs. The latest Deep Texture weaves, based on geometry, have more movement than the previous ones, but still retain a quiet pattern. The Texturedrape range has small textured effects or very flowing lines, whilst the Textureprint, which is a fairly newcomer, tries to overcome the limitations of woven effects by having the texture woven in the fabric and then overprinted with two or more additional colours. The fabrics illustrated are as follows:*

Tiara. *A plain upholstery fabric which can be equally well used for curtains or wall panels. The small vertical stripe which repeats on just over ¼ inch adds additional depth and the new colours available are from sombre Bronze to the more exciting Deep Purples, Flames and Lilacs. The composition is cotton, worsted, rayon and Lurex.*

Marlow *is a piece-dyed medium weight plain texture design to augment the well-known 'Henley' fabric, and the colours available will be Flame, Lime, Persimmon, Lemon, Forest Green, Turquoise, Black, Grey, Wine. Composition: Wool and cotton.*

Granite. *A Texturedrape with small pattern giving an almost plain texture with the relief of small speckles and light bouclé effects. It is useful for upholstery or curtains, and is composed of cotton or cotton and wool.*

Eaton Square and Scampi. *Piece-dyed or woven in blended colours. 1 inch squares on a 2 inch repeat giving an embossed texture square effect. This serves as a useful upholstery fabric and contains cotton, wool and a small percentage of rayon.*

Argyle. *Check upholstery cloth with ½ inch squares and 1 inch repeat. Composed of cotton and wool.*

Hilary. *A gay upholstery fabric in multicolours with 1 inch repeat across and 1¾ inch down. Mostly on a dark background with a basket weave effect in Grey/White, White/Yellow and Red/Black.*

Wellington. *Elegant closely woven fabric with tiny loops having an almost plain appearance. 100 per cent wool surface on a cotton base. Woven in rich and elegant colours.*

Pebble. *Small wool pebble effect on a cotton ground with 1 inch shell shape raised effect on a textured ground. Woven with or without Lurex according to its use.*

Mesh. *Irregular flowing lines for draping or upholstery in interesting colours such as Kingfisher, brilliant Lime, Flame, Black/White.*

Zebra. *Textureprint successfully used for the first time on the s.s. 'Olympia' for Bar furnishing. 100 per cent cotton in Black/White, Yellow/Black, Red/Black.*

Trellis. *All-purpose Texturedrape for curtains, upholstery or bedspreads with geometric design making it useful for interior furnishing schemes.*

continued from page 74]

Development Corporation; work of present partnership principally housing (e.g. at Lansbury), schools; Councils RIBA (since 1950) and Institute of Landscape Architects; President AA this year; author of *Modern Gardens*; specialist on landscape.

Richard Sheppard: born 1911; studied AA; partnership includes his wife (formerly Jean Shufflebotham); work includes schools in Herts, Essex, Worcs, etc., hostel at Wye College, Kent, shipping offices at Newcastle, housing at Harlow, etc.; author *Prefabrication* (1946), *Building for the People* (1948).

Shingler and Risdon: partnership founded 1951, work mainly consisting of flats, factories, offices, garages and domestic work. **Frank Risdon:** born 1913; trained Northern Polytechnic and AA; worked in offices of Stanley Hall, Easton & Robertson and F. Gibberd; taught at Polytechnic, Regent St., Northern Polytechnic and South-East Essex Technical College. **Alec James Shingler:** born 1912; articled to Alan Belcham.

Terence W. Snailum: born 1904; trained Royal West of England Academy and AA; afterwards taught at both these schools; Bossom silver medallist, 1929; has done industrial work in Wiltshire, Devon and Kent, schools in Bath, rural and urban housing.

Basil Spence: born 1907; trained London (pupil of Lutyens) and Edinburgh; Arthur Cates prizeman, 1931; Pugin student, 1933; recent work includes schools, housing, many exhibitions (e.g. Sea and Ships building, South Bank, 1951); winner of Coventry Cathedral competition, 1951 (see 1954



Preview issue); Council RIBA since 1952.

F. A. Stengelhofen: born 1901; studied in the Rhineland; 1927-46 with Sir John Burnet Tait & Lorne; appointed 1947 architect to Zoological Society of London with a brief to replan Regent's Park Zoo.

David Stokes: born 1908, son of Leonard Stokes (PRIBA, 1910-12); trained AA; partner with A. Marshall Mackenzie in Aberdeen, 1933-5; since in private practice; work includes schools at Lansbury and elsewhere; taught AA, 1945-7.

Basil Ward: New Zealander, born 1902; trained under J. A. Louis Hay; Henry Jarvis student, 1926; in partnership, 1929-39, with Connell and Lucas (modern houses); now with Ramsey, Murray & White. Recent building is MRC Laboratory at Hammersmith; Professor of Architecture, Royal College of Art, 1946-53, then appointed first Lethaby Professor, RCA.

Clifford Worthington: born 1916; trained as pupil and at College of Art; worked in public offices (Halifax and West Sussex); lectured at Medway College of Art and Hammersmith School of Architecture; in private practice since the war, designing houses, factories, shops, offices and pubs.

F. R. S. Yorke: born 1906; studied Birmingham; author of *The Modern House*, *The Modern House in England* and (with Penelope Whiting) *The New Small House*, and editor of *Specification*; council RIBA since 1951. **Eugene Rosenberg:** born 1907; studied Prague and Paris. **C. S. Mardall:** born 1909; studied Northern Polytechnic and the AA. The three have been in partnership since 1946 and among their principal buildings are: schools at Stevenage, Lansbury and many other places, flats at Stevenage, industrial buildings, hospitals, housing in Harlow new town.

CONTRACTORS etc

Health Centre at Southampton. L.Berger, Borough Architect. *General contractors:* John Lewis Building Ltd.

Office Building in Lambeth. *Architects:* T. P. Bennett & Sons. *General contractor:* Taylor Woodrow Ltd.

Office Building in Lambeth for the Dock Labour Board. *Architect:* Frederick Gibberd. *Consulting engineer:* Felix Samuely. *General contractors:* Messrs. Wates Ltd.

Three Churches at Coventry. *Architect:* Basil Spence. *General contractor:* Wimpey.

Flats in Liverpool. Ronald Bradbury, City Architect and Director of Housing. *Consulting engineer:* W. V. Zinn and Associates. *General*

[continued on page 78

Background to Business

Working in collaboration with the Architect, Frank Booth, A.R.I.B.A., A.M.T.P.I., Heal's Contracts Ltd., recently furnished the Boardroom of Messrs. Richard Costain Ltd., Westminster Bridge Road, S.E.1. The panelling, table and chairs are of fine walnut. The door is panelled in red hide and the floor is close carpeted in blueberry coloured Wilton.

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St. Helen's Auckland, Co. Durham.

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contractor: R. Costain & Son (Liverpool). *Sub-contractors: Lifts:* Express Lift Co. *Metal windows:* The Crittall Manufacturing Co. *Lightning conductors:* W. J. Furse & Co. (Manchester). *Plumber:* Engineering Service Installations Ltd. *Plastering and granolithic work:* A. R. Ball & Co. *Glazier:* L. Keizer & Co.

Housing at Sydenham Hill. *Architects:* Guy Morgan & Partners. *General contractor:* Rush & Tomkins Ltd. *Facing bricks:* Uxbridge Flint Brick Co. *Stone cills and flower boxes:* Enfield Stone Co. *Balustrading, handrailing and railings to balconies:* General Iron Foundry Co. *External paving to terraces and wall tiling to entrances:* St. James's Tile Co. *Internal plumbing works:* Z. D. Berry & Sons. *Hard gloss glaze to staircase walls:* Robbs Cement Finishes. *Fireplaces and ironmongery:* W. N. Froy & Sons. *Structural floors of 3-storey blocks:* Brick Flooring Constructions. *Asphalte roofing and accotile flooring:* Rock Asphalte Co.

Metropolitan Police Housing in Highgate. J. Innes Elliott, Architect to the Metropolitan Police District. *General contractor:* Gee, Walker and Slater Ltd. *Facing bricks:* Richard Parton (Builders Merchants) Ltd. *Recirculating fire units:* B. Finch and Co. *Metal windows:* The Crittall Manufacturing Co. *Flush doors:* Richard Savage Ltd. *Cedar shingles:* W. H. Colt (London) Ltd. *Refuse hoppers:* McLaren Johnston and Co.

Airport Terminal Building at Turnhouse, Edinburgh. *Architect:* Prof. Robert H. Matthew. *Main contractor:* Nathaniel Grieve. *Sub-contractors to main contractor: mason:* Russell & Swanston Ltd. *Glazier:* Cunningham, Dickson & Walker. *Plumber:* Patrick Knox & Son. *Plasterer:* Farish & Birnie. *Structural steelwork contractor:* Fleming Brothers Ltd. *Reinforced concrete contractor:* Stuart's Granolithic Co. *Electrical contractor:* James Scott & Co. *Heating and ventilating contractor:* Underhill Heating Engineers.

North Bedfordshire College of Further Education. Stanley V. Goodman, County Architect. *General contractor: Phase I:* J. M. Hill & Son (Ampthill).

Chemistry Laboratories at Cambridge. *Architects:* Easton & Robertson. *Quantity surveyors:* Hamilton H. Turner & Son. *Structural engineers:* R. T. James & Partners. *General contractors:* Kerridge (Cambridge) Ltd. *Structural steelwork:* Harland & Wolff Ltd. *Mechanical services:* G. N. Haden & Sons. *Electrical services:* Troughton & Young Ltd. *Lifts:* Waygood-Otis Ltd.

Technical College at Keighley. Hubert Bennett, West Riding County Architect. *General contractors:* H. V. Robinson Ltd. *Structural steelwork:* Wright Anderson & Co. *Hollow tile concrete floors and staircases:* Frazzi Ltd. *Metal windows:* The Crittall Manufacturing Co. *Ashlar stone:* Johnson's Wellfield Quarries. *Heating (ceiling heating panels), hot water and ventilation:* G. N. Haden & Sons. *Electrical services:* Pickerings Shopfitters Ltd. *Lift and hoist:* Keighley Lifts Ltd. *Balustrades and railings:* C. F. Attrill. *Roller shutters:* Curfew Doors Ltd.

Primary School in Kensington. *Architects:* Chamberlin Powell & Bon. *General contractors:* W. J. Marston & Son. *Window manufacturers:* Quicktho' (1928) Ltd. *Steel sub-contractors:* Redpath, Brown & Co.

Secondary School, Maida Vale, London. *Architects:* David Stokes & Partners. *Structural engineers:* Considere Constructions Ltd. *General contractor:* Y. J. Lovell & Son. *Sub-contractors and suppliers: bricks:* Uxbridge Flint Brick Co. *Asphalte tanking:* Faldo Asphalte Co. *Precast stone facings, copings and treads:* Girlings Ferro-Concrete Co. *Precast, prestressed roofing:* Concrete Ltd. *Heating, hot water and ventilation:* Troughton & Young (Heating) Ltd. *Electrical installation:* C. J. Bartley & Co. *Carda windows:* Holcon Ltd. *Metal windows:* R. E. Pearse & Co. *Gas installation:* North Thames Gas Board. *Glazing:* James Clark & Eaton Ltd. *Plumbing:* R. J. Audrey Ltd. *Plastering:* J. B. Abbott & Co. (Plasterers). *Granolithic pavings:* Kendell's Stone & Paving Co. *Decorations:* T. H. Kenyon & Son.

School at Hornsey. *Architect:* H. T. Cadbury-Brown. *General contractor:* H. Fairweather & Co. *Structural steel work, pre-cast concrete floor, woodwool roofing, glazed curtain walling:* Hills (West Bromwich) Ltd.

Secondary School at Great Baddow, Essex. H. Conolly, County Architect. *Heating and electrical engineer:* G. R. Hedingham. *Consulting engineer:* B. J. Nicholls. *Quantity surveyor:* E. C. Harris & Partners. *General contractor:* V. G. Selwood & Co. *Sub-contractors: steelwork:* Brockhouse Steel Structures Ltd. *Concrete cladding:* Stent Precast Concrete Co. *Window sub-frames:* Henry Hope & Sons. *Windows and roof light shafts:* The Crittall Manufacturing Co. *Ironmongery:* James Gibbons Ltd. *Railings and gates:* Bayliss Jones and Bayliss Ltd. *Sanitary fittings:* B. Finch & Co. *Wood block flooring:* S. Bennett & Son. *Thermo-plastic tiles:* The Marley Tile Co. *Bituminous felt:* Highways Construction Ltd. *Lettering:* The Lettering Centre. *Roller shutters:* G. Brady & Co. *Wood wool slabs:* Halcrete (Precision) Panels Ltd. *Heating:* T. W. Coward & Co. *Electrical:* F. H. Wheeler & Co.

[continued on page 80

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continued from page 78]

Secondary School, Lewisham. *Architects:* Clayton & Black & Daviel; *architect in charge*, J. R. F. Daviel; *assistant architect*, B. Brownsword. *Structural engineers:* J. Watt Sandeman & Son. *Heating consultants:* Oscar Faber & Partners. *General contractors:* Y. J. Lovell & Son. *Sub-contractors: metal windows and fascias:* James Gibbon Ltd. *Balustrading and handrails:* Allen & Greaves Ltd. *Sanitary goods (other than basins):* John Bolding & Son. *Cloakroom equipment:* A. J. Binns Ltd. *Electrical installation:* The D.C. Engineering Co. *W.C. partitions:* Henry Hope & Son. *Bricks and quarry tile paving supply and fix:* R. Passmore & Co. *Wood block floors:* The Granwood Flooring Co. *Studded rubber flooring:* Semtex Ltd. *Texierete paving:* Standard Pavements Co. *Cork tile flooring:* E. J. Elgood Ltd. *Roof lights:* J. A. King & Co. *Heating installation:* Ellis (Kensington) Ltd. *Roofing felt:* Permanite Ltd. *Asbestos cement decking, fixing:* Eastwoods Ltd.

Boarding School at Halstead, near Sevenoaks. *Architects:* Pite, Son and Fairweather, in collaboration with the County Architect: E. T. Ashley Smith. *General contractor:* W. F. Blay & Son, London and Dartford. *Quantity surveyor:* D. R. Nolans & Co. *Consulting engineer:* Stinton Jones & Partners.

Boys' Club in Stepney. *Architects:* Yorke, Rosenberg & Mardall. *General contractors:* C. J. Sims Ltd.

Research Laboratories at Stoke Orchard, near Cheltenham. *Architects:* Easton & Robertson. *Quantity surveyors:* Hamilton H. Turner & Son. *Clerk of Works:* Mr. Watkins. *General contractor:* Gilbert Ash Ltd. *Heating and services:* Troughton & Young (Heating) Ltd. *Electrical:* Drake & Gorham Ltd. *Structural steelwork:* Redpath Brown & Co. *Steel staircases, copper roofing:* Fredk. Braby & Co. *Precast floors:* Concrete Ltd. *Steel mesh:* British Reinforcement Co. *Facing bricks:* Henry Greenham (1929) Ltd. *Carda windows, window blinds:* Holcon Ltd. *Window controls:* Arens Controls Ltd. *Marble:* Anselm Odling & Sons Ltd. *Slate cills:* Bow Slate & Enamel Co. *Sanitary fittings:* John Bolding & Sons. *Folding gates:* Bolton Gate Co. *Internal chemical drainage:* Chemical Pipe & Vessel Co. *Terrazzo flooring:* Diespeker & Co. *Teak block flooring:* Acme Flooring & Paving Co. *Granolithic flooring:* Stuarts Granolithic Co. *Linoleum flooring:* Korkoid Ltd. *Cork tile flooring:* G. Stephenson & Co. *Sliding-folding screen:* Esavian Ltd. *Lightning conductors:* J. W. Gray & Son. *Goods lift:* Hammond & Champness Ltd. *Laboratory furniture, internal doors:* H. H. Martyn & Co. *Library furniture:* Waring & Gillow Ltd. *Steel lockers and shelving:* Acrow (Engineers) Ltd. *Steel partitioning:* Rowe Bros. Ltd. *Lavatory partitions:* Venesta Ltd. *Asphalt:* Val de Travers Paving Co. *Ironmongery:* N. F. Ramsay & Co. *Curtain tracks:* J. Avery & Co.

Research Laboratories at Salfords, Surrey. *Architect:* Graham Dawbarn. *General contractors:* Higgs & Hill Ltd.

Development Building at Welwyn Garden City. *Architect:* E. D. Jefferiss Mathews, of J. Douglas Mathews & Partners. *Chief assistant:* R. S. Poole. *General contractors:* Welwyn Builders Ltd. *Principal sub-contractors and suppliers so far appointed: Structural steel design, fabrication and erection:* Sommerfeld Ltd. *Pre-cast reinforced concrete floors:* The Atlas Stone Co. *In-situ reinforced concrete design and steelwork:* Twisteel Ltd. *Roof panels to low-pitched roofs:* Stramit Ltd. *Curtain wall cladding and cladding panels:* Holoplast Ltd. *Windows:* Holcon Ltd. *Roof coverings:* Standard Roofing Ltd. *De-mountable internal partitions:* Holoplast Ltd. & Stramit Ltd. *Facing bricks:* Uxbridge Flint Brick Co.

Atomic Power Station at Sellafield, Cumberland. *Architect:* Ministry of Works. *General contractors:* Taylor Woodrow Construction Ltd. *Structural steelwork:* Alex. Findlay & Co. *Precast concrete floor units:* Concrete Ltd. *Steel deck roofing:* Ruberoid Co. *Asbestos cladding:* Manchester Slate Co. *Patent glazing, metal sashes, lantern lights:* Hills (West Bromwich) Ltd.

Furniture Showrooms at Bromley. *Architect:* Bertram Carter. *General contractor:* E. H. Smith (Croydon) Ltd. *Heating and hot water service: gas:* Matthew Hall & Co. *Electric lighting:* Troughton & Young Ltd. *Reinforcement:* Twisteel Ltd.

Department Store at Maidstone. *Architect:* Clifford Worthington. *Quantity surveyor:* Peter T. B. Lawrence. *General contractors:* Mills & Sharp Ltd. *Sub-contractors: electrical:* G. E. Wallis & Sons (Electrical). *Curtain wall of light alloy windows, plastic panels and prestressed concrete mullions:* Holoplast Ltd. *Structural steelwork:* Redpath, Brown & Co. *Smith's floor beams and reinforced concrete work:* R. Corben & Son. *Suspended ceiling construction with Acousti-Celotex tiles:* Horace W. Cullum & Co. *Terrazzo paving and wall linings:* Witcombe & Son. *Standard metal windows:* Henry Hope & Son. *Fire-fighting equipment:* The Pyrene Co. *Space heating with electric unit heaters:* Denniss Paine & Co. *Flat roof covering:* Prater Asphalte Co. *Conveyors with electric motor:* Lamson Engineering Co. *Air conditioning ductwork:* Rochester Welding & Engineering Co.

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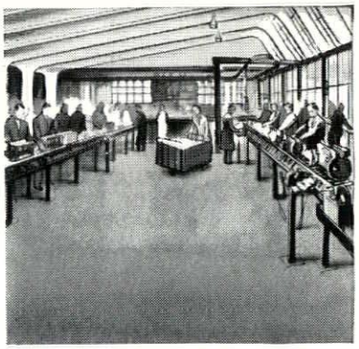

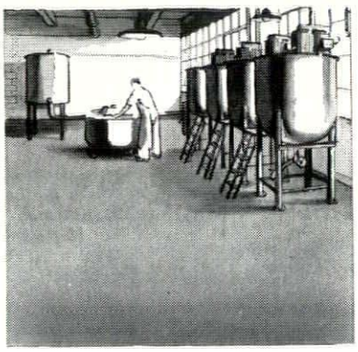

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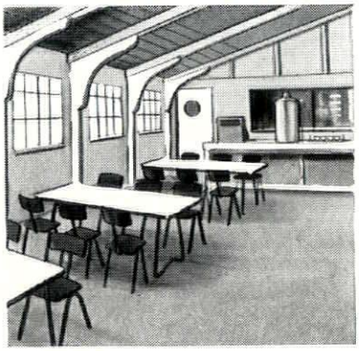

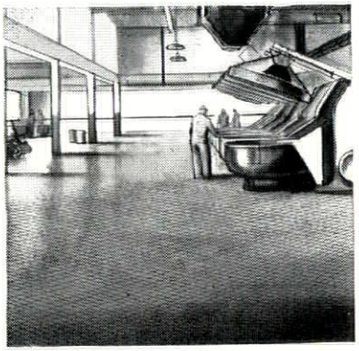

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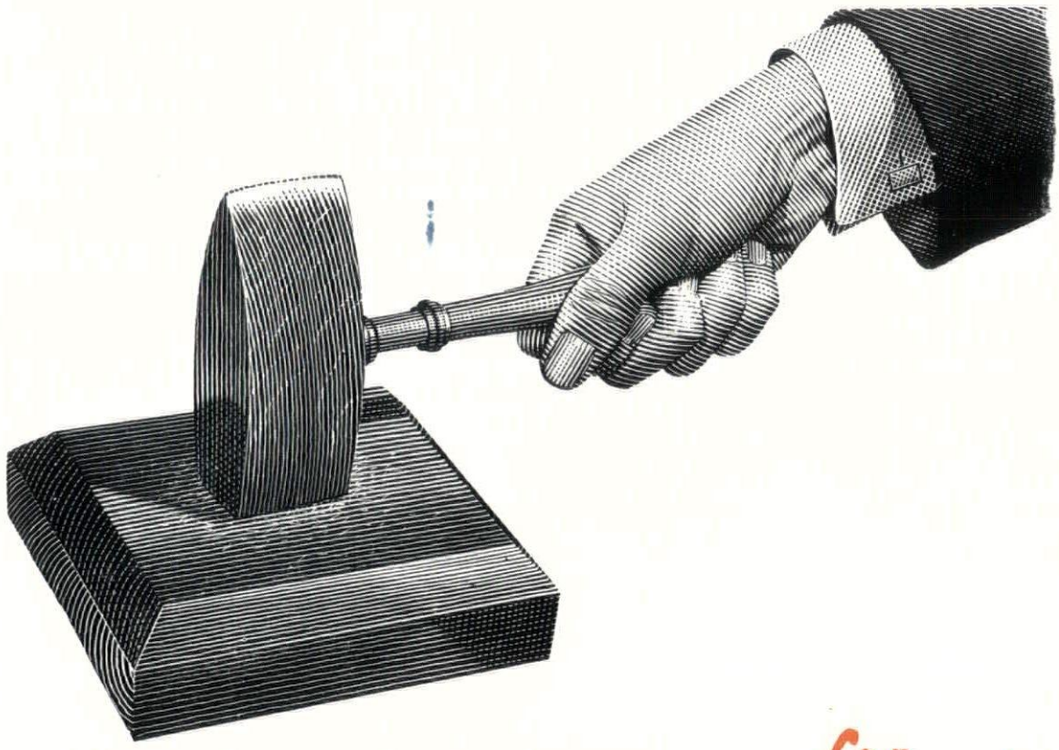

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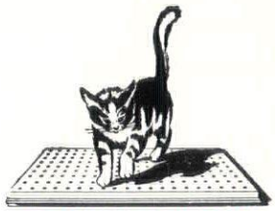

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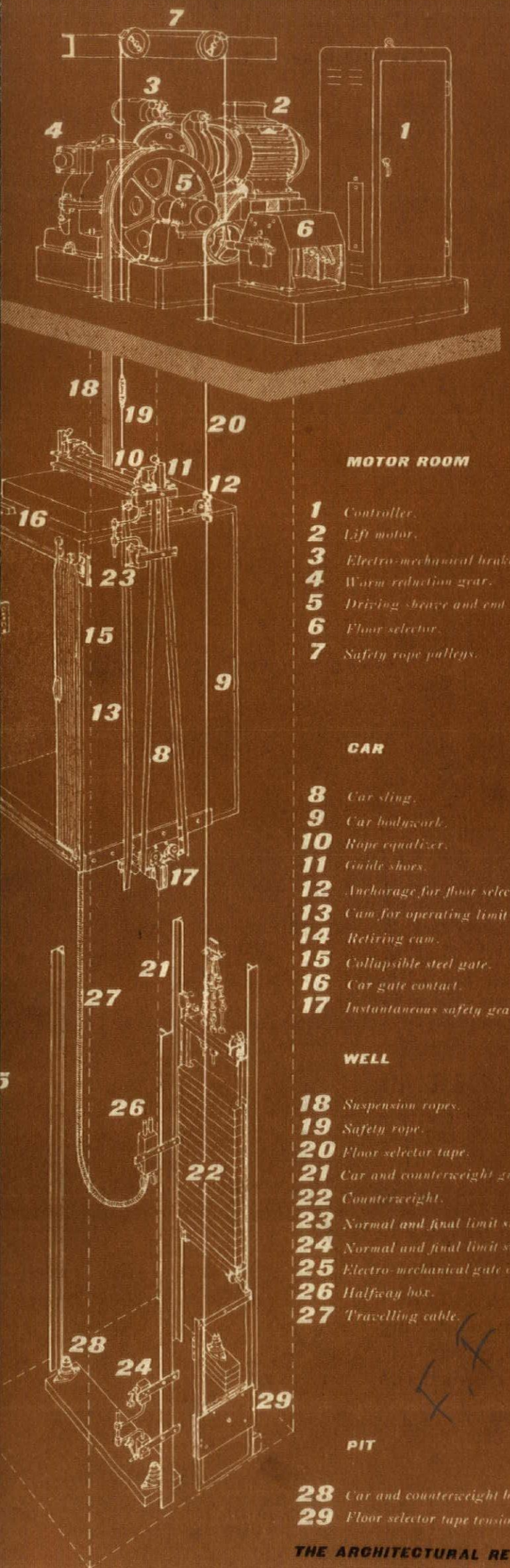

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WELL

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19 *Safety rope.*
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22 *Counterweight.*
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25 *Electro-mechanical gate or door locks on landing.*
26 *Halfway box.*
27 *Travelling cable.*

PIT

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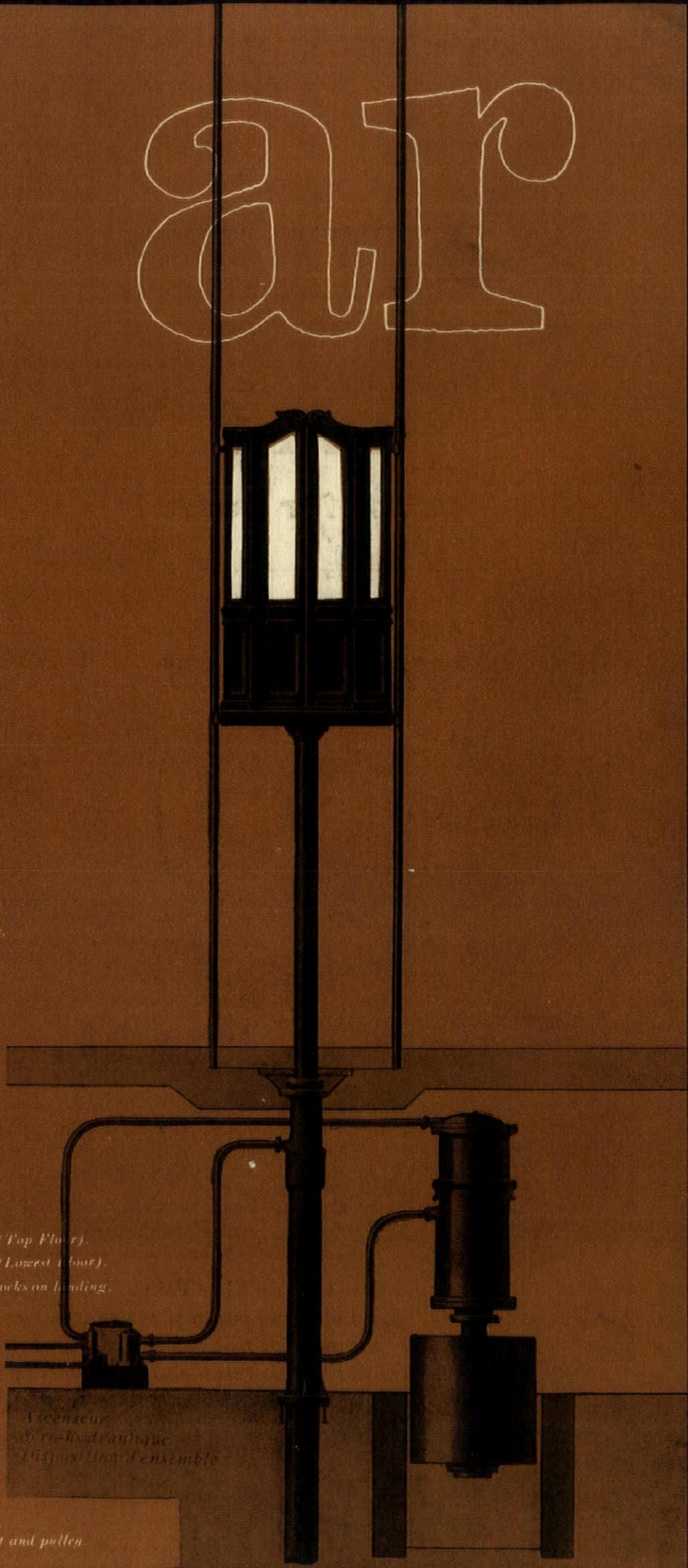

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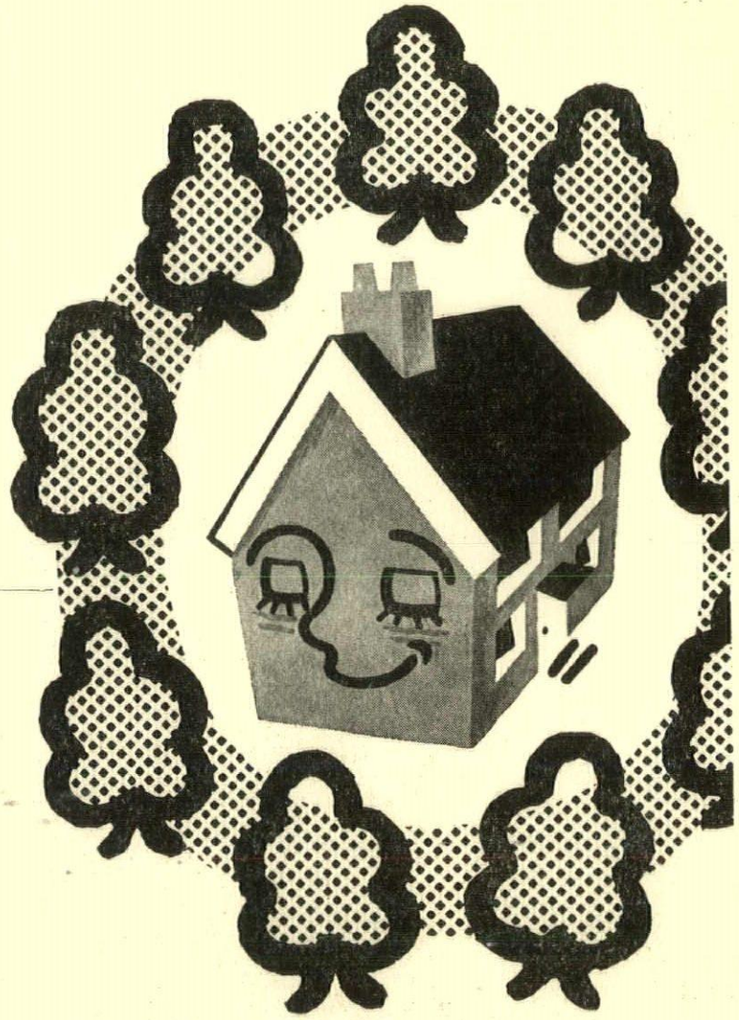

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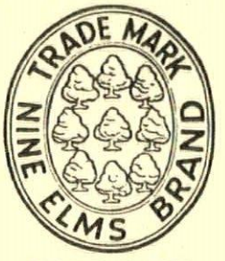

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MARGINALIA

Farewell to Gane's

The news of the closing down of Gane's is a shock which will be felt far beyond the bounds of Bristol, and the production of an illustrated booklet called *A Swan Sings*, commemorating the firm, only makes us feel the shock more painfully, in spite of the fact that the book (by Howard Wadman) repeats no doubt Mr. Geoffrey Gane's own words in saying that the step was taken 'calmly, deliberately, and in the best of spirits.' Mr. Gane is 76, he had been a leader in the early days of the DIA, he remained a leader when he asked Marcel Breuer to design the furniture of his own house and a little later, in 1936, an exhibition pavilion at the Royal West Show—the first piece of random rubble in the Modern Movement in England. Mr. Gane is genuinely pleased with the spreading of a better taste in furniture since the war, and if he decided to close down rather than to rebuild on an adequate scale after the loss of his showrooms and workshops in the war, his reason was that 'the big furniture factories have learnt a great deal about design, and their productions can satisfy all but the most exacting demands. The levelling of income and taste has made it virtually impossible to maintain the *highest* standard of quality, but the same process has raised the *general* standard to a remarkable extent.' The booklet also tells us much of Gane's social work inside and outside shop and workshop, and of prices, working conditions and humorous oddities of the Victorian decades. The illustrations are of pieces in the Jacobethan and the Louis tastes, and in the Voysey as well as the Mackintosh fashions (both 1903) before modern pieces are reached. The printing by the Shenval Press is excellent, and the 5s. which is charged to those who wish to buy it goes to the newly founded Gane Trust.

The National Trust

Among the factors which shape the English scene, the activities of the National Trust should not be overlooked. To most persons interested in architecture the Trust is simply a body which conserves old properties of æsthetic or historic value, but even this function involves it largely in farming and forestry, and in places which are often quite remote from the hillside and coastal areas where its purely landscape activities are mostly concentrated. The Trust's *Report* for 1953-4 reveals that it owns over 800 farms, so that it must now be one of the largest organizations ultimately responsible for the management of agricultural land in the country, and thus has a direct or indirect influence on the colour and texture of a great deal of rural scenery. But beside this particular kind of active interest in landscape, the Trust also adopts a positive attitude to other bodies which affect scenery, and the *Report* not only contains a note expressing concern at the inadequacies of the 1947 Town and Country Planning Act, and at the 'loading' of area planning committees by groups interested in the exploitation of the countryside, but also records the Trust's active intervention at the public enquiry on the South Orbital Road scheme on behalf of scenic beauties which are not even Trust property.

For the rest, the *Report* reveals a steady progress and expansion of conservation work, both in buildings and land, and impressive additions to its holdings in both categories, but its Finances grow, for reason's beyond the Trust's direct control, more confusing to the layman every year, since many bequests are earmarked for specific purposes, and where a property so endowed shows a profit the surplus cannot be put to the Trust's general account, though that account must make good any losses incurred by such properties. Relief of this situation would require delicate administrative action, at a higher level than the Trust itself, but all amateurs of architecture and landscape must hope that some such action will be forthcoming.

The British Council

The British Council's *Report* for the operational year 1953-4 is the first to appear since the Drogheda Committee made its enquiry into the Council's working and economy. The Council has to report what is, in fact, an heroic effort in the face of considerable difficulties—services maintained in spite of crippling cut-backs in allocation of funds and in spite of continuous and uninformed hostility on the part of certain sections of the press.

These achievements are acknowledged by the Drogheda Committee, and the Council expresses its gratitude for this, but it has also gone on record with its disquiet—which many persons will share—at some other aspects of the Committee's findings. Or, rather, with the assumptions on which these findings are based. It is clearly implied, for instance, that the Council's main function is to serve as a weapon in the Cold War, and therefore that its activities in western European Countries can be cut to the bone, since these areas are politically reliable. The effect of such action, which is already under way, is to leave Europe open for a straight fight between the Cominform and the Voice of America—a situation in which the forceful voicing of the British passion for compromise and toleration could be of salutary effect.

But the Drogheda Committee seem also to be quite unaware of the positive harm done to British standing by the process of letting Europe alone. The effect of the Council's inability to support strong British representation at the Miian *Triennale*, or the various conferences of the *Association Internationale des Critiques d'Art*, has been to cause damage to British prestige in these fields, while its inability to maintain a strong representation of British architecture and industrial design (at anything except trade fairs) is probably damaging our overseas trade as well as our cultural standing.

TCPA Journal

The official organ of the TCPA, currently known as *Town and Country Planning*, its third name, celebrated its jubilee in October last, having started in 1904 its fifty-year advocacy of the Howardian ideal of the good life at twelve houses to the acre. Quotations from early issues of the journal which appear in this issue give an illuminating picture of the atmosphere of transcendental sociology and sheer Anglo-Saxon eccentricity in which the Garden City movement first became conscious of itself—Ebenezer Howard expressing the belief that property-interests (like the ideal socialist state) would eventually wither away, and G. K. Chesterton suggesting that the modern city should be regarded as a joke, and London as a fad. Other quotations give one some idea of the solid organization and astute management which brought the Garden City ideal so close to fruition (though one suspects that there must still remain a fascinating secret history for some future historian to relate). And there is one quotation which suggests that in spite of recent polemics, *Town and Country Planning* secretly understands and delights in the true nature—the virtues and the vices—of city life. It is from Stephen Vincent Benet's *John Brown's Body*, is reprinted without any comment except the title 'Lyricism of Urbanity' and reads:

> Out of John Brown's sinews the tall Sky-scrapers grow
> Out of his heart the chanting buildings rise,
> Rivet and Girder, Motor and Dynamo,
> Pillar of smoke by day and fire by night,
> The steel-faced cities rising to the skies,
> The whole enormous and rotating cage
> Hung with hard jewels of electric light.

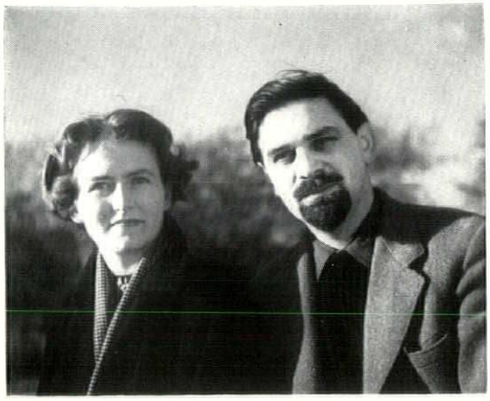
AIA at Mid-century

The American Institute of Architects, which has only two years to go before it puts its century up (founded in 1857) has indicated its concern at the state of architecture in the middle of the American Century by issuing two substantial volumes under the general title of *The Architect at Mid-Century*. These are the reports of the commission, under the chairmanship of Edwin S. Burdell, which has been investigating the state of the profession in USA, but they cover a rather different field from that which might have been expected. Volume One, under the editorship of Turpin Bannister, is somewhat misleadingly called *Evolution and Achievement*, since it deals only with the professional, rather than architectural, side of the architectural profession, and the great bulk of the book is concerned with the education and registration of architects rather than their products. The spectre which seems to haunt this aspect of American architecture is the Ecole des Beaux Arts, to which continual reference is made as cause, influence or example to various features of the profession.

The second volume *Conversations Across the Nation*, edited by Francis Bellamy, records 'ten private conversations among selected groups of highly intelligent Americans on the immediate future of our country, and the kind of professional education which that future calls on our educators to provide for our young men and women.' Such a manifestation of sympo-

siomania (the phrase 'sixty-four dollar question' appears in the first thirty lines of the preface) would seem to most people on this side of the Atlantic an embarrassing crystallization in black and white of opinions aired under conditions of rather high-flown conviviality, an all-too-willing submission to the tyranny of the tape recorder, but its mere existence throws an oblique light on the mentality of the profession in America, provided some social psychologist can interpret it for us.

Architects in this Issue



Architects of Champion Pub (see pages 135 to 140). John and Sylvia Reid. Born in 1925, both trained at the Polytechnic, Regent Street. He was commissioned in the Green Howards and served four years in West Africa and the Middle East. Started in private practice together in 1951. Their work includes private houses, office interiors for Davis, Belfield and Everest, museum cases (in collaboration with Robin Day) for British Transport Commission and furniture for the Stag Cabinet Co., Ltd. They are consultants to the Lighting Division of Thorn Electrical Industries Ltd., and were awarded a silver medal at the Xth Triennale, Milan, for a lighting fitting. Their hobbies are architecture and music.

CORRESPONDENCE

Tremadoc

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—Some comment or publicity on the alterations made in Tremadoc Square, North Wales, is long overdue (see A.R. Nov. 1954).

I am very glad that Mr. Gordon Cullen questions the use of crazy paving on the pavement extensions. I can only suggest that it is a mental hangover from the twenties of this century, that such is suitably rustic or old fashioned enough to blend with the fine old buildings here.

I must point out, however, that Mr. Cullen might have given further and more rational criticism. We have needed this for three or four years and failed to get it. Most of the alterations made have been in the spirit of the crazy paving.

In the first place, ornamentation was the aim, then a plea for traffic safety was a necessity; essential economy and functionalism have been overlooked, which could have incorporated all desirable characteristics.

Yours, etc.,
Tremadoc. ISABEL STEINTHAL.

Hunstanton

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—The services rendered by the ARCHITECTURAL REVIEW to the cause of architecture by publishing the photographs of the Hunstanton School (see A.R. Sept. 1954) are of greater importance than one at first realizes.

The inhuman brutality with which it strikes one is so violent that there is no doubt that it must have shaken even the most die-hard 'pseudo-modernist.'

As regards the comments that accompanied the illustrations they may be regarded either as a spasm of bigoted paroxism or the eloquence of a new type of dangerous eclecticism.

Yours, etc.,
Alexandria, Egypt. E. D. VASSILIADIS.

N.B.—I am a Greek architect at present working in Egypt. I have studied architecture in England and have come to love the warm, human quality of its architecture. I consider the Hunstanton School not only a bad piece of architecture but also utterly un-English.

Obelisk at Reading

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—Many and various are the vicissitudes to which some of our smaller architectural gems have been subjected. Below is a particularly pernicious example—the fine Portland stone obelisk in the Market Place at Reading. This feature was given to the town by Mr. Edward Simeon in 1804, together with a trust of £1,000 in consols for its maintenance, and for a long period its three lamps played their part in illuminating the town.

When these lamps were superseded by modern lighting methods, the obelisk, instead of being accorded the courtesy due to an elegant piece of architecture, was treated with contempt. Hemmed



in by two public conveniences, a ventilating shaft, and a wooden shelter, and with its iron lamp-holders truncated, it now stands as a monument not to the generosity of Mr. Simeon, but to the lack of taste which prevails among some civic authorities.

Yours, etc.,
London. DOROTHY STROUD.

Coade Stone

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—My attention has been drawn to a reference to the Geffrye Museum in an article by S. B. Hamilton on 'Coade Stone' in your November issue. Under an illustration of a Coade group cast for the Pelican Office in Lombard Street the writer states that this is 'now moved to the Geffrye Museum.'

In point of fact the group was moved here in 1934; it had been in a very bad state of repair for ten years or more, was repaired two years ago and has been covered from view since that time. It is feared that further damage might result from exposing the group and for some time an alternative site has been under consideration. The group is to be moved but at the moment of writing no decision has been reached regarding its ultimate home.

Yours, etc.,
London. M. HARRISON (Mrs.)
Curator.

Coade Stone

In the article on Coade Stone published in our November issue, illustrations 19 and 21 on page 300 were transposed; in fact the Bligh tomb is 19 and the Sealy tomb is 21. On page 297, second column, line 11, two sentences have been run together and should read:

'. . . an actual but later example with the proportions of height to breadth adjusted to suit a low-pitched pediment is shown in 20. His figures of a Charity School Boy and Girl, 9, are still to be seen above the doorways of schools of the period.'

On page 301, the Royal Society of Arts building was included among those in which Coade Stone had been used. In fact, the ornament on the rear elevation, though carried out in the style of the original building, is modern and not of Coade Stone.

Intelligence

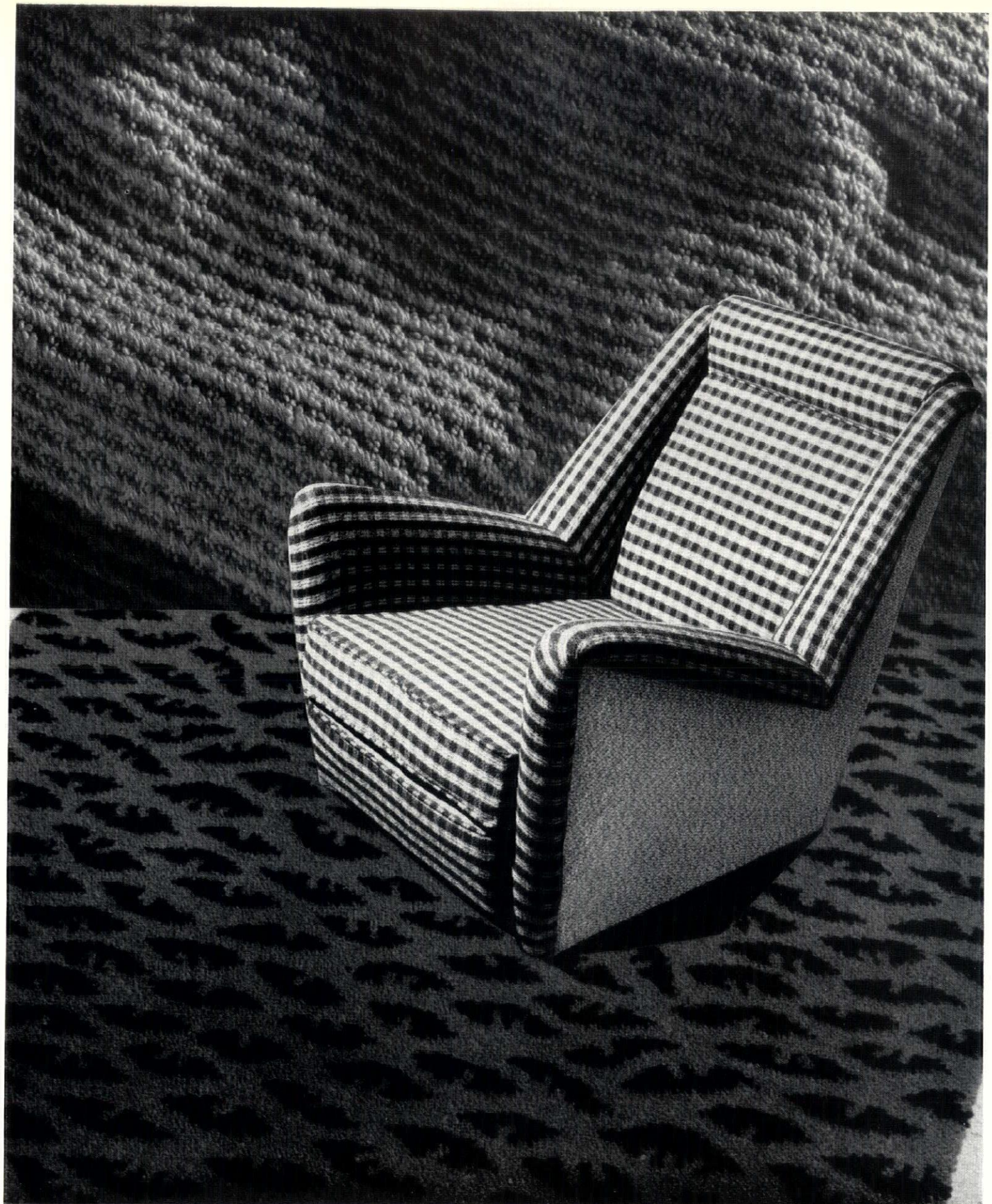
A Gold Coast Society of Architects has recently been formed, one of their functions being to provide information on local conditions to architects proposing to go to the Gold Coast. Information may be obtained from the Acting Secretary, Arthur Lindsay, P.O. Box 1343, Accra.

ACKNOWLEDGMENTS

MARGINALIA, page 82: Ford Jenkins, Dorothy Stroud; FRONTIS, Sir Hugh Casson. FLATS IN HOLFORD SQUARE, pages 88-93: Nos. 1, 7, 8, 9, 10, 14, John Maltby; Nos 2, 11, 12, 13, John McCann; No. 15, Aerofilms Ltd. EMBODIMENTS, pages 94-99: The Mansell Collection (top right), Picture Post; Royal Geographical Society; Nigel Henderson; Galwey, Arphot; Building Digest; R. Hamilton—by courtesy of Prof. W. T. Astbury, University of Leeds. OFFICE EXTENSION IN MIDDLESEX, pages 100-107: Galwey, Arphot; No. 13, Briggs. ENGLISH ORIGINS OF ART NOUVEAU, pages 108-116: Nos. 11, 16, 17, 22, Tate Gallery; No. 12, National Gallery. CURRENT ARCHITECTURE, pages 117-120: Dept. Store & Office Block, Coventry: Galwey, Arphot. Offices in Lambeth: Galwey, Arphot. ISRAEL SCRAPBOOK, pages 121-128: Nos. 1, 2, 16, 26, 27, 33, 35, 36, State of Israel, Govt. Press Division; Nos. 7, 11, 12, 17, 18, 19, 20, 21, 22, 23, 28, 38, 39, I. Kalter; Nos. 24, 25, Prior. MISCELLANY, pages 129-134: New Buildings in Cambridge: Nos. 1, 3, 4, 5, A. C. Barrington Brown; No. 2, J. M. Richards. Exhibitions: No. 1, Royal Academy of Arts; No. 2, Galerie Louise Leiris; Nos. 3, 5, John Underwood (Copyright The Arts Council); No. 6, Toomey, Arphot. Farm Boundaries: No. 2, Picture Post; Nos. 3, 4, K. G. Browne, Arphot; No. 8, McCallum, Arphot. SKILL, pages 135-148: "The Champion" Pub in Wells Street, W.1: Nos. 3, 4, 10, 13, 16, John R. Pantlin—remainder Galwey, Arphot. Translucent Corrugated Sheeting: Miles & Kaye Ltd.

Office Extension in Middlesex

The blocks for the colour half-tones on pages 102 and 103 were made available by the courtesy of Messrs. Technicolor.

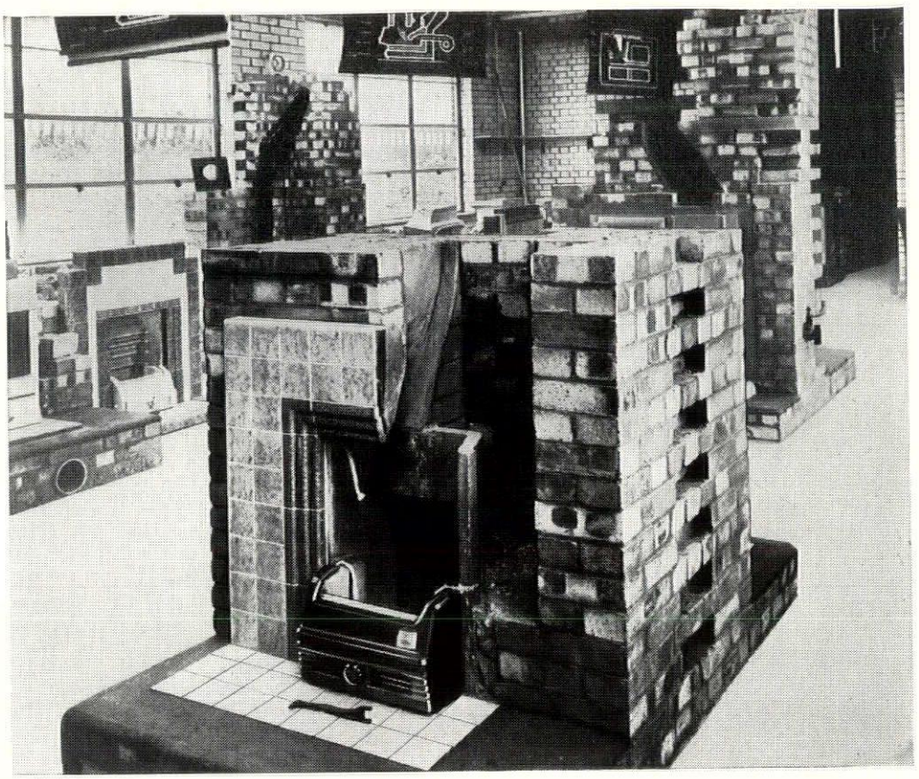


"Stratford"—deep textured upholstery and curtain fabric as shown at the Triennale Exhibition in Milan by Tibor Reich, in deep Midnight Purple. Woven by Tibor Ltd., Stratford-on-Avon. The "Arran" chair designed by R. E. Long is upholstered in Tibor's three-tone Green "Argyle" check contrasted with "Stratford" texture. Manufactured by R. S. Stevens Ltd., Walthamstow, London. "Cheetah"—two-tone Black/Forest Wilton Banbury carpet manufactured by I. and C. Steele and Co. of Bloxham, Banbury; design, Tibor Reich, F.S.I.A.

tibor textures

Stevens furniture

banbury carpets



Practical help for architects and builders

At the Coal Utilisation Council Training Centre in London, courses are held for builders' staffs on the correct fixing of modern solid-fuel appliances. Similar Coal Utilisation Council courses are also arranged at many Technical Colleges.

Are you getting the full facts on the case for solid fuel?

The Coal Utilisation Council's chief aim is to secure the efficient use of solid fuel in British homes. Not simply in the interests of coal, but in the interest of the private consumer and the community, for, as the Simon Report says, " solid fuel, burned in efficient appliances for continuous heating of rooms or of water, costs the householder about half as much as gas or electricity and uses about half as much coal ".

What the C.U.C. is doing to help

Every six months the C.U.C. issues a list of Recommended Domestic Solid-Fuel Appliances. All appliances on this list have been tested to ensure a high standard of efficiency, durability and economy. In the interest of your clients and your firm, it pays to consult this list when recommending domestic solid-fuel appliances for any purpose.

Because recommended solid-fuel appliances must be correctly installed, if they are to be fully efficient, the C.U.C. also provides a service of instruction on installation for architects' and builders' staffs, and all authorities concerned with building or converting houses. Two-day courses on fixing are held at the C.U.C. Training Centre in London. For builders' staffs unable to attend these, special one-day courses are held at Technical Colleges in various parts of the country.

In both cases, the instruction is given by experts, with plenty of practical demonstrations. Direct enquiries on the scope of these training courses should be made to the C.U.C. at the address below—or to any of the C.U.C. Information Centres which appear on the right.

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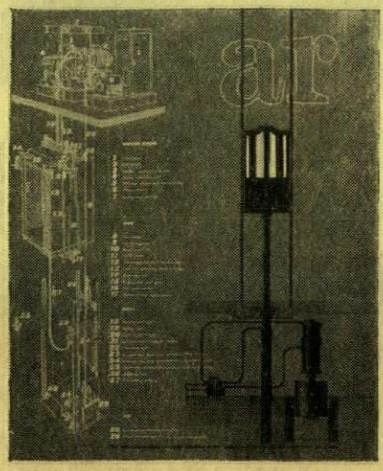
" Fuel Stores for Houses and Flats "

"Architectural Design Data" (*Fuel handling and storage for larger buildings*)

A complimentary copy of any of the above will be sent on request.

THE ARCHITECTURAL REVIEW

Volume 117 Number 698 Feb 1955



This month's cover contrasts the old and the new in passenger lifts: the old represented by a deceptively simple illustration of an aero-hydraulic installation from an early catalogue of the Roux-Combaluzier company, who installed the lifts of the Eiffel Tower; the new by a drawing by Bryan Spearpoint, whose work regularly appears in SKILL, of a contemporary Marryat-Scott lift in all its necessary complexity. A feature on lifts and elevators appears in SKILL, on pp. 140-146, but the contemplative reader will find a certain relevance also to the article *Embodiments* by D. E. Harding on pp. 94-99, which considers the evolution of buildings as organisms.

81 **Marginalia**

82 **Correspondence**

84 **Frontispiece**

85 **The Walled Eye** *by Hugh Casson*
Peking is a planned city, set down without visible topographical excuses, in the middle of a plain. But since it was founded as a temple-city, its site was decided by ritual considerations, and now that it is a metropolis it has its own destiny irrespective of topography. But its great fame is as a work of art—immediately comprehensible at a glance. Within a square grid of boulevards, low houses and courtyard trees, rise the temples and the palaces, and the two artificial mounds of the Imperial City, the only strong accents on a level skyline which has remained unchanged for centuries. Within the Forbidden City itself this sense of unchanged permanence is even stronger, but so worked upon by pictorial and poetic sensibility that the result is one of the wonders of the world. Through successions of courts and terraces, halls and pavilions, subtle changes of scale and emphasis, level and axis, give life to a scene in which every column and roof is the same. In the gardens this poetic and pictorial sensibility reveals itself in the Chinese passion for natural and fantastic forms—contorted trees and curious rocks, which have become almost symbolic of the remoteness and strangeness of Chinese culture in Western eyes. When there is added to this the inevitable unfamiliarity of everything behind the Iron Curtain, then the Orient has become mysterious once more. Yet, however bizarre and fantastic the scene, Peking's architecture with its peculiar balance of magic and mathematics can be trusted to steady the eye and balance the mind.

88 **Flats in Holford Square, Finsbury:** *Architects, Skinner, Bailey and Lubetkin*

94 **Embodiments** *by D. E. Harding* A house is not a machine for living in, but an organism for living through—this is the theme of Mr. Harding's attempt to re-examine the relationship between man and architecture. Bodily speaking, the human race has failed to develop any functional specializations, and man is therefore incapable of realizing his more specialized ambitions without making use of some adaptive appliance or other to extend his person. The artefacts with which he extends himself are often less replaceable than organs of his body—he has more reason to fear the loss of a few slates than a few hairs, roof-nails than toe-nails. Language bears out this animated view of architecture and speaks of the house as if it were a living organism. From this is developed the concept of the total organism of man—the human being and all his ancillary equipment which he uses and renders part of himself. In developing and refining this equipment man telescopes the evolutionary process which has produced his inner organism, —architecture is biology up to date. Architecture viewed thus, as an extension of the client's person and personality, calls for an overhaul of many of our basic methods of design, particularly of design for the unspecific mass client, for architecture is one of the important ways in which men vary.

100 **Office Extension in Middlesex:** *Architects, Gooday and Noble*

108 **The English Origins of Art Nouveau** *by Robert Schmutzler* The impact of Aubrey Beardsley on Continental Art Nouveau is generally recognised as an historical fact, but it produced results which suggest a throw-back to an earlier generation of English artists. Thus there appears in the German magazine *Pan* in the nineties a type of feminine beauty which can be traced back to the earliest works of Rossetti. It is from instances such as this that Herr Schmutzler develops his investigation and is able to show a far longer history and prehistory than has generally been accepted. The vital years immediately before the appearance of the style on the Continent are shown to be marked by highly prophetic activities in the circle of Mackmurdo and the Century Guild, who anticipated the characteristic forms by nearly a decade. The work of Rossetti and Whistler is also seen to be full of anticipations of Art Nouveau decoration, and the trail leading back on this side, as well as that through the Arts and Crafts, eventually runs back to Christopher Dresser, Owen Jones, the sponsors of the Great Exhibition and the Art-school reformers of the mid-century. Indeed Jones had written, as early as 1846, of creating a new decorative style independent of architecture, and his studies in ornament had laid the foundations of that flat, linear and vegetable style which was eventually to spring up in the last decade of the century.

117 **Current Architecture**

121 **Israel Scrapbook** *by S. Gilead-Gromet* The peculiar conditions of Israel—a new state with a growing population whose demand for immediate accommodation was matched by the absence of any building traditions, high costs and limited resources, wide differences of climate and social structure—have combined to give its architecture a unique local flavour, unlike that of other countries where the International Modern style has had to adapt itself to a highly specialised environment. In this survey Mr. Gilead-Gromet, an architect practising in Israel, discusses and illustrates significant recent developments in urban and rural buildings.

Miscellany

129 **Books**

130 **Criticism**

132 **Exhibitions**

133 **Landscape**

Skill

135 **Interiors: 'The Champion' Public House in Wells St., W.1:** *Architects, John and Sylvia Reid*

140 **Techniques: Lifts** *by John Voelcker*

148 **Contractors, etc.**

The Authors *D. E. Harding*, of Sandon & Harding, was trained at University College, London, has worked for eight years in India and at present is in private practice in Suffolk, his native county. Has been a student of philosophy and kindred subjects for many years, and has contributed articles to *Theology* and other journals. In 1939 he published a novel. His contribution in this issue is based on part of his recently published book *The Hierarchy of Heaven and Earth*. *Robert Schmutzler*, born 1921. Educated at home and later in the Askanisches Gymnasium, because it was one of the few schools in Berlin where after 1933 Greek was taught. Holiday journeys to France, Denmark and Switzerland. War service in Southern Russia and later in Western Germany. Studied first Greek archaeology and then history of art at Tubingen, several times interrupted by the necessity of earning money. So impressed with the beauties of England that he returned in 1952 for almost a year to collect material for his thesis on William Blake and the English origins of Art Nouveau. During this time, he says, the most fascinating sights in London were Bedford Square, and the blue Persian cats sitting in graceful attitudes on the front-door-steps of the cream-coloured houses of Belgravia. *S. M. Gilead-Gromet* was born in Poland in 1922, and went to Israel in 1933, where he studied architecture at the Hebrew Technical Institute in Haifa and graduated in 1945. Worked as assistant in various offices, and joined the *Hamehandes* co-operative of architects and planners who specialize in work on rural settlements, community centres and public buildings. A philatelist and visiting instructor at the Haifa Institute where he studied, he has gained first prizes in three important competitions—for old people's housing in Haifa; for the municipal theatre in Tel Aviv; and for the cultural centre in the Hadar Hacarmel quarter of Haifa—as a result of which he is now working on the theatre there.

J. M. Richards
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H. de C. Hastings
Hugh Casson
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Art Editor Gordon Cullen
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THE ARCHITECTURAL REVIEW

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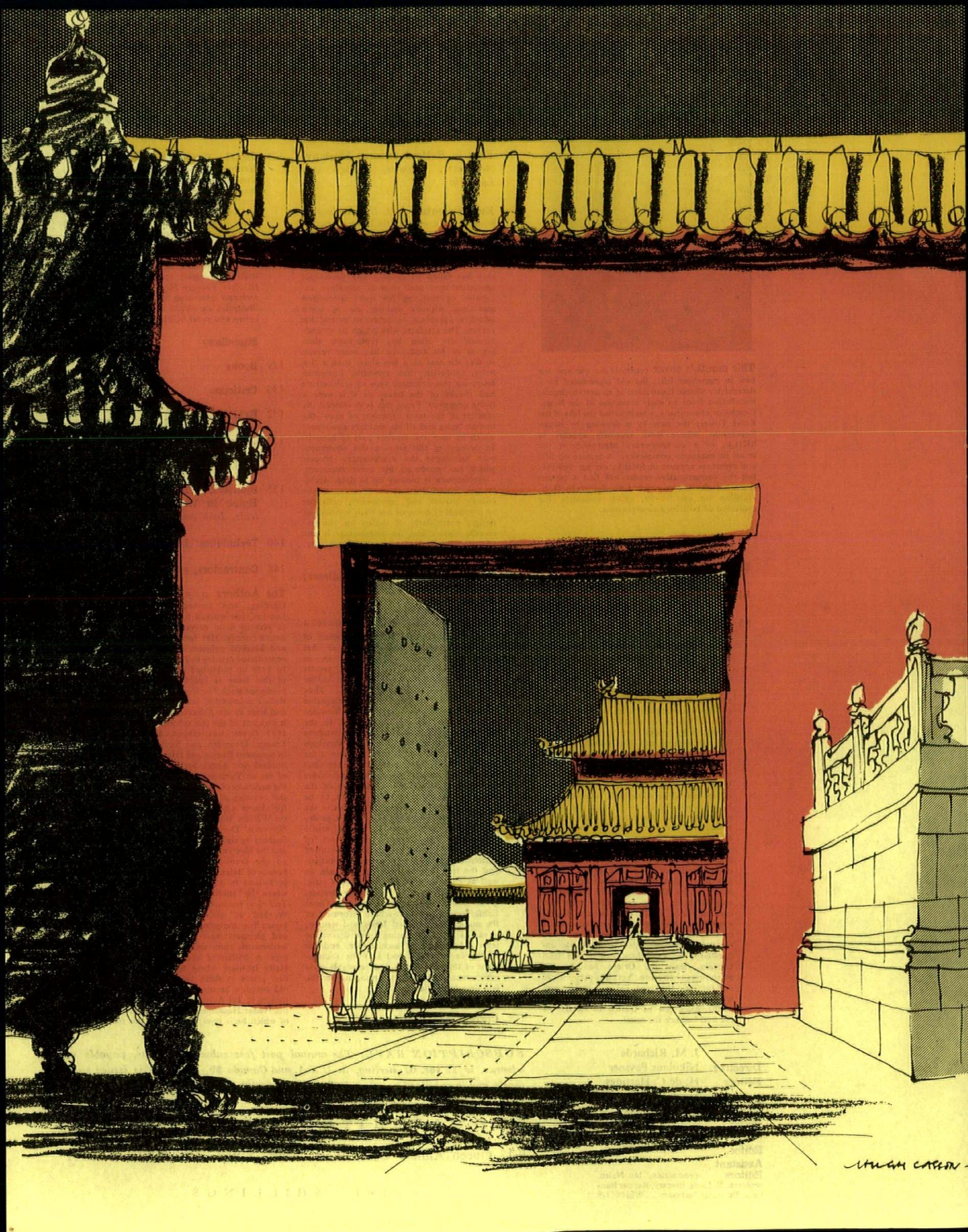
FIVE SHILLINGS



The red and gold sequence of ordered, but diversified, spaces through which the visitor moves in the Forbidden City of Peking, are considered by Sir Hugh Casson, who made the sketch opposite and wrote the article below, to be one of the outstanding impressions of his recent visit to China, for they exemplify, in a particularly striking way, the manner in which a rigid and ritualistic mathematical order is given life by poetic and pictorial imagination—observe here the startling effect of the grossly over-scale vase, and the subtle change of emphasis given by the flight of steps which lifts the all-too-regular paved walk into a pavilion which lies mostly off the visual axis of the scene.

休·卡遜先生

THE WALLED EYE

SIR HUGH CASSON VISITS PEKING

Peking is a planned city. Pay it the compliment then, if you can, of arriving by air. For it is a place to be seen first from above—a box, as it were, with the lid off.

There it sits, flat, four square, ruled and patterned, grey-roofed and golden tiled, bang in the middle of a sepia landscape, as self-assured and inexplicable as a dog biscuit on a beach. Why is it there and not somewhere else? There seems to be no river ford, no harbour, no mountain pass to justify the choice of site.

But of course to ask such a question is a sign of western obtuseness. Only a barbarian would forget that Peking is not so much a city as a temple. It is the home of the Son of Heaven, and as such it has been placed and planned by magic and ritual rather than by common sense or the demands of trade.

Yet once on the ground and within the safety of those great mudbaked walls built to shut out the bandits, the mountain winds, the rhythmic drudgery of peasant life, Peking becomes more than a city, more even than a temple. It becomes a metropolis—a place that has its own laws, character, history and destiny. Although of course it can supply everything, from coffins to fried fish-lips, that any one of its three million citizens may need at any hour of the day or night, Peking does not live by trade alone. A true metropolis, it is concerned with things of the mind. It is the home of learning and entertainment. It is international. Like a great exhibition it is full of crowds, music, clamour, wealth, squalor, bustle and glare.

City, temple, metropolis, Peking is all of these, but to the world it is famous most of all as a work of art. There are perhaps more beautiful cities in the world, but few surely more immediately comprehensible at a glance. Climb the forty feet to the ramparts of the Tartar city wall, and look north-wards. Behind you stretches the countryside, its flat fields peppered with disused temples, and half-ruined tombs, with smoking factory chimneys, and busy building sites—a landscape being visibly transformed and in which the white noodles hung up in the sun fly like flags of surrender.

Before you, in contrast, lies a city that, like the civilization it serves, seems at first glance to have remained stationary for centuries—a city of low grey houses, seamed by tiny alleys, and geometrically dissected by great boulevards laid out by Kubla Khan. The houses—Rasmussen calls them 'petrified tents'—are built round miniature courtyards each of which contains a tree, so that in summer the eye commands a giant walled garden five miles across. Above this green and leafy sea ride the palaces and temples of the Imperial and Forbidden Cities—'the greatest palace that ever was' wrote Marco Polo—golden roofed, emerald-eaved, scarlet walled, their royal height unchallenged by the homes of citizens. Above these again, but still within the Imperial City, rise two artificial mounds, one decked with pavilions, the other crowned with a white whisky-bottle shaped pagoda. A haze of charcoal smoke hangs over the scene and through it drifts the city's noise—clamorous and bewildering—bells, gongs, horns, drums, shouts, rattles, and snatches of music.

All seems to be as it was—as we have heard tell. Descend again into the streets and the impression of being in another century as well as in another land remains. The great boulevards—once reserved for Imperial use only—are flanked by sidewalks still kept broad enough not only to walk upon but to act as open-air workshops and bazaars—places where a man can get a mule shod, a chair mended or just a quick haircut. The smaller streets in the centre areas, single-storeyed or faced with phoney fronts like Main Street in a Western film, are lined with shops that still sell at the front what is made at the back, and the noise of manufacture—hammering, sawing, tin-beating—competes with the clamour of the crowds. And in the narrowest streets of all, the blind walls of which are so close that it is sometimes possible almost to touch both of them with outstretched arms, the traditional cries of the street vendors—the knife-sharpener, the toy-seller, the palmist—are still to be heard.

Everywhere are the traditional colours of the past—the grey of buildings, the blue of the people's clothes, the occasional flash of scarlet from a flag or scarf. Above the head and against the china-blue sky the thin black scribble of the wires weave a mad cat's-cradle over the roofs of the city. Yet neither this wirescape, nor the trams and the Cadillacs, not even the Croydonesque silhouettes of the few recent public buildings, can destroy this feeling of being in a place unchanged.

Within the walls of the Forbidden City this feeling of antiquity becomes almost overpowering in effect. It is true that, however ancient they may look, many of the buildings are in fact not very old. The Chinese seem to care little for permanence in architecture—why incidentally, one wonders, in a country almost without timber do they build so consistently in wood?—and there is scarcely a pavilion or a temple to be seen that has not been remodelled, restored or even rebuilt, perhaps several times during its life. The escorting guide may describe a building as being fourteenth century when in fact it was completely rebuilt after a fire in 1900. Yet the information is not so misleading as you might suppose, for both planning and detail are governed not by fashion nor by period but by ritual, and are thus easily reproduced. Every stone, every column, every brick is placed according to the convictions of a culture. So rigid are these rules that a student asked to measure up a group of temples in a distant province need only discover the dimensions of one column and take a few photographs, and from these he can supply the rest. And yet the effect of such standardization is not sterile, boring nor repellent, for upon this rigid geometrical skeleton of courtyard and stair, of bridge and temple has everywhere been grafted the imagination of the poet and the painter. It is this combination of mathematics and magic that makes Peking one of the wonders of the world.

There can be few more visually exciting experiences than to wander through the courts of this walled series of cities as through the rooms of some vast roofless mansion. First the great approach, paved and straight, that even within living memory was lined every day at dawn by kneeling elephants who guarded the approach of Court officials and mandarins.* Then through the Great Gateway with the courtyards set about with halls of state designed for splendid ceremonials. Each hall is surrounded with smaller halls and pavilions, with terraces, bridges, staircases and ramps all in marching, rhythmic perspective. Every column, every roof, every silhouette and every colour is the same—yet all are different because each time they are viewed from a slightly different aspect or different level. Courts give way to temples, to stairways, to courts again. Everywhere roofs are golden, ceilings blue, green and gold, walls and columns blood-red. The floors inside and out are carefully paved, great marble slabs, diagonally tooled along the main pathways—elsewhere grey rectangular bricks or stones. Balustrades are of white marble, richly carved. Bronze vessels as high as your hat stand sentinel beneath trees every branch of which has been studied and, if necessary, twisted in growth to create the required effect. Within the State rooms

* Sir Osbert Sitwell records that these elephants were accorded princely rank and similar remuneration.

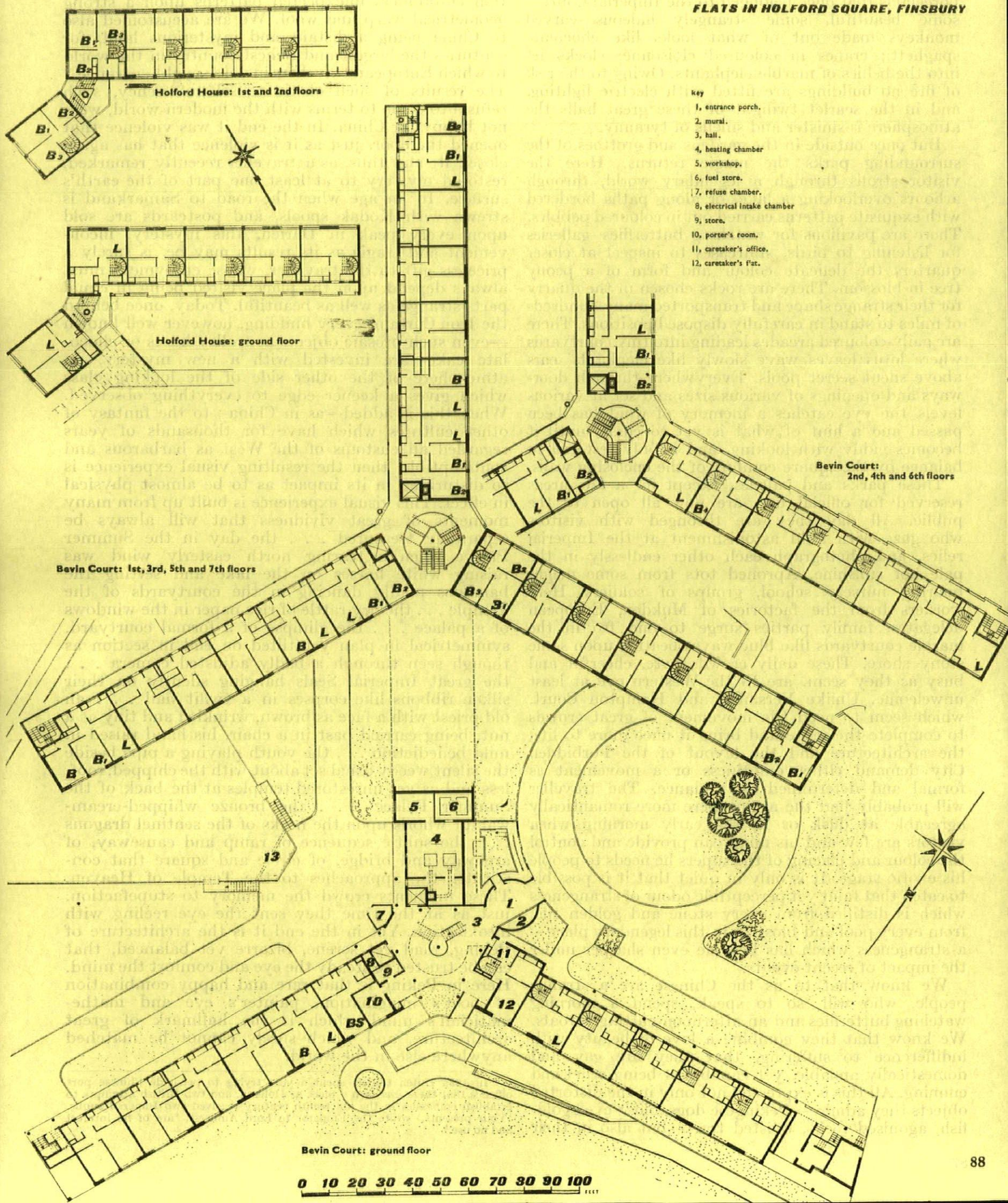
are set out the furniture, the silks, the bronzes and porcelains that once belonged to the Imperial Court—some beautiful, some strangely hideous—carved monkeys made out of what looks like chocolate spaghetti; cranes in coloured cloisonné; clocks let into the bellies of marble elephants. Owing to the risk of fire no buildings are fitted with electric lighting, and in the scarlet twilight of these great halls the atmosphere is sinister and smells of tyranny.

But once outside in the gardens and grottoes of the surrounding parks the magic returns. Here the visitor strolls through a legendary world, through arbours overlooking a lake, or along paths bordered with exquisite patterns carried out in coloured pebbles. There are pavilions for watching butterflies, galleries for listening to birds, staircases to inspect at closer quarters the delicate colour and form of a peony tree in blossom. There are rocks chosen in the quarry for their strange shape and transported many hundreds of miles to stand in carefully disposed positions. There are gaily-coloured arcades leading into tiny courtyards where lotus leaves wave slowly like elephants' ears above silent secret pools. Everywhere through doorways and openings of various sizes and set at various levels the eye catches a memory of what has been passed and a hint of what is yet to come, until it becomes giddy with looking, and is only restored to balance by the square comfort of the enclosing walls.

These parks and palaces, except for a few areas reserved for official use, are now all open to the public. All day they are thronged with visitors who gaze with mild astonishment at the Imperial relics, and photograph each other endlessly in the pale hot sunshine. Aproned tots from some neighbouring nursery school, groups of soldiers, Hero workers from the factories of Mukden, European delegates, family parties surge to and fro in the marble courtyards like blue waves beating upon some stony shore. These daily crowds here, cheerful and busy as they seem, are to the Western eye at least unwelcome. Unlike Versailles and Hampton Court, which seem to need the movement of great crowds to complete the scene and bring it once more to life, the architecture and the layout of the Forbidden City demand either emptiness or a movement as formal and determined as a dance. The traveller will probably find the atmosphere more romantically agreeable at dusk or in the early morning when visitors are few and his mind can provide and control the colour and placing of the supers he needs to people his exotic stage. It is only in quiet that it is possible to catch that faint yet perceptible odour of strangeness which is distilled from every stone and golden tile, from every pool and blossom in this legendary place—a strangeness which has become even sharper under the impact of recent events.

We know that to us the Chinese are a strange people, who will, so to speak, spend a morning watching butterflies and an afternoon cutting throats. We know that they combine a love of beauty with indifference to suffering, that they are gay and domestically amiable, yet capable of being cruel and cunning. All this is expressed not only in the distorted objects they admire—Pekingese dogs, bloat-eyed goldfish, agonised rocks, twisted trees—but also in their architecture and townscape, where a poet's imagination embroiders unexpected patterns upon a strong geometrical warp and woof. We are accustomed also to China being a distant and mysterious land, for centuries the largest and richest country in the world to which European travellers in vain sought entrance.* The results of such obstinate self-sufficiency, such refusal to come to terms with the modern world, were not happy for China. In the end it was violence that opened the door, just as it is violence that has again closed it, and thus, as a traveller recently remarked, restored mystery to at least one part of the earth's surface. In an age when the road to Samarkand is strewn with Kodak spools, and postcards are sold upon every peak in Darien, this mystery, inconvenient and tragic as its results may be, is surely a priceless gift to the traveller, whose enjoyment must always depend upon the place visited being in equal parts strange as well as beautiful. Today, once behind the Iron Curtain, every building, however well known—even such prosaic objects as trolley-buses or chocolate cake—are invested with a new mystery, an atmosphere of the other side of the looking glass which gives a keener edge to everything observed. When this is added—as in China—to the fantasy of other cultures which have for thousands of years regarded all customs of the West as barbarous and contemptible, then the resulting visual experience is so disturbing in its impact as to be almost physical in effect. This visual experience is built up from many moments of great vividness that will always be separately treasured . . . the day in the Summer Palace when a tearing north easterly wind was raising white horses on the lake and setting the bamboos madly dancing in the courtyards of the Temple . . . the dry rattle of rice paper in the windows of a palace . . . the glimpse of a formal courtyard, symmetrical in plan yet tilted on end in section as though seen through a badly adjusted camera . . . the great Imperial Seals hanging silently on their silken ribbons like corpses in a twilit hall . . . an old priest with a face as brown, wrinkled and tiny as a nut, being carried past in a chair, his hand raised in mild benediction . . . the youth playing a pipe beside the silent weedy canal set about with the chipped, roofless and as yet unrestored temples at the back of the Summer Palace . . . the bronze whipped-cream-walnut whorls upon the necks of the sentinel dragons . . . the subtle sequence of ramp and causeway, of archway and bridge, of circle and square that constitutes the approaches to the Temple of Heaven. These moments crowd the memory to stupefaction, just as at the time they sent the eye reeling with intoxication. Yet in the end it is the architecture of Peking, mad yet serene, bizarre yet balanced, that can be trusted to steady the eye and comfort the mind. Here in Peking is that rare and happy combination of poet's imagination, painter's eye and mathematician's mind which is the hallmark of great architecture, and which surely cannot be matched anywhere else in the world.

* In 1655 Dutch traders spent a year trying to persuade Chinese port officials that there *was* such a place as Holland, and two British attempts to establish embassies in the nineteenth century received two Imperial snubs. 'Your presents,' wrote the Emperor to Lord Amherst, 'are of no interest and no use.'



Key

1, entrance porch.
2, mural.
3, hall.
4, heating chamber
5, workshop.
6, fuel store.
7, refuse chamber.
8, electrical intake chamber
9, store.
10, porter's room.
11, caretaker's office.
12, caretaker's flat.

FLATS IN HOLFORD SQUARE FINSBURY

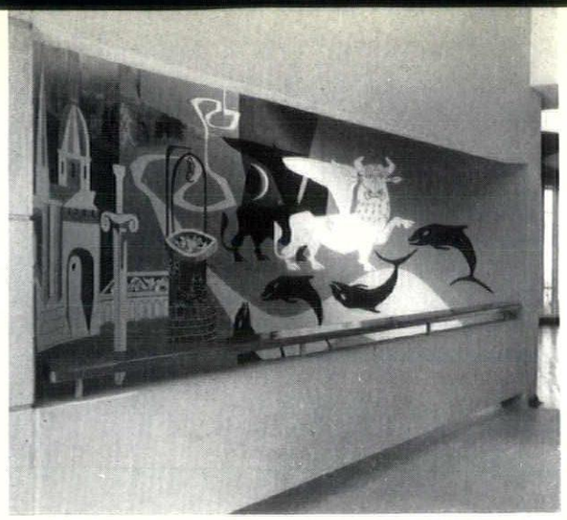
ARCHITECTS SKINNER, BAILEY AND LUBETKIN
Associate A. GREEN

1, east and south elevations of Bevin Court, the main 7-8 storey Y-plan block.



Under the London Squares Preservation Act the area of these open spaces must either be preserved or an equivalent area must be provided in a suitable alternative position. In this case the decision to build one main block concentrated in three wings round a central stair and lift hall made it impossible to retain the old rectangular green space in the middle of Holford Square, but an equivalent area has been provided on the west side of the site adjoining the grounds of an LCC school*. This new public open space will have its main approach from Percy Circus and will be designed to form a

* An account of the first project for this site was given in the ARCHITECTURAL REVIEW for June, 1952 (pp. 403-406). It was there explained how the original intention was to preserve the open space of the old Holford Square intact, but how rising building costs combined with the necessity of maintaining rents at a low level eventually led to a much more concentrated and economical solution in the form of the present big Y-block.



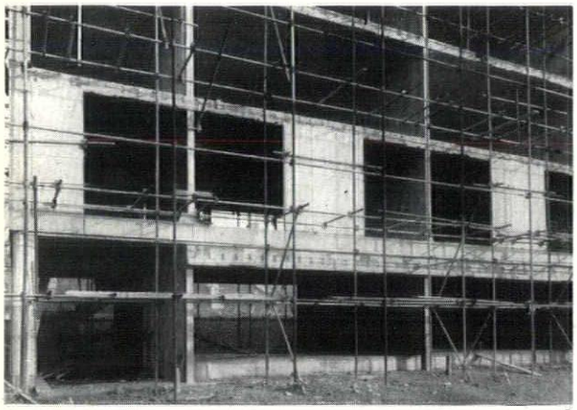
2

2, mural painting by Peter Yates in the entrance porch of Bevin Court ; it incorporates elements from the coat of arms of the Finsbury Council. 3, 4 and 5, stages in the erection of the pre-cast concrete facing slabs. 5, one of the slabs, showing the surface of Hopton Wood stone chippings. 4, some of the slabs seen from the back, during erection ; they were used as permanent shuttering. 3, one of the wings of Bevin Court under construction showing the reinforced concrete cross-walls and slabs and some of the facing slabs in position.

FLATS IN HOLFORD SQUARE FINSBURY

continuous ensemble with the housing estate. The total area of the site, including the public open space, is 3.9 acres ; without the open space it is 3.22 acres and the density is 129 persons per acre.

The main 7-8-storey block (Bevin Court) contains 118 dwellings and the small 4-storey block (Holford House) 12 dwellings. In the east and west wings of Bevin Court there are 1, 2 and 3-room flats, with all the living rooms and bedrooms facing towards the south, and only kitchens and bathrooms facing on to the galleries on the north side. In the south wing, which has the advantage of both east and west aspects, there are maisonettes served by galleries on alternate floors, with bedrooms facing in both directions on the floors between. Again, only kitchens and w.c.s face on to the access galleries. The 4-storey block, Holford House, consists entirely of maisonettes. The basic shape of the Y-block is clear and provides its own interest. The main elevational problem was how to avoid monotony and bleakness in elevations which, for economic reasons, are devoid of any relief in the form of balconies or other projections and recesses. The grouping of the windows to form a lively rhythm over the whole façade substitutes linear interest for the more desirable treatment in depth, enhanced by the contrast in materials and colour. The deep recesses of the staircase hall, linked to the two elevations on the west side by recessed balconies, give punctuation to this long façade. On the east elevation of the south wing there was a special problem—how to avoid an abrupt discord between the horizontal access galleries on alternate floors and the all-over character of the rest of the elevations. A horizontal treatment of the galleries would have disrupted the monolithic effect of the Y-block, and was overcome by introducing slightly projecting bays in the access galleries which continue the rhythm of the elevations. On the north elevation, consisting entirely of access galleries, the strings and mullions repeat exactly the same rhythm as on the other



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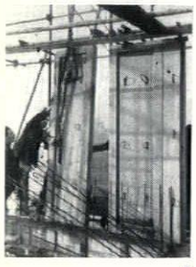

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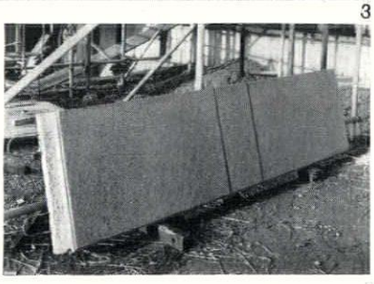

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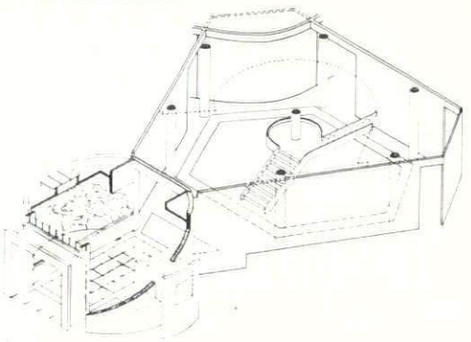
main staircase



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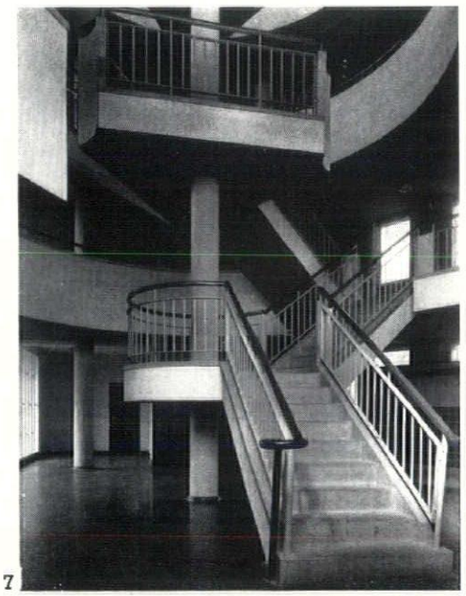

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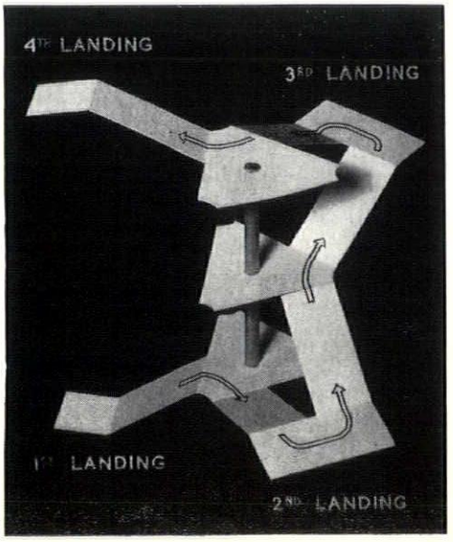
6, diagram of the hall and the entrance porch, showing the method of lighting and protecting the mural. 7, the foot of the staircase, and 8, one of the landings. 9 shows the way the staircase works. 10, on the facing page, looking up the well.



8



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11, east and south elevations of Bevin Court. 12, general view showing the south-west and west elevations of Bevin Court and the west elevation of Holford House. 13, north and north-east elevations of Bevin Court. 14, site plan.

elevations. On the west elevations importance was attached to the differentiation of the ground and top floors. The former was achieved by means of recesses above and below the ground-floor window band and by open bays at the end of each wing; the latter by the introduction of additional horizontal members below the top-floor windows.



11

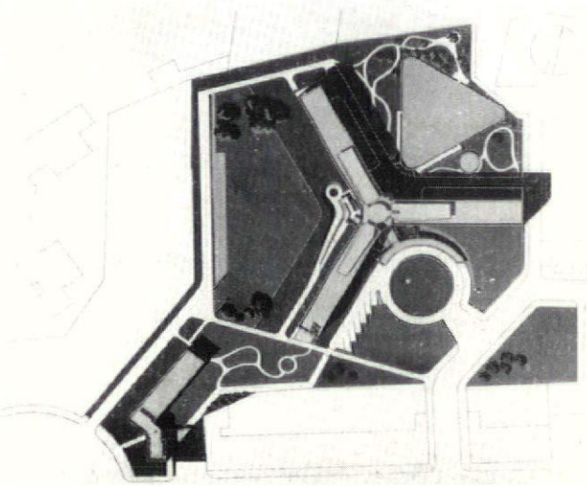
The reinforced concrete crosswall system of construction has the advantage of solving the problem of containing columns within partition walls and treating them in an orderly, architectural manner by abolishing all projections. Although a number of blocks of flats had already been economically built using the crosswall system, it was felt to be desir-



12



13

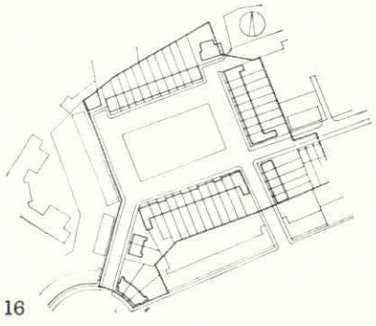


14

FLATS IN HOLFORD SQUARE FINSBURY



15, aerial view from the west showing how the four-storey block, Holford House, has been designed as a link with Percy Circus on the right of the photograph. It is a pity that the recently completed extension to the L.C.C. school (the small square building opposite Holford House) has made no attempt to relate itself to the Circus. 16, plan of the old square before the war, with the west side demolished.



16

able to check its cost compared with other systems. Drawings were consequently prepared showing three alternative methods of r.c. construction: crosswalls and flat slabs, *in situ* columns and beams, and precast columns and beams. In the case of the column and beam systems the span was the width of one room, and in the crosswall system either one or two rooms. The firms invited to tender were given the option of quoting for any of the three systems and in fact tenders for each system were received. The analysis of the tenders showed that, taking into account the total construction costs, the first two systems were equal in cost, and the third was considerably dearer. The crosswall system was consequently adopted. The foundations consist of piles taken down to a depth of 30 ft. to 50 ft. to the London clay. The rows of piles are connected by beams carrying the crosswalls over. The structure of both blocks consists of 6-in. load-bearing reinforced concrete crosswalls at 20 ft. 10 in. centres and 8-in. solid reinforced concrete slabs. The external walls of the 8-storey block are of $4\frac{1}{2}$ in. thick precast concrete slabs, a $7\frac{3}{4}$ in. cavity, and 3-in. clinker blocks, with panels of brickwork under the windows. In the 4-storey block the materials are reversed, brickwork being used for the larger panels and precast slabs under the windows.

The external walls along the galleries are of $4\frac{1}{2}$-in. brickwork, with a 2-in. cavity and 2-in. inner lining of clinker blocks. On the gable walls the precast slabs were used as shuttering for the *in situ* concrete wall, which on its inner face is finished with plaster on battens providing an air space for ventilation. The roofs are finished with foam-slag insulating concrete laid to falls, screed and asphalt. The floor finishes are laid on cement screeds 'floating' on glass-silk insulation. Between the flats there is additional acoustic insulation to the 6-in. concrete party partitions consisting of an air cavity and plasterboard on battens. The precast concrete panels forming the external walls are of two kinds. Those on the main elevations are faced with Hopton Wood stone chippings, while those on the gables and gallery elevations have a facing of exposed ballast, strings with Hopton Wood stone facing being taken through at each floor level. The panels under the windows on the main elevation are of red clay bricks, while the walls behind the galleries are of brown concrete bricks. The open panels on alternate floors of the central staircase hall are of cast iron; the balustrades of the stairs and the access galleries of mild steel. The main stair has a continuous mahogany handrail. The windows are of galvanized steel sections, with precast concrete cills. Central heating for the whole estate is provided by two fully automatic oil-fired boilers. Each living room is also equipped with an electric fire. Balanced-flue gas heaters are provided in the kitchens and serve the sink, lavatory basin and bath. These heaters are entirely concealed, being built into the back of a cupboard. As both the intake and the exhaust are outside the flat the internal atmosphere is not affected. On the roof of Bevin Court there are covered areas, enclosed by mesh panels, for drying clothes. All the living-room and bedroom floors are finished with thermoplastic tiles, and the passages, bathrooms and kitchens with granolithic.



Man is the unspecialized amateur of the animal kingdom, who can realize neither his dreams nor his practical potentialities without adaptive mechanisms which extend his person and his personality. Not only in the mediaeval dream of human flight, and in the present reality of undersea locomotion, but also in the creation of buildings and towns, man makes adaptive extensions of himself, as D. E. Harding suggests opposite—live projections of his living presence.

D. E. Harding

EMBODIMENTS

ARCHITECTURE AS A BIOLOGICAL FUNCTION

Vitruvius begins his *De Architectura* with a formidable list of the branches of knowledge with which an architect ought to be familiar.* They include philosophy, music, medicine, and optics, as well as painting, sculpture, and mathematics. A few architects, and among them some of the greatest, have approached this ideal of versatility: familiar instances are Michelangelo, Bernini, Vanbrugh and Wren—the last was actually appointed Savilian Professor of Astronomy at Oxford. Modern architects may plead, of course, that the renaissance master did not have to wrestle with the innumerable technicalities which beset us. To which he might reply, with justice, that his difficulties, though unlike ours, were no less formidable, and that we are narrow specialists because that is what we want to be.

We are so busy being architects that we have no time to wonder what it is to be architects. This has its advantages. If the Garden Spider (that designer of genius) were to stop to consider how and what and why he builds, he would probably find himself leg-tied and incapable of building anything at all. Similarly, it seems, some human designers need to work in a kind of specialist's daydream. To rouse them would be to risk breaking the fine thread of their thought, and might end in paralysing entanglements.

There are many others, however, who are ready to pay the price of fuller self-awareness—namely, some loss of time and perhaps even of efficiency—in the hope of greater efficiency in the end, and in the certainty of greater pleasure now. This article is written for them.

architecture makes man

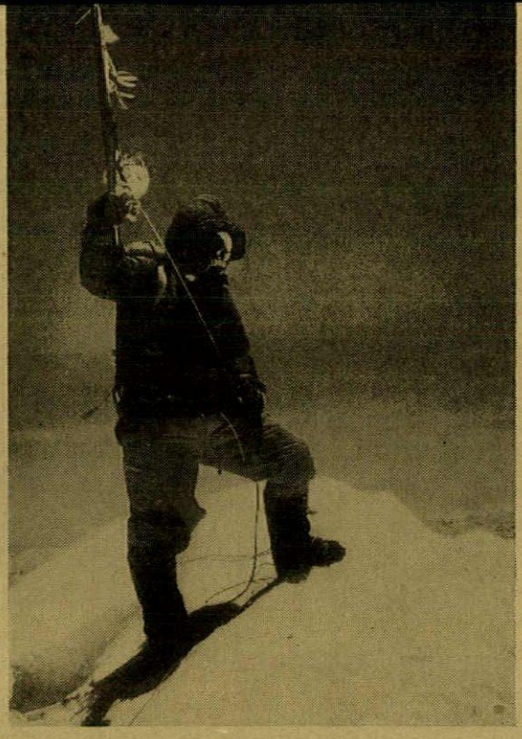
What does the architect do for man? What is his real job? Is it merely to set man in a beautiful and convenient environment, to contrive the best possible devices for him to live in?

Not at all. The architect does not make man's trimmings. He makes man. He does not design containers for the human body, but its indispensable extensions or outgrowths. He contrives a large part of that vital equipment lacking which a man is not a man at all, but an animal or even less than an animal. For the naked human body, whittled down and pared of home and furniture and clothes and tools, is no longer a truly human body. It is incapable of any specifically human function, and even of survival. My hands and feet are not so much organs as organ-holders, or limb-buds from which some truly human limb-ending—pen-finger or hammer-fist, bootsole-hoof or pincer-claw, plane-wing or oar-fin—may be grown whenever it is needed. My life extends far beyond my skin, which is little more than the raw surface of animal flesh upon which must be grafted such human integuments as my shirt and jacket, my wall-paper and two-coat plaster, and the skins of my 10-inch cavity wall. Well may Samuel Butler complain: 'If those who so frequently declare that man is a finite creature would point out his boundaries, it might lead to a better understanding.'[1]

In a manner of speaking, man is chiefly not-man, and the not-man chiefly architecture. And the whole lives. You cannot meaningfully say of this whole that it is alive here and dead there, any more than you can meaningfully say of my life-blood that it is a dead juice in which living corpuscles are swimming for their lives and for mine. What at once makes and is

* This article is based on part of D. E. Harding's book *The Hierarchy of Heaven and Earth*, Faber & Faber, 21s.

[1] *Life and Habit*, p. 104. Cf. Goethe: 'When to my car my money yokes six spankers, are their limbs not my limbs? Is't not I on the proud racehorse that dash by? Mine all the forces I combine, the four-and-twenty legs are mine!' *Faust* (Anster's trans.), I.4.
And A. N. Whitehead asks: 'Where does my body end and the external world begin?' *Modes of Thought*, p. 155.



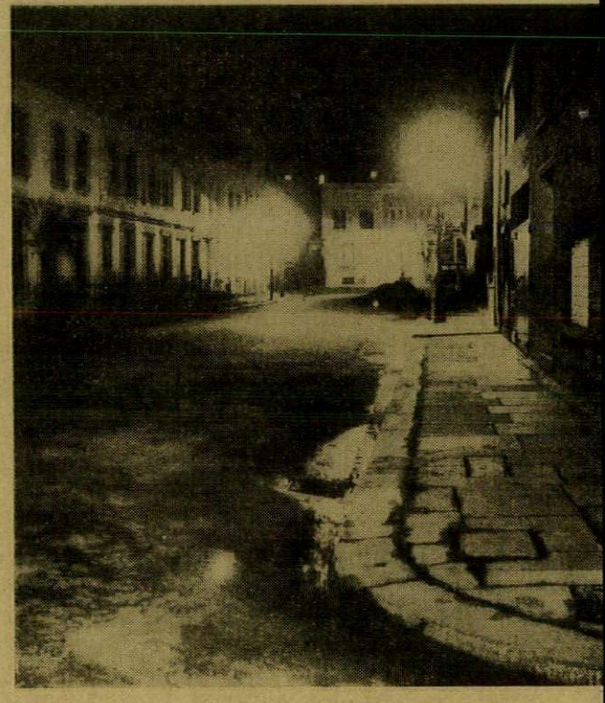
made by vital functioning is itself vital functioning. 'Man is a tool-using animal,' wrote Carlyle. 'Without tools he is nothing, with tools he is all.'[2] They are part of his human nature.

No, a house is not a machine for living in, but an organ for living through. The client comes to his architect seeking an organism rather than a convenience, for the unhoused and the underhoused are to some degree disembodied or disorganized. The architect treats and cures partially-Invisible Men: he bodies them forth, helping them to grow the healthy physique which makes solid and well-formed humans of them. He is much more like a plastic surgeon or a physical culturist or a midwife than a tool merchant.[3]

nature and artifice

It was all very well for Emerson to say 'These temples grew as grows the grass,'[4] but he was not their architect, and certainly not one of their sweating masons. Yet he was right. The Parthenon is as truly a natural specimen, a piece of natural history, as Emerson himself.

Of course you may say, if you like, that the designer's work is to extend and fulfil nature by art, so long as you add with Shakespeare that 'the art itself is nature.'[5] It is natural for man to be not only an artificer but artificial—to be nine-tenths his own artefact. All you can mean when you distinguish his works from nature's is that in them nature is waking to intention and awareness, is coming at last into her own. If anything, buildings are (like Alice) 'as real as life, and twice as natural.' Here, in their designing, is that small part of the total design of the universe which we may well claim to understand, seeing that it is done by us and for us and through us. Yet, paradoxically enough, it is precisely our inside knowledge of this piece of nature called a building project, our first-hand information about it and our control of it, which seems to remove it from nature: whereas in fact it is just this special intimacy which should make it for us the most revealing of all instances of nature at work. To be an efficient designer is to live in the very bud and growing point of the evolutionary tree, and there to enjoy real insight into its most vigorous thriving. And certainly not even the most rugged individualist amongst us is employed as an *outside* architect by nature: we are all on her staff, salaried men of hers. At least occasionally, then, it should be true of the architect as of the hero of Notting Hill,



that 'the artificial city had become to him nature, and he felt the curbstones and gaslamps as things ancient as the sky.'[6]

the extension of the body

You may object that this latest kind of growth, this new departure in evolution which man controls, is a crude substitute for the old; that its organs are loose and optional and inert and mere appendages or makeshifts, bloodless and insensitive; that (in short) this so-called growth is not growth at all, but only addition.

You would be wrong: the facts are the other way round. A man—the total organism—would be less alive and not more alive if his drain-bowel were a mere trailing outgrowth incapable of painless amputation and regrafting as often as he pleases, if it were made of living tissue instead of 4-inch and 6-inch and 9-inch salt-glazed stoneware pipes jointed in cement

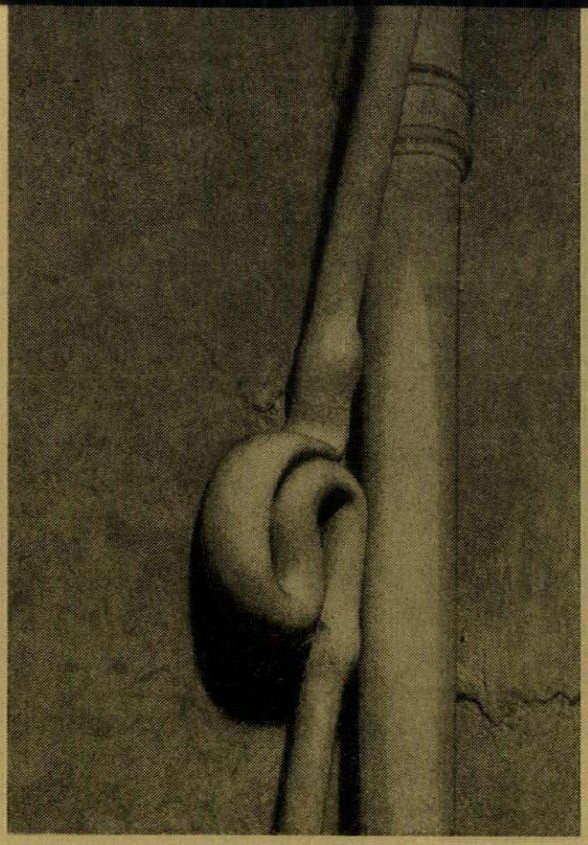
[2] *Sartor Resartus*, I.5.

[3] 'Although to be patterned in the form of a man is something to be more or less pleased about, the source of joy beyond all reckoning lies in the fact that a thing like man's body has a myriad transformations, and there never has been a limit to them.' *Chuang Tzu Book* (E. R. Hughes' trans.), VI. This was probably written in the third century B.C.

[4] 'The Problem.'

[5] 'Yet nature is made better by no mean,
But nature makes that mean: so, over that art
Which you say adds to nature, is an art
That nature makes . . .
. . . this is an art
Which does mend nature,—change it rather;
The art itself is nature.'
—*The Winter's Tale*, IV.3.
Cf. Browne: 'Art is the perfection of Nature.' *Religio Medici*, I.16.

[6] G. K. Chesterton, *The Napoleon of Notting Hill*, III.1.



mortar, if it could never be rodded and smoke-tested and water-tested and grubbed up and relaid to proper falls without an anaesthetic, if it were liable to diarrhœa and dysentery, if it took millions of years instead of hundreds to evolve from its beginnings to its present form. If it were more alive he would be less alive. The deadness of the part promotes the life of the whole, and shares in it, and so is raised from the dead. By themselves and cut off from their users, drainpipes are of course stone-dead stoneware; but as continuous with their users they are living stones, hardware come to life. Doubtless the architect must mentally amputate and so kill these organs when he is specifying and inspecting them, but that is no reason for never pausing to think what he is really up to. Butchery is not his only business.

In any case, *all* our building materials are dead, whether they make up our flesh or its extensions. If you take the components of any creature one by one, and ignore the whole, you will sooner or later come upon nothing but lifeless matter. Our saliva,the lymph of our bloodstreams, our atoms—these are no more alive than our drains. Life is not a ghostly presence haunting organisms, but a function of their wholeness, of the total pattern, of the togetherness of their lifeless parts which include outer artefacts no less than inner chemistry. D. H. Lawrence's wish that 'cities might be as once they were, bowers grown out from the busy bodies of people' has never really lacked fulfilment.

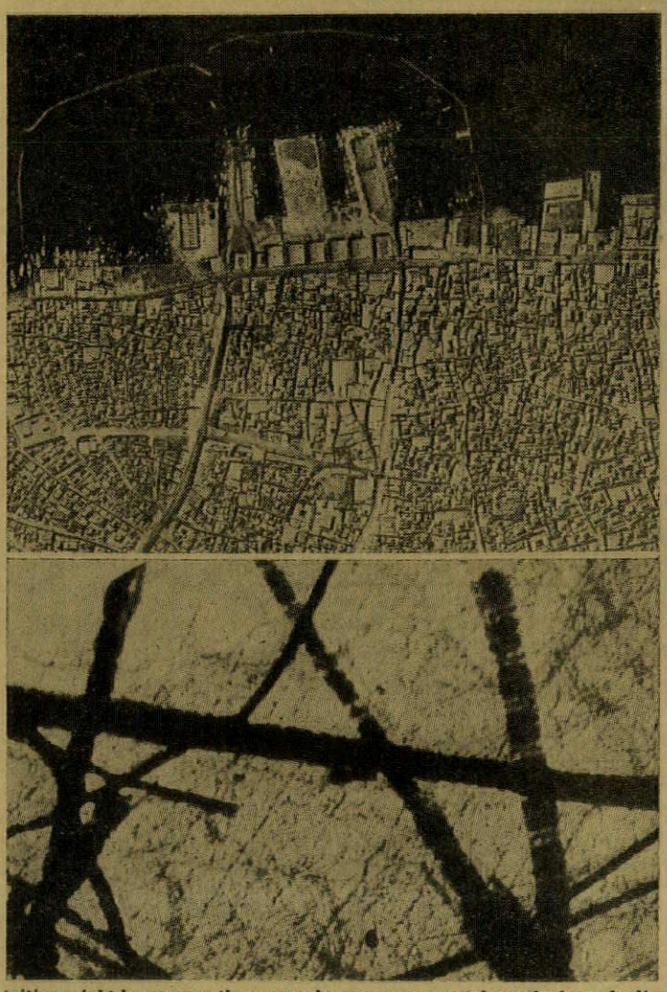
the house comes alive

It is a disturbing (and possibly inspiring) thought that when your client moves into the house you have built for him he moves into every part of it, from the tips of his radio-antennæ to the soles of his footings, and that in the man thus enlarged the whole of your work springs to life. For he is little more than a lodger or a caretaker till he feels co-extensive with the structure, and its cube is his, and he is sensitive to its slightest injury, and hurt when it is hurt, and praised when it is praised. The psychology here is no less than the proper counterpart of the physiology, seeing that this brick-and-mortar physique that you have cultivated for him, this outgrowth, contributes far more to his life-pattern and life-history than a great deal of his flesh-and-blood physique can ever do. He does not live in the house: it lives in him.[7] You have not designed a receptacle of life, but a way of life. Now he has more reason to fear the loss of a few slates than a few hairs, and a lesion of the extended bowel may be as dangerous as a lesion of the unextended. Again, he can spare his appendix sooner than his dampcourse, toenails than roof-nails, a finger-joint than a truss-joint.[8]

Indeed, your client is now a very complex creature, quite unlike any mammal. He lies right outside the vegetable and animal kingdoms in a third kingdom—the human. This kingdom is your province. As planner, you have seen to it that every organ of his extended body has its proper spatial relation to the rest; as constructor, that it has its proper physical constitution; as heating engineer, that it has its proper temperature. For example, take the last, and consider the system of body-temperatures which are

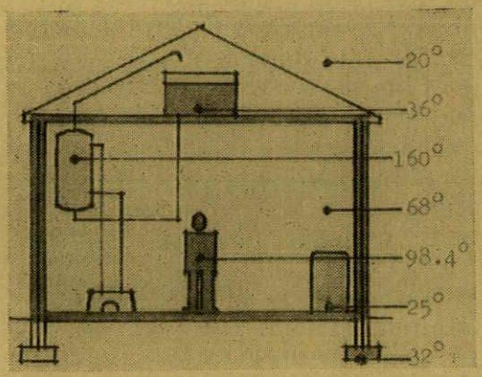
[7] The philosopher Giordano Bruno (1548–1600) claimed that the stable was alive when the horse was in it, and his hat was alive when he put it on—and by *alive* he did not mean *lousy*!

[8] 'Often if an accident happens to a gentleman's legs, they can be mended; but if a similar accident happens to the legs of his pantaloons, there is no help for it . . . Dress a scarecrow in your last shift, you standing shiftless by, who would not soonest salute the scarecrow?' Thoreau, *Walden*, 'Economy.'



'cities might be as once they were, bowers grown out from the busy bodies of people.' Above, part of the city of Kuwait, below, fibrels in a beef tendon.

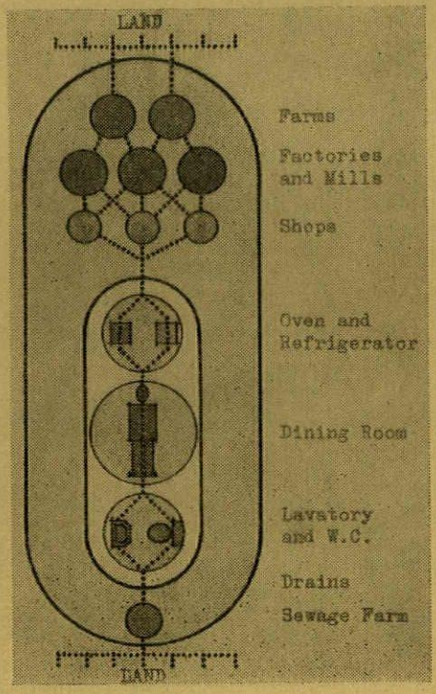
normal in your now well-developed client. His blood-system is maintained at a steady 98.4 degrees, his hot-water system around 160 degrees, his refrigeration-system around 25 degrees, his warm-air system around 68 degrees, his foundation system (if he stands on clay) at not less than 32 degrees. And his outer skins have been designed as a superior kind of insulating fur or feathers, with a view to maintaining these body-temperatures at a minimum cost in calories.



Language itself bears this out. It is no mere oddity of speech that we credit the house and parts of the house with human functions, referring (for instance) to the Dining Room instead of the Dining-man Room. The inhabited room dines—you have planned it so—and its mouths are the service hatch and the tradesman's entrance. Your living room is a *living* room, and your dwelling dwells. It is good sense as well as good idiom to say that the house *sleeps* at night and *wakes* in the morning, and *overlooks* its neighbours, and *faces* south, and is *fed* with gas and electric current, and has good (or bad) architectural *manners*. For it is nothing else than your enlarged client doing all these things. Sleeping men include as well as need sleeping clothes and sleeping rooms and sleeping houses and sleeping cities.

the total organism

'A man's Me is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his house . . . his lands and horses, and yacht and bank-account.'[9] Indeed, he extends far beyond all his private property, and covers many square miles. Like any cow, he feeds on the land at one end and excretes on the land at the other; only his two ends may be a thousand miles apart—as far apart as the farm where his reaping-machine jaws are feeding, and the farm where his sewage effluent is finally returned to the soil. Like the cow, he needs more than one stomach; only he may run to scores of stomachs—



[9] William James, *Textbook of Psychology*, p. 177.

stomachs of that new (but, nevertheless, quite 'natural') sort which we call threshing machines and mills and factories and bakehouses and kitchens. Like the cow, he must drink; only instead of walking up to the lake he prefers to grow up to it, and drink without moving—his iron mouth sucks permanently at the reservoir. Like the cow, he can see and hear only what is in sight and within earshot; only he grows new ears and eyes wherever he needs them, and spares himself the trouble of moving about to discover what is happening—every telephone instrument and television camera is his sense-organ, potential or actual. Thus man is not so much a nimble biped as a sedentary myriapod, thanks to the engineers and town-planners and architects who, during the last 10,000 years, have been redesigning him.

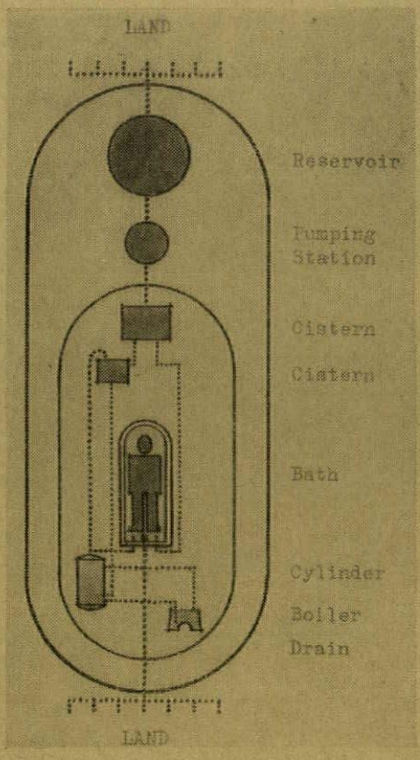
growth and amputation

But if this were the whole story—if the designer were concerned only with the growth of bigger and better human organs—then he would in fact be doing man a terrible injury. For ungrowth rather than growth is the mark of a human being. It is even more important to be able to amputate your four bed-legs in the morning (at the first attempt if you can, and without too much pain) than to be able to grow them at night.[10] The bedridden have not advanced, but in their own way reverted to the quadrupedal state, to the condition of the animal that stupidly clings all its life to a single set of tools. Unable to move house, the snail is injured and dies with it, whereas the man merely calls in the demolition contractor and the architect to set him up with a healthier integument. In a sense, every *permanent* outer skin and limb-ending and sense-organ is a cancerous growth, morbid tissue, a tool that possesses its user.[11] If you cannot shuffle off your television set or your house it has become a truly mortal coil. The too house-proud woman is like a giant snail or limpet: she is miserably vulnerable because inordinately attached. House-ridden, she becomes inhuman, distorted, monstrous. Her architect is guilty of having cultivated a morbid growth upon her.

The fact is that to be human is to be *less* than animal—to lack the lobster's claw, the spider's spinnerets, the swallow's wing, the horse's hoof, the tortoise's armour, the moth's antennæ, and almost all the immense range of nature's instruments. It is to be feeble, naked, inexpert, incurably amateurish—and unspoiled. It is to be a species of universal joint, a socket for innumerable limbs, a handle of innumerable tools. And the reward of man's age-long restraint, of his refusal to grow any one particular set of animal appendages, is that eventually he grows them all, after his own fashion. In his ancestors he was content to wait while, impatiently, corals outbuilt him, and fish outswam him, and birds outflew him, and horses outran him, and every other

[10] It was not so long ago when a German peasant would put a chair-leg in splints if one of his sheep broke a leg—sympathetic magic, of course, but there is some sense in it.

[11] This is true even of our 'natural' organs: we have to learn to amputate them mentally. Thus Marcus Aurelius: 'As for thy body which as a vessel, or a case, compasseth thee about, and the many and curious instruments that it hath annexed unto it, let not them trouble thy thoughts. For of themselves they are but as a carpenter's axe, but that they are born with us, and naturally sticking unto us.' *Meditations*, X.38.

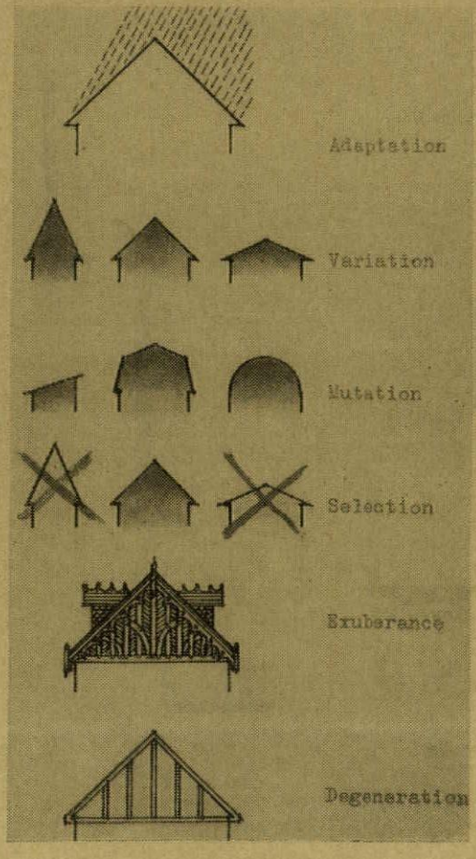


animal outdid him in some special skill. And now he outdoes them all, incorporating in his great body all the fins and flippers and wings and claws and shells that are distributed piecemeal throughout the animal world.

Like an octopus or an Eastern god, he is many-limbed; only his arms are not held apart in space so much as in time. His house is something between an armoury and a Bluebeard's chamber, where his amputated limbs are hanging in readiness for re-incorporation. As he goes about the house he is, accordingly, transformed, and reborn a new creature in every room. To be a man bathing and then a man telephoning is to have slipped out of one embodiment into another so easily that the metamorphosis passes unnoticed.

the evolution of artefacts

Clearly, then, the effectiveness of this new kind of human growth lies in its immense difference from the original organism which it extends. Nevertheless, because the tool-bud is functionally united to the limb it grows on, and is no makeshift or orthopædic device, the main laws of its development are those of all life. Let me give some examples.



The so-called artificial organ, like the natural, develops by *adaptation* to a changing environment. For instance, just as my feet are fins progressively adapted to travelling on the land, so my footings are walls progressively adapted to resting on the land. Such adaptations arise from *variation*. Many kinds of feet and of foundations have been hit upon and tried out—some of them important new departures or *mutations* which change the course of evolution, and others which are trivial. But, whether important or not, these variations are all the while subject to *selection*—first a blind sifting by circumstances and economic pressures, and then a conscious sifting in the light of experience. (Architects, who have weeded out innumerable characteristics of the house, are only carrying on the work of nature which has weeded out innumerable characteristics of the householder—the main difference being that only in the first case can the organ be scrapped without scrapping the organism.) And selection often leads to *exuberance*, when some organ goes on developing much further than practical needs seem to require; and conversely to *degeneration*, when the organ survives, in a useless and vestigial form, long after it has been superseded. Examples of the first are the peacock's tail and fan vaulting, and a woman's hair and hairstyles and hats; of the second, the whale's hind legs (now deeply buried in its body, and shrunk almost to nothing), the dummy half-timbers which are still planted on to suburban gables, and the dummy buttonholes on a man's sleeve —vestiges of his once turned-up cuff.

Here, then, in tailoring and planning his outer body, man is continuing more economically and swiftly and intentionally the natural processes which have produced his inner body. Architecture is biology brought up to date.

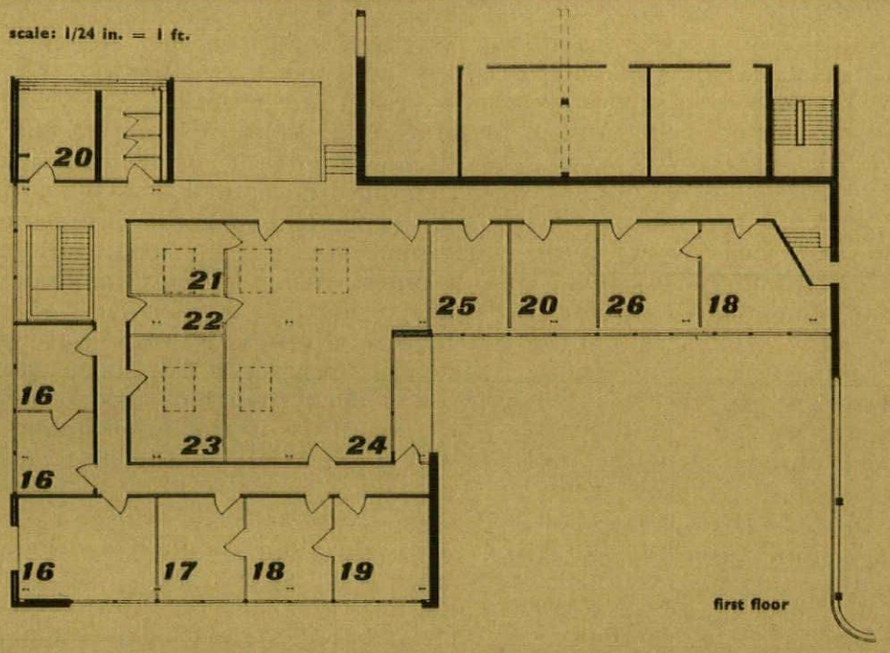
practical conclusions

Such considerations cannot help but change our attitude to our job, giving us a new vision of it and respect for it and delight in it. Henceforth we shall be more alive, because more alive to our vital (and, indeed sacramental) office.

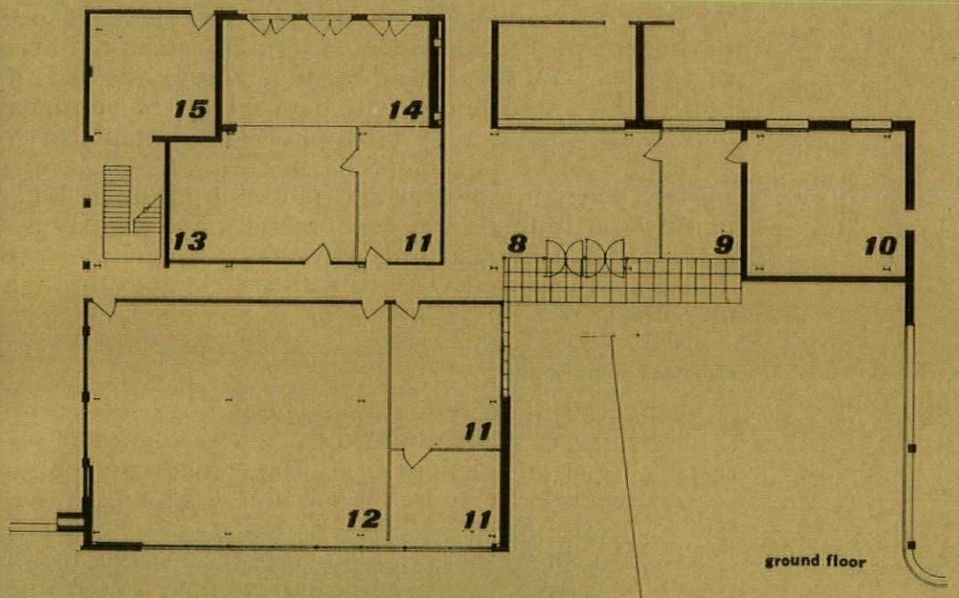
Also we shall, perhaps, be more sensitive to the individual needs of the men and women we at once build for and build. To design a fitting body for your client you must know his mind, so that the one shall match the other—or, at the very least, shall do no violence to it. Obviously it will not do to fit up the all-in-wrestler and the mystical poet with the same type of extended physique. We shall be inclined to think again about large repetitive housing schemes, and all planning which reckons in terms of income groups or classes of people instead of unique individuals. When we plan dwellings for persons we neither know nor try to know, are we not mistaking the function of the architect, treating the house as the standard dead-pan mask instead of the unique living expression of its unique family? Are we not apt, by standardizing the outer man, to promote the standardizing of the inner man, and by imposing our architecture (however excellent) upon him regardless of what he is, to impose upon him body and soul? Architects make men. The question for us is: what kind of men? And how many kinds? Architecture is one of the most important ways in which human beings vary. And appropriate variety is more than the spice of life: it is the main dish.

OFFICE EXTENSION IN MIDDLESEX

scale: 1/24 in. = 1 ft.



first floor

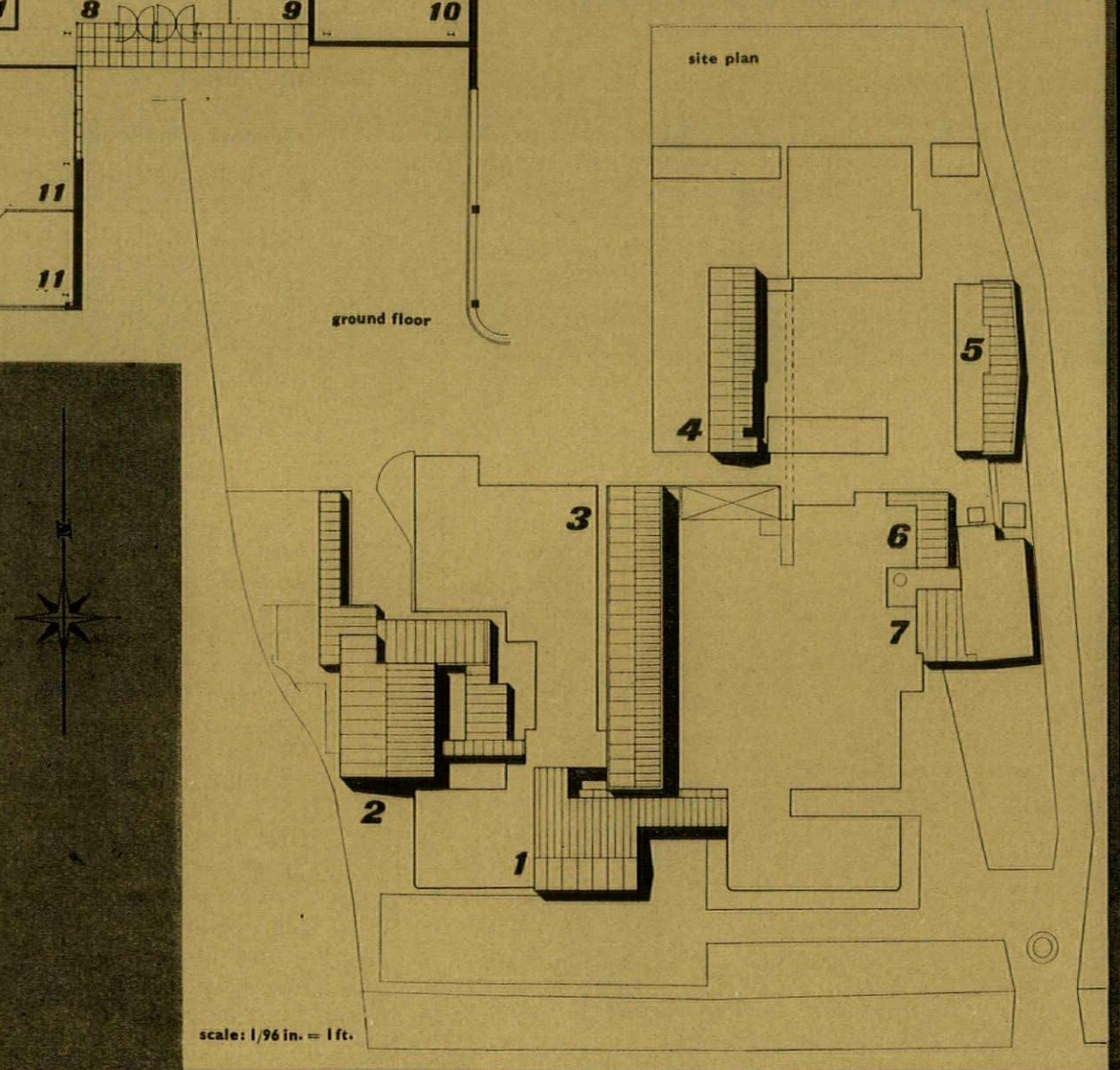


ground floor

key

1. new office extension.
2. canteen (see AR. Nov. 53).
3. fourth transfer machine building.
4. pipe bending shop.
5. film vaults.
6. boiler house extension.
7. film vaults.
8. entrance hall.
9. waiting room.
10. open store.
11. offices.
12. release production office.
13. preparation production office.
14. garden.
15. costings office.
16. technical development.
17. assistant engineer.
18. secretaries.
19. chief engineer.
20. progress control.
21. supervisor.
22. waiting lobby.
23. plant meeting room.
24. positive control office.
25. process superintendent.
26. plant administration.

site plan



scale: 1/96 in. = 1 ft.

OFFICE EXTENSION IN MIDDLESEX

ARCHITECTS | **GOODAY AND NOBLE**

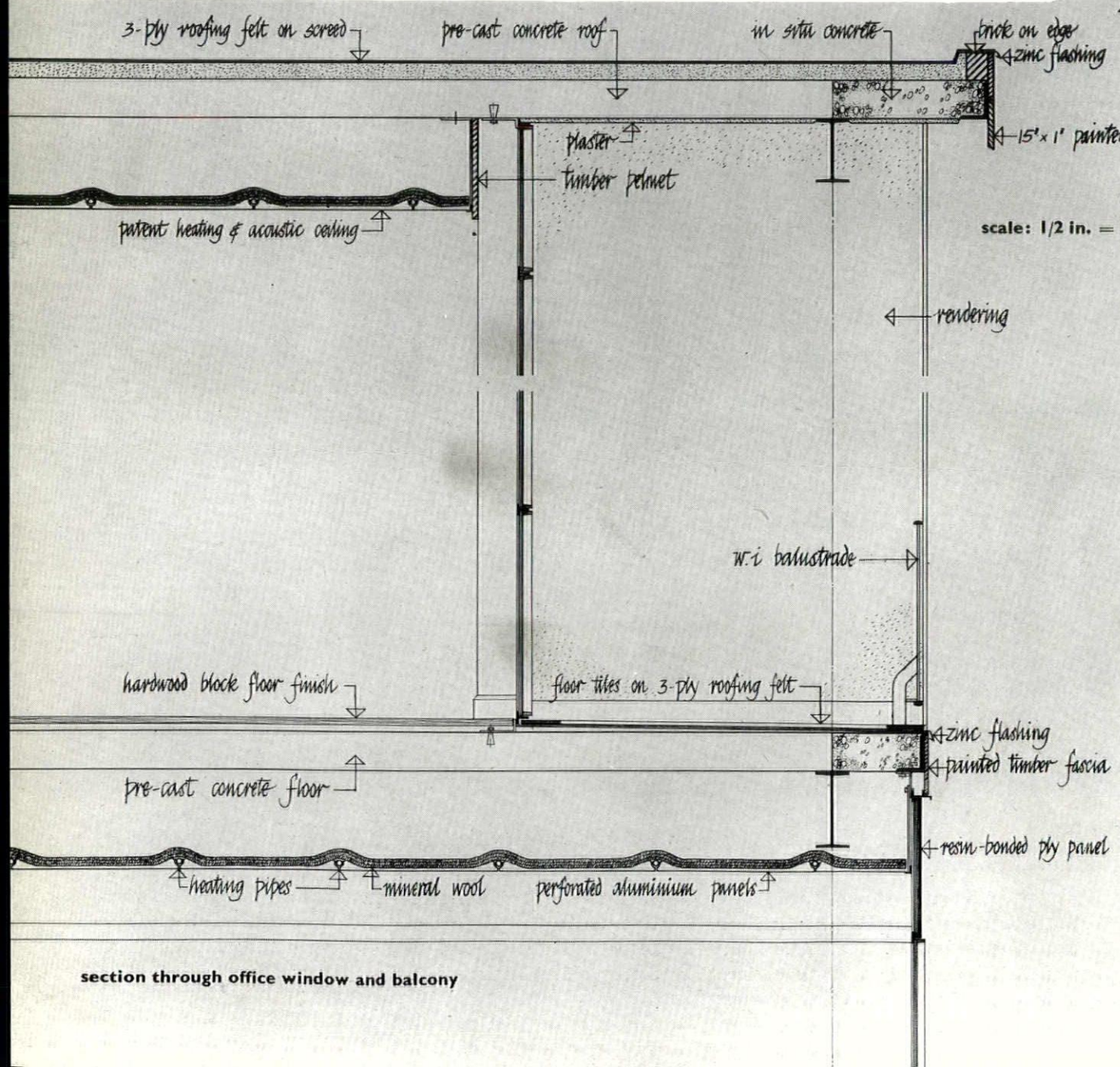
1, the main entrance to the new office block.



This is part of the post-war expansion programme of the Technicolor buildings on the Bath Road, opposite the north boundary of London Airport. One of the earlier stages in the programme, the Works Canteen, was illustrated in THE ARCHITECTURAL REVIEW for November, 1953. The new administration offices for the control of film handling were designed as a link between existing double and single-storey buildings. Previously there was no direct circulation between these two administrative units except through the laboratories. The office block is L-shaped and, together with the existing two-storey office, encloses a pedestrian concourse leading to

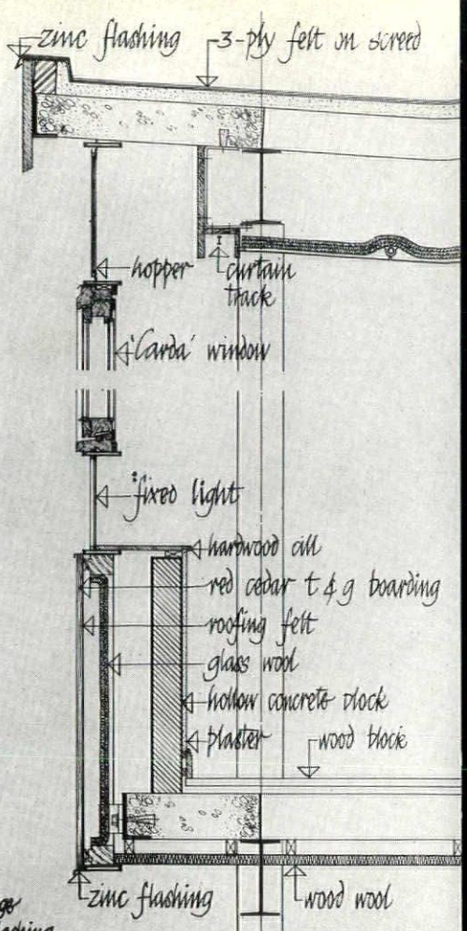


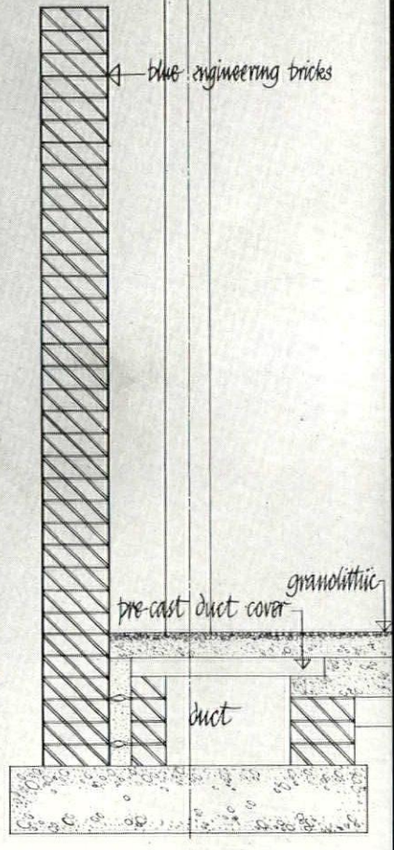
2, *the main entrance from the south-east.*



section through office window and balcony

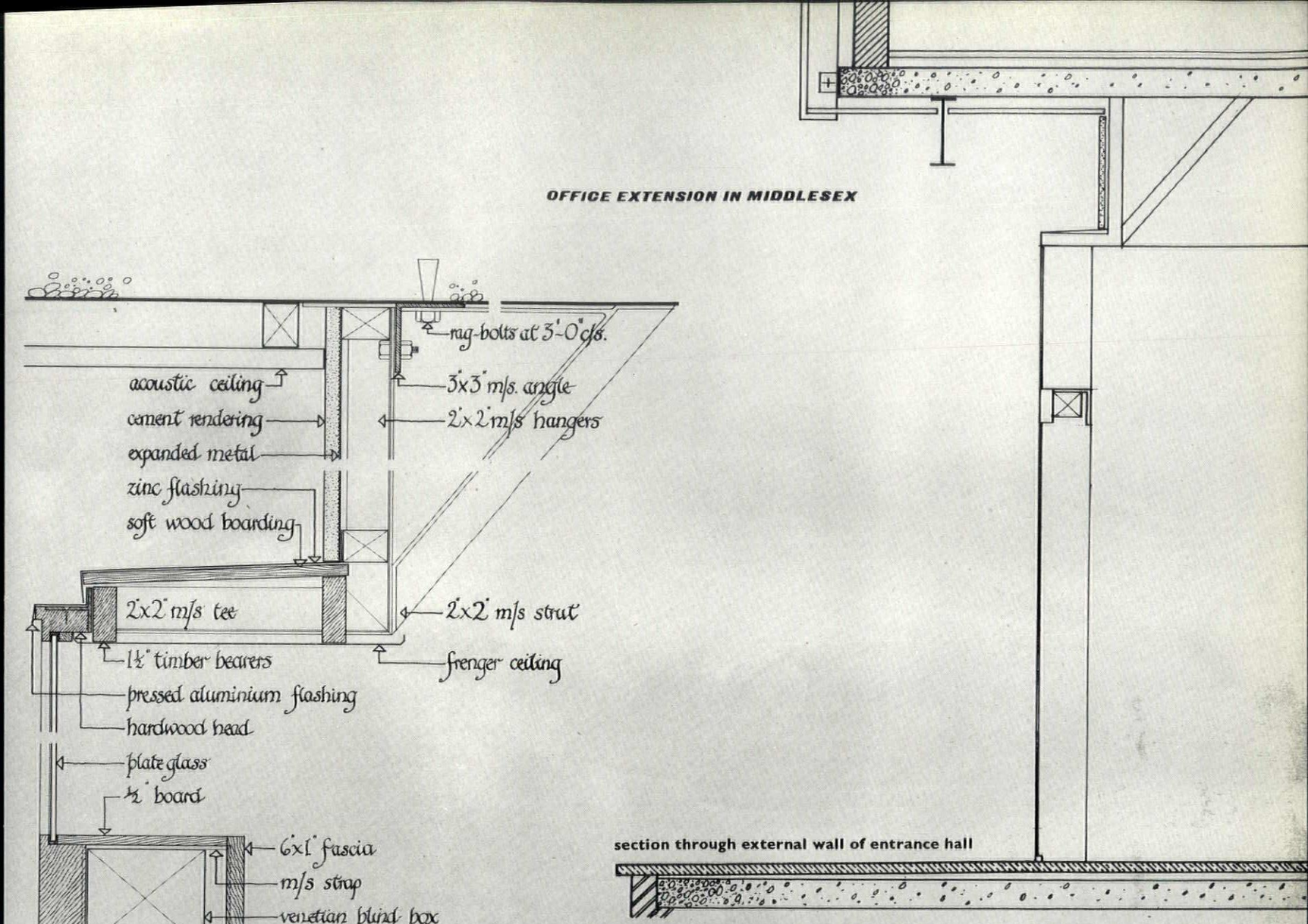
scale: 1/2 in. = 1 ft.





section through open store wall and first floor offices

OFFICE EXTENSION IN MIDDLESEX



detail of section above

scale: 2 in. = 1 ft.

section through external wall of entrance hall

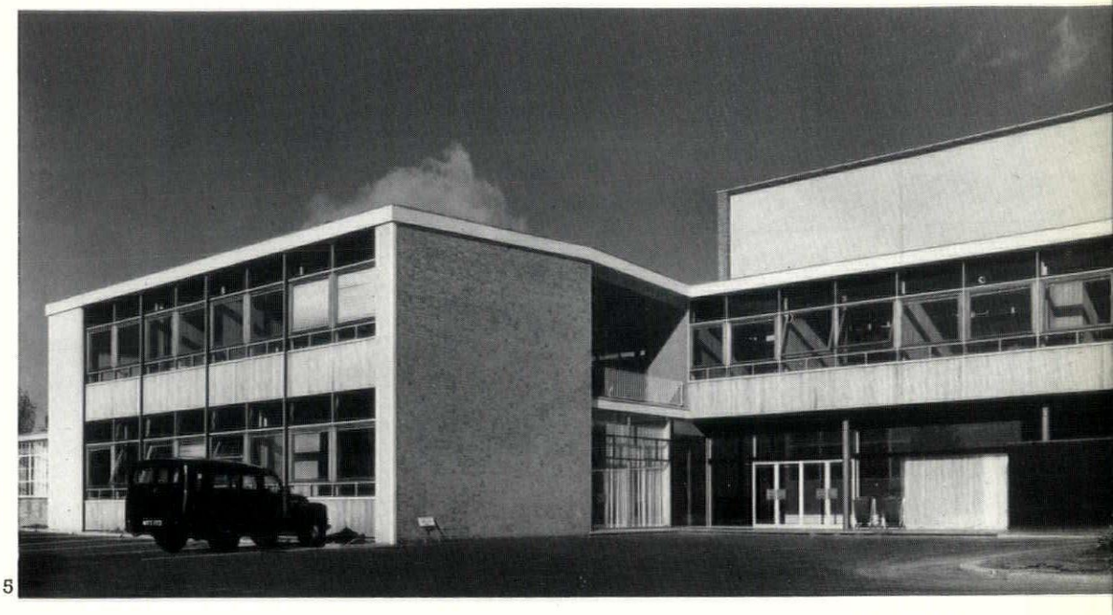
scale: 1/24 in = 1 ft.



3, *inside the entrance hall, looking through the waiting room to the open store.*



4, on the facing page, the south entrance façade of the new block. The double, pivoting windows have venetian blinds between the two panes of glass. 5, general view of the new wing from the south-east. 6, view of the new laboratory block from a first floor roof. Another roof-view ; the large window is at the top of the staircase.



5



6

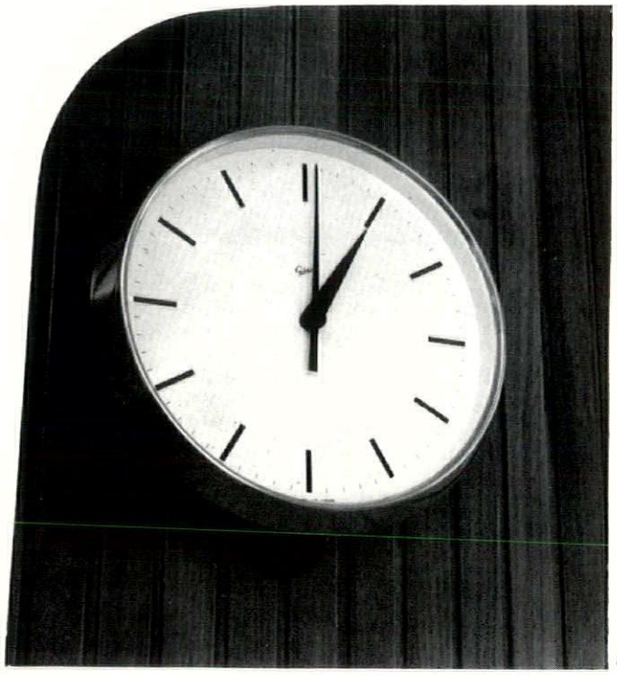
the entrance hall. The gallery of offices above the entrance hall is backed with a continuous corridor, with staircase hall at the west end giving complete circulation between the existing and the new building.

The office construction is of a steel frame, with precast concrete floors, and non-load-bearing panel and brick walls, formed from buff Ibstock facing bricks ; the south front is formed of prefabricated aluminium curtain wall of mullions and transoms fixed to the edge of the concrete floors and roof. Double glazing and a solid concrete roof with a glass-wool blanket have been used to reduce noise from both airport and roadway. Below this, the perforated metal ceiling not only acts as an absorbent panel, but reflects heat, which is conducted from a grid of hot-water pipes acting as a supporting frame.

The panels below the double glazed fixed windows are of western red cedar, backed with a hardwood framing and fibre-glass insulating blanket and the inner leaf is

7





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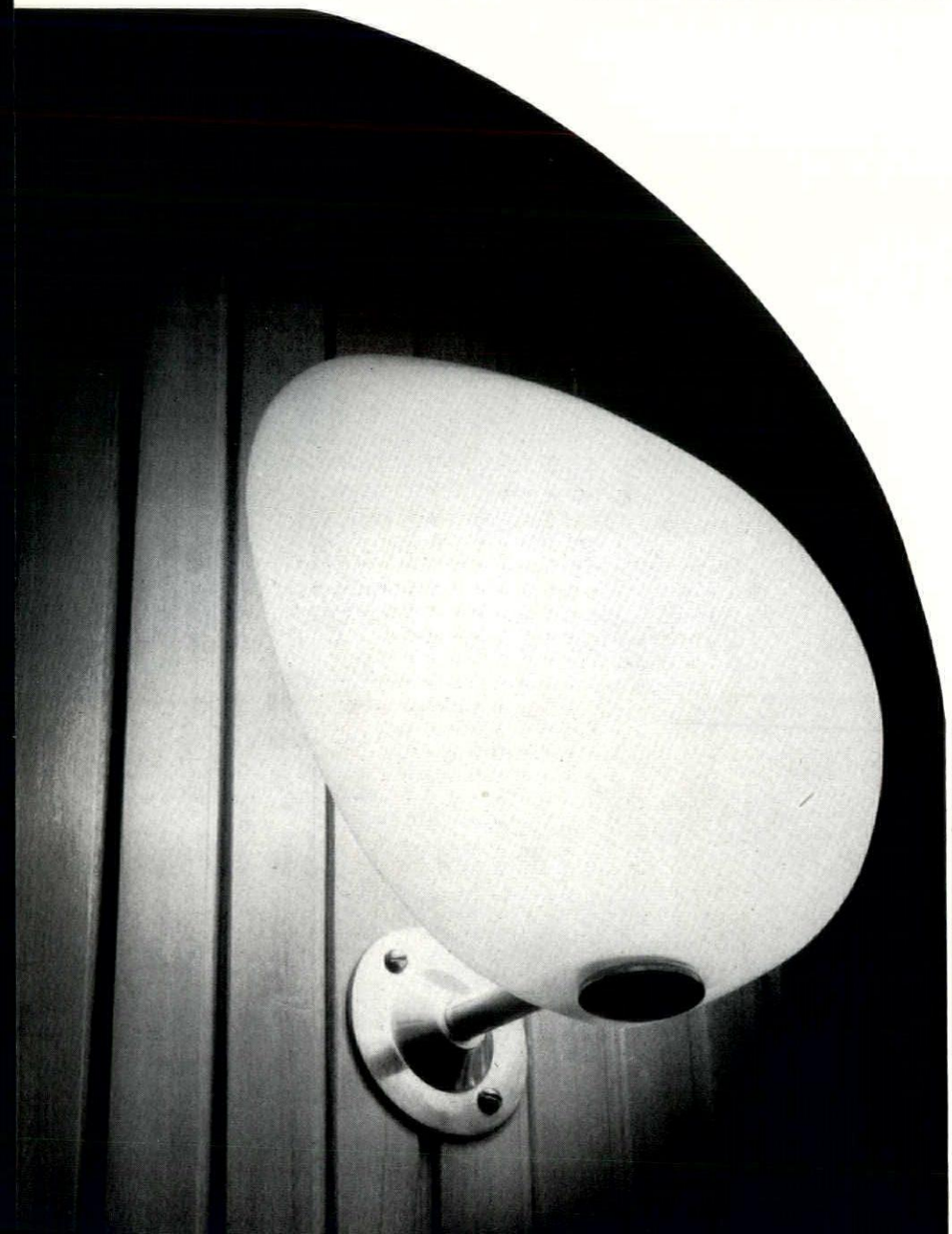

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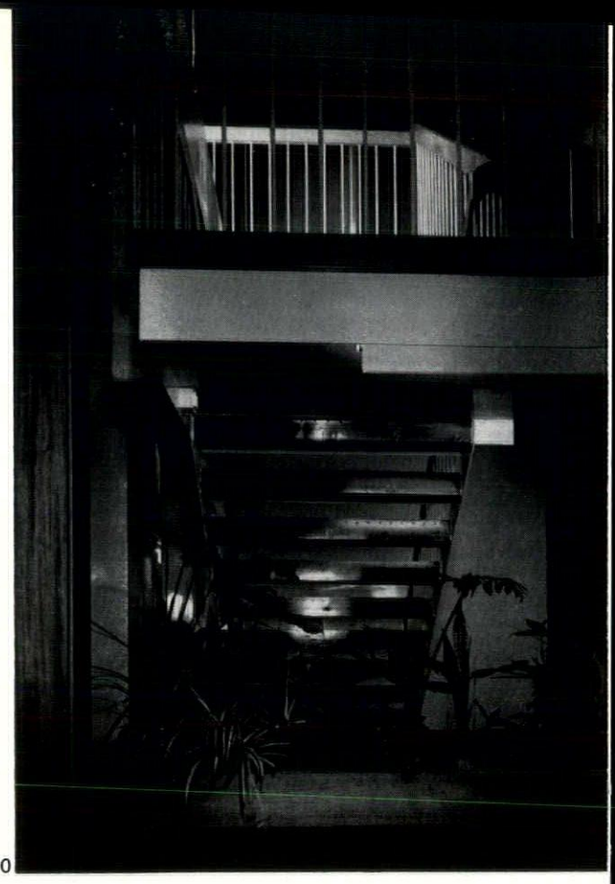

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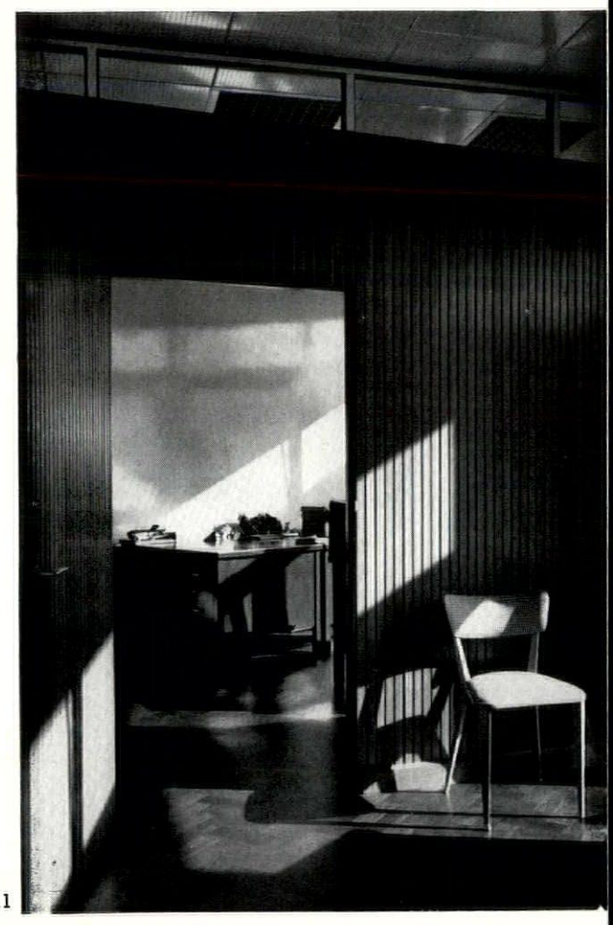


11

8, clock, designed by the architects; the wall panelling is of abura wood. 9, a standard wall light fitting. 10, the open staircase, from the ground floor corridor. 11, first floor offices.

12, the staircase from first floor level. 13, the specially-designed gates, in grey and white, which when fully opened provided an unobstructed space thirty feet wide.

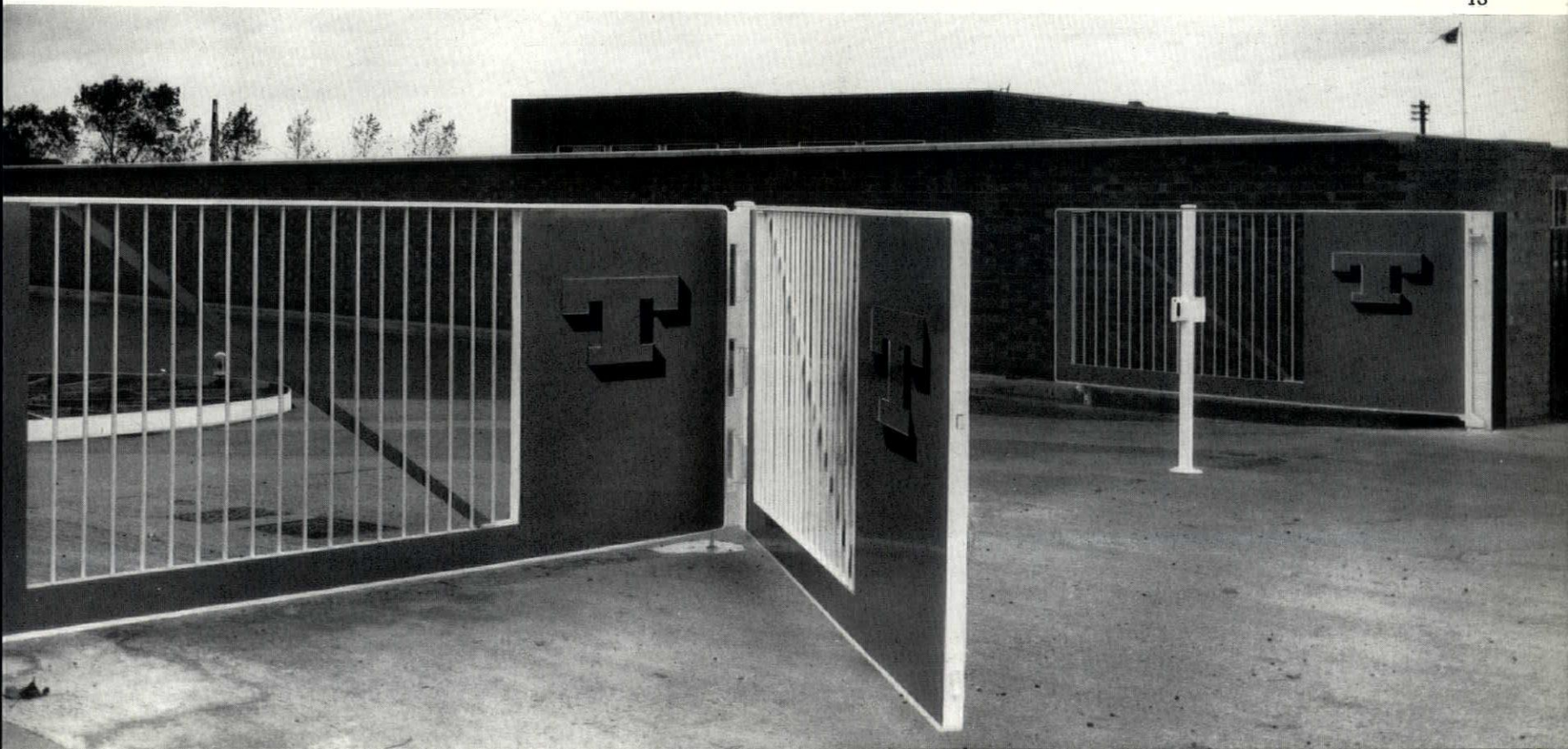


12

formed of a lightweight concrete block, built on the edge of the concrete floors. Below the double pivoting side-hung windows are fixed glazed panels, and, above, the fanlights open into a sound-absorbing pelmet. Part of the walling is rendered with white cement with grey Derbyshire spar pressed on to the surface. The sides of the aluminium mullions are painted black and the faces are painted white. Aluminium angles form a trim at the corner of the buildings, and this is capped with a painted timber fascia. The recessed balcony area on the first floor forms an emergency escape from the first-floor offices. The handrail to this is of galvanised steel painted white and the flank wall is painted flame colour.

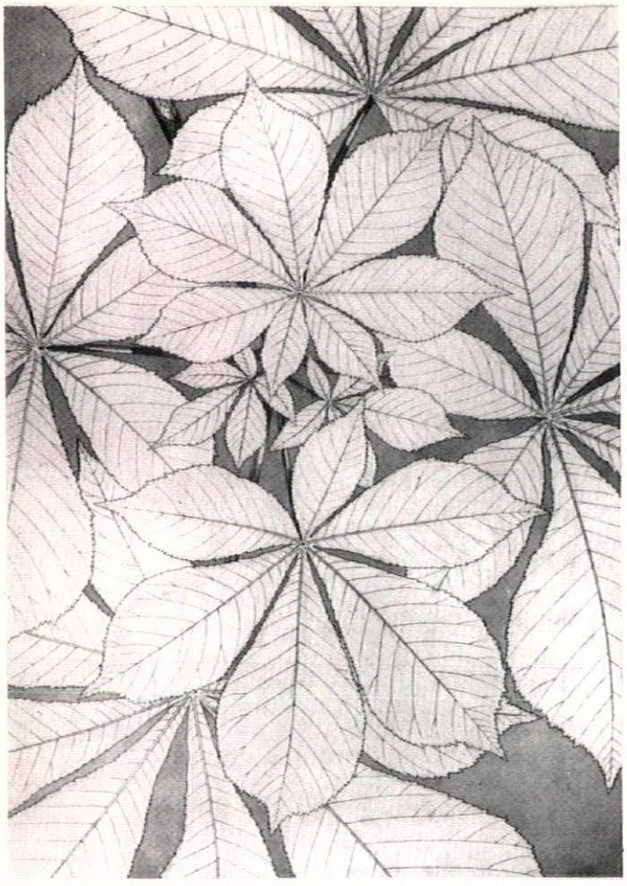
The entrance hall is glazed with $\frac{3}{8}$ in. polished plate glass with a continuous polished black transom. The doors are framed in hardwood painted white, with finger-tenoned joints. Brass push handles are engraved and colour-filled with the letter 'T' and the internal pull handles are of black metal with white doverite hand grip. The floor is of grey polished concrete tiles, and one wall is painted lime green. The opposite wall is in blue-brick treated with lamp black and vegetable oil. The emergency door in this wall is painted flame colour. The offices on both floors are divided by demountable timber partitions, and these are faced with abura timber slats with fibre-glass infilling ; the floors are of polished Rhodesian teak. Lighting within the office is from recessed fluorescent tubes above metal louvres in the ceiling, and generally the ventilation is natural. The architects were given the responsibility for the landscaping and lighting of the internal courtyard, which is illuminated by specially designed mushroom fittings.

13



1856

1





1876

3

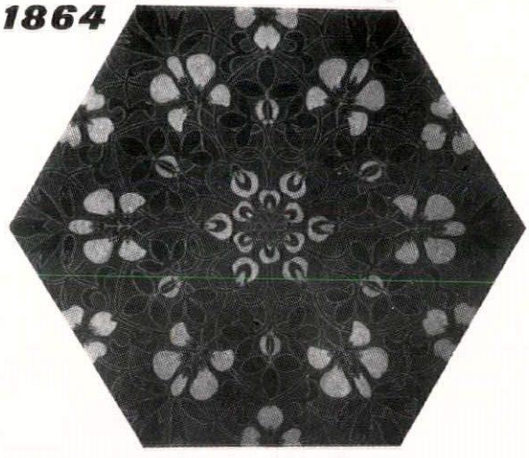
1885



4

2

1864



ENGLISH ORIGINS OF ART NOUVEAU

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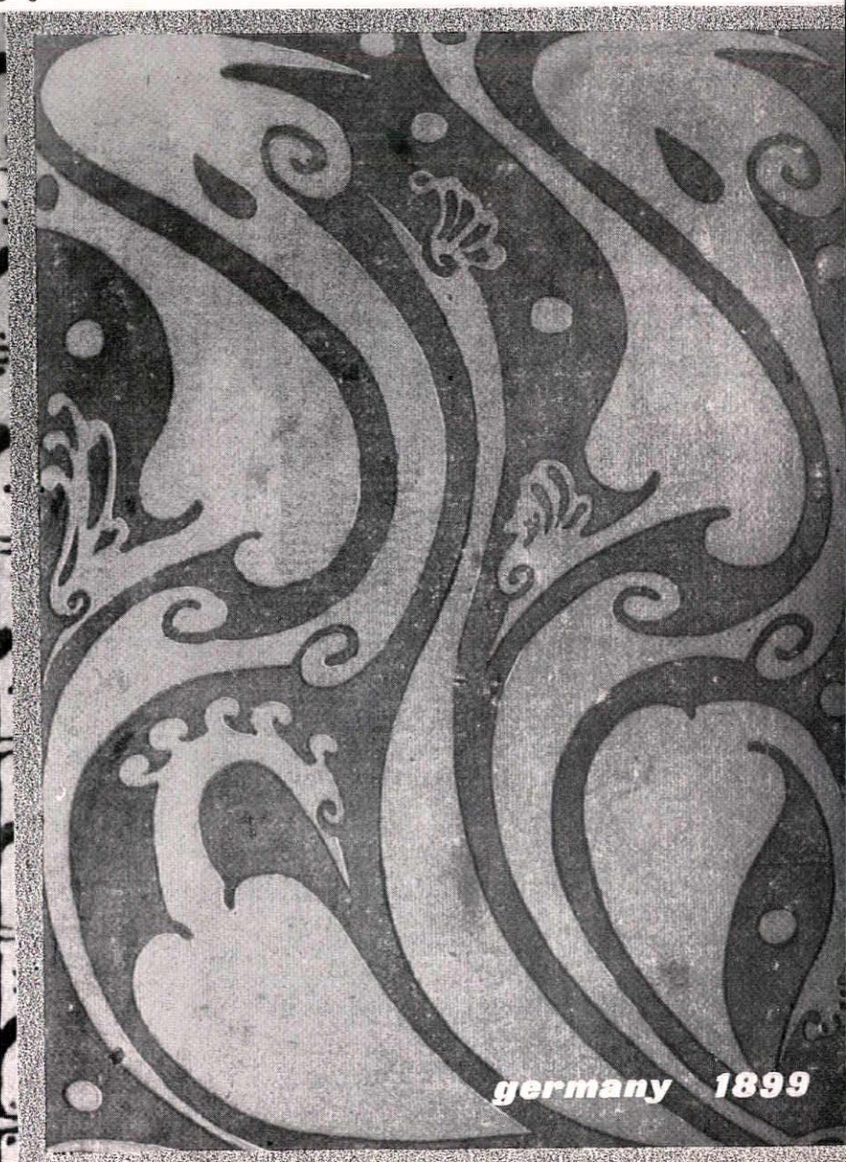


germany 1899



ROBERT SCHMUTZLER

THE ENGLISH ORIGINS OF ART NOUVEAU

The importance of the English contribution to the pre-history of Art Nouveau is generally conceded, but rarely subjected to close analysis. Yet the sequence of pattern designs on the opposite page, which begins with Owen Jones, 1, in 1856, and runs through 2, the youthful Kate Greenaway in 1864, William Morris's Pimpernel wallpaper of 1876, 3, Mackmurdo's cretonne of the mid-'eighties, 4, Walter Crane's 1887 bookpaper, 5, and ends with another bookpaper, 6, this time an example of the High Art Nouveau in Germany, designed by E. R. Weiss in 1899—this sequence suggests that the contribution may be more systematic and far-reaching than has been suspected, and it is in this light that the English precursors are re-examined in the article by Robert Schmutzler which begins below.

Art Nouveau is essentially a style of ornament. It gave its best in interior decoration and the arts of the book. It comprises, it is true, architecture and even painting from Gauguin and Toulouse Lautrec to Hodler and Munch, but the principal carrier of Art Nouveau remains ornament. The movement which became at once fashionable and, therefore, soon spent itself pervaded western and central Europe and also North America, though every country built on its own premisses and developed variants of much character.

This article, in trying to prove relations and show early occurrences hardly so far recognized, uses the arts of the book as its point of departure; for illustrated and decorated books and magazines were the most effective transmitters of the new style, because in them the significant tendencies towards flat pattern and symbolism could express themselves in all purity. 'All art is at once surface and symbol,' says Oscar Wilde,[1] meaning—it is true—something quite different, but giving without knowing it himself the briefest definition of Art Nouveau in book art.

In 1893, Aubrey Beardsley presented to the surprised public a book which contained Initials such as the capital letter 'T' which appears in the title above. Melodious lines accompany the swinging contours of a floating T in a flame-like undulating movement unmistakably Art Nouveau. One can recognize plants on long stalks, appearing to abandon themselves to a mysterious breeze, but also to follow obediently the will of the pattern-making artist. There are echoes of observed nature, but everything factual is invalidated and serves only for a play of forms in strange parallels.

In addition, flatness characterizes the pattern. Just as the representation of atmosphere and light and shade is disregarded, so all illusion of space and volume is avoided. Perfectly plane and extremely simplified, the forms oppose each other sharply like a silhouette in reverse. The white of the drawing is deliberately disposed so that the remaining black also seems pattern, that is not a residue of background but a positive complementary set of forms. That this is an Art Nouveau principle can best be exemplified by going to so typical an Art Nouveau designer as the German E. R. Weiss. In this book paper of his, 6, it is indeed almost impossible to say what is pattern and what ground, what is 'in front' and what 'behind.'

Now the deep impression which Beardsley made on the Continent is familiar. It was nearly as deep as the even more familiar impression of William Morris's reform, of the furniture and wallpapers shown at the Arts and Crafts exhibitions, and of Voysey. The Italian term for the new style was taken from the London shop of Liberty's. France often called the style 'le Modern Style' using this English form. The new magazines of the pertinent years—themselves created in imitation of *The Studio*—are full of confirmations of this self-conscious adherence to English models. Recent research has only confirmed this.[2] However, a few particularly enthusiastic passages may yet be quoted.

Siegfried Bing, the art-dealer and Japan specialist, whose Paris shop opened in 1895, was called L'Art Nouveau and established the name of the style, wrote: 'Through the whole of Europe went a cry of delight, when England began to appear with her creations. Their echo can still be heard in all countries.'[3] Olivier Georges Destrée, a Belgian, stated: 'In our country also the fertilizer was the England of Burne Jones and Morris.'[4] And Muthesius, the German architect, said: 'The example of England set off the new movement. The whole world turned in a new direction; England had shown to art the way into a new country.'[5]

But England at that time had no Art Nouveau. She objected to the enthusiastic excesses of the fashion, especially because with more moderation she already possessed so much of the new style. The development stopped in England at the very moment when it began on the Continent. However, the roots lie in England all the same. Here the premisses were evolved quietly and slowly, here the first results reaped. But it is not enough to state this in general terms; concrete examples are

[1] Oscar Wilde, *The Picture of Dorian Gray*, Preface; Complete Works, New York, 1915, Novels, p. 6.

[2] Fritz Schmalenbach, *Jugendstil*, Würzburg, 1935; Nikolaus Pevsner, *Pioneers of Modern Movement*, London, 1936—2nd edition: *Pioneers of Modern Design*, New York, 1949; Friedrich Ahlers-Hestermann, *Stilwende*, Berlin, 1941; Kunstgewerbe Museum, Zürich, catalogue of the Exhibition *Um 1900*, 1952; Victoria and Albert Museum, London, catalogue of the exhibition *Victorian and Edwardian Decorative Arts*, 1952.

[3] Siegfried Bing, Wohin treiben wir? in *Dekorative Kunst*, München, Vol. I, 1898, p. 1.

[4] Olivier Georges Destrée, Die Schmuckkünstler Belgiens: G. Lemmen, in *Dekorative Kunst*, München, Vol. I, 1898, p. 106.

[5] Hermann Muthesius, Mackintosh, Macnair und Macdonald, in *Die Kunst*, München, Vol. VI, 1902, p. 193.

required of adoption and adaptation.

The two decorated page openings which Otto Eckmann designed in 1895 for *Pan*, the first of all the Art Nouveau magazines, 9 and 10, correspond largely to motifs and style of a Beardsley frame, such as 8. The tulip petals and their gentle movement are evidently the same. Especially in 10 the motif on the right side of Beardsley's frame reappears almost literally: the same curve of the leaves, a stalk below, and at the very top the same turn downwards of the tips of the leaves. Even the position on the page is the same: in both cases the motif fills the wider, outer margin. Then there are the wider criteria of style; everything is linear and flat, weightless and undulating, and the data from nature are changed into drawn decoration. Beardsley's frames are not independent of the famous wood-engraved borders of the Kelmscott Press.[6] The smoothly curved outlines of the initials A and T come straight from Morris, as does the asymmetrical treatment of the page. But while Morris takes the whole of the opening of two pages together, Beardsley leaves us with the asymmetry of one decorated page. On the other hand, Morris is again on the side of Art Nouveau when he, as against his late medieval paragons, stylizes the flowers in his rich borders into complete flatness and over-emphasizes the spiral convolutions of trunks, stalks and tendrils, 7. What in such passages in William Morris had been latent Art Nouveau, now, with Beardsley, became uncovered. He also makes use of Morris's vigorous black and white, but carries it to excess.[7] Above all he converts Morris's small and intricate web of flowers into patterns of few flowers, widely spaced and pushed forward close to the page plane. This close-upness, often combined with poster-like generalizations effective even when seen from a distance, is yet another characteristic sign of Art Nouveau.

Eckmann, who, like all the leading artists of the 'nineties, knew Beardsley's work,[8] took from him, but once more adapted and converted what he had taken into something new and personal which went beyond Beardsley. The black and white and the dense texture disappear, where one form had conditioned its opposite form. Eckmann's tulip, self-sufficient, dominates the completely neutral background, 10. The graphic line is richer and more marked—in the sense of Dürer—the Art Nouveau frames are more agitated, and if a certain symbolism had already in Beardsley's expressive flowers gone beyond Morris's neutrality, Eckmann's broken tulip speaks quite plainly. It is the simile of what the poem is about: the girl who died young. And as in this sense the drawing is more literal, so the lettering of the poem is made part of the drawing, producing a unity of text and ornament which no doubt must be traced back at many removes to William Blake. Whether that can be done is a question which would deserve an article all to itself.

But what is the origin of the type of the girl on Eckmann's page, 9. It follows without any doubt the ideal established by Rossetti in his *Childhood of the Virgin Mary* (1849) and *Ecce Ancilla Domini* (1850), 11. Burne-Jones took over this ideal, and it also influenced Whistler. ('He took from Rossetti his manner of feeling and seeing. The type of woman is the same—beauty of dreaming eyes and abundant hair,' says George Moore[9]). Women in England in the 'eighties tried to assimilate the painted likenesses into their own everyday appearance.[10] Reproductions after Rossetti and Burne-Jones were much admired on the Continent in the years of Art Nouveau. Even on the title-page of a Parisian literary magazine *La Plume* appears in the mid-'nineties instead of the usual amorous 'petite femme', the cool and chaste princess of the English Pre-Raphaelites.[11] But while it is known that Rossetti's type of woman with long neck and wavy hair, long flowing dress and strangely nostalgic and mannered poses provided stimulus to the forms and the subject-matter of Art Nouveau, the part which the rooms and furnishings in Rossetti's pictures played in the pre-history of Art Nouveau has never been defined. The amazing scent bottle in *Fazio's Mistress* of 1863 (Tate Gallery, 12) may well be called the earliest of all Art Nouveau objects.

Side by side with this essential Pre-Raphaelite contribution to Art Nouveau, another contribution must be considered: the reception and assimilation of the art of Japan. In Eckmann Japan is too much transformed to be readily recognizable. He learned from Japanese woodcuts, but less than from Beardsley, who in his turn had already europeanized the Japanese element. In the preface to a collection of Eckmann's decorative designs (1897[12]) we read: 'Let us gracefully remember Japan whose wonderful art . . . first pointed the right way to us.' But, this is the continuation: 'Only England who knew how to digest the riches of new inspiration and merge them with inborn national qualities, could derive real profit from Japan.' This track must now be followed.

Composition and style of Beardsley's *Peacock Skirt*, 14, are inconceivable without some knowledge of the woodcuts of Utamaro and other Japanese artists. Asymmetrical placing of weights, the treatment of line, the denial of shadow and perspective—all this comes from Japan. But here again direct stimulus meets indirect. For Beardsley presupposes the earlier assimilation and interpretation of Japan by Whistler. He knew Whistler's Peacock Room,[13] and the motif of peacocks, its tail-feathers, its scaly breast-pattern, recur in the *Peacock Skirt*, 15. The ambivalence of ground and pattern also, to which, as a typical Art Nouveau motif, reference has been made before, occurs in Whistler as well as Beardsley. Salome for instance, is drawn precisely black on white, but the wide hem of her kimono reverses the two colours, and in Whistler's painted walls one finds time and again an alternation of gold drawing on blue ground and blue drawing on gold ground.[14] In Japanese woodcuts, it is known, black contours on white with surfaces of one homogeneous colour frequently show the decorative motifs of textiles spaced out in white so that they appear pattern on a coloured ground. Whistler's sketch of peacock panels for the Peacock Room, 13, has entirely un-European compositions of high decorative effectiveness with the remarkable innovation of whole areas of solid black set against the fine line work. This was further developed by Beardsley with an uncanny tight-rope brilliance.[15] Even Beardsley's famous manner of drawing in innumerable small dots comes from Whistler. One should, for instance, compare the concentric curves and scales of dotted lines in the peacock's fan behind Salome's back with the walls and dado of the Peacock Room.

Whistler's admiration for the art and decoration of Japan is, of course, reflected already in the mid-'sixties in his *Princesse du pays de la porcelaine*, the *Longe Leyzen* and the *Golden Screen*. But even where the subject matter is quite independent of Japan, the influence is intense. In the *Nocturne in Blue and Silver—Old Battersea Bridge*, 16, for instance, the relation to Hiroshige's bridges is much less relevant than the general Japanism in the flatness, the absence of modelling, the asymmetrical composition, the ornamental significance, the rigid selectivity, and the strange grace of silhouette.

One more characteristic detail of *Battersea Bridge* must here be pointed out: the care taken by Whistler over its frame. With few exceptions, which will be referred to later, artists of the nineteenth century felt too sovereign in their art to take an interest in frames. In Art Nouveau the frame, designed specially for a painting, and also frames and borders round book-pages, are of great aesthetic importance. Following Rossetti, Whistler devised simple, flat, straight-profiled gold frames and sometimes painted on them repeat patterns in the principal colours of the picture. In *Battersea Bridge* it is a Japanese ornament that surrounds a composition of such Japanese impact. In the Peacock Room, Whistler went further. He planned the whole room, colour as well as ornament, as one expanded frame for the *Princesse du Pays de la Porcelaine*, even at the expense of covering with paint the existing, very costly Spanish leather wall-covering and of cutting off the border of a Persian carpet because its colour would not suit the room.[16] At the bottom of all this is the conviction of the unity of painting and frame and—in a wider sense—of a whole room. This concept was to be a basic rule for the young artists of about 1900. Whistler ate from blue and white china,[17] his table linen was embroidered with japanizing butterflies,[18] and he signed his paintings with the butterfly and allowed it to flutter freely across the pages of his books. He had Japanese mats on the floors of his rooms, the spiral stair of his White House had—again on a Japanese precedent[19]—a gilt wall-paper.[20] But, just as in the case of his later pictures, Whistler did not only take over ready-made accessories and motifs, he let himself be inspired by the attitude that had created them. In complete contrast to the pompous taste of his time—and a certain luxuriance which one cannot overlook in the Peacock Room—his own private rooms were almost empty, with walls painted white or yellow, and a few pictures and pieces of old furniture asymmetrically arranged and every now and then re-arranged.[21] The backgrounds of many of his portraits illustrate his ideas on furnishing. They anticipate the amor vacui, the sophisticated simplicity which was going to be presented so emphatically by Voysey and Mackintosh about 1900—side by side with their ornamental innovations and in stimulating contrast to them.

Whistler was not the only artist in England to be inspired by Japan. The relation between the two countries had, in fact, deeper roots than in any other European country, thanks to an inborn English trend towards the flat, linear, light, unstable, decorative. Whistler and Japan is a more familiar subject than Rossetti and Japan. But at the same time as Whistler painted his *Princesse* Rossetti painted *The Beloved* (1865), 17, one of his luxuriant female figures, and painted her in a rich dress embroidered with bamboo-leaves. Moreover, this fair English bride of the Song of Solomon carries on her head the most fantastic Chinese coiffure with bits of gold and of red enamel. Rossetti, already at the beginning of the 'sixties, collected blue and white china, and Japanese woodcuts. Indeed, in the same year, that is years before Whistler or Morris began to take an interest in the art of the book, Rossetti designed a binding for Swinburne's *Atalanta in Calydon*, and this binding is clearly inspired by Japan, 18. His main reason was no doubt to create a sensational effect, which was what the yet unknown poet needed.[22] The bareness, the arrangement of the ornament close to the edges, and the ornament itself—disks and overlapping disks—are borrowed from Japanese lacquer, as are also the two feathers spreading in opposite directions.[23] But Rossetti's genius contributed something new. He combined Japanese with Greek references; for the palmette in the disk at the right-hand bottom

[6] Albert E. Gallatin, *Aubrey Beardsley*, Catalogue of Drawings and Bibliography, London, 1945, p. 3.

[7] Aylmer Vallance, *Reproductions of eleven designs omitted from the first edition of Le Morte d'Arthur*, London, 1927, pp. 14-15: 'The period when Beardsley took in hand the illustration of the "Morte" was that also in which William Morris, in collaboration with his friend, Burne-Jones, was issuing the superb productions of the Kelmscott Press. Beardsley was, of course, acquainted with their work, and was inevitably drawn to it. . . . A certain number of the earlier "Morte" drawings, though in nowise copies, were yet so obviously influenced by Kelmscott Press designs as to arouse the indignation of William Morris, when some specimens of Beardsley's illustrations were shown to him.'

[8] Otto Eckmann, A. V. Beardsley, in *Die Kunst*, Berlin, 1 Juli, 1899.

[9] George Moore, *Modern Painting*, new edition, London, 1898, p. 20.

[10] Oscar Wilde, The Decay of Lying; *Complete Works*, New York, 1916, Prose, p. 32-33: 'We have all seen in our own day in England how a certain curious and fascinating type of beauty, invented and emphasised by two imaginative painters, has so influenced Life that whenever one goes to a private view or to an artistic salon one sees, here the mystic eyes of Rossetti's dream, the long ivory throat, the strange square-cut jaw, the loosened shadowy hair that he so ardently loved, there the sweet maidenhood of "The Golden Stair".'

[11] Roger Dévigne, La Lettre et le décor du livre pendant la période 1880-1905, in *Arts et Métiers Graphiques*, Paris, vol. LIV, 1936 (with illustrations).

[12] Otto Eckmann, *Neue Formen*, Berlin (1897), Preface by Aem. Fendler.

[13] *The Uncollected Work of Aubrey Beardsley*, introduced by Lewis Hind, London, 1925. Plate 58 has in Beardsley's hand the words: 'Sketch from a letter . . . after visiting Whistler's Peacock Room, 1891.'

[14] Freer Art Gallery Publication, 4024, *The Whistler Peacock Room*, Washington, 1951, p. 6.

[15] A. W. King, *A Beardsley Lecture*, London, 1924, p. 12: 'His letter of 9th December, 1892, in which he tells how he struck out an entirely new method of drawing—fantastic impressions treated in the finest possible outline with patches of "black blots".'

[16] *The Peacock Room . . . By Whistler . . .* Exhibited at Messrs. Obach's Galleries, London, 1904, preface.

[17] E. R. and J. Pennell, *The Life of James McNeill Whistler*, London, 1908, Vol. I, p. 189.

[18] J. and E. R. Pennell, Whistler as Decorator, in *The Century Magazine*, New York, Vol. LXXXIII, 1912, p. 506.

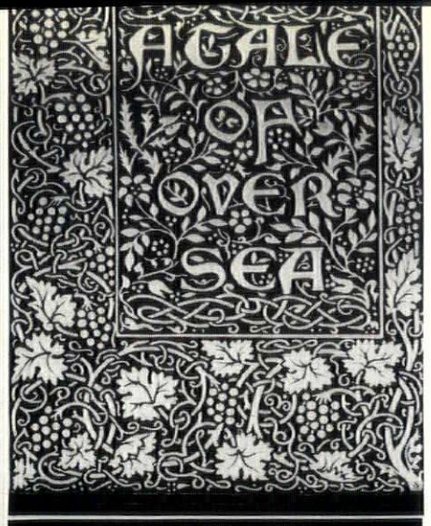
[19] Julius Brinckmann, *Kunst und Kunsthandwerk in Japan*, Berlin, 1889, p. 42.

[20] E. R. and J. Pennell, *The Life of James McNeill Whistler*, London, 1908, Vol. I, p. 174: 'He was decorating the staircase; it was to have a dado of gold, and it was all done in gold leaf, and laid on by himself.'

[21] J. and E. R. Pennell, Whistler as Decorator, in *The Century Magazine*, New York, Vol. LXXXIII, 1912, p. 503-504.

[22] Sir Edmund Gosse, *The Life of Swinburne*, London, 1917, p. 107.

[23] It is doubtful whether the Swinburne binding had any immediate effect on others. But in 1881 Rossetti designed for the first edition of his own *Ballads* and *Sonnets* a binding developed on exactly the same principles of spacing and placing, though with rectangular instead of circular forms and without direct Japanese borrowings. The flowers indeed seem more of the Morris than of the Whistler type—another example of how the strands contributing to Art Nouveau intertwine.



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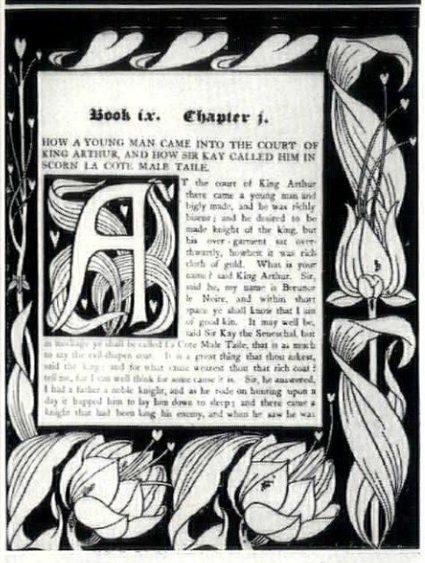

Book ix. Chapter j.

HOW A YOUNG MAN CAME INTO THE COURT OF KING ARTHUR, AND HOW SIR KAY CALLED HIM IN SCORN LA COTE MALE TAILE.

AT the court of King Arthur there came a young man and bigly made, and he was richly bisene; and he desired to be made knight of the king, but his over-garment sat over-thwartly, howbeit it was rich cloth of gold. What is your name? said King Arthur. Sir, said he, my name is Breunor le Noire, and within short space ye shall know that I am of good kin. It may well be, said Sir Kay the Seneschal, but in mockage ye shall be called La Cote Male Taile, that is as much to say the evil-shapen coat. It is a great thing that thou askest, said the king; and for what cause wearest thou that rich coat? tell me, for I can well think for some cause it is. Sir, he answered, I had a father a noble knight, and as he rode on hunting upon a day it happed him to lay him down to sleep; and there came a knight that had been king his enemy, and when he saw he was

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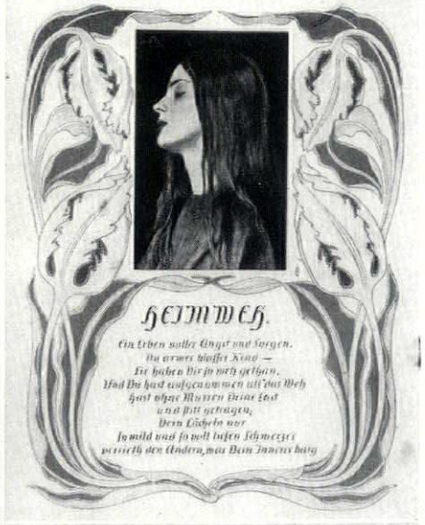

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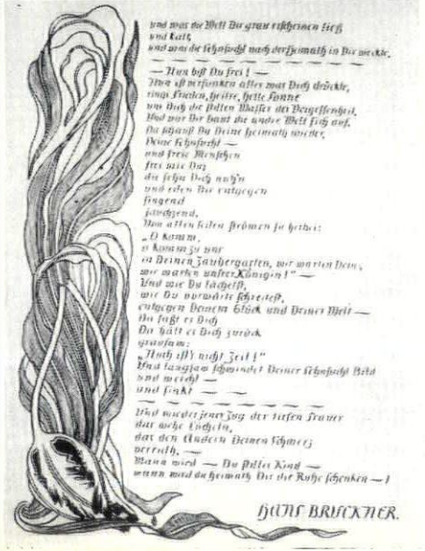

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The sources of Eckmann's book decoration, 9, 10, *can be traced to Beardsley,* 8, *and thus to Morris,* 7, *but another source of Beardsley's design and ornament,* 14, *is seen in English painters: Rossetti's* Ecce Ancilla *of* 1850 *and a telling detail from* Fazio's Mistress *of* 1863, 11 *and* 12, *and Whistler's scheme for the Peacock Room,* 13 *and* 15.



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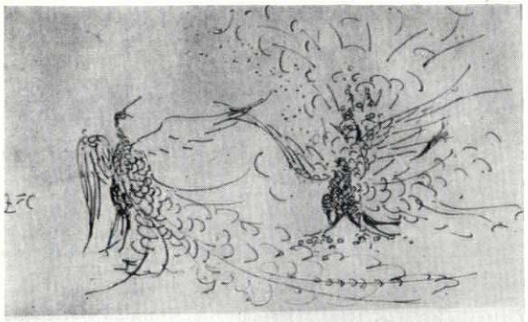



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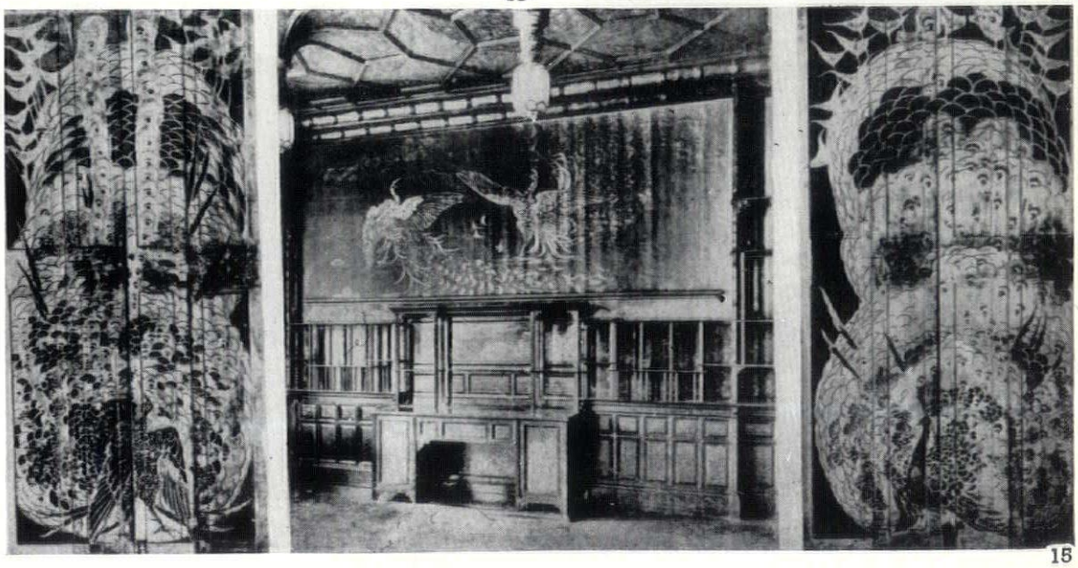

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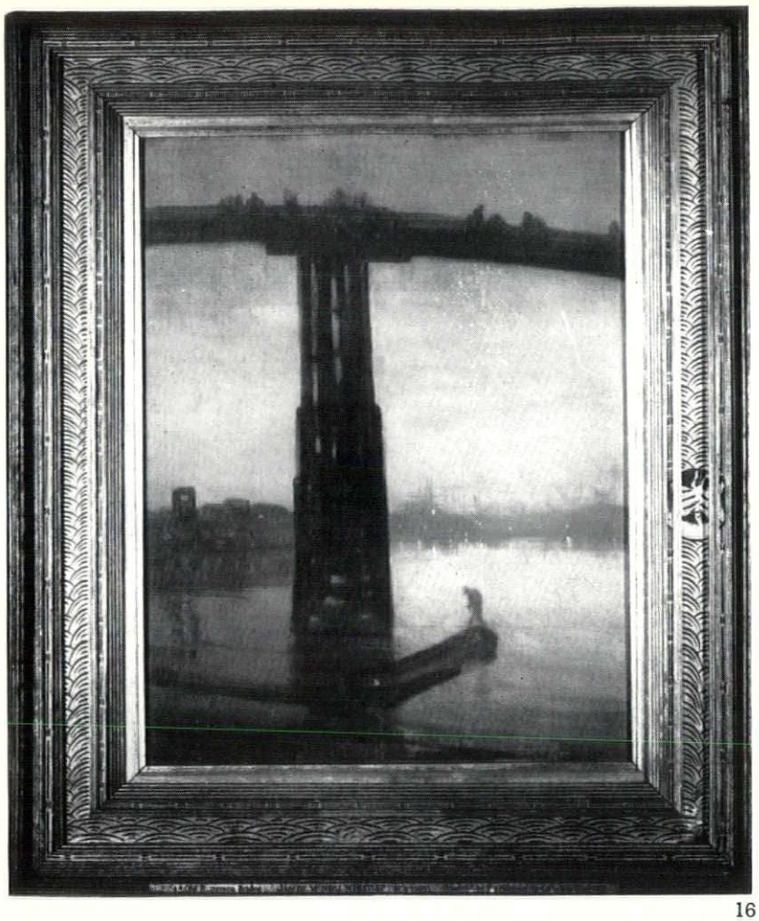

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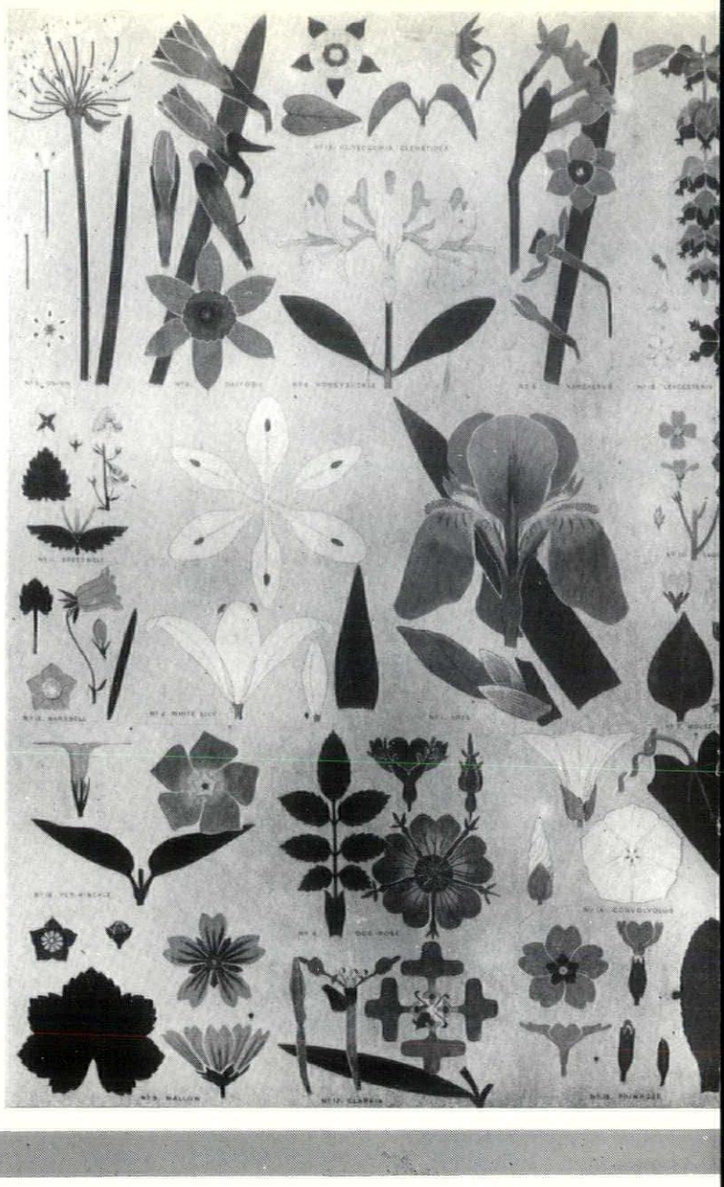



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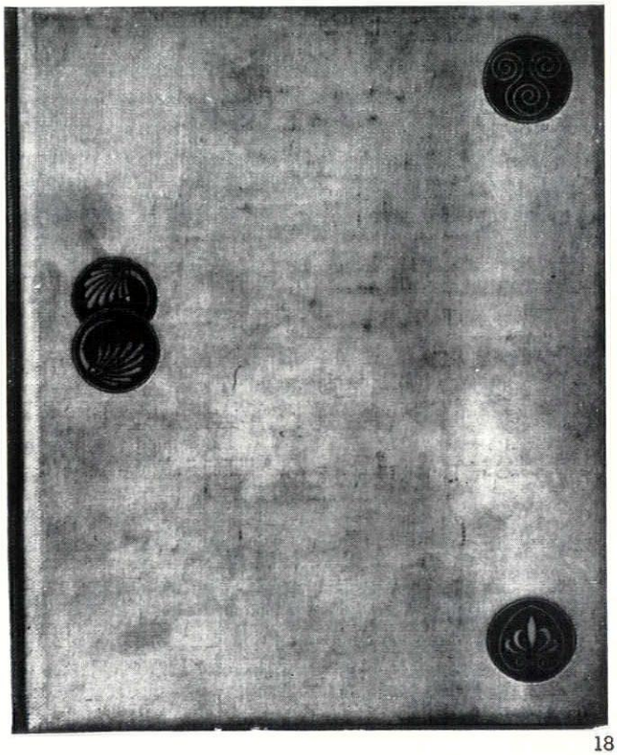

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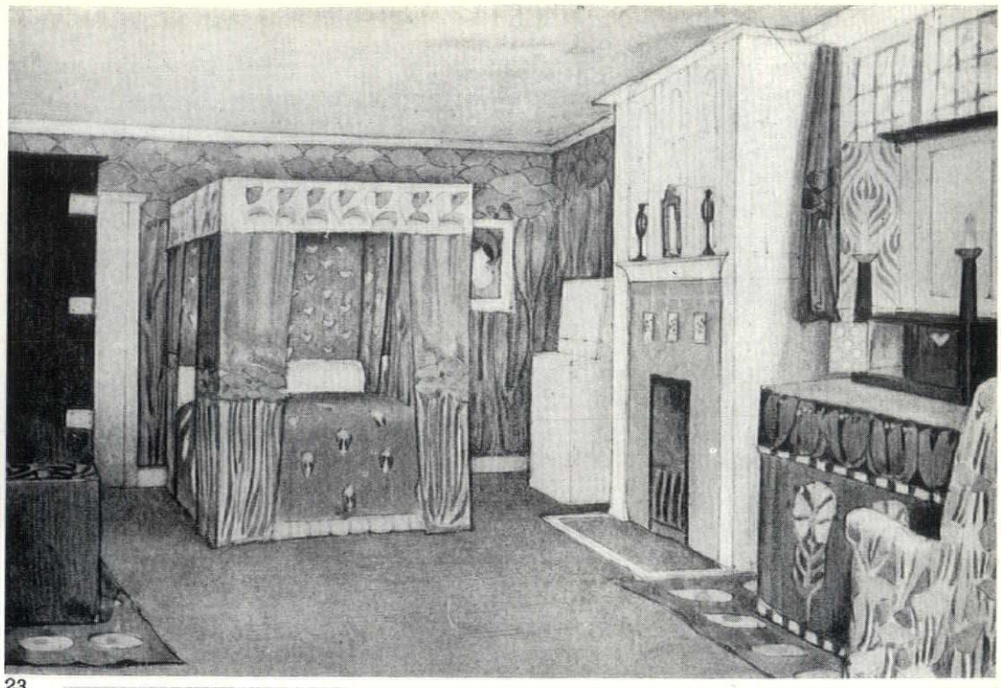

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Whistler's contribution to Art Nouveau *lay in his passion for Japanese art, exemplified by his* Battersea Bridge, 16. *This passion was shared by Rossetti; note the bamboo pattern on the dress of the* Beloved (1865), 17, *and the book-cover (also* 1865), 18. *These, and other English decorative experiments such as* 2, *on p.* 108, *are much modified before they appear in Continental work; stained glass by Van der Velde,* 19; *staircase by Victor Horta,* 20. *A certain consistency may be seen in English decorative work, from the formalized flowers from Owen Jones's Grammar of Ornament,* 21, *through Rossetti,* 22, *to Baillie Scott,* 23, *at the end of the century, and taking in such designers as those on the frontispiece to this article and Christopher Dresser,* 24, *on the way. That Rossetti was thinking in terms of design is confirmed by his sketch of a wallpaper,* 25, *from a letter written as early as* 1861.



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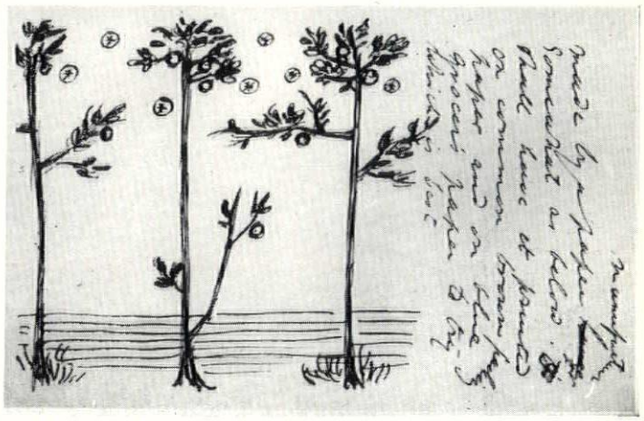

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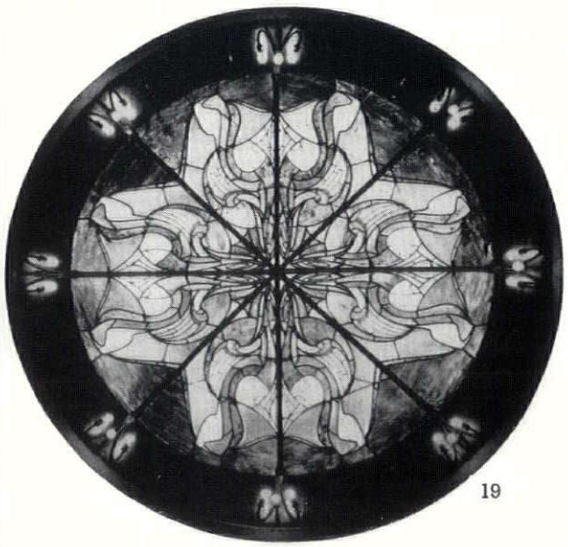

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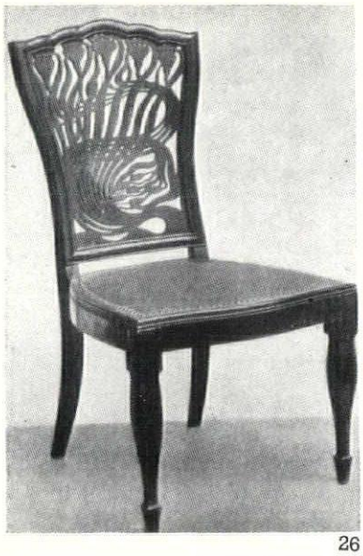
An essential link between Arts and Crafts *and* Art Nouveau *is provided by A. H. Mackmurdo, whose chair,* 26, *decorative title-page,* 27, *and wallpaper,* 28, *were all designed in the eighties. His* Century Guild, *for which* 29, *is the sign, had among its members Selwyn Image, who designed* 30, *in* 1884. *Close to the Century Guild were also Heywood Sumner, designer of* 31, *and the wholly* Art Nouveau, 33 (*of* 1888), *and Charles Ricketts,* 32 (*of* 1891).



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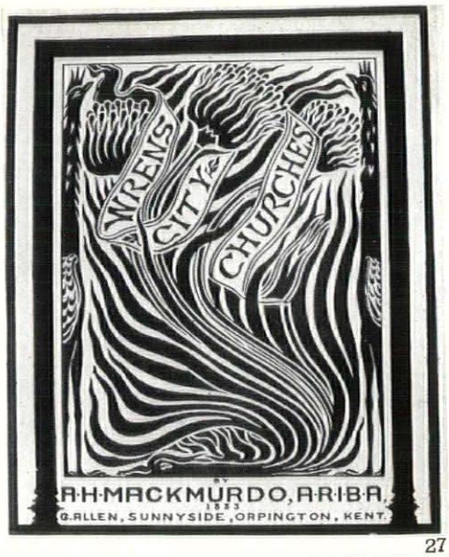

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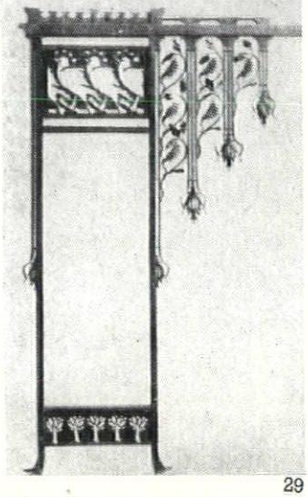

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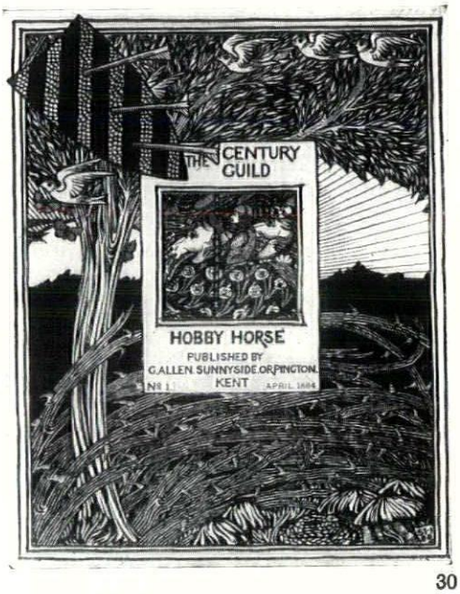

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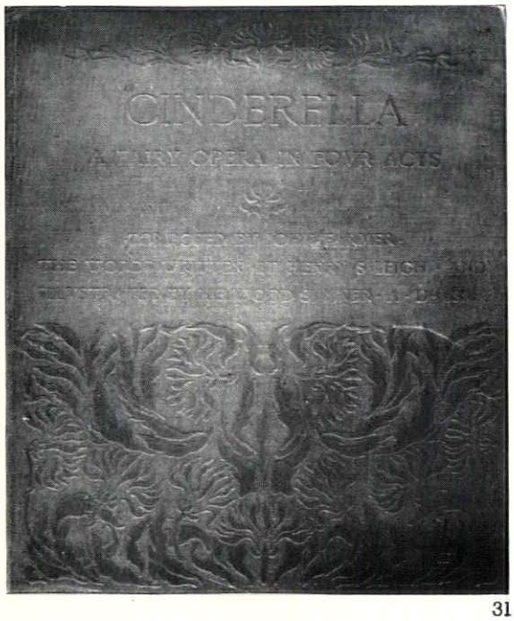

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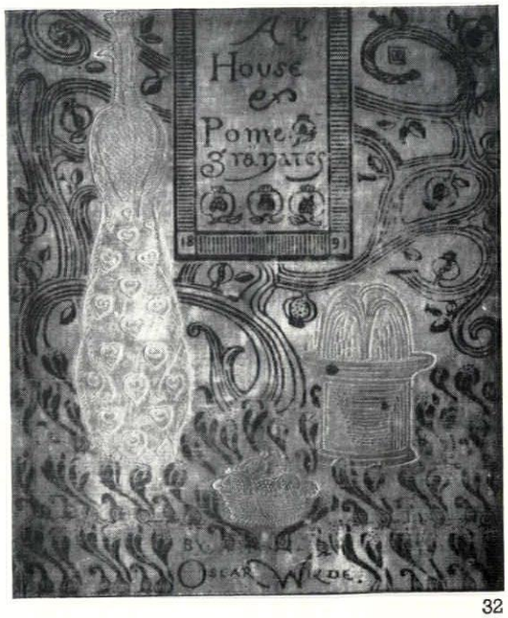

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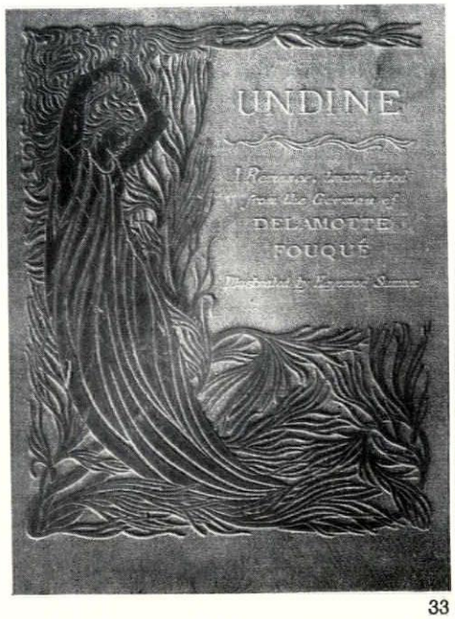

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corner is familiar from fifth-century vases. This surprising juxtaposition was much imitated. It can be found everywhere on the road towards Art Nouveau.

In many of Whistler's pictures, especially in *Symphony in White, No. IV* or *The Three Girls* (between 1876 and 1879) and also in the design for a mosaic girls appear of Greek type and with hair à la greque draped in chitons and standing in Greek attitudes, girls who at the same time hold Japanese sunshades and fans, and stand on Japanese mats next to almond trees or cherry branches. The very end of the *Ten O'Clock Lecture* (1885) is the well-considered statement: 'The story of the beautiful is already complete—hewn in the marbles of the Parthenon—and broidered, with the birds, upon the fan of Hokusai—at the foot of Fusi-Yama.'[24]

It is known that in the 'seventies the architect of Whistler's White House, Edward Godwin, designed 'Anglo-Japanese furniture'[25] as well as Greek 'chairs.'[26] And even in the early 'sixties Godwin hung on the walls of his simply furnished rooms Japanese woodcuts, dressed his wife and daughters in kimonos,[27] and displayed at the same time a cast of the Venus de Milo.[28]

Walter Crane, who tells us himself how much, from 1865 onwards, he learnt from Japan for his children's books,[29] also proceeded to a syncretism of Japan and Greece—in such books as *Beauty and the Beast* and *Baby's Own Æsop*—both in the objects illustrated and the treatment of illustrations and ornament. And since in addition Crane was entirely a follower of the Pre-Raphaelites, of Rossetti and Burne-Jones, there was every probability of Art Nouveau-like motifs to emerge from his works. Such motifs, indeed, occur everywhere. In the end-papers to *Baby's Own Æsop* (1887), 5, Crane spreads on to a plane surface the ivy trails, the alternating wavy tendrils from the necks of Attic sixth and fifth century vases, arranges them in opposition to each other and places them behind a fragile trellis reminiscent of the Far East. Thus, by tracing hidden affinities between distant regions of art and by combining them, something convincingly new is created which enchants by freshness and dainty simplicity.

From yet another point of view also Whistler and Rossetti must be regarded as the forerunners of Art Nouveau. Together with Morris, and Godwin, and a little before Crane, they turned their mind towards the things of everyday use so as to infuse beauty into all that surrounds us and to create a universal harmony in the whole framework of our lives. It need hardly be stressed that this very attitude became that of Art Nouveau and that such a leading master of Art Nouveau as Henri van de Velde began as a painter and then turned to architecture, furniture, lighting, cutlery, book art, embroidery, and even the art of dress design.

The urgent need for artists to pay attention to design was, indeed, recognized as early as 1851. The role of Henry Cole and his friends in these attempts at reform is well known by now.[30] It led to the foundation of the South Kensington Museum as a kind of educational display of the best of decorative art from all ages and nations and a reconsideration of Schools of Design to secure systematic training for those who were to work for industry. 'The schools were primarily intended as schools of design, where the sons and the daughters of the people would be taught how to design wallpapers,' wrote George Moore not without irony.[31] An example of the style taught in the school comes from an unexpected quarter, a design done in 1864 by Kate Greenaway then aged sixteen, 2. It is remarkable how independent of styles of the past this design for a tile is, and it is also remarkable that it was given a prize.[32] Blooms, flowers and tendrils in very generalized forms are concentrically and symmetrically arranged, entirely in one plane. The treatment confirms what George Moore reports on teaching in the 'sixties: 'The harder and finer the outline, the more the drawing looked like a problem in a book of Euclid, the more the examiner was pleased.[33] Apart from some allusions to Greek palmettes in the middle of the design, the ornament is free from historical precedent, and thus in accordance with demands stated in that classic the *Grammar of Ornament* by Cole's friend Owen Jones: 'All ornament should be based upon a geometrical construction,'[34] 'Junctions of curved lines with curved lines or of curved lines with straight lines should be tangential to each other,'[35] and 'Colour is used to distinguish objects or parts of objects one from another.'[36] Owen Jones's *Grammar* came out in 1856. It is by far the most important mid-nineteenth-century book on decorative art. It was known to, and used by, Morris (who did not begin publicly to formulate his own views on design until the 'seventies) and appeared in a new edition as late as 1910. The *Grammar* was used extensively at South Kensington, and Kate Greenaway followed its precepts without much show of imagination. But the result is curiously near Art Nouveau.

A comparison with a circular composition by van de Velde, a work of mature Art Nouveau (1901) shows up similarities as well as differences, 19. Van de Velde is richer, more flowing, more organic, more vigorous and more delicate. Forms like the wings of butterflies or the petals of flowers seem to pass through metamorphoses from the organic to the crystalline. Glass with its colour and transparency is an ideal medium, and, what is more, the design is clearly conceived in glass from the beginning. The technically necessary leading gives forceful expression to the contours. All the same, with all its hardness, for 1864, Kate Greenaway's design is remarkably progressive: flat, linear, and without any intention of an imitation of reality. Its dependence on Owen Jones and the *Grammar* is patent. Jones never tires of recommending flatness in decoration, and it is partly for that reason that he illustrates so many oriental examples—Moorish, Persian, Indian, Chinese—in harmony, incidentally, with what Cole had recognized at the 1851 Exhibition: 'It was from the East that the most impressive lesson was to be learned.'[37] Egyptian ornament also receives special praise, Greek decoration is preferred to Roman, prehistoric ornament is shown and ornament from Celtic illumination, but the academic art of the West, from the Gothic to the Baroque Age, is given comparatively little space. It is the principal aim of the book to demonstrate 'that in the best periods of art all ornament was based rather upon an observation of the principles which regulate the arrangement of form in nature than on an attempt to imitate the actual forms of those works'.[38] The last chapter is dedicated to the hope 'that the future progress of Ornamental Art may be best secured by engrafting on the experience of the past the knowledge we may obtain by a return to Nature for fresh inspiration.'[39] As suggestions of what might be done Jones offers plates with designs of his own, 1. 'The single example of the chestnut leaf, contains the whole of the laws which are to be found in Nature.'[40] But the plate does not only illustrate the laws explained in the text, it also, by means of composition, by the flat, simplified outline treatment of the fan-shaped leaves, their asymmetry and tense rhythms, clearly points forward towards a development at the end of which stands van de Velde.

A plate contributed to the *Grammar*, 24, by another reformer of design in the third quarter of the century, Dr. Christopher Dresser,[41] is meant to demonstrate 'that the basis of all form is geometry.'[42] Although here, as in the plates designed by Jones, there is nothing to be seen but flowers and leaves, the principle stands that 'Flowers or other natural objects should not be used as ornaments, but conventional representations founded upon them.'[43]

In other plates of the *Grammar* this reduction to essentials gives a scientific character, a flavour of the textbook to the illustrations, 21. There is no sensuousness in any of the plates, no emotion, and so those who were looking for these qualities in design had to go somewhere else to find them, and so we are back with Whistler and with Rossetti. It is remarkable how similar to the designs, say, of Baillie Scott the accessories are in a series of water-colours which Rossetti painted between the date of the publication of the *Grammar* and the mid-'sixties, the dresses and curtains, the furniture and sometimes even neutral backgrounds, covered with designs of small flowers, circles or hearts,[44] all deserve close attention, 22 and 23. The affinities comprise structural principles as well as the individual motifs. The flowers taller than the height of a man which appear on Baillie Scott's walls correspond to a remarkable wallpaper design by Rossetti which was done for his own room as early as 1861, 25, and which consists of slender trunks of young trees growing up to the ceiling.[45] Similarly, the straight-sided box-like pieces of furniture and the flatly stretched-out pieces of cloth which were so dear to the generation of 1900 that *Punch* incorporated them into a cartoon against the Arts and Crafts and apparently against Baillie Scott[46] make their first appearance in Rossetti's early paintings such as *Ancilla Domini*, 11, and *Dante drawing an Angel* (1853).

In Baillie Scott, needless to say, all reminiscences of the Victorian Era are gone. Carpets and wallpaper are really flat surfaces, horizontal planes are left vacant, the room as a whole is simple, light and clear. But he is romantic all the same; for the carpet is green as lawn, the ceiling sky-blue, and with the many flowers on the vertical planes the interior becomes a spring garden and affords 'a quiet and poetical refuge from the bustle of the world.'[47] Care for cultivated nature and care for cultivated interiors were felt on the Continent to be characteristically English.[48] Typically English also is the way in which the luxuriance and undulating movement of the flowers is caught up by the straight severity of the shapes of room and furniture. It would not be possible in England for a whole room to start undulating like Horta's famous staircase in the rue de Turin, 20. This English moderation and neutralization of movement, which is as essential for an understanding of Voysey, Ashbee and Mackintosh as it is of Baillie Scott, began to exert a great influence on the Continent after 1900—on Germany towards the end of Art Nouveau,[49] and on Vienna.[50] Here are the foundations of the *Neue Sachlichkeit* which set in about 1902.

But while the British influence on the final straightening of the convolutions of Art Nouveau has at least in recent years been recognized in more than one place, England has never as yet been established as the source of these very convolutions which from their Belgian forms of 1893 spread to France and Germany to determine the early and high phases of the style. In 1881, twelve years before the so-called beginning of Art Nouveau, Arthur H. Mackmurdo designed a chair illustrated in *The Studio* in 1899, 26. In its general form it resumes, though with Victorian modifications, the traditions of Chippendale, but the fretwork of the back, by no means developed out of constructional considerations, is to a surprising degree pattern and prototype of Art Nouveau.

Out of an undulating base, in a daring fling, an asymmetrical shape of no structural meaning writhes up, opening out fan-wise and sending up towards the top-rail parallel flame-like rays. This wavy fan is re-echoed by a second system of lines crossing it diagonally. It grows from the same trunk and runs in a magnificent S curve all across the available space, ending above in flowers and leaf-tips or turning back towards its point of issue. All this takes place entirely in

[24] James McNeill Whistler, *Mr. Whistler's Ten O'clock*, London, 1888, p. 29.

[25] *Art Furniture from Designs by E. W. Godwin . . . with Hints and Suggestions . . . by William Watt*, London, 1877, pl. 8; see also Nikolaus Pevsner, Art Furniture, in THE ARCHITECTURAL REVIEW, London, Vol. CXI, pp. 43-47.

[26] Dudley Harbron, *The Conscious Stone*, London, 1949, plate facing page 143.

[27] Harbron, op. cit., pp. 33, 75, 82.

[28] *Ibid.*, p. 95.

[29] P. G. Konody, *The Art of Walter Crane*, London, 1902, pp. 24-26; see also Walter Crane, *Of the Decorative Illustration of Books Old and New*, London, 1896, pp. 161-162.

[30] See Siegfried Giedion, *Mechanization Takes Command*, New York, 1948, pp. 351-352; see also: Nikolaus Pevsner, *High Victorian Design*, London, 1951.

[31] George Moore, *Modern Painting*, new edition, London, 1898, p. 63.

[32] M. H. Spielmann and G. S. Layard, *Kate Greenaway*, London, 1905, pp. 42-44, plates facing p. 42 and 44.

[33] George Moore, op. cit., p. 65.

[34] Owen Jones, *The Grammar of Ornament*, London, 1856, Preface, p. 4, Proposition 8.

[35] *Ibid.*, Proposition 12.

[36] *Ibid.*, Proposition 14.

[37] S. Giedion, *op. cit.*, p. 352.

[38] O. Jones, *op. cit.*, Chapter XX, p. 2.

[39] *Ibid.*, Preface, p. 2.

[40] *Ibid.*, Chapter XX, p. 4.

[41] See also: Christopher Dresser, *Principles of Decorative Design*, London (1873).

[42] O. Jones, *op. cit.*, Chapter XX, p. 4.

[43] *Ibid.*, Preface, p. 4, Proposition 13.

[44] For example '*Roman de la Rose*,' water-colour, 1864, Tate Gallery, 22.

[45] George Birbeck Hill, *Letters of Rossetti to Allingham*, London, 1897, plate facing page 251.

[46] *Punch, or the London Charivari*, Vol. CXXIV, 1903, March 11, p. 179: Cartoon by R. C. Carter of a typical Baillie Scott room with the caption: 'The latest style of room decoration. The home made beautiful. According to the "Arts and Crafts".'

[47] Hermann Muthesius, *Meister der Innenkunst I: Baillie Scott*, Darmstadt (1901), Preface.

[48] E. von Bodenhausen, Englische Kunst im Hause, in *Pan*, Vol. II, 1896, p. 329.

[49] Baillie Scott in 1898 designed interiors and furniture for the palace of the Grand Duke of Hesse at Darmstadt, ill. *Studio*, Vol. XIV, 1898, pp. 91-96, and *Studio*, Vol. XVI, 1899, pp. 107-112. Moreover, Baillie Scott's designs for 'Das Haus eines Kunstfreundes' were given first prize in a competition held by the *Zeitschrift für Innendekoration*, at Darmstadt, in 1901. They were published by H. Muthesius in a sumptuous volume. See also note 47.

[50] Thomas Howarth, *Charles Rennie Mackintosh and the Modern Movement*, London, 1952, Chapter VII, Mackintosh in Europe, pp. 148-169.

one plane. The individual strands have the organic life, the lava-like flow and sudden, wilful doubling-back which are the hallmark of mature Art Nouveau. Two years later Mackmurdo used very much the same forms and motifs in the title-page to his book on Wren's City Churches, a masterly design which has become known through Professor Pevsner's illustration in his *Pioneers*, 27.[51]

Now Owen Jones, in 1856, had written: 'Beauty of form is produced by lines growing out one from the other in gradual undulations,'[52] and 'In surface decoration all lines should flow out of a parent stem. Every ornament, however distant, should be traced to its branch and root.'[53] But remarkable as these prophetic words are, they do not sufficiently explain the creation of such ornament by Mackmurdo. Mackmurdo's source remains the great mystery of the prehistoric stage of Art Nouveau. It can, I think, be solved. But that must be left to another occasion.[54] Meanwhile, during the very years in which Mackmurdo carried on his astonishing innovations, similar forms also began to appear in other places in England as well. There is, for instance, Heywood Sumner, who was indeed close to Mackmurdo and the Century Guild.[55] As early as 1882 he designed a binding for the Fairy Opera *Cinderella*, 31, with flame-like, Art-Nouveau-like flowers, though still without the unintermittent flows of lines. But his binding of Fouqué's *Undine*, 33, which dates from 1888, is wholly Art Nouveau in every respect—five years before any sign on the Continent. It is no accident that a romantic fairy-tale was the occasion for this undulating pattern, that the ambiguous nature of the maid with the telling name is represented by equally telling forms. The decoration here is literally what Oscar Wilde wanted it to be: 'surface and symbol.' It would, by the way, be illuminating altogether to look at the earliest creations of Art Nouveau with an eye to contemporary symbolism in literature.

Novalis has a passage about the 'Kunst, auf eine angenehme Art zu befremden, einen Gegenstand fremd zu machen, und doch bekannt und anziehend'[56]—to make things look strange and yet familiar and attractive. This romantic tendency might well be used as the motto over Charles Rickett's decorations for the works of Oscar Wilde. The binding of the *House of Pomegranates* of 1891, 32, combines highest formal qualities with a highly fantastic mood. Tapestry-like, the branches of the pomegranate tree reach out into all four corners, and the crocus flowers are spread evenly like the pattern on a wallpaper. But not quite; for everywhere there are the slight deviations of live forms from an ornamental scheme, and the peacock and the fountain take us back into reality and book illustration. However, since everything is translated into two-dimensional drawing, the mind has yet to progress from seeing to the interpreting of symbols—just as in reading script. And, looking at it from the other side, the lettering with its melodious curves and deliberate waywardness does everything to appear alive and meet halfway the vegetable forms around.[57]

So here, in an exceptionally attractive way, that accordance of lettering, illustration and ornament is achieved which is a criterion of the art of the book—as well as the art of the interior—about 1900. It is this accordance the lack of which Wilde regretted in 1889: 'At present, there is a discord between our pictorial illustrations and our unpictorial type. The former are too essentially imitative in character and often disturb the page instead of decorating it.'[58] And 'it was Wilde, who had learnt concern for printing and binding from Whistler, who first suggested to Ricketts the idea of designing books.'[59] Ricketts's aristocratic art in which sophistication and a child-like faith in the fairy-tale seem to merge represents a very personal variety of Art Nouveau, far distant of the popular, not infrequently vulgar, varieties that carried the day and are represented by Horta's staircase.

The problems of the immediate antecedents of Horta whose Art Nouveau so far seemed to appear ready all at once in 1893, are yet unsolved. Would it be presumptuous to suggest that they are to be found in English book decoration? The close relations of Belgian artists to England in the decisive years before 1893 have been commented on by van de Velde: 'The discovery of the English revival of craft was made by A. W. Finch, a painter of half-English descent who later became a potter. He bought a few things which strongly impressed his friends. That was about 1891. Shortly after, Serrurier-Bovy, in Liége, made the first pieces of furniture under English influence. Very soon after the foreign style was translated into something Belgian.'[60] In the exhibition of the Société des Vingt at Brussels in 1892 for the first time objects of decorative art appeared side by side with progressive paintings. They included books illustrated and decorated by Herbert Horne and Selwyn Image,[61] friends of Mackmurdo and collaborators on the Century Guild and the Hobby Horse. Even before then, as early as 1880, a German and a French edition of Kate Greenaway's *Under the Window* had come out and sold over 100,000 copies.[62] Also in the early 'eighties the Kunstgewerbemuseum at Hamburg had acquired picture-books by Crane. Crane himself wrote in 1896: 'The revival in England of decorative art of all kinds . . . culminating as it appears to be doing in book design, has not escaped the eyes of observant and sympathetic artists and writers on the Continent. The work of English artists of this kind has been exhibited in Germany, in Holland, in Belgium and France, and has met with remarkable appreciation and sympathy. In Belgium particularly . . . the work of the newer school of English designers has awakened the greatest interest.'[63]

Often before small works of art had stimulated large ones. One need only think of the effects of Greek and Roman cameos and coins on Renaissance and neo-classical sculpture, or of Dürer's woodcuts on Italian painters. About 1900 buildings with Art Nouveau façades were nicknamed built book-pages, and Crane conversely speaks of the ideal of the book as a house, with the frontispiece as the façade, and with rooms and a garden.[64]

It was truly prophetic when in 1856 Owen Jones had written 'that a new style of ornament may be produced independently of a new style of architecture; and moreover, that it would be one of the readiest means of arriving at a new style.'[65]

That is precisely what did happen. The spatial forms of Horta's staircase correspond to function and material—but they might just as well be quite different. The 'style' and the decoration are obviously not developed out of the demands of iron. On the contrary, iron adapts itself to their demands, which flow from quite different sources. It was the style and the decoration of Horta's house that caused such a sensation and established 1893 as the birth year of Art Nouveau—the year that also saw the appearance of *The Studio* and of those Beardsley drawings to the *Morte d'Arthur* with which this article began.

[51] First published by Nikolaus Pevsner, *A. H. Mackmurdo, a Pioneer Designer*, in THE ARCHITECTURAL REVIEW, London, Vol. 83, 1938, p. 142.

[52] O. Jones, *op. cit.*, Preface, p. 4, Proposition 6.

[53] *Ibid.*, Preface, p. 4, Proposition 11.

[54] An essay on William Blake and Art Nouveau will be published in THE ARCHITECTURAL REVIEW shortly.

[55] Catalogue of the Victorian and Edwardian Exhibition, pp. 69-70.

[56] Novalis: *Briefe und Werke*, Berlin, 1943, Vol. 3, p. 623.

[57] For the whole conception, the lettering and many details of this binding, compare Rossetti's title page to Christina Rossetti: *Goblin Market*, 1862. Also, Sargent said: 'Nothing that Ricketts ever did could have been done without Rossetti' (*see* John Rothenstein: *The Artists of the 1890's*, London, 1928, p. 186).

[58] Oscar Wilde, Some Literary Notes, in *The Woman's World*, January, 1889.

[59] J. Rothenstein, *op. cit.*, p. 183.

[60] Nikolaus Pevsner, *Pioneers of Modern Design*, New York, pp. 58-59.

[61] *Ibid.*, p. 67.

[62] M. H. Spielmann and G. S. Layard, *op. cit.*, p. 55.

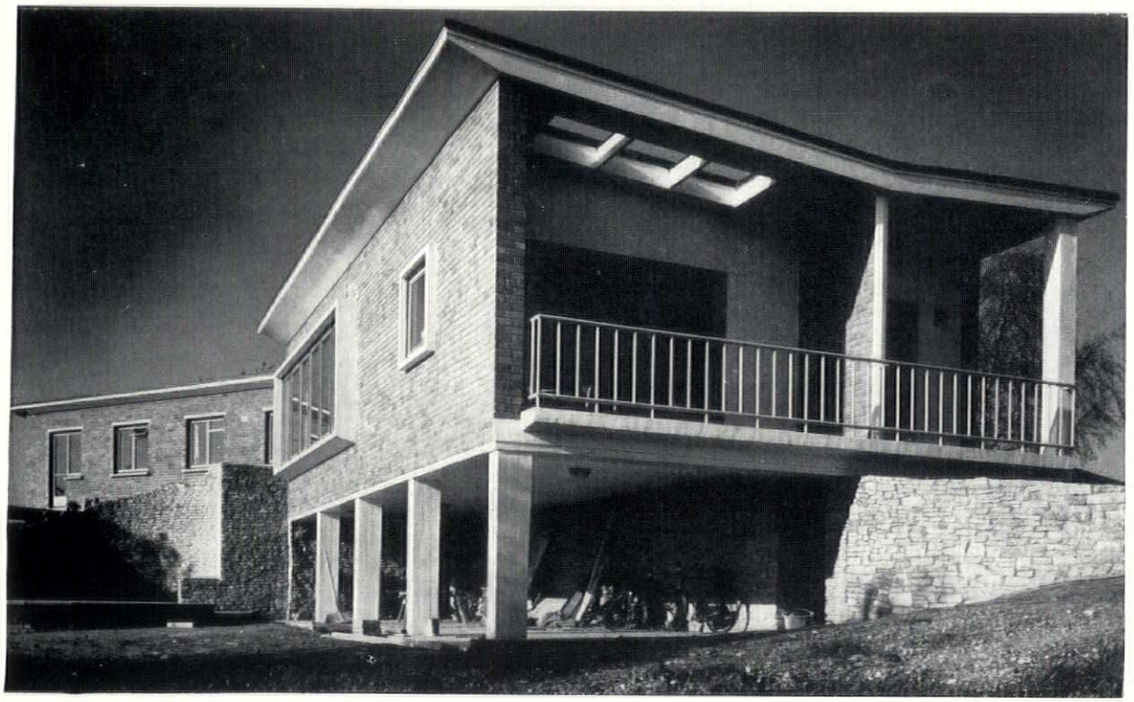
[63] Walter Crane, *Of the Decorative Illustration of Books Old and New*, London, 1896, p. 228.

[64] *Ibid.*, p. 184.

[65] O. Jones, *op. cit.*, Chapter XX, pp. 2-3.

postscript

This paper is a partial publication of the results of a doctoral thesis on which the author is engaged at Tübingen University under Professor W. Boeck. The collecting of material was undertaken in London in 1951 and 1952 under supervision of Professor N. Pevsner, whom the author wishes to thank for much valuable advice and kind help. It was also due to Professor Pevsner's endeavours that Mr. Philip Johnson and Mr. Edgar Kaufmann, Junr., both of New York, contributed substantial sums of money to make the photographing of mostly unpublished objects possible. The author is profoundly grateful to both Mr. Johnson and Mr. Kaufmann.

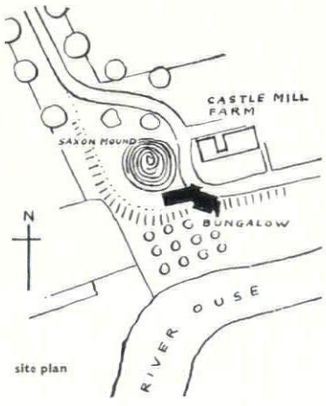


The living wing of the house from the south-east, with the promenade and boiler house below.

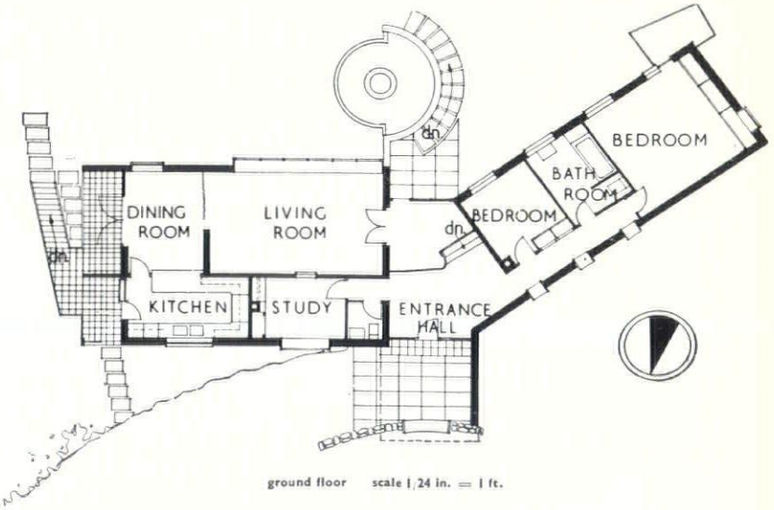
HOUSE AT RENHOLD, NEAR BEDFORD

ARCHITECT: IAN WARWICK

The house is on the bank of the Ouse five miles east of Bedford, reached by a long approach from the north. It is built on the south side of a Saxon mound known as Risinghoe Castle, which screens the house and withholds the two-way river view until the house has been entered. Across the river is an orchard: the building is high enough to overlook it and give a view of the south Bedfordshire hills beyond. Because of the slope a promenade and play space has been provided underneath the main living room with access to the laundry and heating plant. East and west wings are for daytime living and sleeping respectively. The construction is cavity brick walls with inner skin of thermalite blocks, with a roof of ¾ inch asphalt on rafters at 5° pitch, and 2 inch cork insulation. The floors are partly 4 inch concrete on hardcore and partly r.c. columns and patent pre-cast flooring; main rooms are finished with wood blocks, and the bathroom and kitchen are tiled. The external facing is brick and local stone. The heating and hot water come from an automatic oil heater.



site plan



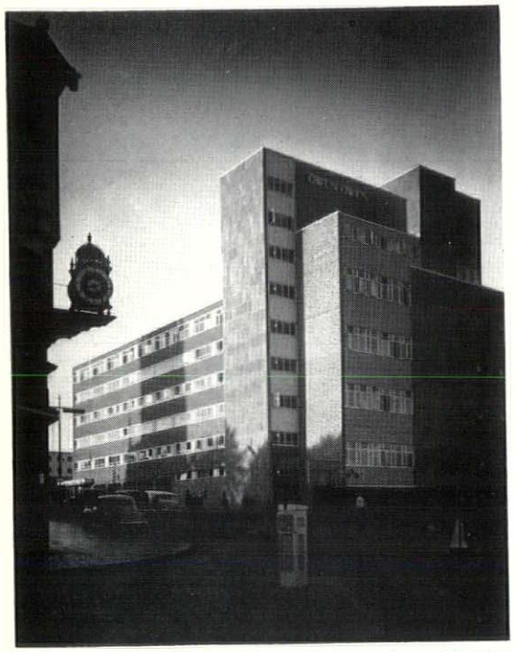
ground floor scale 1/24 in. = 1 ft.

DEPARTMENT STORE AND OFFICE BLOCK IN COVENTRY

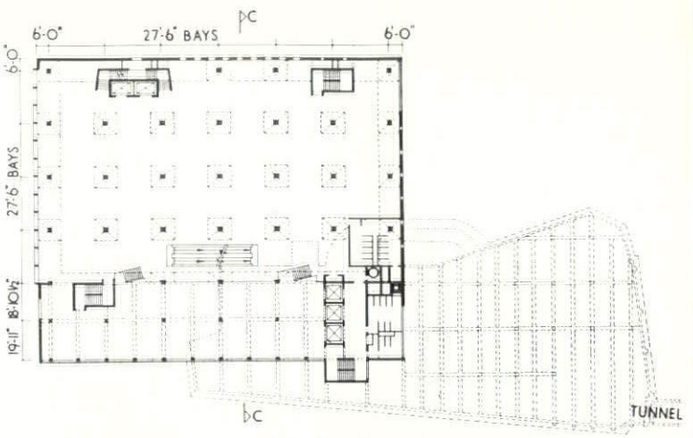
1. Owen Owen Store

ARCHITECTS: ROLF HELLBERG AND MAURICE HARRIS

This store and Broadgate House, below, are the first two large buildings to be completed in the reconstruction of the City Centre, shown in last month's frontispiece, page 4. They face one another across New Broadgate, the island which was laid out as the focus of the new centre in 1948. The site consisted of a square island above ground and the triangular basement of the old store, built in 1937 and destroyed in the blitz. The only area these have in common is a narrow strip along the east side of the block (shown in the plan on the right); an access tunnel leads north out of the basement to a detached loading deck. The basements hold engineering services, receiving and despatch and sales, stock and offices are in the superstructure. The superstructure has five sales floors, two at street level, and a stock building on the east side of equal height, but containing seven floors. The main superstructure contains two forms of construction, flat slab floors supported by mushroom columns in the sales area, and normal beam and slab construction in the stock mezzanines. The Broadgate façade has a large window wall set in a travertine background for this façade. On the east façade continuous bands of windows alternate with orange-red briquettes.

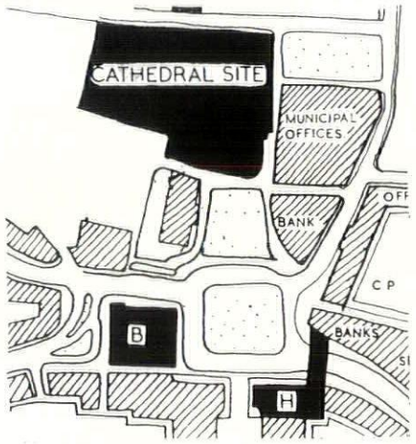


2, the store from the north-east, looking down Trinity Street with Broadgate House at the far end.



Basic structure plan: superstructure solid and basement dotted.

Below, plan for the reconstructed City Centre, showing the relationship between the Owen Owen store (B), *Broadgate House* (H) *and the cathedral site. The island between them is New Broadgate.*



2. Broadgate House

CITY ARCHITECT: D. E. E. GIBSON

CHIEF ASSISTANT ARCHITECT: FRANK MOATE

Broadgate House is a six-storey block on the west side of New Broadgate at the head of the shopping precinct, continuing into the south side by a bridge over the existing Hertford Street, containing two floors of offices, a restaurant on the second floor and a footbridge. There are two abutments to the bridge, containing staircases and lifts; one of them forms a setting for the old Market Hall clock. The six-storey block has arcaded ground floor shops on both Broadgate and precinct frontages; there is also a first floor shopping terrace to the precinct with access by a light welded steel bridge. The building throughout is framed in reinforced concrete with tanked reinforced concrete retaining walls to the basement and bridge foundations, linking up with the subway which had already been built by the City Engineer. The Hertford Street bridge consists of three deep beams approximately 23 feet deep and 10 inches wide, perforated with window and door openings, forming the external walls and centre partition wall of two floors of offices from which the second floor restaurant is suspended on 3½ inch diameter steel hangers. Arcade columns are faced in Hornton stone with granite plinths, the columns to the east elevation extending from first to fifth floor in Westmorland Green slate with panels under the windows in travertine. The reinforced concrete bridge wall beams are faced in travertine with window openings framed in Westmorland Green slate. On the south side of the bridge there are four panels of sculpture in Doulting stone by Trevor Tennant.



3, looking across New Broadgate to the Hertford Street bridge and the clock: when the hours are struck Lady Godiva appears on the balcony below the clock face, and Peeping Tom emerges from the triangular window.

Department Store and Office Block in Coventry



4, the south front of the Owen Owen store seen across New Broadgate.



5, Broadgate House from the west, looking along the line of the future shopping precinct to the spire of St. Michael's, which is to be preserved when the new cathedral is built.

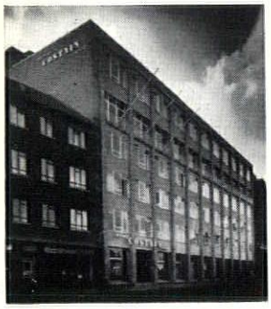


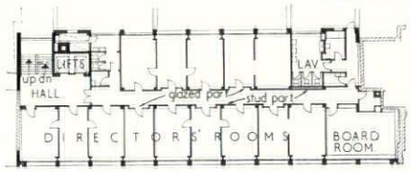
6, the main entrance hall. 7, below, the frontage to Westminster Bridge Road, with directors' balconies on the fourth floor.

OFFICES IN LAMBETH, LONDON, S.E.1.

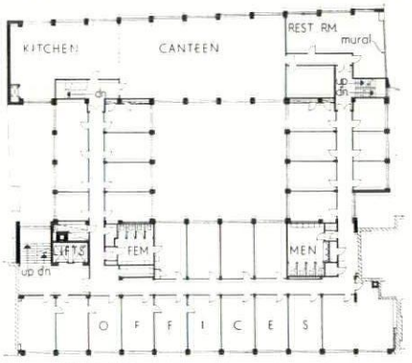
ARCHITECT: R. N. WAKELIN OF CAMPBELL-JONES AND SONS

These offices are in Westminster Bridge Road, just east of the main lines running out of Waterloo Station. They house the headquarters of a group of building contractors, including canteen, kitchen, housekeepers' flat and directors' suite. The site is approximately square with vehicle access at the rear, and was arranged around the perimeter in relatively low blocks as load-bearing brick construction was planned; in fact, however, because of an anticipated shortage of bricks a reinforced concrete frame with brick facings was used. The north block facing Westminster Bridge Road is six-storey, and three other blocks are four-storey, connected by corridors running in the centre of each block. On the first floor there are four conference rooms, each divided by sliding-folding doors, which, when opened, allow sufficient space for a small cinema. The central area enclosed is roofed over to form an accounts office on the ground floor. Floors are of prestressed concrete construction, spanning from the external wall beams to the corridor beams. Corridors are of in situ reinforced concrete construction supported on columns on each side and forming rigid central spines throughout the building. The roof of the central area is supported on cranked beams, linked by a reinforced concrete gutter, and columns. The gutter forms a ring beam and the whole structure is independent of the remainder of the building. The panels below the windows are faced with Italian dove-grey marble aggregate, which was polished and given texture by brushing the face while green. At fourth floor level there are railings between columns, forming small balconies outside directors' offices. Internal finishes include walls lined with capriva marble in the entrance hall, panelling of veneered canarium in some directors' offices and the fourth floor corridor, and paint on plaster elsewhere.

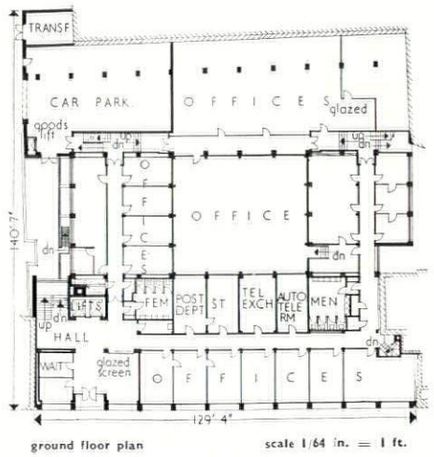




fourth floor plan



second floor plan



ground floor plan scale 1/64 in. = 1 ft.

S. Gilead-Gromet

ISRAEL SCRAPBOOK

Israel is an immigrants' country, and the early immigrants at the first quarter of the century were all determined to start a new life in their new-old home. This attitude is reflected also in the building conception, where there appears an almost total rejection of the traditional styles. So the field remained open to the modern movement.

The establishment of the state of Israel in 1948 gave a renewed drive to building. Two major tasks became readily distinguishable. One was to provide homes for the new immigrants, who were pouring now into a country of 750,000 inhabitants at a rate of 200,000 persons a year. (The population was doubled in three years.) The housing problems of the existing population were already acute, and the country was suffering from a permanent shortage of dwellings, and a great scarcity of building materials.

The second task was even greater—planning and replanning of entire areas under the changed conditions and new development requirements. A National Planning Department was set up, manned by a capable group of architects and town-planners. Its task—the preparation of a national master plan—was a heavy one, but it became even more so, as the planning turned into a race against time. Immigrant and transit camps, housing estates and settlements, and industrial centres were planned and built in haste, in order to satisfy the immediate requirements. The results were sometimes a compromise, in which social, economic and aesthetic faults can be noted. But altogether the Planning Department did a fine job in outlining the National Master Plan.

Only a small fraction of the detail planning is done by government or municipal departments, and most of the planning in cities is concentrated in the hands of private groups of planners and architects that run the gamut from a single pair of partners to large co-operative groups. In the various co-operative settlements planning is done by technical offices connected directly with a group of settlements, formed according to type and political party.

The dwellings erected to meet the immediate housing needs of the immigrants were

of low standard, the finish very austere and the habitable area per family very restricted. Flats in these housing estates were rented to needy immigrants at a very low rate. Lately, the attitude of the government has undergone a change and the policy now is to provide decent dwellings at a reasonable price, with government-sponsored planning, and with allocations of restricted building materials. These housing schemes —called Popular Housing—are of good standard and compete well with medium priced dwellings built by private enterprise.

The bulk of the housing enterprises is dealt with by government departments and various semi-public housing companies. Only a small fraction is accomplished by private enterprise, whose work is confined to the major cities, and erected by contractors and financiers, who buy the plot, hire the architect, build and sell the flats.

Though Israel is a small country, it boasts an amazing variety of climatic conditions. The level Coastal Plain (Shfela) has the mild Mediterranean climate, while the near-by hills of Galilee at the north and the Judean hills near Jerusalem are cool and dry. Further east the Jordan depression with its sub-tropical heat, culminates in the Dead Sea region, 400 metres below sea level, where living conditions are especially trying under the intense heat and scarcity of water. The Negev in the south presents a fair example of desert conditions, hot and dry weather and a negligible annual rainfall, though the northern Negev boasts of good agricultural "loess" soil, which can be transformed under irrigation into excellent farming land.

These conditions are reflected in the building and result in open planning with large balconies in Tel-Aviv and Haifa, while in Jerusalem the buildings more resemble their European counterparts. Various solutions are sought in areas of difficult living conditions, but the general trend is to rely on cool breezes and cross ventilation, on roof over-hangs and lately on brise-soleil devices. There is much talk of the Oriental way of building—blank thick walls and the patio plan, but it has not yet gone much further.

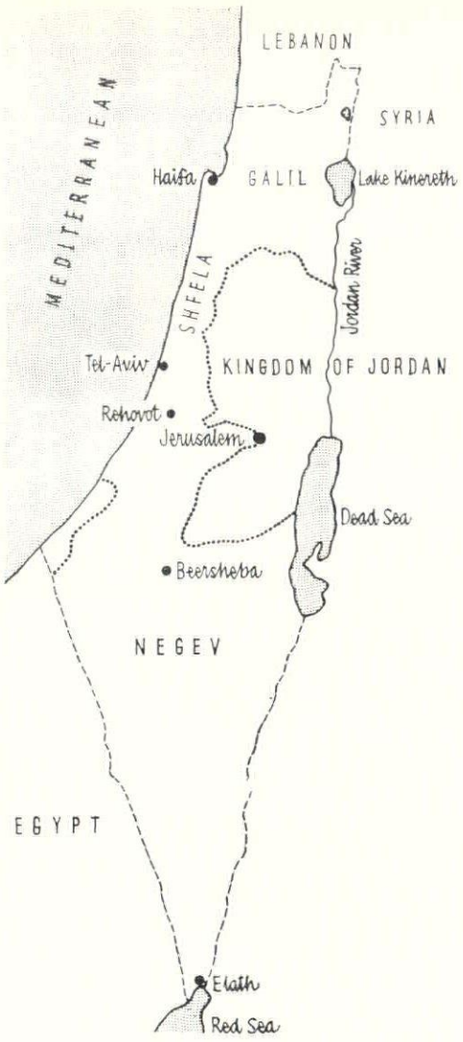
Despite the climate and because of restricted means and lack of foreign currency, little is done in the field of insulation. An overwhelming majority of buildings has walls about 8-9 inches thick, in concrete block or bricks, without any insulation whatsoever. The floors are concrete slabs covered with cement tiles. Even the flat r.c. roof—the most intensely sun-heated member of the structure—is insulated by whitewashing only. There are some exceptions, such as luxury hotels built for tourists, a few big central office buildings and private dwellings.

The common type of construction in Israel is reinforced concrete, its use ranging from small bus shelters to large halls and industrial plants; even the non-bearing members of the structure are often poured in concrete despite its poor insulation qualities. Other widely used building materials for walls and partitions are various types of concrete blocks and silicate bricks. One of the handicaps of the Israel building industry is the lack of tradition of the workers employed in construction, and practically no building worker has inherited the craft from his ancestors.

A fact particularly remarked by visiting foreign architects is the restricted use of colour in the buildings, chiefly various shades of beige. One reason for this is that the intensity of light and shade is sufficient in itself to reveal the various building parts and their finishes. Another reason lies in the fact that the usual types of lime paint used here, have a tendency to fade and change in the strong light.

The illustrations that follow give a general picture of post war architecture in Israel in the main centres of population, with a brief look at building in the countryside.

ISRAEL SCRAPBOOK



2

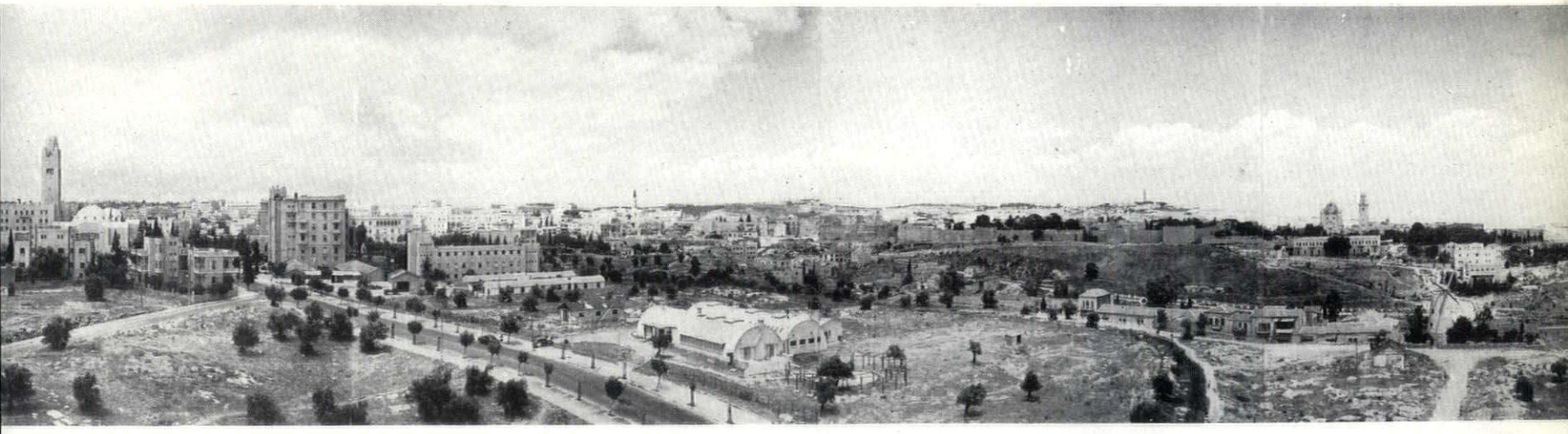
Jerusalem, Tel-Aviv and Haifa are the three main cities of Israel. Each of them is distinguished by its definite character and function, as well as by its different physical setting. Jerusalem—the State's capital, university city and religious centre; Tel-Aviv—the metropolis centre of commerce and highly developed social and cultural life; and Haifa—main port and prospective centre of international trade and heavy industry.

jerusalem

Jerusalem is quite self conscious of its position as Holy City and government centre. Its development outside the walls of the ancient city has been haphazard. Nevertheless there is a feeling of dignity and spaciousness in the city, which spreads over the Judean hills, clinging mainly to the higher points and leaving the valleys (wadis) free and available for the future parks and green belt, as envisaged by the Jerusalem Regional Plan. The central part of the city presents a picture of disordered groups of blocks with business premises,

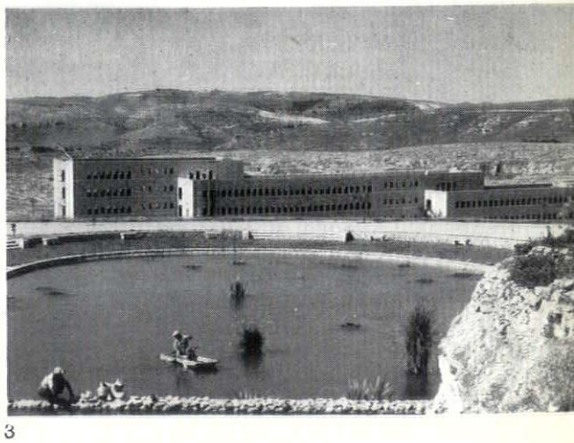
1





shops and dwellings intermingling. The general effect, however, achieves greater unity than elsewhere, owing to a bylaw which compels the use of stone for all facing. The silhouette of Jerusalem is punctuated by various spires and towers, 2, that of the YMCA building being the dominant one, 1. From its top there is a view across the whole width of Israel, from the shores of the Mediterranean to the Dead Sea.

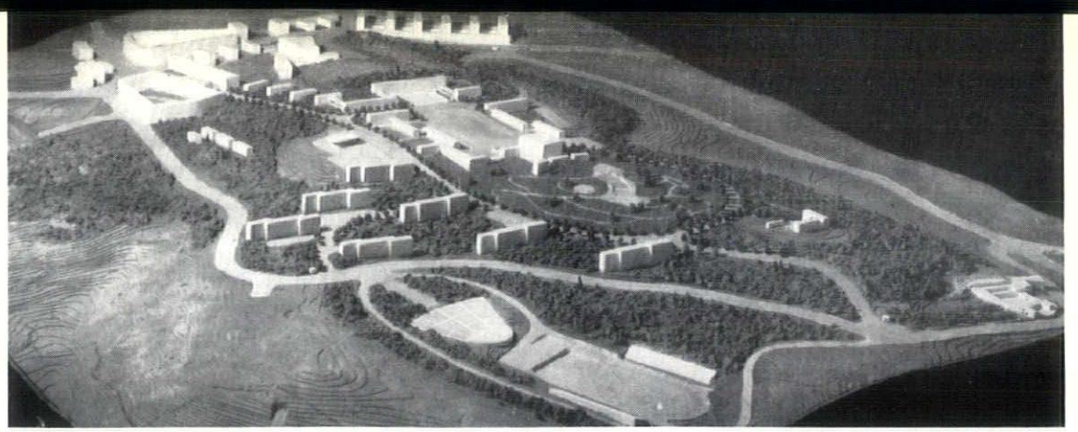
3, one of the buildings now



3

nearing completion, which will form part of the big government centre, *Kiryah*, shown in the model, 4. The work is the responsibility of the governmental office of development of the *Kiryah*, under the direction of Ing. S. Arazi, with I. Klarwein as chief consulting architect.

The 'Hadassah' hospital group built by the late Erich Mendelsohn still remains one of the most remarkable groups of buildings in Jerusalem, 5.





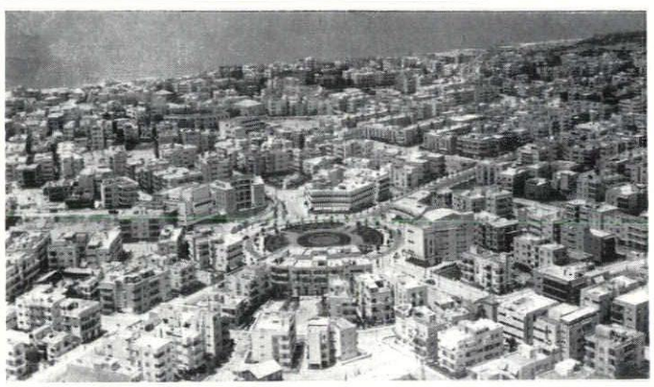
tel-aviv

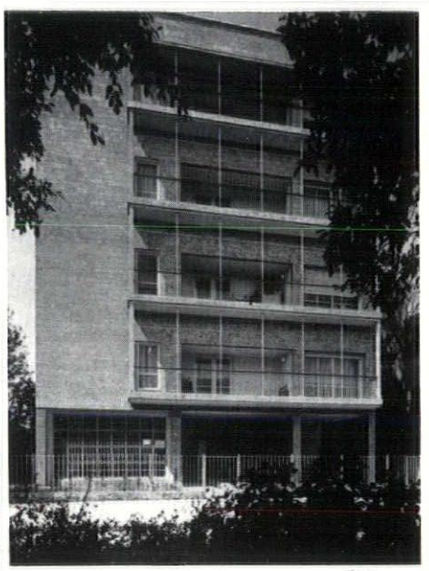
Tel-Aviv is a young and vigorous city. It was planned as a 'garden city,' but the general development turned the town into a thriving commercial centre, with numerous apartment houses on sites intended for one-family homes. The outcome, 6, is the natural result of a plan lagging after the inevitable social and economic development. However, a master plan is now in preparation for the city.

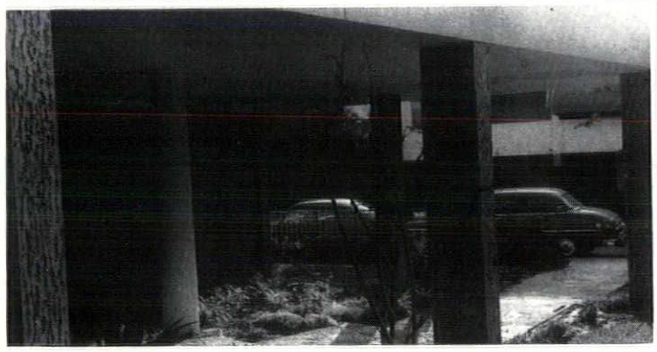
Tel-Aviv is fortunate in having adopted the idea of houses on stilts and evolved it as a guiding principle in the planning of residential streets, 9. A bylaw demands that a certain percentage of the site must be left free of enclosing walls. Thus front gardens are carried through under the houses, 8, giving the street an appearance of greater width and providing the eye with an escape from the scorching rays of the summer sun.

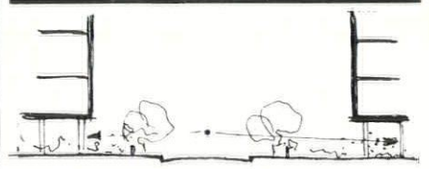
The general standard of residential architecture in Tel-Aviv is high. 7 and 10-12 are some recent buildings by D. Carmi, Architects Collaborative. In 11 and 12 the required underpass has been developed as a continuous colonnade; the scheme was designed in collaboration with architect Z. Rechter.

Another recent work by the same architects are the office blocks housing the executive of the *Histadruth*, Israel's Workers' Organization, 13-15. Sun protection is provided by louvred concrete frames round the windows,

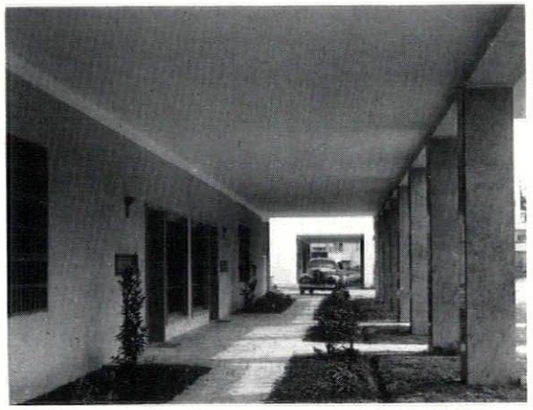




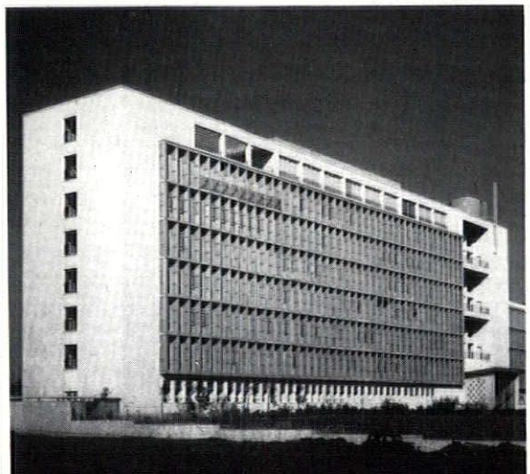












4	
5	
6	7
8	9
10	11
12	13

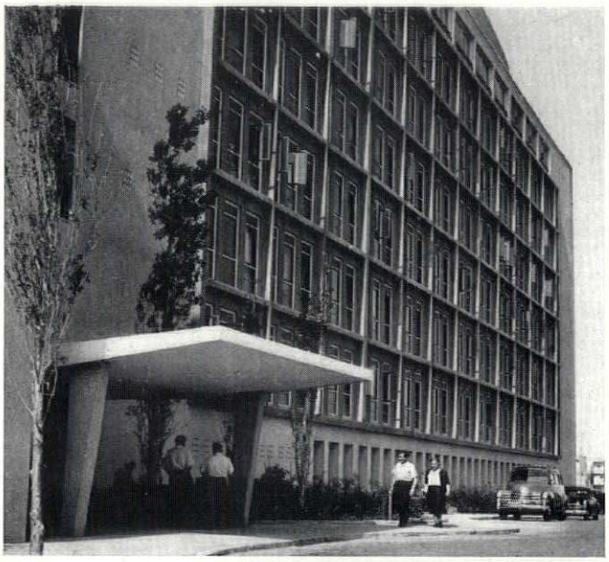
constructed of precast members; a device which has not yet been widely adopted in Israel.

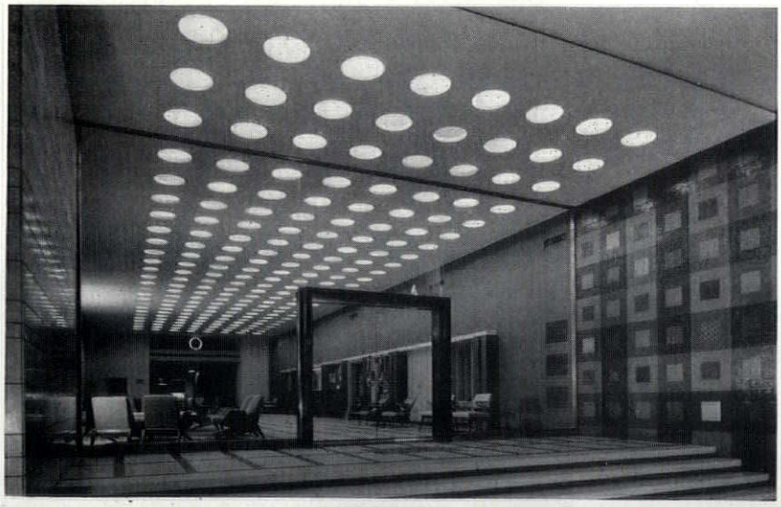
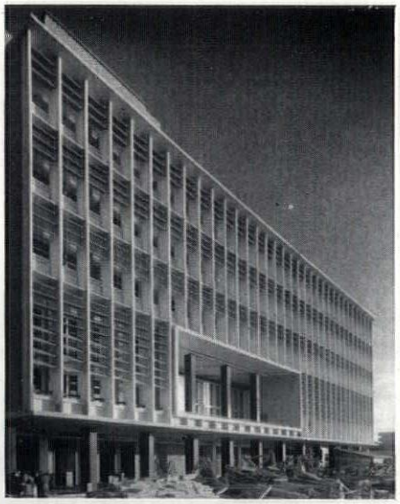
A few years earlier is this office building by D. Carmi and Sharon & Idelson in Allenby Street, 16. Its main feature is an arcade on the ground floor, 19, comprising shops, a café and the entrance to a small cinema.

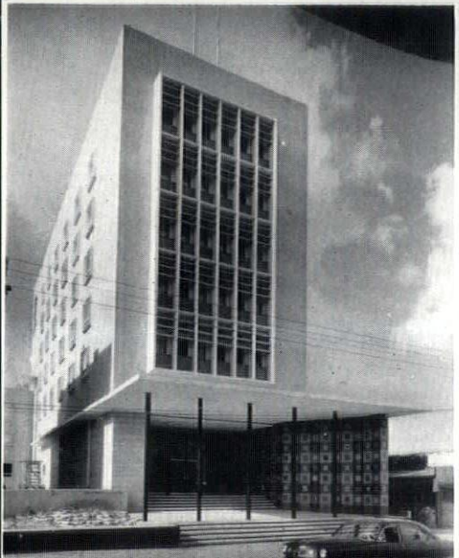
Israel is trying hard to develop its tourist industry, and the government encourages the building of luxury hotels. The Dan hotel, 20, by H. Fenchel boasts facilities not found elsewhere in the Middle East. It is one of the few buildings for which an ample supply of imported materials was permitted. 18 shows the sun-protected façade facing the sea. The entrance, 17, has a coloured mosaic wall to the right, and an entire entrance wall of glass.

The Nordau Plaza Hotel, 21 and 22, now under construction, is by W. J. Witcover and E. W. Bauman, and is also built on a

14	15	16
17	18	19
20	21	22





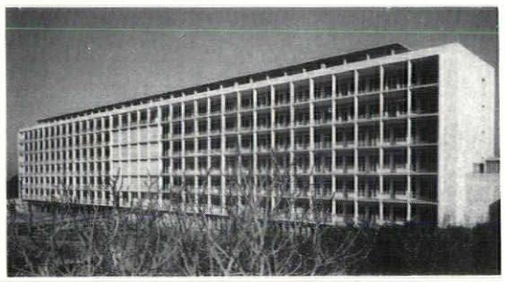
grand scale. The site enjoys two advantages: it is directly on the sea and it is part of a long municipal garden, laid out along the shore. The building is seven storeys high with about 330 beds. There is a dining hall with 400 seats, and a Banqueting and Convention Hall, accommodating 700 people. The garden contains an open air swimming pool, and there is a private access to the seashore through a tunnel under a pedestrian way.

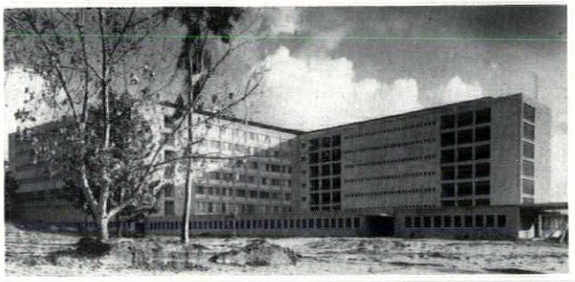
Two important and only recently completed buildings by Sharon and Idelson are Lessin's Cultural Centre, 23, comprising an auditorium for 350 people, dining room, club, exhibition hall, library, reading room, etc., and Beilinson Hospital, 24 and 25, a general hospital of 500 beds in Petach-tikva, near Tel-Aviv. The medical and economic services attached to this hospital are planned to serve the existing hospital of 200 beds and other blocks with additional 500 beds (total 1,000 beds).

23



24, 25



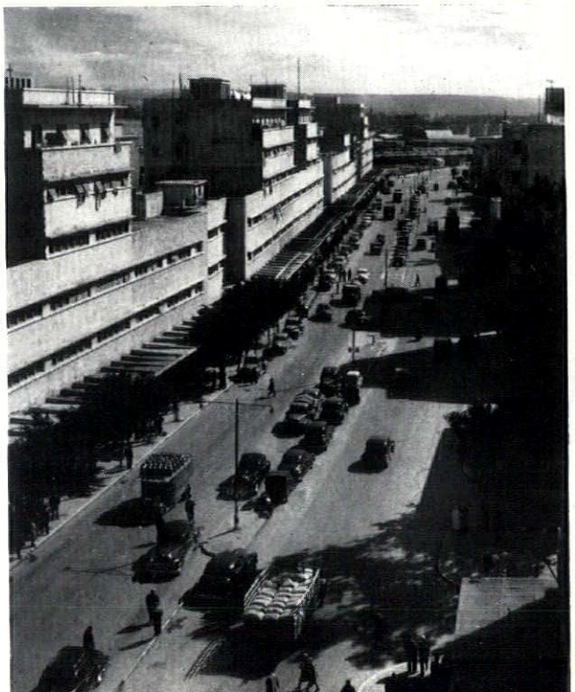




26

haifa

Haifa is a typical example of a town plan clearly defined by its physical environment. It has two great natural gifts—a spacious calm bay off the Mediterranean and Mount Carmel. A deep-water port in the bay provides Haifa with the opportunities of becoming a major centre of international commerce and heavy industry. From the port there is a steady rise of the ground, up the slopes of the Carmel, and the city layout adapts itself to this, 26. Near the port there is a dense commercial centre and area of big office buildings. Higher up, the plateau of Hadar Hacarmel with mixed trade, administrative institutions and high-density residential development. Still higher on the ranges of Mt. Carmel, with its cooler climate and pine groves, are the more spacious residential areas. The Master Plan of Haifa, now in its last stages of planning, follows this outline. One of the main problems is that of communications, for Mount Carmel falls steeply into the sea, leaving only a narrow strip of land, along which runs the main north-south road of the country. Its passage through the town creates serious problems, and the Master Plan suggests a tunnel through the mountain. At present



27

28, 29

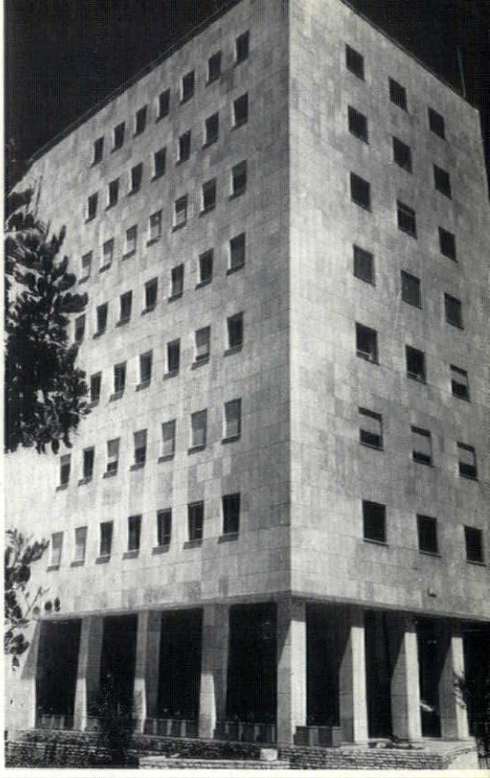
the road passes along the main commercial thoroughfare of Haifa-Atzmaut Street, 27. The site of the street and the houses flanking it was reclaimed from the sea during the construction of the port.

The Haifa Municipality has a hard time trying to preserve the fine view from the slope of Carmel towards the port. It has passed bylaws strictly restricting the built-up area and height of buildings on the slope, but it is proving difficult to enforce them.

The waterfront silhouette of Haifa was until recently quite low and uneventful, except for the government hospital built by the late Erich Mendelsohn at its western end, and a lofty grain silo. Another vertical accent has now been added in the form of an eight-storey office building by S. Rozov, 29. It houses the offices of the *Solel Boneh* building company, a part of the Israel Workers Organization, and one of the largest contractors in the country.

Not far away there is another high building—the new wing of the Zion Hotel, 28. It is by the same architect as the Dan Hotel in Tel-Aviv, H. Fenchel, and there is a similarity of approach in treatment of the façade and detailing of the entrance.









30, 31

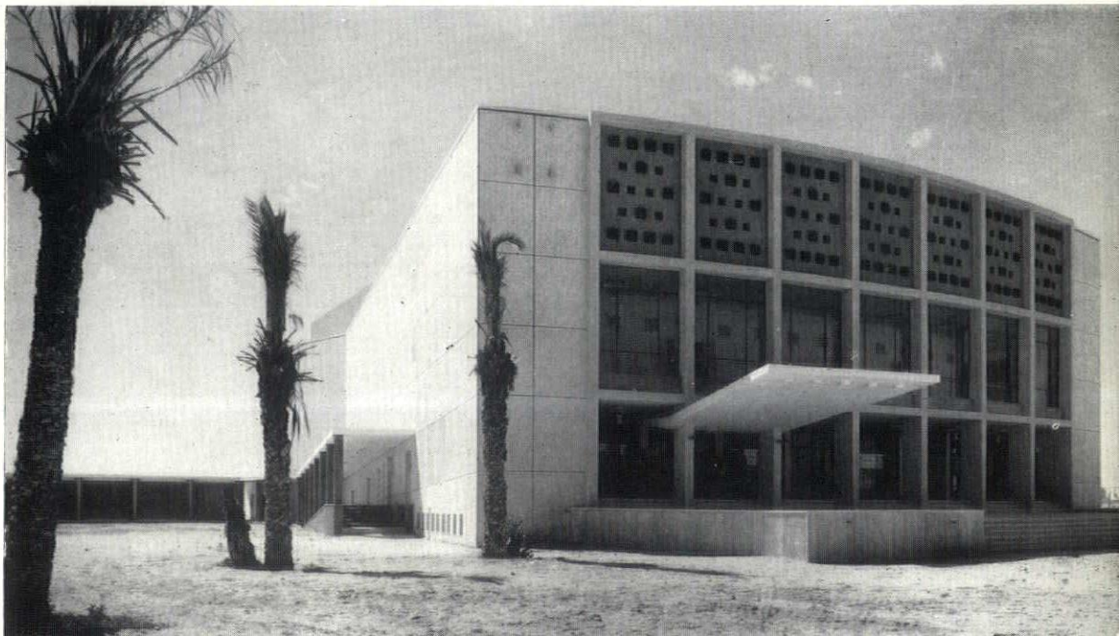
The ranges of Carmel provide an ideal site for residential buildings. Illustrated here is work by the partnership of M. Weinraub and A. Mansfeld. The 'Tsnobar,' 30, and the 'Stella-Maris' schemes, 31. They both comprise two-storey blocks of flats of two and three rooms and a habitable entrance hall.

beersheba

Another town quickly developing into a major urban centre is Beersheba, the capital of the Negev. Until 1949 Beersheba was a kind of a centre for the nomadic Bedouin tribes and a secondary administrative centre of this district. But its importance grew considerably as the plans for the development of the Negev began to materialize and new settlements came into being in the Negev reaches.

It was projected by the National Planning Department as a city of about 60,000 inhabitants, concentrated in six neighbourhood units. The old town planned by the British is one of them, while two units were already erected in the vicinity, with an intended centre bringing them into a whole.

To counteract the inevitable feelings of monotony and remoteness consequent upon living in a new community on the border of the desert, a theatre and cinema hall, 32, was constructed at an early stage to the designs of Shulamith and Michael Nadler; it will finally form part of a civic centre and faces a public square, the platform in front of the theatre serving as a stage for outdoor performances. The auditorium seats 1,100. As air conditioning has not yet been installed, the lower part of the



32

panelling allows a flow of air from outdoors, ensuring cross ventilation.

33 is a block of flats in one of the new neighbourhoods, and 34 is a shopping centre. There is an obvious need for a vigorous landscaping policy.

Beersheba was the scene of experiments with adobe houses, which may prove suitable for the hot climate, owing to the great wall thickness. Two types, 35 and 36, have been evolved with the advice of UN experts.





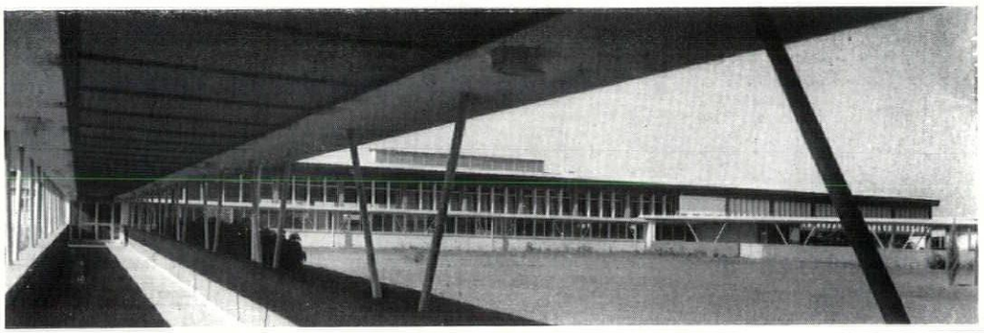
33, 34





35, 36

The Kaplan Hospital at Rehovot, by Rechter, Zarhi, Rechter and Sari, 37, provides 250 beds, and is built on the pavilion principle, partly because of the need for speedy erection, but also because there is wide support for this form of building in medical circles. It is intended, at a future date, to glaze-in the covered ways between buildings.



37

co-operatives

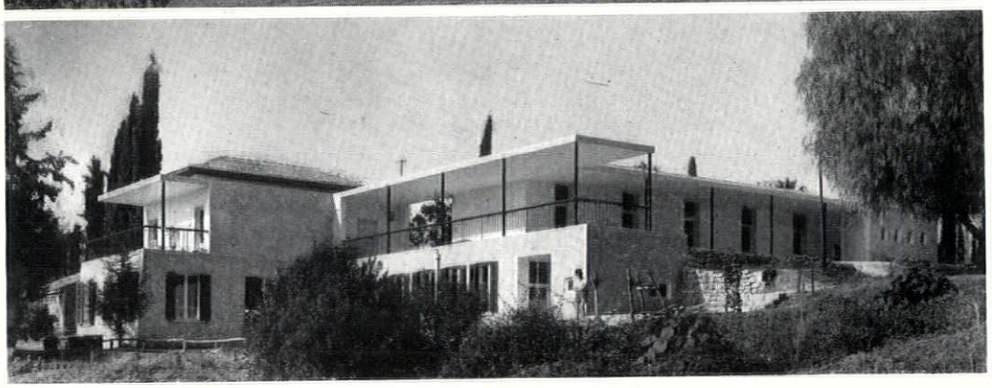
The prevalent types of land settlement in Israel are the *Moshav* and the *Kibutz*. The general idea of a *Moshav* is that though the individual and private life of the member remains unchanged, all the activities concerned with earning a living off the land are controlled by the community; the degrees of co-operation are numerous.

The *Kibutz* has gone much further in controlling all aspects of life for the communal good. Here almost all household activities, such as cooking, laundry, child-raising, etc., are concentrated in communal institutions. The members dine in a communal dining hall, receive clothing from the communal store and laundry, and share according to ability in the common duties. The children are raised from infancy under the care of nurses and teachers and spend only a few hours daily visiting their parents.

These new ways of living demanded new types of buildings. 38 is a typical dwelling group in a *Kibutz*; each couple has its own w.c., shower and cooking recess, and a room divided into living and sleeping areas.



38



39

The children's buildings present a whole range of types, according to age. The first four school years, for instance, are spent in a group home, divided into children's rooms, classrooms and dining room and utilities. Another example of a classroom unit type is that in Merhavia, 39, where the opportunity was taken, because of the sloping site, to design the classroom and the living wing on different levels.*

Only from the fifth school year onward are conventional schools to be found, and they are usually of the pavilion type. The school children, in fact, form a small, separate community, with its own activities and interests.

* The building was designed by the technical department of 'Kibutzei Hashomer Hatzair', arch. Mestechkin.

BOOKS

CITY-MAKING

THE CITY OF MAN. *By Christopher Tunnard. Architectural Press.* 50*s.*

Few will disagree with Mr. Christopher Tunnard's main theme, that the city, in order to fulfil its function as the focal point of civilization, must be both beautiful and unmistakably a city. He decries equally the merely utilitarian city and the garden city which denies its essentially urban character. Above all he deplores the 'paper' plan which substitutes two-dimensional zoning for three-dimensional design, and the tyranny of traffic requirements over the plan; 'Relieving traffic congestions . . . should not be called planning.'

One may agree that the social and scientific planners have been allowed undue weight at the expense of the artists, and I certainly share his revulsion against the amorphous and meaningless tide of green which invades modern plans: 'grass and trees only where they are essential to the plan.'

But this need not mean ignoring the lessons of Mumford's organic city. Turning away equally from the 'organic' and 'broad-acre' cities, and from the school of Corbusier, Mr. Tunnard looks back to the classic tradition. While it is true that the Renaissance combination of artist, architect and sculptor produced civic groups which we cannot equal today, it is surely unjust to accuse the moderns of forgetting history and seeking novelty for novelty's sake. They are forced to find new forms to meet new problems, not the least of which is that of satisfying a regard for the welfare of the individual; a problem which was unthought of in the days of the grand manner. By all means let us bring back all the arts to help us to create our cities, but the answer they will find is unlikely to bear any resemblance to that of the Renaissance.

A provocative book, which leaves one hoping that Mr. Tunnard will continue to look forward as well as back. **Sylvia Crowe**

THEORY AND OBSERVATION

FORMES, COMPOSITION ET LOIS D'HARMONIE: VOL. 1—GENERALITÉS. *By André Lurçat. Paris, Editions Vincent Fréal et Cie.*

Though his name has not been much in the news of late, the historical position of André Lurçat as one of the shapers of modern architecture is assured, and publication of his treatise has therefore been awaited with interest. The first volume of this massive five-decker has now appeared, and gives one a foretaste of the quality of the work as a whole, though it is of course far too early as yet to judge it.

The plan of *Formes, Composition et Lois d'Harmonie* breaks down into five main parts, each corresponding to one *tome*, and dealing, in order, with General Considerations; Forms and Elements of Form; Plastic Means; Fundamentals and Structure of Composition; The Laws of Harmony. It will be seen that none of these main headings affords the writer any of the usual means of escaping from aesthetic responsibilities—there are no chapters headed Function or Structure, for instance—and the plan of the book appears cognate to that of the great French academic *systèmes*. But this is not a book of academic-revival aesthetics; just at the point where the jaws of some Guadetesque proposition seem about to close, the inexorable process of academic logic is halted by direct and practical observation.

Thus, though his sense of the word 'monumental' seems badly eroded, though his views on Gothic structure seem more Viollet-le-Duc than Pol Abraham, though he insists on the divisibility of form and content and on the irrelevance of style as a means of expression, yet, in spite of all this academic apparatus, M. Lurçat's analyses of individual structures in the last chapter of this first volume all proceed in a most reassuring way from purely visual considerations. He does not start with the abstract logic of the plan, but arrives at it from the summation of a series of man-high, binocular scrutinies of the aspects of the building. In the case of Palladio's Rotonda, he gives primacy to the views from the porticoes, while in the case of the Piazzetta of St. Mark's he subjects the interior elevations to what can only be termed a Townscape survey.

His study of this famous 'exterior drawing-room' concludes with a summary of the plastic means employed in it for aesthetic ends: judicious and unexpected use of the site; extension of the composition beyond its own limits by the incorporation of neighbouring, but extraneous, elements; deliberate deformation of the shapes on plan in order to create optical illusions and perspective effects; systematic and varied use of contrast, between light and shade and between differences of colour, material and scale; provocative use of repetitive rhythms of regular elements; animation of surfaces by the introduction of elements differing in their use and composition; siting of the main accents away from the axes of the composition; and finally the exploitation of the associational qualities of forms in order to isolate or reinforce a visual impression. The words may be different, but this is unmistakably the townscaper's visual and unacademic approach. If this observational quality is maintained through five volumes it should breathe real life into what might have been just another treatise on architecture, but which, with the guidance of this sensitive eye, and magnificent illustrations, may emerge as a unique work of theory in the French tradition. **P.R.B.**

PARISH CHURCHES

ENGLISH PARISH CHURCHES. *By Graham Hutton and Edwin Smith. (Thames and Hudson.* 42*s.)*

CHURCHES OF SOMERSET. *By A. K. Wickham. (Phoenix House.* 30*s.)*

Mr. Smith's photographs, which form the main part of his book, have skilfully reproduced the spirit and character of some of our parish churches in a manner that is both sensitive to the atmosphere of the subject and faithful to fact. Unfortunately the text does not reach the same high standard. It seems that the author was not certain for whom the book was intended; as it is, the text will neither satisfy the scholar nor the reader who has an interest in our early churches but has not a specialist's knowledge. The latter will be confused by the unsystematic approach that fails to give a sufficiently lucid account of the development of lesser church architecture. He will wonder what is meant when, in a paragraph on post-Reformation churches, he is referred to plates 190 to 206 with the words: 'The chancel is opened up to the congregation in the nave. Screens have gone . . .,' although plate 190 shows the Jacobean screen at Croscombe and plate 202 the late seventeenth century screen at Ingestre. The more serious student will be as perturbed by the inaccuracies as by some of the meaningless phrases, such as '. . . the cool, clean articulation of Whitechurch Canonicorum (72, 196)'; plate 72 shows some nave-arches of three different dates and plate 196 illustrates the seventeenth century tomb of Sir John Jefferey. On what grounds is it stated that Cardinal Morton gave the roof of Bere Regis church? There is no documentary evidence to support this rumour. We are told that the north aisle of St. Sepulchre's church in Cambridge was added in c. 1350. In fact it was a fifteenth century aisle perhaps on the site of a thirteenth century one, and which was entirely rebuilt and lengthened in 1841.

In dealing with the towers of Somerset churches which rank among the greater glories of this country, Mr. Wickham broadly accepted the classification evolved by Dr. Allen, although he made out a good case for a few readjustments. At times the chronological account is somewhat disturbed by descriptions of churches that mention features

of different dates and belonging to different contexts. Certainly some plans of a few typical and outstanding churches should have been included, and it is hoped that this will be done if a second edition is produced. In discussing post-Reformation church fittings the author appears to have overlooked the Maryian revival; this would explain the order of 1561 demanding the destruction of roods and rood lofts, notwithstanding the similar order of 1541 (probably a more accurate date than he quoted). Mention might have been made of the exceptionally large number of stone pulpits in Somerset and of the five stone screens. However these are minor criticisms of an otherwise very competent survey.

Denys Spittle

THE AGE OF CABINET-MAKERS

ENGLISH FURNITURE: THE GEORGIAN PERIOD. *By Margaret Jourdain and F. Rose. Batsford.* 63*s*.
LONDON FURNITURE MAKERS: 1660-1840. *By Ambrose Heal. Batsford.* 6 *gns*.

The death of Miss Margaret Jourdain has deprived the study of the applied arts in England of one of its outstanding scholars, and our regret is the greater that it should have occurred before the completion of her book on Georgian furniture, of which great hopes were entertained after her studies of Regency furniture and the work of William Kent. The material she had accumulated has now been put into publishable shape by Mr. Rose, of Sotheby's, but the result will, one fears, disappoint most of the hopes entertained of it. There is much that is good and original in the book as it stands, and the photographs—of details of carving and so forth—are superb, and suggest a masterly scheme of exposition which is now lost. But there is, inevitably one believes, a lack of direction and point in the accumulated material, collected by one mind, and, to a large extent, expounded by another.

But it seems, in any case, as if our view of Georgian furniture-making is due for a serious overhaul; our increasing knowledge of the names, outputs and, if one may use the term, craftsmanly personalities of a number of individual cabinet-makers is beginning to shake the faith of even country auctioneers in such blanket terms as 'Chippendale' or 'Adam.' This development will be taken an enormous stage further by the publication of what is, in effect, an extended catalogue of Sir Ambrose Heal's unique collection of cabinet-makers' trade-cards. Many of these are illustrated in the book, and are immediately suggestive of the probable taste and inclinations of the makers they advertise, while, where actual work by any maker can be identified and illustrated, very clear individual tastes and specialities appear. As an instance, one may cite Coxed and Woster, at the sign of the White Swan in St. Paul's Churchyard, who supplied furniture for Henry Hoare at Stourhead, and whose speciality is so distinctive that we shall surely find the term *a Coxed Bureau* as commonly current here as is *a Savory low-boy*, on the other side of the Atlantic.

Q.S.C.

OVER THE RIVER

THE BRIDGES OF BRITAIN. *By Eric de Maré. Batsford.* 42*s*.

Eric de Maré has given us the first authoritative study of Britain's bridges, and has illustrated it with many of his own excellent photographs. The book is divided into three sections, the Age of Faith, the Age of Reason and the Age of Greatness being typified respectively by the master mason, the architect and the engineer.

A mastery of the technical problems of bridge and aqueduct building attained by the Romans remained unmatched until the development of our industrial world brought new materials into use. In Britain, however, such skill in stonework was never acquired, and the craft which had barely survived the Dark Ages in Europe developed slowly under the auspices of various monastic orders. The mason-built bridge, whether under religious or secular jurisdiction, continued as the product of a strong tradition until well into the eighteenth century. Few of the architects became great bridge-builders, but many among them produced one or more excellent designs, including Adam, Vanbrugh, Carr, Mylne and Soane. The attribution of two Welsh bridges, at Bangor-is-y-coed and Llanwrst, to Inigo Jones is mentioned by Mr. de Maré, and further light on this would be of great interest. In the same district, the unlikely story of William Edwards catches the imagination. Starting as a farmworker, after two ill-fated attempts he succeeded in bridging the Taff with the single 140-foot span of Pont-y-Pridd which stands today after two hundred years, a startling achievement and testimony to remarkable originality of mind.

Bridges with chapels, packhorse bridges, war bridges and bridges such as Blenheim, constructed as follies in a landscape design, are followed by a succession of bridges of iron and railway viaducts. Omitted from mention is the unusual specimen on Regent's Park canal, supported by two rows of handsome cast-iron Doric columns and bearing the mark of the Coalbrookdale ironworks.

Elaine Denby

Shorter Notices

GOTHS AND VANDALS. *By Martin S. Briggs. Constable.* 30*s*.

Mr. Briggs' sober text logs the documentary records of scorn or praise for the old buildings of England with the tireless patience of a small boy logging engine numbers at Crewe, but he fails to animate his documents with observation. The importance of Inigo Jones' interest in Stonehenge in 1620 is unarguable, but the contemporary mediævalisms of Bolsover and Wollaton are surely even more important as records of attitudes to the past. Hawksmoor's Oxford gothicisms, so vital in preserving the tradition of Classic-Gothic ambidexterity, are written off as 'horrible,' while the key contributions made by the 'landscape of literary associations' and the continuing picturesque tradition are smothered in a summary record of eighteenth-century cathedral restoration —in spite of which Francis Price is not even mentioned.

In some ways the closing chapters are more enlightening; the author seems more at home with Gilbert Scott and the polemics of anti-scrape, and many readers will therefore prefer to begin at page 170 and read the last third of the book only. But here too they will find disappointments, for though the mass of twentieth-century legislation on ancient buildings is well summarized, and the work of military conservation authorities after D-day is recorded, nothing is said about the advent upon the English scene of the new, German-trained type of art-historian who is bringing about, by stealth, another great revolution in our attitude to the buildings of our forefathers.

Q.S.C.

LONDON CITY CHURCHES 1951. *By Gerald Cobb. Corporation of London*, 1951. 1*s*.

Mr. Gerald Cobb, of the College of Arms, whose Batsford book on the old churches of London is familiar, has compiled a brief guide to the City churches for the Corporation of London. It is an extremely useful little book. It consists of a short preface and suggestions for further reading, and in addition about two dozen pages of notes on the individual churches. They are remarkably accurate and comprehensive, including information on such things as the first mention in history of each church, the meaning of the names of some churches, and also on war damage. Churches of which no more than towers remained already before the war are not left out either. In addition there are 52 drawings of the City steeples. Short of carrying round with him the bulky volume of the Royal Commission on Historical Monuments the visitor to the City cannot do better than to equip himself with Mr. Cobb's pamphlet. It costs him less than six Players.

N.P.

CRITICISM

NEW BUILDINGS IN CAMBRIDGE

Our own generation's contributions to the architecture of Cambridge have often been criticized, but it is all to the good that their shortcomings should be insisted upon repeatedly until such time as the powers that be in the university see the light—or, as we can now say a little more cheerfully, until the promise of a more enlightened attitude shown in the 1953 project for the new Arts Faculty, is fulfilled in the shape of buildings as good as Sir Hugh Casson's precinctual lay-out.

One of the virtues of Dr. Pevsner's *Buildings of England* series of architectural guide-books is that they are far more than antiquarian studies. He never forgets that architecture is a live and changing art, and he is a perceptive critic as well as a historian. It is therefore no surprise that his latest volume, on Cambridgeshire,* contains, besides perhaps

* Penguin Books, 1954. Price, 5s., bound, 8s. 6d.

the most concise and readable account of the architectural monuments to be found there, a number of outspoken comments on newer buildings. Here is an extract from his introduction:

'. . . a terrible pity that most of those (college buildings) already built to the W of the Backs are so uninspired and so unconscious of being in a position as important as King's Parade. The new buildings to come should of course be in the style of our century: that hardly needs saying. The sites are unobstructed; compromises for reasons of proximity to the old cannot be pleaded.'

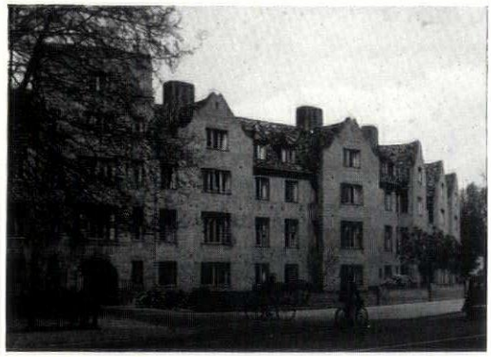
And in a footnote welcoming the Arts Faculty project referred to above, he says:

'If this scheme is carried out, and if Sir Hugh Casson and other architects of his imagination and frame of mind are allowed to design the buildings, Cambridge will at last possess what it so badly needs—C. 20 architecture as æsthetically valuable and as attractive and lovable as any of its past.'

The Arts centre is a university project, as are most of the other recent building schemes that make any attempt to create something true to our day. But much of the building in Cambridge is done by colleges, and in his separate accounts of college architecture Dr. Pevsner takes his criticisms further, as the following quotations show.

Of the new (Fisher) building, 1, at Queen's College by Drinkwater (1935-6): 'exactly like a friendly block of flats at, say, Pinner . . . The College wasted a great opportunity here for a good contemporary building. It would in no way have interfered with existing collegiate structures of the past. So why should a timidly imitative style have been preferred?'

Of Trinity College's Bevan Hostel (Ian Forbes, 1949) in Green Street, 2: '. . . appears in its style as a private house trying to look something special by the use of much decorative brickwork. The mansard roof is an oddity in the street and the college. There was no reason, one feels, why in this particular position the architect should not have chosen what is the natural expression of building in *c.* 1950, i.e., the style of the C. 20.'



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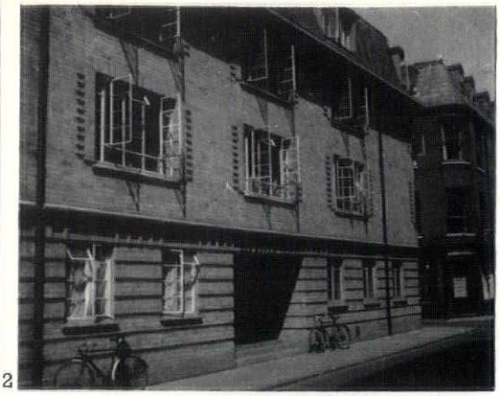
Of the Memorial Building at Christ's



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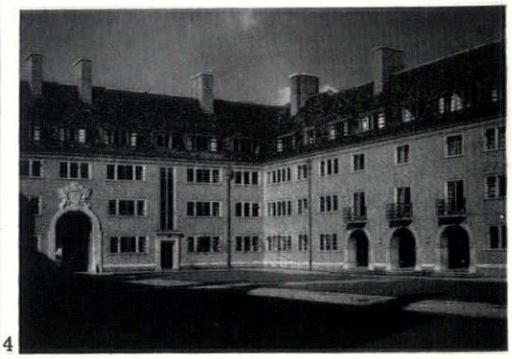
(Prof. A. E. Richardson, 1952), 3: 'The architecture . . . is curious. It clearly belongs to the C. 20 in its severe plainness (and the motif of the long staircase window at the back). It is beautifully stone-faced. But by general proportions and window proportions it manages to express its designer's faith in the Georgian style so unmistakably that the impression one takes away is of Georgian buildings stripped of all the delicate detail which the C. 18 never



3

failed to apply. . . . The size of the court is convincingly collegiate, and so the whole group may one day be accepted with as much ease as older buildings. Walter Gropius's plans turned down by the College before the Second World War would have remained more alien—yet what an asset their frankness and vigour would have been!'

Of Sir Edward Maufe's work at St. John's College (Chapel Court, 4, North Court and the service court beyond, 5,—1938–9): 'For Chapel Court itself Sir E. Maufe devised a successful unifying motif. He erected in his own style a screen in front of the antechapel. This has low round-headed arches on short square piers. It is in a kind of renewed Renaissance, and the solidity of this is taken up in the arches further N by which Chapel Court is connected with the NE service court. The much taller main archway through the N range is also round-headed, and the sculpture above it (as well as what other sculpture there is) goes well with the robust character of Sir E. Maufe's personal contribution. There are, however, two regrettable shortcomings in his work, one that he did not keep to this style of his throughout, the other that this style was not that of our own day. As for the first, there is a painful clash between Sir E. Maufe's round arches and both the vertical strips of the staircase windows and the horizontal strips of the other windows. Both these are standard elements of mid C. 20 architecture, used here, one feels, without conviction. The thinness of their metal bars and the uncompromising straightness of their outlines call for a



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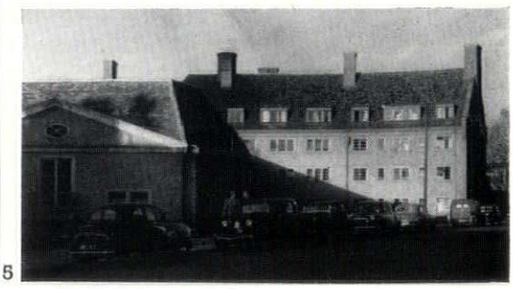
setting different from Sir E. Maufe's. Where the clash becomes most violent is in the service court. Here the new one-storeyed range with its Continental C. 18 roof has qualities in complete contrast with the fenestration of the main buildings. It might be argued that the choice of a frankly C. 20 style would have been a lack of courtesy to the existing buildings. But that is not so. The chapel was screened off and thereby visually pushed back anyway, and the outer wall of Second Court and Penrose's range should not have influenced decisions overmuch. On the contrary, the new buildings face Bridge Street, and here, opposite low houses of all sorts and styles the architect would have been just as free as the architect of Caius in the market place. This opportunity for a fine contemporary building was missed, and what is perhaps



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worse, the opportunity for a properly urban piece of college architecture was missed too. The site borders on the NE on one of the busiest corners of Cambridge. This crossing of two main streets has been entirely disregarded by the architect. Bridge Street altogether has not been

accepted by him as a street. His composition has no N front, strictly speaking, only parts of various heights, approaching the street at various angles.' J.McQ.

EXHIBITIONS

PAINTING AND SCULPTURE

The large, ill-balanced, badly hung assortment of European paintings of the eighteenth century at the Royal Academy includes some masterpieces and a great many pictures in which the legend that the eighteenth century was an age of graceful sensuality is confirmed by the subject-matter and denied by the tastefully pedestrian treatment. The inadequate representation of Watteau and Goya leaves only Fragonard, Gainsborough, Guardi and—in one or two of his more summary works—Hogarth to provide a display of graceful sensuality in the handling of the medium itself. Boucher's drawing of Diana asleep is beautiful, but his neat, pink paintings of sprawling nudes are as frozen as David's 'Death of Socrates.'

Oudry's famous painting of a dead white duck has a special piece of fabric pinned up behind it, presumably as a mark of esteem, but although its cold virtuosity may well represent for many academicians an unattainable ideal, it was a mistake to hang some Chardin still lifes in the same line. There are eight, small, marvellous Chardins scattered through two galleries, and they constitute a kind of underground movement, in secret communication with other centuries, establishing links with Piero, Vermeer, Cézanne and Morandi, sabotaging an otherwise frighteningly efficient time-trap.

I have chosen for reproduction one of the thirty-eight Canalettos—*Palazzo Quirinale, Rome, from the South*—because its sharp, cool precision, 1, may be less affronted by Léger's *ABC*, 2, than most of the other eighteenth century work.

The Léger picture was included in his recent exhibition at Marlborough Fine Arts, which made a better and more stirring display than the recent London exhibitions of his greater contemporaries, Picasso and Braque. I thought I had outgrown the delights of Léger's mechanistic constructions, but the selection devoted to this period in the Marlborough retrospective turned me into an unwillingly elated witness of an art dedicated to the greater glory of the spare part. His cubist period contained a promise that was not fulfilled, and a landscape dated 1912 is a more subtle and refined picture than anything he has done since. All the same, it is the uncompromisingly metallic compositions of the twenties, such as *ABC*,



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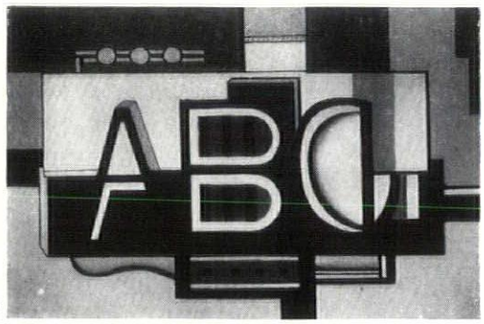

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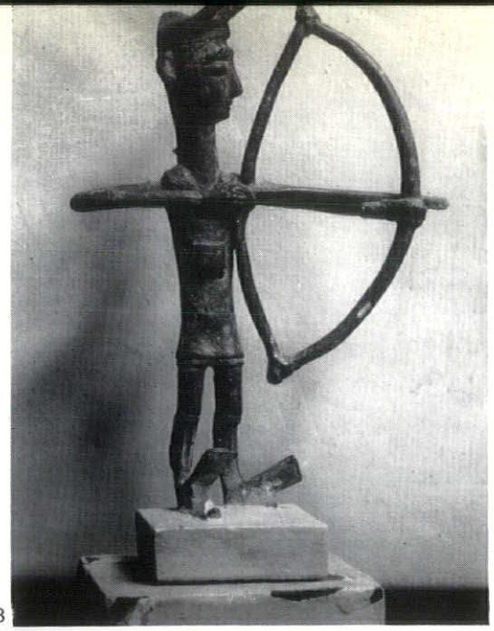
that I find most exhilarating. Unfortunately the exhibition did not include one of the large figure paintings of the period, in which he so successfully transformed the female figure into a sheet-metal container, and the later compositions with figures are a poor substitute, for he has relented in recent years and has tried to indicate his love for humanity by giving his robots a rubbery look. But even in the 1951 compositions concerned with building operations the tilted girders make superbly expressive patterns and brilliantly suggest the dizziness and airiness of great heights. The rubber workmen are freakish intruders, and in the best of these girder pictures they have been called off the job, but the composition is still marred by rubber clouds sailing clownishly across a Reckitt's blue sky. There is no place for such naïve and insensitive references to natural forms in Léger's mechanistic heaven: they are cracks in the gong of his hard, bright, simple imagination.

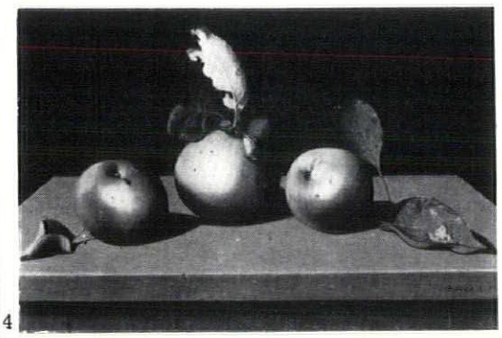
The Arts Council's exhibition of small bronzes made by the ancient inhabitants of Sardinia several centuries before the island became a province of the Roman Empire introduced us to a community of priests, archers, wrestlers, sailors and women nursing very small men. The naïve formalizations in which these primitive sculptors have preserved their seemingly humorous observation of the way people go about their work give these bronzes an extraordinary warmth of feeling. The turned-up toes of the warrior in the illustration, 3, suggest the bodily tension that the archaic formula for the



3

arms cannot encompass, and compensations of this kind run through the whole exhibition. The Arts Council took the opportunity of underlining the element of primitivism in modern sculpture by adding to the exhibition some small bronzes by Moore, Butler and Armitage. There were some close parallels, but the modern work completely lacked that air of happy communal living that makes the Sardinian bronzes so deeply moving.

I used to know how to despise apples



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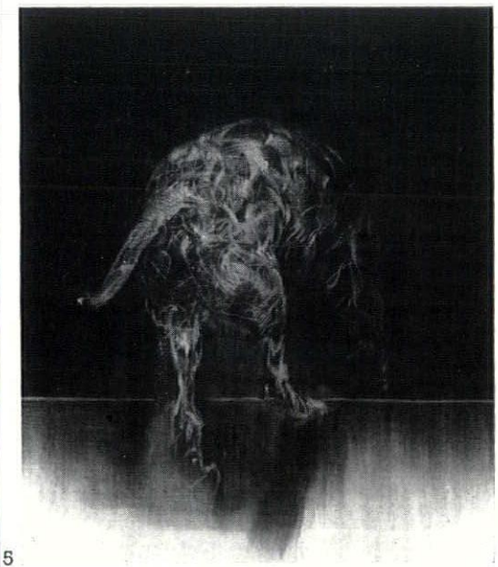
painted in the way that Tristram Hillier paints them, but I've forgotten the trick of it. It is true that there were one or two



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still lifes in his last exhibition at Arthur Tooth & Sons that left one with a dry sum of illusionistic recipes, but the small paintings of apples contain not only the illusion of objects but an encompassing human gaze, and if the painting reproduced here, 4, is an exercise, it is an exercise in the profundities of human appraisal.

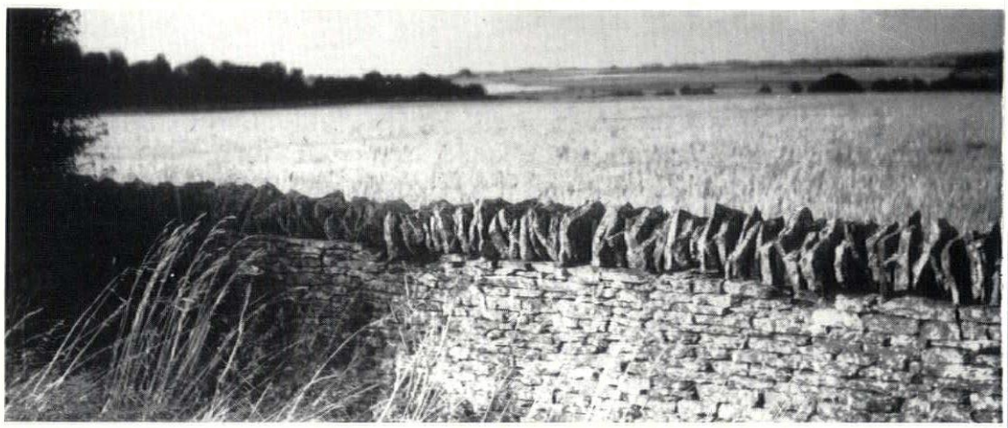
Denis Wirth-Miller's fourteen paintings of a dog in movement, 5, made a remarkable ensemble at the Beaux Arts Gallery. He has been influenced by Francis Bacon, and his work has a refined dexterity that turns Bacon's 'leap in the dark' into a neat pictorial system, but the intensity



6

of his observation serves an almost metaphysical obsession with continuous movement, and projects his work beyond the category of animal painting.

From time to time, the Architectural Association mounts an exhibition in the Members' Room which deserves a larger audience. The selection of drawings, paintings and prints by Kenneth Rowntree shown there recently is a case in point. His drawings of shop-fronts, in which the written colour notes integrate themselves so happily into the design, his darkly shining, rain-sodden landscapes, and his curiously monumental little paintings of domestic vessels in landscape settings, 6, leave the impression of a quiet visual poetry that has not been adapted to the latest market requirements. **Robert Melville**



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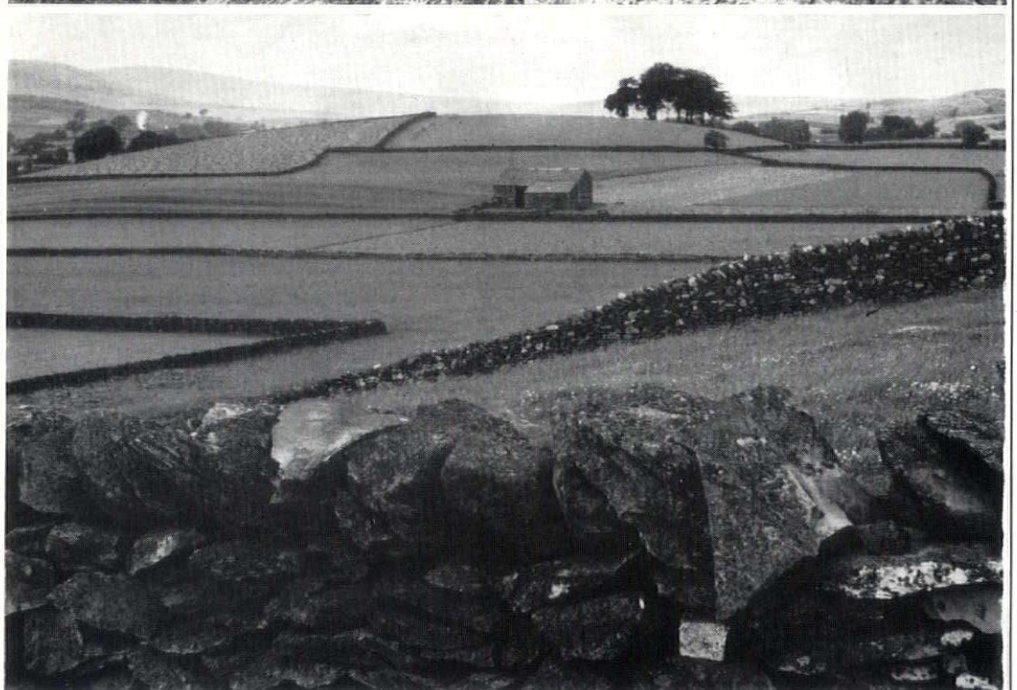

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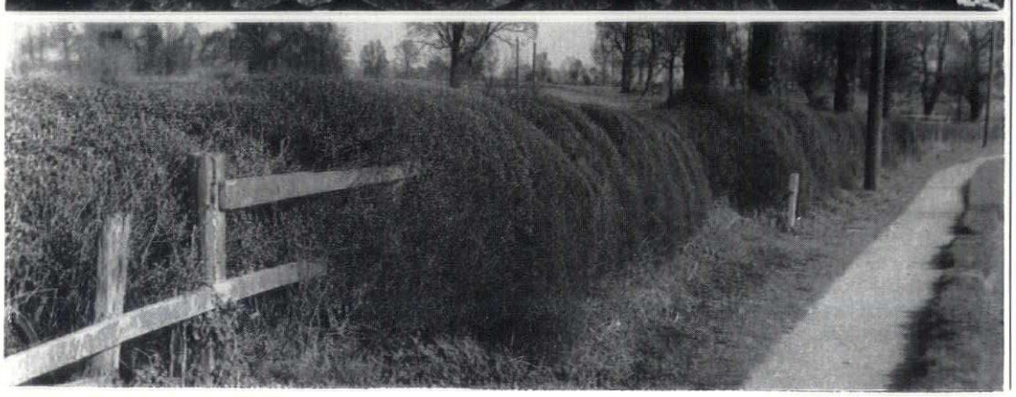


3

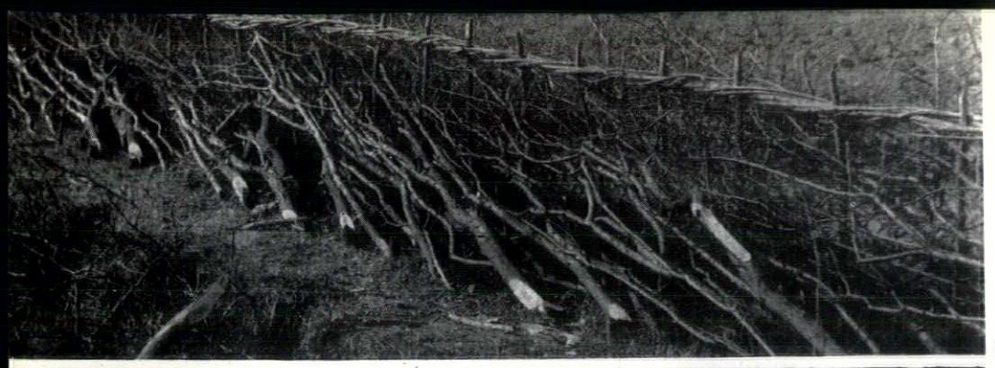
LANDSCAPE

FARM BOUNDARIES

The countryside is in constant danger of an overnight conversion to suburbia and the threat is not restricted to building alone but extends also to one of its most significant features, its fences. The distinctive patterns of the different types of farm boundaries contribute almost as much to the regional characteristics of the English landscape as do the farm buildings and crops. The traditional forms which have evolved are partly rooted in the type of agriculture, and partly governed by the local material, but within these limits each region has developed its own peculiarities. In the stone districts, particularly above the tree line, dry walling is the natural form of boundary, but the thin, neat coursing of the Cotswold stone walls, 1, is quite distinct from the more random walls of Yorkshire, 2, or Wales, or the Northumberland walls with their protruding string course.

Each type of hedge has its distinctive character whether it be the familiar rough fence of mixed planting, the thorn hedge, or the roadside hedge, 3, which, rough trimmed by the hedger and ditcher and browsed by cattle, is the very essence of the English scene. Throughout the Midland and Southern counties, the

The battle against uniformity cannot be restricted to buildings alone but must be extended to the very essence of the countryside, its hedges and fences, which is constantly threatened by the grey hand of suburbia. A fine tradition of boundary making exists. Regional methods of stone walling are exemplified by the neat coursed Cotswold, 1, *and the rougher uncoursed Yorkshire,* 2, *which in addition to their function as barrier delineate the contours, being generally of an even height and unobstructed by trees. The most common forms of hedge are the thickly interlaced hawthorn, or the mixed hedge, of plum, hedge maple, hazel, sycamore and elder. The roadside hedge, rough trimmed, takes on a more ornamental appearance than the hedge between fields but retains a rural roughness of character,* 3.



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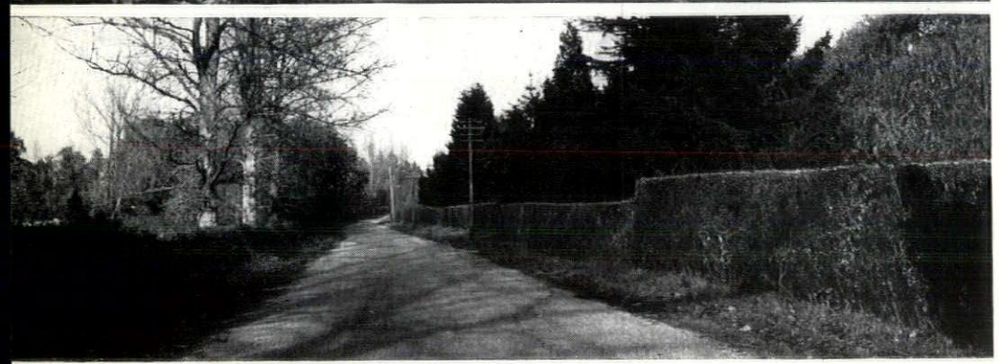

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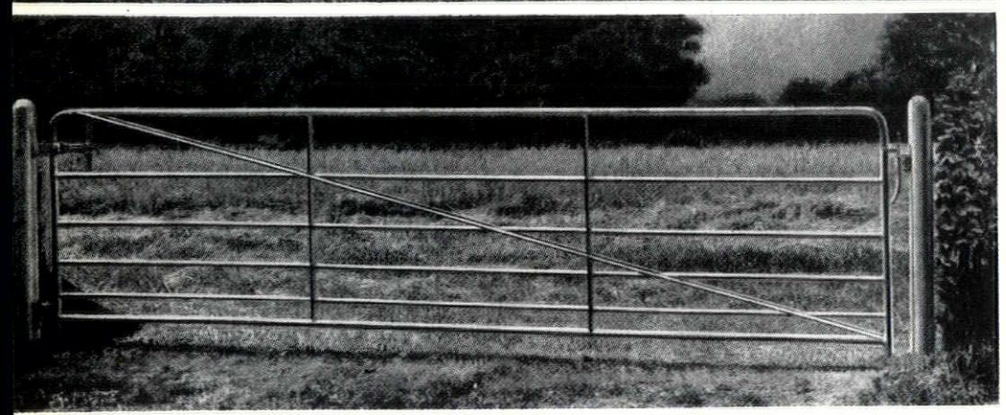

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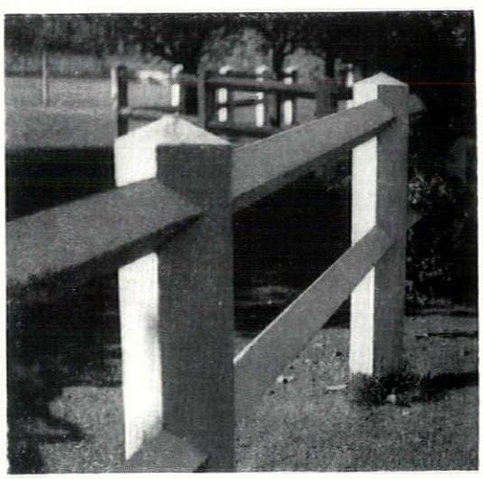
To be cattleproof many hedges are cut and laid at intervals throughout their life. When 7 feet high the young trees are cut to leave standing a number of long upright shoots which are then 'layed' by cutting them half through near the base, bending them over and weaving them between sturdy upright stakes which have been planted at intervals to form a frame. To prevent the shoots from springing out the stakes are held by a braided border of hazel rods. When staked the fence is known in Warwickshire as stake and bound, 4. *In* 5 *a wind-break of poplars forms the farm boundary while* 6 *shows how the introduction of clipped hedges and associated garden conifers, in contrast to the country hedge across the road, turns the whole scene into suburbia. The same incongruity would be achieved by the use of a trim white painted post and rail fence,* 9, *very suitable for a paddock but wrong for a farm where the split oak fence,* 7, *is just right seen in the rough grazed field where it acts as a physical but not a visual barrier. The practice of morticing the crossbars to the uprights is found too costly for general use nowadays but even nailed this is more appropriate than the much used but characterless concrete post and chicken wire fence. That it is possible even with mass production to provide a barrier in harmony with the countryside is proved by the tubular steel gate,* 8.

laid hedge, 4, is the practical boundary which has evolved where a cattle-proof barrier and moderate shelter from wind is needed. Where greater wind shelter is required this may be provided by the tall thorn brakes of East Anglia, and screens of close-planted poplar sheltering orchards in Kent and Worcestershire, 5.

The pattern of the laid hedge is more virile, and the rough-trimmed hedge more informal than the neatly clipped garden hedge, 6, whose appearance can be



9

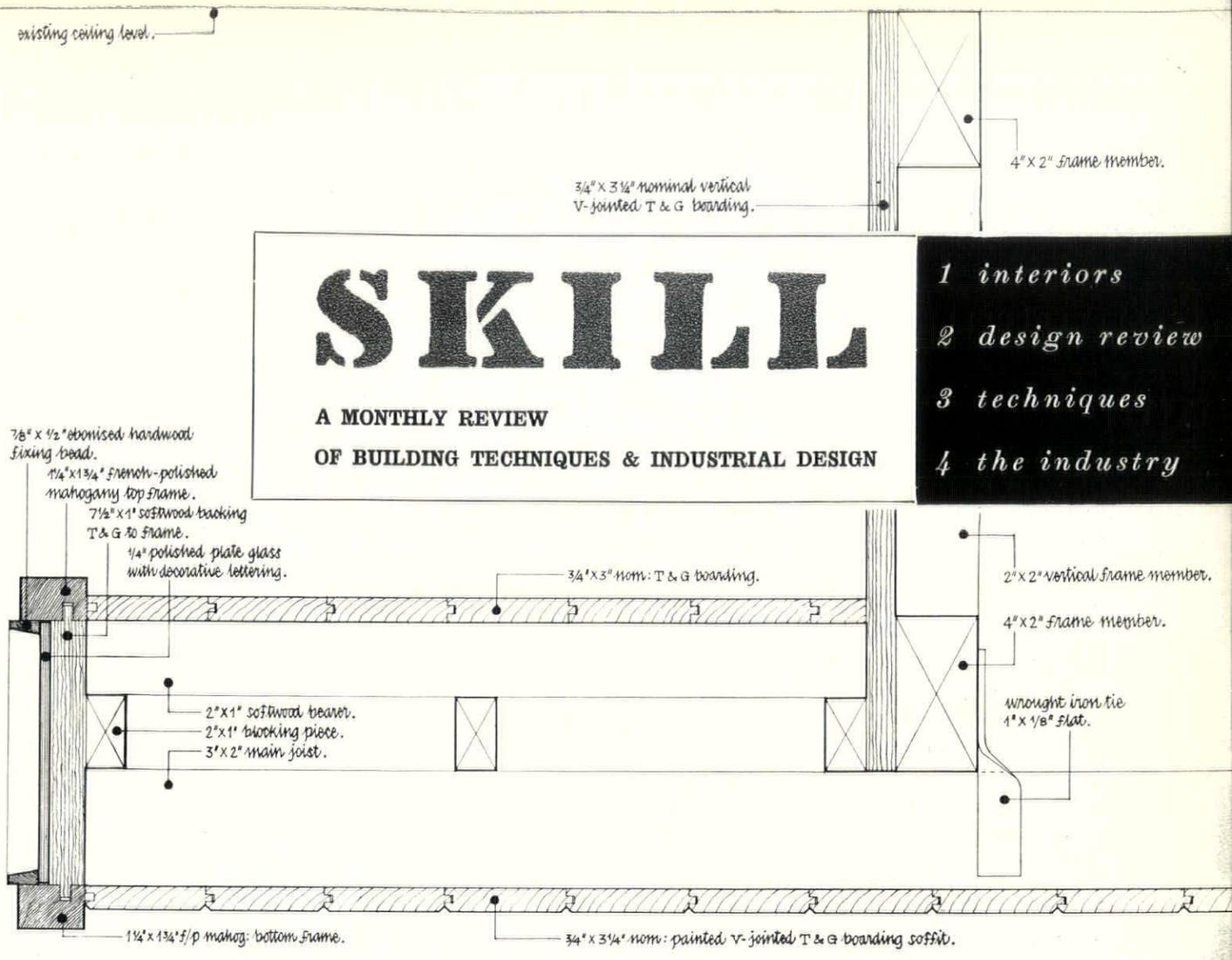
incongruous in the purely agricultural scene, although it may fit into the sophistication of park scenery, where the white-painted post and rail, 9, is also in accord with the well-groomed surroundings, whereas rough barked poles make a more fitting boundary to field or woodland, 7. Changing farm methods and economics make new types of boundary inevitable, but these, even if they are of materials new to the countryside, can follow in the tradition of straightforward harmony with their surroundings, 8, and need not degenerate into the clumsy concrete post and wire which has neither the flexibility of movable hurdles nor the protective value of good hedges.

Sylvia Crowe

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry



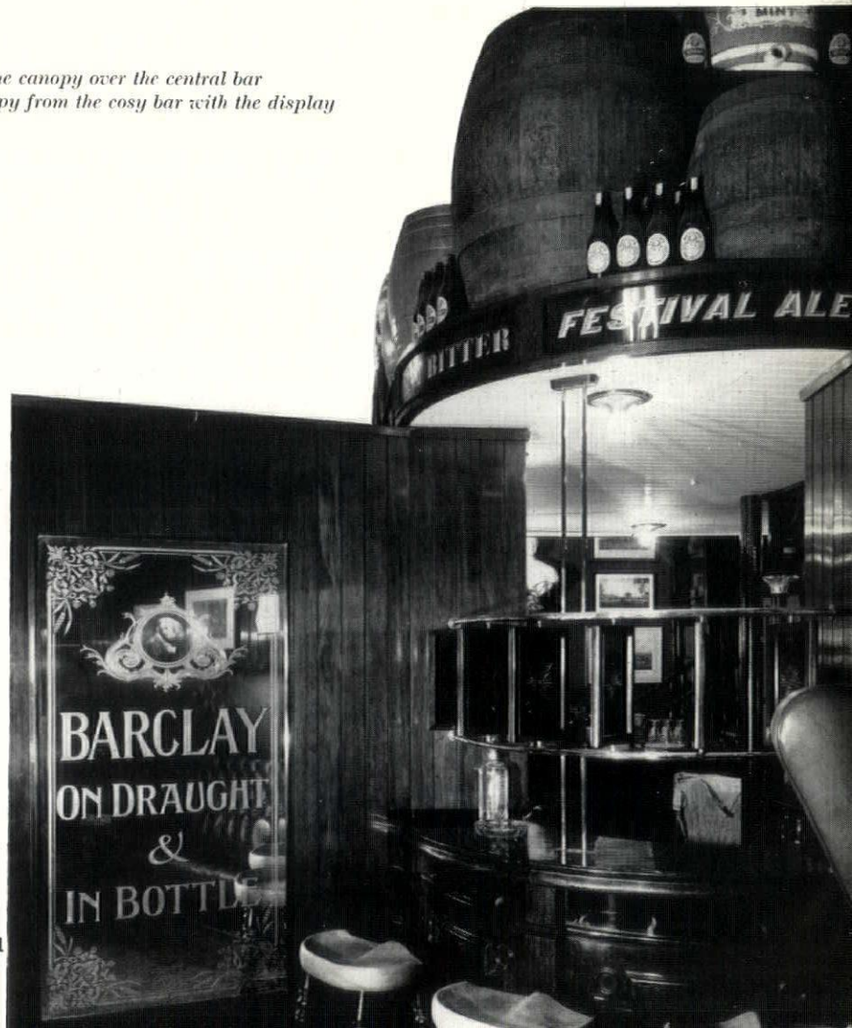
Above, a section through the canopy over the central bar counter, **1**, *below, the canopy from the cosy bar with the display of bottles and barrels.*

1 INTERIORS

'THE CHAMPION' PUBLIC HOUSE IN WELLS ST., W.1

Architects: John and Sylvia Reid

Further evidence that certain basic points, which were established at the time of the ARCHITECTURAL REVIEW *Pub competition, are beginning to be appreciated, is provided by the new interior of* The Champion, *off Oxford Street, the first example of creative refitting of an existing pub.** A dull institutional interior was in need of refurbishing, and a certain amount of brewers' Victoriana was at hand to be used, but the designers have not made a mere period reconstruction—and where new material was required it will be found to be, in spite of the successfully traditional



1

* The owners are Barclay Perkins & Company, Assistant Trade Manager, L. W. Cook.

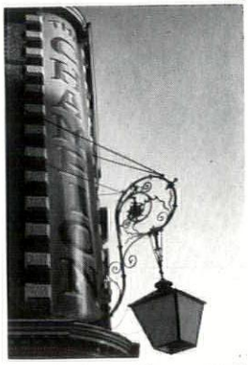
THE CHAMPION

BEFORE

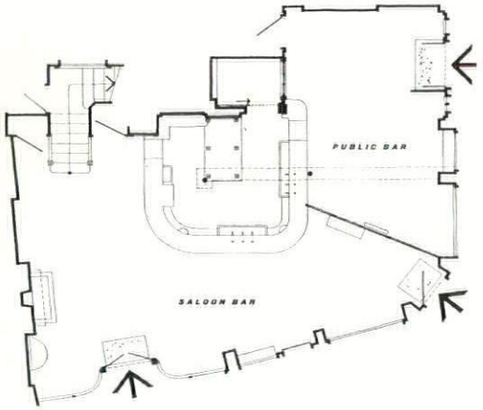
atmosphere, as contemporary in its way as the detailing of a prefab. school.

Complete reorganization of the existing space was necessary to overcome the air of barren bleakness (see 'before' photos 3 and 4), and there are now three bars in place of the original two.

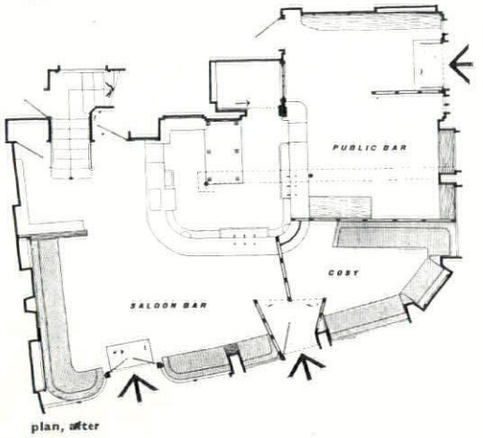
2



The Public Bar has been reduced in size and separated from the rest of the pub by a mahogany and glass partition reaching to the ceiling, instead of the original low, glazed partition. *The Saloon Bar* has been divided into two parts to make a small Cosy Bar on a quadrant of the bar counter, in addition to the main Saloon. A low canopy has been formed over the central bar counter area. The original general colour scheme was almost completely monochromatic—a range of browns—from plain medium brown linoleum on the floor, via bleached



plan, before



plan, after

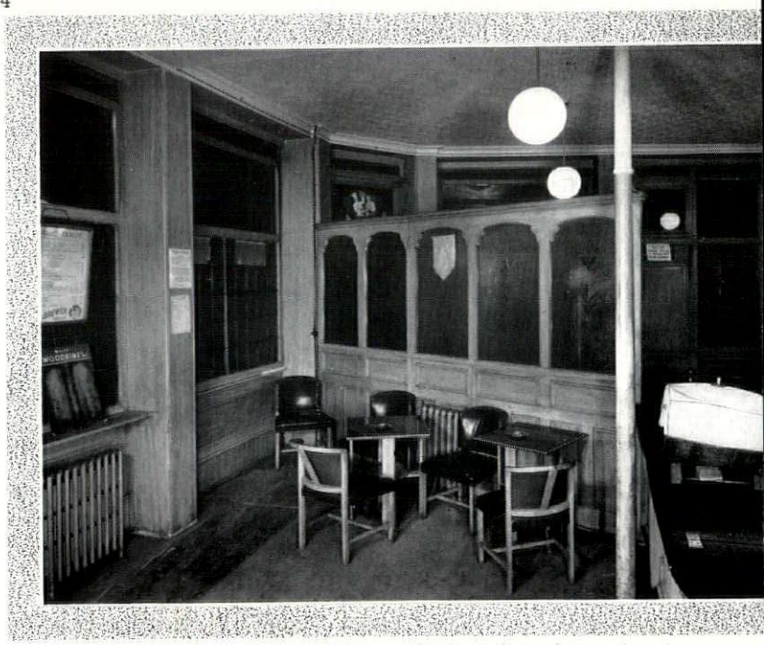
mahogany, pine grain papered walls, to the cream ceiling. The existing mahogany *Bar Counter* has been retained and restored, missing mouldings have been replaced, and stained and polished to the original colour. The space between the lowered canopy 1, which follows the perimeter of the counter, and the ceiling

The Champion, *whose corner sign is seen* in situ *in* 2, *and drawn out in full (as it had to be for the signwriters) in the adjoining column, had acquired an entirely flavourless interior,*



3

4



seen in 3 *and* 4, *above, due to the dilution of its originally Victorian quality by tasteless refitting. On the opposite page are seen the Saloon,* 5, *and the Public Bar,* 6, *with the true pub atmosphere restored by the bold and intelligent juxtaposition of old and new.*

BEFORE

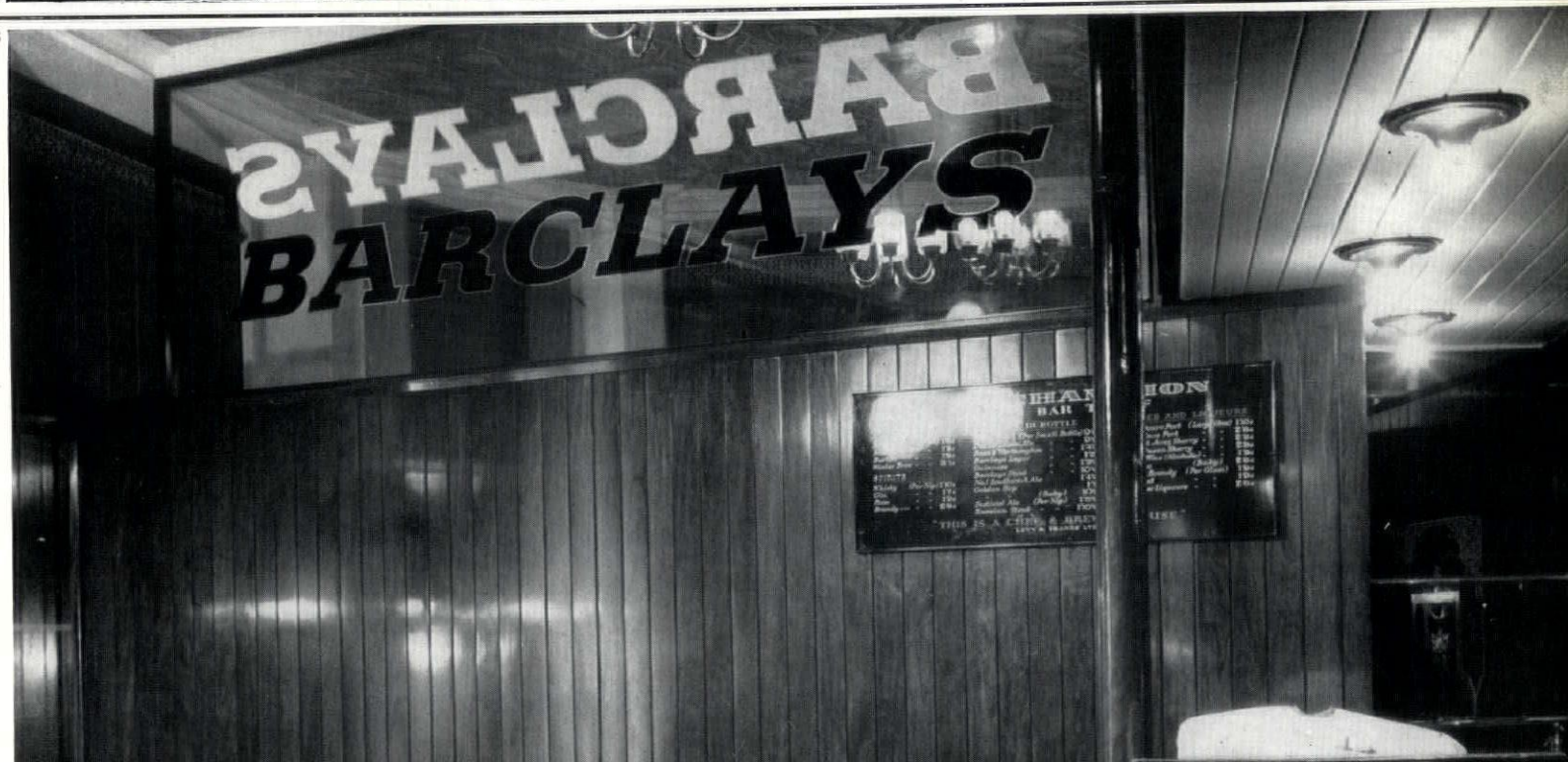
AFTER



5

6

AFTER





7



8

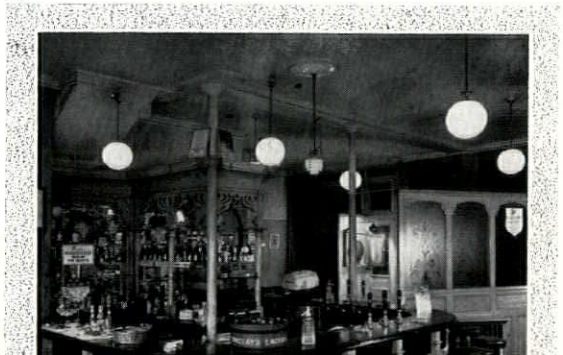
has been filled with a crowded display of spirit jars, casks and bottles. The mahogany canopy fascia has inset glass panels 8, carrying signwritten names of various brews in three-dimensional letter forms. The 'Wagon' has been restored and shelves added so that it can be completely filled with bottles backed by mirrors. The brass footrail was specially designed, and the undistinguished beer-pull handles have been replaced with two genuine old sets, one Wedgwood and the other Rockingham.

saloon bar In order to use the available space to greater advantage seating has been built-in around the perimeter of the bar; it is of deep-buttoned leather chosen for its interesting texture and hardwearing qualities, but in bright red and not the traditional black. The black cast iron tables have been restored and given polished mahogany tops. A new set of bar stools has been made, in this case the design being based on a traditional model. *Wall surfaces* and partitions, of vertical mahogany boarding with square recessed joints (a commonplace contemporary detail) are stained dark and highly polished to give reflections. The painted plate glass on the main wall of the saloon, 7, is a particularly fine one (colours: blue, gold, red and green); unfortunately the paint had started to flake off; it was therefore backed with Dunlopillo sheeting mounted on blockboard. The remaining wall surfaces are painted dark green as a background for sporting prints. *The floor* is surfaced with large black and white marble lino tiles. *The ceiling* needed a rich texture to give it weight and interest, and the 'Hexagon' paper by John Aldridge was

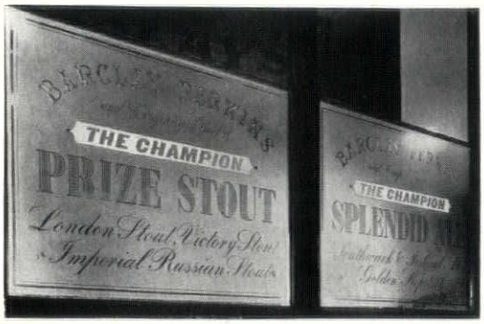


9

10



chosen to give the illusion of deep coffering. *The windows* had leaded lights of reeded glass. These have been replaced with



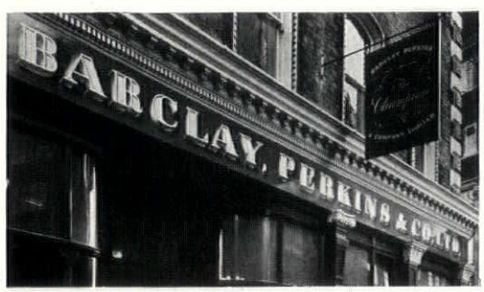
11

plate glass, allowing views in and out, and the lower halves are obscured with brilliant cut and acid etched plates, 11. Each window has a different design and all had to be drawn in detail for the engravers. The upper parts of the windows are fitted with pinoleum blinds.

the cosy bar is similar to the Saloon Bar; here the deep-buttoned seating is of dark-green leather and on the floor is a red and black carpet (from BMK's contemporary range). The view of other bars across the central area is interrupted by a new 'snob screen,' 15, of brass rails and brilliant-cut flashed-blue and flashed-red glass in mahogany frames. A curtain screens the entrance. The glass panel, 6, between this and the Public Bar carries signwritten lettering designed to be read from both sides.

the public bar as might be expected is more austere; it has a plain boarded floor and perforated ply benches, 6, and relies on views of the Saloon Bar for colour contrast.

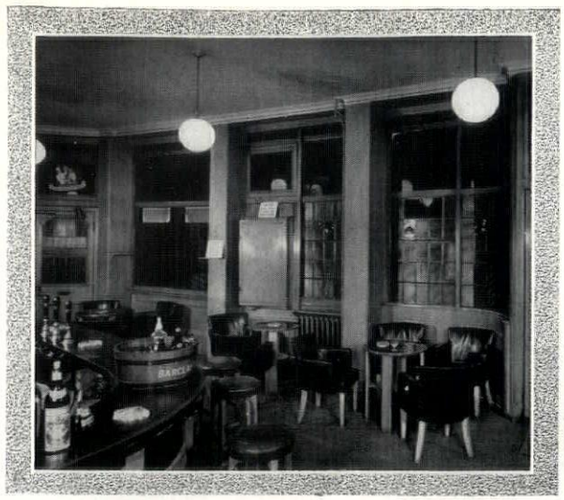
exterior The cornice above the fascia has been repaired and painted white, the fascia itself being painted dark green; bold fat-face Roman letters, in scale with the rest of the building, have been signwritten on to it, 12. (These 13-inch high



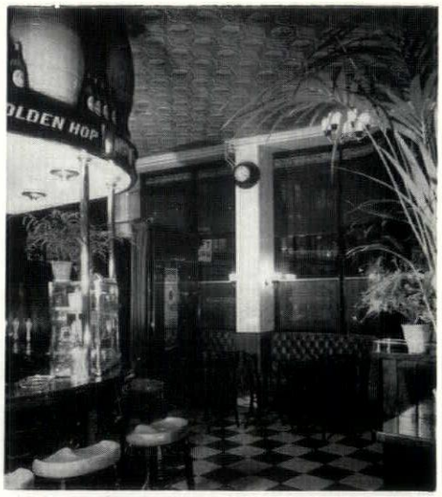
12

letters replace the old 6-inch emasculated standard Roman.) The letter face is white to harmonize with the cornice above, and is shaded in orange, outlined in gold and given two cast shadows in black and grey-green.

The quarter round stucco corner from the fascia to the top cornice of the building



13, *the saloon bar* **BEFORE**



14, *the saloon bar* **AFTER**



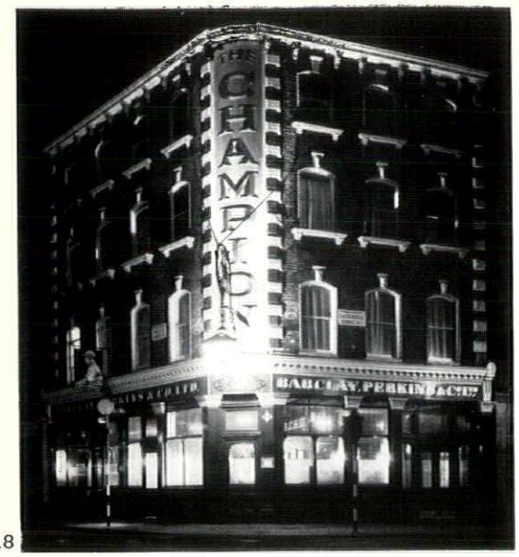
15, *looking through the newly-made snob-screen into the cosy bar.*



16, *first floor dining room* **BEFORE**



17, *first floor dining room* **AFTER**



18

had long been partly covered with a wooden panel carrying a quantity of small lettering. This has been removed and the new sign is painted directly on to the stucco. Only the name of the pub has been used, and it covers the full height of the corner in 30-inch Roman letters, 18, shaded to appear deeply incised in the stucco in black, white and tones of the background colour—warm grey. It is floodlit at night.* Rope mouldings, quoins and keystones are picked out in warm grey, black and white.

* Permission to display this sign was refused by the Local Authority on the ground that it would 'Adversely affect amenities' (sic). An appeal was made to the Minister of Housing and Local Government on the grounds that the sign was in scale and in keeping with architectural character of the building and that the colouring had been controlled to maintain a proper balance. The appeal succeeded.

3 TECHNIQUES

PASSENGER LIFTS

by John Voelcker

Although hoists and lifting devices have been used for many centuries, the lift as a recognisable mechanical type is only a hundred years old. Elisha Graves Otis, who is the father of the lift industry, went into business in 1853 *and installed his first* passenger *lift in a New York department store in* 1857. *The object of this review is not to give a history of this development nor to describe how a lift service should be designed, but to recount the basic elements of lift technology, adding to this a note written by a director of one of the leading British firms of lift engineers on the American and Continental lift-making traditions.*

general

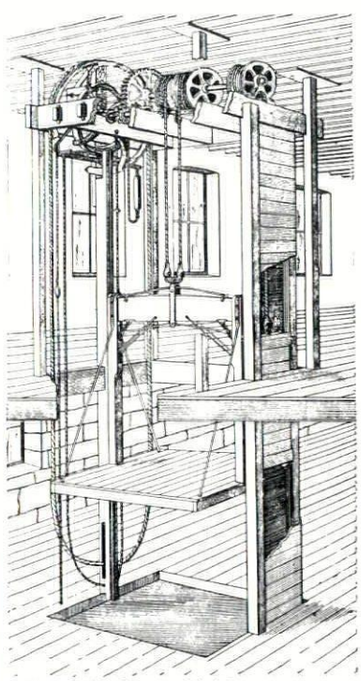
The modern lift installation is a complicated piece of equipment. Complicated because more rigorous standards of performance and safety have added a great number of ancillary components to the main assembly.

The main assemblies of the installation—machine, well and motor room—are straightforward and simply related to one another; in fact, if we except the 'Paternoster' and the hydraulic lift, the outline of lift installations has not varied greatly since the earliest beginnings a century ago. The illustration, 1, shows an early Centre Lift Hand-powered Hoist, which contains, in simple and robust form, all the essentials of the modern lift.

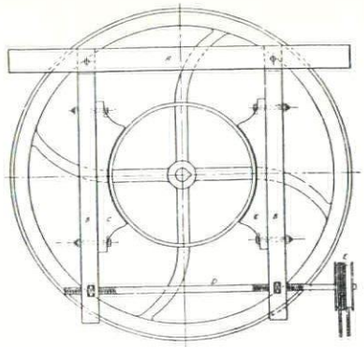
A strong sling structure supports the platform hoist; the suspension ropes are connected to the sling through an 'Equaliser,' a component which ensures that equal tension is maintained in the ropes at all times; and guide shoes which fit over the lift guide rails are fixed to each side of the sling at top and bottom. Frequently a safety device was incorporated in the sling structure below the platform (though not in this particular case), which in an emergency would grip the guide rails and prevent further movement of the platform.

Timber guide posts, usually built up from soft wood with the joints staggered so that the post was virtually continuous, were fixed vertically at the landings and ran the whole height of the platform traverse. Close-grained guide rails, often of maple, were planted on these posts with counter-sunk screws, jointed carefully and lubricated to reduce friction to the minimum.

Besides the guide posts and rails there was certain additional equipment in the shaft: a counterweight to reduce the overall loading on the drive, suspension ropes to both sling and counterweight, and safety gear roping which operated a wood block brake. The counterweight weighed as much as the platform and sling assembly plus half the design load on the platform; this ratio (which is still adhered to) having been found to provide the maximum economy of energy under all loading conditions. The counterweight was generally constructed of iron so that it could be relatively small in size and would not necessitate too large a well cross section. Suspension ropes were attached to the top of the counterweight. The safety gear consisted of a hand-operated continuous rope which passed over a sheave at the head of the well: a pull on this rope rotated the sheave shaft and engaged the wood block brake on the main driving shaft, 2. The brake could only



1, *an early hand-powered hoist.*



2, *a wood shoe brake.*

be released by pulling the rope in the opposite direction so that the sheave counter-rotated.

The driving gear was located at the head of the hoist well, and in this instance a drum-drive was employed. The suspension ropes from the platform sling were securely fixed to the drum surface. A second drum attached to the same driving shaft held the counterweight suspension ropes which were connected in such a way that the counterweight was lowered as the platform was raised.

In all essential points this lift prefigures the modern installation: you have only to substitute a steel structure for wood, to introduce an electric motor, and to add the refinements of levelling and door opening devices. Even details such as the safety rope and the wood block brake are reproduced, both in their form and in their essential action, in the 'idle line' and the electro mechanical brake used today.

'Drum drive' is still used, though it has commonly been replaced by 'traction drive,' where a set of ropes passes *direct* from the car over a corresponding set of traction sheaves to the counterweight on the other side.

components

The hoist described above provides a framework on which the components of the modern lift can be classified and examined. Two major decisions determine the form of a lift installation: a decision about the speed, which involves the choice of a motor and of a mode of gearing and a decision about the lift car control. These two questions are, of course, inter-related, and together determine the average travelling time of the lift. It is not the intention of this article to discuss the calculations for these decisions: but merely to discuss the elements in the installation and the alternatives to which each is subject.

Logic suggests that a beginning should be made in the motor room, with the motor itself, the brake, such gearing as there may be, the traction sheave (or drum) and such of the controlling and selecting equipment as may be housed there: that we should pass then to a consideration of the car itself, taking in at the same time the subjects of control, of door opening, of landing and of safety devices operated from the car: and that we should conclude by

[continued on page 141

considering components in the well, the guides, the suspension roping, the counterweight, the travelling cables and the levelling and timing equipment.

motor room

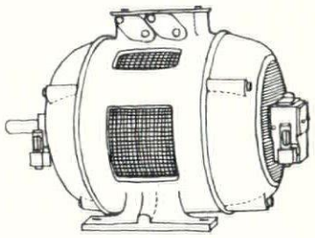
The Motor Room contains a quantity of expensive and delicate equipment. As a rough guide, the value of the equipment alone in the motor room of a block of flats can easily be £2,500. Adequate space is needed to maintain this equipment and facilities for lighting and the use of powered hand tools. Temperature and air condition must be controlled and remain stable within narrow limits and sunlight excluded ; otherwise the equipment will deteriorate.

There seems no doubt that the motor room should be placed at the top of the shaft whenever possible, for so placed the load on the structure may be reduced by as much as 40 per cent, and the least amount of suspension rope will be required: this last is a considerable saving, since ropes are an expensive item both in initial cost and as a maintenance liability.

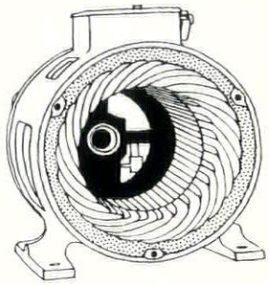
motors

The main issue concerning the choice of a motor consists in whether the speed is to be controlled mechanically (i.e., by gearing a motor which itself works at a fixed speed or speeds) or electrically by varying the speed of the motor by varying the voltage, or a combination of both. This is partly a matter of the speed required, partly a matter of cost: of speed because for speeds above 350 feet per minute the 'gearless' type of motor must be used; of cost because the gearless motor (which must be DC) requires a generator in addition. As though to make the matter more complicated, it is the AC motor which runs at a high speed and requires to be geared down, usually by a worm gear. The DC motor, on the other hand, is a low-speed motor and is coupled direct to the traction sheave of the lift: it is its ready and accurate response to changes in speed which make it suitable for high-speed lifts.

The simplest type of motor used for lift installations is the AC Single Speed High-Torque Squirrel Cage Motor, 3. It can be used to drive lifts up to a speed of 120 feet per minute when passenger controlled and 150 feet per minute when controlled by an attendant. The squirrel cage motor is very robust and therefore suitable for arduous service. The chief disadvantages are that it requires a very large starting current, often frowned upon by electricity under-



3, a squirrel cage motor; above, in its casing, and below, the stator showing the mesh winding.



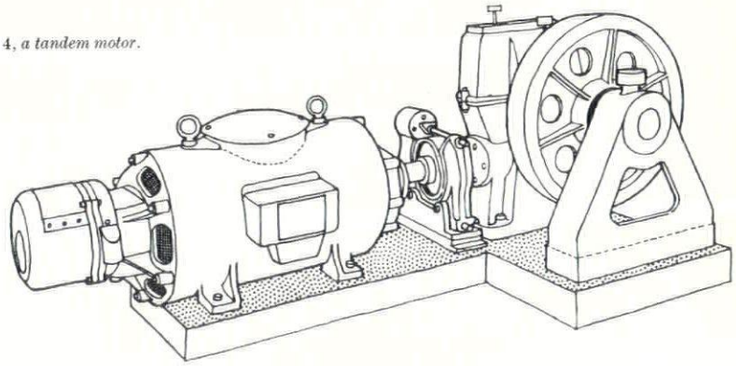
takings, and that levelling the motor becomes difficult if it is over 5 h.p. because the radius of gyration is increased.

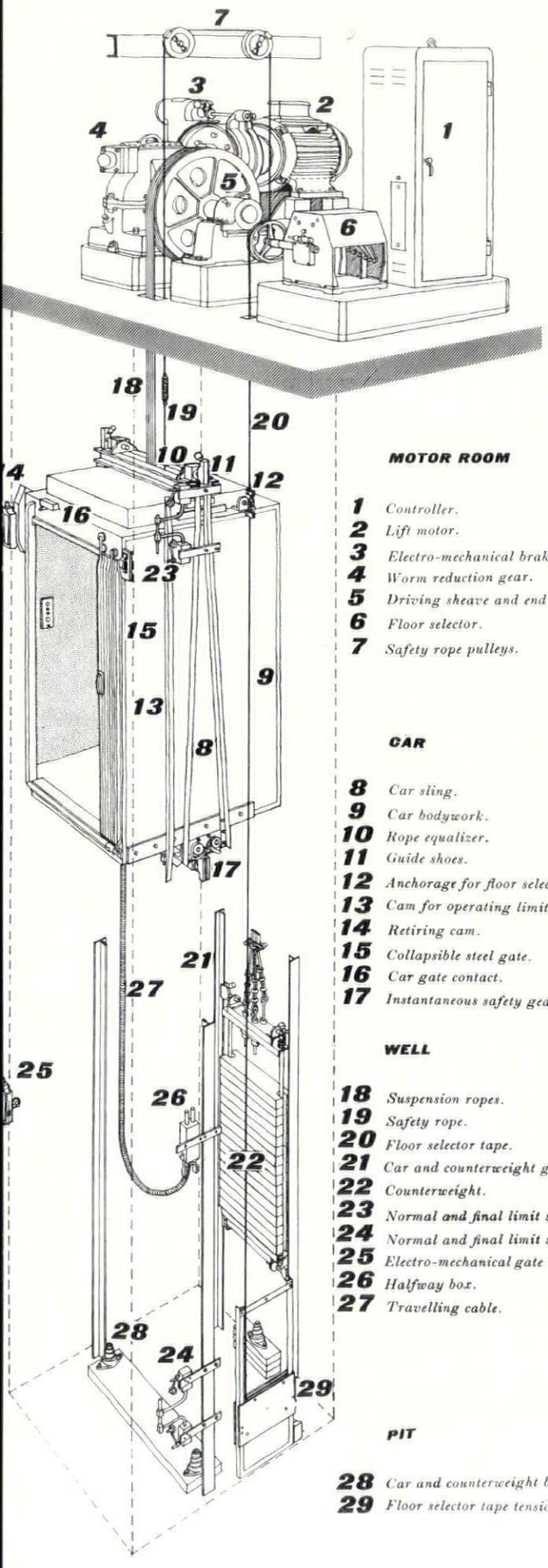
A variant of the motor just described, and suitable for the same speeds, can be made to give two speeds through the method of winding the stator. This two-speed arrangement is an advantage for levelling the car at landings, and the starting current needed is reduced by starting the lift on the low-speed winding. The ratio between the two speeds is generally 4:1, though ratios of as much as 6:1 have been used with success.

A second type of AC motor, the Slip-ring Motor, is often used for the same speeds as the squirrel cage motor. Although not as robust in construction nor so long lived it is smooth running, silent and requires a small starting current.

A motor assembly known as a Two-speed Tandem Motor combines a squirrel cage and slip-ring motor within a single frame, 4. The slip-ring motor is designed to start the lift and also to run it at full speed; the squirrel cage motor is used for levelling and stopping. The advan-

4, *a tandem motor.*





MOTOR ROOM

1 *Controller.*
2 *Lift motor.*
3 *Electro-mechanical brake.*
4 *Worm reduction gear.*
5 *Driving sheave and end bearing.*
6 *Floor selector.*
7 *Safety rope pulleys.*

CAR

8 *Car sling.*
9 *Car bodywork.*
10 *Rope equalizer.*
11 *Guide shoes.*
12 *Anchorage for floor selector tape.*
13 *Cam for operating limit switches.*
14 *Retiring cam.*
15 *Collapsible steel gate.*
16 *Car gate contact.*
17 *Instantaneous safety gear.*

WELL

18 *Suspension ropes.*
19 *Safety rope.*
20 *Floor selector tape.*
21 *Car and counterweight guides.*
22 *Counterweight.*
23 *Normal and final limit switches (Top Floor)*
24 *Normal and final limit switches (Lowest Floor).*
25 *Electro-mechanical gate or door locks on landing.*
26 *Halfway box.*
27 *Travelling cable.*

PIT

28 *Car and counterweight buffers.*
29 *Floor selector tape tension weight and pulley*

Diagram showing the main elements in a lift installation.

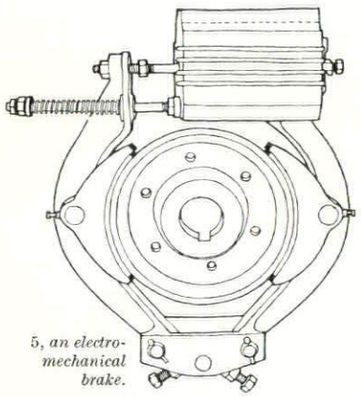
tages of this arrangement are that a low starting current is required, that levelling can be achieved easily, and that the speed ratio between the two motors can be as high as 6:1.

The most frequently used type of DC motor, and the only one suitable for driving lifts at speeds greater than 350 feet per minute, is the Ward-Leonard System Variable Voltage Motor.

The advantages of driving lifts and controlling their speeds by variable voltage motors are considerable: the motor control equipment is simple and as the electrical contacts do not handle the full power, speed changes are smooth, the starting current is low and the overall energy consumption is considerably lower than with other types of machine.

Mention was made earlier of the alternative of drum or traction drive. Drum drive has the disadvantage that, since the ropes are continuously flexed, wear is very heavy; furthermore, it is unsuitable for shafts of more than four storeys, since the drum itself becomes unmanageably large. In practice, drum drive is only used if the loading on the car is very large and the traverse is very short.

Whatever the motor and whatever the drive, all lift engines are fitted with an electro-mechanical brake



5, an electro-mechanical brake.

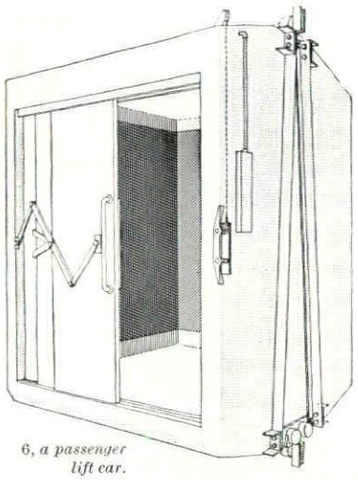
which varies little in design, 5. It is designed to exert a permanent grip on the shaft, a grip which is released electrically when the lift car is set in motion. On any failure of the supply, therefore, it moves instantly into the 'on' position.

central controller

This is an assembly of intricate equipment in which all lift motion is effected and co-ordinated. It contains contactors, relays, resistances and fuses, together with considerable auxiliary equipment for regulating the timing of related movements, and may operate in conjunction with a mechanism for selecting the floors in response to calls. The central controller equipment is mounted on an insulating board and enclosed in a pressed steel case. Equipment is likely to deteriorate if the light, temperature and air condition in the motor room is not controlled within fine limits.

the car

A great deal of equipment is attached to the lift car, some of it externally, some to the sling, and some, principally control equipment, inside the car. Like the early hoist described, the main loadbearing component is the platform; the bodywork of the car, constructed of



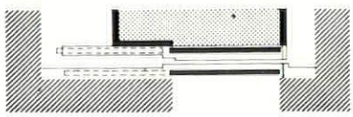
6, a passenger lift car.

timber, sheet steel or aluminium alloy, is built on to the platform and both are secured to the steel sling, 6. PWBS No. 9 recommends five lift capacities, for 6, 8, 10, 15 and 20 people. The floor area varies indirectly to the capacity, but as a guide, 1.9 square feet is recommended for a 10-person car. If the lift is attendant operated, the attendant should be given double the unit area so that he has room to manipulate the control switch and also the doors if they are not power operated. The clear height within the car should not be less than 6 feet 6 inches. Structurally the walls should be capable of resisting an impact of 75 lb. applied normally at a point; the use of aluminium alloys has recently been found successful for it combines adequate strength with lightness and easy maintenance.

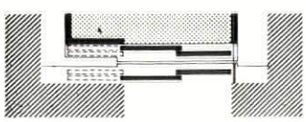
doors

Lift doors have been the subject of considerable technical attention. They must be extremely accurate dimensionally, robust—for they have arduous service—and yet easily operated whether by hand or by motor.

The doors themselves are constructed of timber, steel or aluminium; the solid type are more satisfactory than the picket type for there is less danger of trapping the passengers or their effects. Vision panels are often required,



7, single sliding leaf doors.

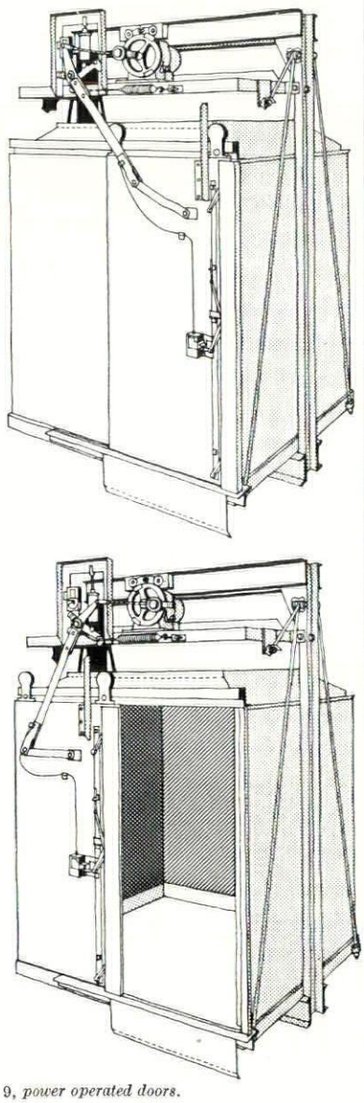


8, double two-speed sliding doors.

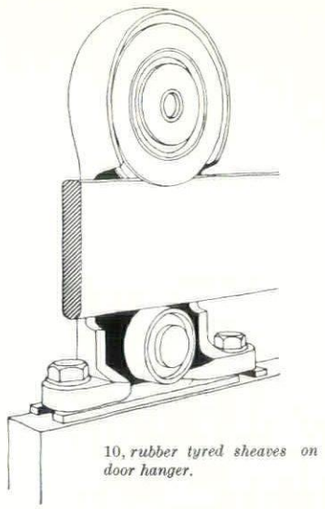
but these add appreciably to the cost. Hinged doors are sometimes used on the landing openings, but as these cause some danger to people in the passage, sliding doors are most common. There are several arrangements possible: a single sliding leaf door, 7, a double leaf door, in which both leaves slide to one side, but the outer one moves at twice the speed of the inner one, 8, or centre opening doors.

The most important piece of equipment associated with lift doors is the inter-lock, an electro-mechanical device which ensures that the lift cannot move until both car and landing doors are locked in position. Sometimes a special piece of electrical equipment which breaks the main power circuit is connected with the lock; sometimes the circuit is made and broken directly by the door lock beak and the door post catch. It is essential that the fixing of this piece of equipment should be invulnerable to misuse.

Another piece of equipment frequently employed couples landing and car doors together when a stop is made, and a single power unit moves the doors simultaneously. The motor used for power-operated doors is mounted on the roof of the car; its shaft revolves and operates arms which are attached to the



9, power operated doors.



10, rubber tyred sheaves on door hanger.

doors, 9. Variation of door speed is achieved through the arrangement of these arms: for instance, the speed may be decreased towards their closed position by a simple harmonic coupling of the arms to the motor shaft. The time taken for the cycle of power-operated door movement is very important, especially in high-speed lifts where all advantage may be lost if the movement is slow or mishandled. A great deal of research and experiment has gone into the design of efficient timing equipment to control the whole cycle. In addition to this equipment, some doors are provided with checking devices which operate when, because of obstruction, the cycle is interrupted, 10; a common form of this is to fix a sensitive strip to the leading edge of the doors. When this meets an obstruction within a 90° arc it reverses the door cycle so that the obstruction may be cleared.

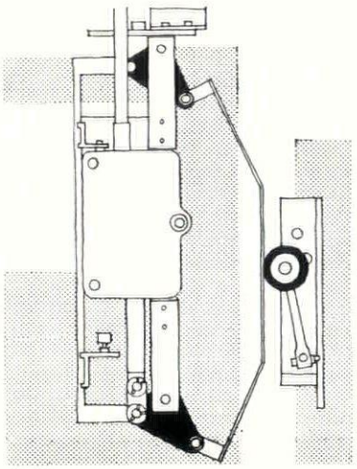
car and landing control

The simplest form of control equipment in use is known as 'Car Switch Control.' This consists of a car switch handle placed in a convenient position in the lift car and operated by an attendant. There is a push button at every landing station by which prospective passengers may call the attendant, and this landing push usually operates a visible and audible signal in the lift car. A variation of this method of control is often used so that the attendant does not have to waste too long levelling the car platform at landings, and this variation is known as 'Auto-Stop'; the attendant switches off his control switch on approaching a landing and an automatic levelling device brings the lift to an accurate level.

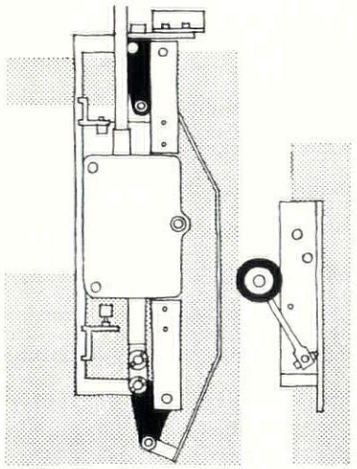
'Automatic Push Button Control' is perhaps the most familiar equipment. A panel of buttons, corresponding to the landing stations served by the lift, is fixed into the lift car, and a landing push is provided at each landing. On entering a lift the passenger presses the appropriate button and the lift carries him to that floor. For lifts controlled in this way and operating at speeds greater than 120 feet

[continued on page 143

per minute automatic levelling devices must be used. Another device is frequently used to prevent the car being interrupted in its journey to answer or satisfy a call previously registered: a retiring ramp is fitted to the outside of the car and is restrained electrically until the desired station is reached, at which point it is released, comes forward,



11, *operation of retiring ramp; above, extended, when the lift is to stop at a floor, and below, withdrawn.*



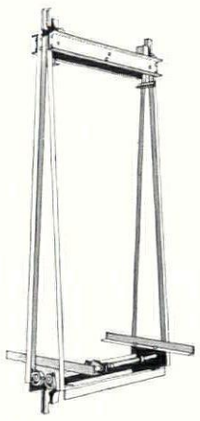
makes contact with equipment in the well, and allows the doors to be opened, 11. This device is very useful as it prevents the undesirable practice of would-be passengers snatching the car as it passes a landing.

A more elaborate method of control normally used in large high-speed installation is known as 'Collective Control': a panel of push buttons is located in the car and two push buttons, one up and one down, are placed at each landing station; a central control panel in the motor room registers calls from both car and landing stations and stores them, and the lift responds in the floor sequence following its direction of travel until all the calls registered have been answered. Normally a switch is provided so that the control may be taken over by an attendant at peak periods of traffic. When only a single lift is controlled in this manner the system is known as 'Simplex,' but two or more lifts may be connected together so that they operate as a single unit, these systems being known as 'Duplex,' 'Triplex,' etc. An elaboration of collective and push-button control is to fit a homing device which causes some of the lifts in the unit to return to the ground floor when not in use and the remainder to travel to the topmost landing. In this manner the lift installation is primed ready for subsequent calls.

Apart from the normal car controls described, an alarm signal is provided, which rings a warning bell to attract the attention of the lift supervising staff. It is important that this alarm should be connected up independently of the main electrical circuits, for it is generally required when these are out of action.

safety devices

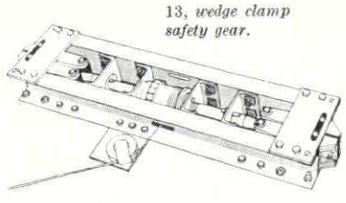
In case the suspension ropes should break or stretch, or in the event of the car exceeding its regulated speed on account of some defect, a robust mechanical safety gear is built into the understructure of the car sling beneath the car platform, 12. This gear extends the whole width of the sling and can be made to grip the guide rails, so bringing the car to a stop. Two forms of gear are employed. For slow lifts an idle line connects the safety gear over a pulley at the top of the shaft to the counterweight. If this line tightens, due to main rope fracture or stretch, a shaft in the sling mechanism is rotated and closes the grip mechanism on the guide rails. For higher speed lifts an overspeed governor comes into action and tautens the safety rope through a geared assembly.



12, *car sling.*

An instantaneous guide grip is used in lifts whose regulated speed does not exceed 200 feet per minute: two eccentric cams with serrated edges are connected to the safety gear shaft, and these bite into the guide rails and stop the car within a few inches. In higher speed lifts, where a sudden stop might injure passengers and damage lift equipment, a wedge clamp is employed, 13;

13, *wedge clamp safety gear.*



this clamp exerts an increasing pressure on the guide rails, so bringing the car gradually to rest. In cases where it has been necessary to use the safety gear the guide rails must be checked to ensure that they remain plumb, and the grip marks must be removed by filing, since any irregularities in the guides would seriously impair the mechanical running of the lift.

the well

The lift well extends from the bottom of the lift pit below the lowest floor served to the motor room. It contains a quantity of equipment, some mobile and some static. It is of the utmost importance that there should be adequate space in order that the moving equipment, which includes the lift car itself, cannot foul any projections or components on the well walls, and inspection, maintenance, and repairs can be carried out easily and swiftly. It is in the well dimensions that architects so frequently compromise the lift manufacturer without realising the extent to which they may be impairing lift efficiency and increasing the cost of the installation.

ropes

The suspension ropes are fixed to the top centre of the car sling through an Equaliser similar to the one described earlier. There are usually four ropes, their manufacture, quality and strength being covered by British Standard Specifications. The ropes pass through a slit in the motor room floor, over the driving equipment and down through the floor again to the counterweight. Idler sheaves are introduced to direct the ropes into their correct positions vertically over the car and the counterweight.

counterweight

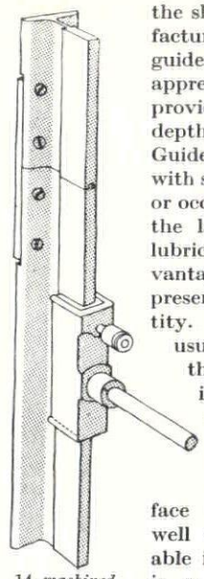
The counterweight runs up and down guides at one side of the lift well. Usually it is an assembly of side members into which grooved weight bars are slotted and the required number bolted up tightly.

travelling cables

The travelling cable connects the car controls with the central control panel situated in the motor room. This cable connects to the underside of the car and is securely fixed to the shaft wall at a point half way up. Some manufacturers provide a junction box at this point, but recent experience seems in favour of making the cable continuous from car to central control, and passing through a piece of conduit in the motor room slab so that renewal can be easily accomplished.

stationary equipment

Buffers, of the steel-spring type for slow-speed lifts and of the oil-filled type for higher speeds, are provided in the lift pit. Steel guide rails run the height of the lift well to which the shoes at top and bottom of the car sling fit tightly. The most satisfactory guide rail section is a T-form, 14, for this provides the greatest grip area for the shoes; some manufacturers use round guides, but it will be appreciated that these provide a smaller grip depth for the shoes. Guide shoes are lined with steel, bonded fibre or occasionally carbon, the last requiring no lubrication — an advantage when dust is present in any quantity. Provision must usually be made in the well for carrying the main electricity supply cables to the motor room; a duct with its face flush with the well side and removable inspection panels is a satisfactory arrangement. For maintenance purposes a lifting beam is provided at the lift well top, which should be strong enough and so placed that the entire car assembly may be suspended from it during re-roping.



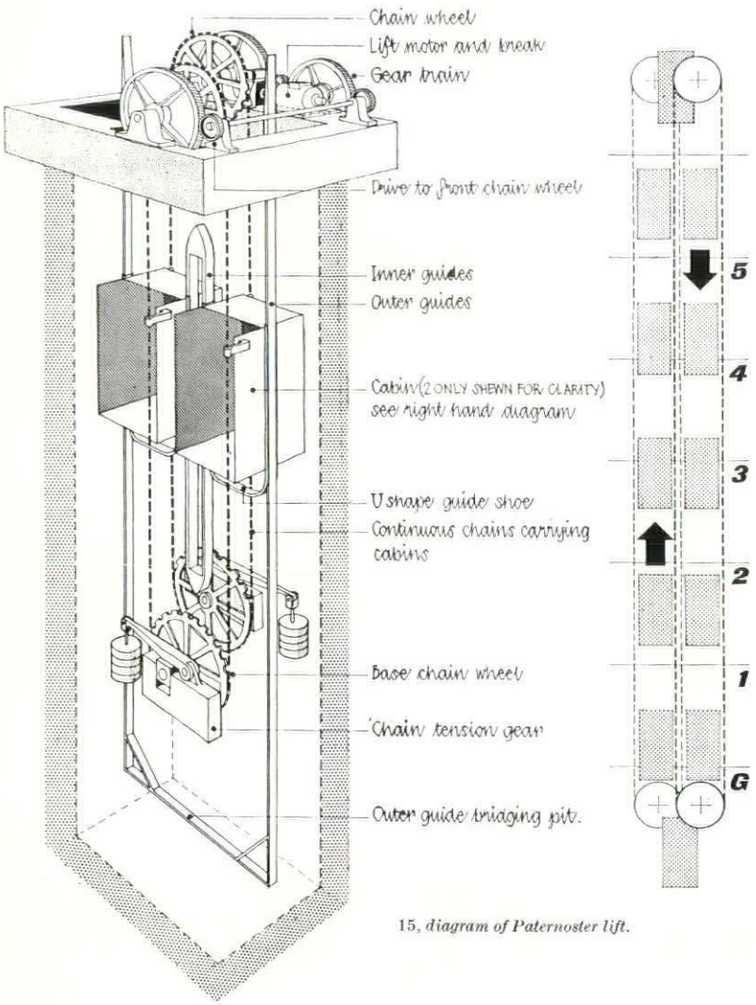
14, *machined T guides and slipper.*

The remaining pieces of equipment distributed about the shaft interconnect with components fixed to the car assembly. At top and bottom of the well there are Limit Switches which automatically cut off the lift motor in the event of the car overtravelling in either direction. At every landing there are components whose purpose it is to control the levelling, stopping and timing of the car and door movements. Recently electronic equipment has been introduced for these operations with satisfactory results: levelling can be achieved within a tolerance of $\frac{1}{8}$ inch of the landing levels, the noise associated with electro-mechanical devices is eliminated, and there is no wear since there is no physical contact between moving parts.

conclusion

The history of the last twenty-five years or so of lift manufacture shows a continual process of refinement, in which new standards of comfort (or at least of expedition) have been accompanied by new standards of safety. One unfortunate result of this has been that the cost of lifts has gone up out of proportion to the cost of the buildings in which they must be installed; which is perhaps another way of saying that lifts, which began as a luxury, have now become a necessity and have still to undergo the cost fining down which necessities require.

Since all installations are still purpose made, one of the first sources for possible economy is standardization. Another is, perhaps, to re-examine the whole question of the kind of lift service that we customarily require. One manifestation of this is the revived interest in the 'Paternoster,' an early lift type which has enjoyed a continuous vogue on the Continent but which



15, *diagram of Paternoster lift.*

has only recently been put on the market again over here, 15.

An endless chain of cars, each able to carry two people, continuously moves at a speed of about 60 feet per minute; no doors, no system of car control, and no floor registering devices are necessary; it therefore dispenses with the bulk of conventional lift equipment. In addition to this advantage, the initial and maintenance costs and, given suitable traffic, running costs as well are lower. Against these advantages, however, it will be appreciated that the 'Paternoster' is suited to rather special circumstances: continuous inter-floor traffic in buildings which are not too high, and that passengers must become accustomed to using it.

A second proposal which has been touched on already and which is also discussed in the note on the national lift traditions is the abolition of the car door. The technical difficulty here lies in the fact that the cost of providing the smooth wall face which the proposal implies offsets some of the saving and demands that the general contractor should work to a closer tolerance than he is accustomed to. Against this it may be ventured that a move which compelled the general contractor to enter into closer sympathy with the lift manufacturer might well be to the good. In this connection we recall the Luchtbal flats in Antwerp, where the lift installation (with service ducts built into it) determined the tolerances for the structure.

One last factor which certainly bears on costs is the circumstance that the British lift industry still reproduces the pattern of nineteenth-century enterprise, with a surprisingly large number of small firms who all do good work (for they have all the Victorian virtues) but who operate in isolation. This state of affairs is, of course, reflected in the slow progress of standardization. Without wishing to countenance a 'ring,' it would seem that much could be done by co-operation, perhaps through strengthening and developing the Lift Manufacturers' Association. This is an issue which should concern everyone, and not only the trade. For the lift is a critical element in a whole conception of architecture. It would be a pity if the high incidence of cost were to continue to inhibit the right structural solutions.

a note on the American and Continental lift traditions

The world of lifts, like the world of many other branches of engineering, is shared between three clearly marked traditions: the American, the British and the Continental. In this note one of the directors of a British lift manufacturing firm discusses the salient characteristics of the two other traditions.

The American lift differs from the English and the Continental chiefly in point of lift size and lift speed. The origins of this difference are not far to seek and are found in the exceptional requirements of Manhattan Island from the 'seventies onwards. What this tradition means in practice can be readily seen from the American Standard Safety Code for Elevators. Looking at this standard we see that a 'small' lift is rated at 1,200 lb., the equivalent of eight persons, while normal lifts are 2,000 lb. (13 persons) and larger.

One of the chief effects of this is that the American Safety Code prevents the use of a small lift machine which could be used for loads of 4 to 6 persons, yet such a machine is very economical and is the basis of most of the small lifts in Europe and other countries where there is a demand for small lifts.

United States influence in the design of lifts is particularly strong in South Africa, South America and Canada, and in these countries architects have been 'trained' to plan for lifts on a much larger scale than we should consider necessary in this country, although some of the buildings may not be particularly large or tall. This gives a high grade of lift service, but increases the cost of building.

Another characteristic of American practice is a strong preference for the gearless lift. This preference is, of course, the natural result of tall buildings and high speeds. There is much to be said in favour of the gearless lift on the score of comfort and running cost, but there is no doubt at all that it adds considerably to first cost.

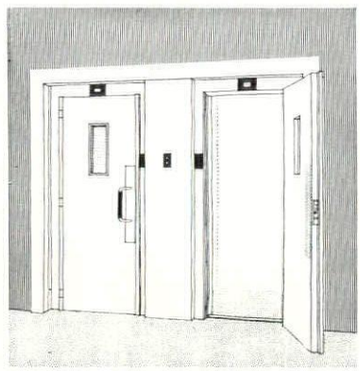
continental lifts

If the American tradition differs in point of speed and size, the Continental tradition differs mainly in an attitude towards safety. It would be an over-simplification to infer from this that Continental lifts are necessarily less safe in ordinary use: it would be closer to the truth to say that they leave more to the passenger's imagination. It is characteristic of the Continental attitude that the 'Paternoster' (mentioned in the earlier article) should have been in continuous use there, for the 'Paternoster' when it is operating has no doors at all and the characteristic of Continental lifts which will most strike an English user is their tendency to omit the car door, 16 and 17. With this arrangement the passenger in the lift is confronted with a moving wall, which must be absolutely smooth and free from all obstructions.

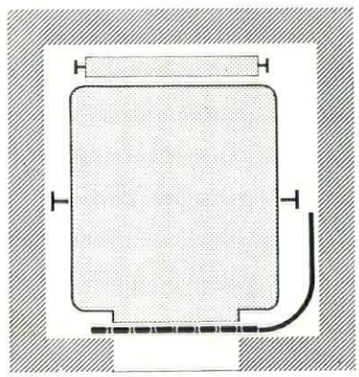
It is interesting to notice that British lift manufacturers are prepared to contemplate this economy, though it remains to be seen whether the British public would be prepared to accept it.

The Continent still favours very small lifts. Whereas American practice has set the lowest standard at 13 persons and British practice has compromised at 6 to 8, Continental manufacturers offer standard sizes to carry as few as 2 persons with graduations in 3, 4, 5 and 6.

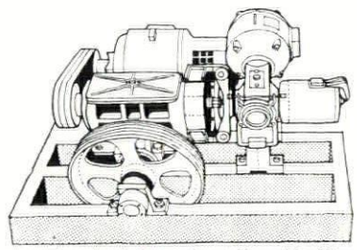
Continental manufacturers also tend to make greater use of two speed, double motor systems as against 'variable voltage.' In Great Britain, as we have seen, 'variable voltage'



16, *a French hinged landing door, flush on the inside of the well for use where there is no door on the car. A movable car sill is used to prevent any possibility of pinching between the car and the landing.*



17, *a Swiss automatic flexible landing door, also for use where there are no car doors.*



18, *a French solution to the problem of levelling, employing a 'gyro-brake' operated by a second motor. The Gyro-Brake and its separate motor are on the right.*

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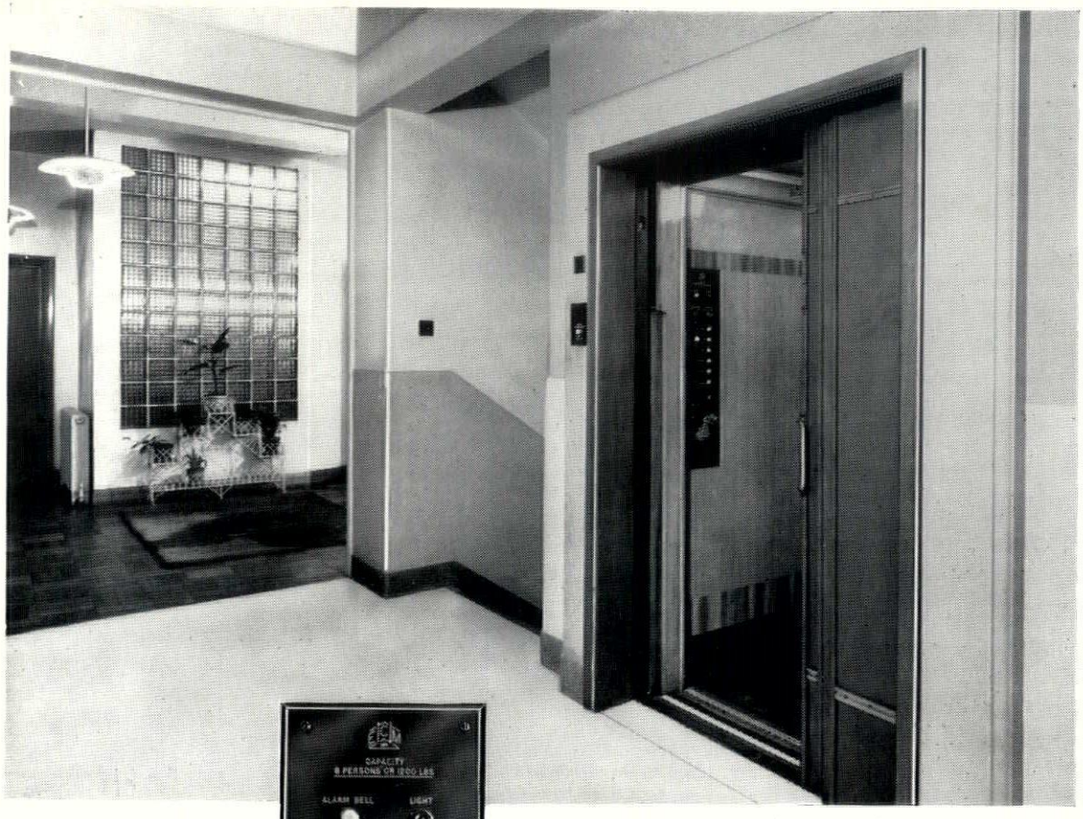

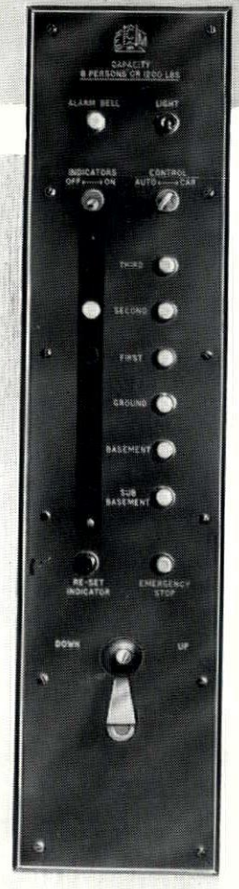

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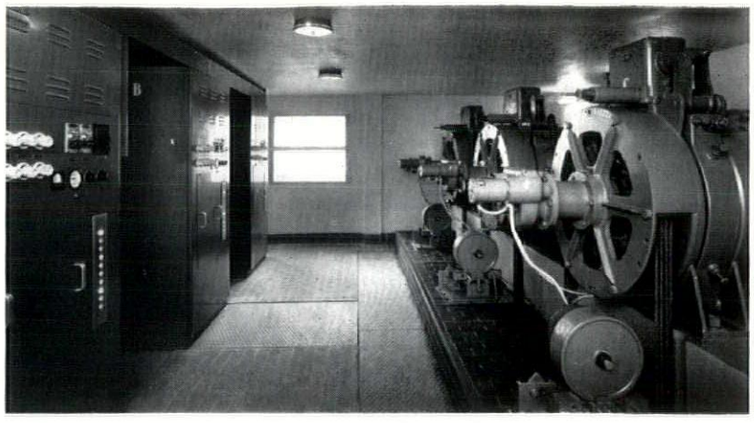
continued from page 144]

motors are always used for speeds above 300 feet per minute; but on the Continent two speed, double motor drive is used up to 400 feet per minute.

Lastly, where English and American manufacturers mostly use specially rolled and machined T-section guide rails, many Continental manufacturers still use round guides for the car and strained wires or unmachined Tees for the counterweight.



19, *a Swiss machine room for three lifts. All the control mechanism is enclosed in the steel cupboards on the left. Notice the hard anti-dust finishes.*

Lifts shown in the illustrations were manufactured by the following firms: 3 and 14, The Express Lift Co. Ltd., 4, 11 and 12, Bennie Lifts Ltd. 5, Pickerings Ltd. 6, Jensen. 9 and 10, Waygood-Otis Ltd. 13, Marryat & Scott Ltd. 15, J. & E. Hall Ltd. 16, Baudet, Donon and Roussel. 17 and 19, Swiss Car & Elevator Manufacturing Corporation Ltd. 18, Edoux Samain.

electric supplies

One of the most serious differences between lifts in different countries is the widely differing types of AC supply which are now available. While electric supply has been standardized in many parts of the world, there is no international agreement on the nature of the supply and wide variations are found, making standardization of machinery almost impossible. In Britain we have standardized on a 3 phase, 50 cycle supply of 415 volts, and electrical equipment is usually made to operate over a range of 380-420 volts. This range includes a great many countries where British capital and influence has predominated and where the electric supply is based on our system.

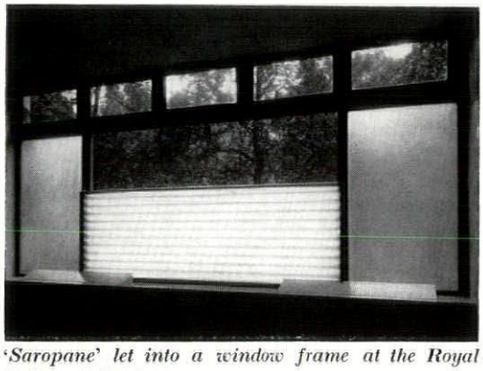
In the United States the most usual 3 phase AC supplies are at a higher frequency of 60 cycles with a voltage of 220, and in Canada voltages of 550 and 575 are common, in addition to 208. In Egypt and in Jamaica 40 cycles supplies are found, and in some parts of the Middle East the power voltage is as low as 190.

It will be noticed that these differences in supply, though they are critical for the geared motor using an AC supply, are less critical for the variable voltage gearless motor, since this uses a motor generator set to convert the incoming voltage, whatever it may be, to a standard DC current.

TRANSLUCENT CORRUGATED SHEETING

One product which the factory boom has brought into the fore is translucent corrugated sheeting. Designed to nest with the various profiles of standard corrugated sheeting, these sheets have the obvious merit of doing away with the fuss and bother of the upstand rooflight.

Newcomers to this field are 'Saropane' and 'Sarolite', two glass laminate sheets in which layers of glass reinforcement are bonded together with a low pressure



'Saropane' let into a window frame at the Royal College of Surgeons.

resin. In 'Saropane'—which is slightly the cheaper product—the glass laminate comprises lengths of glass fibre random laid, and in 'Sarolite' it is a woven glass-

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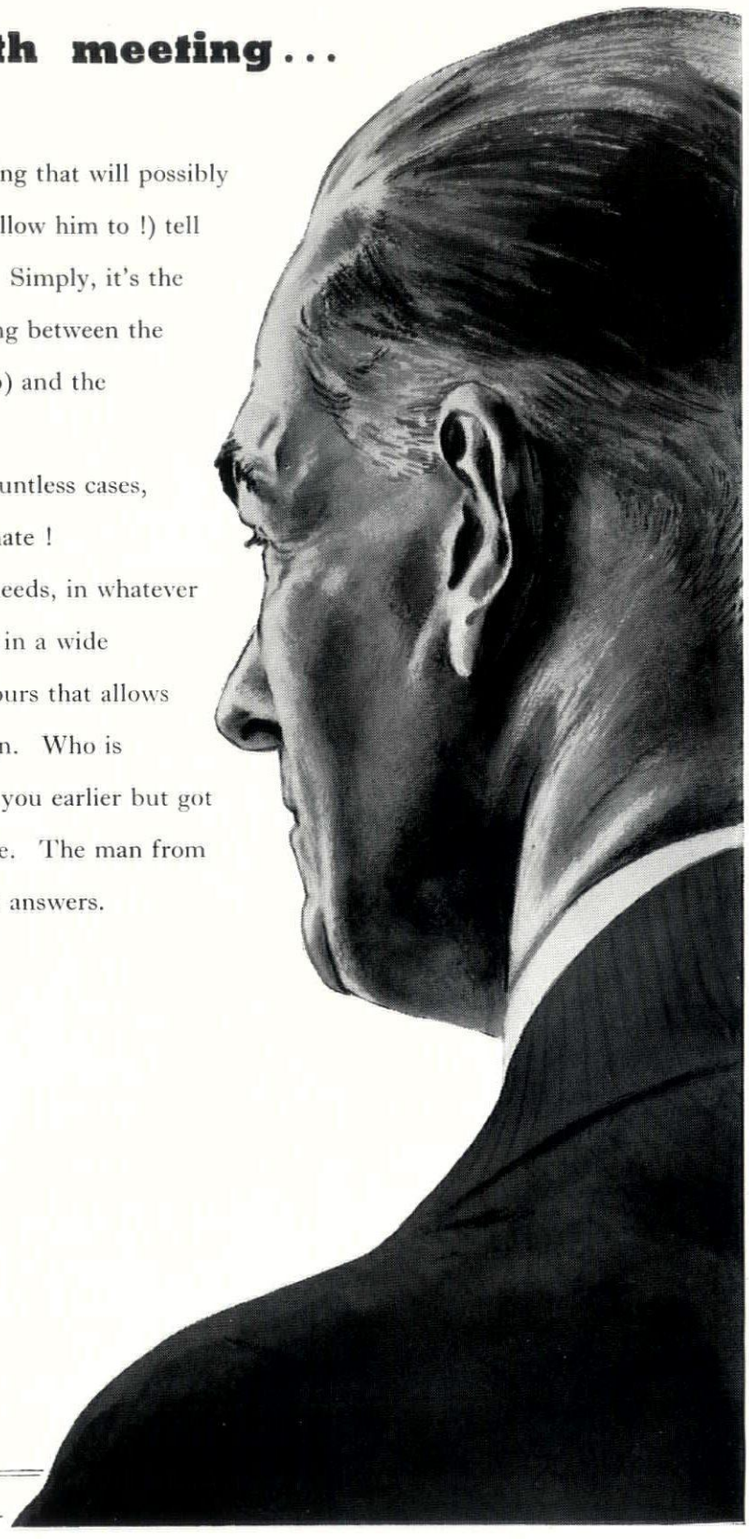

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continued from page 146]

fibre cloth. These sheets have been accepted in principle for factory roofs by the Fire Department of the LCC, provided each sheet is surrounded on all four sides (i.e. in the same plane) by incombustible sheeting. 'Saropane' is manufactured in two weights, 'Sarolite' in one, and both are made to nest with every type of sheeting in common use. They appear to be well tested products and in any case they have behind them the experience of a firm which has its origins in the more exacting aircraft industry. Manufacturers are: *Saro Laminated Wood Products Ltd., Whippingham, Isle of Wight.*

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[continued on page 150

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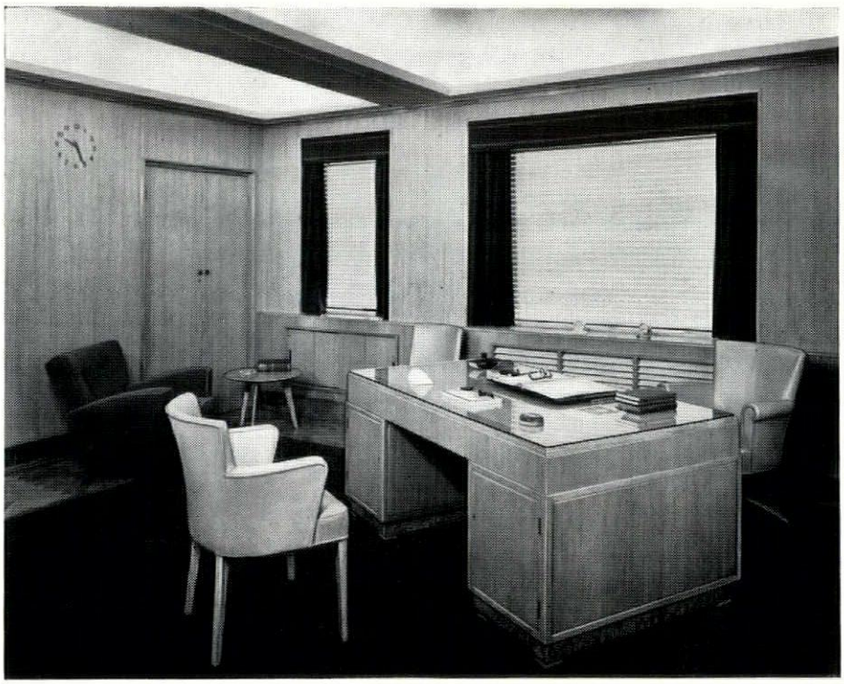

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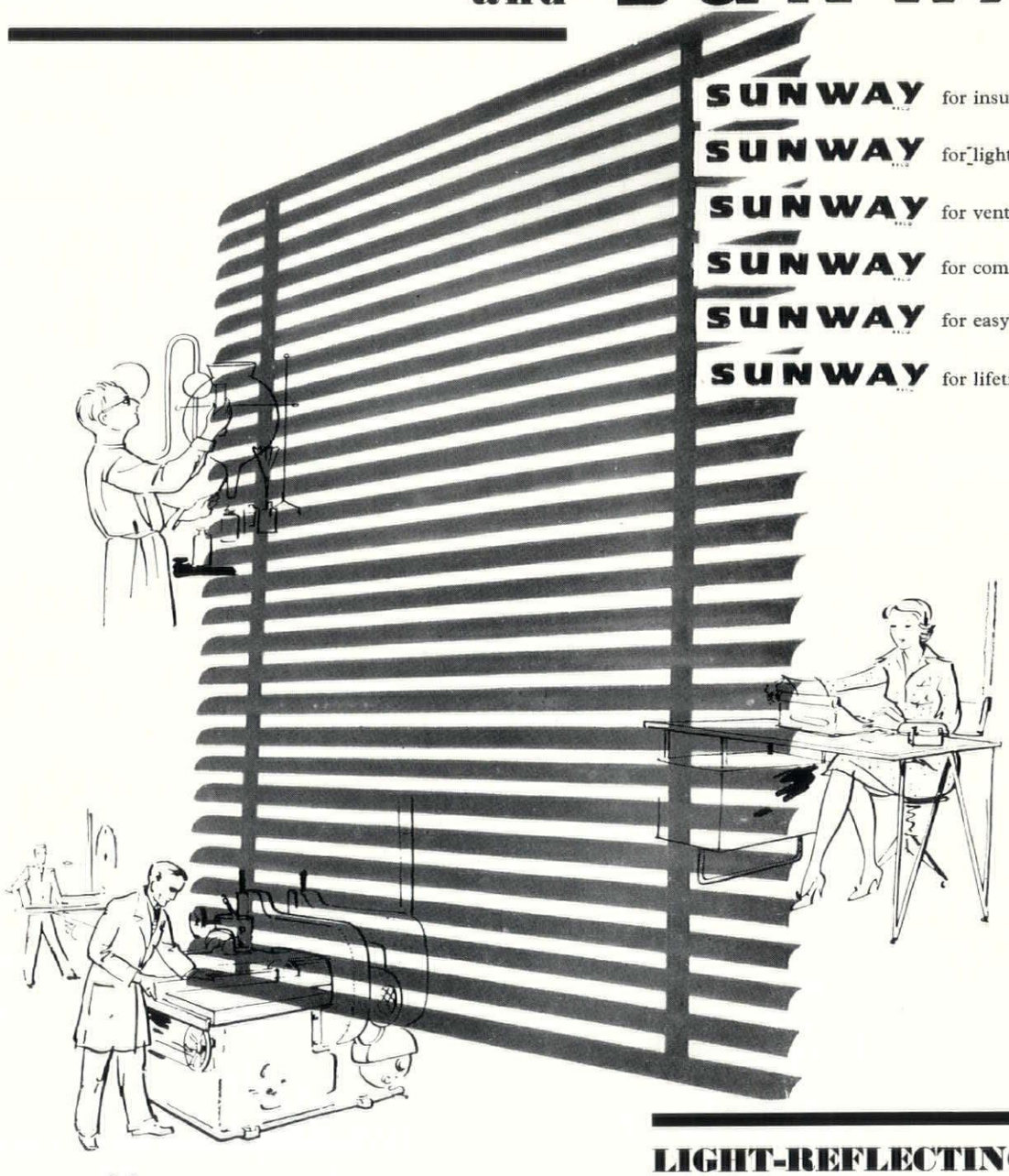

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continued from page 148]

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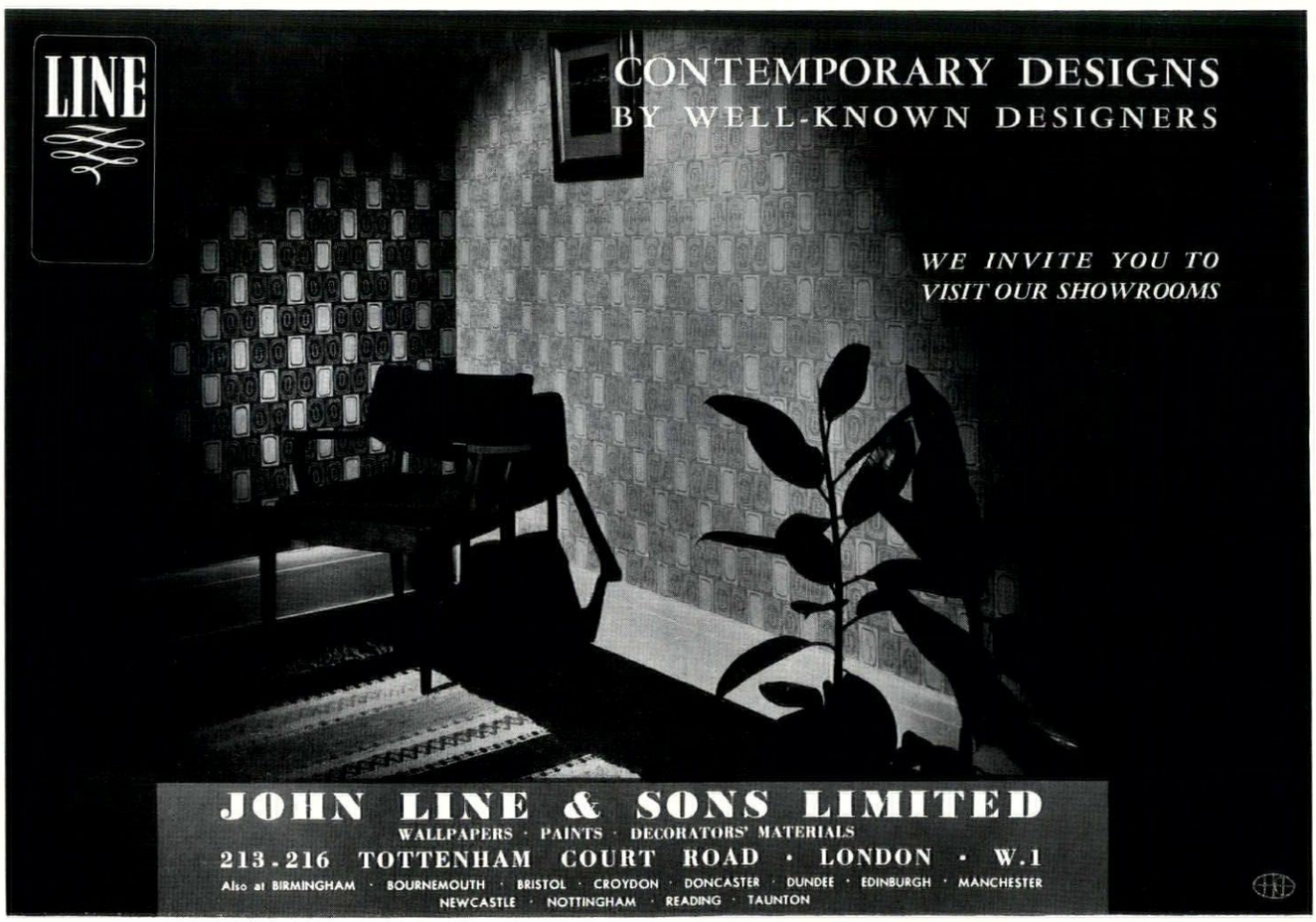

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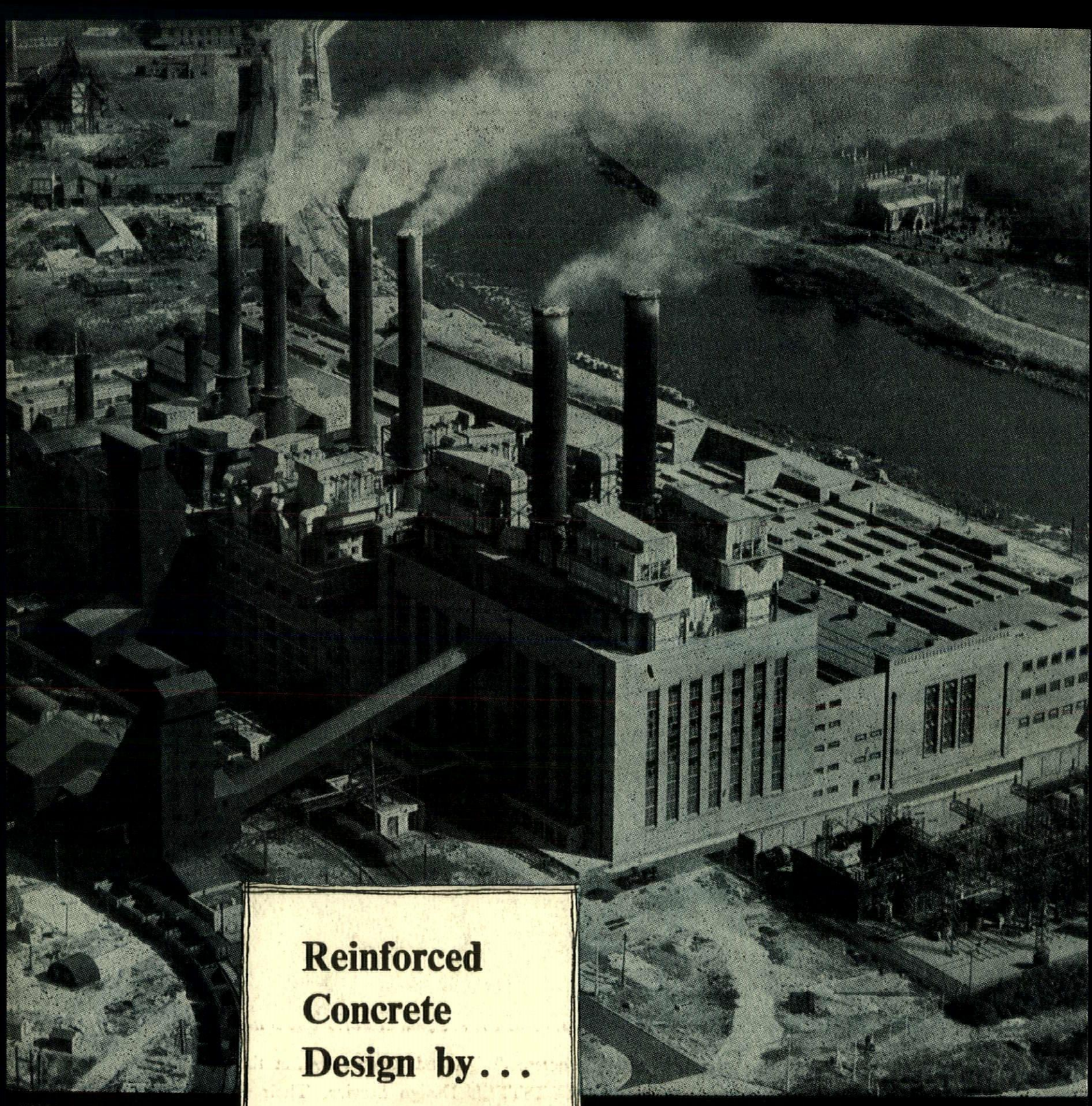

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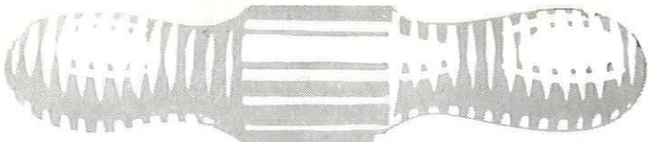

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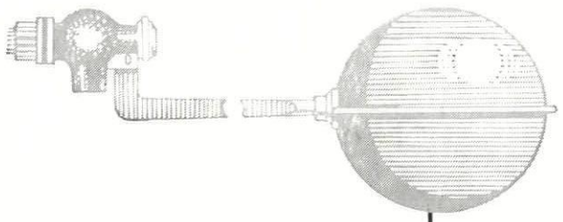

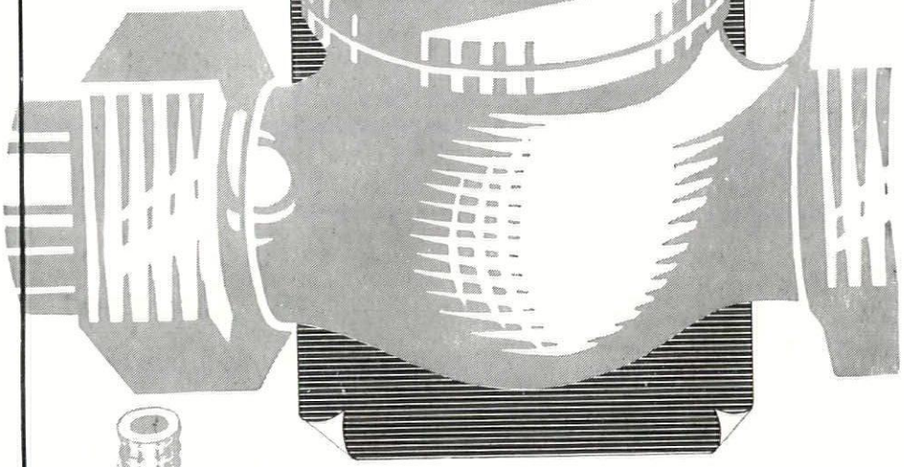

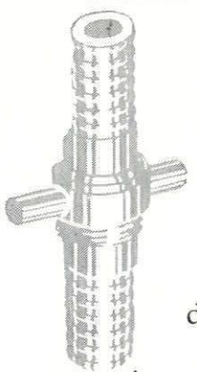

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MARGINALIA

Oxford

At a meeting of The British Association in Oxford in September last, the Warden of New College (Mr. A. H. Smith) read a paper on *The Town Planning of Oxford*. This has now been published as a pamphlet (Blackwell, 2s. 6d.). In his paper the Warden spoke at length of 'how much loss there has been to Oxford through the continued despoilment of its country setting,' and urged the establishment of an inviolable green belt, five miles wide, round the city. He also spoke seriously about the replanning of the interior of the city. 'I do not wish my university to be segregated or cloistered. Its scholars should feel as they have done in the past, that they are part of a city in which there is no stagnation but a lively activity. I would like to see the life of the city still continuing in close proximity to the University and its colleges, and I believe that there need be in this no loss of those quiet influences [which are so valuable]. We can guard them if we are careful in our planning and know what it is we want to do.'

The pamphlet shows a most enlightened and imaginative understanding of Oxford's planning problems. Since writing it the Warden has become Vice-Chancellor of the University. That there should be a Vice-Chancellor who is even interested in planning, let alone one as well informed and understanding as the Warden, is a striking piece of good fortune at a time that is critical for Oxford's future.

Urbanism at Yale

The graduate programme in City Planning at Yale has already begun to leave behind it a trail of valuable papers—specialized studies of general aspects of town design, or detail considerations of particular localities—and has now produced its most important by-product so far: a collection of studies and projects which the director of the programme, Christopher Tunnard, brushes off as merely a sample. Even so, this small book covers such matters as notes on a town-planning exhibition for circulation in Virginia; a Fiske Kimball paper on Thomas Jefferson's views on urbanism; studies of industrial location and the function of two golden horses at the head of Arlington Bridge, Washington, D.C.; Huntingdon Brown on regionalism and zoning in Connecticut; the inevitable tape recording of the equally inevitable discussion on monumentality, enlivened in this case by the presence of Sir William Holford, and a shrewd question from another Briton, Colin Rowe; and an important study of the master-planning of the St. Lawrence Seaway project, a piece of regional redevelopment whose scope and consequences are still too little appreciated this side of the water. The subject matter is very varied, but the quality of the papers in *City Planning at Yale* is consistent, and if this is just a sample, and not a creaming, the Yale programme is clearly one of the most significant enterprises in this field of design education.



GERMAN REBUILDING: The exhibition of post-war German Architecture at the RIBA (until March 24) is, inevitably, largely concerned with the rebuilding of bombed areas, not only in terms of re-creating the capital equipment necessary for the maintenance of human activity, but also in terms of re-creating urban scenery to form a setting for that activity. The heavy lead of historical association carried by surviving monuments in the central areas of towns has called forth a variety of solutions in the outlining of aesthetic policy, but it has not prevented the bold employment in some cities, such as Cologne (above), of modern design idioms, which add life to the townscape scene by the stimulating contrast between old and new. The building is for the Cologne Chamber of Commerce, architect Karl Hell, and was published in the AR issue December 1953.

Old Elgin

Another useful local-architecture study, more or less comparable in scope with Miss Moody's *Silhouette of Malvern* (Marginalia, AR, October, 1953) is *Old Elgin*, an illustrated survey by Ronald Cant and Ian G. Lindsay, issued by the Elgin Society. Though it tends to value mere age above design, it is animated by a developed sense of *genius loci:* '. . . just because of its very excellence (the Cathedral) may be regarded as embodying nearly the entire claim of the city to architectural consideration, and it may be thought that "Old Elgin" will be adequately preserved if the cathedral and its immediate surroundings are preserved from desecration. In fact, as it is the purpose of this survey to show, the ancient character of Elgin is a much larger and more complex thing, derived from a whole series of features of which the cathedral is but one . . .'

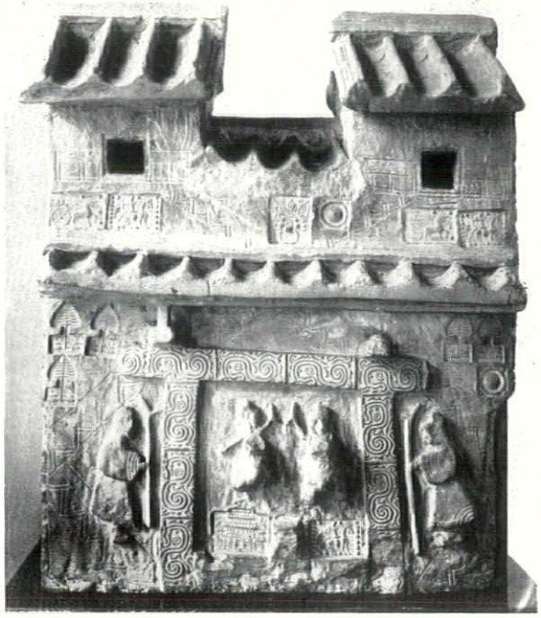
The study of the town then, quite naturally, starts with the ancient walls and gates, and the historical types of building plot—basic factors in the development of this sort of town—follows through house-building and industry to public edifices, then Georgian developments, and arrives at a detailed description of the Cathedral half way through the book. A closer study of other buildings then follows, but all particular matters have already been firmly fixed in the generalized context of the town before this is undertaken. Had this holistic approach been driven further in the purely visual field, the authors might have used less space in balancing out their own opinions about St. Giles' Kirk—a Neo-Grec rebuild by Alexander Simpson of the eighteen-twenties—and given it its due in the make-up of the town's character. The problem here is surely not one of the ethics and advantages of letting good Gothic alone, but of recognizing that the tidy-minded symmetry of Simpson's portico and the axial placing of the fountain in front of it give a stiffening of order to the characterful chaos of the High Street in a way that an informally shaped structure on the same island site never could.

Brixton School of Building

Within ten years of the establishment of technological training, under the Technical Instruction Act of 1889, the Technical Education Board of the LCC had reported that the workers in the building trade, the second largest body of skilled craftsmen in London were without provision for advanced training. At about the same time an abandoned group of buildings, once a swimming bath, later a polytechnic, became available in Lambeth, centrally placed for the area in which a great proportion of London's building trade operatives then lived, and the LCC, having negotiated a difficult and apparently precarious purchase, opened the first classes in building technology there in January, 1904.

Since then the Brixton School of Building, as it is now called, has proliferated and extended and made itself the main centre for technological training in the building crafts and structural sciences in the London area. In 1906 a school of architecture was added, directed and organized by Beresford Pite,





CHINESE EXHIBITION: During the summer months the Department of Chinese Antiquities of the British Museum assembled into a single exhibition a number of pottery objects belonging to the Han period; these were supplemented by rubbings from bricks and tombstones from Chinese Museums. The watch tower, above left, a few feet high in glazed pottery, and the ornamental brick, above right (thirty one inches high), were put into tombs to provide the dead with all that had surrounded them in life. In addition retinues, or rather images of them, took up residence with their masters. The Han dynasty, which lasted from 202 BC to AD 222, united China and greatly increased her wealth; during it the arts flourished, especially pottery and sculpture, and Buddhism was first introduced.

and is now an RIBA 'listed school,' while in the intervening years the school had pioneered courses in such subjects as Foremanship and reinforced concrete technology. As the provider of complete technological training, from junior school level upwards, it has contributed certificated, diplomated, and be-medalled technicians to many branches of the building industry, and during its wartime exile in Berkshire it bequeathed to the town of Bracknell some unexpected ornamental brickwork, garden sculpture, a barrel vault, and a saucer-dome in fibrous plaster. The war also saw the gutting of the great hall, a remarkable structure which had been the actual bath-house of the original buildings, but the original entrance block to Ferndale Road—a forceful study in Victorian polychromy and banded brickwork, had already disappeared in the thirties, replaced by a larger structure in the undistinguished School-Board-Queen-Anne manner then current.

The complete story of the School's progress and activity is to be found in the jubilee publication *The First Fifty Years*, which may be obtained from the School, price 2s. 6d.

CORRESPONDENCE

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—In the December issue of the REVIEW you illustrate two textiles designed by Henry Moore and manufactured by David Whitehead Ltd.

One of them is severely criticized because of its complexity and because the colours are 'useful.' At the same time you praise earlier designs produced by Whiteheads which use 'brilliant vermilion and green and black on a white ground.'

I feel that this criticism raises issues of policy which are important to industrial designers and in fact to architects.

The designs on white grounds, while very attractive were in fact very difficult to sell, whereas designs on coloured grounds using similar motifs sold well, in other words they were less 'useful.' If we are designing for use we must consider the needs of the user or our designs will remain attractive exhibition pieces. Art for art's sake is a dangerous and, in fact, impossible doctrine for the industrial designer.

Yours, etc.,
TOM MELLOR
(Design Consultant to David Whitehead Ltd.)
Lytham St. Annes.

[*Mrs. Diana Rowntree, author of the article referred to, writes: Mr. Mellor raises the point, fundamental to all Industrial Designers, of the intrinsic conflict of their aims. They must perpetually reconcile the claims of function and appearance. This difficult task is further complicated by the most deceptive of all figures—sales statistics. These are particularly tricky in the Textile trade where Fashion is given its head and styles succeed each other with breath-taking speed. The actual sales of a design at a particular time are not necessarily a guide to the potential sale of that design at the psychological moment. Besides, sales also depend upon a factor right outside the designer's influence—salesmanship.*

I am not clear what Mr. Mellor means by policy. If he means the extent to which the designer should consider his client's sales and the extent to which he should please himself, that is unfortunately a problem that arises afresh with every design. Surely genius lies for him in discovering how to please both at once.

My own policy as a critic is to uphold the highest standards of beauty, and to clarify issues.

I assume that Mr. Mellor read my review on the Henry Moore textiles with close attention. So he will know that I think there are three ways of designing a colour scheme in relation to grime. First to choose colours as near as possible to the colours of dirt. Secondly to introduce the principles of camouflage, and use strong contrasts. Thirdly to use the cleanest looking colours you can think of, and pay to have them cleaned. My personal prejudices are in favour of the third course. To the designer the second way calls for the greatest skill, but there is no limit to the beautiful fabrics that could be conceived under this heading.]

Intelligence

Three new members have been appointed to the Committee which advises the Minister of Housing & Local Government on matters concerning buildings of special architectural and historic interest. Professor Sir William Holford is chairman of the Committee and the new members are Lord Euston, J. D. K. Lloyd and W. A. Eden.

Professor Gordon Russell, C.B.E., M.C., R.D.I., an original member of the Council of Industrial Design, and its Director since 1947, received a knighthood in the New Year's Honours List.

British experts have been selected to plan the development of Baghdad. Anthony Minoprio, a partner of Minoprio and Spencely and P. W. Macfarlane, was approached when lecturing for the British Council in Iraq in 1953. The firm is to provide a master plan for the whole city and four larger-scale plans of the oldest and most densely built-up areas, including one of the central area.

ACKNOWLEDGMENTS

COVER, Galwey, Arphot. MARGINALIA, page 151: British Museum. FRONTIS, Kenneth Browne. OFFICES AT POOLE, pages 158–167: Nos. 1–8, 10–13 and 15–19; Galwey, Arphot: Nos. 9 and 14; John Harris. COLEMAN OF SINGAPORE, pages 168–179: Nos. 1 and 20, Colonial Office Library; Nos. 9, 12, 16, 17, Dr. C. A. Gibson-Hill; Nos. 3, 4, 5, 10, 11, 13, 18, 24, Marjorie Doggett; Nos. Frontis, 14, 15, 27, T. H. H. Hancock; No. 19, Singapore Public Relations Office. HOTEL AT LAGOS, pages 181–186: Nos. 2 and 10, Sam Lambert; Nos. 1, 3, 4, 5, 6, 7, 8, 9, A. C. P. CLOSURE, pages 187–190: Nos. 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, I. de Wolfe, Arphot; No. 5, Fox Photos Ltd. CURRENT ARCHITECTURE, pages 191–194: Laboratories at Wythenshawe: Elsam, Mann & Cooper. School at Enfield, John R. Pantlin. Police Station at Oxhey, John R. Pantlin. MISCELLANY, pages 195–210: Mineral Workings, Nos. 2, 3, Sylvia Crowe; No. 4, McCallum, Arphot; Nos. 5, 7, 8, 9, K. G. Browne, Arphot. Exhibitions: Nos. 1, 3, R. B. Fleming & Co., by permission of The Arts Council of Great Britain; No. 2, Tate Gallery; No. 4, W. Churcher; No. 5, Deste; No. 6, John Underwood. Lettering, Galwey, Arphot. Sculpture, No. 1, Rudolph Burckhardt; No. 3, Nederlandse Projectie Centrale. Outrage, No. 2, Ian Nairn. SKILL, pages 205-220: Furniture Review, Nos. 1, 2, 3, 9, 10, 21, 27, 29, 31, C.O.I.D.; No. 4, Parker-Knoll Ltd.; No. 5, Miles & Kaye Ltd.; Nos. 7, 8, 14, Mann Bros.; Nos. 11, 12, H. Morris & Co.; No. 13, E. Atkins Ltd.; No. 15, Caradoc Williams; Nos. 16, 17, 26, Heal and Sons; No. 18, Gordon Russell Ltd.; No. 22, Luke Kynaston; Nos. 24, 28, Loughboro' Cabinet Manufacturing Co.; No. 25, L.M. Furniture Ltd.; No. 32, Kandya Ltd.

Offices at Poole

The blocks for the colour half-tones on pages 161 and 164 were made available by the courtesy of Messrs. Plyglass Ltd.

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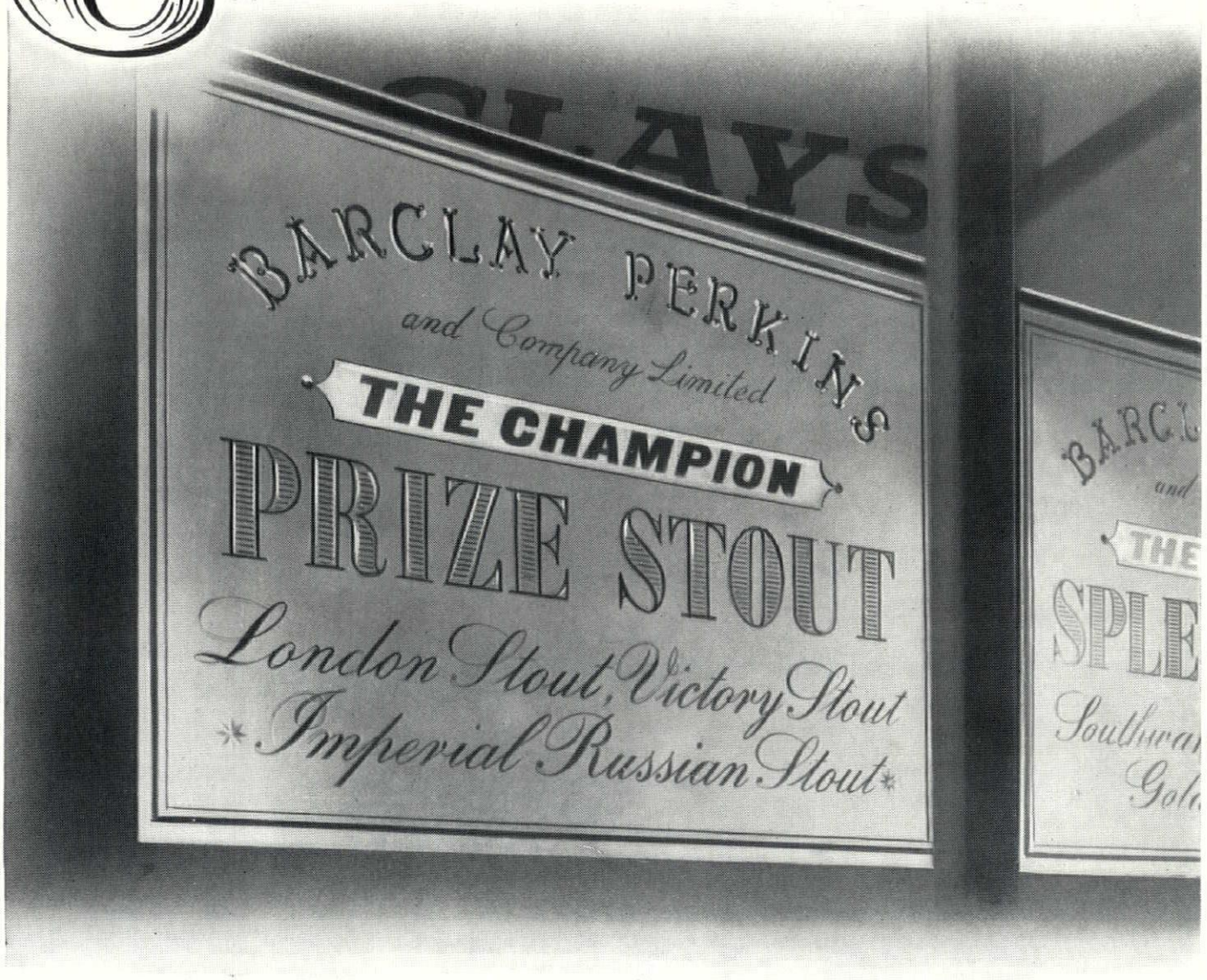

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THE ARCHITECTURAL REVIEW

Volume 117 Number 699 March 1955



This month's cover salutes an important step towards the recovery and re-creation of the tradition of good public lettering in general, and good public-house lettering in particular. The lettering on the Champion public house, which was described in last month's ARCHITECTURAL REVIEW, is not merely revived Victoriana, but an attempt to create a live sign-writing style from first principles, having regard to the character and function of the place where it is displayed. The methods by which these principles and letter-forms were arrived at, and the relationship between designer and craftsman which was necessary for their realization, are described in a note on pp. 200-202.

151 **Marginalia**

152 **Correspondence**

154 **Frontispiece**

155 **Walter Gropius** *by E. Maxwell Fry* The work and personality of Walter Gropius are among the most distinguished features of the Modern Movement in architecture, and on the occasion of the publication of Professor Giedion's new study of Gropius, *Work and Teamwork*, Maxwell Fry has set down his impressions of the great pioneer as a person, as a collaborator, and as an influence on the machine-age architecture of England and the world at large. He draws attention to the affection and esteem which Gropius has always attracted, his seriousness, his devotion to logical analysis, and his sustained faith in the idea of liberation through the machine. The last is perhaps his most remarkable intellectual achievement, for in spite of the deadening influence which machine repetition can have on some creative temperaments, Gropius has shown, with his developed and humane concept of team-work, how the creative artist can be built into the design process. To do this he invented the Bauhaus, and the reverberations of that pioneering gesture can still be felt today, for the need of an all-embracing union of the arts and of a close grip on the machine in all its variety is with us still and the influence of the Bauhaus experiment on the design of everyday objects is still visible in the shops.

158 **Offices at Poole:** *Architects, Farmer and Dark*

168 **Coleman of Singapore** *by T. H. H. Hancock* Unlike some Colonial territories which were opened up in the period immediately following the Napoleonic Wars, Singapore's primary stock of building types, and of surviving buildings, were not rudely utilitarian structures erected by military engineers, but works of some distinction by George Drumgoole Coleman, who came to the Colony within the lifetime of its founder, Sir Stamford Raffles, and shaped the course of its architectural and urbanistic development for fifteen vital years. Little is known of Coleman's early history, and he reached Singapore by way of India and the Dutch East Indies, but having arrived he rapidly established himself in local favour, designing a residency for Sir Stamford Raffles, and becoming involved shortly afterwards in the formulation of the basic town-planning regulations which have governed the street plan of the Colony ever since. Coleman left Singapore for a short time when Raffles left in 1823, but he returned and remained in his colony, except for a trip to Britain to mend his health and to marry, until his death in 1844. He contributed to the architectural heritage of the city public and private buildings and a late-Palladian repertoire of architectural usages, developed in accordance with climatic needs in the form of deep porticoes and colonnades to give shade from the sun. Mr Hancock lists his buildings and chronicles his manifold activities, which included the founding of a newspaper and the opening up of the interior by road-building and surveying, and regrets that so little is known of his personality, for the ability with which he grasped the opportunities offered by the undeveloped city-site must be as unique among English architects as his distinction of having designed a church for the Armenian rite.

180 **Preview: Hotel at Lagos:** *Architects Co-Partnership*

187 **Closure** *by Gordon Cullen* Unlike enclosure, which creates independent and self-contained interior spaces, the function of closure is to punctuate and measure-off continuous linear experiences, such as streets, into humanly digestible units. A building which provides closure does no stop a vista, it marks a step along it, and suggests further extensions of the space beyond. Mr. Cullen illustrates the use and function of closure with examples taken from various English towns, including a progression through the central complex of Blandford Forum, and notes how the occurrence of closure helps to provide a human scale in pedestrian circulation, and a sense of identification and location in city centres. Further he notes how this device can be used to enhance the visual importance of certain buildings, for any structure so placed to create a closure must automatically occupy a prominent site, and, probably a key position in the town's circulation network as well.

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214 **The Industry** 218 **Contractors, etc.**

The Author *T. H. H. Hancock*, senior architect in the Public Works department, Singapore. Born in Essex, 1913; qualified at the Bartlett School and worked in private offices before the war. Subsequently with the Air Ministry and Federal Town Planner for the Malayan Federation. Has just completed renovation of Coleman's Court House (illustrated on page 176) for use as government offices, rescuing it from demolition.

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THE ARCHITECTURAL REVIEW

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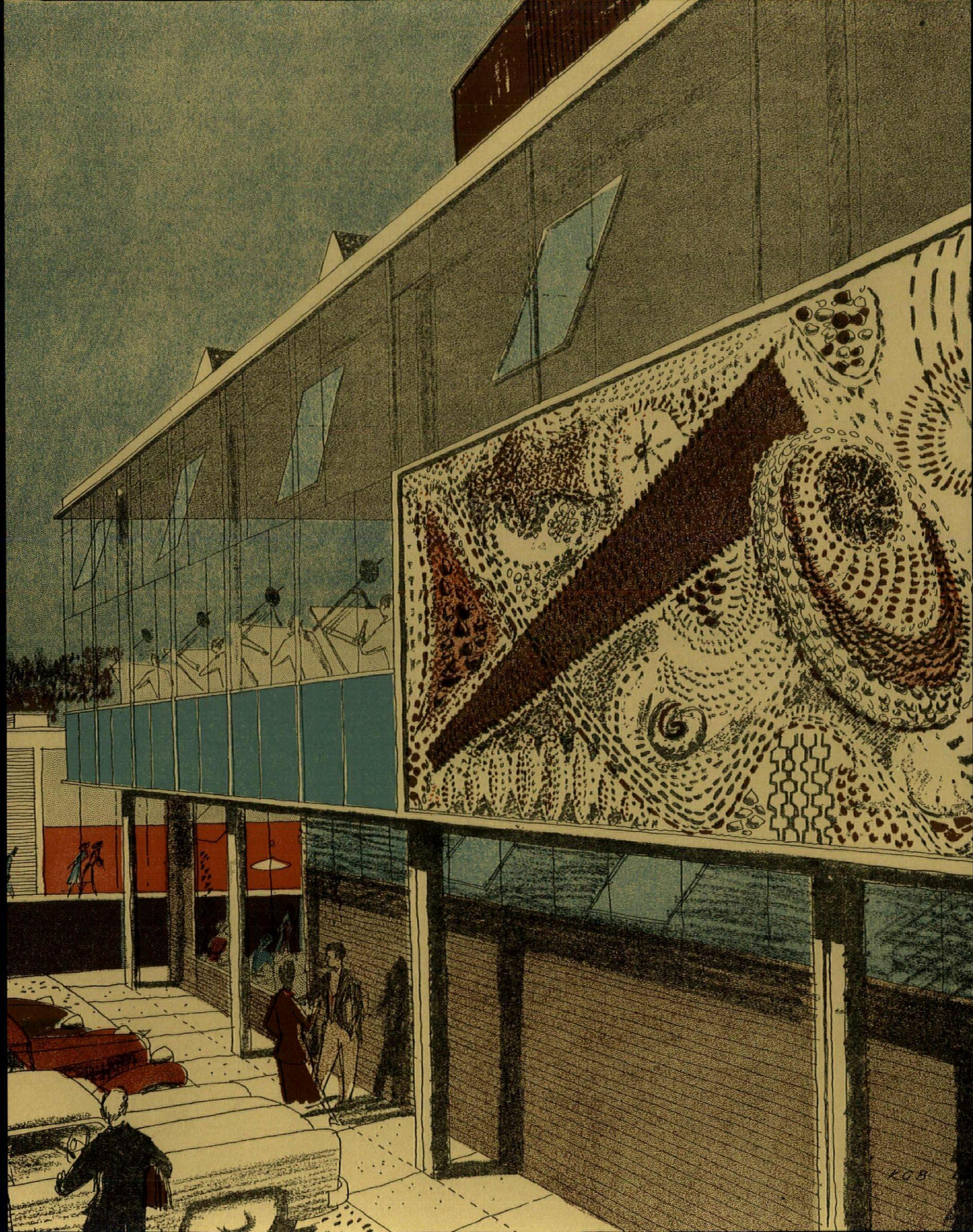
FIVE SHILLINGS



Collaboration between architect and artist is much discussed but rarely practised—possibly because each is jealous of his own preserve, and the effect of the other's work upon it. The pebble mural on a new office-block at Poole, Dorset, which is seen opposite  *in a drawing by Kenneth Browne is important because it offers a way out of this dilemma, the architects having provided the wall-space and the materials—pebbles and fossils from local sources, and lengths of aluminium extrusions manufactured by the client—and having given the main lines of the composition as they related to the building, then left the artists—in this case a group from Bournemouth school of art—a free hand to develop the rest of the design within these clearly defined limits. Further illustrations of the finished composition are seen on page* 164.

E. Maxwell Fry

WALTER GROPIUS*

I first came in contact with Walter Gropius in 1933, when I helped in some small capacity to organize an exhibition of his work through the R.I.B.A. He must have come over to England at that time, for I remember a meeting in the School of Hygiene & Tropical Medicine arranged by the Design & Industries Association, where Gropius introduced us to our more serious tasks in an atmosphere of tense excitement and breathless enthusiasm.

I can remember exactly the overcrowded room and he standing among us, speaking with the utmost clarity in broken English of how we could mend the disunity of our machine civilization, and what moved us was the mixture of humility and authority with which he addressed us. It gave us in the moment an unexpected accession of strength and assurance. The theme was already familiar, but not the depth of purpose with which he invested it. The next year Gropius left Germany and through the mediation of J. C. Pritchard, his host during his stay in England, became my partner.

Looking back on that period of partnership with Gropius I have the sense of not properly appreciating my good fortune for two reasons: first, because England lay outside the currents of European thought and entered when the main flood was subsiding and retreating before totalitarianism; and, second, because there is in the English character a vein of anarchism, amounting at times to pig-headedness, that rejects the logical approach and the commonly shared view in favour of going through the independent experience come what may.

What saved me was Gropius's power of drawing affection and respect from those with whom he came in contact. His buildings I already respected, but could not love as I did

* *Walter Gropius, Work and Teamwork*, a biography by Siegfried Giedeon, was published in December by the Architectural Press, price 42s.

Mies van der Rohe's Tugendhat Haus, but the over-seriousness that somewhat diminished the pleasure in his buildings is an entirely lovable attribute in the man. You cannot be patient and understanding without broad sympathy.

It was some years later, in 1944 to be exact, that Jane Drew and I visited the Gropiuses at Concord and during an evening of great talk Gropius picked on a phrase from our Architecture for Children book which had just been published, in which we had suggested that we would perhaps be better off without machines but, having them, had better make the best of them. His distress at the quantity of doubt expressed showed clearly how devoted he was to the thesis of liberation through the machine, and, vice versa, of a life interpenetrated by the machine idea.

I am not suggesting that the machine limits the range of his ideas, for one has only to recall the list of his collaborators at Dessau, and especially Paul Klee, to recognize that this was not so, but that the full force of his intelligence was directed toward it, continuously and unremittingly, and over the whole field of its operation, and even, as in his total theatre, beyond it, is the impression that talk gave me again.

Gropius alone recognized the weight and importance of it, as proof of which is the patience with which he built up the structure of the Bauhaus, elaborating a method by means of which, not from one but from several sides at once, the machine idea could be illuminated by a variety of intelligences and feelings; and from being a single idea became multiform, germinating and expanding.

To do this meant deferring the practice of architecture itself and acting as a god behind the machine; working, as indeed he early trained himself to do, through others.

A capacity to stand by the logic of a set of facts or deductions Gropius shares with Le Corbusier but saying so gives rise to a comparison that leaves Gropius more intellectually but less intuitively in command of the situation because his ends are more nearly in view, while Corbusier, who invented the slogan of the house being a machine to live in, gave the machine a rough time from the beginning and under certain circumstances could forget it entirely, his ends tending towards pure art and philosophy like the third great exponent Mies van der Rohe, whose manipulation of steel structure for his particular and remote purposes has set a schoolman's polemic in motion.

But what concerns us here is the truth of his main idea that is based on the manifold dominance of the machine in our civilization and of the need to unite it with art and make it serve society, and it is his method that so strongly sets him apart from his contemporaries who act like artists and architects, that is, without the compelling faith in an idea that to bring to any fruition requires more of patience and detail, a much closer penetration of the subject, a greater liking and understanding of industrial processes and industrialists' attitude to work than any of them possess or feel the need for.

There is a demon in the machine, a tendency towards evil and death that has constantly to be dealt with. The end of the machine is to reproduce endlessly. The rhythm of the machine is repetitive, a dead-beat, stupid, mindless. We invent the machine to reproduce, and at once we have to think of how and where to stop it, or we are lost. Because its end is to repeat, it is different from a tool because this repetitive purpose is dominant and must be satisfied. What is capable of being most often repeated is what best suits the machine, which explains why mass-produced cars succeed better than mass-produced houses, though even here the variability of human fancy intervenes in the logical process of reducing a world demand for cars to half a dozen types.

The search which Gropius conducts is for building norms capable of mass-reproduction

that can satisfy human variability and produce successive unities in terms of art. This is the germ of the Panel House system, the most important of all contributions in this field.

The pressure of the machine towards dead-beat uniformity is constant and the struggle to combat it by humanizing its dead rhythm reaches its height in the modern office building, where the human element is already reduced by multiplication of undominating digits to a point where it is difficult to give it significant expression, and where under pressure of minutely calculated finance machine-building smoothes away every feature on the gradually ossifying facades.

For proof, look at Corbusier's first UN building sketches which are alive, varied and significant where the final building is dead. But even Corbusier, both in the UN building and at Chandigarh, is hard pressed to give adequate expression to a big box of clerks, because we have to remember that in the organization of business and government the machine idea is, alas, at work reducing the individual to a cog in a machine, levelling, smoothing out, liquidating eccentricity, de-personalizing.

I am tempted to think that it is better to accept the truth presented by the problem so that we may see what we are doing with our civilization, and stop. But I know that human life is made possible only by identification and differentiation and that we cannot for one moment let up on the struggle to assert human values in place of materialism. Never before has the co-operation of artists and architects been more necessary. Men like Eduardo Paolozzi should be in on the sketch stage of our important office buildings, even if they come, as a priest went to a battle, to save our consciences.

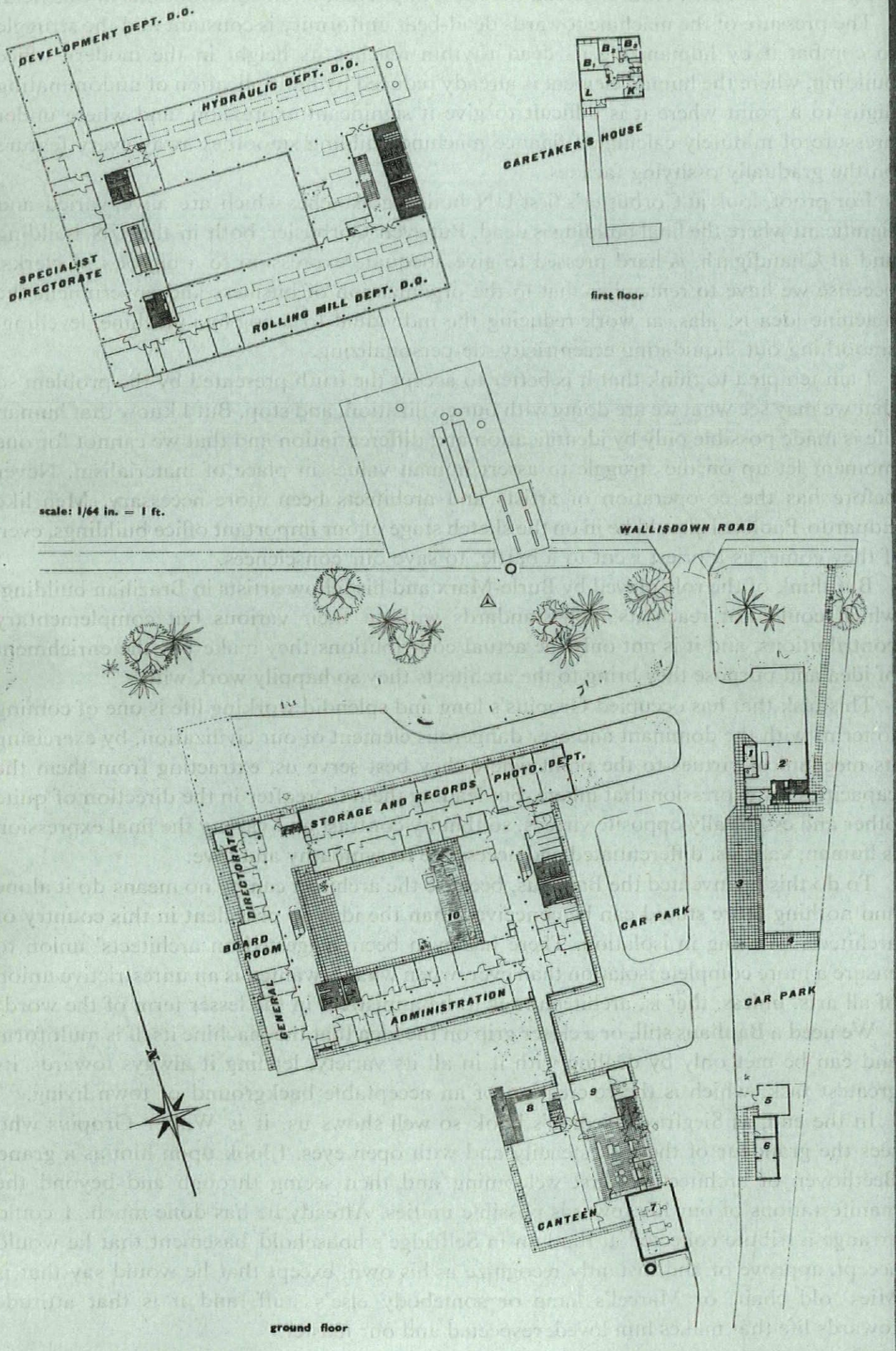
But think of the role played by Burle-Marx and his fellow artists in Brazilian building, which could not reach its high standards without their various but complementary contributions, and it is not only the actual contributions they make but the enrichment of idea and purpose they bring to the architects they so happily work with.

This task that has occupied Gropius's long and splendid working life is one of coming to terms with the dominant and ever dangerous element of our civilization, by exercising its mechanical virtues to the point where they best serve us, extracting from them the capacities for expression that inhere, but leading them thereafter in the direction of quite other and essentially opposite virtues, so that by contrast and variety the final expression is human, various, differentiated and accessible to sympathy and love.

To do this he invented the Bauhaus, because the architect can by no means do it alone and nothing more stupid can be conceived than the idea so prevalent in this country of architects working in isolation. There has even been suggested an architects' union to ensure a more complete isolation than ever, when what is wanted is an unrestrictive union of all arts, unless, that is, architecture is to be a mistress in the lesser term of the word!

We need a Bauhaus still, or a closer grip on the idea that the machine itself is multiform and can be met only by dealing with it in all its variety, leading it always towards its greatest task, which is the re-creation of an acceptable background of town living.

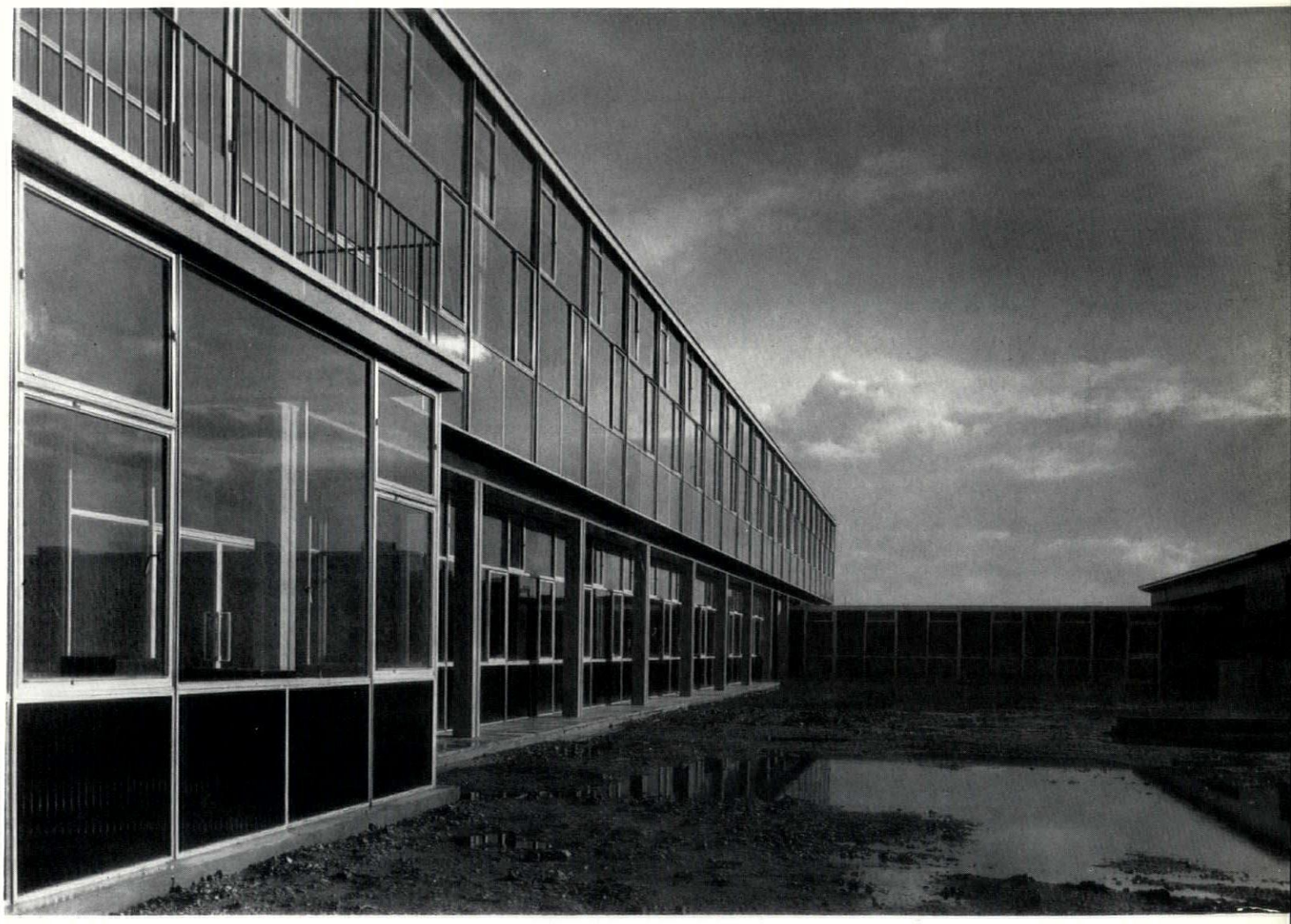
In the end, as Siegfried Giedion's book so well shows us, it is Walter Gropius who sees the grandeur of the task steadily and with open eyes. I look upon him as a grand Beethoven of architecture, first welcoming and then seeing through and beyond the manifestations of our life towards possible unities. Already he has done much. I could arrange a tribute collected at random in Selfridge's household basement that he would accept, approve of and instantly recognize as his own, except that he would say that is Mies' old chair, or Marcel's lamp or somebody else's stuff, and it is that attitude towards life that makes him loved, respected and our master.


DEVELOPMENT DEPT. D.O.
HYDRAULIC DEPT. D.O.
SPECIALIST DIRECTORATE
ROLLING MILL DEPT. D.O.
CARETAKER'S HOUSE
first floor
scale: 1/64 in. = 1 ft.
WALLISDOWN ROAD
STORAGE AND RECORDS
PHOTO. DEPT.
DIRECTORATE
BOARD ROOM
GENERAL
ADMINISTRATION
CAR PARK
CAR PARK
CANTEEN
ground floor
key
1, check point.
2, garage.
3, cycles.
4, motor cycles.
5, switch room.
6, stores.
7, boiler house.
8, directors' dining room.
9, recreation room.
10, pool.

OFFICES AT POOLE

ARCHITECTS | **FARMER AND DARK**

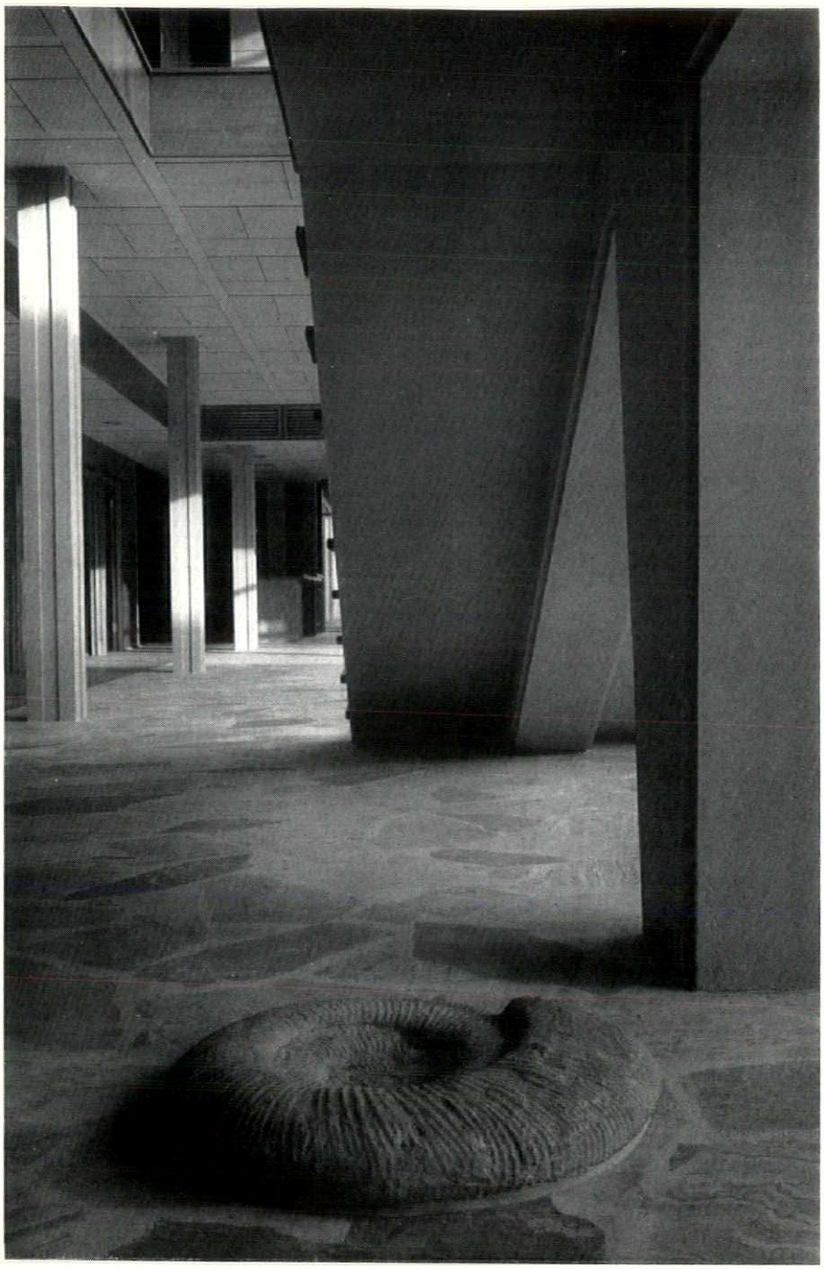
1, looking east to the link between offices and canteen.



The site of these offices for the Loewy Engineering Company is twenty acres of heathland fronting Wallisdown Road, north of Poole, Dorset, near the Ringwood road. The open site was chosen to give room for planning and to provide scope for proper grouping of buildings and landscaping—by Brenda Colvin—in pleasant surroundings. The scheme consists of an office building to house technical drawing offices and administrative departments and a factory for the manufacture and assembly of the machines designed. The office building and canteen, described here, are complete, and work has started on the first section of the factory. All are designed for extension.

The courtyard form evolved directly from the planning requirements—the provision of two main drawing offices for hydraulics and rolling mills which were required to

[*Continued on page* 165



2

2, underneath the west staircase ; the ammonite in the foreground was found on the site and set into the floor. 3, the administration wing from the south-east. 4-6, three views in twilight, dusk and darkness showing the extreme transparency and the effect of the columns rising through the building obtained by oversetting the upper floor. 4, looking west to the car port below the development drawing office. 5, the drawing office from the north-west, and 6, the directorate side from the south-west.



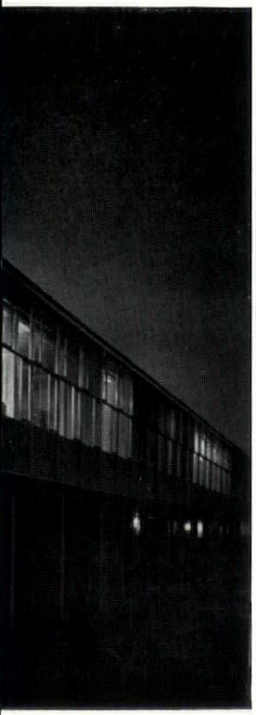
4



5



3





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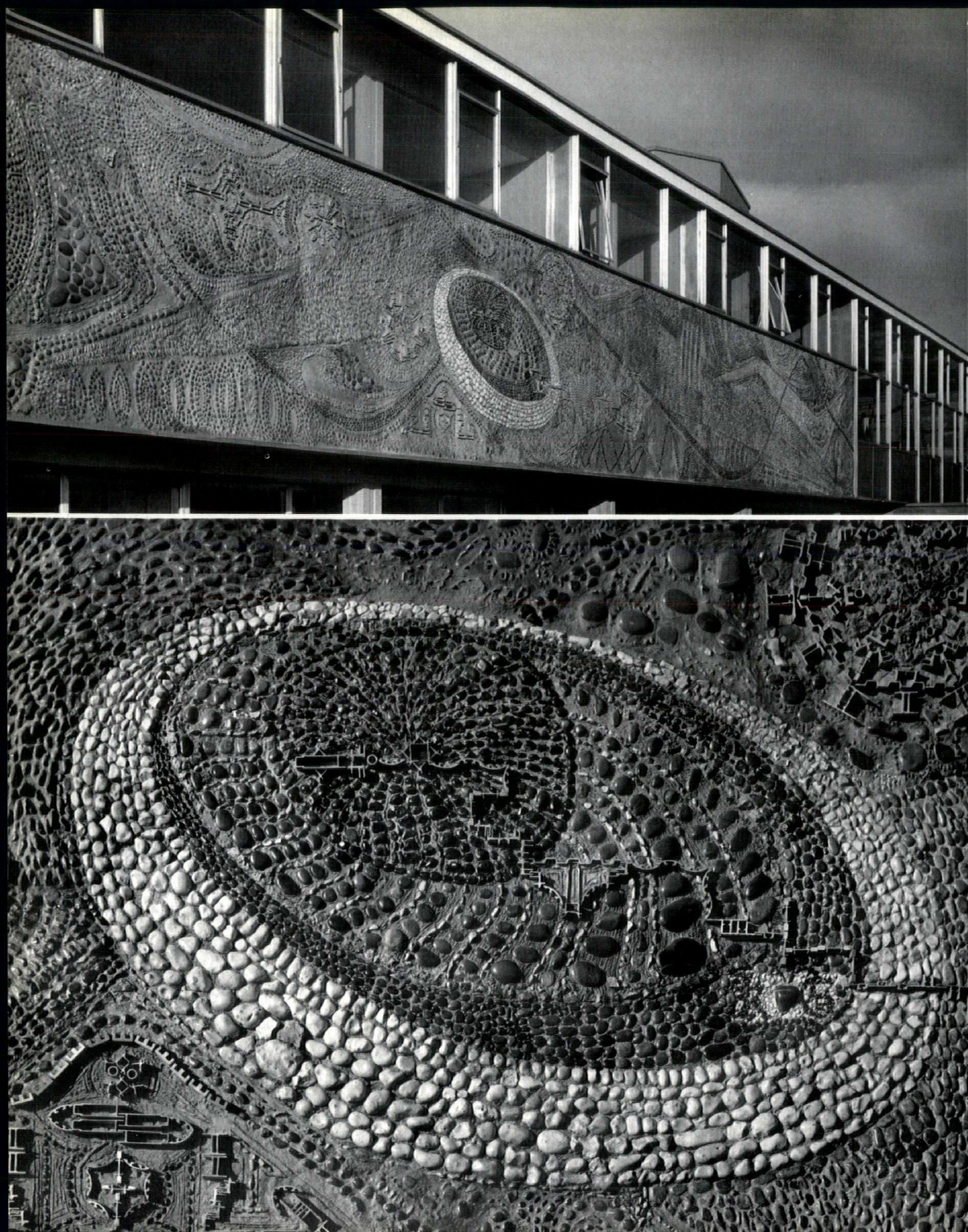
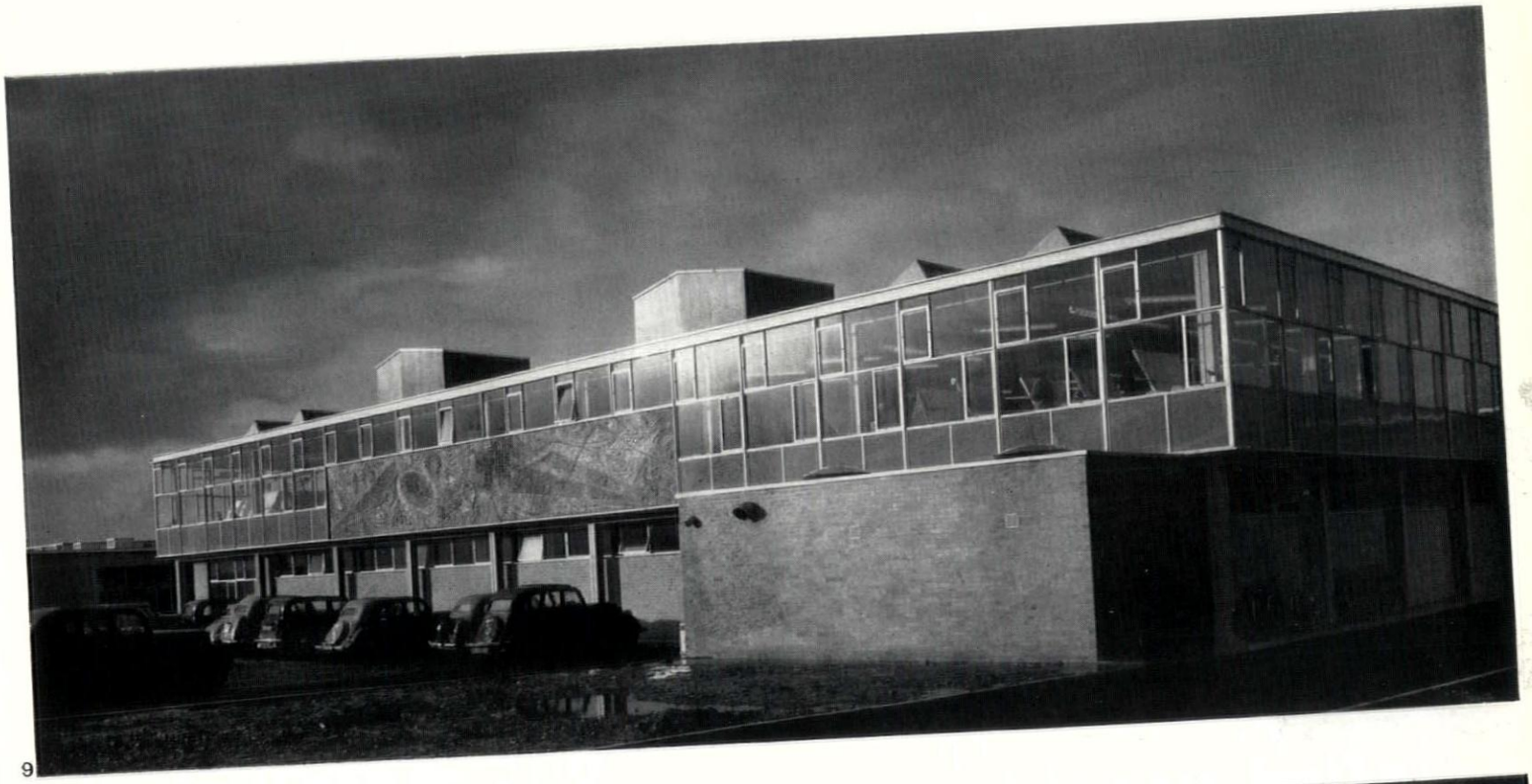


OFFICES AT POOLE

Opposite, 7, above, the mural on the east front, designed to a theme provided by the architects by students from the Bournemouth Art School. 8, below, a close view showing the pebbles and extruded aluminium sections. 9, the east side, with the photographic department in the foreground. 10, looking into the courtyard from the west, next to the main staircase.



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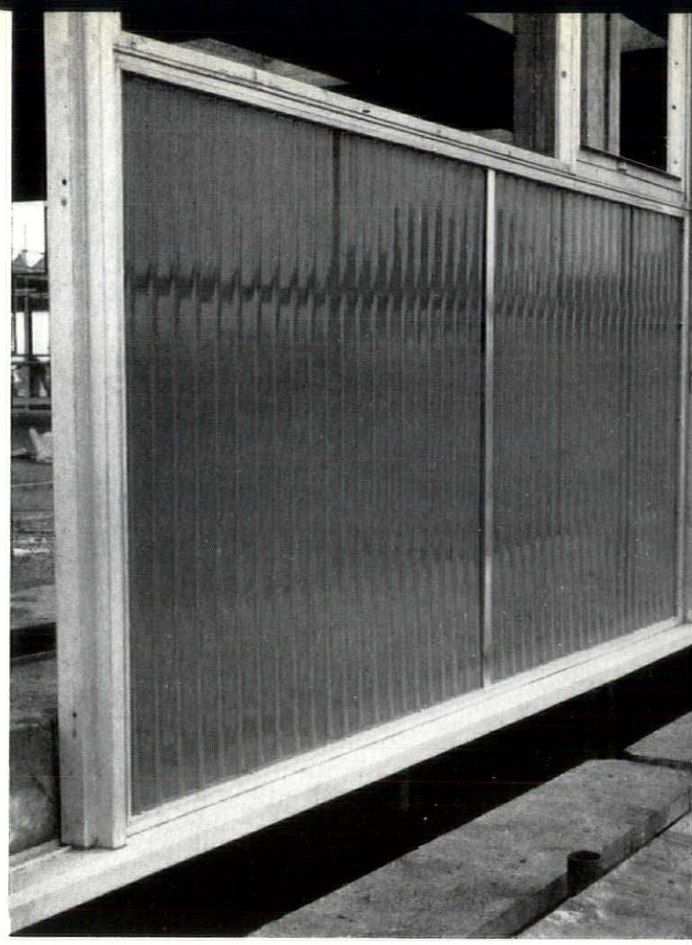
10

11, one of the panels of patent glazing on the first floor beneath the windows. 12, looking up the main staircase. 13, a similar view showing the courtyard. 14, the framework shown during construction.



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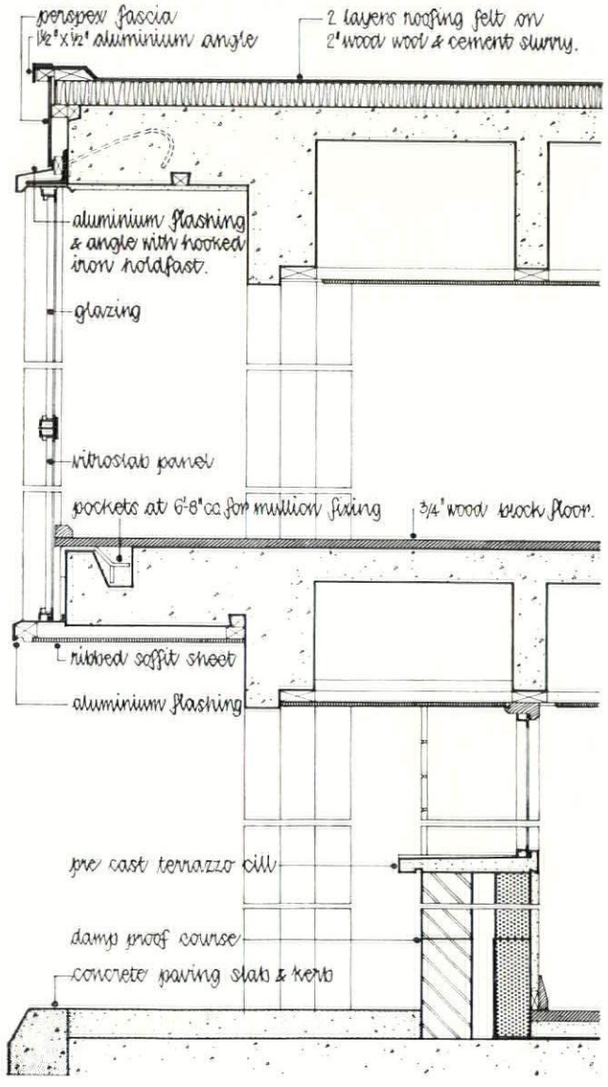
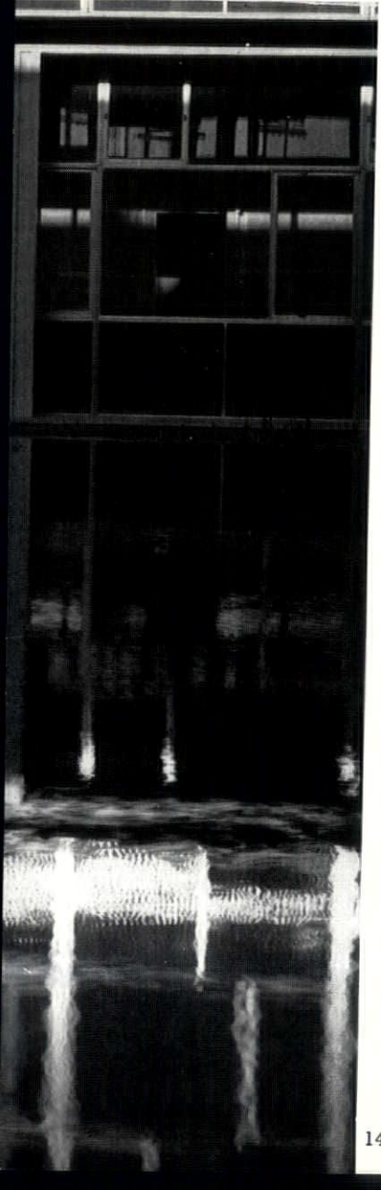


section through north elevation scale: 3/4 in. = 1 ft.



13



14

be independent of each other yet on the same floor, and with common requirements of staff amenities at one end and technical directorate at the other. These were placed on the upper floor for maximum daylight conditions and to gain clear spans whilst the general directorate, administrative departments and printing and record facilities are below them.

The internal walls were required to be in moveable sections of standard size where possible so as to allow for rearrangement of office space at will (the internal plan has in fact been altered three times during the course of the building period). This called for constant floor to ceiling height and the placing of partitions off the line of columns ; it also led to the design of all units on a common module, the dimensions chosen being 40 in. on plan and increments of 8 in. in height. The framework is of site precast reinforced concrete, columns and beams consisting of standardized sections cast in batches adjacent to their final position, erected in place and bonded with poured concrete cores. This system reduces the amount of shuttering required and increases speed in that the precast portions of each member are strong enough to carry a load immediately they are erected and therefore to allow construction to proceed while the *in situ* portion is still setting. Columns consist of two 9 in. by 3 in. precast leaves with a 9 in. by 3 in. *in situ* core. These carry primary beams, at 13 ft. 4 in. centres, of which the lower portions are precast ; precast secondary beams 10 in. by 3 in. are rebated into primary beams to provide a constant soffit and have standard holes in their depth to take services. Floors and roofs are of 3 in. *in situ* concrete with woodwool insulation to roofs. Walls are non-load-bearing throughout, with brickwork used only for toughness where adjacent to roads at ground level, in the kitchens and boiler-house and for

[*Continued on page* 166



15

Continued from page 165]

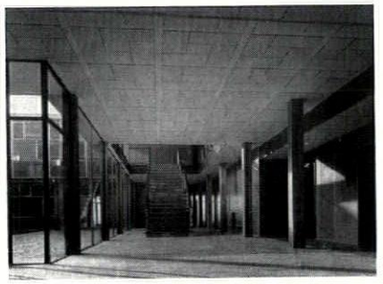
carrying basins and other fittings in fixed elements of the plan such as lavatories and print rooms. Window walls are framed in steel-cored polished aluminium mullions, the lower dado sections consisting of coloured glass panels backed with insulation; the fascia is of white perspex. Aluminium venetian blinds are provided on all south and west windows.

The internal partition units are hardboard facing on a hollow core and are held top and bottom by small fillet moulds. They are designed with a four-way joint and flush pine cover strips and are finished with clear emulsion glaze. Ceilings are of perforated acoustic tiles made up in panels, and screwed to beam soffits. The recessed strips in these panels accommodate head fixing for partitions. Partitions run to ceiling height in all cases and borrowed light to internal corridors is obtained by fully glazed doors. Floors are generally of teak block with jointless plastic flooring in permanent corridor and storage areas and variegated random marble paving in the main entrance hall. Staircases are of reinforced concrete with teak treads inlaid with red rubber.

Heating, by oil-fired boilers, consists of a combined system of convected warmed air and hot-water radiators. The heating system is divided into several circuits all independently regulated by thermostatically-controlled valves, while the boilers are also automatically controlled by means of photoelectric cells regulating the flow of oil fuel to the burners. In the drawing offices



16

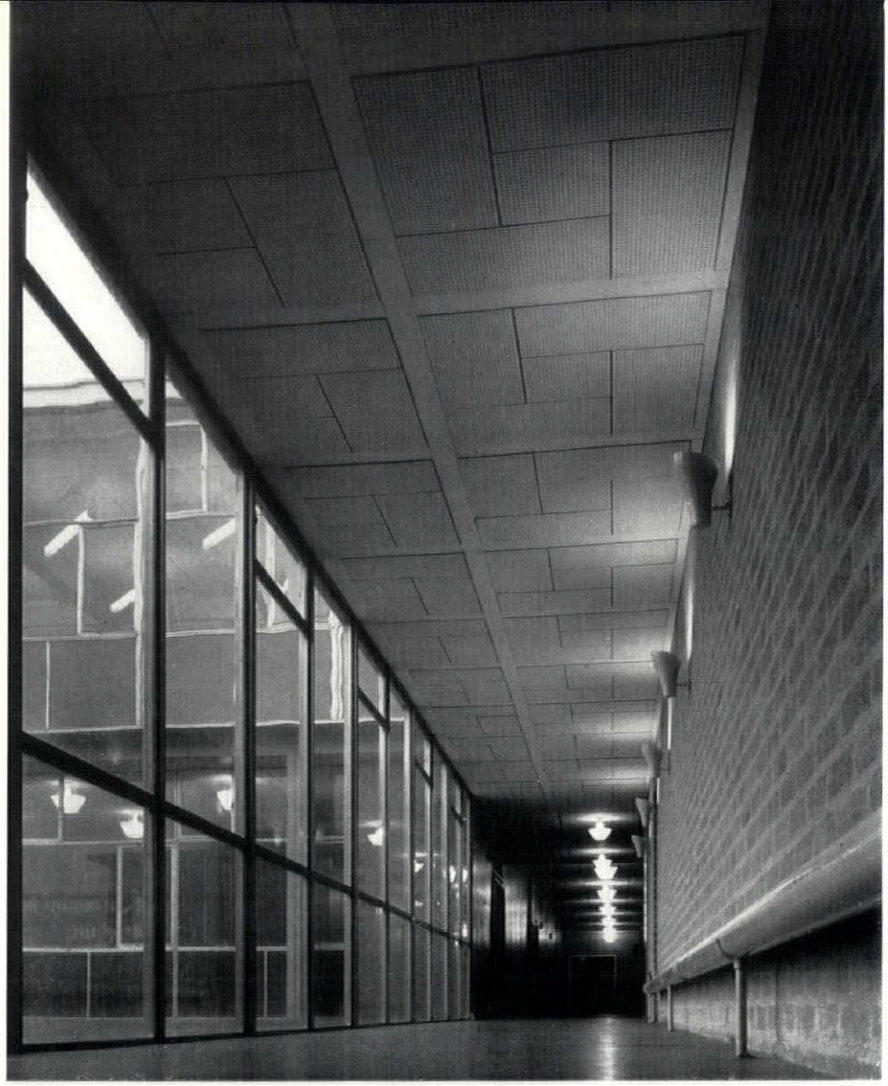


17

fluorescent lighting fittings are arranged on the basis of one 80-watt tube for every 35 sq. ft. Simple tungsten fittings are used generally in administration rooms and corridors, a design evolved by the Ministry of Education and the Building Research Station for use in schools.*

*Illustrated in AR July, 1953, page 59.

15, looking down the main (west) staircase. 16, the view from the vestibule through the car port. 17, looking down the corridor to the main staircase—the reverse of 15—and 18, the corridor which leads to the canteen, looking back towards the office block. 19, the hydraulic department drawing office, looking east.

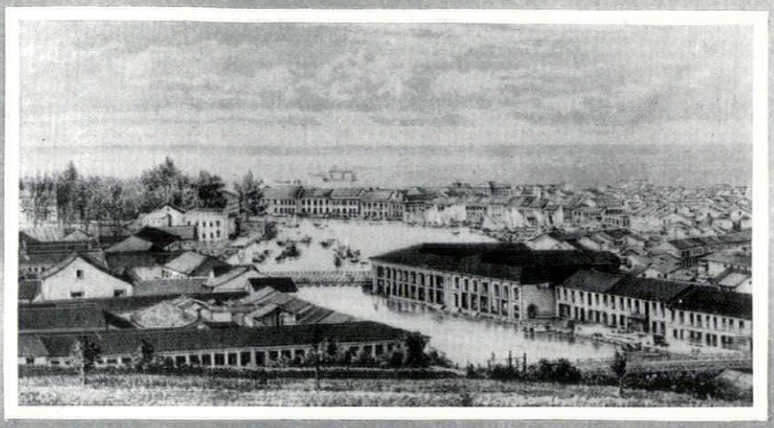


18



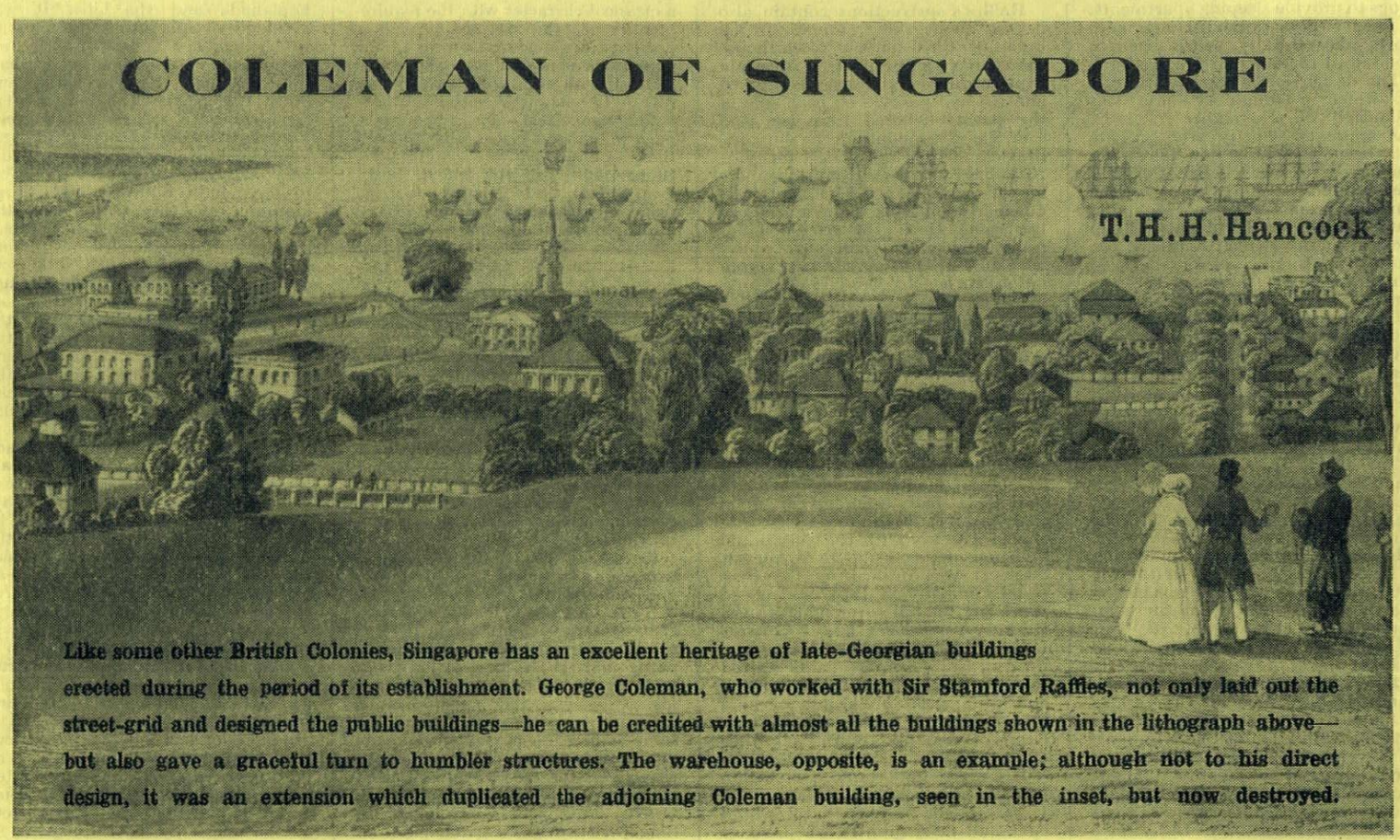
19

SINGAPORE



COLEMAN OF SINGAPORE

T.H.H.Hancock



Like some other British Colonies, Singapore has an excellent heritage of late-Georgian buildings erected during the period of its establishment. George Coleman, who worked with Sir Stamford Raffles, not only laid out the street-grid and designed the public buildings—he can be credited with almost all the buildings shown in the lithograph above—but also gave a graceful turn to humbler structures. The warehouse, opposite, is an example; although not to his direct design, it was an extension which duplicated the adjoining Coleman building, seen in the inset, but now destroyed.

During the period of colonial expansion after the Napoleonic wars British public buildings in the tropics were invariably built by military engineers with the aid of military building manuals. These buildings were usually of the simplest kind, and often coarse and crude. Singapore is an exception. The settlement had been founded by Sir Stamford Raffles in 1819. Seven years later—seven years during which the military had built inadequately what was necessary—a trained architect arrived who was to be the surveyor, planner and architect of Singapore for about fifteen crucial years.

George Drumgoole Coleman was born at Drogheda, Co. Louth in Ireland in 1795. His mother's family, the Drumgooles, were well known County Louth merchants, and his father was also a merchant. It is not known how the son was educated. His name does not appear in the registers of the Dublin Society nor of the Royal Academy schools in London. Nevertheless he must have received a good architectural training. He proved himself familiar with the classical standards and details of Georgian architecture in Britain, and may have travelled on the Continent too.

In 1815 he left Europe for Calcutta.[1] He had, if we can trust the Court despatches or minutes of the East India Company, no permission to go to India. In spite of this, he began at once to practise as an architect at Fort William and in the Calcutta district.[2] He designed and built many private houses for merchants, and in 1818 gained the patronage of John Palmer, one of the most influential and famous of them.[3] One year later Palmer received a letter from van Braam, who represented the interests of the Dutch Java Government in India after the restoration of the Dutch colonies (occupied by the British during the Napoleonic wars) asking him to obtain in Calcutta plans for a cathedral and a Scotch Kirk to be built at Batavia. In July Palmer answered that plans were in preparation, but added that he did not think much of them.[4] He then referred to designs made by Coleman and expressed his belief that the Governor General Baron van der Capellen would like them better. In December, 1819, the plans were despatched, and in his covering letter Palmer says:[5]

> 'I also send you a much more beautiful plan of a church designed by an ingenious young artist here, who would most gladly proceed on your encouragement to Batavia, in order to construct the church if you preferred his design to either of the other plans. Indeed, if you could hold out any encouragement to him as a *Builder* I would send him down: for the field here is fully occupied by persons who have greater resources and protection: Whether you employ him or not, or adopt his design, perhaps you will authorise me to make him a present for this beautiful specimen of his talent, and the labour he has bestowed upon it. *His name is Coleman* and he has skill in the construction of vapour baths, one of which embraces various modes of bathing, he has built for me these three years past and which answers famously.
>
> 'The enclosed receipt will obtain you the plans of the Churches. St. John's and St. Andrew's are together: The *Gothic* structure separately.'

It is interesting to note here that these designs by Coleman were in the Gothic style, a style not yet used often for new churches at the time, and one never again used by Coleman for anything. Coleman's designs were accepted, and he sailed for Java a passenger in John Palmer's own ship, the 'Baroness van der Cappelen' in March, 1820. He narrowly escaped shipwreck in the Indian Ocean. The 'Baroness van der Cappellen' was almost completely dismasted, and lost her sails, boats and anchors. The return of the ship early in April, 1820, to the Hooghly, brought Coleman back to Calcutta, but by late May he was again bound for Java in the refitted ship.[6]

Unfortunately Coleman's design was in the end not carried out, for van Braam died before Coleman's arrival in Batavia. In spite of this Coleman remained for nearly two years in Java, surveyed large sugar plantations in the interior, designed private buildings and sugar mills and erected machinery for the milling of sugar. During this period he must also have become familiar with the charming old buildings erected by the Dutch settlers in the seventeenth and eighteenth centuries, and the Dutch Government buildings in Batavia, the capital of the Dutch East Indies.

It is not known what reasons determined Coleman to obtain an introduction to Sir Stamford Raffles and leave Batavia for Singapore. He travelled in June, 1822, and had to wait four months for Raffles's return from Bencoolen in Sumatra. During these months he designed—'on spec.' it seems—a Residency House. When Raffles saw this he expressed great satisfaction and at once asked Coleman to design a garrison church. Coleman received fees for both designs, and Raffles built the Residency in November, 1822, at the top of Bukit Larangan, the 'Forbidden Hill,' now named Fort Canning.[7] The building, completed by January, 1823, was built in timber with a thatched roof. These were not necessarily the materials envisaged by the architect.[8] The Residency was described as a neat bungalow, 100 feet in frontage, and 50 feet deep, with rough plank walls, Venetian windows and an attap roof (nipah palm thatch). Coleman's plan comprised two parallel halls with front and back verandahs, terminated by two square

[1] Commonwealth Relations Office, London. Boards Collection No. 58695, pp. 160-165. Letter dd. 23.1.1833 from G. D. Coleman to S. G. Bonham, Resident Councillor, Singapore.

[2] As late as 1827 Coleman had no licence to settle in Singapore. There were several other Europeans in the same position. Coleman was permitted to remain, and in June, 1827, became an uncovenanted servant of the East India Company.

[3] John Palmer (1767-1836) was the second son of Major (later General) William Palmer, confidential secretary to Warren Hastings. He was the friend and confidant of almost everyone holding high office in the East from the Governor General down. He often acted as a 'go between' on behalf of his Government friends in the Eastern Settlements and officials in the Supreme Government. His agency house, Palmer and Co., which occupied a unique position in India, extended its operations to Penang, Bencoolen, Pegu, Canton and later to Java and Singapore.

[4] Bodleian Library. The Private Letter Books of John Palmer. Mss. Eng. Lett. c. 88, f. 97.

[5] Bodleian library, The Private Letter Books of John Palmer. Mss. Eng. Lett. c. 89, f. 42, Letter dated December 5, 1819, from Calcutta.

[6] Bodleian library, *ibid.* f. 277-280. Letter dated April 21, 1820.

[7] Bukit Larangan or the 'Forbidden Hill' was so named as the old Rajahs of Singapore had built a palace on the Hill to which various dates in the early fifteenth century have been ascribed. The palace disappeared, but the tombs of the old Tamasik Kings and Rajahs of Singapura were there and the Hill was considered sacred.

[8] In his *Hikayat 'Abdu'llah bin 'Abdu' Kadir*, an autobiography by Munshi Abdullah, Raffles's professional teacher in the Malay language, he mentions in the year 1822: 'The houses were all attap (i.e., thatch) except one built of brick by Mr. Coleman. There was not a single house on the other side of the river. It was a Mangrove Swamp, and all lived on the Plain side of the River.'

wings to provide sleeping apartments. It became Government House and, more substantially reconstructed, stood until 1859.[9]

The design for a garrison church, for which a rough estimate was submitted on November 7, 1822, was approved shortly after. A site had been reserved, but ten more years were to pass before Coleman was to build this first church for the European community in Singapore. Raffles called on Lieutenant Philip Jackson of the Bengal Artillery, the Executive Engineer, for detailed estimates, but nothing further was done.[10]

Between October 17, 1822, and February 28, 1823, the first Town Planning Ordinances for Singapore were drafted by Raffles and presented to the Land Allotment Committee. It is very likely that Coleman's advice was sought on many of the matters contained in them. The extent of the town was laid down, the reservation of ground for Government purposes, including defence, the site of the European town and the principal mercantile establishments. Coleman recommended the filling up of land on the swampy south side of the river, and this land was indeed later developed by him as the commercial centre of the town.

Detailed instructions were given with the object of securing an orderly and well laid-out development, with 'campongs' reserved for the various nationalities: Chinese, the Bugis settlers, Arabs, Malays and Indians. On November 4, 1822, the Committee were instructed to trace the different streets and highways, which should as far as practicable run at right angles. The breadth of the streets was left undetermined. Evidently the point had been discussed, but there were differences of opinion. Raffles also directed a classification to be made of the streets under the heads of first, second and third class, determining the least space along the street which should be occupied by each house and consequently fixing the exact number of houses which each street should contain. Different artisans, such as blacksmiths, carpenters and shipwrights, were to live in different areas. The width of the so-called shop houses was determined at 20 feet by the availability of felled timber (jungle roller beams and joists) from the Island. Even today shop house frontages are still sub-divided into 20-foot bays, for individual shops.

At a later period Coleman made his streets one chain in width and within the limits laid down by Raffles, three miles along the coast and inland for a distance varying from half a mile to a mile; the roads and streets then laid down, and eventually constructed by Coleman, are the streets of today. North and South Bridge Roads are the main thoroughfares through the town from north to south. They were made in 1833-35. In 1840 New Bridge Road, leading to the bridge across the Singapore River and also designed by Coleman, was extended towards the southern outskirts. The bridge was a brick structure of nine arches.[11]

[9] It is a matter of tradition that Lord Elgin walked up and down all night on the long front verandah of the centre building, and decided in the morning to divert the troops going to China, and to send them to Calcutta on the rumour of the mutiny having broken out in India in 1857.

[10] In the estimates the body of the Church was to be kept distinct from the steeple, so 'as to admit of the subsequent elevation of a steeple or not, as circumstances may require.' When commissioned in 1835 to build the first Church of St. Andrew, Coleman completed the building, a classic design, without a tower and spire. They were subsequently added.

[11] Coleman in 1835 also built an iron suspension bridge across the Kallang river.

Raffles's instructions contain also details about the frontages for all brick or tiled houses. Each house should have a verandah of a certain depth open at all times as a continued and covered passage on each side of the street sheltered from sun and rain. These verandahs in the shopping districts of the town persist today.

Raffles departed from Singapore for the last time on June 9, 1823, and Coleman went back to Java at about the same time. He remained for nearly two and a half years, busy with an extensive agricultural speculation. He constructed large embankments and reservoirs for the irrigation of ricelands, surveyed sugar plantations in the interior and developed schemes for the buildings on sugar estates in 1824 and 1825. Then, in 1825, war began between the Dutch and the native Javanese and Coleman returned to Singapore.

Meanwhile, at Singapore a considerable impetus and encouragement to the permanent development of the town had been given. John Crawfurd, Raffles's successor, concluded a treaty with the Sultan and Temenggong of Singapore in August, 1824. It was ratified by the East India Company in 1825, and ceded the Island in full sovereignty to the Company, its heirs and successors for ever. As soon as the treaty was ratified, European merchants started to erect substantial houses, offices and warehouses on grants of land issued by the Government on long leases. Coleman's return was thus opportune.

His first important commission was a large Palladian house for David Skene Napier,[12] to whom land had been granted on January 26, 1826. The house is only known in a lithograph in Lady Raffles's *Life of Sir Stamford Raffles* (London, 1830). This commission was followed by that for a palatial brick residence, 20 and 21, for a Java merchant John Argyle Maxwell.[13] It was built in 1826–27 and before completion leased by Maxwell to the Government. It was used as a Court House and Recorder's Office and purchased in 1841. It survives to this day, though much altered and enlarged, as the Assembly House and Assembly Chamber of the Legislature. In its original form it can only be seen in early paintings and photographs. The house was stuccoed in two colours, and had, with its studiously proportioned Roman Doric colonnade, a bold Italian air. The portico and pediment are reminiscent of Palladio's Villa Malcontenta of 1551. The piazza treatment of the ground-floor is also evidently based on a Palladian motif. Much else in the composition and in particular the river elevation, with Ionic pilasters on the upper level of the tower, flanked by twin cupolas, suggests influence from English sources. The central tower was possibly designed by Coleman as a lookout towards the Roads to watch for the arrival of shipping.

Arcades and piazzas are a distinguishing feature of Coleman's work; so are Tuscan and Roman Doric columns, wide and deep verandahs, hooded openings and louvred windows—in short all those things which succeeded in reconciling

[12] David Skene Napier, born 1798, was the eldest son of Professor McVey Napier, Writer to the Signet, Professor of Conveyancing in the University of Edinburgh and a partner in the firm of Napier & Scott, one of the first merchants in Singapore.

[13] John Argyle Maxwell obtained permission from His Majesty at the Horse Guards in London to trade in India and the Eastern settlements. He first arrived in India on August 18, 1820, held several large shares in estates in Java. As early as 1823 he became a Justice of the Peace in Singapore, nominated by Raffles.

a classical character with the requirements of the tropics. Window openings are unglazed owing to the expense of imported glass and closed instead with thin split bamboo, or rattan, blinds, and Venetian shutters.

Coleman used local materials, narrow Malacca bricks and Malacca tiles, Chinese bricks and tiles, timber felled on the island, burnt local lime, and granite quarried from neighbouring islands. Coral atolls and reefs on small islands near Singapore provided an excellent lime plaster. As for building procedure, Coleman often contracted with his clients to build his designs for an agreed sum, though on other occasions would also invite tenders from various Indian or Chinese contractors for the execution of his designs. A great advantage in Coleman's work with contractors, craftsmen and workmen was his complete command of the Hindustani, Tamil and Malay languages, an advantage, not shared, it seems, by the covenanted servants of the Settlement, Government or the military officers.

To get an idea of the quantity of work done by Coleman, one ought to look at a lithograph published by J. T. Thomson in 1856, but apparently based on a sketch made in 1846. It shows the residential area of Singapore, and in it the majority or perhaps all the buildings visible are his. They give one an impression of grace, unity and cohesion. The same impression is conveyed by an album of panorama photographs taken early in 1863 for presentation to the Governor of the Colony, Col. Orfeur Cavenagh, and given to Singapore by his granddaughter in 1954. The panorama is taken from the summit of the newly completed tower of St. Andrew's Cathedral which replaced Coleman's earlier church on the same site.

As early as June, 1827, Coleman was employed as a Revenue Surveyor on the survey and preparation of titles for land in Singapore Town. His services were paid for by certain fees levied on the holders of the ground on the issue of their respective leases. Coleman employed a draughtsman whom he paid 10 per cent of the fees so collected. Lt. Jackson had commenced surveys in 1822, was appointed Surveyor to the Settlement on February 1, 1826, but resigned from the appointment in 1827 owing to ill health. Coleman first surveyed titles issued mostly to cover shop house lots in the town.

In 1829 he was engaged, in addition, on a Topographical Survey of Singapore, for which he was paid a contract fee which spread over a number of years.[14] He surveyed the islands that form the new harbour of the port, all the shoals, and the slopes and heights of the hills along the coast in minute detail in the event of it being found necessary to fortify the harbour.[15] The map resulting from Coleman's survey, the first comprehensive map of the Island and town, was engraved by J. B. Tassin and printed at Calcutta in 1836. It received the approval of the Court of Directors of the East India Company in London in 1843.

As the map shows, the best residential area lay between the

[14] East India Company Records, Raffles Museum, Singapore, vol. Z3, p. 153. Lett. dated April 6, 1829, from Secretary to Government, Fort Cornwallis, Penang, addressed to the Resident Councillor, Singapore, refers to Coleman's survey: 'The Survey Plan now sent is certainly the only one of the kind that after the expenditure of many thousand dollars has ever appeared at any one of the three Settlements.' (Singapore, Penang and Malacca.)

[15] In June, 1827, war with France had threatened on account of Portugal.

Esplanade and the hills. It was divided by roads into square plots in which detached houses in their own compounds with magnificent gardens were planned for merchants and other Europeans. The houses were all white with red roofs and green Venetians. Strangers coming to Singapore generally praised them as being very handsome. Coleman is known to have built almost all the large mansions of this period for the merchant community. A contemporary description gives a picture of the town in 1838, with 'long rows of piazzas, the whitewashed buildings covered with tiles, the low but cool and comfortable bungalow, the princely mansions in the suburbs, the fine esplanade, the umbragious arsena and tall ru (casuarina) trees . . . the bustling scenes in the commercial area on the Boat Quay and Circular Road.'[16]

On a site close to the Esplanade granted in 1828 on a 999 years lease, Coleman built his own residence, 2. It was completed in May, 1829, and he lived in it until he left the Colony. The front of the building was extended to increase the accommodation, and has been converted into shops, 3. It is a large two-storeyed brick house, seven bays wide, with a depth of eight bays, in simple classical design, and with a double bay for the porch and porte-cochère. Tall flat stuccoed pilasters are carried round the whole building supported on a deep plinth. The ground floor has a piazza treatment with round-headed openings. The first floor verandahs, ideally suited to the climate, were filled in at some point before 1860, but apart from these changes the house seems to be still much as Coleman left it. The decorations in the dining room include a short frieze showing harps and shamrock leaves in low relief, presumably placed there by Coleman himself, 4. The panelling of the dining room walls, and the deep coved ceiling, and full cornice with dentils, in a lofty room on the first floor are executed in Georgian style. A large paddock with stables and outbuildings, was attached to the house. In it Coleman maintained an establishment of horses, grooms and carriages second only to the Governor's. After Coleman left Singapore, the house was leased by Gaston Dutronquoy as the London Hotel,[17] and was occupied by a succession of hotels. It was here that Joseph Conrad met Captain Tom Lingard—a buccaneering character—in 1888 when he had obtained his first command, the 'Otago,' inherited from a dead captain in Bangkok, and had sailed her into Singapore Roads. Coleman's house was then a raffish place. In the taproom on the ground floor, it is said, Conrad heard Lingard tell many tales of the Borneo and Malayan coast. Many years later Lingard appears as a composite character in the Conrad novels, with their scenes laid in Borneon or Malayan waters.[18]

[16] J. T. Thomson, *Some Glimpses into Life in the Far East* (London, 1865), p. 16.

[17] Gaston Dutronquoy first arrived in Singapore from Paris in 1839. On the ground floor of the London Hotel he opened the first repertory theatre, the Theatre Royal. Dutronquoy became Singapore's first photographer in 1843, using the newly invented Daguerreotype. Later he disappeared, murdered, it was whispered, while looking for gold in Muar in Johore on the Malayan mainland.

[18] Tom Lingard appears as a character in Conrad's *Outcast of the Islands* (1896), in *Almayer's Folly* (1895), his first novel, and in *The Rescue* (1920). Conrad conjures up the tropical landscape in magic terms. In *Youth, a Narrative and two other stories* (1902), appears his short novel, *The End of the Tether*, which gives a comprehensive picture of Singapore in the late forties, though Conrad was writing in 1900. He describes Government House on the hill, and Coleman's house as a hotel, and the verandah.

[*continued on page* 177

houses



1

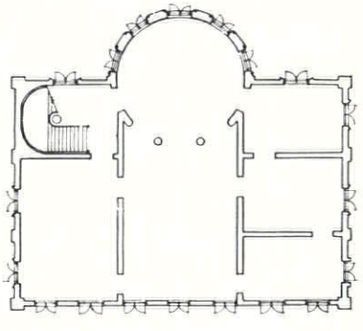


2



3

The house of C. H. Caldwell, Senior Sworn Clerk to the Magistrates, built by Coleman about 1841. *Right, plan, and below,* 5, *entrance front, with its finely detailed entablature and Doric pilasters. It became the Singapore Convent in* 1852 *after Caldwell had absconded from the colony with* $150,000.





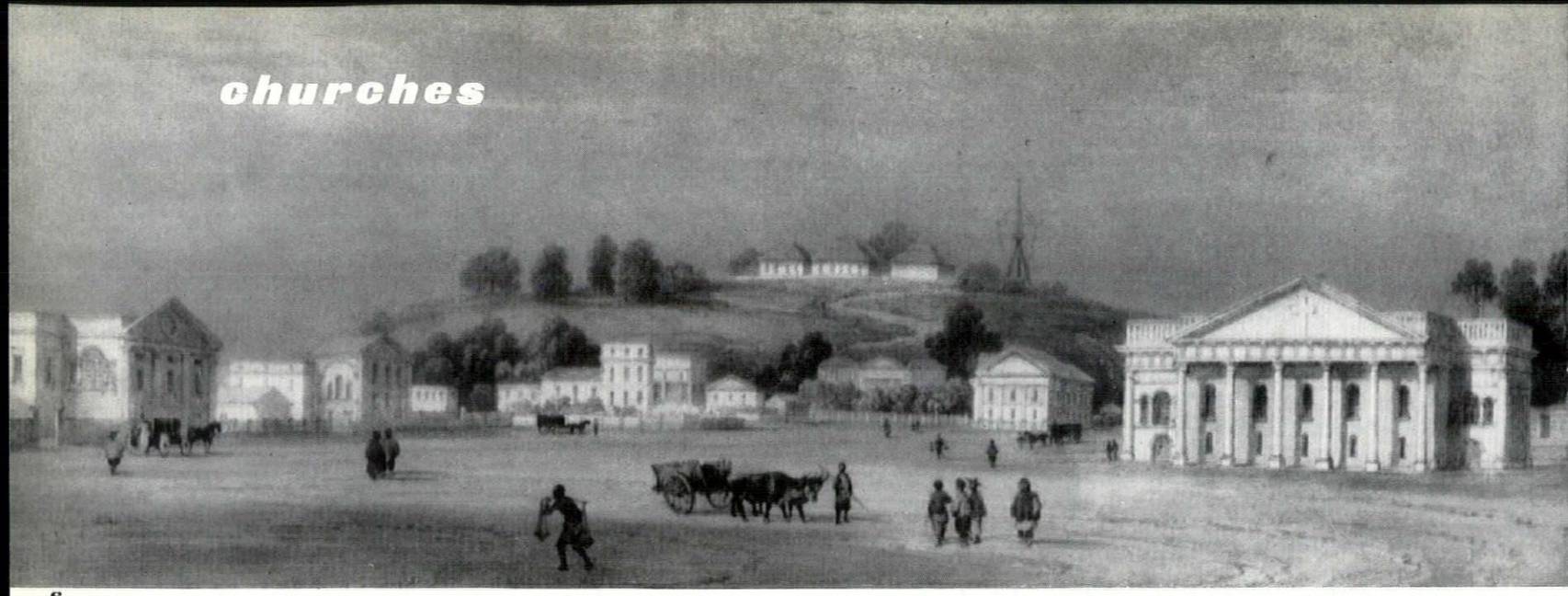
4

1, *two houses designed by Coleman in the* 1830's, *now destroyed.* 2, *Coleman's own house in* 1863, *and* 3, *as it is today.* 4, *plaster work in the dining room.*



5

churches



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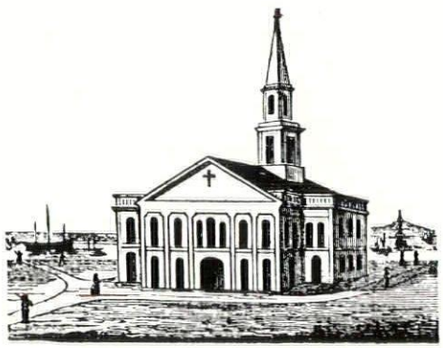

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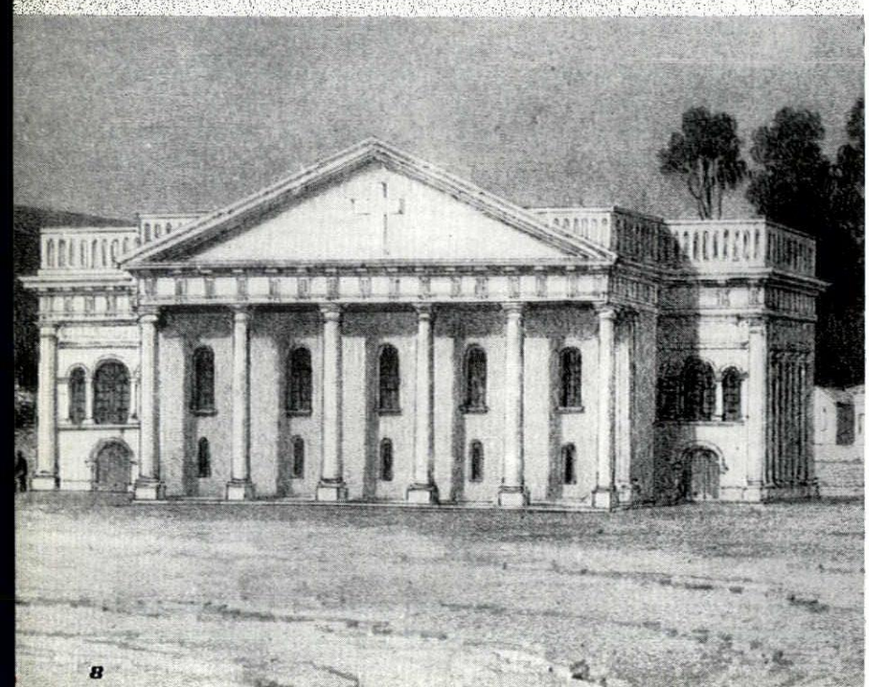
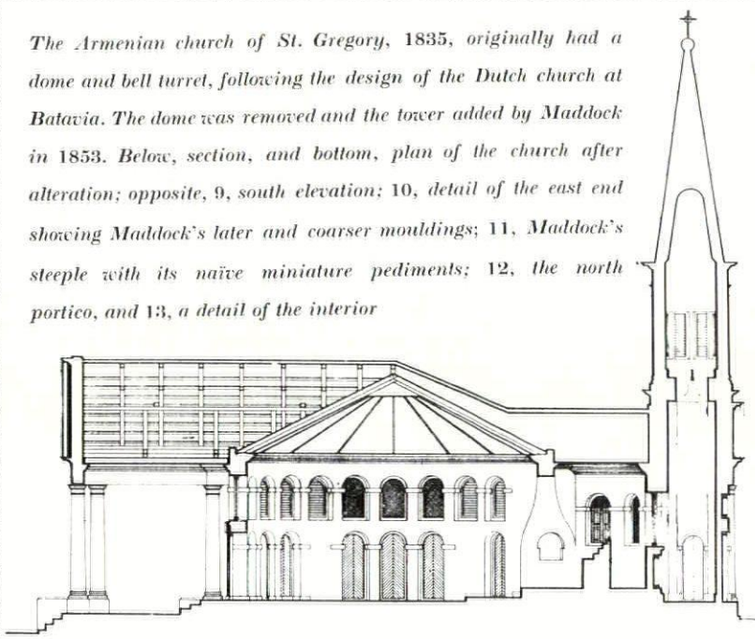
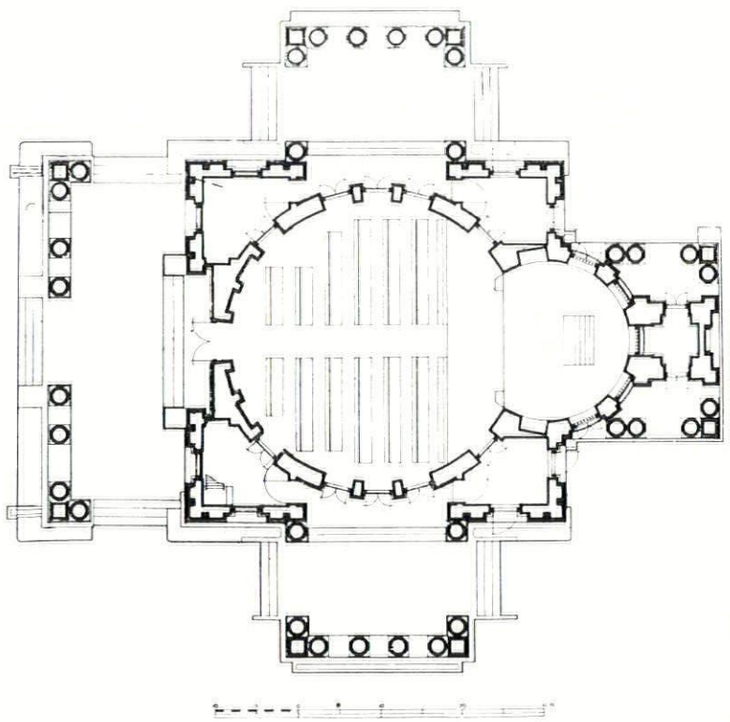
St. Andrew's church was designed by Coleman in 1835, *after designs by Calcutta architects had been rejected, and the lithograph of* 1841 *shows its original condition,* 6 *and* 8. *The government surveyor, J. T. Thomson, added a tower and spire in* 1842, 7. *The church was considered unsafe in* 1852, *and was demolished two years later to make way for the Cathedral. Also shown in* 6 *are a pair of Coleman mansions of* 1829, *as well as Coleman's own house, Grant's house, and—on the hill—Raffles' Residency.*



8

The Armenian church of St. Gregory, 1835, *originally had a dome and bell turret, following the design of the Dutch church at Batavia. The dome was removed and the tower added by Maddock in* 1853. *Below, section, and bottom, plan of the church after alteration; opposite,* 9, *south elevation;* 10, *detail of the east end showing Maddock's later and coarser mouldings;* 11, *Maddock's steeple with its naïve miniature pediments;* 12, *the north portico, and* 13, *a detail of the interior*







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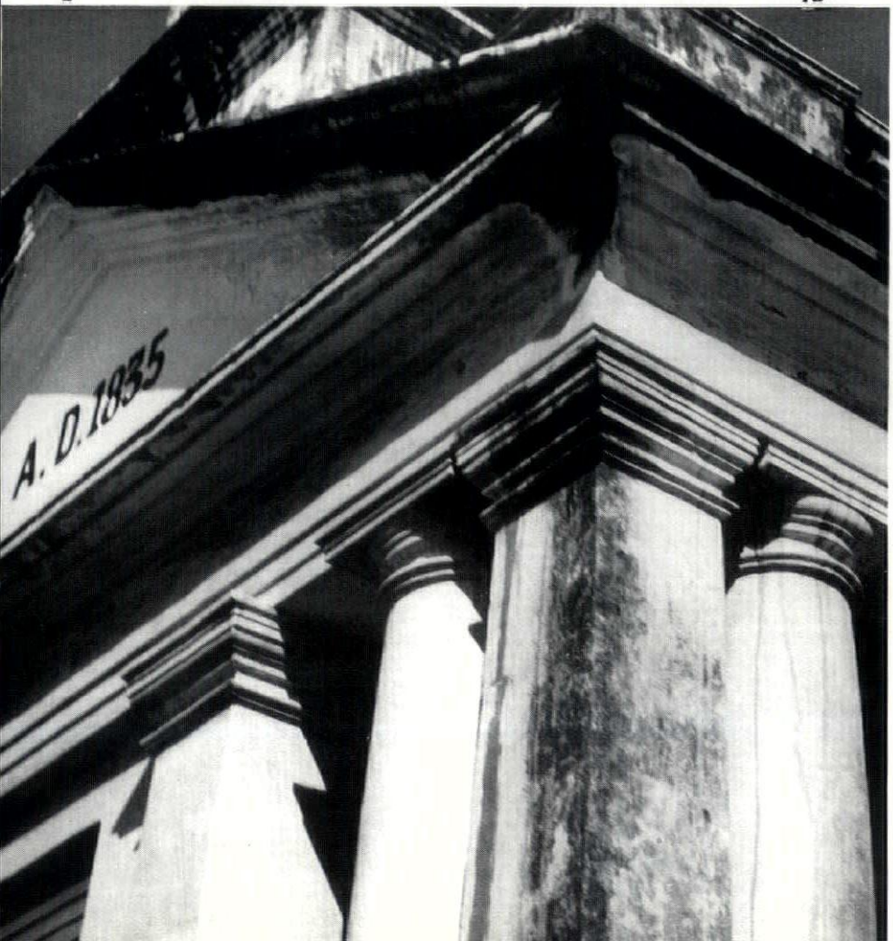



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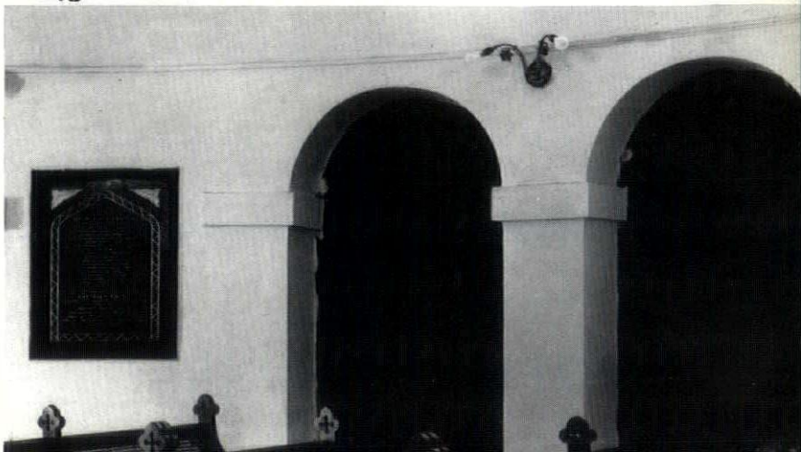
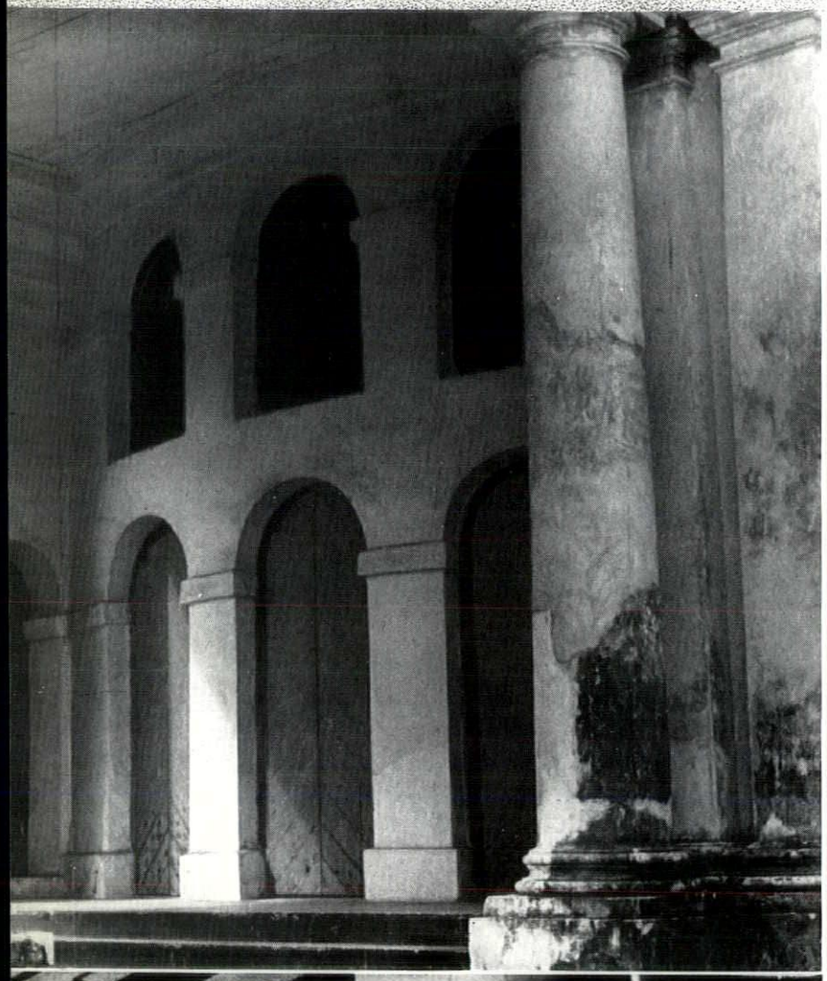


armenian church contd.: *two details: inside one of the porticoes,* 14, *and the bay next to it,* 15, *showing the wooden shutters and louvres.*



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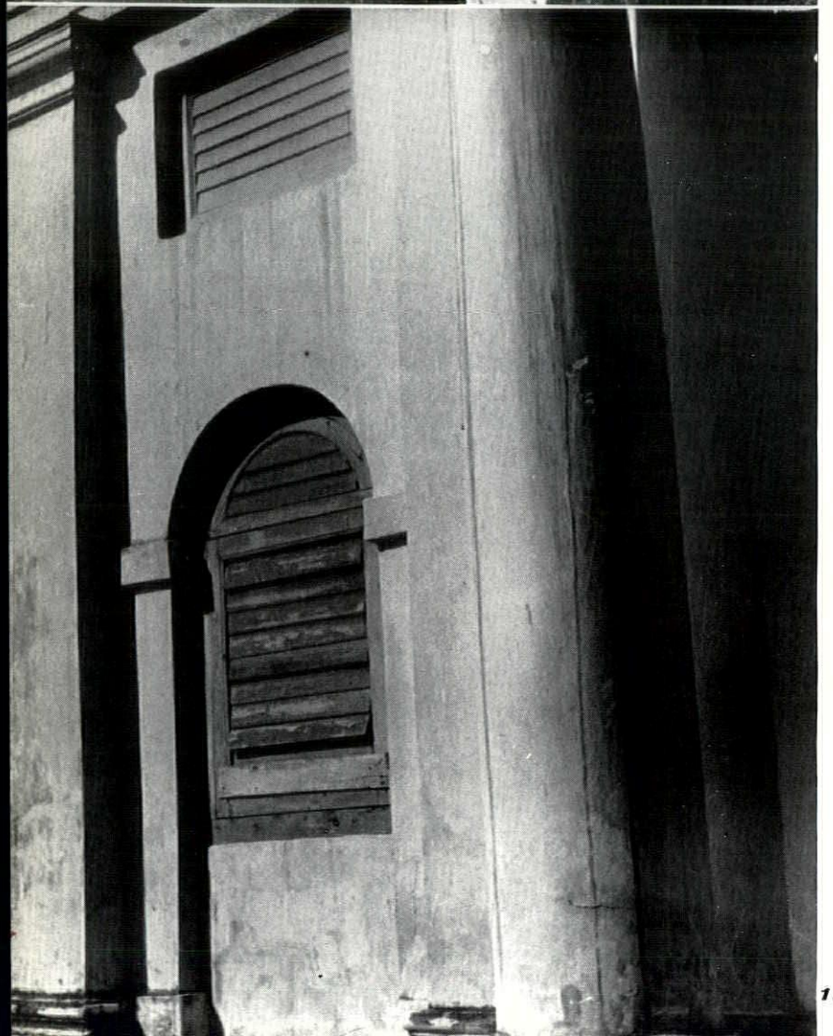

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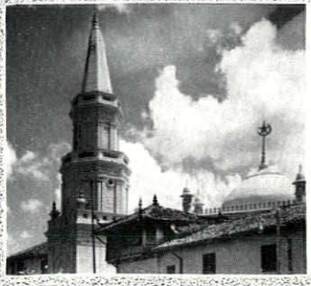
16



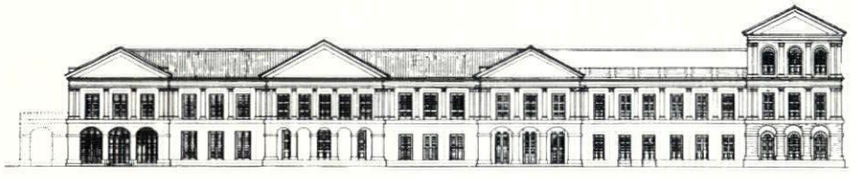
mosque: 17, *built about* 1840–3 *by Haji Fatimah, a Malacca Malay The single minaret,* 16, *recalls those of the Malacca district. Though not known to be by Coleman, its decoration and the shape of columns, pilasters and mouldings suggest influence from the Armenian church.*

17

cemetery: *two monuments by Coleman in Fort Canning Old Christian cemetery,* 18. *The cupola motif derives from his designs for the Court House and from the turret which originally surmounted the domed roof of the Armenian church. They set a style for Christian monuments which persisted until much later in the century.*



18



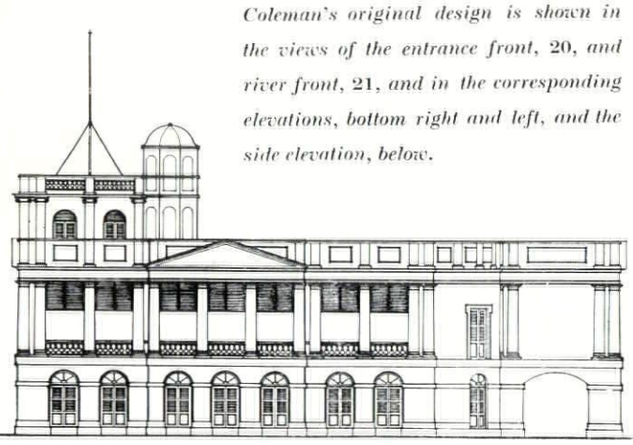
raffles institution: *built by Coleman between* 1836 *and* 1841 *and still used as a school. The front,* 19, *shows the survival of Georgian traditions unusually clearly. The elevation, left, includes a three-storey addition of* 1875, *partly seen in the photograph.*



19

20

Originally designed in 1826 *as a magnificent two-storeyed stuccoed brick residence for J. A. Maxwell, a Java merchant, the building was purchased by the Government for* 15,600 *Spanish dollars in October,* 1841. *Though subsequently extended at various times, Coleman's original design is shown in the views of the entrance front,* 20, *and river front,* 21, *and in the corresponding elevations, bottom right and left, and the side elevation, below.*





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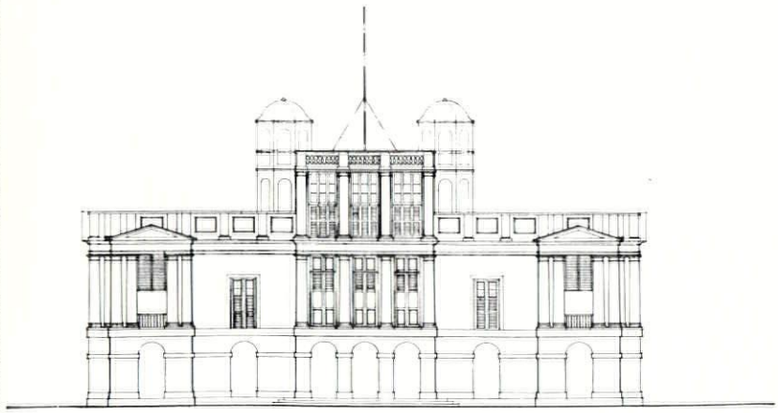
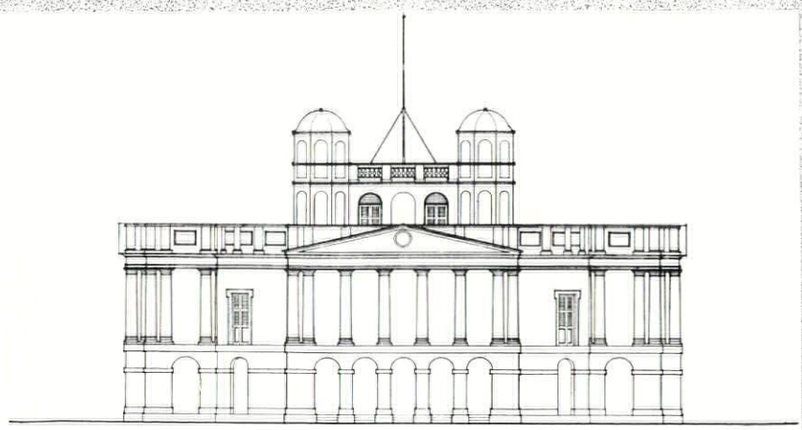




continued from page 170

In the same year in which Coleman completed his house he built two on the site where the Adelphi Hotel now stands. Their outbuildings were roofed with slates in the 1830's, an innovation for Singapore. The houses are shown on the left in a sketch made in February, 1837, by a draughtsman on the French corvette 'La Bonite.' The sketch was lithographed by Bichebois and Lauvergne, and published by Arthur Bertrand in Paris in 1841. The lithograph also shows Raffles's Residency on the hill, Coleman's own house, and nearer to the church the house then occupied by Sir John Peter Grant,[19] a Calcutta magistrate, who spent vacations in Singapore. The house for the latter was built by Coleman about 1836, on land which he owned and which faced his own house. The Grant house had originally a projecting rectangular wing, but about 1840 Coleman appears to have remodelled and enlarged it by the addition of semi-circular bays in the Regency manner. Coleman used Ionic columns the full height of the two storeys, with flat and unobtrusive Ionic pilasters. But he mainly relied here for his effect on the shape and spacing of windows and on good proportions.

The central portion of a house now standing at the back of the Adelphi Hotel compound and belonging to the hotel, was built by Coleman about 1838–40. It has the familiar piazza treatment on the ground floor, with Roman Doric columns and open verandahs on the first floor. The two wings are later additions. Originally the middle part had a porch at the side opening on to North Bridge Road.

A house built for H. C. Caldwell,[20] Senior Sworn Clerk to the Magistrates of Singapore, is a charming example of Coleman's later work, 5. It was erected in 1840 or early in 1841. It remained in Caldwell's hands until August, 1852, when it was purchased by Father J. M. Beurel for the establishment of the Singapore Convent. The spacing of the windows gives breadth and architectural solidity to an otherwise modest house. Coleman has used Doric pilasters the full height of the building, capped by a full Doric entablature, with its projecting cornice, above a decorative classical triglyph frieze. Each window is fitted with its own projecting finely moulded stucco architrave. The windows have carefully detailed wooden shutters. The roof is hipped and covered with malacca tiles, surmounted by a jack roof, a construction designed for better ventilation and also used by Coleman in the design of his own residence. The simple shape of the house, its economy of details, and good proportion based on the classic orders is well related to its spacious former garden and surroundings. Towards the garden Coleman gave the house a loggia with elegantly proportioned piers and ellipse-headed arches.

During the same years Coleman was also busy designing godowns and warehouses. The oldest godown in Singapore, a warehouse block on North Boat Quay, was built about 1843 or earlier, 26 and 27. It is designed by Coleman, though he may not have built it. Formerly it extended along the quay, but part of it has been demolished. The building happily conforms with the scale and character of the riverside quay and is distinguished for its restraint. It employs Tuscan pilasters supported on a tall plinth, with arches below, and simple square-headed openings with Venetian shutters above. Another godown on the boat quay of Singapore river, though built as late as about 1860, is almost certainly a copy of a work by Coleman, 24. This godown was erected to continue (and double the size of) a similar building constructed for the merchant Edward Boustead between its site and South Bridge Road, about 1835, 23. The design is in the Palladian manner with a gigantic Doric order extending through two storeys and has its prototypes in the Brenta district, and at Vicenza. The centre intercolumniation is increased to afford clear access to the central doorway. The colour, texture and scale of the Chinese tiled roofs add a curiously palatial air. It is the handsomest godown on the quay, even today. The godown which it copies can be seen in various lithographs, e.g., J. T. Thomson's of 1856, in a woodcut published in Bickmore's *Travels in the East Indian Archipelago*,[21] and a number of early photographs. On the first floor of the godown the merchants and their clerks kept their accounts and watched for the arrivals of shipping, the ground floor being used for the storage of merchandise.

Coleman's survey of the Island in the early 1830's disclosed vast areas of land under cultivation by Chinese settlers. So a surface utilization map was prepared indicating the number of settled inhabitants.

From the heart of the town main highways run fanwise covering most of the island. These country roads, first surveyed by Coleman, through mangrove swamps and jungle, were constructed by convict labour.[22]

Coleman first employed convicts on large public works before his official appointment as superintendent of Public Works. Under his direction the construction of the road system of Singapore progressed. Large areas of marshes were cleared, drained and formed into new streets and roads on the outskirts of the town. The land, divided into lots, was sold by public auction and developed for housing. In 1831–2 more than ten miles of streets and roads were constructed, through areas of country formerly quite uninhabitable. A large navigable canal was also completed by Coleman to drain several square miles of land previously rendered useless by inundation.

Surveying and building outside the town were not without perils. In 1831 a tiger leapt into the thick of Coleman's survey team, when he was laying out a new road in the jungle about four miles from the town. The animal landed on the theodolite, which was broken, but no-one was injured. No work was undertaken in the jungle after this incident without weapons.

At about this time the military engineer appointed Staff Officer of Public Works was unable to prepare plans for public buildings,[23] and the Settlement Government commissioned Coleman to design them in future. In the earlier years buildings in Singapore erected by military engineers had not been a great success. Coleman refers, in a letter written in January, 1833, to a Battery, designed by Major Lake, the Inspector General of Works. The embrasures of this were blown away at the first salute of the guns. Major Lake had also designed the first convict jail and this was untenable owing to flooding of the ground floor at high tides.

Among Coleman's commissions for the Settlement Government, the letter books of the East India Company mention designs for markets, a convict jail, a pauper hospital and bridges.[24] In May, 1833, an agreement was made with Coleman to build the pauper hospital. It was a two-storeyed brick building, and was in use from 1833 to 1851. On this and other public buildings Coleman was both architect and contractor.

On October 19, 1833, he was appointed the first Government Superintendent of Public Works.[25] He now also began to employ convicts in the construction of his public buildings. He obtained as much efficient work as possible from them, maintaining a strict, but by no means painful, discipline. The numbers of convicts employed on the roads and buildings were more than doubled during his career. In 1836 there were about 520 convicts, of whom 420 were at work on the roads; by 1840 that number had increased to nearly 1,200. Craftsmanship was developed to a very high standard. The Governor General in India was informed by the Commission on Prison Discipline[26] that Coleman's system and its great efficiency in the active management of labour was an outstanding achievement in the progress of public works.

When the convicts could not be marched out to and from their daily work to the prison, owing to the long distances they had to traverse, Coleman constructed temporary buildings for them surrounded by a fence. In these 'commands' the convicts were located until the work on which they were employed was completed, and in many cases the 'commands' became permanent stations for the convicts employed in maintaining the roads.

Coleman himself rode and visited works under construction even in the country some eight miles from the town at least two or three times a week to inspect the progress of road building.

Even after his appointment as head of the Public Works Coleman continued with his busy private practice. During his appointment he designed the Armenian Church in 1834, and in 1835 the first St. Andrew's Church, which was completed by 1837, to be replaced, on the same site, in 1856, by the present Cathedral. During 1836 to 1841 Coleman also erected the Raffles Institution. In spite of his extensive duties and professional activities, Coleman became a publisher too, responsible with William Napier[27], a Law Agent and with Edward Boustead, for the establishment of the newspaper *The Singapore Free Press and Mercantile Advertiser*. The first issue appeared in October, 1835. It forced *The Singapore Chronicle*, which had appeared since 1824, to disappear in 1837. Thereafter the *Singapore Free Press* remained the only newspaper, until the first number of the *Straits Times* came out on July 15, 1845. *The Singapore Free Press* is still published in Singapore as it later was taken over by the *Straits Times*, issued as an afternoon edition, when the original name was retained.

Members of the merchant community, Government officials and their families died early in the Settlement. On several occasions Coleman was engaged to design monuments. In 1827 he designed a memorial to Sir Stamford Raffles who had died in England, not yet forty-five, the previous year. It contained inscriptions in four languages, Malay, Chinese, Latin and English. The money voted by subscription was eventually spent for the purpose of completing the building of the Raffles Institution, and to make the building fit for schools on an extended scale. Coleman's design was not executed. But two of Coleman's monuments survive, 18, both of interesting classical shape, cupolas supported on slender dwarf Ionic columns, with a decorative floral frieze moulded in plaster.

Coleman prepared his design for the Armenian Church in 1834. A contract with a Malabari Contractor for 3,500 Spanish dollars, was signed on December 5, 1834, and building commenced immediately. On completion of the contract in January, 1836, the total cost was 5,058.30 Spanish dollars, and Coleman received 400 dollars as architect's fees. The plan, of this extremely interesting building, undoubtedly derives from that of the mother church, also dedicated to St. Gregory, at Echmiadzin, Vagarshapat, near Erevan, in northern Armenia.[28] It is unlikely that Coleman had an engraving of this plan, and more probable that the Armenian elders described their mother church to him. There were only twelve of these elders of the community in Singapore. Most English churches of Coleman's time with an oval or circular plan derive from James Gibbs's first circular design for St. Martin-in-the-Fields, published in his *Book of Architecture* (London, 1728),[29] and it may well be so with Coleman's Armenian church, but the way in which he has enclosed his circular church with a rectangular cruciform structure, is certainly more interesting.

Externally perhaps the most striking feature of Coleman's design is the boldly executed columned porticoes, 9 and 12. Coleman here makes use of giant, well proportioned, Roman Doric columns and pilasters. The simple, yet vigorous, detailing of

[19] Sir John Peter Grant was a member of the Commission on Prison Discipline appointed by the Governor General of India in 1837.

[20] H. C. Caldwell's principal claim to fame is that he absconded from the settlement with $150,000.

[21] The woodcut is based on a sketch or photograph made about the end of 1864. The earlier godown by Coleman also appears in a lithograph, published in *Our Tropical Possessions in Malayan India* by John Cameron (London, 1865).

[22] Singapore had become a convict station in 1825, when Indian convicts were transferred from Bencoolen on its exchange to the Dutch by the East India Company, who then re-occupied Malacca.

[23] See a letter from Governor Ibbetson to Bengal, General Department, dated April 27, 1831.

[24] In East India Company Records. Raffles Museum, Singapore. Vol. U.3, p. 51, a letter from Governor Ibbetson to the Resident Councillor, Singapore, dated December 4, 1833, recommending payment to Coleman for the designs of market, and convict jail (650 Spanish dollars) and referring again to the inability of the Staff Officer to prepare plans. As by then Coleman was Superintendent of Public Works, his fees refer to private commissions by Government before his official appointment.

[25] Coleman's appointment was sanctioned by the Court of Directors of the East India Company at Leadenhall Street, London, in *India Public Despatch*, dated September 8 (No. 6), 1835, para. 19. Commonwealth Relations Office Records.

[26] Committee of Prison Discipline Report, printed at the Baptist Mission Press, Calcutta, 1838.

[27] William Napier (born 1804) was the younger brother of David Skene Napier (see Note 12). He was a great friend of the first white Rajah of Sarawak, Sir James Brooke, and was appointed the first Lt.-Governor of Labuan, largely owing to Brooke's influence. Known as 'Royal Billy' Napier, he invested Brooke with the K.C.B., in Singapore, in 1848, but was removed from Labuan owing to his overbearing temper in 1851. He married Coleman's widow on October 5, 1844, and adopted Coleman's infant son.

[28] The plan of St. Gregory, at Echmiadzin, is illustrated in plate No. 1 (Etschmiadzin Armenie) in *Monuments d'architecture en Georgie et en Armenie*, by D. Grimm (St. Petersbourg, 1864) and also by Strzygowski, Wulff and others.

[29] There is a prototype of Gibbs's design for his Circular Church in Andrea Palladio's *I Quattro Libri dell'Architettura* (edition of 1601), Libro Quarto, p. 75.

the door and window openings, studiously proportioned, all betray the work of an accomplished designer. The simple roundheaded entrance doors in the three porticoes, with similar but smaller openings above, are fitted with finely detailed joinery, 14. Fixed wooden louvres are used set in the upper windows, 15. They admit light into the body of the church without any glare. The appearance of the building is enhanced by the use of broad wall surfaces, curved inside the porticoes, defined by a generous projecting sill, and a simple string course, a fine entablature and balustrades are carried round the whole building. *The Singapore Free Press* of March 17, 1836, describes the building in detail.

> 'The interior of this church is a complete circle of 36 feet diameter with a semi-circular chancel of 18 feet wide on the East front: four small chambers, two of which are intended for staircases, and two for vestries, are designed so that the body of the church forms an equilateral square: from these project three porticoes of six columns each, which shade the windows and entrances and afford convenient shelter for carriages in rainy weather. The principal order is Doric, surmounted by a balustrade, the top of which is 23 feet high. The roofs of the porticoes, vestries, and chancel are flat, and that of the body of the church a truncated cone rising 10 feet, with a flat space of 12 feet diameter on which is erected a bell turret, with 8 arches, and as many Ionic pilasters. The height of these pilasters, with their entablature is eleven, and that of the dome which they support, six feet. The whole being surmounted by a ball and cross the top of which is 50 feet above the floor of the church. The design is by Mr. G. D. Coleman, and whether owing to the abilities of the workmen, or the vigilance with which that gentleman superintended them, we know not; but it appears to us that the Armenian church is one of the most ornate and best finished pieces of architecture of which this Settlement can boast.'

The tower and spire were added by an English architect named Maddock about 1853, 10 and 13. He removed at the same time the domed roof, described above, including its bell turret with the ball and cross, and substituted a pitched roof covered by Chinese tiles. The Armenian church is a building of considerable elegance and charm, and the tower (despite its later parentage) is an addition in a refined taste. The church has the distinction of being the oldest ecclesiastical building in the Colony of Singapore.

Before Coleman's design for the first Church of England church was approved, several plans submitted by Calcutta architects were examined and set aside, because they were not provided with verandas or any other contrivances for shading the building from the glare and the heat.[30] Building commenced in November, 1835. The lithograph of 1841,[31] 8, which we have noted above and which was based on a sketch made in 1837, illustrates Coleman's design. The cost of 10,000 Spanish dollars was low, as Indian convicts were used in the construction. The building was shaded by porticoes 20 feet wide, and 102 feet long, on each side, with main elevations 95 feet wide with handsome pediments. The porticoes enclosed carriage roads and above them, on three sides, were galleries. The body of the church was 47 feet between the pedestals of the interior columns, and semi-circular at the western end. Staircases which led to the galleries over the porticoes were placed in the angles cut-off by the semicircle. The east and west fronts with hexastyle porticoes of Roman Doric giant orders, in Palladian style, show further influence from James Gibbs's *Book of Architecture* and were possibly based on the executed design for St. Martin-in-the-Fields, London. Glazing appears in this building for the first time, with casements divided in Georgian proportions. A detail from the lithograph of 1841 shows a boldly projecting cornice, a range of Georgian dentils and a classical frieze with triglyph motifs, moulded in stucco. Subsequently, a tower and spire were added by John Turnbull Thomson (Government Surveyor, Singapore, 1841–55), to please the Bishop of Calcutta, 7.

The addition does not seem to have given universal satisfaction; Governor Butterworth in 1845 wrote very scathingly of it. In 1852 Coleman's church was considered to be unsafe, and services were no longer held there; some two years later it was demolished to make way for the present church, now the Cathedral.

Lt. Jackson instructed by Raffles in 1823, prepared plans for the Singapore Institution with an estimate for 15,000 dollars. Commenced that year unsuccessfully, the building was not well constructed, and at the end of 1832 was still unfinished and in a ruinous state. It was originally built in the form of a cross, with a wing to be later added at each arm.

Plans and estimates were furnished by Coleman for finishing and in future enlarging the building. Coleman declared himself willing, in May, 1836, to complete the central building in two years for 5,700 dollars, and by May, 1837, the building was indeed almost finished, two stories high, of brick, 120 feet long and 60 feet wide. Plans had been made in 1823 for both the proposed wings, and foundations were laid. In November, 1838, Coleman built one wing at a cost of 2,800 dollars. This was completed in May, 1839. Then some Siamese noblemen sent a gift of money from Bangkok towards the expenses of the second wing, and this was built to Coleman's design in 1841 at a cost of 3,030 dollars. The Raffles Institution is still in use as a school and is a simple and charming finely proportioned example of Coleman's tropical Colonial style, 19. The modelling of the flat surfaces of the tympana in the pediments, the continuous cornice and the modest unobtrusive detailing of the segmental or round arches of the piazza arcades make no pretentions to architectural magnificence, and the design is the better for it.[32]

Working exceedingly hard in an enervating tropical climate, a climate in which 'sustained effort is peculiarly difficult, rarely necessary, and often unwise,'[33] Coleman's health was sorely undermined. His doctor advised a return to a more temperate climate, and he decided to follow this advice. On June 25, 1841, a public auction was held of his horses, carriages and household furniture. On July 4, 1841, he left Singapore in the barque 'Midlothian,' bound for Europe after fifteen years' continuous work in Singapore, and twenty-five years' residence in the East.[34]

He spent some time travelling on the Continent, and then went to London, where, on September 17, 1842, he married Maria Frances, the youngest daughter of the late George Vernon, of Clontarf Castle, near Dublin, at St. George's, Hanover Square. Coleman, aged forty-six, is described as the son of James Coleman and in the Honourable Company's Service. Mrs. Coleman's age is given in the marriage certificate as twenty-one. But Coleman could no longer be happy in Europe. In 1843 he left with his wife for Calcutta, and on November 5, in the British brig 'Pantaloon,' they sailed for Singapore, arriving on November 25. A son was born to Mrs. Coleman on December 27, 1843, in Singapore. Three months later, on March 27, 1844, after a short illness, Coleman died. He was aged 48 and is buried in Fort Canning Cemetery.

The Free Press spoke of him in the following terms:

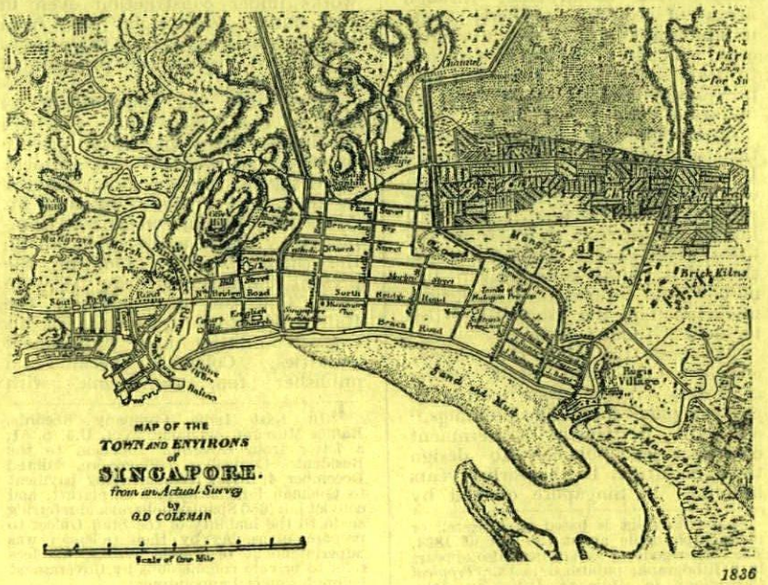
> '. . . To his good judgment and untiring energy we mainly owe the great extent of good roads on this Island, and to his taste and skill as an architect we are also indebted for many of the elegant buildings, both public and private, which adorn Singapore. . . . He fell a prey to fever, brought on by exposure to the sun.'

This view is confirmed by a letter of Governor Bonham to the Supreme Government dated November 15, 1840, and in which it is stated that Singapore is indebted to Coleman

> 'for its present creditable appearance, and . . . for so large and an increasing Land Revenue. During the past ten years alone ground . . . laid out by Mr. Coleman . . . has fetched a capital sum of upwards of one-half Lac of Rupees.'

The same letter also mentions some more personal qualities: vigilance, firmness of purpose and 'a certain weight in society.' To this J. T. Thomson whose lithograph of Singapore was mentioned earlier on, adds 'ready joke and smart repartee.'

We would wish to know more about Coleman the man, but the traits of character recorded are enough to recognize that he must have been as impressive personally as he undoubtedly is in his architecture.



1836

30 The Bishop of Malacca in 1834 addressed a meeting of the European inhabitants in the Court House, and proposed that the Church should be neat, elegant and commodious, such as would adorn the neighbourhood, and be suitable for the admirable site set apart for it many years earlier. The Bishop saw no reason why plans should not be obtained from Calcutta architects. Resident Councillor Bonham requested Calcutta to furnish plans, but added that in his opinion Coleman was entirely competent to prepare plans for this church, or, indeed, for buildings of a much more elaborate nature. East India Company Records, Raffles Museum, Singapore, Vol. R.3, p. 23, Lett. to Fort William, Calcutta, by Acting Governor S. G. Bonham dated Singapore, October 17, 1834. The Calcutta plans were prepared by various architects in the Presidency and forwarded to Singapore the following year, but none of them proved sufficiently attractive, or, indeed, suitable for Singapore's climate. Coleman must have produced a revised design after the plans he had originally submitted to Raffles in November, 1822, and this was at once approved.

31 Published in Vaillant, *Voyage autour du Monde Sur la Corvette 'La Bonite'* Paris, 1841-52.

32 The three-storey block adjoining the main building was added in 1875-76. The building, carefully maintained by the Government, is in a good state of preservation.

33 Quotation from the *Official Census Report of the Federated Malay States, 1933* (Government Printer, Kuala Lumpur, 1933).

34 *Vide Singapore Free Press and Mercantile Advertiser*, July 1, 1841.



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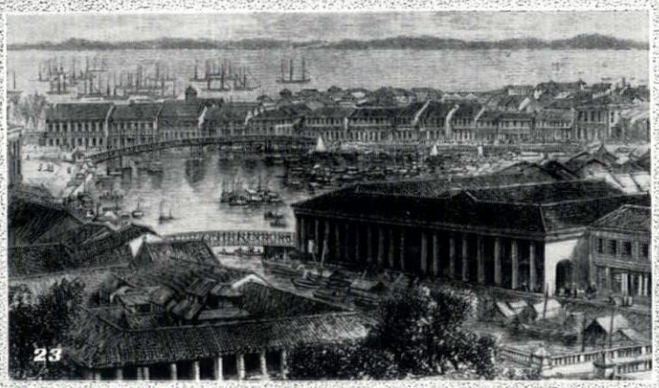

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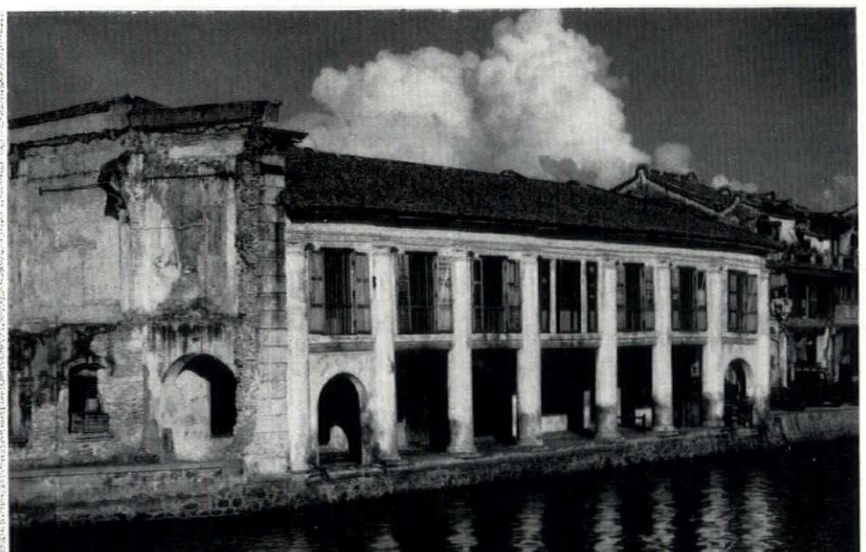

24



25

22 *and* 25, *two views of the Boat Quay about* 1855, *with Coleman's warehouses on the right.* 23, *the Palladian warehouse designed by Coleman in* 1835, *and doubled about* 1860, *and the surviving fragment,* 24. *Past and present state are also shown in the frontispiece, page* 168. 26, *Coleman's North Boat Quay warehouse, built about* 1843, *and* 27, *the remains today.*





26

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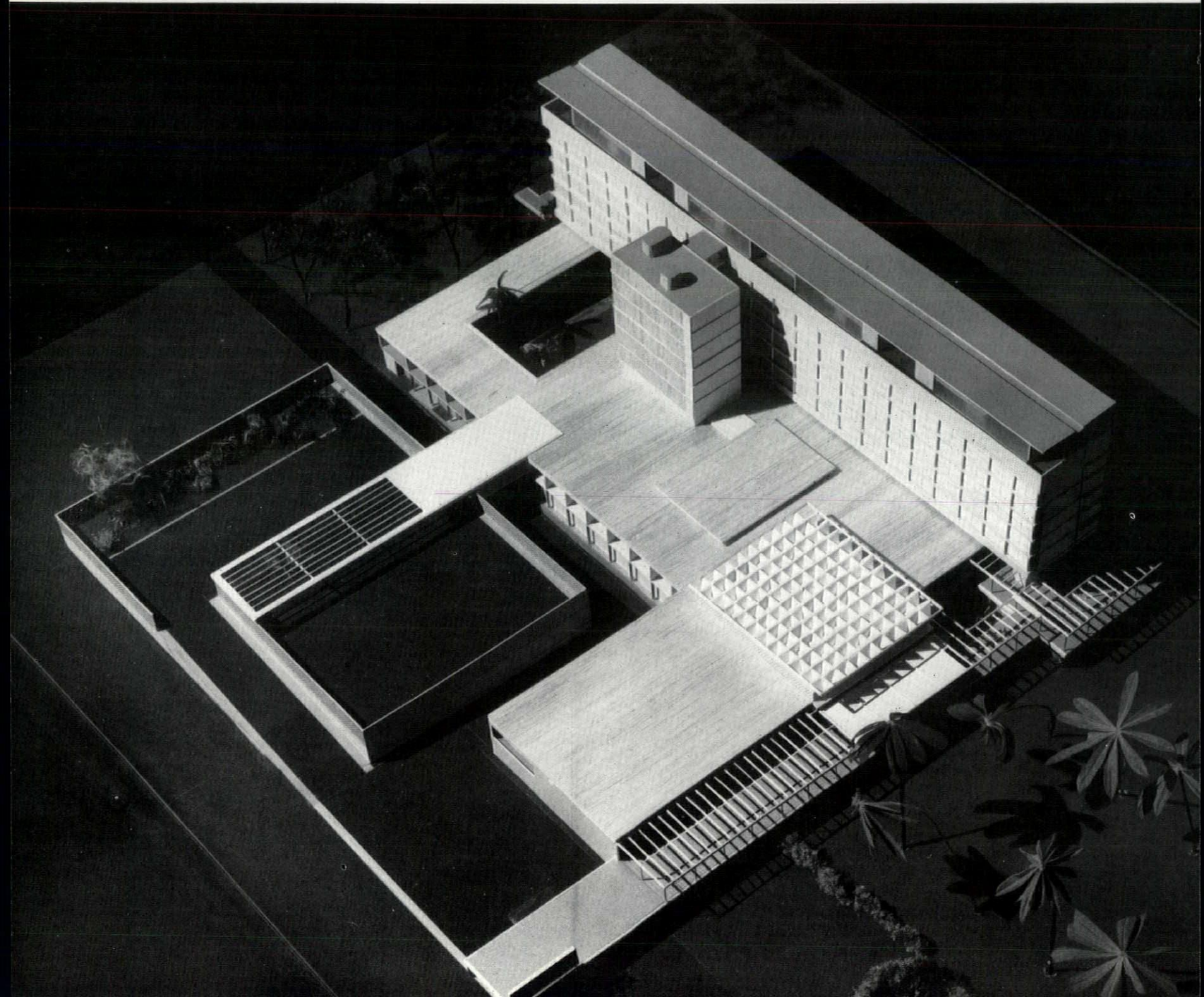
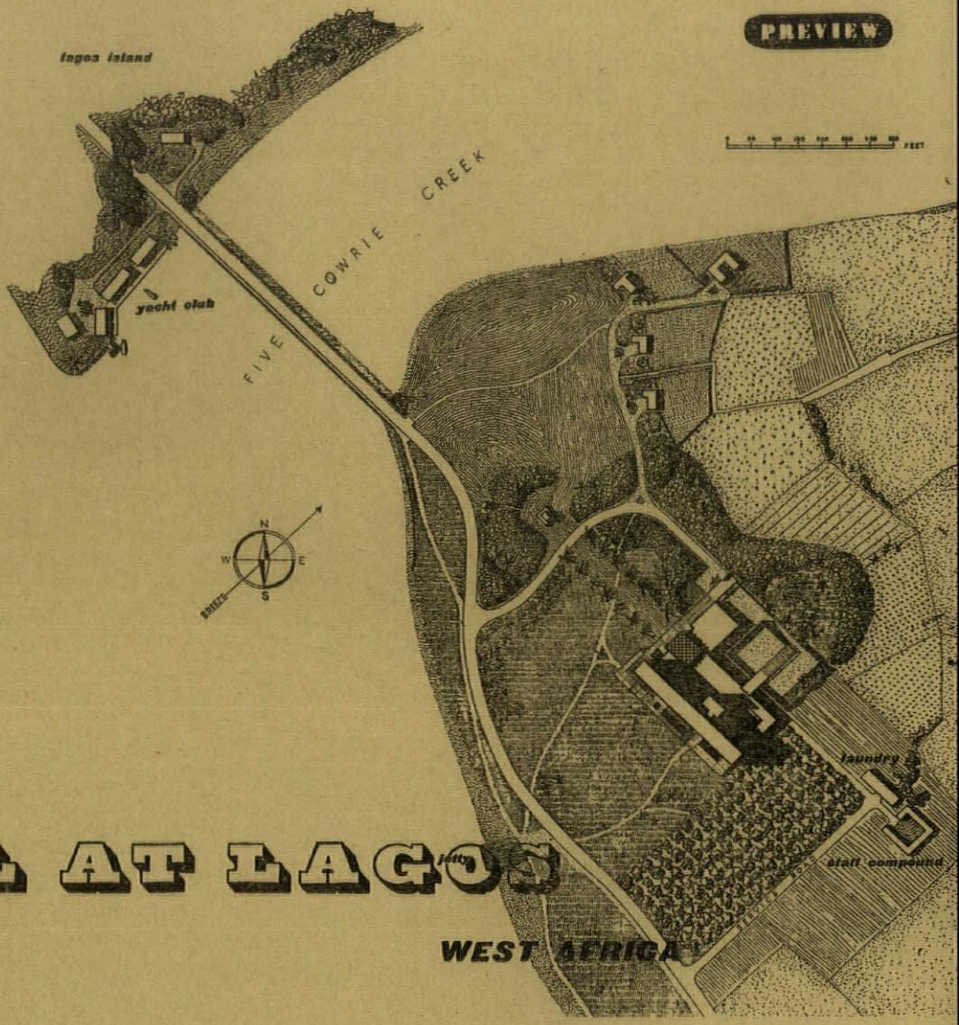




Two views of the model of the hotel at Lagos, made by Dennis E. Pugh of Architects Co-Partnership, are shown opposite  *. Above, 1, from the north, and below, 2, an aerial view from a similar direction, showing the attached service tower. On the left is the ramp and forecourt leading to the main entrance; to the right of it is the projecting wing of the banqueting suite.*

HOTEL AT LAGOS

WEST AFRICA

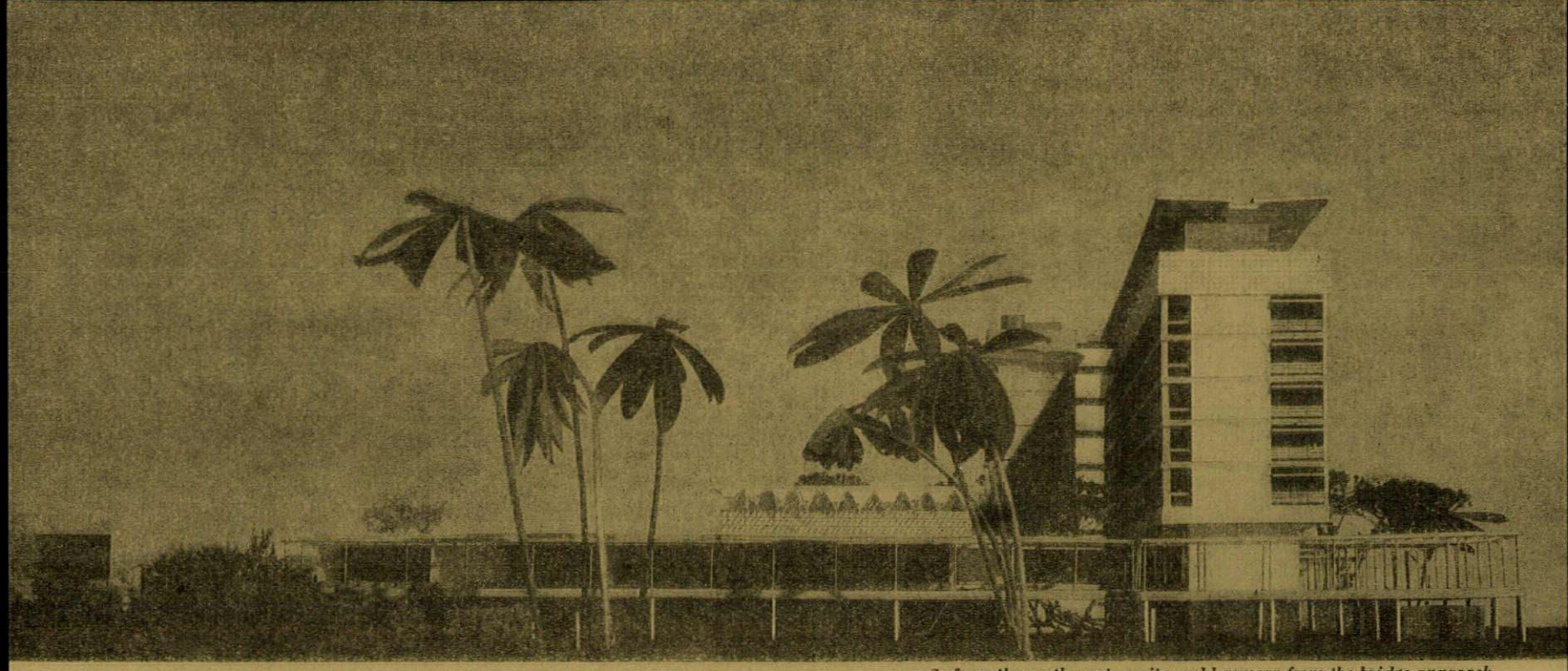
ARCHITECTS | **ARCHITECTS CO-PARTNERSHIP**

Lagos, with its thriving commerce and growing importance as the capital city of Nigeria, lacks a first class hotel. The proposed site of this building is on the north-west promontory of Victoria Island, next to the bridge which leads from the Marina across Five Cowrie Creek; this is conveniently near the centre of the town and yet comfortably away from its noise and commands fine sea views from south to north-west. The site is at present a low sand bar only partly covered with rough scrub vegetation, and it will be necessary to raise the general level of the ground: this is already gradually being done by pumping sand from the dredgers which are continually working to keep the main harbour channels clear.

The hotel consists of two main elements: the bedroom block and the public rooms. In the bedroom block there are one hundred bedrooms arranged twenty to a floor on five floors, all facing south-west and approached by screened galleries on the north-east. There are two larger suites, on each floor at the extreme ends of the block. The private balconies, on to which all bedrooms can be fully opened, are adequately screened by louvres so placed that they prevent the penetration of direct sunlight and the heating up of the building structure without obscuring the view. On the roof are four private maisonettes for the senior staff and their families. All vertical access is obtained from the service tower to avoid structure borne noise and to maintain natural cross ventilation of all bedrooms.

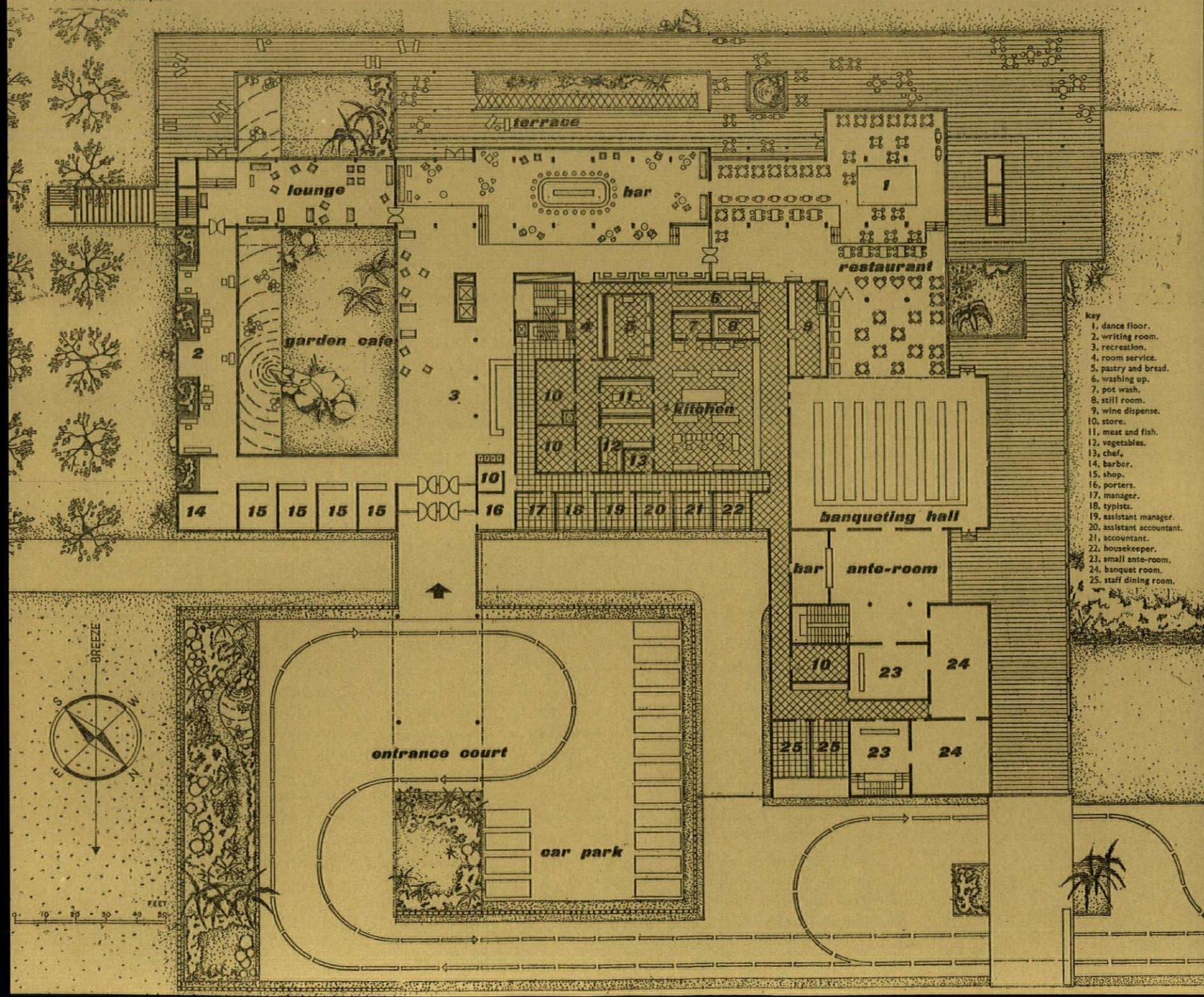
Beneath the block, and extending behind it to the north-east, are the main public rooms, with extensive views over the water. Also at this level, and situated centrally on the plan, is the kitchen. At ground level, beneath the public rooms and kitchen, are the service and storage. The service and banqueting entrances are at ground level and the main public entrance at first floor level, reached by a ramped road leading to a raised forecourt in which cars can be parked. The restaurant is arranged on two levels giving all

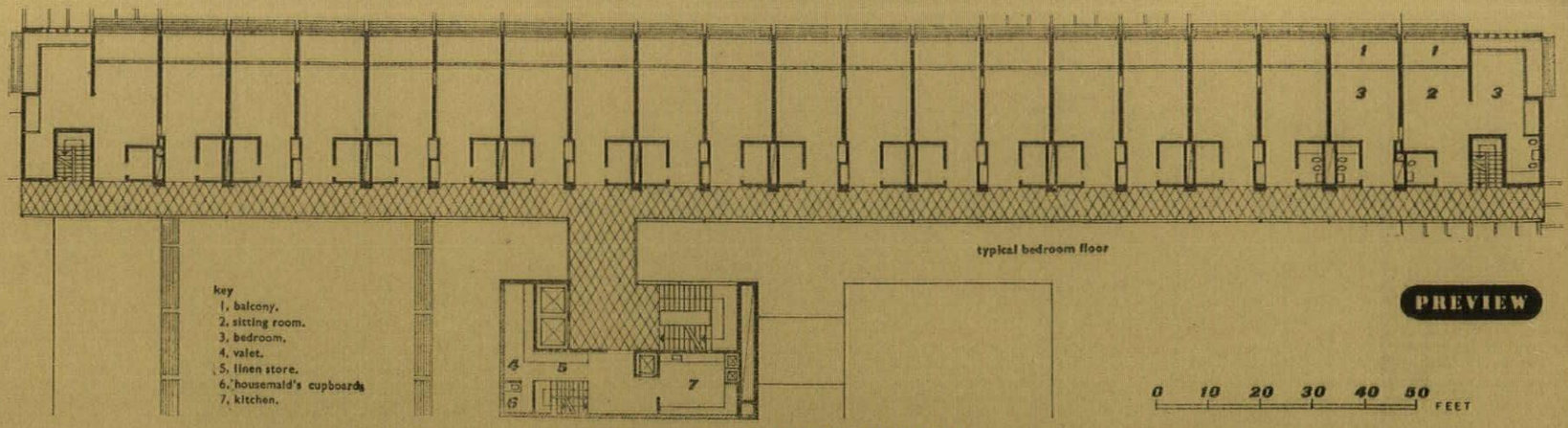
[*continued on page* 183



3, *from the north-west, as it would appear from the bridge approach.*

below, first floor plan.





PREVIEW

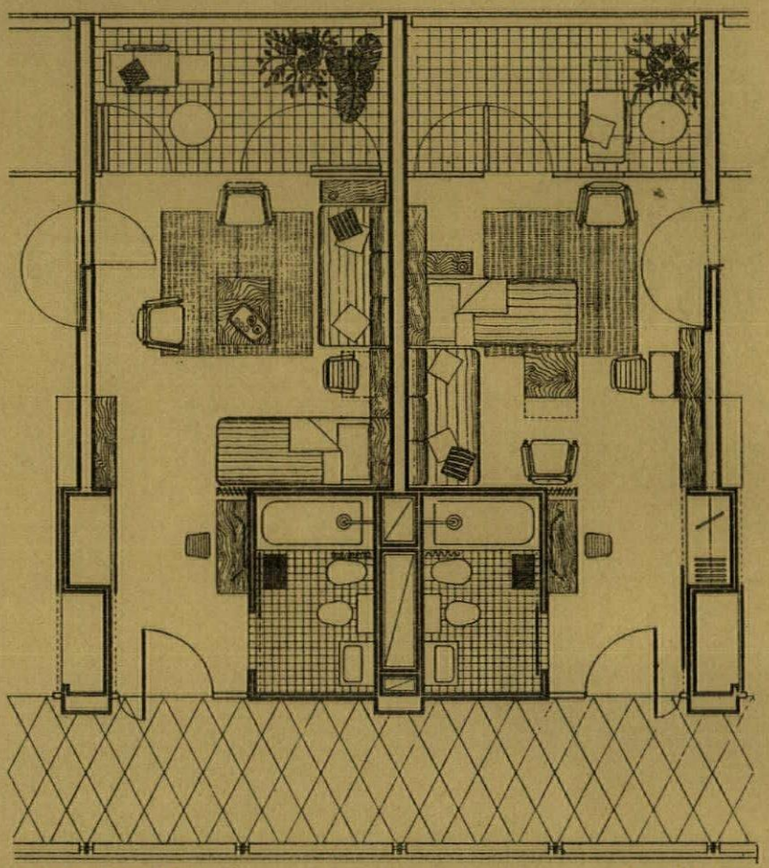
HOTEL AT LAGOS

continued from page 181]

tables the possibility of a view over the water. All public rooms except the writing room give on to a terrace which surrounds the block on two sides. This terrace is interrupted at intervals by openings through which trees and foliage rise from the ground below, and a ramp leads through one of the openings down to the garden.

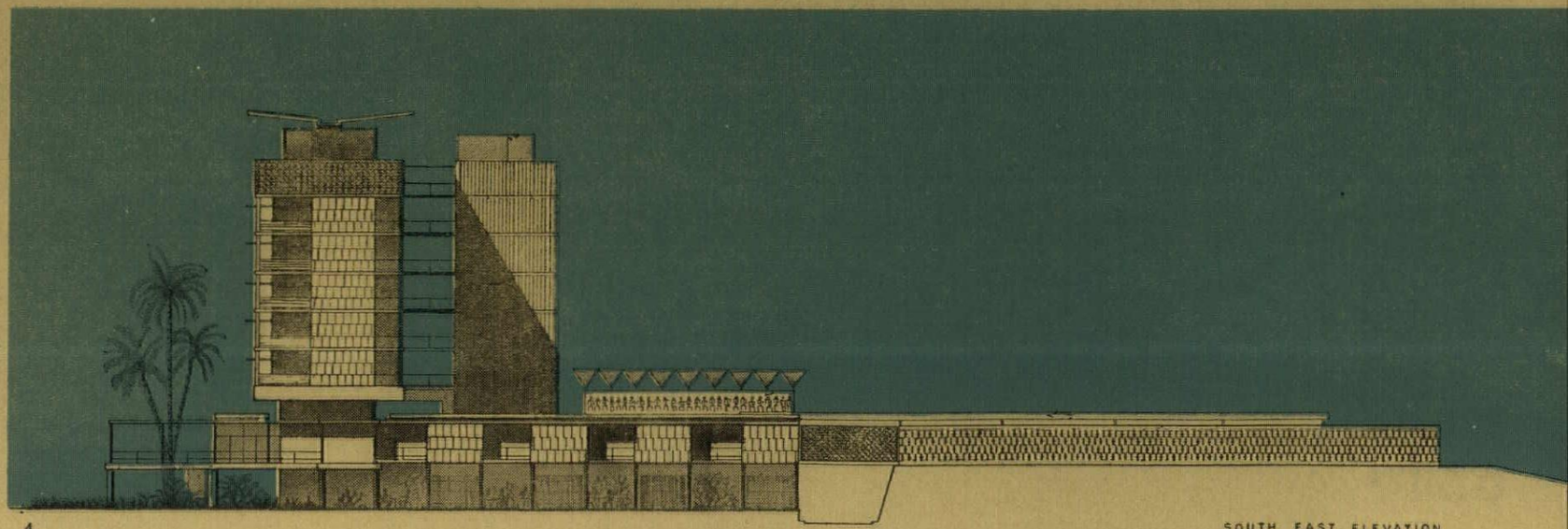
The banqueting rooms are designed to rely entirely upon air conditioning, and the kitchen on air extraction which discharges above roof level via the service tower. All other rooms in the building have been orientated and designed to allow both for air conditioning and for natural ventilation, by taking advantage of the strong south-west breeze. The air conditioning of bedrooms is by means of electrically operated units housed above each bathroom and served with chilled water from a central plant. It is intended that the opening of the first leaf of the glazed doors on to the balcony or of the louvres on the access gallery should automatically switch off the unit. This is considered preferable to permanent air conditioning as well as reducing the running costs of the plant.

On the ground and first floors the supporting structure of the bedroom block is constructed with reinforced concrete columns and beams: above this the concrete block walls between the bedrooms are load bearing, and the floors are of reinforced concrete pot. The remainder of the ground and first floors are partly reinforced concrete block walling. Externally the concrete block walls are rendered. Pierced screens of ceramic units are used where ventilation is required, principally in the wall surrounding the roof gardens of the penthouse maisonettes and in the end bays of the large suites on the bedroom floors. Pierced screens of concrete units surround the entrance forecourt.

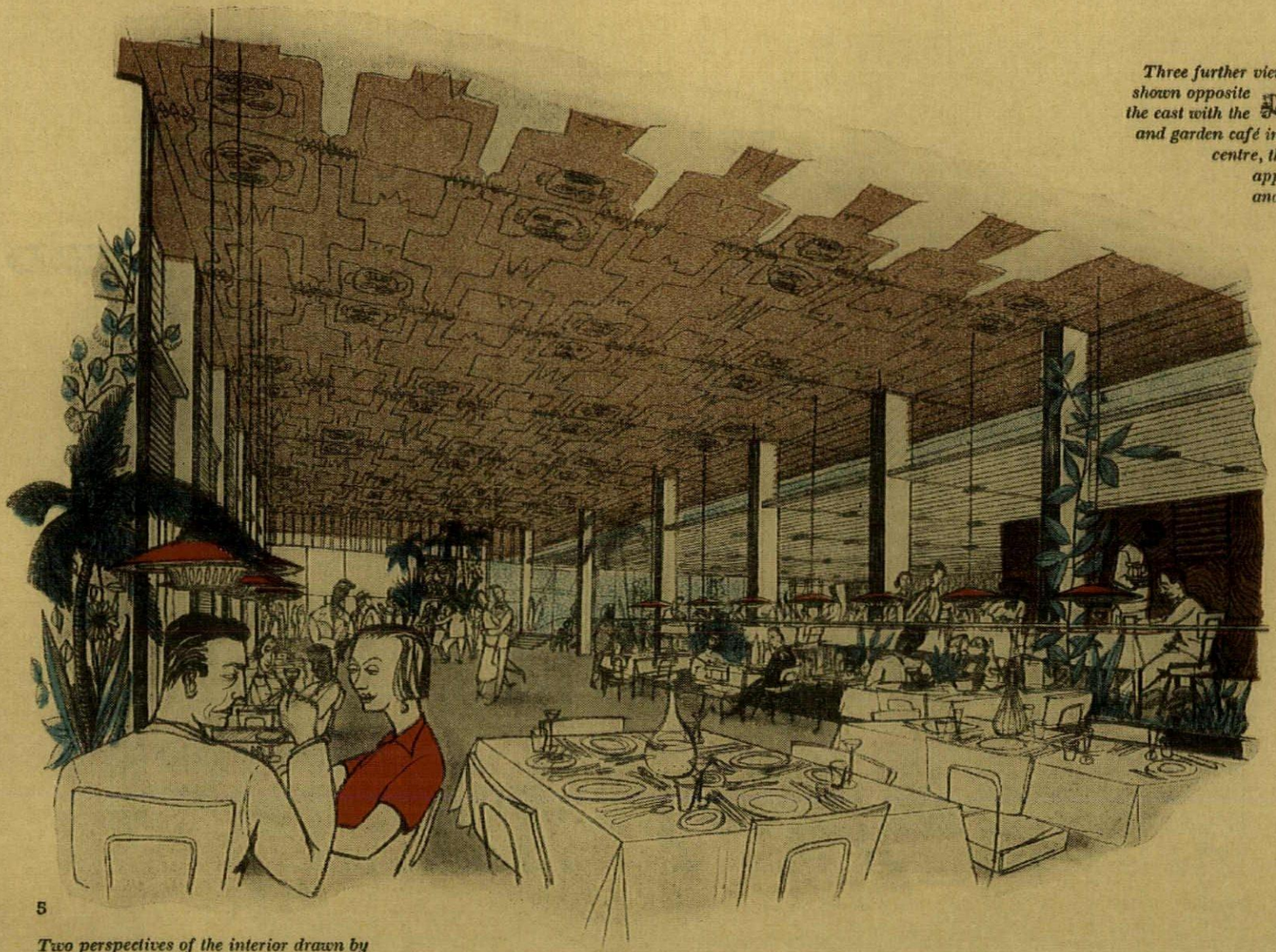


bedroom arrangement at night

scale: 1/8 in. = 1 ft.



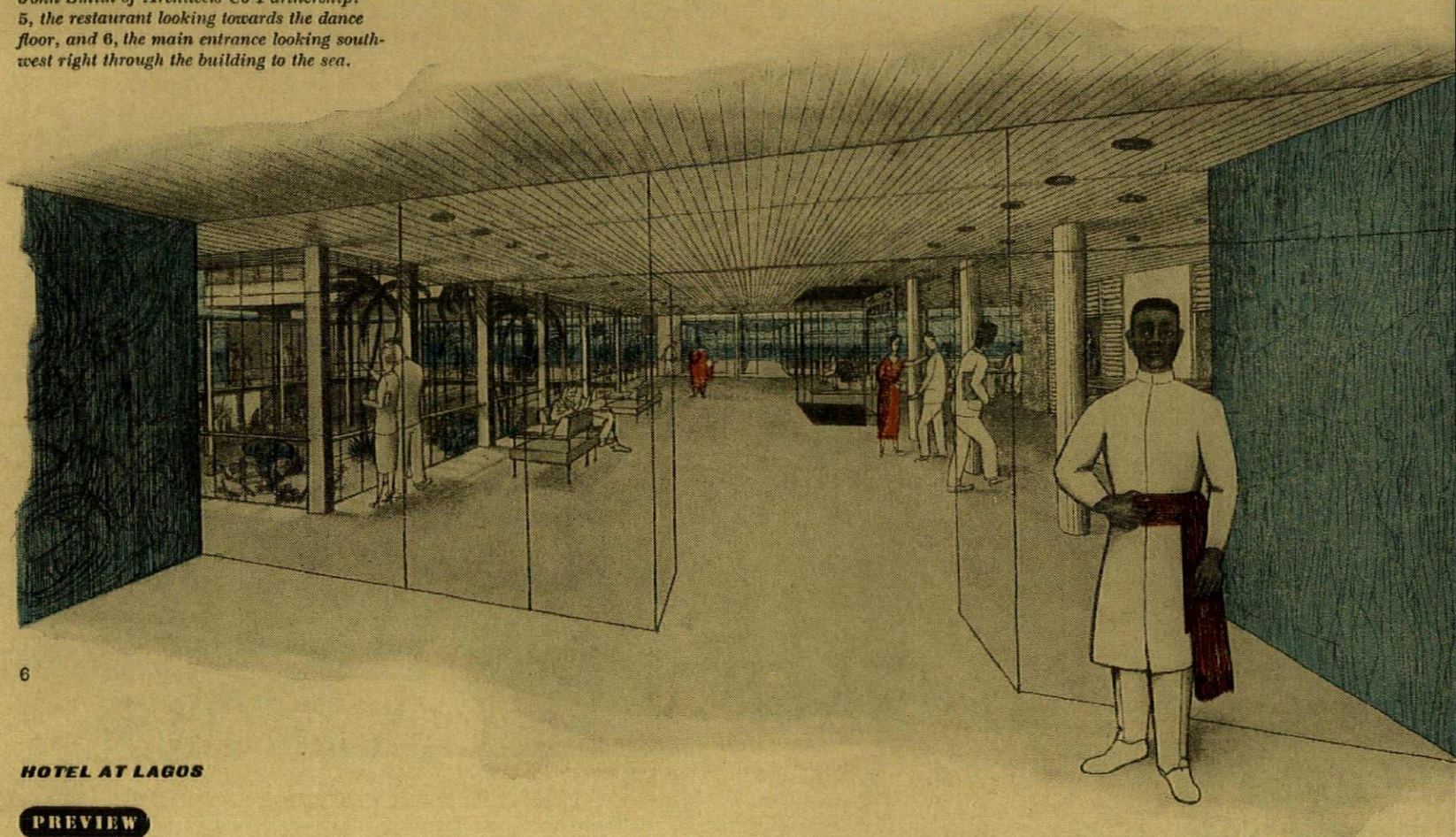
SOUTH EAST ELEVATION



5

Two perspectives of the interior drawn by John Smith of Architects Co-Partnership. 5, the restaurant looking towards the dance floor, and 6, the main entrance looking south-west right through the building to the sea.

Three further views of the model are shown opposite ☞ *7, top, from the east with the writing room and garden café in the foreground. 8, centre, the hotel as it would appear from the beach, and 9, bottom, from the north-west.*



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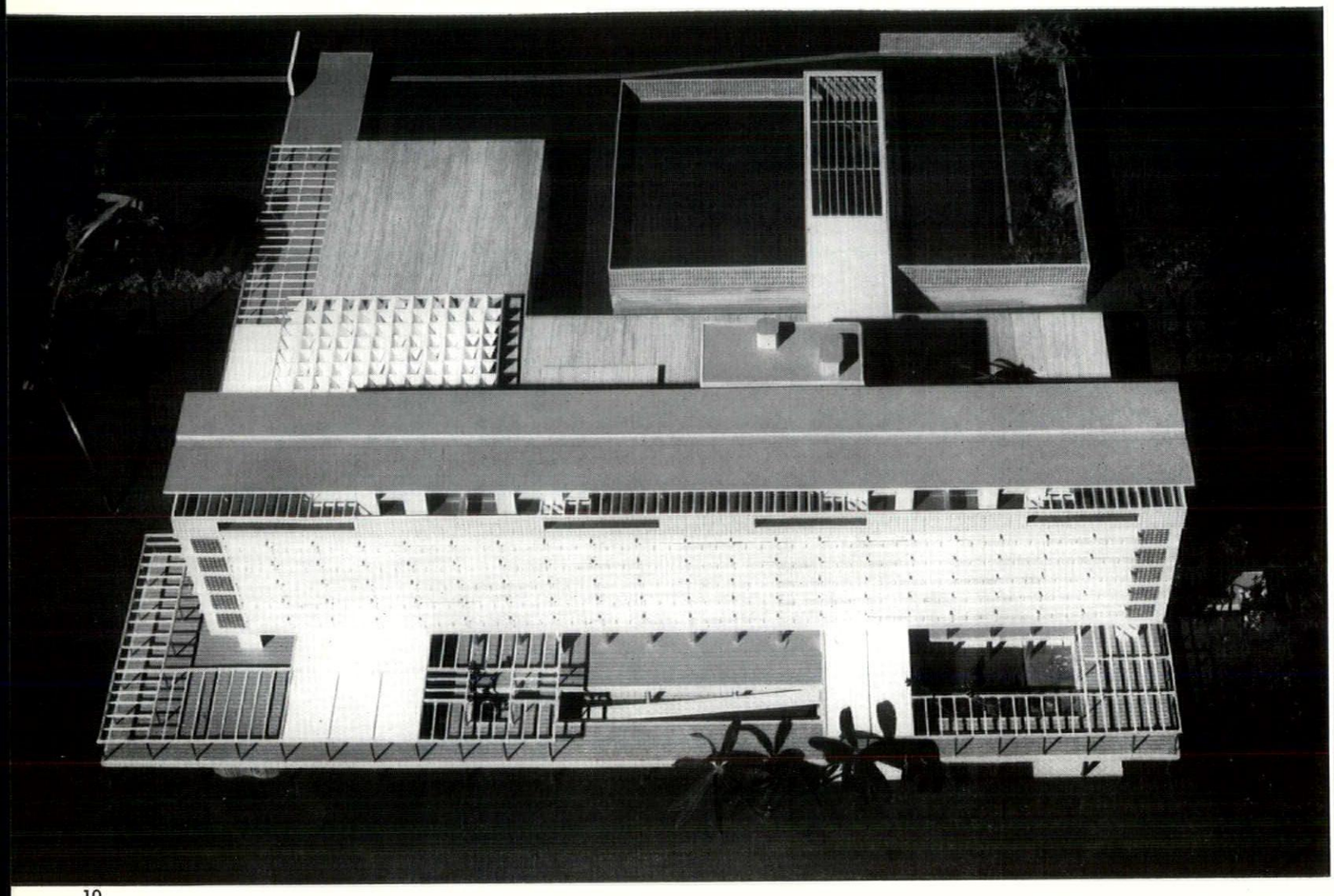

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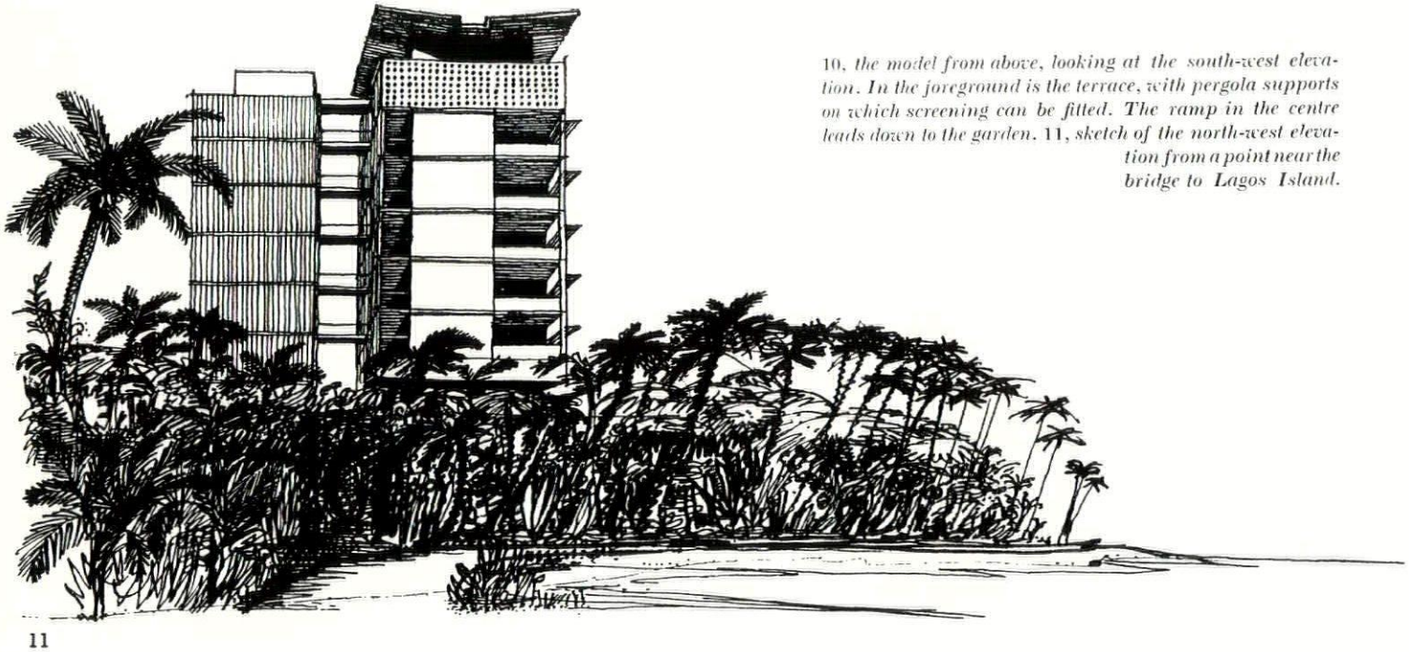


11

10, the model from above, looking at the south-west elevation. In the foreground is the terrace, with pergola supports on which screening can be fitted. The ramp in the centre leads down to the garden. 11, *sketch of the north-west elevation from a point near the bridge to Lagos Island.*

Gordon Cullen

Closure

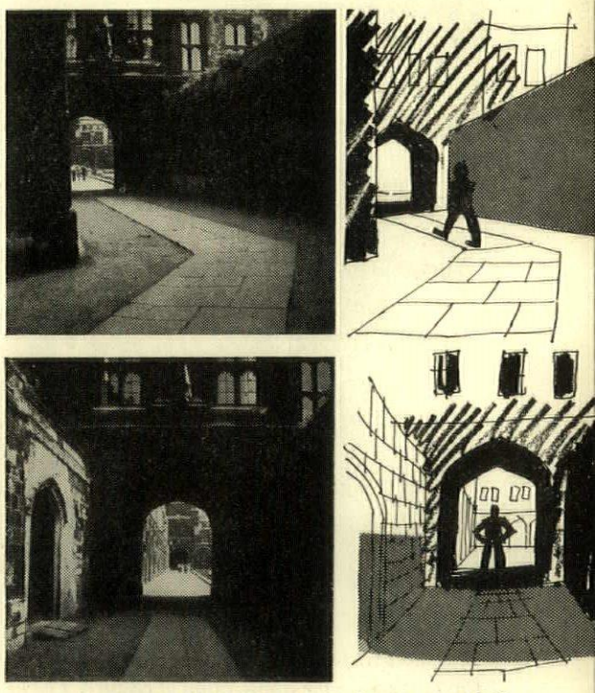
The word Closure may be differentiated from Enclosure by contrasting 'travel' with 'arrival'. Closure is the cutting up of the linear town system (streets, passages, etc.) into visually digestible and coherent amounts whilst retaining the sense of progression. Enclosure on the other hand provides a complete private world which is inward looking, static and self-sufficient.

Hence closure is not intended to mean the closing of a vista, such as Buckingham Palace at the end of the Mall. For here the sense of progression and continuity is lacking whilst closure is rather the articulation of movement (the closed vista falls into the camp of enclosure). A building or wall which creates closure will generally provide also a feeling of anticipation.

Closure is effected by some irregularity or asymmetry of lay-out whereby the path from source to goal is not automatically and inevitably revealed to the eye as in the gridiron plan. This irregularity divides the route into a series of recognizable visual statements each one effectively and sometimes surprisingly linked to the other so that progress on foot is rendered interesting by reason of

1) the subdivisions created which are human in scale.
2) the provision of incident.
3) the sense of unrolling or revealing.
4) Identification.

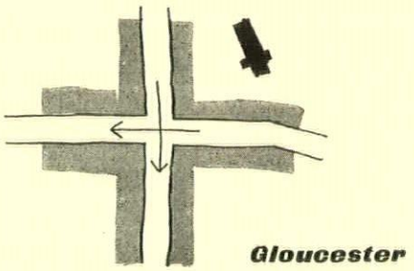
A simple example of 'identification' can be obtained by



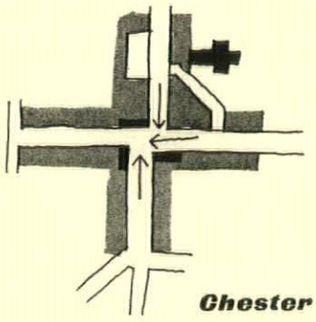
Two pictures which, although separated only by a point of view, illustrate the difference between Closure and Enclosure. Top, the wall on the right is an obstructive monster yet it deflects without stopping the movement: Closure. *Below, though the archway will eventually suck you through like a bath-waste, in the meantime you have arrived and are surrounded and ready to stay that way:* Enclosure.

comparing the centres of Gloucester and Chester, both similar in plan. In Gloucester the two main roads cross cleanly at right angles with the result that the visitor is confused, he cannot get his bearings, since the crossing looks the same from every approach. At Chester, on the other hand, the crossing is staggered slightly so that buildings block the view and clarify the situation by the provision of landmarks.

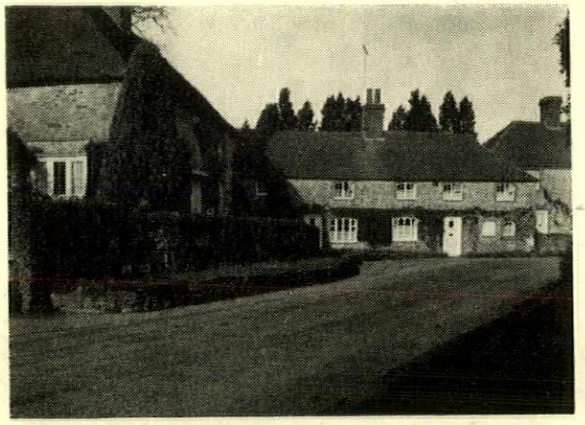
This in itself is justification enough for departing from the 'logical' straight line layout but it might also be noted that the building making a closure is in a key position and consequently such a position might be allocated to buildings which generally accentuate the towniness of towns—Town Hall, church, hotel, big store, etc. etc.

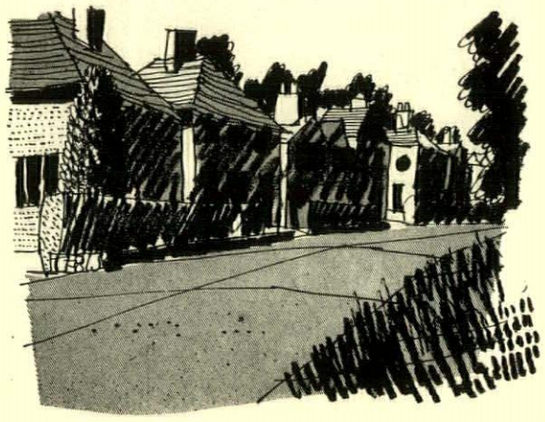


Gloucester



Chester







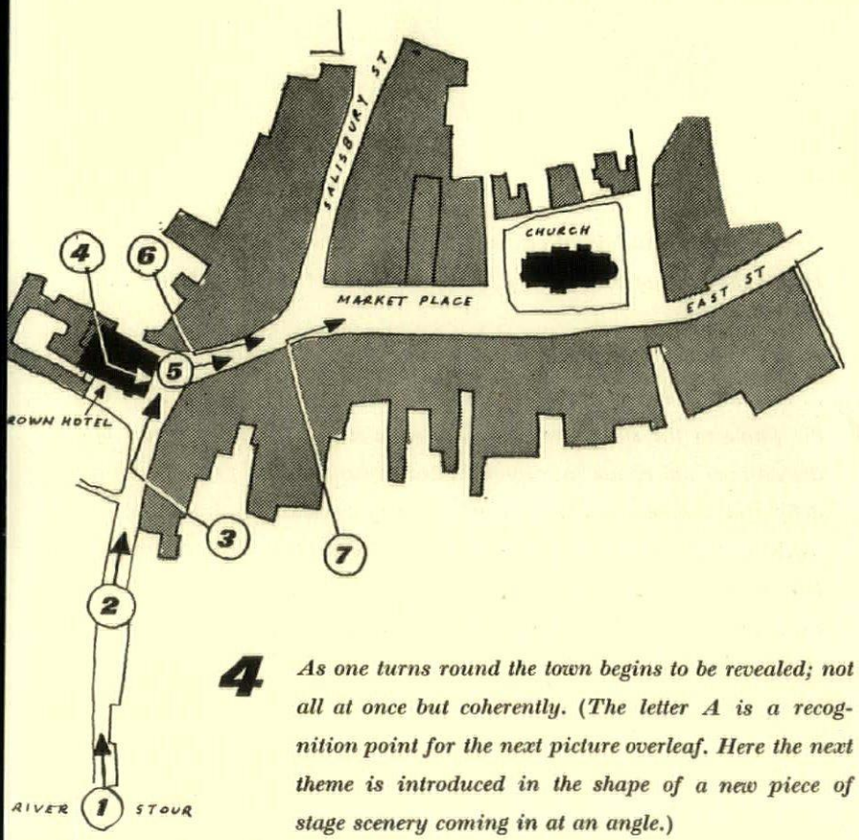
The photograph, above, a typical village scene (East Chiltington) shows the application of closure. The projecting house effectively contains the eye as the road sweeps past. Yet how often is the art in such a device taken for granted? It is only when it is compared with cases where no art is used such as the obvious one of dead conformity to the road, below, that we realize the difference between closure and mere change of direction. To the right is a scene which is innocent of any art. It is also innocent of humanity; it is barbarism entrenched behind a stockade of bye-laws. The awful thing is nothing can be done about it to put it right. It is lost. Let it stand as a warning.

THE FOLLOWING SEQUENCE IN BLANDFORD FORUM covers in a few hundred linear yards no less than six different effects of closure all got through the medium of the main road.

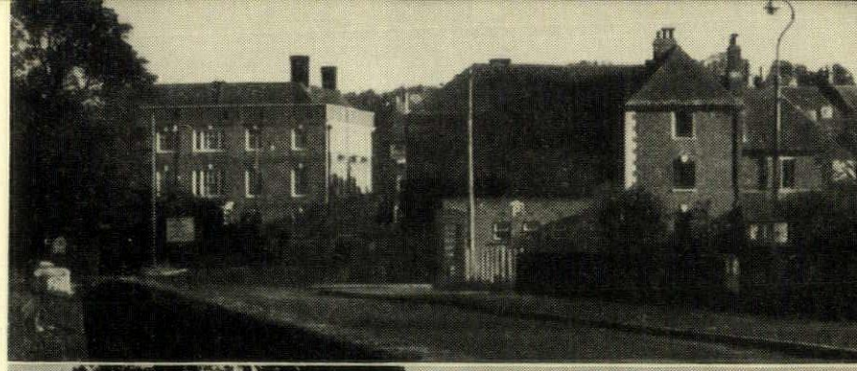
1 *The square solid mass of the Crown Hotel faces the approach road as it crosses the river Stour. And what we see is not a secondary elevation, as might be expected, but the main elevation. Here is exactly the kind of entrance a market town ought to have, a pub which by blocking the vista both invites you in and fills you with anticipation as to what's just around the corner. The narrow gap . . .*

2 *. . . opens out as the road drives to the centre and the vista is cut short by the deflection of the road to the right. Closure transforms a line into an area, a road into a place, square or quad.*

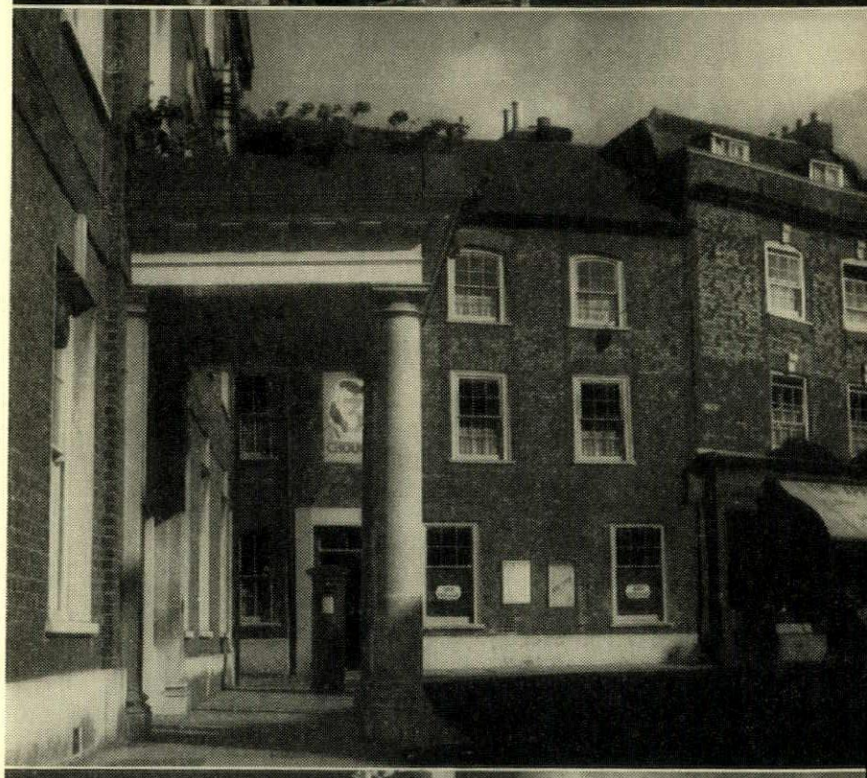
3 *A quad, however, which is not only human in scale and not stuffed-shirt, but also not static. The quad proper creates static enclosure, the effect of which is to make the observer want to settle down if only on a seat; closure also creates enclosures but of the roving kind under which the eye (and the body) is forced forward from the one before to the one after. As the next materializes, the last disintegrates.*

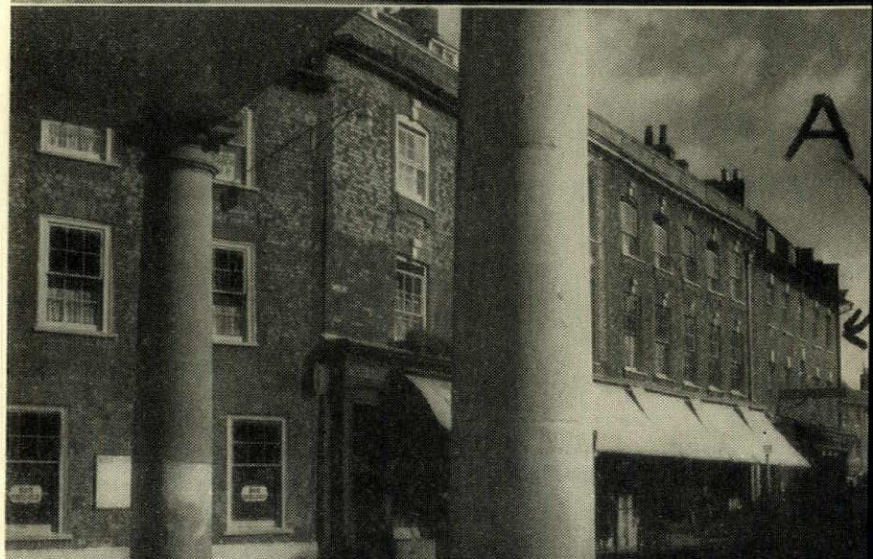


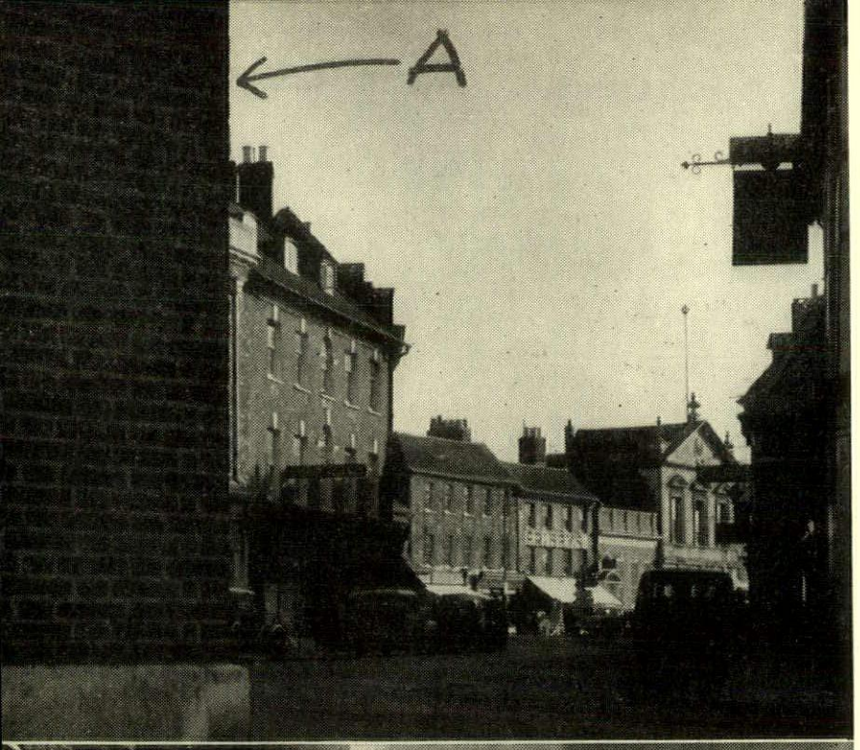
4 *As one turns round the town begins to be revealed; not all at once but coherently. (The letter A is a recognition point for the next picture overleaf. Here the next theme is introduced in the shape of a new piece of stage scenery coming in at an angle.)*





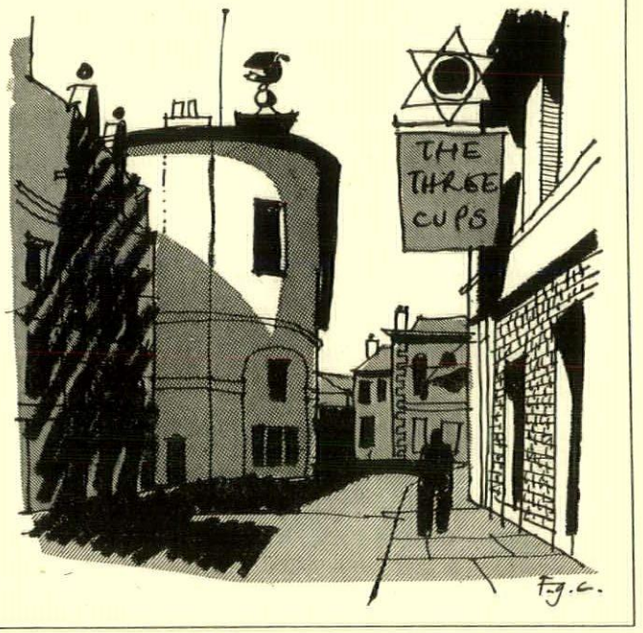






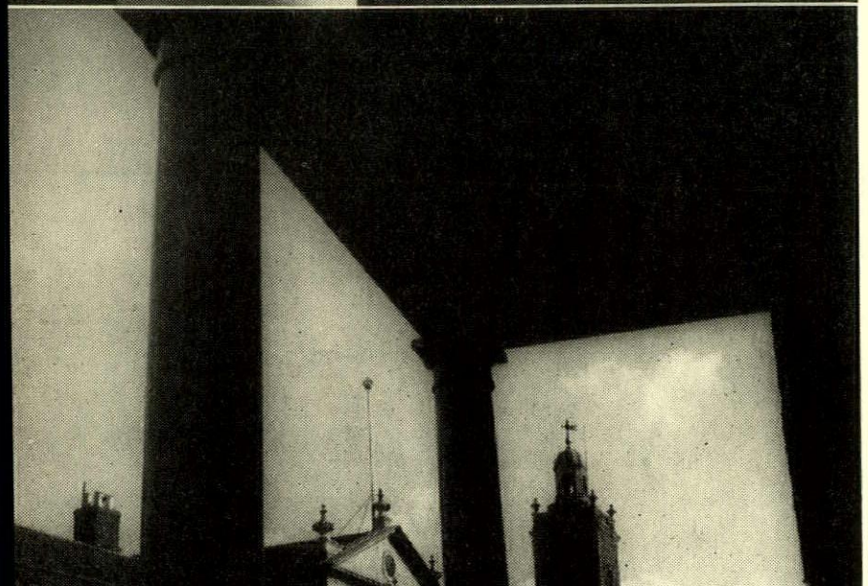
5 *And now there is a clear example of the quad-like structure or sequence that is possible by the use of closure. The sudden widening and oblique angle of the road produce the sense of area rather than line, and the eye is made conscious of arrival by the sudden appearance of the town hall. In fact however there is no square. These are street scenes pure and simple.*

The practical result of the application of the principle of closure is to create an environment that is quad-like in that though in fact one is moving in a linear context—the street—the points of visual reference are so arranged as to give the eye the illusion that it is imprisoned (pleasurably) in an area. The drawing of Buckingham, below, shows this. The linear street is given area by the projection of the Town Hall, not so much though as to slow down movement to a stop for there's something more to come. It is this progression from one statement to another that produces the particular charms of closure.





6 *And as the scene unfolds the church tower, the climax, is at last revealed. Due to the angle of the road it performs the last act of closure before . . .*



7 *. . . we enter the wide main street where everything is revealed. This is the finale to the successive acts of closure which formed a series of dramatic visual events in a co-ordinated sequence which provides, on a delightful domestic scale, a model piece of townscape. Accidental or deliberate? Those who invariably answer accidental to that question might like to be reminded that the Bastard brothers, architects, rebuilt the town complete after a fire in the eighteenth century.*

current architecture

recent buildings of interest briefly illustrated



1, *the main entrance and office wing from the north-east*

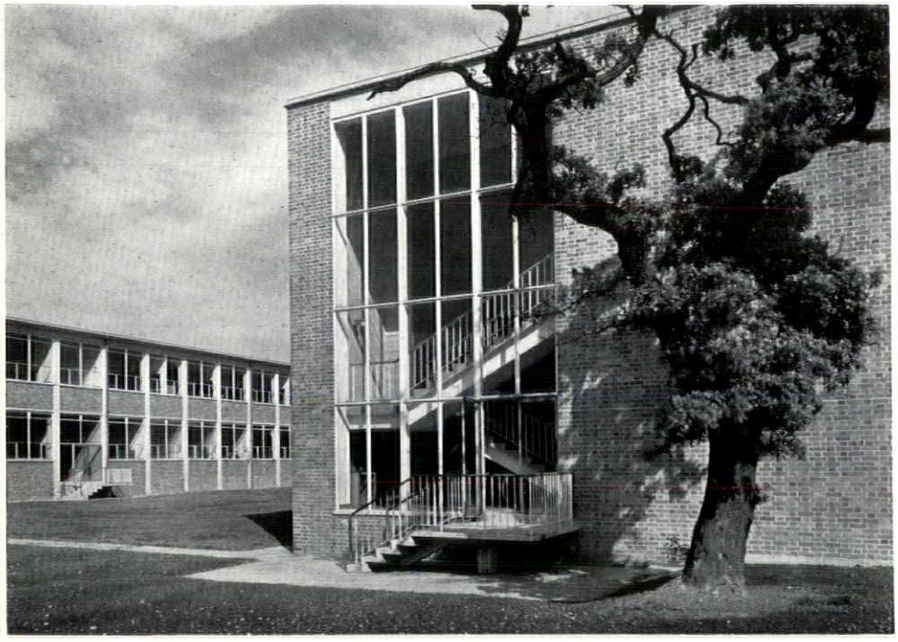
LABORATORIES AT WYTHENSHAWE

ARCHITECTS: CRUICKSHANK AND SEWARD

The buildings consist of laboratories, workshops and administrative offices for electrical research and development, and are situated on an open site in Manchester's new southern industrial area (the same neighbourhood as that of the factory by the same architects illustrated in AR, December 1954, page 374). Owing to the rapidly changing research programme, flexibility of layout was essential; the building had to be planned for future extensions, and easy access had to be provided between laboratories and workshops. These requirements taken together with the nature of the site led to an open plan* in which the laboratory section and workshops are placed on opposite sides of a central block containing the heating and electrical plant. The canteen forms a separate building approached by a covered passageway. The laboratories form a series of one- and two-storey spurs projecting from a central spine. Staircases are placed at each intersection and

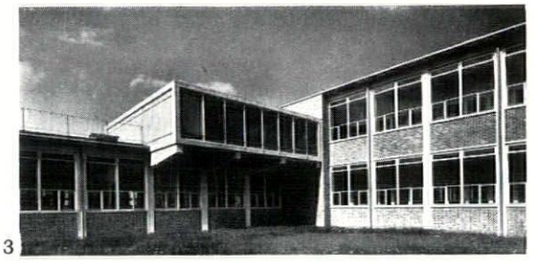
* Security restrictions prevent the publication of site and floor plans.

at the ends of spurs, and the open courts between the wings have been planted as lawns. The laboratories are formed by specially designed sectional timber partitioning, and the layout can be readily altered when required, or used as a clear space 150 feet long by 40 feet wide; the drawing office, for example, occupies such an area. The workshop is planned as an open area, with steel partitions forming stores, offices, and other enclosures. A steel framework is used, external columns and beams being cased with concrete. Infilling panels are of dark red rustic brickwork with flush joints. The laboratory wings, which are mainly two-storied, use portal type framing with a span of 40 feet; the floor areas are unobstructed by columns, to allow sectional partitions to be laid out in any desired arrangement. The first floor and roofs to the laboratories are of hollow-tile reinforced concrete and contain embedded low temperature heating coils. The workshop roof construction is based on the use of plate girders spanning 90 feet. These carry welded RSJ rakers which in turn support patent glazing (E-W lighting) and metal roof decking. The ancillary accommodation grouped round the workshops includes a plating shop, fire station and garage as well as offices, cloakrooms and toilets. These ancillary rooms have reinforced concrete flat roofs. The various blocks of the laboratories and workshops are separated from each other structurally by expansion joints. The laboratory walls and ceilings are plastered and painted. The floors are of East African hardwood which provides a good electrical insulation and a durable wearing surface for trucking. In the workshops the walls are in fairfaced sand-lime brickwork and painted. The workshop floors are mainly granolithic screed laid monolithic with the concrete floor slab. Windows throughout the building are built up of standard steel sections. Heating is provided in the laboratories by low temperature heating coils embedded in the ceilings; high temperature radiant panels are used in the workshops. The laboratories have a service strip 3 feet above floor level which distributes electricity, compressed air and gas to the benches.



2

2, end of one of the laboratory wings from the west, showing the secondary staircase. 3, the ventilation plant fan chamber.



3



4

4, staircase in the main entrance hall. 5, canteen building from the south-west.



5



6

PRIMARY SCHOOL AT ENFIELD, MIDDLESEX

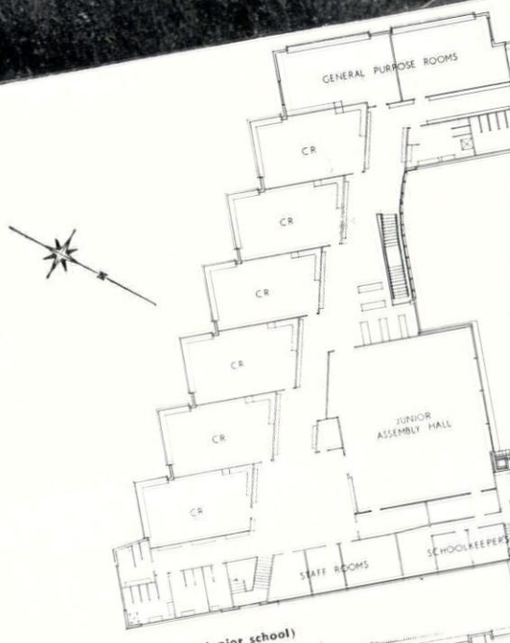
COUNTY ARCHITECT: C. G. STILLMAN
ASSISTANT ARCHITECT: J. P. KENNA

The Worcesters primary school is in Goat Lane, Forty Hill, just north of Enfield on the present periphery of wholesale suburban building. It consists of two superimposed schools, the infants' school on the ground floor, and the junior school on the first floor. The schools are separately staffed and the only shared accommodation is the dining hall. The 4½ acre site was formerly part of a private garden and has exceptionally good trees. The two-storey classrooms face south and east, and each classroom is stepped to allow as much penetration of light and sunshine as possible. Storage space is provided by open shelving, and all classrooms have sinks. Cloak stands are in the wide corridor circulation space, so that each class has its own pegs nearby, and no separate cloakrooms are provided. There are six infant classrooms below, eight junior classrooms above, all of 600 square feet and all with the same equipment, except that the upper rooms have top lighting. To compensate the ceiling height of the ground floor rooms was increased to 9 feet 10½ inches (the height of the junior classrooms is 8 feet 10½ inches) and the sill level was lowered. The ground floor has reinforced concrete construction using 8 inch circular columns; the first floor uses a light steel frame. This composite structure was the result of steel rationing at the time of building; it was originally designed for a light steel frame throughout. The roof is supported on steel joists and is of channel reinforced woodwool slabs covered with foamed slag screed and multiple felt. External finish is fairface brick rendering and vertical shiplap weatherboarding. Internally walls are plastered and painted or papered.



7

6, the staggered classrooms from the south-west. 7, the infants' and juniors' assembly halls, with staircase wall beyond.



first floor (junior school)

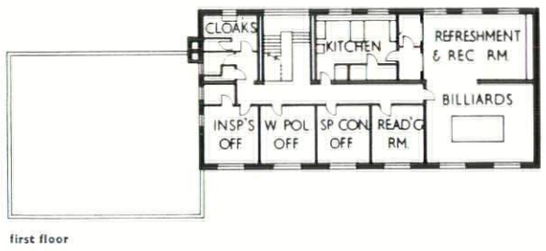


ground floor (infants' school)

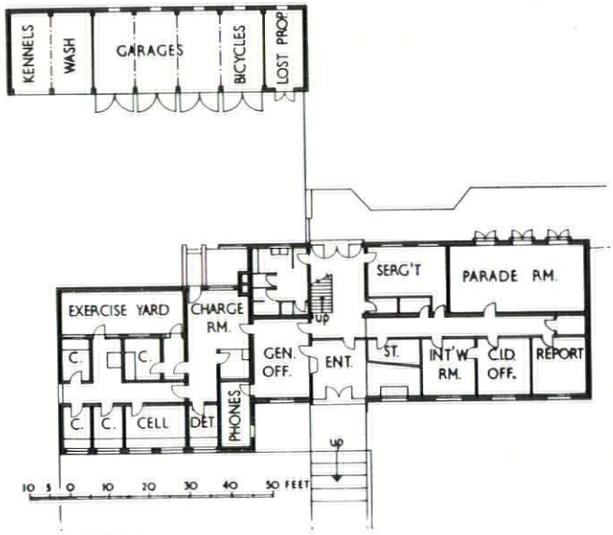


8

8 the north facade and main entrance. 9. bar in first floor refreshment room. 10, public entrance, with counter in mahogany and sycamore.



first floor



ground floor

POLICE STATION AT OXHEY, HERTS.

COUNTY ARCHITECT: C. H. ASLIN
ARCHITECT-IN-CHARGE: J. M. PYPER

This sub-divisional police station serves the new LCC estate at Oxhey, south of Watford, on a half acre site on Oxhey Drive near the main shopping centre and railway station. The building provides offices, with separate access for public and police, a cell block with separate entrance, a parade room for lectures and inspections, recreation rooms and a garage for four vehicles. A service road down the east side of the site provides access for the police to the parade ground, garages, police and prisoners' entrances, all cut off from public view. The office block has brick load-bearing walls, precast concrete floors and roof and purpose-made timber windows. The facing bricks are light Crowborough stocks, the windows Iroko teak painted white.



9



10

EDITORS ONLY

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

EXCAVATIONS

The story of the temple of Mithras has brought once again into the open the unsatisfactory state of organizing excavations in Britain. London was one of the large and important cities of the Roman world. Its basilica was larger than any outside Italy. The ground which the bombs of the recent war damaged must be full of examples of private and public building and of furnishings and ornaments. The site of the temple had lain fallow for years. Dozens of other crucial sites still lie fallow. Why does nothing happen? Why was the temple not found until the new building began to be built? The reason is of course primarily finance, but also, even if to a much smaller degree, organization.

Yet Roman excavations of some sort (and also prehistoric excavations) are carried on in Britain continually, although within regrettable limits and at a regrettably slow pace. But systematic excavating of medieval architecture is almost absent. That may be the fault of too strong a tradition of classics. It is also the fault of an organization in which such excavating is no-one's job. I try to keep in touch with new evidence of medieval architecture in certain countries on the Continent. The extent of illuminating information which has literally come to light since 1945 is staggering. The *Bulletin Monumental* keeps one advised of digging in France. Germany owing to war damage has found more facts, and more unexpected facts than any other country, but Switzerland, Holland, Austria, Sweden and of course Italy all regard it as their responsibility and duty to take advantage of opportunities and excavate for medieval evidence. The initiative is sometimes local, the execution nearly always national or provincial with State as well as church and private contributions. Details vary, but the general pattern is the same.

Now it is this pattern which does not seem to please historians and archaeologists here. It savours too much of Leviathan. But surely the alternative which offers itself is either government interference with results, or scarcely any results at all.

Mr. Kerry Downes some months ago approached me to discuss the possibilities of a dig for Nonsuch, at Cheam near Sutton in Surrey. Nonsuch was Henry VIII's pleasure palace. It was pulled down as early as about 1670. What we know of it is highly puzzling and tempting. The site is largely not built over. Excavation could be relatively easy and very cheap. It is true that the materials used were not such as to promise spectacular results in marble and freestone. Yet much of the greatest historical and æsthetic interest would be bound to come of such a dig. A fairly wide public could easily be interested in it. I went to various places to ask informal questions. None could regard itself as responsible or authorized for such a dig. They all said private funds would have to be appealed for.

That is a specially blatant case. But how many churches get a new vestry or new heating without attempts at verifying earlier plans. Yet Britain in the Early Middle Ages, especially the age of Bede, was one of the most cultured countries of Europe. Any evidence of the church, the monastery, the castle would be of value, and cumulatively it would re-shape our whole vision of Britain at that time.

Now that it has been silently established that concerts and art exhibitions are to a certain extent a concern of public finance, ought not the step to be taken at last of creating a regular service for the excavation of sites of medieval as well as Roman and prehistoric interest. **Nikolaus Pevsner**

BOOKS

CITY AND HISTORY

HISTORY BUILDS THE TOWN. *By Arthur Korn. Lund Humphries. 50s.*

There are some books which it is easy to like, but difficult to praise because their reassuring breadth and scope, and their irrefutability, are gained by soaring too high above sordid practicalities. Such a book is Arthur Korn's long-awaited history of the town. It sees cities as the product of vast global forces of geo-physics and sociology, rather as one might, under the right light, see football stadia as the historically necessary products of the Football Association and the Pools Promoters Association. Thus the reader is whirled through the history of the mediaeval town with only side glances at the importance of Royal Charter as a town builder which made every charter city a kind of Bastide; the statement that real capitalism did not begin until the sixteenth century seems very hard on the Lombard League, and in fact contradicts, in the cause of historical tidiness, figures given earlier about Italian bankers. Nor is anything said about the effects on town development of local pig-headedness—common-field proprietors who would not sell for building, landlords who would not have the railway across their fields—accidents which have often produced the evidence on which sweeping generalizations are based.

Yet this book persuades. It sums up those attitudes to towns which have made the greatest emotional impact—by Howard, Marx, Garnier, Mumford, Le Corbusier, etc.—and still retain their emotive power. It sums up a general attitude which is common among the students who have passed through the author's hands at the Architectural Association; an attitude which they hold, not so much because current social conditions render it historically necessary, as because he has instilled it in them with such persuasiveness and charm. To read this book is to re-live those conversations with Arthur Korn from which one went out with a warm and humane determination to do something big about the city. **Q.S.C.**

MEMORABLE MARKS

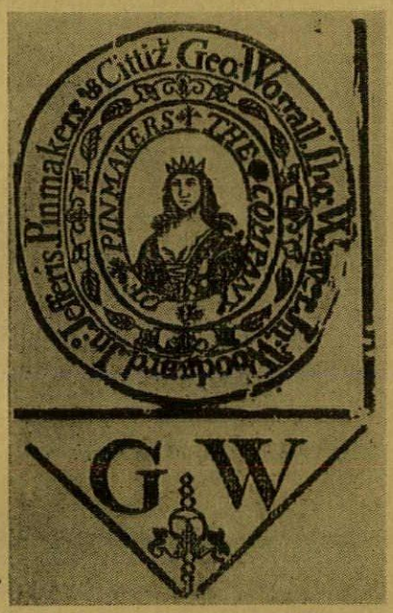
SEVEN DESIGNERS LOOK AT TRADE-MARK DESIGNS. *Edited by Egbert Jacobson. Paul Theobald.* $8.75.

This book is written both for business men likely to commission trade marks, and for designers likely to make them. Egbert Jacobson, the Editor, starts his introduction: 'It is a universal human trait to remember images better than names. "Your face is familiar, but I can't recall your name" is such a common dilemma that it has ceased to offend. Yet our faces bear more resemblance to one another than the majority of our names. This is another way of saying that it is easier for most people to recall things seen than things heard, and that they most readily remember features which are unique, in faces or in good trade marks.'

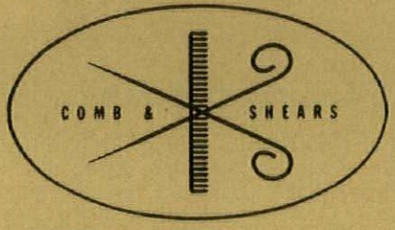
Bernard Rudofsky starts with an historical review. Herbert Bayer then analyses and classifies the various trade mark types. Alvin Lustig discusses the development of their ideas and forms, with a special reference to the trade mark's evocative qualities. Paul Rand shows how a trade mark can be



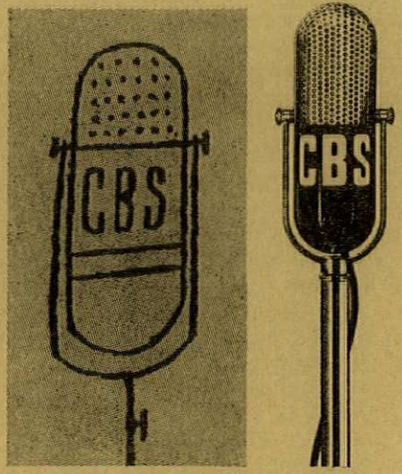
1, *Chinese porcelain mark.*



2, *a London pin maker's trade card,* 1756.



3, *trade mark for a barber's shop.*



4, *the CBS monogram: right, as used on labels and in advertising; left, as drawn by Ben Shahn.*

developed and used as an illustrative device beyond a decoration, or a letterhead, or a stamp on a product, and H. Creston Doner writes on the trade mark in product identification. He shows how one firm, 'The Libbey-Owens-Ford Glass Company of Toledo,' applies its trade mark in many adaptations to all their products, their factory, signs, etc., thereby establishing a family likeness amongst all the products. The curious thing is that all designers agree that a trade mark should be a living thing and move with the times. Provided the basic symbol is kept, they are all convinced that it is an advantage for the trade mark to appear from time to time in a new guise. This is perhaps the most important lesson to be learnt from this symposium, as industrialists and all those who are the proud possessors of a house mark, however hideous, stubbornly insist that it must not be changed in any way from the first appearance which it was given by their Victorian grandfathers, lest loss of goodwill ensue. If this book will influence only a few industrialists to be bold enough and have their trade marks brought up to date, it will have done a good job.

F. H. K. Henrion

SHOWN IN SPACE

NEW DESIGN IN EXHIBITIONS. *Richard P. Lohse. Erlenbach-Zürich. No price is given on book.*

This is a very *Swiss* book . . . exquisite as a snowflake, handsome as a mountain peak, cold as a glacier, estimable as neutrality . . . and yet, in overall effect, profoundly dispiriting. Let me say at once that every architect will fall, as I did, greedily upon it. How irresistible after all is that familiar horizontal shape . . . that grey-white canvas binding . . . the magical words 'Erlenbach-Zurich.' Three languages too and nearly 500 photographs. How eagerly will the 260 pages be turned. Barcelona 1929, yes: Stockholm 1930, yes, yes: Paris 1937, of course: Zurich 1939, naturally. But then slowly comes the realization that the title is misleading. There is no 'New Design Idea' here, only infinite—almost infinitesimal—variations upon an old, well-tried and excellent formula, the three-dimensional grid used with the floating photographic plane. On page after page the thin black (or occasionally white) legs, cross-linked at intervals, march primly across the white (or occasionally black) and shiny floor, with their load of photographically enlarged laughing faces, or crystal formations. Soil Erosion or National Culture, The History of the Chair or The Future of Glass—the subject makes no difference, the treatment is the same. Of course, they're splendidly flexible. Of course, for package exhibitions, standard post-and-panel solutions are admirable. Of course, too, they are many of them very beautiful. It is always exciting also to see—or more often in this book—to see again, the splendid innovations of the greatest artists—Mies van der Rohe, Le Corbusier, Nervi or Max Bill. But the combined effect of the work of so many 'space-cadets,' when viewed apart from its glamour as beautiful pattern-making, is—let's face it—boring, and I suspect also poor showmanship. It is surely very significant

 Three exhibition displays based on rectangular frame structures: 1, Divina Proporzione, *a special exhibit at the* 1951 Triennale di Milano, *by Franceso Gnecchi Ruscone;* 2, *the Historic Jewellery section of the* 1936 Triennale, *by Franco Albini;* 3, For Modern Living, Detroit, 1949, *designed by Alexander Girard.*

that in practically none of the 500 photographs is a visitor to be seen—too often, no doubt, because his presence would disturb the exquisitely calculated balance of the design. On page after page these delicate predatory-looking exhibitions seem to wait—in an unearthly light, in silence, and I suspect often enough in vain, for the visiting crowds.

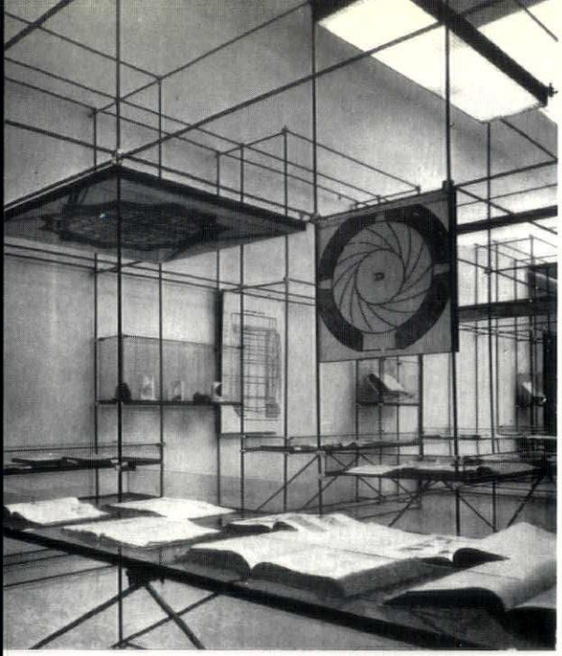
This is exhibition design for and by exhibition designers—or, as James Thurber put it a government of the orioles by the foxes and for the foxes—and the odd thing about it is that, although it is obviously intended to be impersonal, anonymous, subsidiary to the exhibits, the visual effect is the reverse. The self-imposed rectangular discipline becomes in the end as dominating, overpowering, menacing even, as the old teased-out confections of the between-war commercial exhibitions, and the exhibits too often take second place to their setting.

Let it not be thought that, because this country is only represented by one good but unremarkable BIF stand, there is any national sourness in these remarks. We have no reason to feel ashamed of our contribution to the History of Exhibitions, though certainly it has lain principally in other fields than these well-trimmed and weedless lawns. Let Mr. Lohse before he prepares that second edition—which will certainly be needed—visit, say, the Temperance Festival at Newcastle—three roaring clamorous miles of colour and life and sparkle, set up each year—yes, it's all packaged stuff—upon a windy moor, and see if he cannot catch just a whiff of that magic—those roses and sequins and strangeness which are the very essence of exhibitions and of showmanship, and of which, alas, no breath disturbs the pure and tranquil air of his pages.

Hugh Casson

Books Received

DESIGN FOR PRODUCTION. British Productivity Council. 3s. 6d.
THE PLANNING OF INDUSTRIAL LOCATION. Peter Self. University of London Press. 2s. 6d.
FAITH BUILDS A CHAPEL. Winifred C. Boynton. Chapman and Hall. 68s.
THE ADVENTURE OF BRITISH FURNITURE. David Joel. Ernest Benn. 63s.
LA MAISON EN BETON ARME. V. Erosciuchi. Dunod.
PENCIL TECHNIQUES IN MODERN DESIGN. Atkin, Corbelletti and Fiore. Chapman and Hall. 66s.
DECORATION AND MODERN FURNITURE. Bruce Allsopp. Pitman. 70s.
ARCHITECTURE FOR AMATEURS. Martin S. Briggs, W. & G. Foyle. 2s. 6d.
MUNICIPAL ENGINEERING ADMINISTRATION AND ORGANISATION. Rodney S. Offord, Contractors Record. 25s.
THE PARISH CHURCH OF ST. KENTIGERN, CROSTHWAITE. Francis C. Eeles. Charles Thurnam & Sons. 7s. 6d.
VICTORIAN ARCHITECT. J. D. Forbes, Indiana University Press. $5.00.
THE PLACE-NAMES OF OXFORDSHIRE. Margaret Gelling, Cambridge University Press. 30s.
L'ARCUITETTURA DEL MEIDIOEVO IN SARDEGNA. Raffaello Delogu, La Libreria della Stato-Roma. 10,000 lire.
MIES VAN DER ROHE, 2nd edition. Philip Johnson. Museum of Modern Art, N.Y. $7.50 cloth bound. $3.50 paper cover.
CARPENTRY, JOINERY AND WOODCUTTING MACHINERY. W. E. Kelsey. Macmillan. 50s.
THE GENESIS OF MODERN BRITISH TOWN PLANNING. William Ashworth. Routledge & Kegan Paul. 21s.
BUILDING LAW ILLUSTRATED. B. G. Phillips, Spon. 21s.
ACKERMANN'S OXFORD. Notes by H. M. Colvin. Penguin Books. 5s.
BYZANTINE ART. D. Talbot Rice. Penguin Books. 3s. 6d.
SHADOW OF EROS. Adrian Bury. Macdonald & Evans. 30s.



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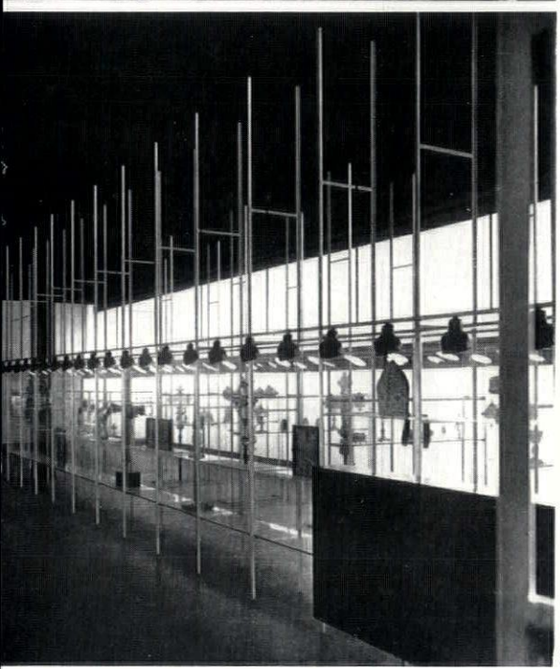

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3

LANDSCAPE

MINERAL WORKINGS

Because of its geological richness, no part of Britain is safe from the threat of mineral workings, and the demand for minerals is so great that their general location seldom takes account of landscape values. However, by local adjustment of siting and by sympathetic treatment of the surroundings, the smaller workings at least can be fitted unobtrusively into the view. For example, a proposed chalkpit near the Icknield way was re-sited below the sky-line and a tree-grown ridge conserved to maintain the general land-form, whilst at Polhill on the Pilgrim's Way, 1, hillocks conceal the entrance and machinery, 2, while a beech wood forms the background to the chalk face.

Large workings cannot usually be concealed or kept subordinate to the landscape, and although in their own way they may be magnificent, 3, their scale, noise and dirt divorce them from the peaceful countryside, making them part of industry during their working life.

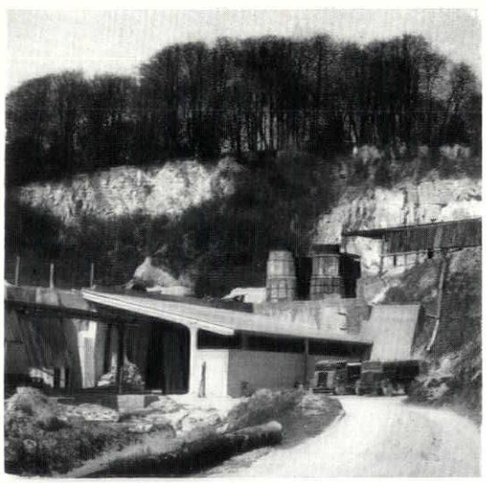
But if the right steps are taken all abandoned workings can be brought back into the landscape in one form or another. Where it is possible to conserve or recreate the soil, the land should be returned to agriculture. With foresight and improved machinery, great areas of the Midland ironstone workings are now returned immediately to agriculture, and where before the land was left in sterile hill and dale, 4, within three or four years have regained their full fertility.

Even old slag heaps from coal mines can be afforested by the progressive use of the right species. But while the majority of workings should be returned to the normal agricultural pattern, the exceptions can still be welcomed as opportunities for new and stimulating landscapes. The china clay dumps of Cornwall, 5, exciting in shape and colour stand up magnificently against the dark large scale background of the

1



2



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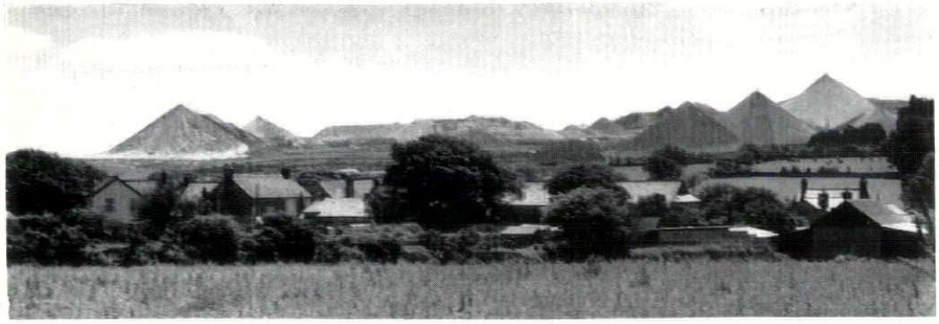

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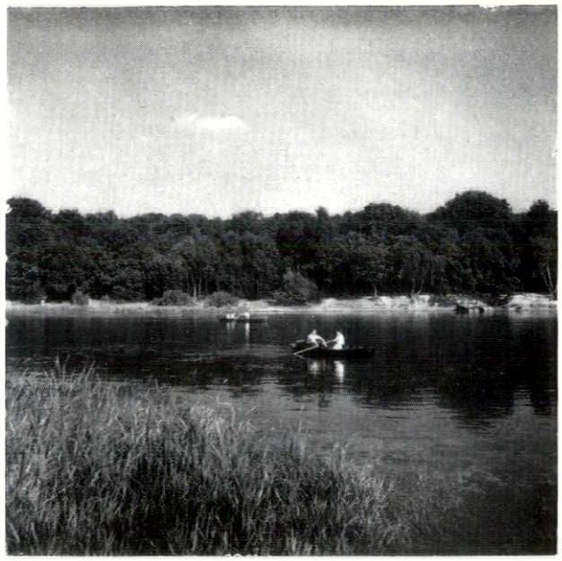

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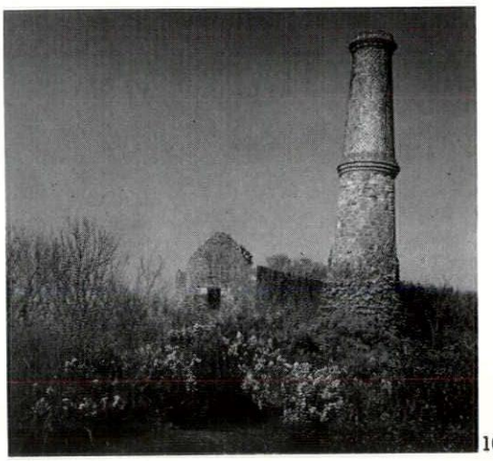
moor. They only jar where there is too great an area of desolation or where their scale is brutal in relation to small scale fields and cottages, 6. Like their architectural counterparts, the great industrial buildings (see AR, Oct. 1954) they sometimes need the help of trees, 7, or water, 8, to resolve their scale.

In the urban scene, the detachment given by the raised plateau of the Wren's Nest at Dudley, and the recreational value of the Lidos of Rickmansworth and Ruislip, 9, show some of the uses to which old workings can be put.

From the Neolithic flint mines onwards, the countryside is full of old mineral workings and is the richer for them. Nature left alone will in time absorb them all, and even the buildings of an old working, 10, may make as fine a ruin as a castle. But the process is slow and we are causing devastation far faster than Nature can repair it. If we are both to win the minerals and keep a healthy countryside, Nature must be helped in her work by a nation-wide rehabilitation of old workings



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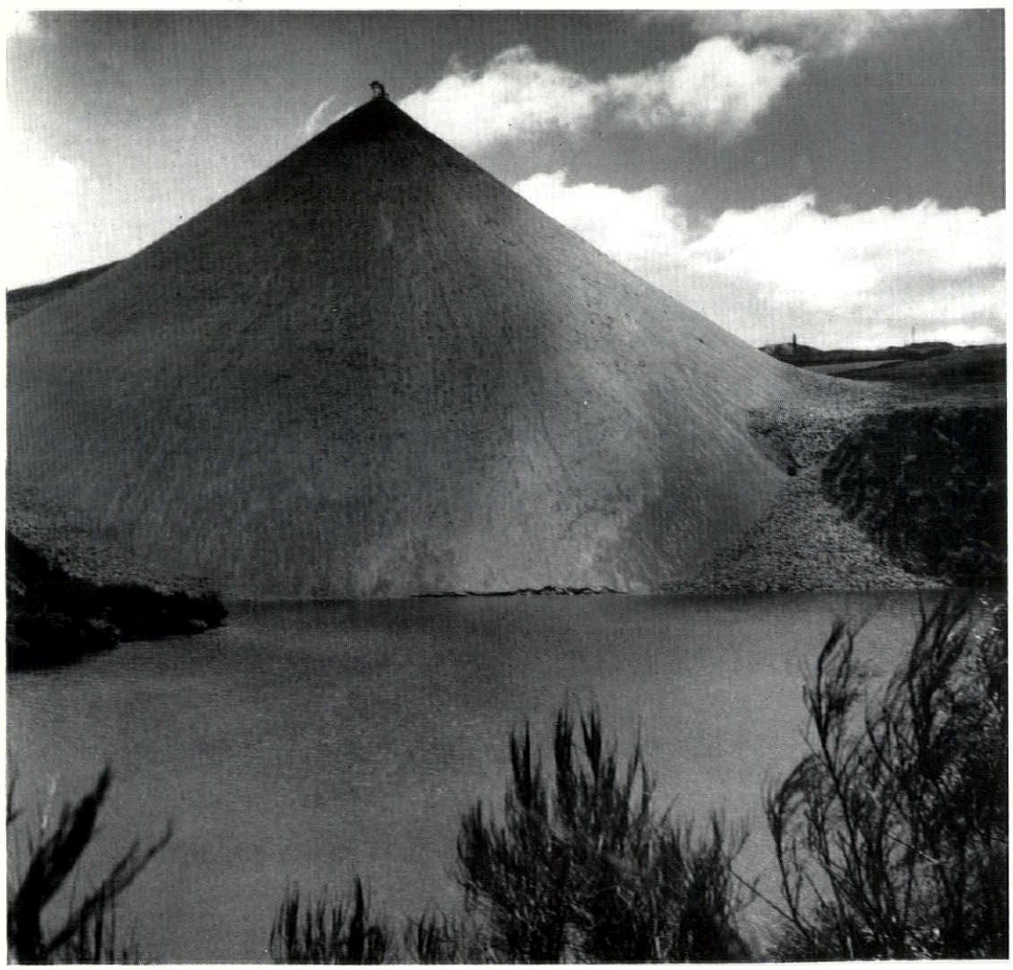
and systematic plans for the eventual restoration of each new working to its greatest potential landscape value.

Sylvia Crowe



8

EXHIBITIONS

PAINTING AND SCULPTURE

It was clever of the Arts Council to ask a brilliant young American art historian to organize the G. F. Watts exhibition at the Tate. We are still half ashamed of this Eminent Victorian, but we are far from displeased to hear his praises sung by someone from another country. All the same, I wish Mr. David Loshak had been a little less judicious in his selection. The modest size of the symbolical pictures shown (the charming 'Endymion,' 1, was only 20½ inches by 26 inches, and the version of 'Hope' no larger) and the excellent group of portraits



1

made a tasteful exhibition, but provided us with the wrong excuses for Watts. He was a failure on a vast scale and deserves to be treated as such.

Fortunately, in his Introduction and Notes to the Catalogue, Mr. Loshak helps us to find a rather nice reason for his failure. 'His chief fault,' he writes, 'was the time and place in which he lived, and within the context of nineteenth century art his place is among the giants.' I think Mr. Loshak must mean that he was a giant of Victorianism, for he is of no account in the larger context of nineteenth century art. Even so, he says of a late canvas called 'the Sower of the Systems' (an attempt to depict 'the unknown power scattering the star systems') that it is a work 'in which Boccioni or the early Kandinsky might have detected a community of enterprise,' and although, taken on its face value, this suggestion is quite unacceptable, the implication that Watts might have been more at home with the sign language of modern painting is interesting. In this connection, a remark made by Watts himself has a decidedly twentieth century ring, and really does suggest that he was ill-suited to the time and place in which he lived. 'My attempts at giving utterance and form to my ideas,' he wrote, 'are like the designs of a child who was asked by his little sister to draw God, and made a number of circular scribbles . . . and stuck his pencil through the centre, making a great void.' He was born too early to be able to take a line for a walk, and his obviously frustrated vision makes nonsense of the rhetoric of the Keeper of the Watts Museum who writes that 'in a modern democratic society, decomposed into a vast shallow of little egos, he would have been a stranded whale left to drown in thin air.'

Watts might have been as good as David Jones at putting a line round the findings of the spirit if he too had been young at the time of the cubist revolution and a witness of Picasso's magical transformation of objects. David Jones is one of the great provincials of the modern movement. He has loaded its signs for objects with poetic allusions and Celtic sorceries, and some of the large, pale watercolours in his Arts Council Retrospective at the Tate are among the most exquisitely deviationist works of our period. His fluttering line and transparent colour embellish a surface with impeccable modernity, and at the same time transform interiors, landscapes and people into a veil for the face of the waters. His beautiful inscriptions, 2, on watercolour backgrounds, express the same vision,



2

and under his hand lettering becomes a spiritual substance.

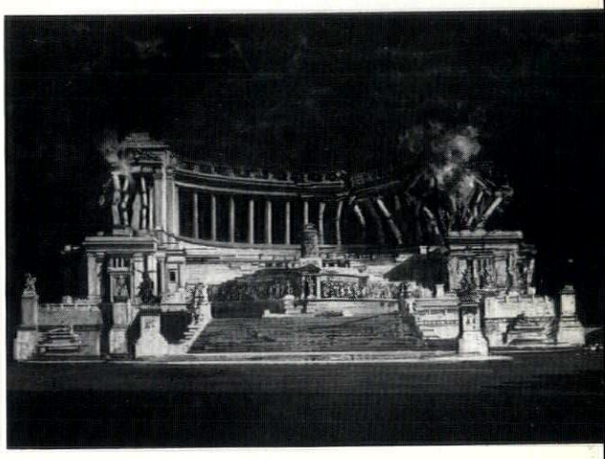
Another aspect of the Arts Council's service to living artists was reflected in the exhibition at St. James's Square of part of its collection of paintings, drawings and sculpture. This collection is used as a small reservoir for watering the stubborn soil of the provinces, but the trickle is admirably constant and includes works by young artists who have only attracted attention in the last year or two. Robert Clatworthy, for instance, is twenty-six years old, and his 'Cat,' 3, influenced by



3

Picasso, and not without some of the master's zest, was modelled and cast in 1954. The purchases are made by a small sub-committee of the Arts Panel, and are characterized by tasteful catholicity. There seems no sure ground for criticism, and as far as the drawings are concerned it would be difficult to find a better collection anywhere. Ardent followers of one school will of course be sorry to see official patronage extended to the others, and the well-informed will no doubt be sorry that the examples of some artists do not reflect their most recent developments. Already, a very young artist, Martin Froy, is represented by a painting of a past period, but the purchases are made from a limited budget, and short of arranging a system of exchange which would make artists and dealers fly into a temper, there is no means of keeping pace with the progress of individual talents. The policy of including the promising young at least gives a general idea of which way the wind is blowing, and it still seems to be blowing in several directions.

One of the paintings by Aldo Pagliacci exhibited at Arthur Jeffress (Pictures) in Davies Street is deserving of special mention in the AR. It depicts an imaginary bombing of the Victor Emmanuel monument in Rome, and is called 'At Last!' 4. Pagliacci is obsessed with buildings, and



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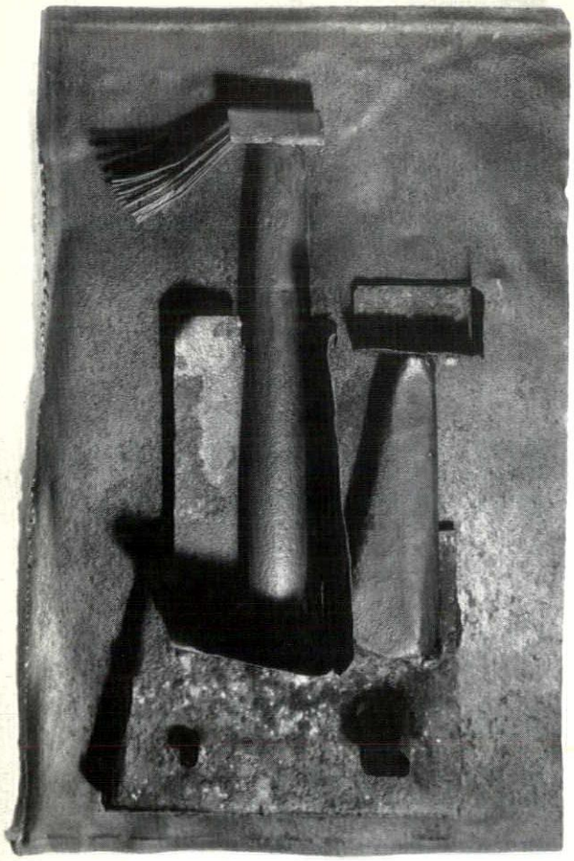
seems to be peculiarly anxious to do something to them. In his mildest moods he is content to send long shadows creeping up their walls or riddle them with bullets, but he has a way of opening the ponderous doors of palaces as if he were committing a serious offence, and for his burning churches he seems to have opened the doors partly to fan the flames and partly to give a ferocious glimpse of the red-hot furnace behind the prussian-blue coils of smoke. If the day for psycho-analytical story-telling were not past, it would be tempting to write a little essay on this subject-matter, and, reversing the title of one of Tanguy's pictures, call it 'Papa, Mama is wounded!'

Modern sculptors have not shown much interest in purely decorative sculpture, but Geoffrey Clarke's recent reliefs in black sheet-iron, with a matt surface, and a raffishly ramshackle look which is almost *chic*, disclose what enchantingly decorative little fantasies can be achieved in the modern idiom. The forms in these reliefs may well be signs for people or still life, but they look like nostalgic dream-images of Victorian factories, 5. They were shown at Gimpel Fils.

The Redfern's exhibition called 'Plaisirs de l'Epoque 1900' indicated once again how brilliantly this Gallery pursues its



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quest for painterly pictures with a potent content. The majority of the paintings and prints which gave this show its hypnotic overtone of time regained were by Parisian artists whose names have been forgotten here, or have never reached us before. Paul-César Helleu, Louis le Grand, Manuel Robbe, W. H. Grimshaw (presumably an Englishman) and Henri Boutet depicted elegant women with ardour and finesse, but the artist who painted the loveliest picture in the exhibition, a study of a girl on a high balcony, watching the street below, 6, remains 'inconnu.' I like to think that this girl had the fire of Daudet's Sappho and the simplicity of Charles-Louis Philippe's Berthe, and it was, I suppose, the sense of a grand reunion of gay and lovely women long since gone from our midst that put the show outside the realm of criticism and brought to mind Alberti's blunt statement that painting has a divine power because it makes the dead almost alive. **Robert Melville.**



6

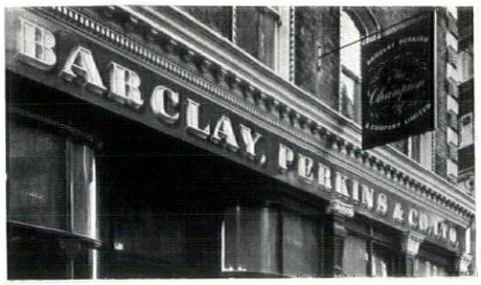
LETTERING

THE CHAMPION

Not the least of the virtues of the newly refitted Champion pub (AR, February 1955, pp. 135-140) is the admirable way in which its lettering and signwriting conform to the architecture and the functional programme they have to fulfil. Though there was once an excellent tradition of public-house lettering, robustly ornamental, festive yet legible, 4, it was starved to death amid the half-timbered genteelisms of the twenties and thirties, and is now beyond revival. In lettering, as in all else, the true spirit and atmosphere of the public-house tradition cannot be resurrected, but must be created anew.

True re-creation involves a return to first principles, and the method by which John and Sylvia Read, the architects of the *Champion*, and their signwriters and glass-cutters arrived at the letter-forms eventually used is probably a capsule version of the historical process which evolved the original repertoire of public-house alphabets. Their basic principles were a close study of the space in which the lettering was to be displayed, and the amount of wordage involved in transmitting the particular message which was to be fitted into this space. Thus given the character of the type required, the height and number of letters to be used, they selected a basic letter-form from types currently in use in good typography and display today, and considered how it could be adapted and diversified to fulfil its particular function.

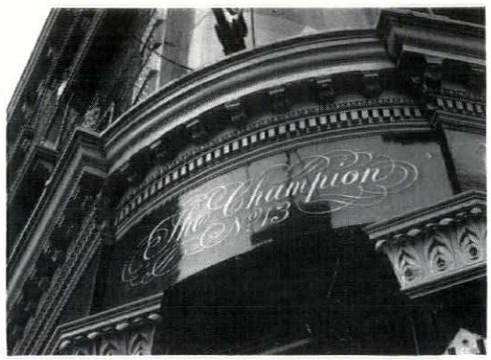
Thus, on the fascia, 1, the restored cornice in all its elaboration clearly required a letter-form which would not appear anæmic by contrast, standing about 8 inches high, a comfortable proportion of the fascia's depth, and highly legible because its location is one of the most important display spaces on this type of façade. A fat-face of Ultra Bodoni (Falstaff) extraction gave the proportion and power required, and was developed into a perspective shaded inline letter to



1

give the required clarity and bold upstand for its purpose. The inline, which frames only the face of the letter, is in gold, and is treated as a slight upstand itself to add force to the modelling. The actual form of the perspective and of the cast shadow are not merely copied from some handy early-Victorian example, but were projected by imagining the letter-form as a three-dimensional solid, and preparing a rendered perspective of it, with true sciagraphy as from two light-sources—one notices at once the subtle enrichment, without distortion of letter-form, which this understanding use of the double shadow gives.

Where the fascia is turned around the corner of the building by means of the recessed panel over the door a problem of a different order is presented, for the curved surface offers a rather uncertain field on which to deploy lettering, and something in the nature of a closed composition is required. Rather than use a painted frame to contain the lettering—a somewhat laboured solution—the use of a current type-face which naturally generates engraver's flourishes, such as Bank Script, 2, facilitates the creation



2

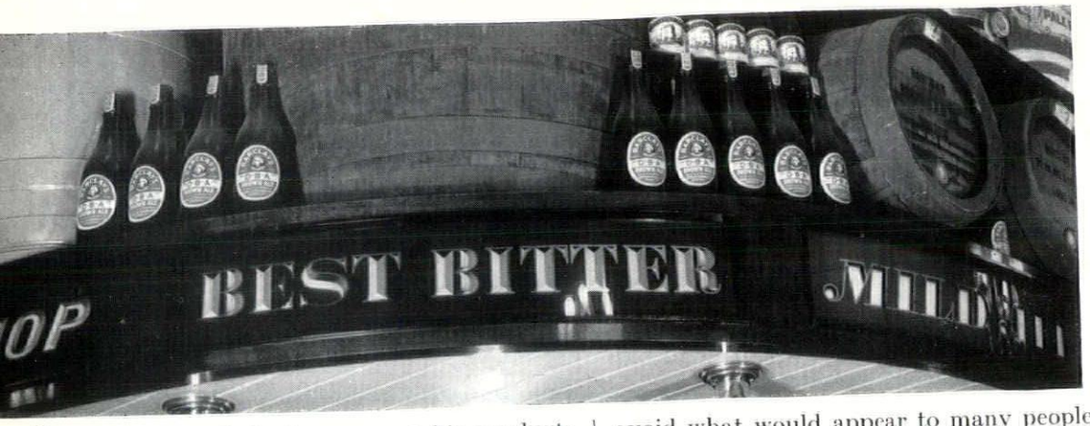
of a kind of cartouche which is a self-contained unit—and also provides a satisfactory junction between the horizontal emphasis of the lettered fascia, and the powerful downward tendency of the name painted in big incised characters, 3, on the corner panel above.*

In the interior, lettering serves to keep

* This lettering was the subject of a town-planning dispute; see AR, February 1955, page 140.

lettering: the champion *Examples of three different techniques of signwriting used in the Champion are shown opposite*  *3, above left, the lettering on the corner panel painted to appear incised. 5, below, Egyptian lettering on the glass panel between public bar and saloon bar, and 4, above right, an original nineteenth century painted glass in the saloon bar.*


THE CHAMPION
BARCLAY PERKINS & Co
IMPERIAL STOUT
AND MATCHLESS
PORTER
BARCLAYS
BARCLAYS



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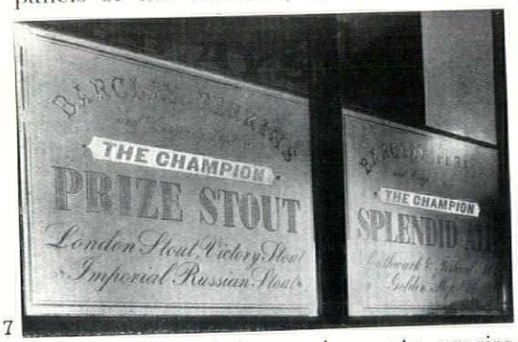
the name of the brewer and his products before the customer's eye not only in the form of price-lists but also in boldly placed displays. Along the miniature fascia of the bar-canopy, brand names are exhibited in labels which employ a wide repertoire of types—Doric, Falstaff, Thorowgood, etc.—suitably enriched with incision or recessed-panel treatment, 6, while on the glass panel over the screen between public and saloon bars, a bold Egyptian is imaginatively used to make a double-image of the brewer's name, 5.

But it is precisely in the question of lettering on glass, which is the touchstone of any attempt to re-create the tradition, that the designer meets the gravest difficulties arising from that tradition's decay. Craftsmen who command the difficult techniques of brilliant-cutting, back-gilding and etching seem to suffer an atrophy of visual control and formal imagination as a result of the brewing trade's thirty year neglect of good lettering, and in the execution of the obscured panels of the windows, 7, the architects



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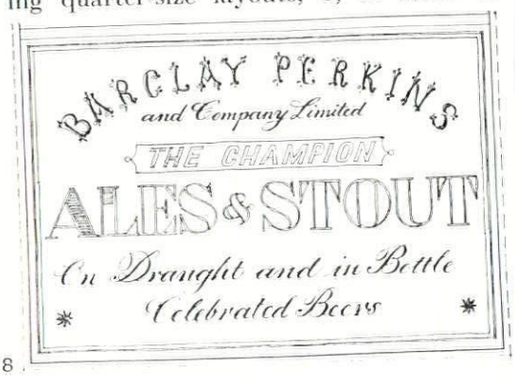
had to make their requirements precise in the smallest detail, to the extent of drawing out alphabets full-size, and making quarter-size layouts, 8, in order to avoid what would appear to many people the most obvious errors of taste.



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This was a situation calling for sympathy and tact, for men versed in such complex techniques cannot merely be ordered to do this or do that, and would not be able to give of their best even if they could be persuaded to accept such a position. That the outcome should be so successful is not only a tribute to John and Sylvia Read for their diligence and understanding in suggesting, correcting and persuading, but is also a clear indication that the glass-engraving and sign-writing trades are fully capable of producing work of a far higher standard than usual, if it is intelligently asked of them—the lesson of the *Champion* is that the decay of pub lettering is to be laid at other feet than those of the tradesmen, and it is to be hoped that both brewers and architects are now ready to learn that lesson. **C. Forehoe**

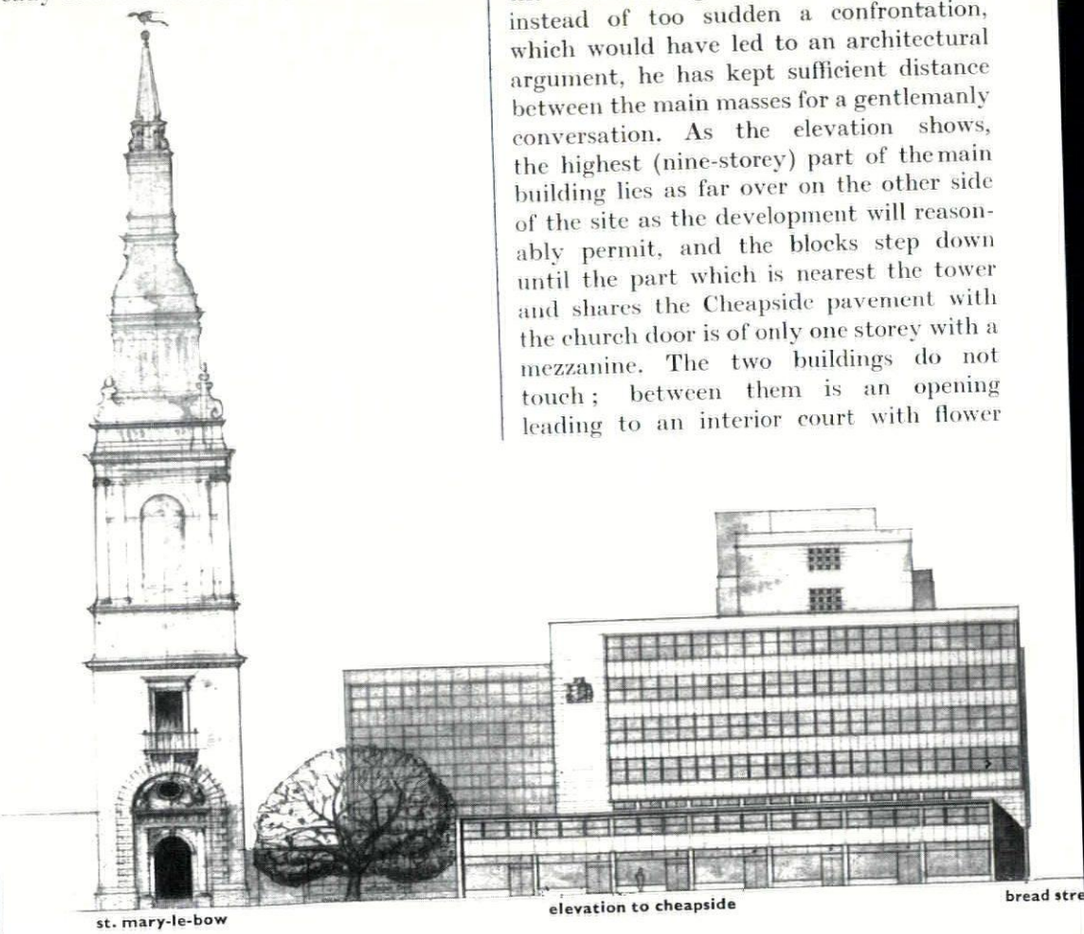
CRITICISM

CITY REPLANNING

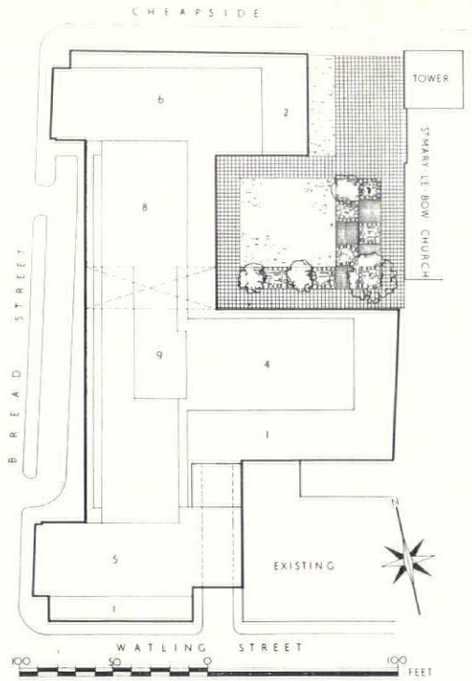
While there continue to be so few signs of any large rebuilding in the City of London which seems aware of the problems involved in the juxtaposing of buildings vastly different in age and scale, it is a pleasure to welcome small-scale private developments which respond to the peculiar responsibilities of their situation in an imaginative and sensitive manner.

Praise is particularly due to the small development projected for the area between Bread Street and St. Mary-le-Bow, where the architect Frank Scarlett has accepted the challenge of a Wren spire alongside his site in a way which should be a lesson to those who have declined the challenge of St. Paul's.

Instead of a laborious attempt to 'keep in keeping' by taking over Wren's vocabulary of detailing, which could only have been devalued by inflation when inappropriately applied to a larger building with a different structure, the architect has decided to give the differences between the two buildings their full quality. But instead of too sudden a confrontation, which would have led to an architectural argument, he has kept sufficient distance between the main masses for a gentlemanly conversation. As the elevation shows, the highest (nine-storey) part of the main building lies as far over on the other side of the site as the development will reasonably permit, and the blocks step down until the part which is nearest the tower and shares the Cheapside pavement with the church door is of only one storey with a mezzanine. The two buildings do not touch; between them is an opening leading to an interior court with flower



st. mary-le-bow — elevation to cheapside — bread stre



The figures on the plan represent the number of floors in each part of the block.

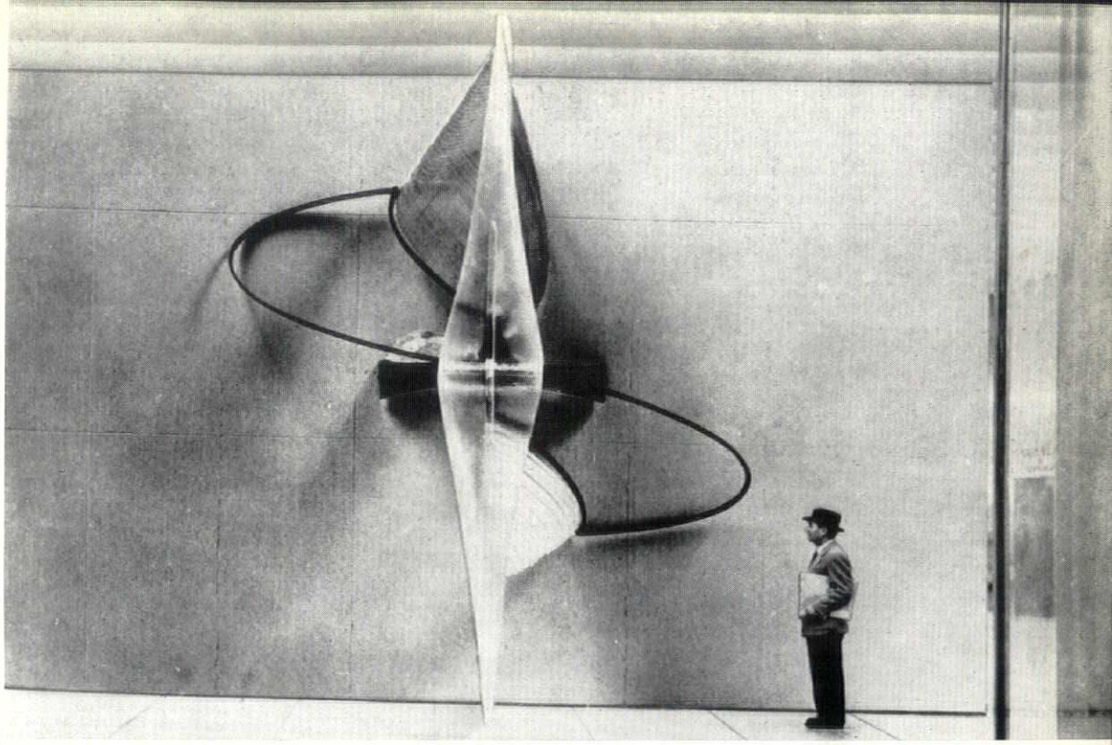
beds and grass, from which there is another outlet by an underpass into Bread Street, Thus the development of this area will add another link to that pedestrian network which has always been a feature of City townscape, as well as setting a standard of visual sensibility which other developers might profitably try to emulate.

Miles Coslany

SCULPTURE

TWO WORKS BY NAUM GABO

Even while some critics remain in doubt as to the nature and possibilities of public sculpture in architectural settings, practical research in creating sculpture to be seen in particular places is continuing here and there, and the eminent constructivist Naum Gabo has recently been involved in two such projects, one abortive, the other carried to a successful conclusion. For the two entrances to the Esso offices in Rockefeller Centre, New York, he designed two constructions which were intended to be, in a very immediate sense, 'space modulators.' Anyone coming into the building by these two entrances is faced directly by the blank back wall of an elevator stack, which creates a shallow lobby at right angles to the line of entry. For the lobby on the 51st Street side Gabo projected a construction whose swinging curves should direct attention outwards to the side walls, and at the same time provide a focus of attention in the centre of the lobby—the success of this paradoxical programme is seen in 1. For the 52nd Street lobby the problem was more acute, because the space is even shallower and here, 2, an effect of illusionistic perspective was proposed as well.



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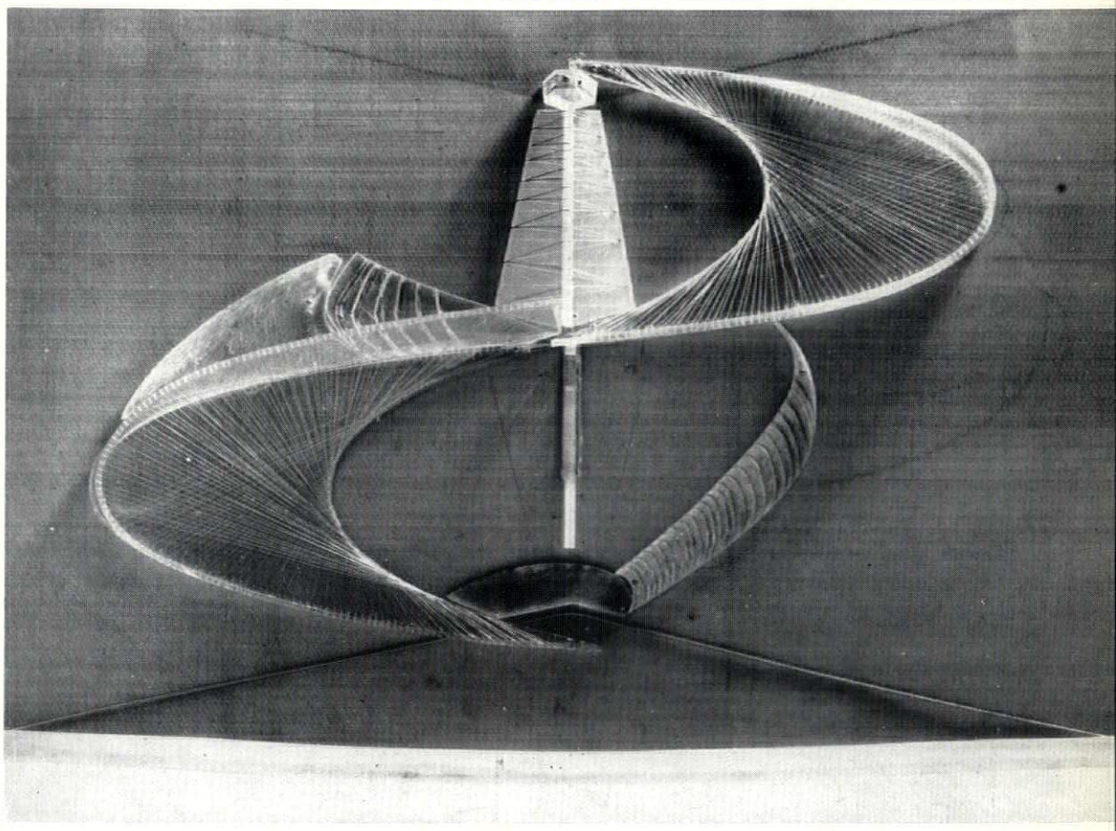
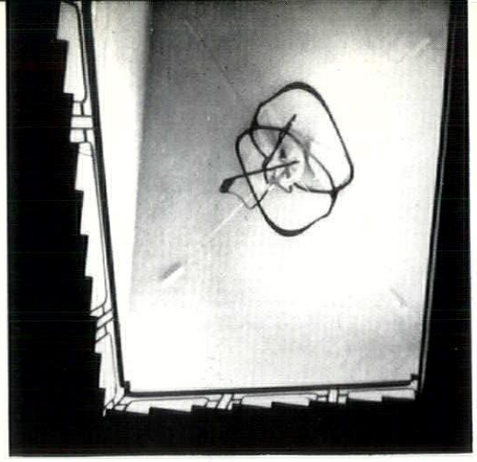


2

For a variety of reasons the whole of this project has had to be abandoned, but another scheme, in the Baltimore Museum of Art, has been brought to fruition. Here he was asked to design a suspended construction for the stairwell of a recently-added wing, and it was suggested that it should take the form of a mobile. This suggestion was resisted by the sculptor on the grounds that the attractions of a moving sculpture might constitute a traffic hazard on a staircase, whereas a work which could only be fully appreciated by a moving spectator would reduce congestion and promote circulation. Looking up from the foot of the stairs, the moving spectator sees the construction of metals and plastic as a single, complex, but apparently compact system of inter-



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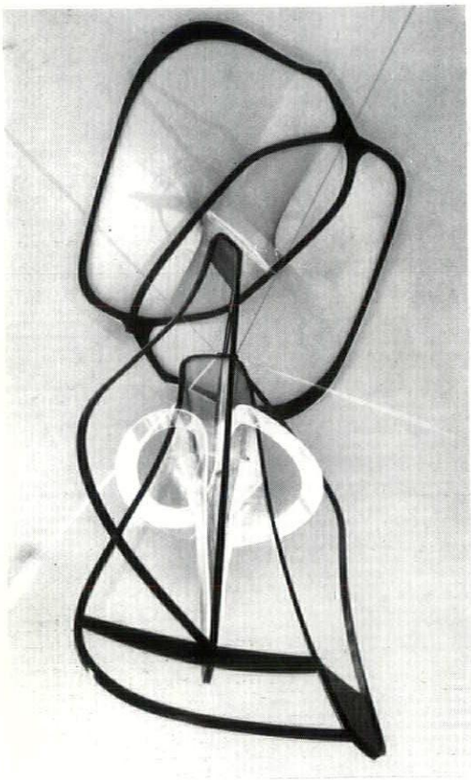

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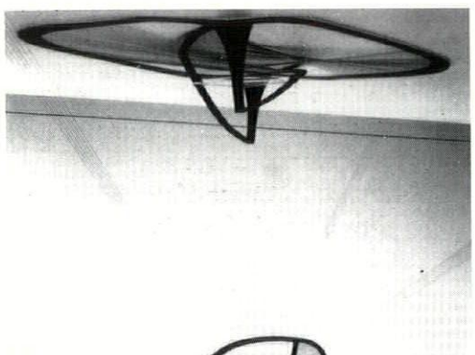




5

sculpture: works by naum gabo

Three views of the suspended construction in the Baltimore Museum of Art are shown opposite 3, *from the bottom of the stairwell;* 4, *halfway up, and* 5, *from the upper landing.*

laces, 3. As he approaches it up the stairs it gradually separates out into two independent structures, 4, one on the ceiling, the other below it, and when he achieves the upper landing the separation becomes complete, 5, the lower component hanging mostly slightly below the spectator's eye-level, so that the sequence of viewpoints has passed from pure plan to pure elevation. **P.R.B.**

OUTRAGE

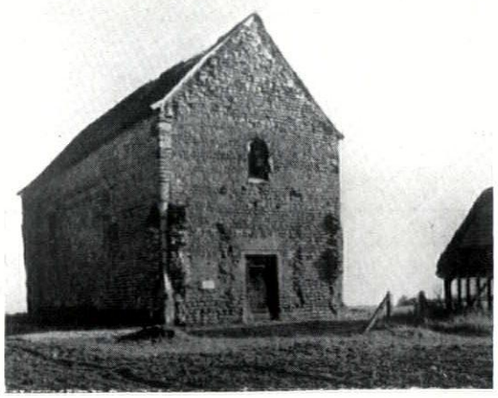
VESTRY AT BRADWELL-ON-SEA

In preserving ancient buildings it is little use respecting the letter if you kill the spirit. Any antiquary would respect every stone of St. Peter's chapel, Bradwell-on-Sea, a seventh century church unearthed from centuries of use as a farm building. It was restored for worship between the wars with great care—yet the same authorities have erected the building next to it that has broken its existence as a spiritual experience.

The issue is particularly clear cut here, because St. Peter's chapel is very little when abstracted from its site and the experience of getting there: on the sea wall, a mile from the nearest road, three from Bradwell village which is itself at the very end of Essex. Any intending visitor *has* to make a pilgrimage and no press-button tour will take him; it is still an individual matter, and the last mile is still a rough walk. But what is the use of this eastward journey, with the mounting tension of knowing that the North Sea, still invisible, is beyond the next field, when the building finally comes into view, 2, accompanied by what seems to be a parody —same proportions, same roof pitch, one-third of the height and twice as strident. Contrast this with its old state, 1, ploughland licking round the west wall and a rickety weatherboarded barn for company. Then, the building was seen clear cut, with its integrity unimpaired; now it looks like a dilution of the front at Southend.

The structure was built about two years ago as a vestry; without knowledge of the circumstances one must accept the need for it without question. But something utterly simple was needed, something that would have stated the elemental fact of shelter as directly as the barn used to. Ironically, a New Brutalist building might have done just that. The landscape is Brutalist already; its elements—sky, sea and fields, mutually indifferent—are perennially 'as found,' and the cold light intensifies intrinsic value but shows up hypocrisy instantly. However, the more the English plan, and the more tenderly they feel towards ancient monuments, the faster they seem to put the wrong thing in the wrong place with the best of intentions.

Ian Nairn



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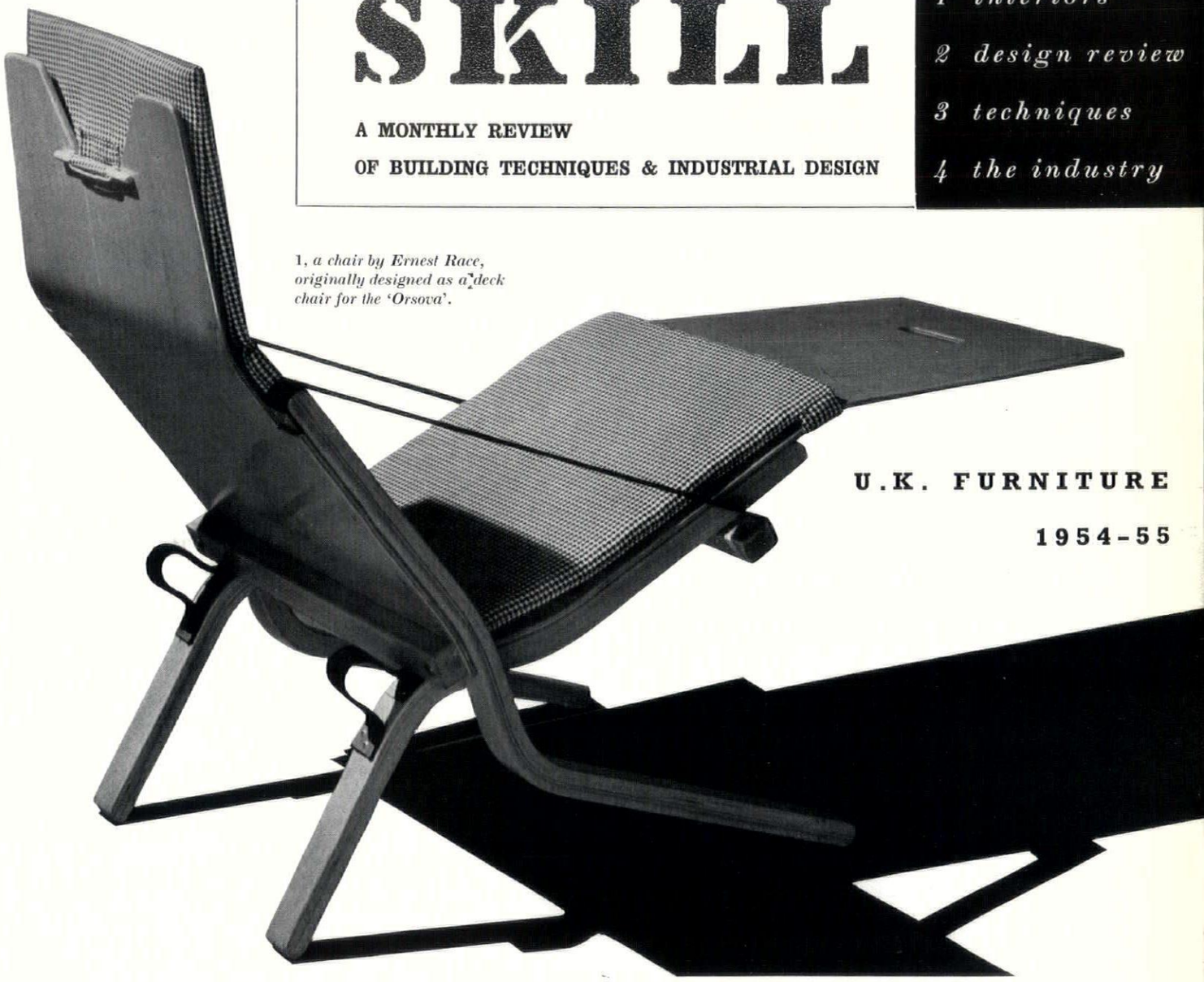
SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry



1, *a chair by Ernest Race, originally designed as a deck chair for the 'Orsova'.*

U.K. FURNITURE

1954-55

2 DESIGN REVIEW

by Neville Ward and Frank Austin

The Furniture Exhibition has revealed a marked increase in the number of firms offering furniture labelled 'Contemporary'; it is now anybody's business and good and bad alike stand under its banner. What is important when men 'speak in words that other men have coined'* is that they should speak them with understanding and sympathy. The rapid acceptance of quite revolutionary standards in the field of furniture (thirty years is a short time in such matters) evolves from many sources; a war-time compulsion; an encouraging press, gentle but firm persuasion

* J. M. Richards, *In Defence of the Cliché*, AR, August, 1953.

from bodies such as The Council of Industrial Design; impetus from a few manufacturers who not only made but also publicized the new furniture. It would be sad indeed if the decay were as rapid as the growth for no other reason than an excess of success.

Whereas after the war interest in furniture design seemed to be centred on small tables, trolleys, magazine stands and whatnots, the most interesting things available today are among larger pieces, sets and even complete manufacturers' ranges. One of the first firms to market such a range, and this so early as to be an exception to the foregoing generalization, was Ernest Race Ltd.

1, an interesting chair by Ernest Race, designed originally as a deck chair for the 'Orsova' obviously has a number of uses, and can be folded flat when not required; the price, including purchase tax, without cushions, is £13 9s. 10d. and from £16 13s. 6d. with cushions.

2, also designed by Ernest Race, provides a generous comfort whilst being compact in form and pleasingly light in weight; DM1 Dormouse chair, prices from £22 6s. 7d. retail, plus 17s. 9d. purchase tax, upwards.

3, another piece from the same designer is intended as a unit for long rows; prices from £16 1s. upwards by Ernest Race Ltd.

4, Messrs. Parker-Knoll have revived a pre-war piece of a very useful type; the design, No. 743 'Denham,' has been simplified from its original form, and prices are from £47 10s. upwards including purchase tax.

5, H. K. Furniture, who were also among the first to produce a full and carefully-balanced range of contemporary furniture, are responsible for a new settee called Caramba, prices from £50 5s. upwards.

6, another sensible chair produced by Ian Henderson, price £27 15s.

7, Robin Day has designed two very pleasing small chairs for S. Hille; the first, upholstered over a formed ply base on beech legs, costs £20 2s. upwards.

8, the second is a low-priced stacking chair, at £2 10s., in wood or plastic veneer.

9, a dining set in the lower price bracket is made by W. G. Evans from designs by Peter Hayward, the prices, including purchase tax, are approximately: sideboard, £28 5s.; table, £12 2s.; chair, £4 17s. 6d.; and trolley, £6.

10, Kandya Ltd. have produced a dining table designed by P. K. Bridson, which costs only £11 15s., and has a walnut veneered top and beech under-framing.

11, a small timber-framed chair with latex foam rubber seat and back. Manufactured by Morris of Glasgow, costing £14.

12, the double version of the same chair, price £23 6s. 8d.

13, a small chair in mahogany with cane seat and back designed by Ward and Austin for E. Atkins Ltd. costs £6 1s. 6d., and is available with upholstered seat and back at £5 8s. 6d.; beech versions are available from £5 1s. 6d.

14, an elegant chair, Albemarle, was designed by Robin Day for S. Hille, made in mahogany with latex foam seat and back; the handling of the timber is particularly pleasing and the making is very well carried out; price £15 10s. upwards.

15, another elegant small chair is designed by Terence Conran, No. C. 2, made in beech with cane seat, it costs £5 17s. including purchase tax, and is obtainable from Conran Furniture.

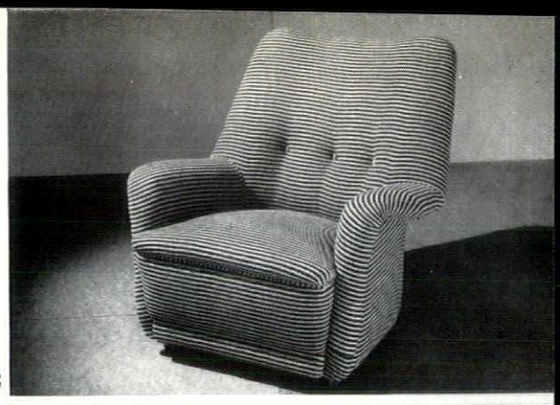
16, a very pleasing dining set has been designed by Ronald Ingles for Heal & Son. The sycamore table, which is 3 ft. 6 in. in diameter, costs £11 5s., and the chairs in the same wood £3 15s. each.

17, dining room furniture by Nigel Walters for Heal & Son; it is veneered in teak and beech with solid beech underframing and chairs; the sideboard with four drawers, top drawer fitted for cutlery, cupboard with fall front, costs £65, the circular dining table, 4 ft. in diameter, £19, and the dining chairs with foam rubber upholstery £6 5s.

18, traditional furniture designed for Gordon Russell Ltd.; the sideboard in mahogany and yew is 5 ft. long and costs £79, this and the extending table are designed by Frank Whitton; the table costs £57 5s. The chairs are designed by W. H. Russell and cost £7 13s. each for the chairs without arms in mahogany and £9 5s. each for the chairs with arms. (These prices are approximate.)

19, Robert Heritage has designed a table and sideboard for G. W. Evans, drawers having an interesting router cut decoration; the cost is £43 17s. 2d. for a 4 ft. 6 in. sideboard, and the table illustrated with it costs £25 9s., the 'Oyster' chairs in beech cost £7 11s. 9d. each.

20, a second version of the pieces designed by Mr. Heritage; the sideboard with the printed decoration costs £61 7s. 9d., dining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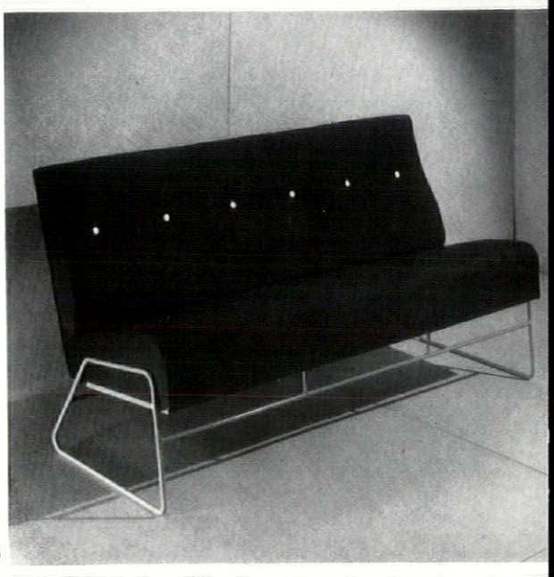
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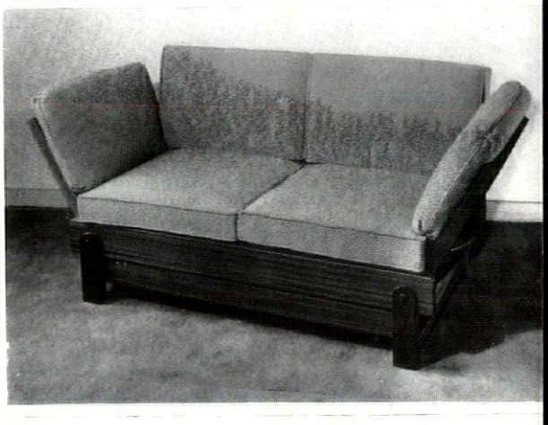
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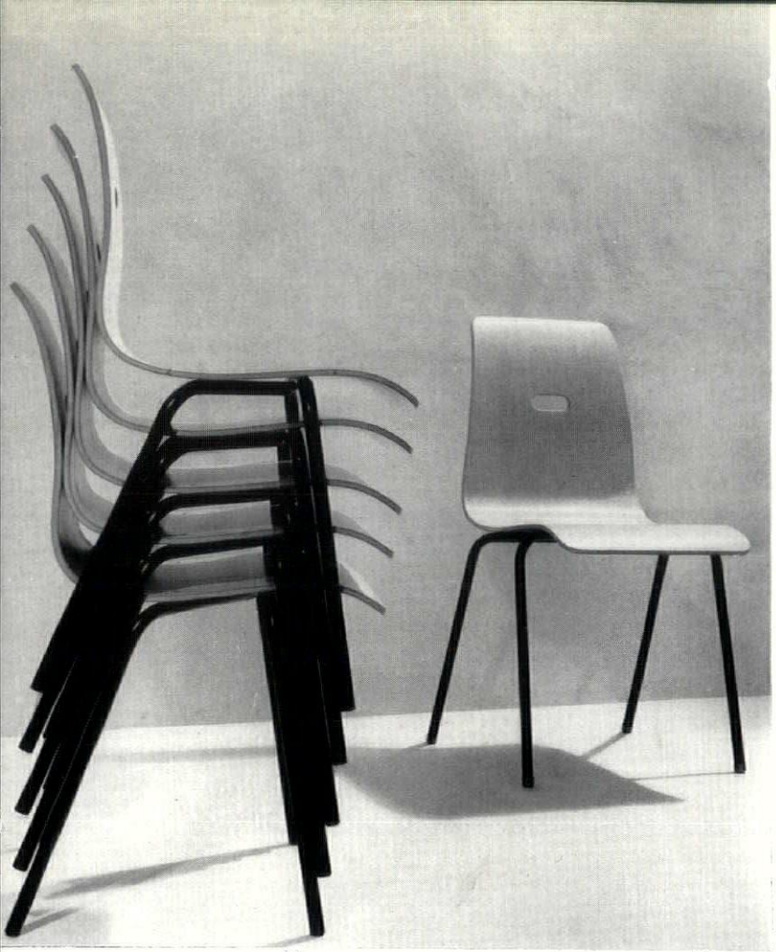

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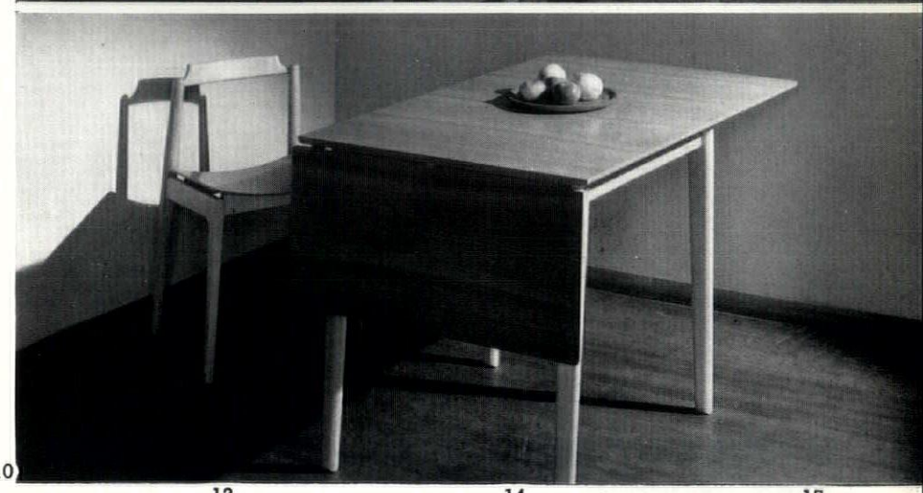

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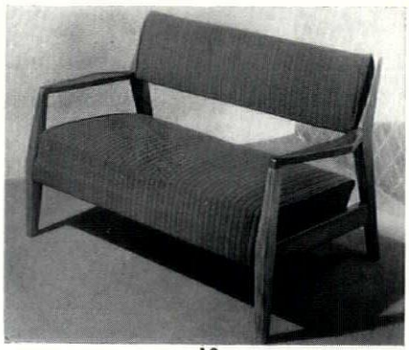

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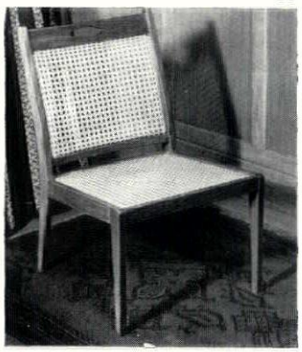



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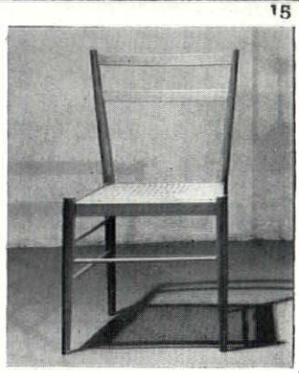

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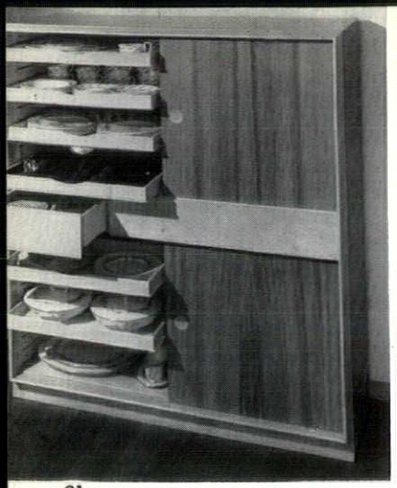

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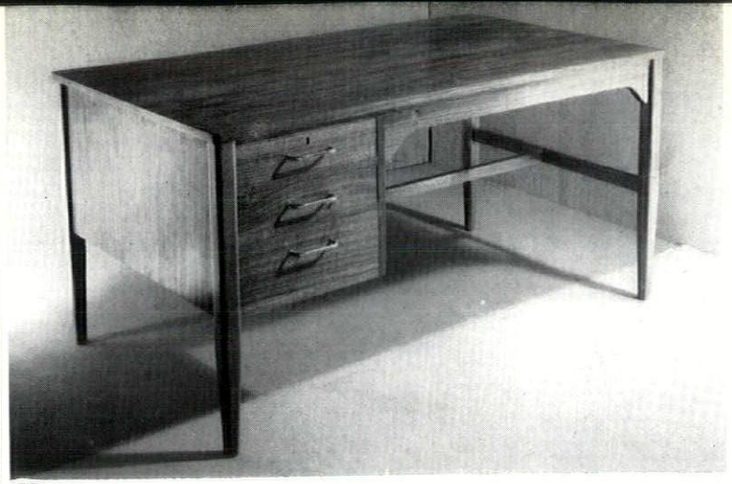

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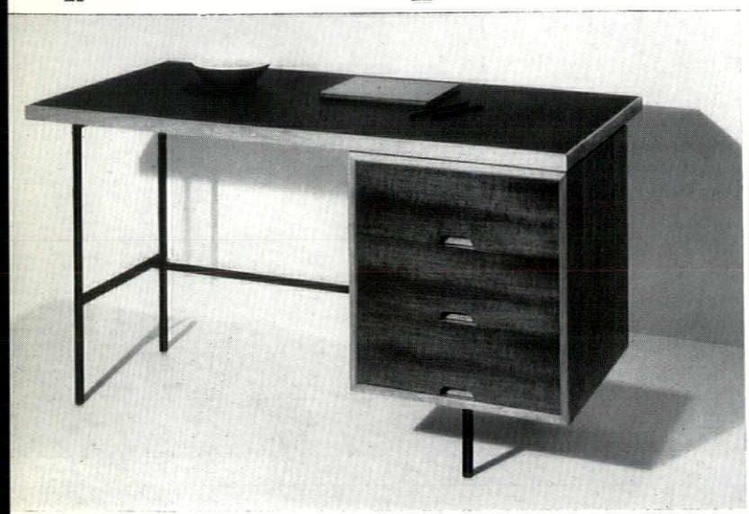

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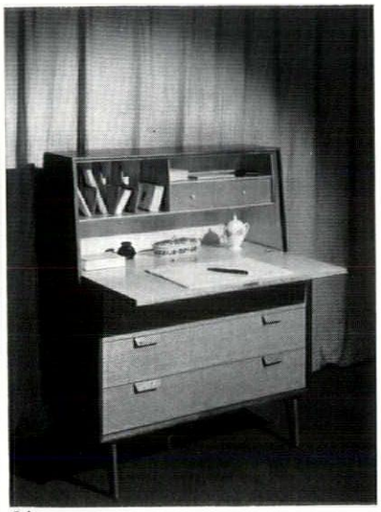

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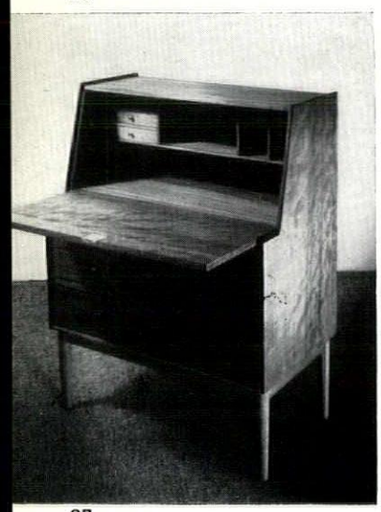

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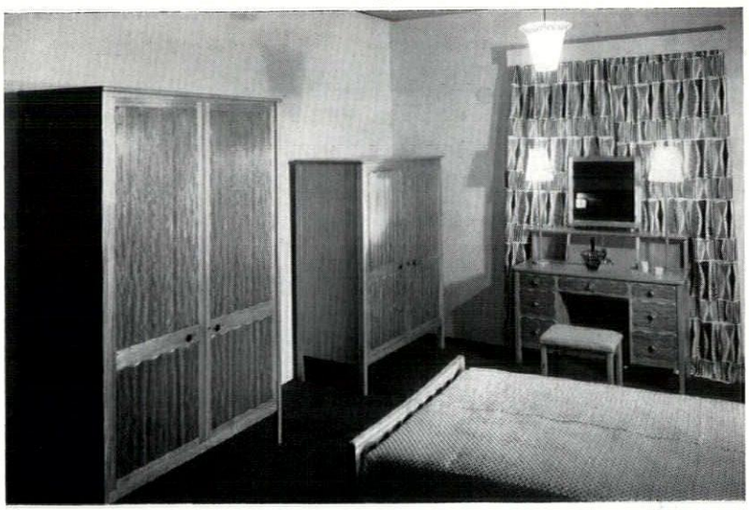

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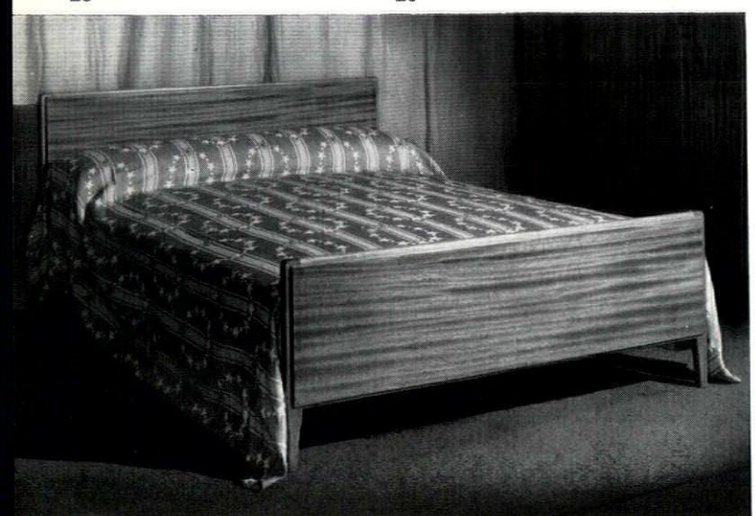

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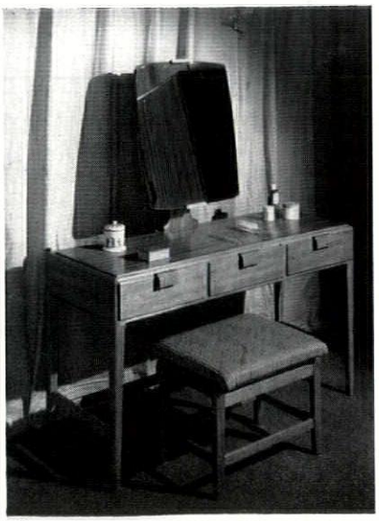

28

table £27 4s. 6d. In both the sideboards by this designer one cannot help feeling that the grips to the drawers detract from the other decoration.

21, very carefully planned storage for china, glass and cutlery is provided in Kandya's cupboard, designed by Frank Guile, price £39 10s.

22, another very good piece by the same designers also in mahogany with brass handles, 4 ft. by 2 ft., costs £26 1s. 3d., 4 ft. 6 in. by 2 ft. 6 in. costs £27 11s. 3d., from L. M. Furniture Ltd.

23, Robin Day's small pedestal desk made by Hille (Hilleplan Junior Desk) in mahogany with black stove-enamelled frame and linoleum top costs £26 15s.

24, two units, making a small bureau, from a range designed by Jacques Groag and produced by The Loughborough Cabinet Manufacturing Co.; these cost £14 14s. for the three-drawer unit in mahogany and £15 15s. in walnut; £14 7s. for the secretaire unit in mahogany, £15 13s. 3d. in walnut.

25, an excellent bureau designed by T. M. Lupton and L. J. Morton is made in mahogany with brass handles and escutcheons; the pigeon holes are removable for cleaning, price £30 13s. including purchase tax, from L. M. Furniture Ltd.

26, a simple bedroom suite designed by Christopher Heal for Heal & Son; the large wardrobe costs £36, the small wardrobe £31, the dressing table £37 and the stool £3.

27, the bedstead from the same suite costs £10 11s. 9d. in mahogany.

28, The Loughborough Cabinet Manufacturing Co. have recently produced two sets of bedroom furniture; the first, a suite designed by Jacques Groag, is shown in mahogany and is available in other timbers, the dressing table and stool shown here cost £24 10s. and £6 6s. 3d. respectively in mahogany.

29, a group from the second range of bedroom or bed-sitting-room units, comprising fourteen pieces, designed by Ward and Austin; those illustrated are a 4 ft. 2 in. three-door wardrobe price £34 3s., 2 ft. 10½ in. two-door wardrobe price £27, a four-drawer chest unit price £22 16s., a cupboard unit price £19 5s. 3d. and a shelf unit price £9 15s. 9d.: all these prices are for mahogany, and the units are also obtainable in walnut.

30, one of three dressing tables in the range, price in mahogany £26 9s.

31, a typical unit, from the above range,

[continued on page 209



AN ELEGANCE THAT IS CONTEMPORARY

On the left, S.P. 125, a design by Eileen Bell on cotton satin, available in 3 colour-combinations. On the right, S.P. 132, a design by J. D. H. Catleugh on rayon satin, available in 4 colour-combinations.

You will find some of the finest contemporary furnishing fabrics in the world in the David Whitehead range of screen prints. They are designed by leading artists—among them Henry Moore and John Piper—and printed with craftsmanly care in exquisite, subtle colours. Fabrics—superb cotton satins, heavy cotton knop fabrics, rayon satins with a subdued lustre—are as outstanding as the designs.

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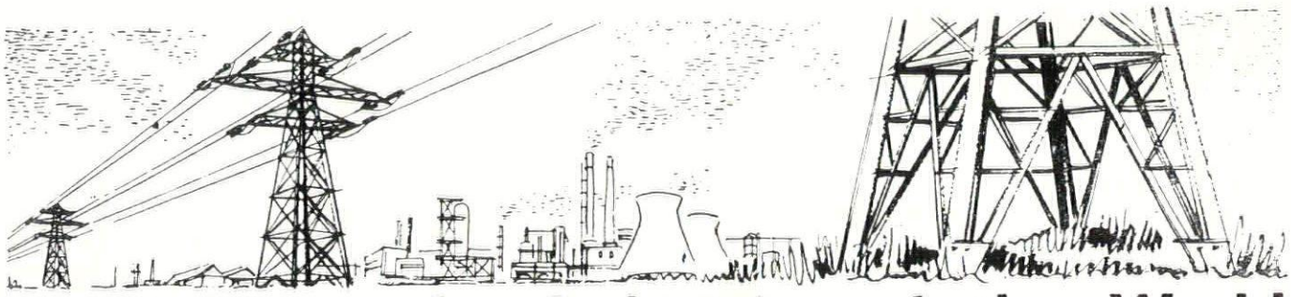
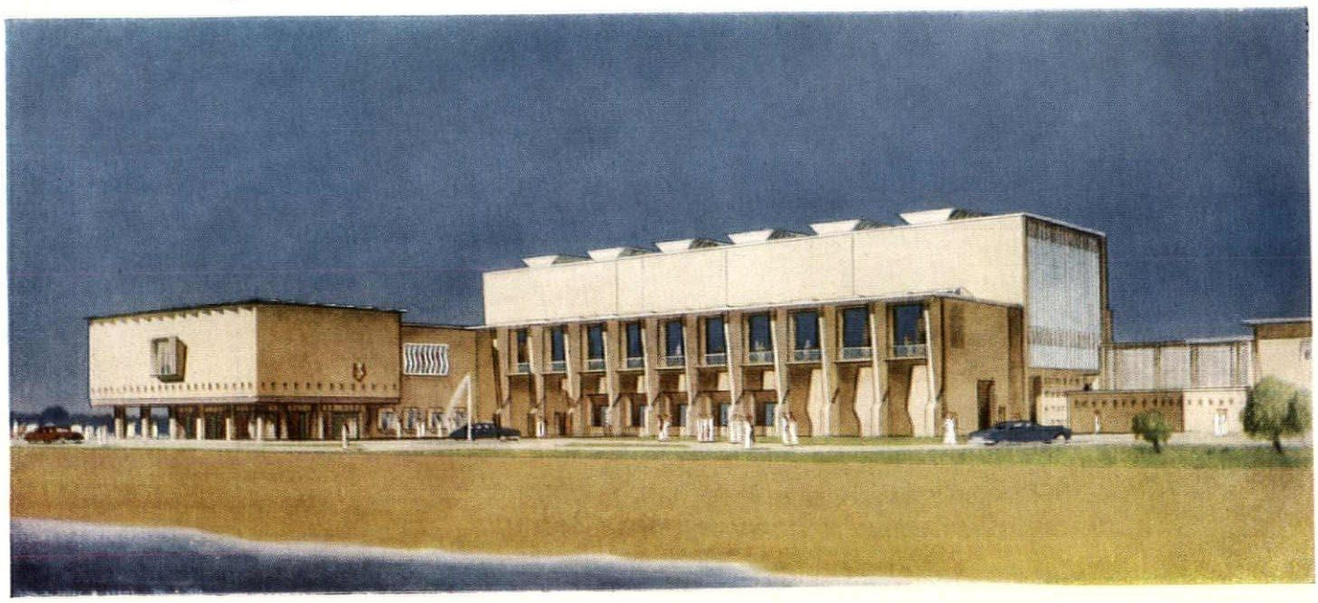
DAVID WHITEHEAD
screen print
FABRICS



Building for the Industries of the World



ELECTRICITY

KUWAIT Town Power Station now coupled with the Seawater Distillation Plant serves the needs of the growing population of Kuwait, and is only a small part of the Kuwait Development carried out by the Gulf Engineering Company in association with Richard Costain Limited. Reservoirs, pumping stations, water towers, workshops, jetties and substations have enhanced the amenities of this rapidly expanding community.

Consulting Engineers, Messrs. Ewbank & Partners.
Architects, Messrs. Farmer & Dark, F/F.R.I.B.A.

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the dressing chest with fitted drawer; the mirror folds down to provide a writing surface in leather and there are pigeon holes behind it; the price in mahogany is £29 0s. 6d.—an alternative version without the secretaire drawer, but with a plain drawer with sliding tray for studs, collars and ties costs £22 16s.

32, the small bedroom designed by Paul Bridson for Kandya Ltd. is in solid African walnut with light veneered fronts; the prices including purchase tax are: dressing table £24 10s., chest £19 19s., bedstead £10 15s., and wardrobe £24 19s. 6d.

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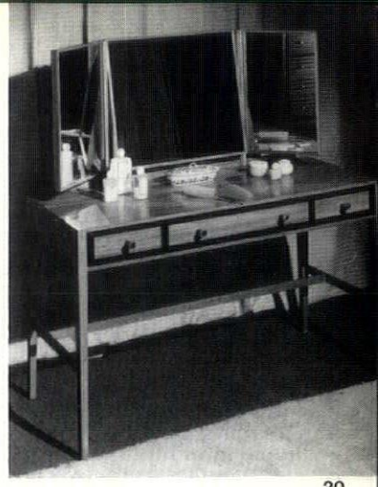

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DESIGNERS IN THE MAKING

Diana Rowntree

*To design for Industry is now a recognized profession. The orthodox educational routes for the would-be designer will take him to complete his studies either to the LCC's Central School of Arts and Crafts or to the Royal College of Art, now a self-governing National College. The following article is a study of the teaching methods employed in the Industrial departments of these two schools.**

In the case of the Royal College of Art the term College is not just a fancy name. Its first object is stated to be 'to provide advanced teaching and to conduct research in the Fine Arts and in the principles of Art and Design in relation to commercial processes.' Learning is viewed as a by-product of research and production. The College is in a position to study the existing relationship between the Fine Arts, Design, and Industry, and to foster a right relationship. This intention is manifest in three ways. First by the existence of Faculties of Fine Art, Industrial Art, Graphic Design, Interior Design and Fashion Design side by side. Secondly the Professors conduct their own designer's practices from the College premises. Only lack of space restricts this arrangement from applying to other members of the staff, and space is often found for them to engage on particular projects. Thirdly the College is in a position to take on paid jobs for Industry. Some are done by staff and students in collaboration, others by students under normal tutorial supervision.

The RCA as a National College is concerned with the training of full-time artists and designers. The Central School as a Regional College has the dual responsibility of offering advanced training in these subjects to full-time students at the same time as providing apprentices with their part-time training. As some of these come on a day-release scheme and others for evening classes, to plan the time-table for such a College is a formidable task in itself, though perhaps the least of the formidable tasks ably tackled by the Principal, Mr. Johnstone.

Most of the RCA students are doing a full-time three-year course. It is normal for them to have completed three years in an Art School, and if they wished to take the National Diploma in Design, to have taken it before arriving at the College. The RCA Professors can if they wish see the NDD portfolios exhibited when they are selecting their students.

The Central School takes in its full-time students after a minimum of only two years in an Art School. So that those who are taking their NDD will have to spend most of their first year on this work. The school is thus in the trying position of having to train students in a direction in which it does not necessarily want them to go, at the same time as trying to lay the foundations for its own course. It does, however, catch them earlier in their development. There is controversy upon this point. Those Professors who feel early Art School training is something that has to be undone later would prefer to split a student's training differently, and have only two years at a local School and four years at their advanced School. On the other hand this arrangement skims off the senior students from the local Art Schools and so greatly lessens their value.

An enormous number of part-time students attend the Central School, both for day and evening classes. At first glance all the benefit of this arrangement seems to be to the part-timers. One tiresome result for the full-timers is that their working day is rudely broken at 4.0 p.m. According to statute they must then vacate the studios until 6.0 p.m. unless there is a member of staff present, which there is unlikely to be, as no staff are paid for these hours. In practice the presence of the apprentices serves to anchor the design students firmly to reality and offers them a challenge.

Both the RCA and the Central School acknowledge the principle that design must be taught part time by practising artists and designers. Because the Professors have their offices on the premises the College students will be more closely in touch with the daily office routine of a practising designer, and can observe the relationship between what he says and what he does. Both schools, however, aim high in appointing their staff, preferring minds of quality to designers highly skilled in a narrow field. The Central School does in fact appoint some artists to departments not in their own field.

Both Schools are in agreement on the importance of drawing from nature, using the term in its widest sense. The Life Rooms in their Fine Art Departments are available to Industrial students. The RCA is fortunate in having a conservatory in the Textile School where students from that and other departments can draw plants. And the whole of the very scattered layout of the College is within walking distance of the Victoria and Albert Museum. The Central School students also visit Museums, undeterred by distance.

* On behalf of THE ARCHITECTURAL REVIEW I should like to thank both establishments for the great courtesy and patience accorded me. In examining at a given moment a large school with a long history it is not possible always to give credit where it is due.

Flower drawing, for which they bring their own plants, is also insisted upon. There is a difference of vocabulary here. The College tends to 'encourage' activities. At the Central School the word 'teach' is used without shame. In fact I fancied it was used to me provocatively. This may indicate the actual importance of the place taken by Fine Art in the minds of the staff of the Industrial schools. No one would deny that you can teach diamond setting or the use of the lathe. It is in the Fine Arts that one tends to avoid the word because of the difficulty of defining what it is that one teaches. The same could be said to apply to the teaching of the liberal Arts in the older Universities.

The tutorial system is not the only aspect of University life that is burgeoning at South Kensington. Mr. Darwin has gone some way towards achieving for his staff a proper status, and for the College an independence in academic matters that it is hoped will have far-reaching effects.

As well as Life Drawing, flower painting, museum study and modelling the Central School has introduced another branch of Art, whether Fine or not I do not know. This subject is taught in all departments by different people. Usually it goes by name of Basic Design, though in the Engineering Department it is called Theory of Design. This sounds like a welcome short cut to the end of the whole business. Why undergo the complicated exercises demanded of these students, why trapes from Life Room to Joinery Shop, from Museums to Fashion Shows, and back to the drawing board again, if there is a theory underlying the whole business which can be imparted as such? What indeed is this theory? In one department I was shown a series of rectangular boards on which the students had mounted arrangements of wire, string and cork. In another, minute squares of paper represented exercises in various abstract shapes, rather like a lot of sub-Nicholsons. Is Basic Design in fact Abstract Art? If so it is very surprising that there should be any call to *teach* it. It seems incredible that anyone who has spent the last eighteen years on this planet, and two of them in an Art School—which presumably subscribed to some current periodicals—should be unfamiliar with the general idea of abstract Art, and of the possibilities of designing in string, cork, wire, plasticine and old newspapers. How for instance did they come to miss the early years in a Primary School? The Staff of the Central School state that this is in fact the case of some of their students. One cannot help wondering whether persons so insensitive to fashions in Art, and Art as it is practised, are indeed suitable persons to be training as designers of anything visual? This however is less than half the story. In the case of many students it is necessary to get away from the idea that Art is merely drawing with a pencil. In the case of Engineering Design students who have not come up against art at all, or attended an Art School, it is essential to stress the visual element in their work in a most forceful way. They must be introduced to the necessity to design for the eye, and to understand the demarcation between functional and visual requirements, before they proceed to the complicated exercise of fusing the two. This is still not the main purpose of such teaching. I would say that its purpose is to stimulate creative curiosity. A new student entering this teeming and complex institution sees much to admire, much to perplex and much to learn. These simple exercises in form and colour may bring it home to him that what is important is his own creative will.

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The activities that come under the heading of Industrial Design are Pottery, Silversmithing, Jewellery Design, Textiles and the Design of all objects in wood, metals and plastics. The two schools align them rather differently.

CENTRAL SCHOOL	RCA
Interior Design and Furniture.	Furniture. Engineering Design.
Engineering Design.	
Textiles.	Textiles.
Pottery.	Ceramics.
Silversmithing and Jewellery.	Silversmithing and Jewellery.
	Industrial Glass.

interior design and furniture

At the RCA, Interior Design is a School on its own. The Interior Designer is considered to be in the same position as an architect; his problems being to organize spaces and assemble components. At the Central School, Interior Design is combined in one department with Furniture Design. All the students do the same first-year course and then take their choice. Here is a striking difference of aim. The Central School plants the Interior Designers' feet firmly in the realities of joinery, while the RCA emphasizes the formidable breadth of their responsibilities. This is done, however, in a most down to earth manner. The trainees for this sophisticated activity have as their first programme the design of a Primitive Hut. Imagining themselves to be castaways on a tropical island, they have to plan the construction of a shelter from the materials around them. They are then initiated into the architectural proceeding of analysing the requirements. In this case the requirements are the dimensions of the human body and the spaces required for eating, sleeping and working. They have then to construct a model of the hut, and submit it with the written results of their researches.*

All the Professors complain of a general lack of awareness in their entrants. They generally apply to this problem the policy of encouragement, organizing outings for their students, and bringing to their notice films, exhibitions and other Metropolitan phenomena which they think may wake them up. Sir Hugh Casson even makes his first year students hand in a weekly list of exhibitions, buildings, or sights of London visited, and they may be required to write a report on what they have seen. This lack of awareness was one of the problems with which the Central School was grappling when, with its greater reliance on teaching as a teaching method, it organized its various classes in Basic Art. It is a grave reflection upon our secondary schools and local art schools that such a problem exists at all at this advanced level.

When the time comes for an intensive course in Display—second and third years combine on this—RCA students have the stimulus of designing a number of actual exhibitions. They have in the past undertaken a stand at the British Industries' Fair and in department stores in the West End, and no smaller opportunities are missed. Periodically they set up an exhibition in the domestic entrance hall of their own common room. Some students on an educational trip to Norway were faced with the terrifying opportunity of mounting an exhibition there and then, within a fortnight, without exhibits, preparations or command of the language. They rose splendidly to the occasion, put furniture into instantaneous production, and carried out carpentry and other contractors' work with their own hands. Another member of the party from Kingston Art School printed the wall-paper used.

* * * *

The School of Interior Design and Furniture at the Central School has been newly constituted under the direction of Mr. Frank Austin. All the students work together for a year, at the end of which they decide which course they will take. As the first year is not yet up, it is impossible to make an over-all assessment. Individual designs will appear with the other illustrations to this article next month. Clearly this arrangement will act as a useful screen against the superficial type of Interior Designer. It could be objected that it is, for Interior Design students, a waste of time to make furniture to full scale; and that it is no more important for them to understand woodworking than the electrician's trade, or screen-printing. The point is of course that once you have experienced the discipline of a craft or trade, you design in quite a different way, as well as meeting tradesmen's problems on jobs with more intelligence and sympathy.

Furniture and Engineering Design are at the RCA two departments under the supervision of Professor R. D. Russell. The latter at the Central School is called Industrial Design. The fact that this label is used for one small branch of what is usually called Industrial Design indicates not a time-lag in outlook, but a conscious educational tenet. It is here felt that the relationship between Industries and the crafts that preceded them is an organic not merely an historical one, that machine-made furniture has evolved from rather than replaced cabinet work. If this is so it is desirable for the designer to go through an embryonic craft stage before he is fitted for the Industrial scene. Only in the department designing mainly for the light metal industries, where there cannot properly be said to be a pre-industrial tradition, has this stand been abandoned.

engineering design

This is by no means the only departure from Central School tradition in the Industrial Design department. Quite as revolutionary is the omission of Life Drawing from the curriculum. Belief in the value of Life Drawing seems to be the most universal canon of Art teaching, and I had begun to think that this was the one common factor running through all departments of both Schools. However, in Mr. Halliwell's Industrial Design department it has been replaced by still life drawing of an extremely topical kind. Mr. Halliwell has the idea, seldom held by artists though often by laymen, that there is no essential difference between the activity of drawing the human figure and that of drawing a typewriter. His students usually draw scissors, compasses, drills or other tools of their calling. They draw freehand the kind of objects they will later be called upon to draw with instruments. It seems perhaps inconsequential to abandon the human figure in favour of greater universality, and then proceed to draw the most specialized objects the students can find. Nevertheless the net result is that these students can depict three-dimensional form with great accomplishment. The presentation of their designs will have no terrors for them.

Having taken this bold step away from tradition, Mr. Halliwell does not sit back. Theory of Design is a flourishing subject in his department, which is the only one for which the candidate need not have been to an Art School. There is no idea of eschewing the Fine Arts but it is the Sculpture rather than the Life Room that these students tend to frequent. They are encouraged to try their hand at carving and modelling. After this they are introduced to a subject that is a further creative innovation, Machine Sculpture. The lathe replaces the chisel, but the student is still creating form to please himself and not for any useful purpose. He is able to pause and use the techniques of Industry, his future tools, for his own amusement.

The climax of this Course is the Design of some object carried through from preliminary research to final detailing. Last year a group of students collaborated with a hospital to produce a design for a mass-produced hospital lamp. The final presentation comprised 100 drawings.

Teaching of Engineering Design is in an early stage. A tradition has not yet evolved. At the Central School we see Mr. Halliwell trying out a method that he has carefully designed for the job. The Engineering Department at the RCA is quite newly constituted and cannot therefore be observed so easily. Its tutor, Mr. Slutzky, has, however, a clear idea of what he means to do. He has no patience with Theory of Design, but takes the view that the only way to learn to design for Industry is to start trying to design for Industry. The very mention of the phrase 'Machine Sculpture' makes him vibrate with disapproval. His view is that the time for the study of abstract form by designers was in the early days of the Bauhaus—not, mark you, the Bauhaus at Weimar but the Bauhaus at Dessau. Admittedly that was where Mr. Slutzky studied it. But is this any reason why students in London in the 'fifties should be barred from the subject? However, it is true that many years have passed, and Design for Industry, although not a very mature subject, is that much older. The question is whether any research into design can be said to have been done for all time, or whether every designer must go through embryonic stages and feel out for himself what has already been experienced by his predecessors. Mr. Halliwell takes this latter line, Mr. Slutzky the former. He also has views on the training in presentation. His students are encouraged to use the Plant rather than the Life Room. Like their colleagues the Furniture Designers they are trained to make efficient models. But model-making for a man who may be asked to design anything from a lamp-shade to a lavatory basin is more taxing than for one who will be mainly concerned with chairs and tables. To meet the full impact of this demand Mr. Slutzky gets his students to make exact copies of any objects, even

* Acknowledgments for this idea as for so many others in the design field are due to the Architectural Association School of Architecture.

[continued on page 211

continued from page 210]

living ones. His collection includes a plaster tree branch, and a cactus that has almost to be broken to be believed. Presentation can be learned by experiment and observation, designing, he claims, only by applying the mind.

Though the department has been reorganized this year both Mr. Slutzky and the senior students were already there, and it can be seen that minds have been applied to good purpose. One interesting research undertaken last year was into metal jointing for wooden furniture. Another into an ingenious method for constructing exhibition stands from dismountable units.

One of Professor Russell's most felicitous ideas is the presence of two such personalities as N. J. Slutzky and David Pye both teaching in the same studio. The Furniture and Engineering students are thus exposed while they draw to contrasting stimuli, the fiery intellectual spilling controversy and ideas, and the acid test of that silent appraising scrutiny. This strikes me as an arrangement of tremendous educational value.

furniture

The RCA furniture students do not make full-scale furniture themselves unless they are exceptionally quick at this work. They make models of every design, and those thought to be interesting are made full size by the department's cabinet makers. The designer thus starts straight away in his future relationship to the craftsmen who will carry out his designs. The making of perfect models is considered essential, as drawings are an imperfect means of describing subtle three-dimensional forms. A further result of the model-making is to equip the student for the stage in his career when he will be a designer's assistant.

It is put to the Furniture and Engineering students that if a really good job comes their way the ability to write a good letter may be a deciding factor. They are therefore urged to make use of the English classes available. In such ways the students are lured into a wider education.

jewellery and silversmithing

The enormous Jewellery and Silversmithing Department at the Central School is in marked contrast to the minute establishment at South Kensington. At the Central the full-time students work among an enormous number of part-time apprentices who come for day and evening classes. The semi-precious and diamond-mounting shops hum with activity. Specialists give demonstrations of the possible treatments of different metals, and a large rota of visiting artists and technicians visit with the regularity enjoined by LCC methods. The students attend in the Life Room and do plant drawing. Mr. Emerson indeed asserts that 'if you can't draw you can't know a good line.' Basic design raises its head again in the curriculum, although none was brought to my notice. The 'Shop' atmosphere noticeably predominated in this department. Nevertheless great importance is attatched to drawing. Every design must be drawn before it is made, and no sketchiness is tolerated in presentation. A clear three-dimensional description is required, fully rendered. No drawings are hanging on the walls, but with 400 students on the books one can see the difficulties.

At the RCA the 15 students carry out the whole process of designing and making their designs in one admirably appointed shop. This arrangement seems to create an atmosphere very stimulating to creative work. The contiguity of varied activities, designing, enamelling, casting, and polishing has obvious advantages for the Industrial design student.

The jewellery designed at the College is entirely costume jewellery, and there are no craftsman-apprentices. The students are urged to draw in the Fine Art Department and to study natural forms, and evidence of this is clearly to be seen in their work. I found the statement 'It is always emphasised that design is an intentional product of hard mental exercise rather than a by-product of the proper use of tools and materials' in the outline of this department's aims, though it is the view of the RCA as a whole. Nevertheless, where a craft is being practised its influence will out. Last year some very inventive work was done using a spring as the basic design form.

Little effort is made to enforce drawing as a preliminary to making a prototype. In fact though Professor Robert Goodden denies any principles of teaching, it would seem to be his principle that the student starts designing the minute he enters the school, and goes right on designing at his own speed and in his own way until the three years are up. Only the barest sketch is insisted upon before the jewellery student starts on the metal, though the silversmiths have to consider their formwork more carefully. Nevertheless, by the end of the course, presentation drawings have appeared and are handed in with the solid work.

textiles

The departments of Textile Design are the ones in the two Schools that compare most nearly. On the weave side this could be due to the fact that all the processes that are performed by power-driven looms can be performed more slowly by hand-looms. So no alternative suggests itself to a straightforward craft training. There is a further reason. It is noticeable that those Industries which have the easiest relationship with their designers are those for which the teaching methods vary least. In Textiles no war is being waged. Perhaps because the turnover of designs is so quick, and things move faster in this Industry, most of the manufacturers are nowadays in the habit of going to art-school trained designers for their designs. The technical processes that the designer has to understand can perfectly well be learnt in three years, so that at the end of this time many students are competent designers, and recognised as such.

The first difference in training is that at the Central School weave and print students work together four days a week for the first year. The RCA does, however, intend to follow this practice. This should tend to correct the inevitable tendency of weave designers to take too close a view of their work. The hours spent at the loom are bound to develop a too great preoccupation with textures to the exclusion of broad effects. I cannot see any evidence that the Central School method has had the desired effect.

The weave student's first year at the RCA is designed in a very stimulating way. She works her way past a series of four looms. At the first she experiments with arrangements of threads simply in black and white; at the second with solids and spaces; at the third with a contrast of yarns; and at the fourth with two colours both on warp and woof. At the end of these experiments she has four sample lengths which are literally the basis of her career as a designer. The excitement of this department comes from the creative use of orderliness. Once the students have mastered the technique of card-cutting they are fortunate enough to have professional help in this work, but they are simply saved repetition, not spoon-fed. Miss Leischner orders very few coloured yarns so that the students shall not work to a preconceived colour range. They have to dye their own yarns when they have decided on their colour-scheme. Periodically they work to the requirements of the Fashion School or the Interior Designers, and so are kept in touch with 'consumers' of their own age.

The second great difference between the two Textile Schools is the far greater space available at the RCA. In the print School there is a large studio, as well as good space for screen printing, laboratories for dyeing and photographic processes.

That the æsthetic outlook is also very spacious must not be taken as the natural consequence of this set-up. Credit should be given to Professor Wyndham Goodden and his staff for the range of idiom and of types of design explored by the students. This is so wide as to defy description, and I shall leave the photographs to speak for themselves next month.

At the Central School mind has so far triumphed over matter that to the casual visitor the lack of space seems a positive advantage. There is no conservatory to provide plants, and only a tiresomely small room for screen-printing, but in the Design Room was the same atmosphere I noticed in a department at the RCA. One can only describe it as a creative atmosphere, busy yet peaceful. One would have liked to stay there and get down to work. The walls are hung with textiles that the students have printed. On one wall weekly sketches, lino-cuts or some first year subject, are hung up, so that the students are always conscious of what is being produced and of the variations within their group. Here as in Miss Leischner's department, order is a creative force. Miss Batty maintains that to create an exciting atmosphere you must insist that the students clock in on time. Indisputably there is an exciting atmosphere.

Nevertheless, the creative spirits in this department do feel the lack of space, and one cannot help wondering how much better they would do in less cramped surroundings and with less time taken up with such chores as card-cutting.

pottery

The Pottery Department at the Central School and the School of Ceramics at the RCA differ quite violently. This is only natural if, as we have hazarded, uniformity of teaching methods is the outcome of a good relationship between Art and Industry. The connection between the Potteries and all that is best in contemporary art is of the most tenuous. It is in fact the situation that existed between Art and Industry as a whole a generation ago. War is being waged. Would-be designers of our dinner services have to make a choice between being swallowed whole by the Industry or staying right outside it. Of the two possible courses open to a school for such designers the Central has chosen the pacifist position, the College the combatant. The Central School abides by its craftsmanlike attitude, in the belief that form is all important in the design of ceramics. In the pottery industry new forms are appallingly expensive, so that irresistible pressure is brought to bear on designers to rely upon painted decoration for their effects. The RCA has courageously taken up the struggle, but it is on the Industry's ground. The RCA Calendar states that 'in serving the industry the School of Ceramics will be governed more by present day conditions than by opinions of what those conditions ought to be.' Professor Baker has equipped a commodious department for the students to learn the most modern techniques and all the ways of the Industry. Regular visits to the Potteries, and courses with firms there, are an integral part of the course. Unfortunately this is a back-breaking course to fit into three years, so that the student who takes his training as a wage-earner seriously will be precluded simply by shortage of hours from taking full advantage of all the College has to offer him as an artist. The designer in Staffordshire must be highly specialized in techniques of painting and photolithography, pigments and glazes. And he must have a degree of representational skill quite amazingly high. In short the same pitfall lies in wait for him as for the weaver whose eyes are focused for long periods upon the nearness of the loom. He tends to lose touch with breadth and scale. The potter tends to see a vignette rather than a plate or a coffee-pot. One emerges from this department with one's shoulders bowed with the weighty responsibilities of modern Industry, uncomfortably conscious of the capital involved in producing coffee-cups by the 100,000. In trench warfare the front line always becomes more at home with the enemy than with their own side.

The course at the Central School is in the evolutionary craft tradition. The student starts by making simple vertical shapes at the wheel. The RCA student starts as the Professor graphically describes it, 'with a blow on the side of the head.' He goes into the Museum and selects a piece of china to copy. He then proceeds to struggle through all the processes of throwing, decorating and glazing that went to the making of this work of art. After this revealing experience he is apprenticed to a second or third year student, learns from him, and helps him to produce a greater number of pieces to decorate than the senior could do unaided. In this way the students are continuously educated in the art of working with other people, which will stand them in good stead in their industrial life. Classes are held in technical subjects, but the teaching is mainly tutorial. Any individual interest a student develops is encouraged. One student was experimenting with the design of tiles for architectural use. Another had withdrawn into a little room and become entirely preoccupied with an enormous sculptural figure, rather regrettably it was felt.

The requisite qualities for a designer of ceramics are not easily found in a single individual. A high degree of organizing ability is rarely found in combination with powerful creativeness. An exceptional person is required to do full justice to this department. In fact the entrants tend not to be above the average. Children who are unsuited to intellectual training and who are clearly not artists are often, and with the best intentions, directed towards pottery. Another factor which deprives the College of talented entrants is that these students are

aware of the conditions awaiting designers in the Potteries, and if they have the means to set up as studio potters the Central is becoming the traditional school for them. This is a particularly unfortunate development as far as the industry is concerned. These two schools do stand on opposite sides of a chasm. Their diametrical approaches have the unfortunate result of splitting the student entry into two groups. The more ambitious, talented, less biddable, go to the Central School, and never come in contact with the industry—though their influence can be seen quietly seeping through in gift shops and country stationers. The more practical and cautious, who are ready to do what they are told in order to earn their livings, go to the RCA. Professor Baker is perfectly aware of the limitations inherent in setting up a school that is to be governed by present-day conditions. When asked what course he would follow if a designer of real stature turned up in the School of Ceramics he replied that he should send him for part of his course to another department. And he is very much alive to individual differences of talent and stature. His answer to the theory that a good student might miss a good job by insufficient command of English is that a good artist would not write a bad letter.

Meanwhile, the gap between the studio potters and what Professor Baker so depressingly calls 'top level artist-craftsmen' is widening. As they are in different institutions these students, with different aims and outlooks, have no opportunity to meet and influence each other. Clearly the public would be better served by a school which could contrive to combine the functions of these two.

* * * *

In both Schools the final subject for all departments is a Thesis. At the Central School it is always a research into some aspect of the student's subject, presented in written form with illustrations or drawings. An example from the Engineering Design School is 'Time Measuring Instruments' and from the Textiles 'Peacocks in Indian Fabrics.' The RCA student has to produce a written work of the formidable length of 6,000 words. This is not officially required to be on a subject in the student's own field. In fact almost all students in the Industrial Schools do research into their own subject. Examples of such are those on 'School Furniture' and 'The Interiors of Ships.' Some leave the centre of their subject and research into some detail of historical interest. Textile students traced the history of 'The Rose' and 'The Grapevine' as decorative motifs. These are exact parallels of the Central School Peacock example quoted above.

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Although, as we have seen, the Central School, being a Regional College has a dual responsibility, it does in the Design field give the College a remarkable run for its money. Industrial Design has everything to gain by this duality.

3 TECHNIQUES

MECHANICAL FIXINGS *by Brian Grant*

Of recent years the building industry has seen a steady influx of new methods of fixing. Most of these derive from factory practice and are indeed no more than a necessary accompaniment to the increased use of sheet materials. Taken singly there is nothing remarkable about them, but taken together they make an impressive addition to the architect's repertoire. This article is confined to new mechanical fixings and does not include either welding or adhesives.

The many new types of fixing which have come into use in the building industry during the last ten years or so are not so much replacements of traditional fixing methods as new devices called in to fix new materials. For traditional building, traditional fixings still remain the most economical and efficient: it is safe to say, for instance, that the nail is best for fixing floor boards to joists, even though in America the process is carried out not by hand with a hammer but with a spring-loaded gun having a supply of nails in the magazine.

The revolution in timber fixing has, of course, been brought about by the vastly enhanced properties of adhesives, not by any great change in mechanical fixing. Such changes as there have been in this respect have come about mainly as a result of the practice of stress grading. For the chief merit of the various types of timber connector and the practice of *designing* nailed joints is that they give not a stronger fixing but one which can be more accurately calculated.

the adaptation of the screw

The principle of the screw still remains the chief resort of mechanical fixing, the chief developments being the extended use of the ordinary wood screw in traditional building through the use of plugging compounds, and the adaptation of the screw for use in metal either by modifying the screw itself or by providing an improved bearing surface on the far side of the materials to be fixed.

Starting with the ordinary wood screw, it is worth recalling that this is now produced in a variety of materials as well as steel and brass. Screws in aluminium and plastics material are made, and even stainless steel screws are now obtainable without undue difficulty and are by no means as expensive as one might imagine. Finishes are legion, galvanizing, cadmium and chromium plating or anodizing, while for 'decorative' fixings, where it is thought undesirable for the heads of normal slotted screws to be visible, there are domed button or other shaped caps which can be screwed into a threaded hole in the top of the screw.

It is also worth remembering screw nails, although they do not seem to be very widely used in the building industry. They are square in section and are twisted about two turns in their length to give a course screw thread. They have sharp points which will pierce light gauge metal sheeting where a plain nail would buckle, and can be driven rapidly with a hammer like the ordinary nail.

Half-way between screw nails and the self-tapping screws to be mentioned later are drive screws. These are threaded like metal screws, but the thread has a very steep pitch and will cut its way into the appropriate sized hole in metal castings or plastics mouldings when driven with a hammer. A typical application for drive screws is the fixing of such things as name plates to heavy assemblies where the fixing must be permanent.

power-operated fixing methods

Granted that speed of assembly is characteristic of nearly all new fixing methods, it is logical to make special mention of methods where this is achieved in the application rather than in the fixing itself. Cartridge-operated hammer guns, developed mainly to save time and labour costs, are now very commonly used for fixing battens, brackets or other components to brick, concrete and other solid materials including steel and can be used either on walls or overhead. All these cartridge guns use hardened steel pins of various sizes with plain nail type heads or a threaded end which will take nuts or special brackets or hooks for the suspension of cables, lights or other fittings. The saving in fixing time is considerable, but the hammers cannot be used with materials like asbestos cement, which are liable to shatter. Not long before the introduction of these cartridge guns to the British market, automatic electric stud-welding equipment was produced, but the use of this is limited to the fixing of steel studs to metal, and it is more often used in the shop than on the site.

lightweight partitions

Turning now to the sheet materials used for partitions and wall linings, their fixing, as opposed to the fixing of other items of equipment *to* them, now follows a fairly well accepted pattern, with wooden battens or metal channels at floor and ceiling. If, however, a high value is set on ready demountability and on the need to inflict the least possible damage to finishes, the partition is secured not by battens or channels but by a spring loaded or screw jack attached to the head of each post, which thrusts against the ceiling and makes as discreet a dent as may be. Vertical joints between sections of partitioning can be made either with internal tongues, generally of timber, or with H section metal channels, frequently extruded light alloy sections. With these methods the fixing of a partition starts at one end and a special section is used for closing in the last sheet. This method has the minor disadvantage that if a single sheet or panel has to be replaced the dismantling of the partition must begin at the last sheet fixed, working backwards until the appropriate sheet is reached. The difficulty can, however, be overcome by using hollow posts at the vertical joints with a sprung or screwed-in cover strip to hold adjoining sheets.

fixing to hollow partitions

The fixing of other fittings to sheet materials is a more complicated problem, as the materials are not thick enough to hold nails or screws, or too hard or brittle to do so even if the thickness were adequate. Bolts and nuts cannot be used, as the sheets are accessible from one side only. The difficulty can be overcome by using toggle bolts, which may be of two basic types. Spring toggles have a pair of spring-loaded wings which are hinged to the nut, so that when the nut is pushed through the hole on the end of the bolt the wings spring outwards when they reach the cavity behind the sheet and form a crosspiece against which the bolt or screw can be tightened. The other type is the gravity toggle, a single member hinged about the nut, and longer on one side than the other so that it drops down and forms a crosspiece when pushed through the hole. Both these fittings are perfectly satisfactory, but they need a certain amount of space within the cavity for the toggles to open or swing, and if at any time the screw has to be removed the toggle is lost and must be replaced. An alternative is the anchor bolt, in which the nut is held by a pair of metal strips, each having a serrated collar, so that when the bolt is tightened the strips flatten out to form a bridge piece and the serrations grip in all but the hardest of materials, thus forming a permanent nut from which the bolt can be removed as often as required. All three of these fixings need holes bored about 50 per cent larger than the diameter of the bolt, but this is no particular disadvantage as it provides an adjustment for more accurate lining up if the holes should have been slightly misplaced.

Another type of fixing, particularly recommended for plasterboard, but also suitable, in its range of sizes, for materials between $\frac{3}{16}$ and $1\frac{1}{4}$ inch thick, is the Rawlnut, in which a brass nut is bonded into the end of a tough rubber sleeve. The action of tightening the screw forms an expanded head of rubber on the inside of the panel, the fixing being both water- and air-tight, and also sufficiently vibration proof to be approved for aircraft work. Satisfactory fixes can also be made in hollow tiles whether the hole comes in a cavity or a web, or even partly in both.

metal to metal jointing

For the joining of thin sheets in some types of metal furniture, and for other purposes, 'blind' rivets are widely used. They were evolved originally for the fixing of aircraft wing skins to the spars and formers, and in other places where access is possible only from one side. Two types are in general use, Pop and Chobert. Both are hollow, and are set by a hand-operated machine

[continued on page 213

continued from page 212]

which expands the head with a mandrel. Rivets of this kind can be placed at the rate of 1,000 an hour or more, and the hand guns used are made with angled extensions for riveting in awkward corners.

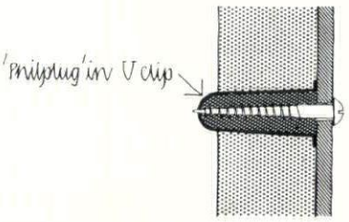
From the point of view of large-scale production of sheet metal components, the greatest design change has been brought about by the Parker-Kalon or self-tapping screw. In appearance these screws have a thread somewhat reminiscent of a wood screw, but the threads of the screw are hardened and they will tap a thread for themselves as they are screwed into the holes drilled to receive them. Modified types of the standard self-tapping screw are used with the many types of spring tension fastening which have been designed not only for use with threaded screws but to retain round or square pins. Many different types of fix are used, and several different versions of them can be seen on lifting the bonnet of almost any post-war car. The most interesting of them are shown in sketches here. In some materials the plain self-tapping screw may tend to jam as it cuts its thread, and some types are made with a relieving groove to hold the clips produced by the cutting of the thread.

It will be noticed that many of the screws used with the fixing have the star-shaped Phillips recessed head. This type was originally produced for increased speed of installation, as the screw can be placed one handed. With the recessed head, moreover, there is very little danger of the screwdriver slipping and scratching adjacent wood or paintwork: it is also possible to apply a greater turning force to the screw, particularly in the round and raised head versions, where the usual straight slot is particularly ineffective.

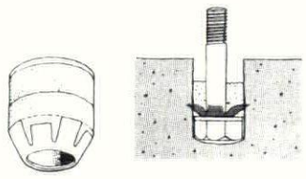
Suppliers

Suppliers of the fixings illustrated below and over are: 1, Philplug Products Ltd., Wembley. 2, 3, 4, 10, 11, 13, The Rawlplug Co. Ltd., Cromwell Road, S.W.7. 5, Dunlop Special Products Ltd., Fort Dunlop, Birmingham (above); A.V.A. Ltd., 45-7, York Street, Twickenham (below). 6, 7, 14, Guest, Keen and Nettlefold, Heath Street, Birmingham. 8, British Plimber Ltd., 19, Albert Embankment, S.E.11. 9, Aircraft Materials Ltd., Midland Road, N.W.1 (above); Aviation Development Ltd., 2, Woodfield Road, Welwyn Garden City (below). 15, 16, 17, 18, 19, Simmonds Aerocessories Ltd., Treforest, Glam.

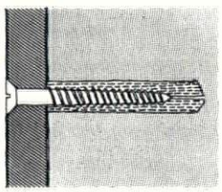
On this and the succeeding page is a selection of the types of mechanical fixing described in the article.



1, *a U-shaped clip for use with plastic compound when a fixing hole breaks into a hollow block or lath and plaster cavity. The clip prevents the fixing compound from being pushed into the cavity.*



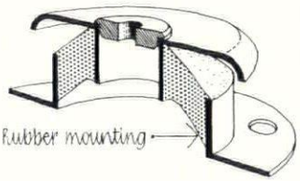
4, *caulking bolt anchor for under-water fixings or for use where there is excessive 'rebound', as with power hammers, or vibration.*

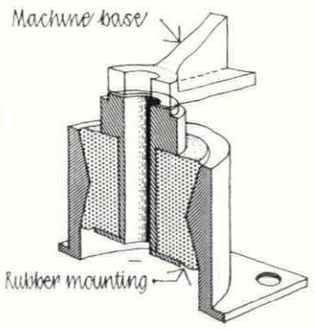




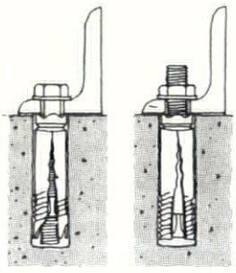


2, *three fixings for use with wood screws. Top, the fibre Rawlplug. Centre, a lead screw anchor for use where acids or other corrosive chemicals may be met—preferably used with a stainless steel screw. Bottom, white bronze plugs for use in high temperatures or under water: should be used with cadmium-plated screws.*

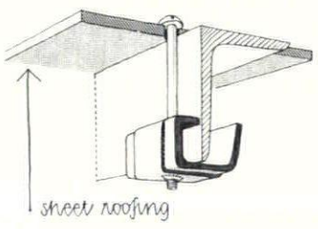




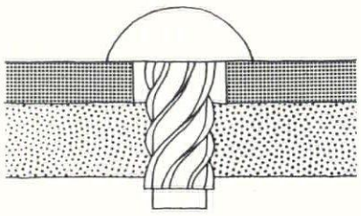
5, *two types of anti-vibration machine mounting with rubber as the absorbent material. The version at the top has a shield to prevent contamination of the rubber by oil, and the lower does not depend on bonding for security. Different rubber compositions are produced according to the frequency to be absorbed.*



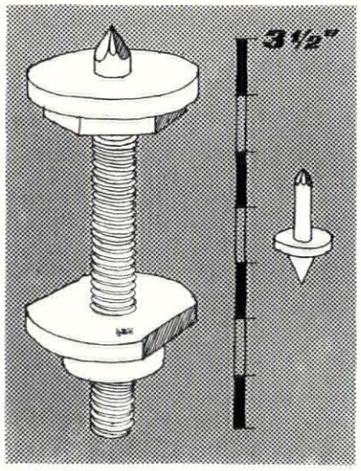
3, *Rawlbolts can be made either with a loose bolt, left, or with the bolt projecting, right. With both types the tightening of the bolt expands the two segmental sleeves which thus grip the concrete.*



6, *the Oakley roofing clip is a neat alternative to the hook bolt for fixing roofing and siding. Only the heads of the screws show outside and the threads (where any galvanizing will be thinnest) are protected from the weather.*



7, *drive screw for fastening to sheet metal or for joining two thicknesses of sheet metal. A hole corresponding to the shank is pre-bored and the hardened spiral thread cuts its own way when the screw is hammered.*

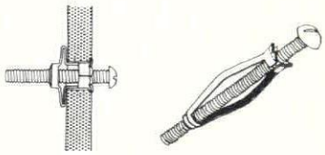


8, *a 'Rebond' ceiling jack and pin for attaching to the head and foot respectively of a partition upright.*

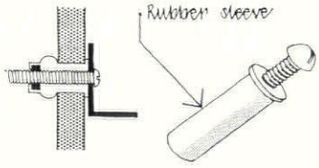




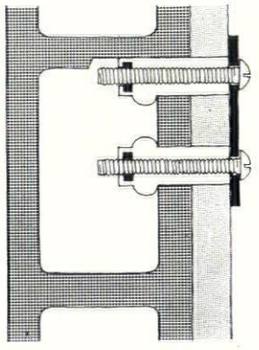
9, *two types of 'blind rivet' developed originally for fixing the skin to aircraft wings and fuselages. The rivets may be fixed from one side only, and are headed by pulling through a tapered mandrel which either breaks as in the 'Pop' rivet (above) leaving the head to close the hole, or the mandrel may form part of the fixing device as with the Chobert rivet gun (below). Both these rivets are fixed very quickly, at rates up to 1,200 an hour.*



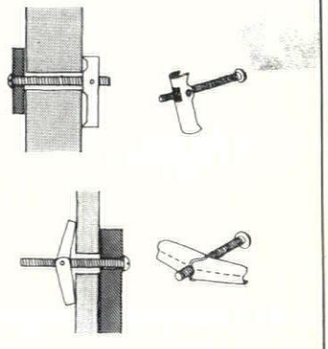
10, *anchor bolts make a permanent threaded fixing to thin and hollow materials such as Plasterboard. The anchor strips bend and form a crosspiece as the screw is tightened.*



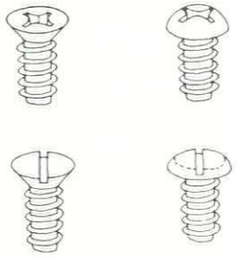
11, *the Rawlnut consists of a rubber sleeve into which is bonded a nut. When the screw is tightened a rivet-like button is formed in the rubber. This fitting is particularly useful with hollow blocks or partitions as the presence or absence of internal webs makes no difference to the fixing: see diagram 12 below.*



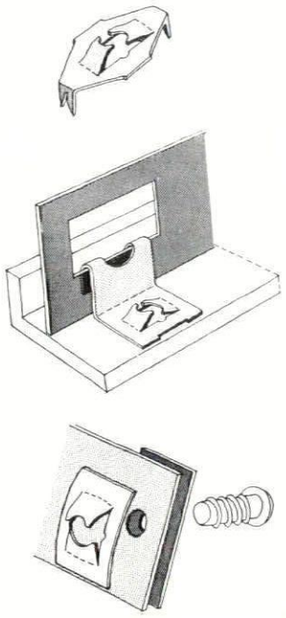
12, *Rawlnuts used for fixing in a confined space.*



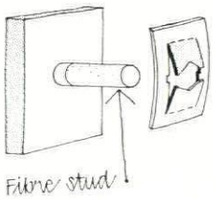
13, *two types of toggle bolt. Above, the out of balance 'gravity' toggle swings down as soon as it is clear of the hole, while the spring type, below, opens automatically and can be used overhead as well as in partitions.*



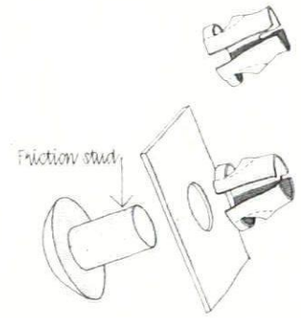
14, *recessed head and slotted head self-tapping screws. These will cut their own thread in most materials, including metals, and are widely used for many types of sheet fixing.*



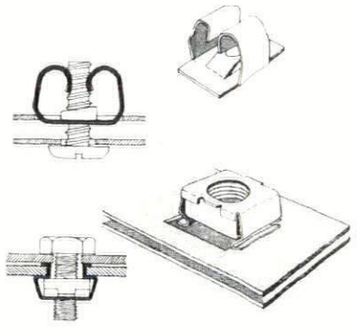
15, *'speed nuts,' which can be used with various types of screw. Below, the plain fitting (flat nut), which replaces the ordinary nut; top, a similar fitting with pointed anchors for use in plywood or hardboard; centre, an angled version much used in the radio industry. (See also Fig. 19.)*



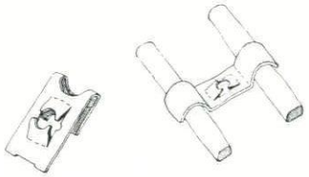
16, *friction only grip for use with plain unthreaded stud.*



17, *removable (above) and permanent (below) clip fittings for holding plain fixing studs, which are held by friction only.*



18, *two methods of fixing to square punched holes. Top, a spring 'expansion nut.' Below, a square nut held captive in a spring clip. Both these methods allow assembly with access from one side only.*



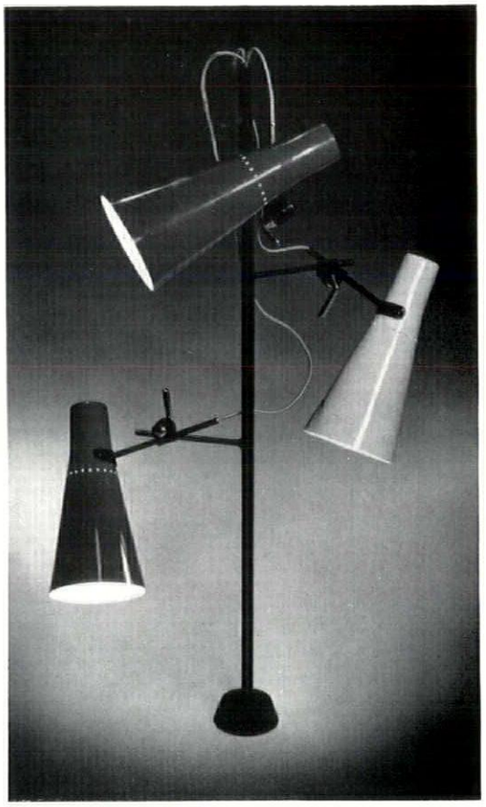
19, *speed nut with ears in use as a double cable clip.*

working of hasps and bolts and handles as clearly as he could wish. Copies will be supplied to architects and contractors on request.

The Morris Singer Co., Ltd., Ferry Lane Works, Forest Road, Walthamstow, London, E.17.

INTERCHANGEABLE LIGHTING FITTINGS

A useful rule for architects who are about to order lighting fittings is to recall that the idea at the heart of modern lighting is that of economy, using the term in the sense we use it when we speak of the 'economy of nature.' This 'recall to order' is valuable, since the manufacturers of modern lighting equipment



Three lamps in the Forrest Modern range.

are divided between those who derive their lighting forms consistently from this source and those who seek to make their products more popular by vesting them with ornament. The products of the first group are nearly always convincing, those of the second group never so.

The Forrest Modern range of fittings belongs to the first category, the designer (John Reid) having sought to marry the kind of economy which comes from the use of aluminium spinnings with that which comes from manufacturing a kit of interchangeable parts.

The structural, holding members in the system are of two kinds, rods and tubes, which are fastened together by means of

[continued on page 216

4 THE INDUSTRY

METAL WINDOWS

Morris Singer's new book *The Design and Treatment of Metal Windows and Doors* has a value over and above that of the ordinary run of trade literature in that it gives working details of a large number of specialized applications which are not to be found published elsewhere. Double glazing for a hosiery factory, rubber and spring devices to prevent rattling in a railway signal box, aluminium laylights in the British Museum and the National Gallery, these are all specimens of techniques which have received insufficient coverage in the press and which are very clearly set forth here. Apart from this the book is very useful to the architect on the drawing board, as it gives the profiles and dimensions of standard sections and the

Think twice about outside PAINT

About colour and looks, of course, but *first* about protection. For an outside paint is not doing its job if it does not protect the surface; the weather will get down to its destructive work and the fabric of the building will suffer.

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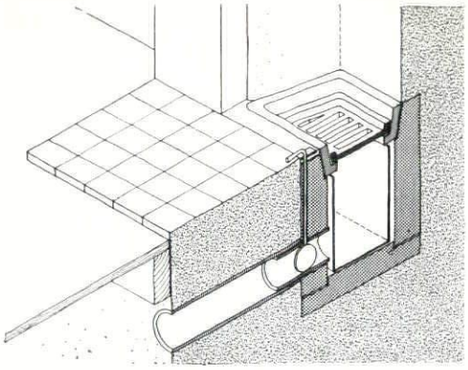
continued from page 214]

adjustable clamps. Lighting systems in which the rods prevail (and which are therefore characterized by loose flexes) bear the makers' trade name of 'Tripoli' while those where the flexes are mostly concealed in tubes are referred to as 'conduit' systems. The two provide a very successful repertoire of display lighting. All that remains now is for the range to become sufficiently popular for the makers to reduce their prices, so that the intrinsic economies of this idea can be more clearly felt.

George Forrest & Son Ltd., 30, *Osborne Road, London, W.3.*

CONTROLLED DRAUGHT SUNKEN FIRE

We illustrate on this page a version of the sunken fire which combines damper control with draught from the outside air. A movable grate stands over a movable ashpan, which in turn stands in a 'box' constructed of cement fondu. The flow of air enters this box through a piped sleeve (where the damper operates) leading from the underfloor space. By this means two of the chief defects of the open fire are diminished: incomplete combustion due to the haphazard passage of air over the surface of the fuel and draughts caused by the fire taking its air from the room.



For the many who feel that contrivances should be felt but not seen this will be a welcome choice. It is manufactured in two sizes: the 16-inch fire opening selling at £8 5s. 0d., and the 18-inch at £8 17s. 6d. (retail price). It is named the Tiger controlled draught sunken fire and is manufactured by Keightley and Taylor Ltd., Hudson Street, Loughborough.

LATTICE SHELL

The chief limiting factor to the use of orthodox concrete shell roofs has always been the need to provide structural shuttering. 'Lattice shell' (designers: Ove Arup & Partners), which consists of a triangulated steel tubular network, evades this through being structural itself. It can be used either as a support to some form of sheeting or boarding, or it can serve as the reinforcement to lightweight concrete, when the tubes themselves give support to the shuttering. A further advantage is that daylighting can be incorporated in any position without difficulty.

This type of structure seems likely to prove economic in the field of factory building for uninterrupted spans of over

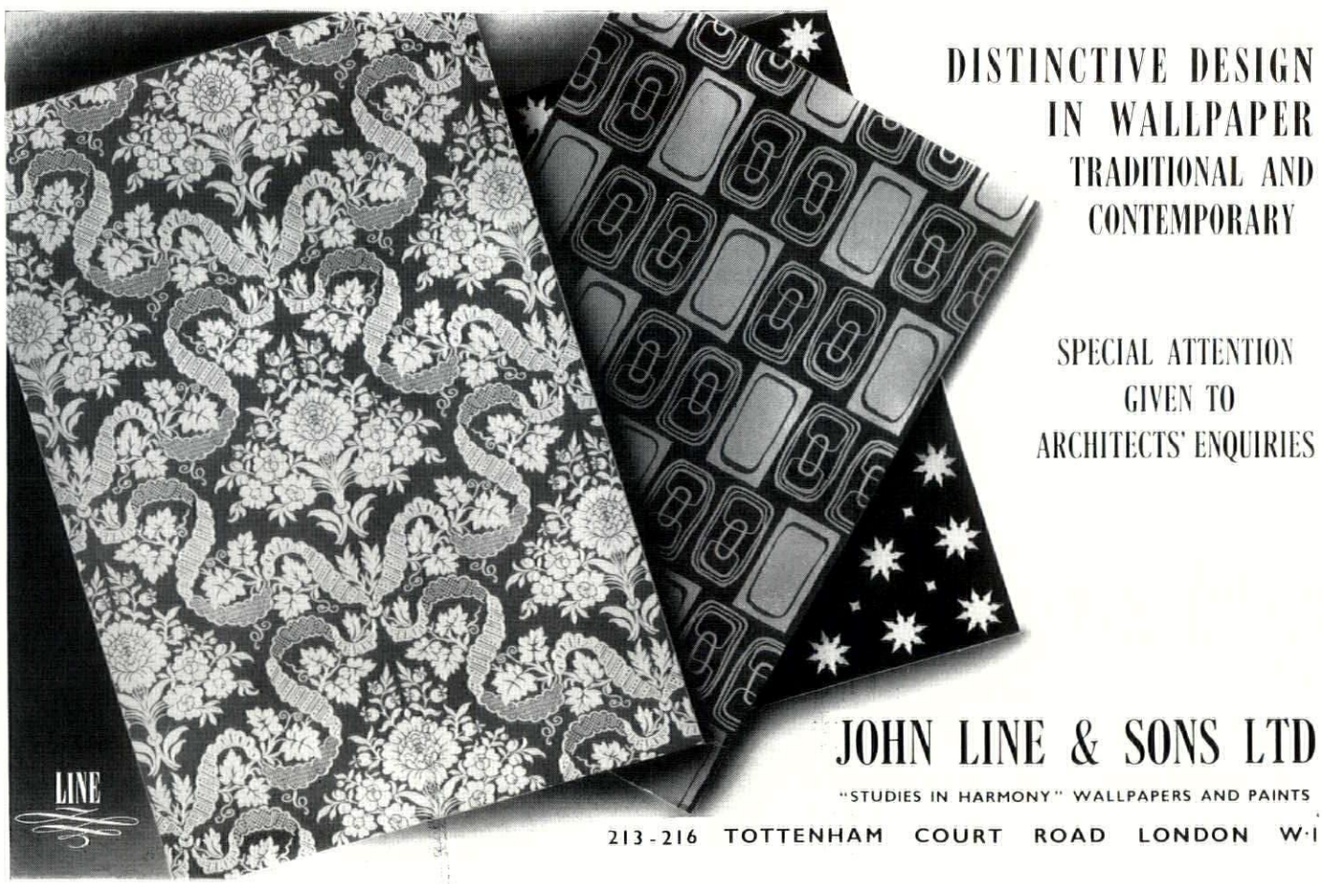


Lattice shell roof at Mitcham.

30 feet. Granted that in this class of work cost must almost always be critical, it will be a relief to the architect to have an alternative which is at once cheap (so far as building structure can ever be cheap) and convincing in appearance.

Scaffolding (Great Britain) Ltd., Mitcham, Surrey.

[continued on page 218



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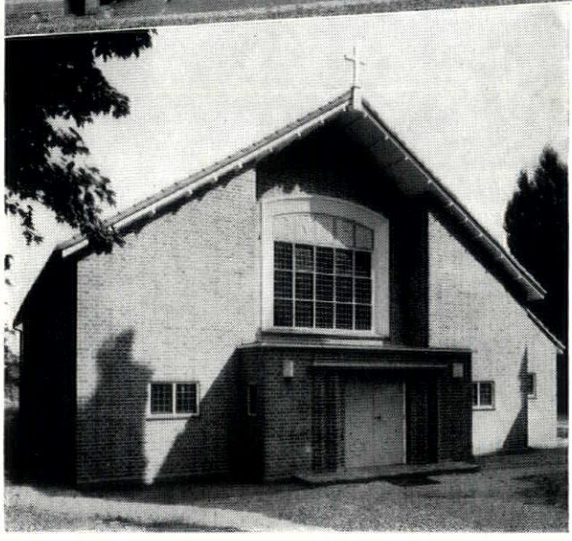


R.C. Church of Our Lady Queen of Peace
Sheen Road, Richmond, Surrey

Faced in Ibstock Golden Brown Multi Hand-made Bricks

Architect: F. G. Broadbent, F.R.I.B.A., Goodhart, Rendel & Partners. Contractors: C. H. Gibson Ltd., Thornton Heath. Bricks supplied through Finnis, Ruault & Nicholls Ltd.

The serenity that cloaks this charming church is a fit counterpart to its dedication. In a well-known residential district, the building stands harmoniously among its surroundings clad in the attractive colouring provided by the Ibstock Golden-Brown multicolour hand-made facing bricks.

Owing to present demand, supplies of facings of most types are booked for a long time ahead, and reservations for 1955 - 6 are now being made.

Ibstock FACINGS for Colour

Ibstock Brick & Tile Company Limited, near Leicester. *'Phone: Ibstock* 391 (2 *lines*)
London: L.M.R. Goods Depot, Wright's Lane, Kensington, W.8. *'Phone: Western* 1281 (2 *lines*)

continued from page 216]

ELECTRICAL TRUNKING

The problem of what to do with service runs has been attracting a great deal of attention recently. A new system evolved by BTH for electrical conduit and called by them 'Invertrunking' involves the use of a section which is strong enough to support the weight not only of the fittings but of a suspended ceiling as well; and which is so designed that all adjustments to the lights can be made from below. This last is an advantage in a suspended ceiling since it means that there is no need to disturb the ceiling panels on account of the lighting; but in a solid ceiling, where the trunking is bedded in plaster or concrete, the advantage is more significant, since it has not hitherto been possible to effect any adjustment to lighting in this situation without damaging the finishes.



'Invertrunking' used in the BTH showroom.

'Invertrunking' is formed of a one-piece aluminium extrusion 4 inches wide and $1\frac{1}{16}$ inches deep. Angle, Tee and Cross-over sections are available, while joints are made by means of an internal sleeve held in place by self-tapping screws or pop rivets.

British Thomson-Houston Co. Ltd., Crown House, Aldwych, W.C.2.

EPIKOTE RESINS

Architects have enough difficulty in keeping up with new end products in the building industry to be excused if they are not always well versed in changes in the chemical constituents of which these end products are made. This will certainly have been the architect's reaction to the recent Epikote Exhibition mounted by Shell Chemicals Ltd. 'Epikote' is Shell's trade name for 'Epoxide,' a chemical constituent which can apparently be used for making almost everything but which, for architects' purposes, may be taken as an improvement on Alkyds in paints and varnishes. Epoxide paints are more expensive in first cost than alkyd paints, the difference, grade for grade, being of the order of 8s. per gallon. This difference can be more than offset in certain circumstances, e.g., painting on concrete, where Epoxide resin's resistance to alkali makes it practicable to omit a sealing coat.

It is, in fact, superior resistance to chemical attack which distinguishes Epoxide paints, whether this attack comes from within or from without, and for this reason the most common circumstance which calls for their use is polluted atmosphere. Epoxide varnishes share this quality (which makes them useful, for instance, on the woodwork on bar counters) and in addition resist wear, which makes them a good surfacing for timber floors.

CONTRACTORS etc

Offices at Poole. *Architects:* Farmer & Dark. *General contractors:* Whitelock & Co. *Sub-contractors: Altro flooring:* The Adamite Co. *Venetian blinds:* J. Avery & Co. *Balustrading:* The Birmingham Guild Ltd. *Gas connections:* Bournemouth Gas Undertaking. *Roller shutters:* G. Brady & Co. *Roof decking (cycle shed):* William Briggs & Sons. *Planting:* J. Cheal & Sons. *M.S. staircase balustrade:* Clark, Hunt & Co. *Heating and hot water services:* James Combe & Son. *R.C. structure:* William Cowlin & Son and Wheatley Bryon & Partners. *Canteen equipment:* Falkirk Iron Co. *Wrought iron wire bins:* Farrow & Jackson Ltd. *Resinoid flooring:* Haskel Robertson & Co. *Lightproof blinds:* Albert J. Shingleton Ltd. *Electrical wiring, installation:* Southern Electricity Board. *Electric clock system:*

[continued on page 220

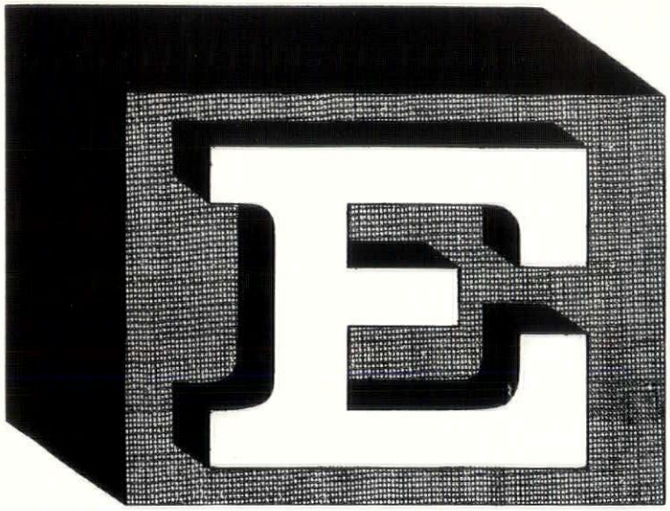
ADAMSEZ



'Lotus'
basins installed in the new offices for the Loewy Engineering Co at Poole
Architects: Farmer & Dark F/F.R.I.B.A

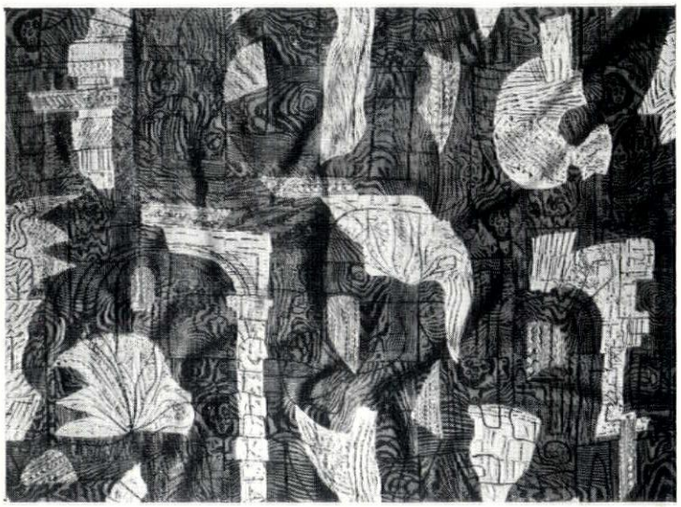
ADAMSEZ LTD, LONDON AND SCOTSWOOD-ON-TYNE

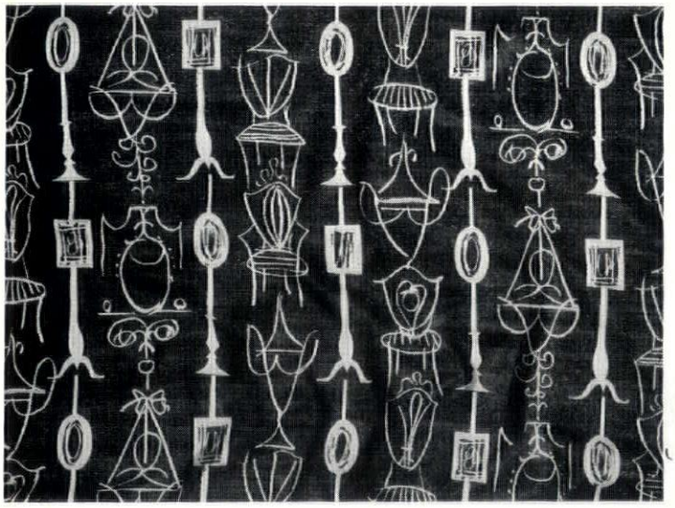
d.m.a

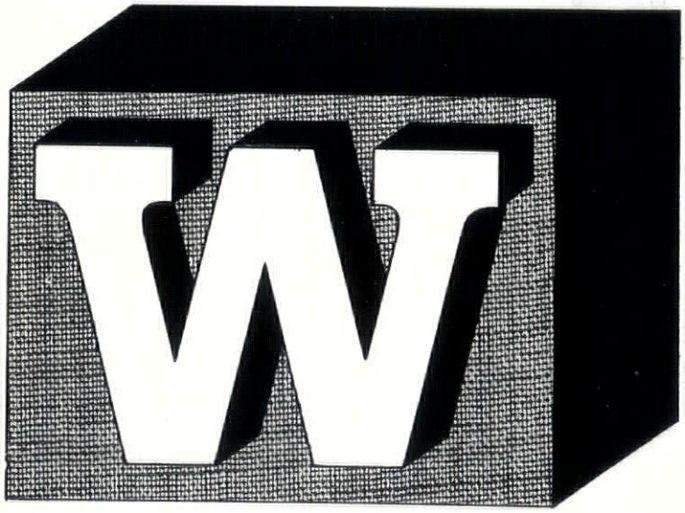












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The fabrics (reading from the top) are called 'Xanadu', 'Fisherman's tale' (left), 'Threnody' (right), 'Hepplewhite'.

EDINBURGH WEAVERS

ONE OF THE SPECIALIST BRANCHES OF MORTON SUNDOUR FABRICS LTD.

continued from page 218]

Synchronome Co. *Hand power lifts:* Waygood Otis Ltd. *Window frames, roof lights, glazing:* Williams & Williams Ltd. *Wood flooring:* Vigers Ltd. *Wilton carpet:* Vineys of Abingdon. *Emulsion paints:* Vitretex (England) Ltd. *Oil paints:* International Paints Ltd. *Sanitary fittings:* Adamsez Ltd. *Louvres:* F. H. Biddle Ltd. *Postal box, baffle plates:* Birmingham Guild Ltd. *Gates:* Boulton & Paul Ltd. *Enquiry desk cill, flower box, slate slabs:* Bow Slate & Enamel Co. *Louvred vents, balustrading and hand rails:* Clark Hunt & Co. *Broadcrete columns:* Concrete Utilities Ltd. *Electrical fittings:* Courtney, Pope (Electrical) Ltd. *Fluorescent fittings, louvred panel:* Ekco-Ensign Electric Ltd. *Marble paving:* Fenning & Co. *Lightning conductor:* W. J. Furse Ltd. *Electrical fittings, fluorescent lanterns:* General Electric Co. *Stainless steel grip handles:* James Gibbons Ltd. *Lightning fittings:* Hartley Electromotives Ltd. *Purbeck stone:* W. J. Haysom. *Roof lights:* Hills (West Bromwich) Ltd. *Electrical fittings:* Hume, Atkins & Co. *Fibre underfloor ducts, telephone pedestals:* Key Engineering Co. *Loft ladder:* Loft Ladders Ltd. *Electrical fittings:* The Merchant Adventurers Ltd. *Ironmongery:* Mountford Bros. Ltd. *Glass domes:* Seddon & Sons (St. Helens) Ltd. *Coat hangers and framework:* James Sieber Equipment Co. *Electric toilet incinerators:* Stitsons Sanitary Fittings Ltd. *Special chimney bricks:* Swanage Brick & Tile Co. *Electrical fittings:* Troughton & Young (Lighting) Ltd. *Mats:* Tyre Products Ltd. *Extract units weather cowls:* Vent-Axia Ltd. *Soap dispensers:* Waddington & Duval Ltd. *Partition units:* Yelverton Dawbarn Bros. Ltd. *Vitroslab:* Plyglass Ltd. *Acoustic ceiling panels:* Celotex Ltd.

Research Laboratories and Workshops at Wythenshawe, Manchester. *Architects:* Cruickshank & Seward. *General contractors:* R. Costain & Sons (Liverpool). *Sub-contractors: structural steelwork:* Henry Smith (Constructional Eng.) Ltd. *Reinforced concrete floors, flat roofs, staircases, etc.:* Matthews & Mumby Ltd. *Metal windows:* Doodson & Bain Ltd. *Rood glazing:* Mellowes Ltd. *Heating and ventilation:* Brightside Foundry & Engineering Co. *Electrical installation:* T. Clarke & Co. *Wood block floors:* Hollis Bros. Ltd. *Granolithic floors:* The Johnson Flooring Co. *Terrazzo paving:* Conways Ltd. *Wall and floor tiling:* Beaumonts (Manchester) Ltd. *Internal partitions:* R. Costain & Sons. *Metal partitions:* Roneo Ltd. *Rolling shutters:* Mather & Platt Ltd. *Goods lift:* Etchells, Congdon & Muir Ltd. *Asphalt roof covering:* The Limmer & Trinidad Lake Asphalt Co. *Balustrades and handrails:* Brookes & Co. (1925) Ltd. *Reconstructed stone:* Girlings Ferro-concrete Co. *Kitchen equipment:* General Electric Co. *Fire equipment:* Charles Winn & Co. and John Morris Ltd. *Facing bricks:* Blockleys Ltd. *Paint:* Donald MacPherson & Co. *Sanitary fittings:* Shanks & Co. *Metal roof decking:* The Ruberoid Co. *Lightning conductors:* John Faulkner & Sons. *Ironmongery:* James Gibbons Ltd.

Primary School at Enfield. *County architect:* C. G. Stillman. *Assistant architect:* J. P. Kenna. *General contractors:* Townsend & Collins. *Sub-contractors: heating and hot water installations:* William Freer, Ltd. *Electrical installation:* Grierson, Ltd. *Sanitary fittings:* Stitsons Sanitary Fittings Ltd. *Facing bricks:* Henry J. Greenham (1929) Ltd. *Paint:* Hadfields (Merton) Ltd. *Structural steelwork:* Smith Walker, Ltd. *Glass domes:* R. Seddon & Sons (St. Helens). *Wood block flooring:* Vigers Bros. *Felt roofing:* The Rubberoid Co. *Ironmongery:* Nettlefold & Moser, Ltd. *W.C. partitions:* Mosaic & Terrazzo Precast Co. (Staines). *Reinforced concrete work:* Indented Bar & Concrete Engineering Co. *Metal windows:* Crittall Manufacturing Co. *Ventilators:* Colt Ventilation Ltd. *Playgrounds:* G. Skinner & Sons. *Cloakroom fittings:* Walter Lawrence & Son. *Entrance gates and metal balustrade to staircases:* Clark Hunt & Co. *Suspended ceilings:* Tentest Fibre Board Co. *Sliding doors and timber balustrade to Infants' assembly hall stage:* A. E. Lindsey & Son. *Accotile flooring:* Rowan & Boden Ltd. *Asphalte tanking:* Permanite Ltd. *Joinery:* R. Cattle Ltd.

Police Station at Oxhey. *County architect:* C. H. Aslin. *Architect in charge:* J. M. Pyper. *General contractors:* Harry Neal Ltd. *Sub-contractors: asphalt:* Asphaltic (London) Ltd. *Reinforced concrete:* Siegwart Floor Co. *Bricks:* Eastwoods Sales Ltd.; Uxbridge Flint Brick Co. *Artificial stone:* Girlings Ferro-Concrete Co. *Roofing felt:* D. Anderson & Son. *Patent tile:* Camden Tile & Mosaic Co. and Hollis Bros. Ltd. *Central heating:* H. G. Gibbons & Sons. *Gasfitting:* Eastern Gas Board. *Electric wiring:* George R. Clay Ltd. *Sanitary fittings:* B. Finch & Co. *Door and window furniture:* Nettleford & Moser Ltd. *Rolling shutters:* Thornborough & Son (Manchester). *Sunblinds:* Waller Palladium Co. *Metalwork:* Clark, Hunt & Co. *Windows:* Henry Norris & Son. *Cranes:* R. C. Gibbons & Co. *Water supply:* Colne Valley Water Co. *Signs:* Falcon Signs Ltd.

Corrections

Secondary School at Lewisham: *Architects,* Clayton & Black & Daviel, January issue. The sub-contractor for *Wood block floors* should read Messrs. Hollis Bros., not the Granwood Flooring Co.

Flats in Holford Square, Finsbury: *Architects,* Skinner, Bailey and Lubetkin, February issue. The following should be added to the list of sub-contractors, *Paints:* Duresco.



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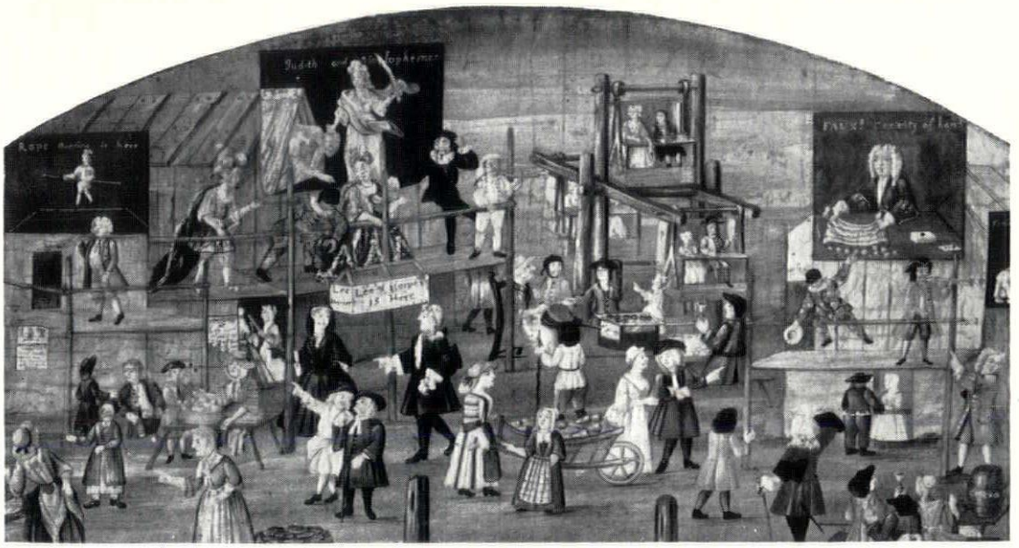
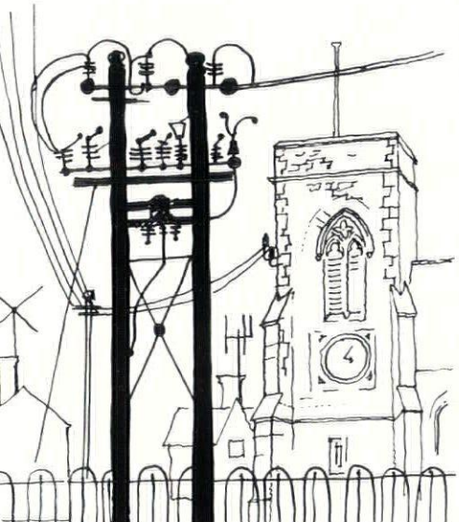
MARGINALIA

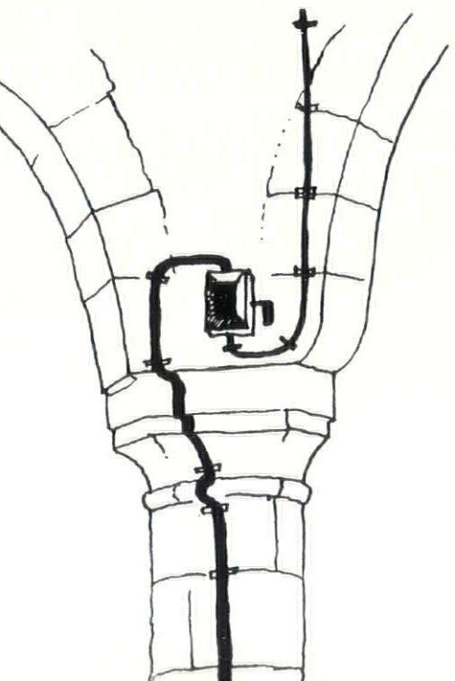


EIGHTEENTH CENTURY DRAWINGS: The companion exhibition to the Royal Academy's Eighteenth Century Art, at the British Museum, gives a particularly good idea of the complexities of that century. The drawings and prints on view range from Watteau and Fragonard to Piranesi and Despres; above is part of a painted fan by Loggan depicting St. Bartholomew's Fair. The picturesque tour is fully illustrated, landscapes by Cozens, townscapes by John "Warwick" Smith and Francis Town, ruins by Fragonard and Vivant Denon's drawings of Egypt—the first archaeologically correct ones. The first "mass produced" coloured prints and early mezzotints show the new experiments in the graphic arts which took place in the eighteenth century. For the Piranesi expert, incidentally, there is a nice pitfall: a drawing with a caption "Idea secondo l'abuso che i Romani han fatto delle maniere Grecche". That Piranesi should have thought the Greek manner superior to the Roman contradicts all we know about the master's attitude. However, the writing is not his. Did an enemy put these words on? And, if so, who? The exhibition is open until late autumn, though that at the Royal Academy closed at the end of February.

Church Wiring

Bringing electric power into historic ructures is a design-task which even at the rely structural and mechanical level calls r discretion and ingenuity, while on the sthetic plane the risks are even greater. ot only can the conduits and ancillary uipment disfigure the structure in detail, t the sudden flood of new light in strange aces is more likely to produce disasters than velations, unless its sources are placed, d its directions governed, by imagination d visual sensibility. For this reason the firm idance laid down in the reissue of the first a series of pamphlets by the Central Council r the Care of Churches, entitled *The Instal- ion of Electricity in Churches*, is to be doubly elcomed, firstly because it insists on the chitect's part in such work, and secondly





because it drives home its points with the aid of Messrs. Betjeman and Piper. The former's poem *Too Hard and Too Bright* is reprinted entire, including its famous apostrophe upon electricians:

> Talking of messes—you should see
> The electrician's artistry,
> Our Clapham-junction-like creation
> Of pipes and wires and insulation,
> Of meters, boxes, tubes and all
> Upon our ancient painted wall.

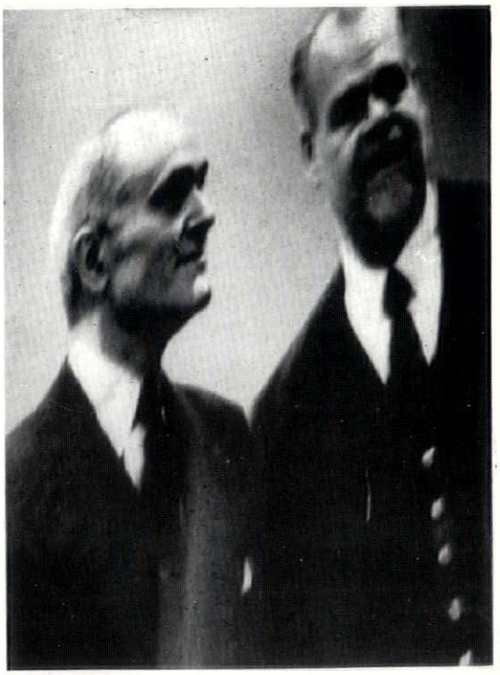
and this message is underlined by John Piper drawings 'from authentic examples in Buckinghamshire' which illustrate not only the Offense General, 1, but also the Affront Particular, 2, a select example of the ruination which can be wrought by unthinking adherence to standard practice.

It seems probable that the main body of electrical damage to church architecture has already been done, but there are still a fair number of churches awaiting electrification, and a general study of this informed and informative booklet should eliminate further offense, even if it cannot ensure the application of those qualities of imagination and sensibility which are also required.

Experimental Margins

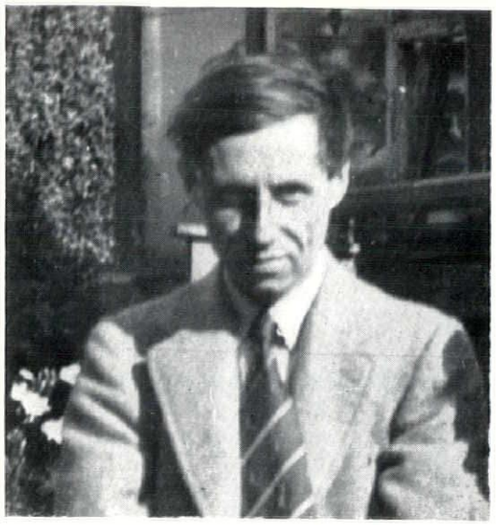
Print, the American magazine, is in its ninth volume now. The most recent number has a cover by Ben Shahn and a feature called 'Beyond Words' in which Ben Shahn and several other artists explore the experimental margins of letter forms. There is in this feature, needless to say, an illustration of one of Steinberg's imaginary letters. The other contributions are no less stimulating. At the end of the number is an admirable 'selection of whatnots from the desk of Leo Leonni,' the newly appointed co-editor. This contains bits of lettering from the sophisticated to the utterly unsophisticated. The whole number is in striking contrast to the papers on printing and typography in this country.

Architects in this issue

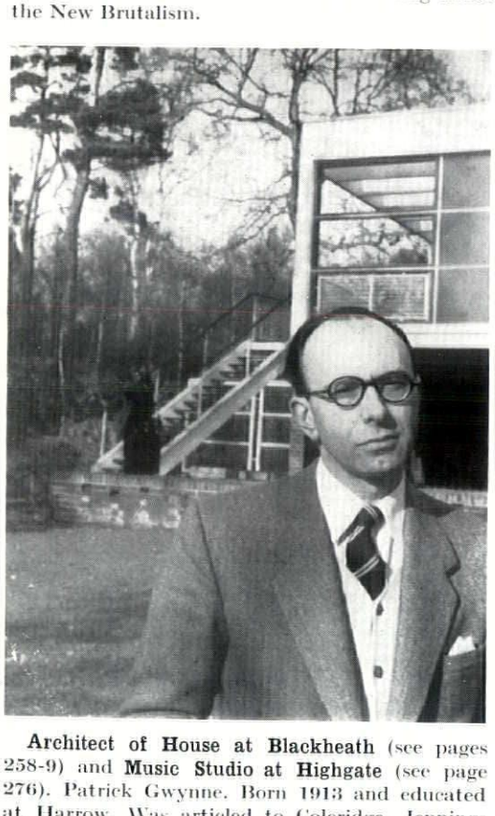


Philip Johnson (above left) a critique of whose work by Henry-Russell Hitchcock (above right) appears on pages 236-247. For a description of "stressed photography" of which this is an example, see A.R. February, 1952, Italian Scrapbook, footnote to caption on page 83.

Architect of House at Lytham (see pages 257-8), and Music Room at Grindleton (see page 275). Tom Mellor was born in Lancashire in 1914. Trained at Liverpool and worked for W. G. Holford, then in Liverpool City Architect's Office. Later became



member of the Grenfell Baines Group. Started own practice in 1949. Married with two children. Lives in house designed by himself. Likes drawing, peace (non-political), romantic scenery, East Lancashire and caves. Dislikes television and reading about the New Brutalism.



Architect of House at Blackheath (see pages 258-9) and **Music Studio at Highgate** (see page 276). Patrick Gwynne. Born 1913 and educated at Harrow. Was articled to Coleridge, Jennings and Soimenow and then with Wells Coates for five years until starting own practice in 1939, when he shared an office with Denys Lasdun and the late Edric Neel. Was in the RAF from 1940 to 1945. Now uses his house outside Esher as an office. His post-war work includes shops for EMG Gramophones, Freeman, Hardy & Willis, and the Festival Gardens, together with various conversions, interiors and furniture designs.

CORRESPONDENCE

The City of Man

To the Editors,

THE ARCHITECTURAL REVIEW

SIRS,—Since most of your readers are vitally concerned with the subject under discussion, the point of view expressed by Sylvia Crowe in her review of my book *The City of Man* (AR, February, 1955) may be worth a short comment. Miss Crowe argues: (1) '. . . it is true that the Renaissance combination of architect, painter and sculptor produced civic groups which we cannot equal today.' (2) '. . . it is surely unjust to accuse the moderns of forgetting history and seeking novelty for novelty's sake. They are forced to find new forms to meet new problems, not the least of which is that of satisfying a regard for the welfare of the individual, a problem which was unthought of in the days of the grand manner.' The answer to (1) is, simply, we can and we must. On (2) and its corollaries I would say this:

It is not unjust to accuse 'the Moderns' of forgetting history and seeking novelty for novelty's sake. These are two chinks in the armour which the arrow has already penetrated. For one thing, modern architecture has built on a tradition not fully understood. This is the 'rational' tradition of Viollet-le-Duc, the first critic to use the terms 'organism' and 'organic,' the first architect to elevate structure and function above art, and the father of the 'scientific' approach to architectural esthetics. His principles have been followed through Anatole de Beaudot, pupil of Viollet-de-Duc, Loos, Wright and Le Corbusier. One would think that in England, of all places, the thin thread would have snapped by that time, especially after the publication of John Summerson's excellent analysis in *Heavenly Mansions*. (A more recent article, 'Viollet-le-Duc and the USA,' by Henry Hope Reed in *Liturgical Arts*, November, 1954, traces the movement into this country.) Indeed, the pursuit of originality was also an aim of the French restorer. 'Train your judgment, learn to reason, and you will perhaps come to be new,' he said. This is all part of the tailings of the Romantic movement, for Viollet-le-Duc's rationalism bears no relation to the philosophical rationalism of the Age of Reason. One would think that architects today might be questioning this particular tradition, 'so low in the scale, so unhopeful for future creation' . . . after all, there are much nobler ones. But unfortunately for many it has become a vested interest.

A contemporary architect cannot find new forms to meet new problems without considering the past, because architecture is an art, which engineering, which *has* produced new forms, is not. New functions, yes. There are no new forms in art which are not born in bastardy.

No sensible person (least of all me) has said we should copy the past. As Albert Guerard, the Harvard critic, pointed out in a review of my book in *The Nation*, there is a world of difference between the return to ancient styles and the preservation of a spirit. This spirit has never overlooked the welfare of the individual. Miss Crowe can be reassured on this by going back to the works of the great Renaissance humanist Alberti, or, if she is concerned about wicked old France, she might try J. F. Blondel.

Yours, etc.,

CHRISTOPHER TUNNARD,

Director, Yale University.

[*Miss Sylvia Crowe, who reviewed the book in question, writes: I should expect Mr. Tunnard to agree with point one as a statement of present fact. Is there a modern square to equal the Piazza San Marco?*

I certainly agree with this "can and must" as a hope for the future.

On the question of the new problems raised by the welfare of the individual, I referred to the demands of society rather than the outlook of the individual architect. Whatever Blondel's theories, his client, the King of France, did not demand that the meanest of his subjects should be provided with roads and buildings to meet the complex standard of living 'common man' requires to-day. It is surely scale complexity of our present urban ne has weighted the balance in favour of fur made it desirable, if not inevitable, to architecture which works from the inside o

Intelligence

The Professorship of Fine Arts, Cambr be taken over by Alan Clutton-Brock— painter—from Professor Nikolaus Pev post is held for a period of three years.

The Minister of Works has appointe de Normann to be Chairman of the Monuments Board for England in succes Right Hon. Lord Harlech.

Preview Issue

The design by Messrs. Yorke, Ros Marshall, illustated on page 27, of the Janu is not now being used in connection with of flats about to be erected in Manor Roa mouth.

Art Nouveau

In the article *The English Origin Nouveau* by Robert Schmutzler (Febru illustration 24 by Christopher Dresser is *The Grammar of Ornament* (1856) *Principles of Ornamental Design* (1873). I 21 is from *The Grammar of Ornament*. Bu most of the plates to this book are by O himself, this particular one was contri Christopher Dresser.

ACKNOWLEDGMENTS

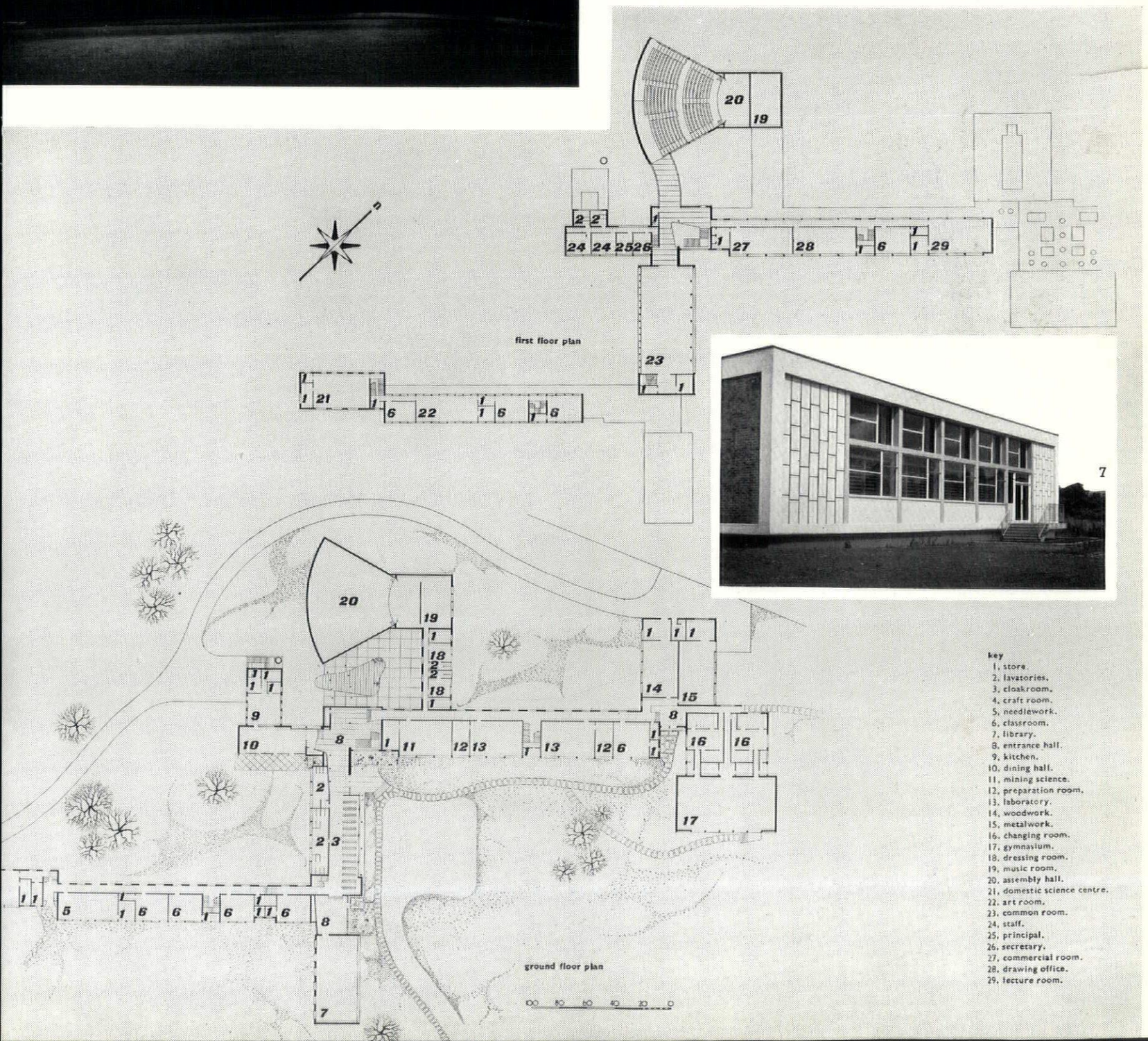
COVER: Eric de Mare. MARGINALIA, John R. Freeman & Co. FRONTIS: Autocourse. THREE SCHOOLS, pages Alfred Cracknell. PHILIP JOHNSON, pages Frontis, Gottscho-Schleisner; A: Georges, Ezra Stoller; B: Ezra Stoller George M. Cushing, Jnr. 2; C, D: Ezr E: Ezra Stoller, Alexandre Georges; F. Stoller; H: Reynolds; I: Gottscho-S Robert Damora; J: Alexandre Georges Schnall; M: Ezra Stoller. FORESTRY, pages Frontis: 1, Robert M. Adam; 3, K. G. Arphot; Nos. 7, 8, 11, 14, 18: K. G. Brown No. 8: Sylvia Crowe; No. 10: Ian Nairn No. 13: Forestry Commission; Nos. 12, Oldham; Nos. 22, 23: *Picture Post*. H TWICKENHAM, pages 255–257: Peter Pit AT LYTHAM ST. ANNE'S, pages 257–258: Renninson. HOUSE AT BLACKHEATH, pa 259: Wainwright. LORD GRIMTHORPE, p 266: Frontis, Mrs. P. Bicknell, National Record; page 261: N.B.R.; page 26 Precision Ltd.; page 265: Gerald Cobb CURRENT ARCHITECTURE, pages 267–268 Room at Potter Street: Galwey, Arpho Office at Thornton Heath: M.o.W. Mis pages 269–272. Exhibitions: 1, Leslie Partners; 2, Cooper; 3, R. B. Fleming Galerie Maeght; 6, Hanover Gallery. T. J. McCormick, Jnr. Lettering: Nos. Ernst Scheidegger; Nos. 5, 8, 9, 11, 12: Arphot; No. 6: I. de Wolfe, Arphot; N Galwey, Arphot. SKILL, pages 275–27 Room at Grindleton: Peter T. Renninso Room at Highgate: Wainwright. Design Woolland's New Department, Nos. 1, 3, 9, 10: Toomey, Arphot; Nos. 2, 5: Henr Chrysaline Lamp shade: H. J. Hare & S papers: John R. Pantlin. Double Glazi Pitt. Logan. Toomey, Arphot.





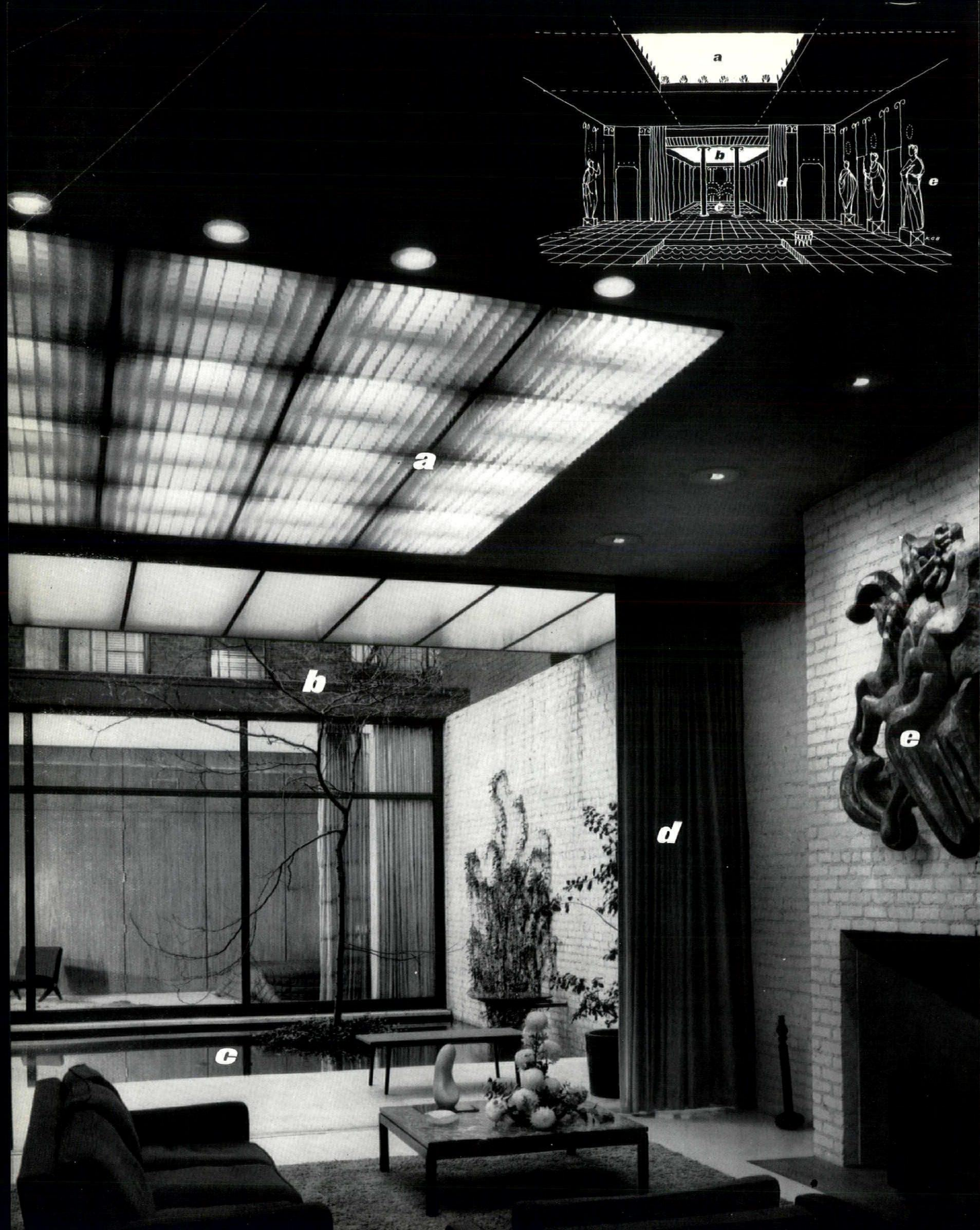
6

5, the main entrance and the common-room wing at night.
6, the dining hall from the south-east, 7, the gymnasium.



7

key
1, store.
2, lavatories.
3, cloakroom.
4, craft room.
5, needlework.
6, classroom.
7, library.
8, entrance hall.
9, kitchen.
10, dining hall.
11, mining science.
12, preparation room.
13, laboratory.
14, woodwork.
15, metalwork.
16, changing room.
17, gymnasium.
18, dressing room.
19, music room.
20, assembly hall.
21, domestic science centre.
22, art room.
23, common room.
24, staff.
25, principal.
26, secretary.
27, commercial room.
28, drawing office.
29, lecture room.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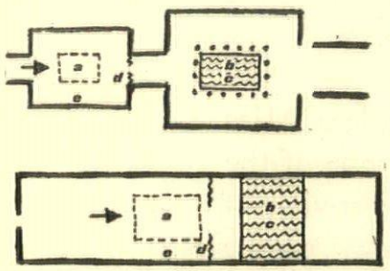
Philip Johnson's classicist leanings, mentioned by Professor Hitchcock in the article on the next page, occasionally produce coincidental resemblances to classical prototypes, even without conscious imitation. Thus the Rockefeller House, opposite, shares an almost identical planning discipline with the House of Pansa, in Pompeii, inset. From under a rectangular light-source, a, and flanked by wall sculpture, e, the space flows out between curtains, d, which act as coulisses to the vista, into an open area, b, with a pool, c. Comparison of the plans, (top, House of Pansa, bottom, Rockefeller House), will show the underlying similarity, over-riding detail differences, of these two well-made developments of narrow urban house-lots.



PHILIP JOHNSON

In a field of activity so overwhelmingly professional as architecture today, and American architecture in particular, the appearance of an amateur—in the original sense of a lover of the art—is an event to be noticed and to be studied. Philip Johnson must be almost unique among the architects of this century in having followed a course of development which can only be paralleled among the gentlemen-connoisseurs of the English Palladian revival—Lords Burlington and Pembroke, for example—in having entered the field as an appreciator of the art, became a publicist of its virtues, and then progressed from preaching to practice, establishing himself in the front rank of the professionals.

Inevitably this approach, so much at variance with the formation of his contemporaries, has made him difficult for some to understand, and the commonest reproaches which his work offered—eclectic, academic—all reflect an uneasy awareness that he is as much involved with questions of style, *conscious* style, as were the Palladians with the equally suspected question of the cultivation of taste. Yet he and Henry-Russell Hitchcock, who writes the appreciation of Johnson which appears below, have probably done more for the psychological stability of the Modern Movement than any other writers, by their very use of that suspect word, as it appears in the title of their celebrated book *The International Style*.

The adoption of this phrase assured modern architects that they had a place in the world —International—and that their work had a recognizable physiognomy—a Style, and Philip Johnson's personal sensibility to these two facts has given him a special place in the rise of modern American architecture. For he, by his long directorship of the architecture section of the Museum of Modern Art, has been the constant means by which European

ideas and the European Classical tradition—something older and more profound than the recipes of the Beaux-Arts—have entered the American mind. When, therefore, he left the field of connoisseurship for that of action his choice of stylistic models from among the dazzling selection of great international professionals of whom he was, so to speak, the American representative, was bound to be of acute interest.

When his glass house in New Canaan made his primary devotion to the example of Mies van der Rohe unmistakable, it set off reverberations which may yet make it one of the most significant critical choices of the mid-century, for it did more than affect our view of the discrimination of Philip Johnson as connoisseur, it also affected our view of the architectural potentialities of the practices of Mies himself. Now they are to collaborate, professional and amateur, on the new Seagram building in New York—a partnership which does honour to both.

But how does such a man—different in training and attitude from the great majority of practising architects—how does he work and think, and above all, how is his architectural achievement to be evaluated? In the article which begins below, his old collaborator, Professor Hitchcock, sets out his own estimate of the creative personality of Philip Johnson as a practising designer, and among the illustrations that follow Philip Johnson has chosen certain key points in Professor Hitchcock's commentary at which to comment himself.

Henry-Russell Hitchcock

'The architects of the period between 1902 and 1939 created—on an international basis, from many sources, and for the first time since the Baroque Age—a new synthesis of freedom and order in design. We, as individuals, should be able to appreciate the integral order of Mies, the spatial continuities of Wright and the sculptural tumults of Le Corbusier. If we cannot do so, it should be a sign of limitations in us, not of a "rightness" or "wrongness" in the expressions themselves. . . .'

Vincent Scully, writing last September the above in answer to critics of his article in the March, 1954, *Art News*, in which he had discussed cross-influences between Wright and the European modern architects of the succeeding generation, had in mind not architects so much as those who write about architecture or merely observe it. Since Philip Johnson was a critic of architecture long before he became an architect himself, thus reversing the more usual sequence, the publications and the exhibitions for which he was responsible from 1932 on at the Museum of Modern Art in New York make evident that he suffers from no such limitations. His authorship of the monograph on *Mies van der Rohe*, published by the Museum of Modern Art in 1947, the principal source of information on Mies's work and theories, has made Johnson in some sense an official spokesman for Mies, an architectural leader notably less articulate than Wright or Le Corbusier. But Johnson actually knows and admires the work of the other leaders as intimately as that of Mies and has no inclination to adjudge their work as 'wrong' and only that of Mies as 'right,' however much he may be temperamentally most in accord with Mies. The qualities which may be crudely described as 'classicism' and 'asceticism' in current architecture are clearly common to Johnson's work and to that of Mies.

It is natural to consider Johnson's work in terms of his own second house in New Canaan, Connecticut, of five years ago (C),* because that has been most frequently visited and most heavily publicized. But the median of his attainment in the field of domestic architecture—where, as with so many younger American architects, the greater part of his production lies—is perhaps better illustrated by his Oneto house (A).

As regards the Glass House itself, of which the admitted prototype was Mies's original project for the Farnsworth house in Plano, Illinois, comparison with the executed Farnsworth house indicates many differences of approach. The Johnson house is more classic, particularly the solid brick guest block, but it is also freer. For one thing, the house is not a single unit but two independent pavilions, one very open, the other very closed, placed in subtle relation to one another on a flat lawn. For another thing, to consider the glazed pavilion alone, its four axially placed doors allow free egress to the surrounding grassed terrace on all sides; and in summer the terrace, with a swimming pool now included among its amenities, becomes, in the habitual American way, far more the actual living area than that small portion of the flat which is roofed and glazed. Different also is the markedly asymmetric subdivision of the interior, with the strong and solid vertical of the brick bathroom cylinder and the ranges of cabinets which isolate as much as would any wall the sleeping area.

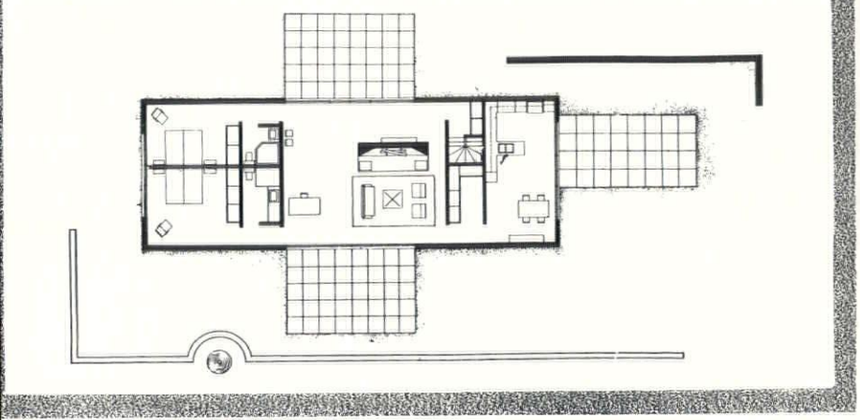
* Letters refer to illustrations on pages 239 to 246.

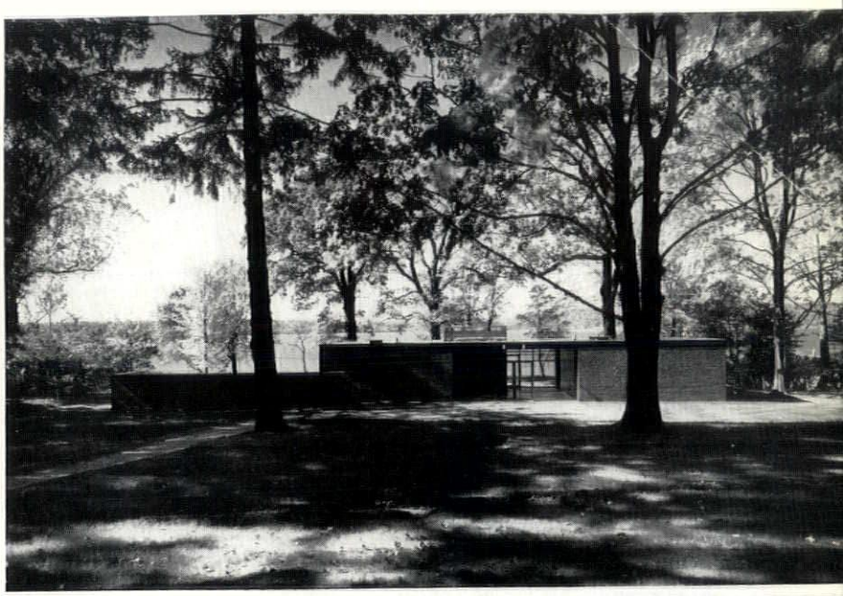
[*continued on page 247*

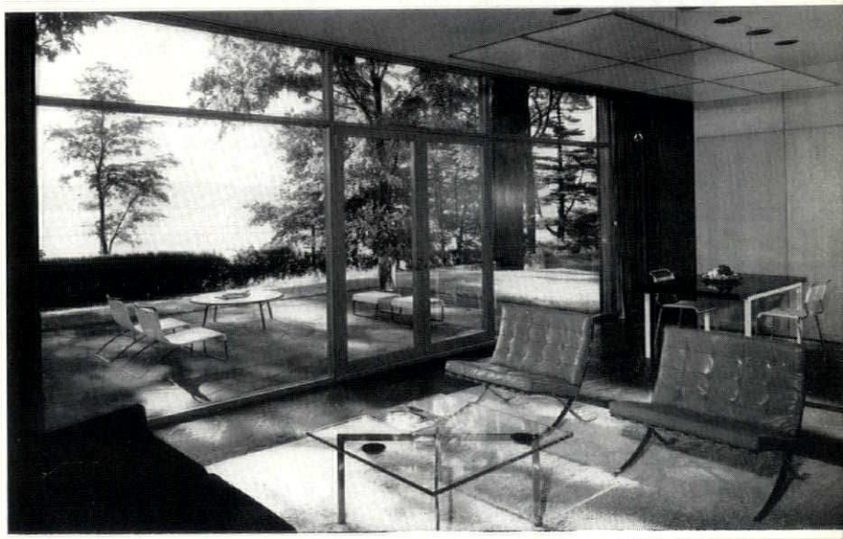
On this and the following pages are thirteen of Philip Johnson's buildings, either completed or in course of erection, lettered A to M. They include not only houses of the type which has won him international acclaim and prizes, but also two office buildings and a synagogue. All are described by Professor Hitchcock, but to E, J, L, and M the architect has added his own comments.

A

Oneto House
Irvington-on-the-Hudson, N.Y., 1952



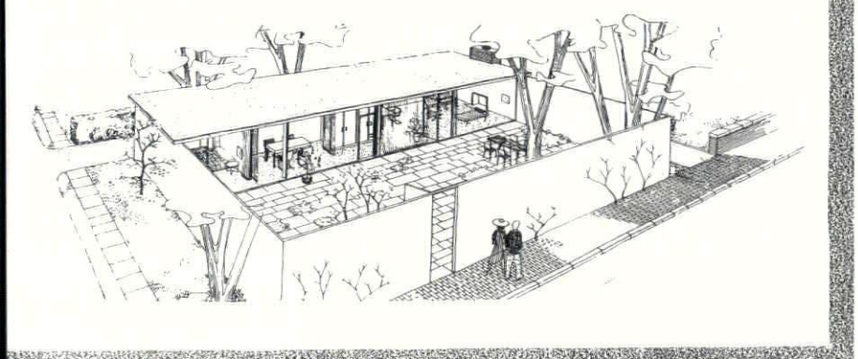


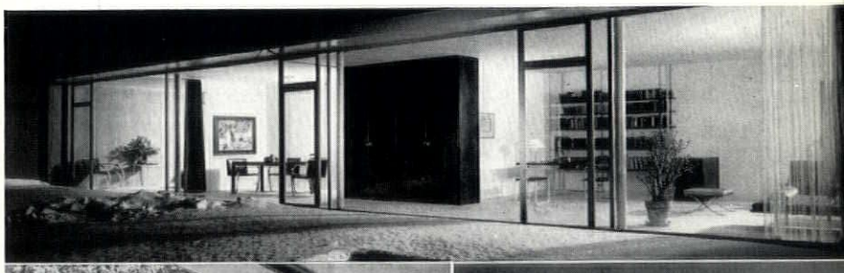


A house of moderate size on a riverside site under fine old trees. Compactly planned, the chimney screens the entrance from the main living area. Contrary to general American practice today, the eating area is not included in the living area but is joined with the kitchen which has its own protected terrace to the south. From the east the house appears rather enclosed, despite the wide central glass area, but the solidity of the brick box is eased by the free-standing L-shaped wall to the left. On the west the grassed terrace serves as the principal summer living area and its low retaining wall provides a sort of stylobate below the long, low block of the house. With its serene forms and warm colour the house makes a vigorous human statement beneath the majestic trees, its plain walls dappled and enriched by the sunlight filtering through the branches. Inside, the materials are handled in a fully architectural rather than a decorative way, but the relatively tall proportions and the regular shapes produce a setting of great dignity whose severity is nonetheless warm and human.

B

Ash Street House
Cambridge, Massachusetts, 1942





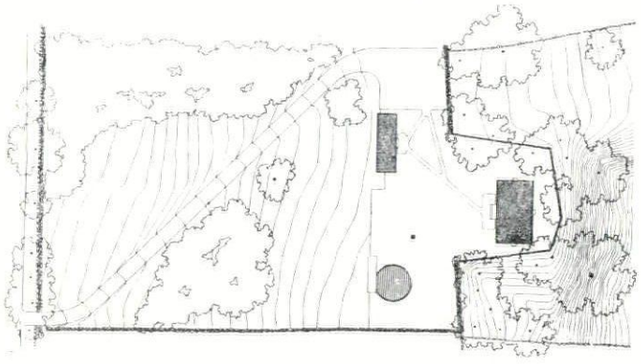


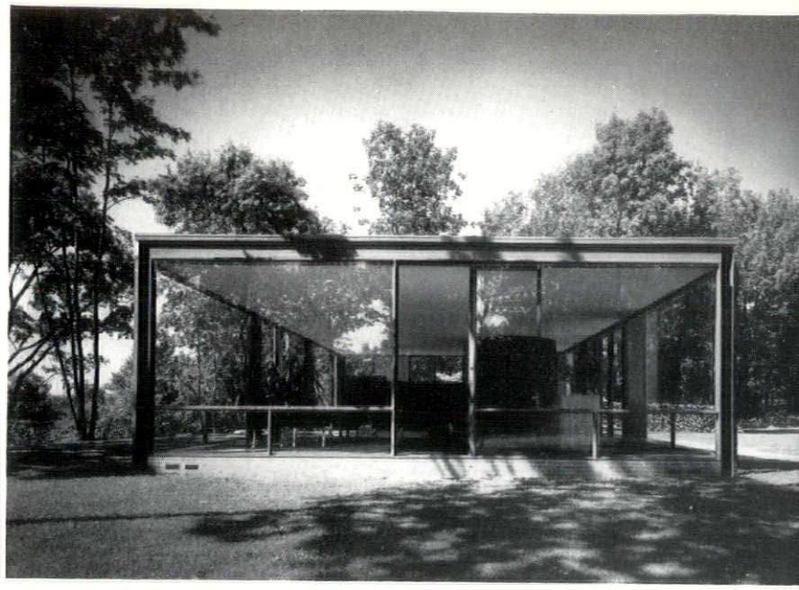


Architects' first works are often more revelatory of their training than of the direction their mature work will take. Not so this small house built on a restricted suburban lot. The tall court wall, set at the pavement line, makes almost the entire site available as protected outdoor living space. The plan is somewhat undistinguished in its spatial distribution and the combed plywood walls lack the solidity of the later masonry houses; but the classic order of the post-war work is already clearly foreshadowed.

C

Glass House
New Canaan, Connecticut, 1949





The architect's own house in the Connecticut countryside some 40 miles from New York is the best known of his works. The emphasis generally given in descriptions and in illustrations to the main, completely glazed pavilion has tended to obscure the dominating concept. Two pavilions, one wholly open, the other almost wholly closed, are set on a wide but irregular shelf of flat lawn; the site plan is still further elaborated by the large Lipchitz statue in between and, just lately, by the circular swimming pool beyond.*

The separate pavilion plans reveal the more than Palladian formality of the organization of the structural elements as well as the boldly asymmetrical articulation of the unified space within the glazed pavilion by cupboards of different heights and the circular brick bathroom. As the interior view shows, the formal placing of the furniture and the definition of the main living area by the large off-white rug on the waxed brick floor play an almost equally important part in the spatial organization.

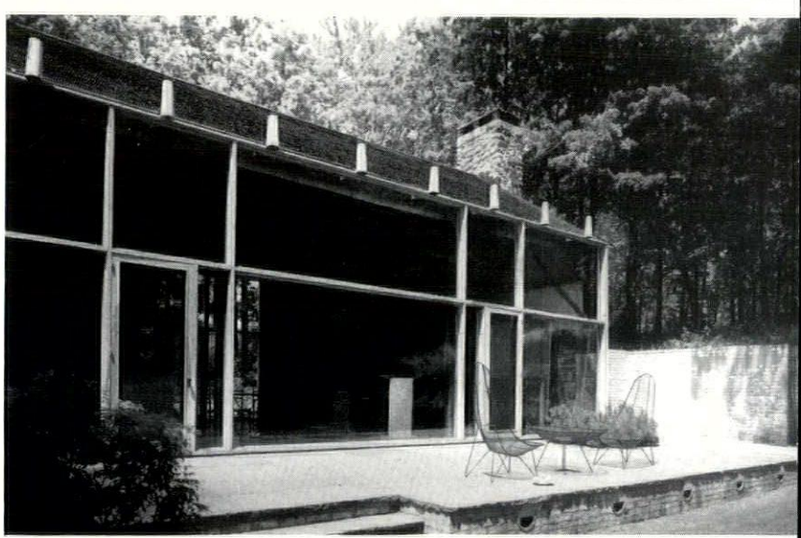
The elegance of the welded steel frame—an elegance purely of this century—is balanced by the more traditional craftsmanship of the brick-faced walls laid in Flemish bond. By day and by night also, because of the elaborate outdoor lighting, the surrounding trees, thinned from the original forest to reveal their individual shapes, provide a major part of the visual interest. In a special sense this is 'landscape architecture' since one is generally more aware of the surrounding landscape than of the structure of the sheltering pavilion, almost as if one were under a marquee with no sides to it at all. In the warmer months the terrace at the cliff's edge becomes the living area, the pavilion itself but a backdrop. At night, the swimming pool with its blue water lit from below, forms a striking element in the landscape picture against the warmer colours of the floodlit trees.

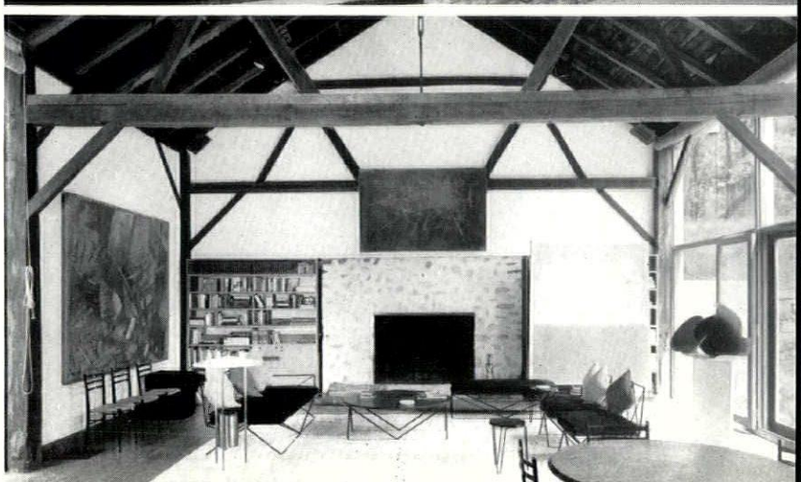
* *See AR, September,* 1950.

D

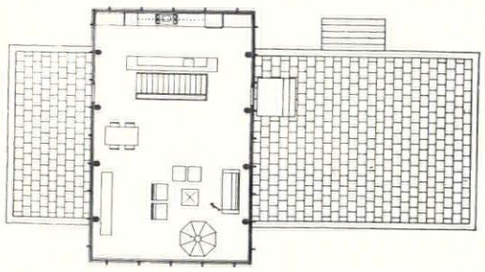
Tremaine Barn
Madison, Connecticut, 1952

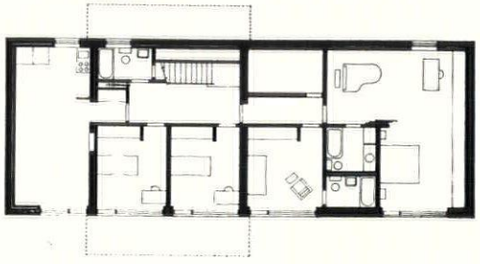
In comparison with the machine-made precision of the Glass House this remodelled barn is especially interesting. In glazing the south wall Johnson accepted the irregular spacing of the original timber framework and yet subtly adjusted his mullions in a way that suggests order and even symmetry. The roughness of the structural framework and of the existing field stone fireplaces was likewise accepted even though the new wooden sash and plaster work were smoothly and precisely finished. As at the Glass House, external lighting on the glass wall and in the woods beyond is extremely important to the total effect when the barn is used in the evening as a subsidiary entertainment area.





Wiley House
New Canaan, Connecticut, 1943





In this lately built house, the glazed block and the solid block of the Glass House have been brought together. The open pavilion, in this case framed in wood rather than metal, is placed across the solid block of rubble masonry which appears, from the entrance side, as no more than the base of the open terrace.

Conceptually there is here, however, an even sharper separation between the living areas that welcome the outside world—the lawn with its pool, the terrace on top of the masonry block, the open living room pavilion—and the private areas for more intimate family use below. The public is really not meant to see the rear where the wide windows of the private rooms, each with its own door, break the solidity of the rubble base in a fashion that somewhat contradicts the impression offered on the entrance front of an open glazed cage set across a low masonry podium. In the interior the flat hanging plane of the ceiling lends serenity to the unusually high-proportioned space while the complex articulation of the structural framework echoes in the structural language of timber the more machine-like forms of welded steel as used at the Glass House.

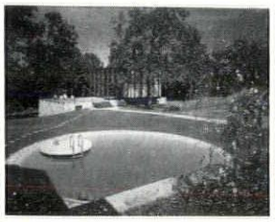
Philip Johnson writes:

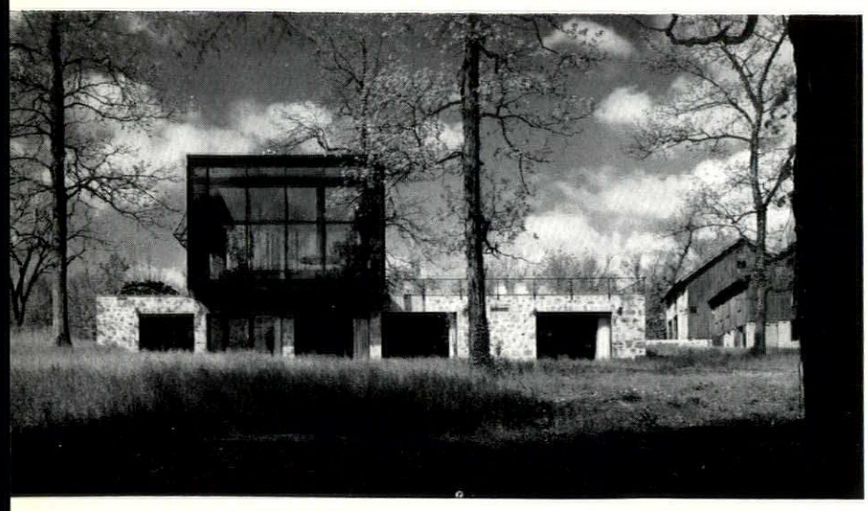
'One more attempt to reconcile the (perhaps) irreconcilable: Modern architectural purity and the requirements of living American families. Why can't people learn to live in the windowless spheres of Ledoux or the pure glass prisms of Mies van der Rohe? No, they need a place for Junior to practise the piano while Mother plays bridge with her neighbours; they need a representational Victorian parlour where they never meet except to entertain. What kind of form I ask you can an artist bring forth with these crowded commitments to consider? F. Ll. W. does not succeed, brilliant as are his attempts; the children still play on the balconies of his living room. Open planning indeed! Le Corbusier—no better. (Study for two and a-half minutes













the bedroom planning of the beautiful Savoye house.)

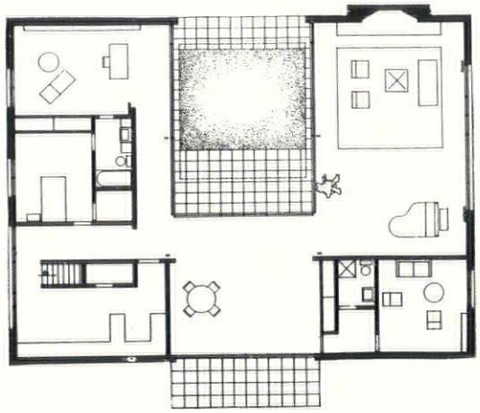
'One answer might be a retreat to the design of undifferentiated spaces—a series or a suite of rooms as in the eighteenth century; some sitting, some sleeping, etc., but it does not satisfy today; we still seem to want a bigger living room than sleeping room. We do not need to be as differentiated as the late nineteenth century with its billiard room, drawing room, dining room, breakfast room, etc., but, unfortunately, we can't yet, en famille at least, sleep in the public area. The practice of sexual intercourse makes this Utopia a totally impractical one.

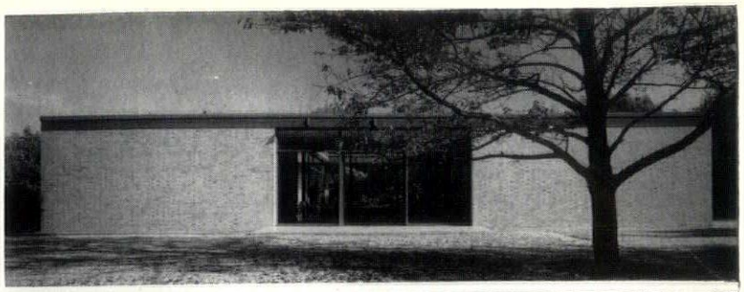
'The Wiley house 'solution' of putting private functions below in a sort of podium to the 15 foot ceilinged public pavilion gives the architect great freedom. The client can design downstairs as he pleases. Mr. Wiley added 6 feet on the playroom while the house was under construction injuring the proportions not in the slightest. The architect can design the pavilion above.

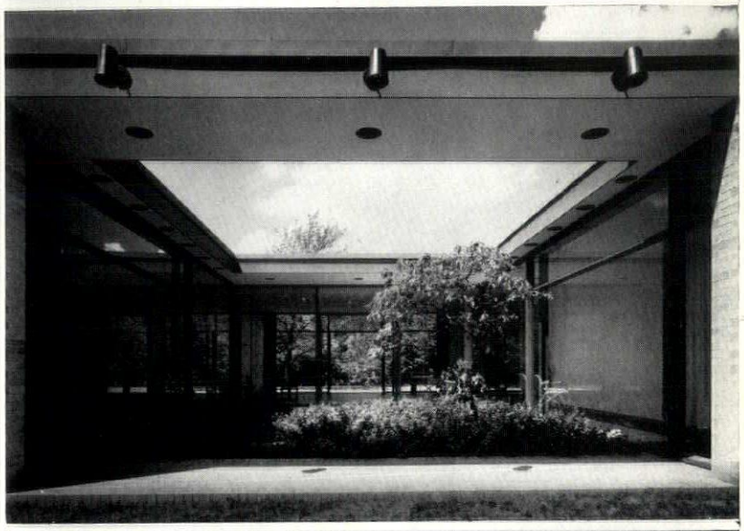
'The high glass pavilion is framed in laminated timber, and all the window frames are timber stained dark. The effect from inside—quite opposite of my glass house—is that of a cage. No indoor-outdoor nonsense. The 15 foot ceilings free the view into the high hickories that surround the house which at night makes fantastic white traceries against the black sky. Note: the fireplace —an experiment—draws well, but copying is not recommended: too tricky.'

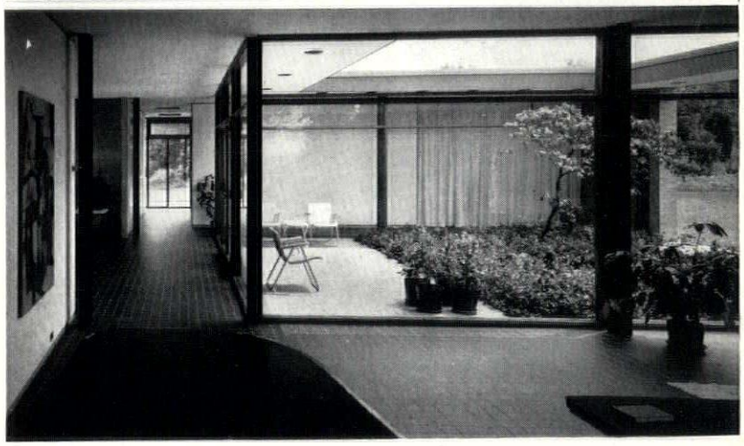
F

Hodgson House
New Canaan, Connecticut, 1952





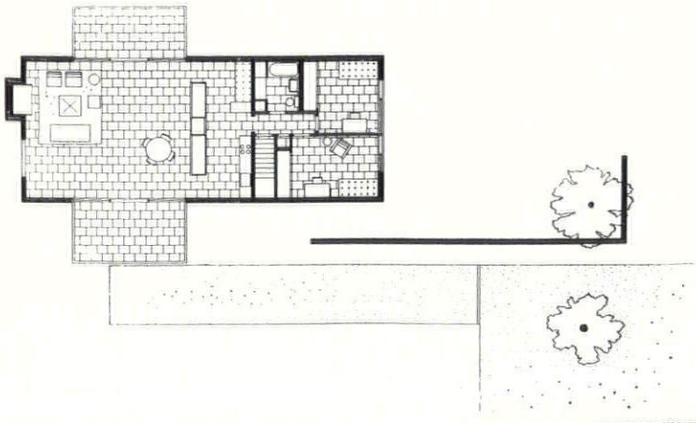


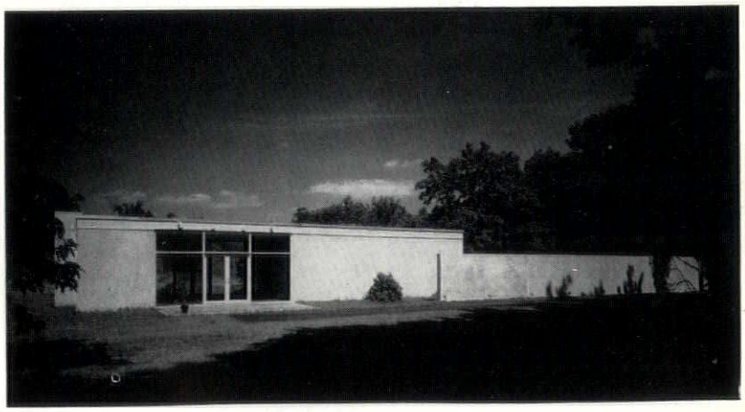


From the first Philip Johnson has been interested in using courts. Here the court is open to the sky, as in the Ash Street house (B), but the living areas have been bent around it in a U-shape. With the windows restricted to the side walls, the entrance front gives a strong sense of privacy, although in fact the glazed triple entrance bay opens through the entrance hall to the court behind. This house, almost ancient Roman in its planning concept, won the house award at the Sao Paulo, Brazil, Biennal, in 1953.

G

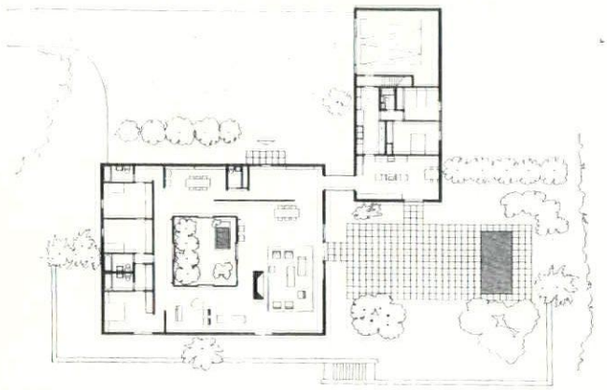
Ball House
New Canaan, Connecticut, 1953



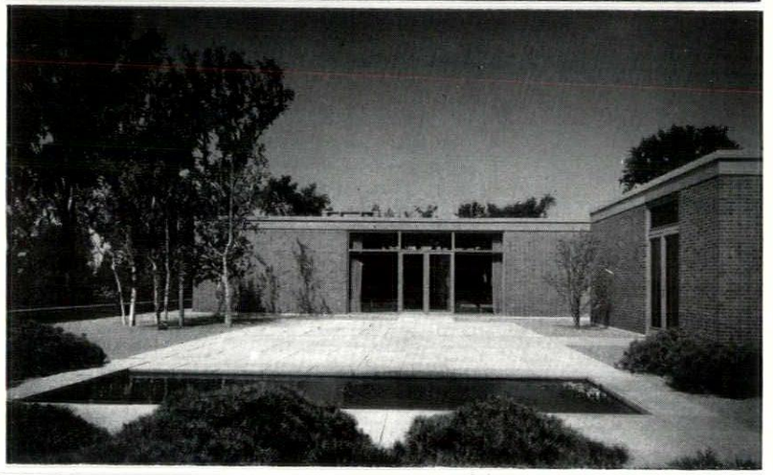


This small house, with walls of pink stucco rather than brick, somewhat resembles externally the Oneto House, although it unfortunately lacks that house's fine riverside site and splendid trees. Unusually compactly planned, this nevertheless provides in its unified living and working area much of the dignity and serenity of the larger houses.

Davis House
Wayzatu, Minnesota, 1952

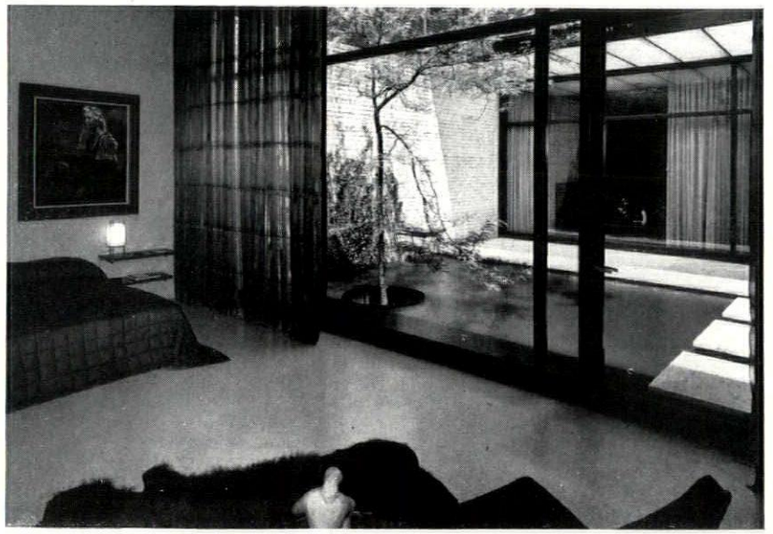




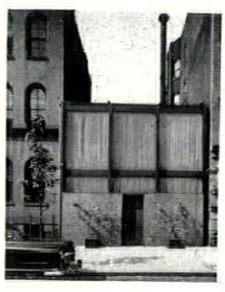


This, the largest of the houses, occupies a hill-crest site above Lake Minnetonka near Minneapolis. Since Mr. and Mrs. Davis have a very large art collection, particularly of drawings, the house posed some of the problems of a picture gallery. More completely than in the Hodgson house the theme of the Glass House is inverted. The court, necessarily roofed in winter with translucent plastic in the rugged climate of Minnesota, has been moved to the centre of the main block. The largely unbroken walls are admirably lighted for the showing of pictures through slots above, as well as more generally from the court, and provide a maximum of hanging space. Although the living areas are continuous, only the bedrooms to the rear being closed off, the glass walls of the court and the free-standing screen opposite the entrance door articulate the interior space into several well-defined areas with separate uses almost as in the multi-roomed houses of the past. The second pavilion, linked in this cold climate by a short glazed passage, contains kitchen, services, children's rooms and garage. Tied to the hillside site by a low retaining wall creating a geometrically defined precinct, the two pavilions provide partial enclosure to the south and east for the paved court. The vocabulary of construction and design is common to many of Johnson's houses, but the materials used inside are unusually handsome here, the floors being of pale travertine and the walls of warm, medium-brown teak. But perhaps the most notable quality of the interiors arises from the variety of lighting effects provided by the exterior openings to south and east, the glazed interior court and the ceiling slots. Artificial lighting in the slots and the deep open boxes of the court roof provides similar effects at night.

Rockefeller Guest House
New York City, 1950



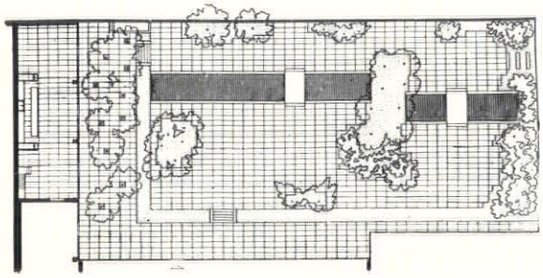
Most of Philip Johnson's work is in the country. This small city house, intended to supplement the owner's apartment by providing a large room for entertaining and some guest bedrooms, makes no external display. Even inside, the materials—whitewashed brick for the side walls, for example—are not in themselves sumptuous but provide a neutral setting for many major works of contemporary art such as the Lipchitz relief (commissioned for this position) and a Tomlin painting.*



* *See frontispiece on page 236.*

J

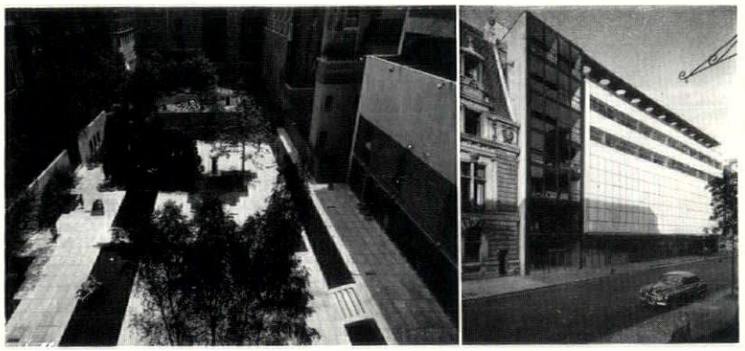
Museum of Modern Art, annexe and garden
New York City, 1950-1954



As Director of the Department of Architecture of the Museum of Modern Art Philip Johnson has done considerable work there over the last five years. The office annexe to the left of the original museum follows very closely in its south facade the syntax of Mies van der Rohe's Chicago apartment towers at 860 Lake Shore Drive, but it also respects the main lines at the bottom and top of Philip Goodwin's original front. With that front it composes effectively while achieving fully its own individual expression. The wing extends beyond the rear of the original building one bay to the north and the theme of that bay, with solid gallery walls in the middle storeys, open restaurant front below and office windows above, was continued in 1954 as the side wall of the contiguous Whitney Museum (of which the north front in 54th Street is by another architect). This facade forms the backdrop for the Abby Aldrich Rockefeller Sculpture Garden, a sunken marble-paved plaisance, surrounded by myrtle-clad banks and broken by two canals. Carefully disposed planting provides a variety of settings for a large part of the Museum's sculpture collection. The planting is by the landscape architect James Fanning.

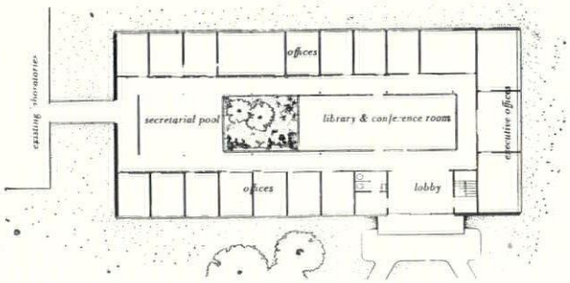
Philip Johnson writes on the garden:

'1. A study in forced circulation: pedestrians must turn and walk, and walk and turn in order to view sculpture from different angles. Means: steps, bridges, planting beds.
2. Creation of four areas, merging but distinct, each a different size for different effects as background for different scales of sculptural art.
3. Breaking up backgrounds to isolate pieces of sculpture so that each can be viewed separately.
4. Strong paving lines to give order and pseudo-accidental planting areas to interrupt circulation and to relieve marble monotony.
5. Chinese idea of sunken area to increase apparent size of court.
6. 'Anchor' accent of asymmetrically placed clump of Japanese cedars around which every other feature 'revolves.'
7. General idea same as furnishing a room such as my own glass house: creating barriers high or low, wide or thin, within a rigid, undecorated rectangle. 'Barriers' paradoxically enlarge the space as well as enrich and complicate it.'



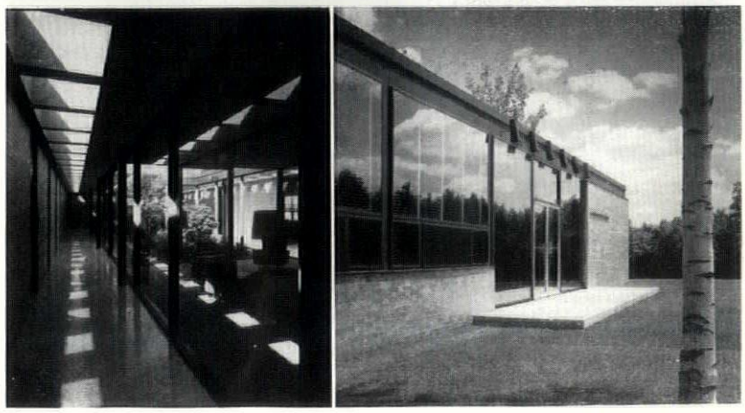
K

Schlumberger Administration Building
Ridgefield, Connecticut, 1952



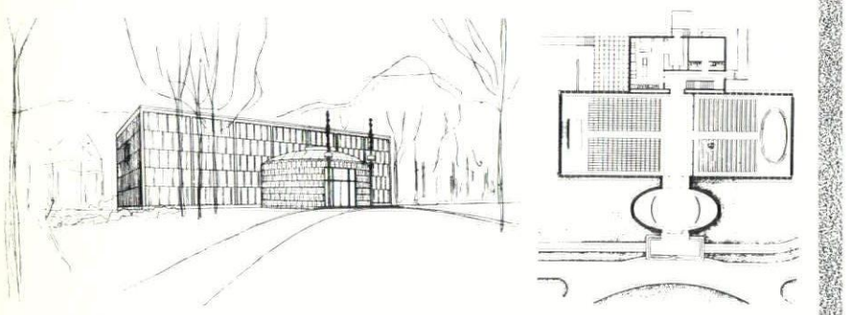
In this office building in the country the familiar vocabulary of Johnson's houses has been applied to a considerably larger structure. As at the Davis House, both a garden court and roof slots produce a variety of lighting effects. Without losing the businesslike severity proper to offices, the disposition of the various semi-public areas creates a surprising variety of spatial interest. Quite as in the case of the houses, the structure is most carefully set in the landscape; and smooth lawns and sparse planting carry into the setting the calm and understated qualities of facades subtly combining classic regularity with functional asymmetry.



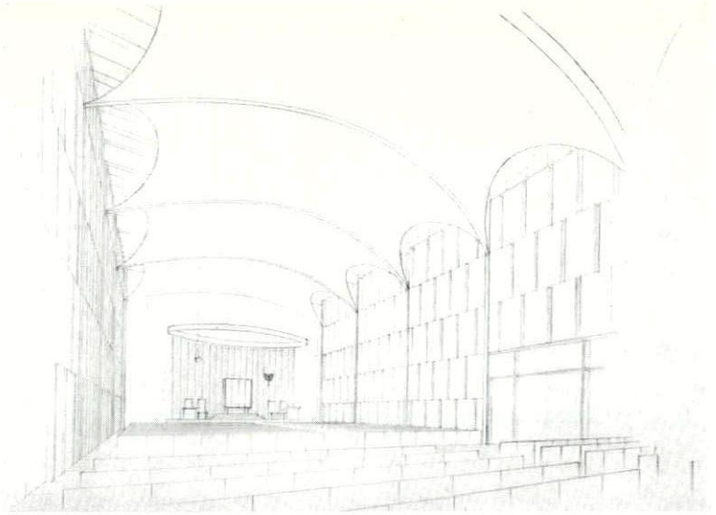


L

Temple Kneses Tifereth Israel
Port Chester, N.Y., 1954



In this, his first monumental building, Philip Johnson intends to exploit the richer spatial volume provided by a vault-like hung ceiling of plaster as well as the special lighting effects provided by such an overhead baffle. For this, the remodelled bedroom (M) provided a try-out. Quite evidently this synagogue will open a new cycle in his work, less Miesian and more intensely personal.



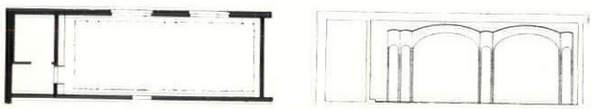
Philip Johnson writes: *'Contrary to usual American practice the Temple proper and the social room are treated as one large hall for High Holidays subdivided the rest of the year by low partitions.*

'Exterior is a variation on the infilled exposed steel skeleton. Stained glass panels are inserted between door-sized artificial stone panels.

'Domed entrance is an ordering feature for the purpose of monumentality and symmetry, symbolizing a non-utilitarian building—a strong feature much criticized for introduction of extra-structural and extra-functional values.'

M

Remodelled room in Glass House guest pavilion
New Canaan, Connectiout, 1953



Throwing together two of the original guest pavilion rooms, Philip Johnson experimented here with the complex spatial effect and subtle lighting possible under vault-like hung-plaster ceiling baffles.

Philip Johnson writes:

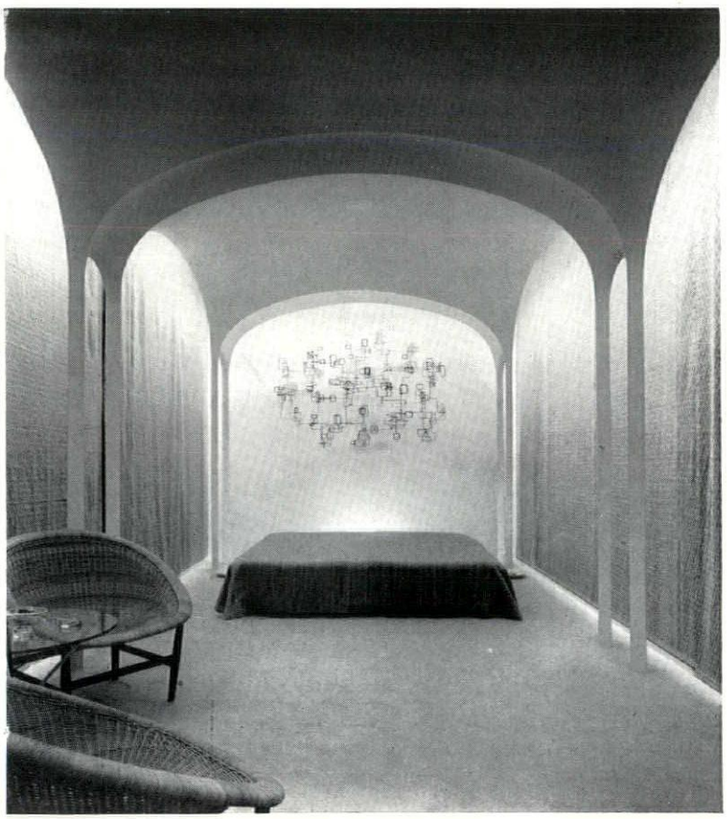
'Problem: *What to do in remodelling a room with awkward entrances and fenestration?* Experiment: *Covered all the walls including openings with flat arras which are pulled aside for ingress or ventilation—not too successful.*

'Problem: *What to do with strange proportions of rooms* 10 *feet by* 27 *feet?* Experiment: *Made two off-square bays. Adam did better at Syon House Library. Tried to imitate. He breaks up length with clustered pilasters creating periods and resting spots, making each wide spacing a sort of room. Similarly my two domed bays slow up the length with narrow cross vaults filling in disparity of dimensions. No visitor guesses room to be but* 10 *feet wide.*

'Problem: *How to light macrocosmically, to increase illusion of space in small room?* Experiment: *Installed Richard Kelly designed strip lighting above domes washing all four walls leaving domed ceiling dark. Expensive but fantastic. Dimmer control makes gamut of effectiveness unlimited.*

'Problem: *How to make a rectangular room cosy?* Experiment: *Made a baldachin with elliptical domed and vaulted ceiling.* A feeling of protection and security in the shelter of the dome results; a 'safe' place from which to view the lighted (and therefore distant) walls—like sitting under a canopy in the desert. Experiment successful. Lighting around domes done before with daylight*

* Domed ceilings derive from Adam as well as Soane but most visitors exclaim 'Oh, Near East,' or 'Ah, North Africa.' I can't say—never been to either. Domes actually a first study for synagogue which changed to a more structural—or rather a less falsely structural (the domes here are hung from the joists) use of warped plaster sheets. Objections come from purists who say domes not structural but that the legs make it all seem as if I had intended them to be structural. True, true. I wanted people to believe—and they do—that the baldachins are structural. The fact that they are not seems outside the argument. Others complain that curved planes should be used only in thin shell concrete construction but that mine are just decorative, that they deny the actual structure, which is joist framing. I answer: The fundamental rectangularity is still there; the baldachins being carefully pulled out from the walls and ceilings, not perhaps as far as a baldachin over a bed or an altar, but in principle similar. Playful non-structural canopies should be allowable at *any* scale.



by Sir John Soane in the Breakfast Room, Soane Museum. As in Soane's room amniotic effect of sourceless light reflected from walls a delicious sensation. (Unsuccessful center light experiment unfortunately visible in photo.)

'Problem: *A patterned and elegant material for the modern arras.* No experiment: *Chose a Fortuny pink cotton with silver and gold printing, called in their catalogue 'The Persian Pattern.' No contemporary prints are 'riche' enough—sad.*

'Problem: *Decorating a room with decorative sculpture.* Experiment: *Commissioned Ibrim Lassaw to do decoration. Explained it would have to complement architecture, not dominate or even accent. Beautiful colour, 'Science Fiction' shapes make lively otherwise bland and blank wall surfaces.'*

continued from page 238

The measure of Johnson's present accomplishment and its maturity is best provided by the Davis house (H) in Wayzata, Minnesota, completed in 1953. The vocabulary is familiar, but the amplitude of the house, its splendid hilltop site looking down on Lake Minnetonka, and the requirements of the owners' large and distinguished collection of pictures and sculpture made special demands on the architect. A completely glazed living room, such as that in his own house, provides place for no more than one or two works of art, and the glass box theme has been repeated only once, in the Wiley house (E). At Wayzata the theme is quite different: a largely solid block with a garden court inside, something first tried in a house in Houston, Texas, but also at the Hodgson house in New Canaan (G) and in the Schlumberger offices (K) in Ridgefield, Connecticut. As at the Glass House there are two pavilions, but here they are brought closer together, and even linked by a glazed passage (for the climate of Minnesota is notoriously rugged in winter). The immediate setting, moreover, is more compact, a partly paved terrace rather than an open lawn, its outer line marked by a brick parapet that provides a visual base for the two low masonry blocks on the hillcrest. Moreover, Johnson's asceticism is much tempered here. Where earlier houses had only brick or plaster inside, in this the floors are of travertine and the walls of teak.

To take up the last point. The asceticism of this architecture does not derive from a puritanical programme of a sociological order, as with so many architects of the last thirty years, but is based on a special visual taste—his own and (one must assume) that of his clients also—for clear forms and fine surfaces. As he uses exposed steel, for example, whether in a house or an office building, it proves to be an elegant and not a crude material: The idea was doubtless Mies's in the first place but the realization is specifically Johnsonian. The balance of architecture and landscape, of building and setting, is far more controlled than with Mies, more in the spirit of Wright's work. Thus the extremely simple forms, carefully proportioned and executed in various materials old and new but always with the finest and most appropriate craftsmanship, provide sculptural elements rising from flat lawns and terraces whose dimensions and shapes are as carefully determined as those of the constructed elements. These forms also provide a plain background for the various sorts of plant materials saved from existing natural growth or newly planted for their particular scale and texture.

Because of the limited range of materials Johnson uses it may appear in photographs that values of colour and texture have been neglected. Perhaps this was to some extent true of his earlier work, and even still of non-domestic work such as the wing of the Museum of Modern Art (J) or the Schlumberger offices. But the colour plate reveals how much colour and texture the actual materials he uses are capable of providing. Moreover, in the remodelled barn which is the Tremaine playhouse (D) and in the lower storey of the Wiley house (E) Johnson's willingness and ability to use more rustic materials is sufficiently apparent. The Tremaine playhouse also illustrates well the subtlety of his mature sense of order —as, for that matter, in quite a different way does the easy disposition of the plan elements in the Davis house—for he has accepted the irregular spacing of the structural members of the original barn and yet so clad them with his glazed framework that the latter seems to have a positive balance of its own not dependent on symmetry or even spacing.

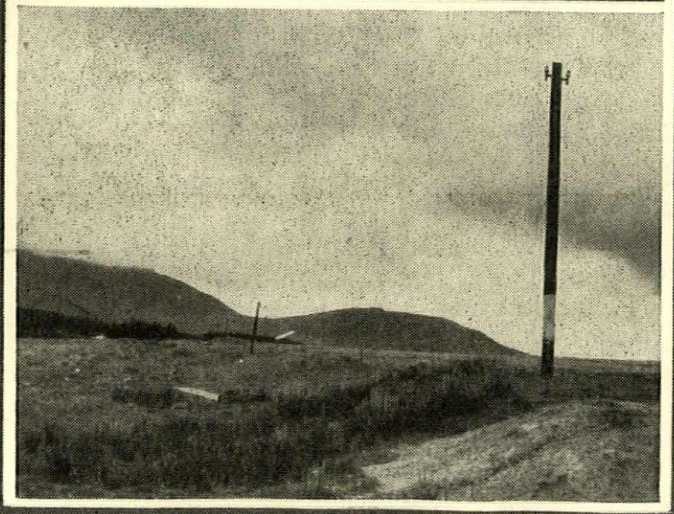
As the world turns to house-building again it is likely that many American planning ideas—some of them seen at their extreme in Johnson's houses—will be widely influential. The sites of his houses are predominantly in the country; their scale is generous (despite what must seem to Europeans some sacrifice of particularization and privacy in their internal subdivision); much thought is given to the artificial lighting, elaborately worked out by the expert, Richard Kelly; above all, the asceticism of these structures is of a luxurious order, implying the use of intrinsically handsome materials and a high order of craftsmanship. All this is hard to match in the European world today. The Johnson houses are very quiet in immediate effect and, even where the conception is drastically novel, they are so 'understated' that those who come expecting to be shocked are often gently won over. Having known most of them over the years since they were built I can state that they do not pall but rather grow upon one. Since their architect is no functionalist but rather a worshipper of the concept of style, it may be well to say further that they all seem to 'work' and that they are psychologically comfortable—even homelike—despite their severity.

Johnson's work illustrates no manifesto, no ironclad intellectual programme, but rather represents a continuance of one of the basic currents of modern architecture, a current which can be traced back to the earliest Prairie houses of Wright, if not so clearly (except in a metaphorical sense) to the special classicism of architects like Palladio and Soane and Schinkel whom Johnson especially admires. His works to many Europeans are an unexpected product of America, but they are none the less a legitimate one. Their acceptance by an élite, including some clients who are Europeans in origin, stresses their appeal to Americans who conceive their still emergent culture, not as something basically opposed to that of the older Western World, but as its natural continuance in a new land and a new age.



FORESTRY





Trees are the most significant element in the landscape. Their omission is as significant as their commission. Dartmoor, the South Downs, the Lakes, the more sublime parts of the Highlands, were designed by nature to be treeless and should remain so. In other areas, however, forestry is capable of creating fine landscape particularly when it is used in conjunction with agriculture. Belts of woodland sheltering exposed hill farms (1) echo the rhythm of the land form in a new type of landscape reminiscent of a Paul Nash painting (2). There is also a strong visual case for forestry in dull bleak landscape (3) or where the works of man have already created a squalor which trees can hide and even heal. But it is important that they should be the right trees. Europe and North America are largely covered with conifer forests, and while there are areas in Northern England and Scotland which will gain rather than lose by conifer plantations it should be remembered that the South of England is the only countryside in the world that has been consciously modelled according to eighteenth century principles of landscape which generally speaking were founded upon the use of deciduous trees. Our forestry policy must include the safeguarding of the traditional English deciduous landscape.

Sylvia Crowe and Kenneth Browne

Forestry

Forestry is one of the great national industries, and its influence on the landscape is second only to that of agriculture. In a land where full production is necessary to survival, the great majority of our woodlands should be regarded as crops, rather than as remnants of primeval forest. Yet their appearance excites an interest not accorded to any other crops, partly because they are by necessity often situated in those parts of the country which are regarded as of particular scenic value, and partly because of the strong impact on the landscape caused by their solidity and depth of colour. There can be no question that there is great beauty in a natural woodland, made up of trees of all ages, some of perfect form and others gnarled and twisted. But there is also beauty in the well-grown modern forest of straight-boled timber, whether it be the pillared magnificence of a one-aged crop, or the greater variety of a woodland of all ages grown for selective felling.

Just as every agricultural crop has its own pattern, so have the different crops of timber. One of the oldest, now almost obsolete, is the standard and coppice where the branched heads of the great oaks contrast with the underlying layer of coppice. These forked oaks were the raw material of the British man-of-war, and of so much importance that the invading forces of the Spanish Armada had orders to reach the Forest of Dean and destroy the oaks even if they could get no farther. Now, forked timber is almost valueless, and the modern need for clean straight trunks is reflected in the pattern of silver-ash stems against a background of spruce, or clean, tall boles of oak, roofed by the closed canopy of branches, or of the contrasting open spaces of clear felled wood against the strong mass of close-planted timber. But these patterns, seen from within the forests, are secondary to the role which the woodlands play in the general landscape. Since the Forestry Commission started its immense programme of reafforestation after the first world war, it has met with constant opposition on the grounds that its operations are spoiling the landscape, and it is worth enquiring how far the criticism is justified. The chief complaints are of conifers planted in landscapes to which they are foreign, of the afforesting of country which is visually better kept open, and of plantations carried out without regard to contours or landscape composition. There is some truth in all the allegations, particularly in respect of the earlier plantings, and even now, although the Commission is producing many magnificent forest landscapes, far more attention should be paid to using forestry for the visual as well as the economic enrichment of the landscape. But a blind opposition to forestry in general and conifer planting in particular is as senseless as opposing factories, roads or any other of the necessities of present day civilization. Trees are necessary, not only for our economy, but also for the health of our soil and climate. Conifers are in greater demand than hardwood trees, and come quicker to maturity. They are the only crop which can succeed on much of the land which is devoted to forestry, and even in hardwood country they are often required as nurse-crops to the de-

ciduous trees. The question does not arise as to whether they should be grown, but only as to how they should be assimilated into the English landscape.

As so often happens, many of the practices which resulted in unpleasant landscapes have been found to be also culturally unsound. Great stretches of unbroken conifer forest increase the risk of disease and fire, and a proportion of deciduous trees is now always planted where soil and climate permit it. There is also a growing co-operation between forestry and farming, replacing the unbroken blanket of forest by the immensely more interesting pattern of woodlands sheltering the upland farms. Straight rides up the sheer hillsides, though effective as fire breaks, are proving too steep for the easy extraction of timber. Even suiting the species of tree to every change of soil and aspect is the action of a prudent forester, no less than of a landscape architect.

Thus to a great extent the best interests of good silviculture will in themselves produce a far finer landscape than that of the mass-produced conifer which has earned forestry a bad name in the past. But the finer points of landscape design need something more than this. There should be recognition that, not only in selected beauty spots, but over the whole of this small country, the cheapest method of tree production, even it if is in accordance with sound silviculture, is not necessarily good enough. The square plantation or the round blob, stuck on a hillside, is cheaper to fence than one following the landform, but it should not for this reason be tolerated. The cases where land which is economically best suited to forestry should none the less be left open for scenic reasons are comparatively rare, but of outstanding importance where they do occur. For instance, the clean lines of chalk downs and the subtlety of the surface modelling on the hills of the Lake District are in some places of such value that forestry of any kind could only mar them. But more often forestry can be used to accentuate the land form, a group of dark pines giving emphasis to a crag, while rounded deciduous trees flow down the fold of a valley. On the higher hills, the crests are above the tree line and will stand out as a clean sky-line rising from the wooded flanks.

But perhaps the greatest contribution of all which forestry can make to the landscape is in the scale and unity which it can give to a landscape disorganized by the invasion of too many people and too large constructions. It is the only industry which has the power to reconcile the warring elements which modern life imposes on the countryside, and to knit them into a new landscape.

Two main points arise from this. Firstly, those areas which could be afforested most profitably to hide industrial clutter are well marked, even in Scotland where there are plenty of them ; whole glens could be entirely planted with conifers and the landscape would do nothing but gain therefrom. Secondly, there are large areas, particularly in the highlands of Britain, where the sublimity of the scene would be destroyed by any afforestation, even on a small scale ; and other areas where, if there is afforestation, it should be of broad-leaved trees, in character with the present landscape. This applies particularly to those parts of southern England where the 18th century landscape* still survives for this represents the only example anywhere of a whole landscaped world and as such it is easily the greatest contribution England has made to the arts. It is the duty of all developers, and especially foresters, to appreciate its enormous importance and save it for future generations.

* *Landscape* used in the technical sense of what the 18th century improvers called *landscape gardening* though it is in fact applied to the whole countryside in many southern counties.

PATTERN

The great majority of our woodlands should be regarded as crops rather than as romantic remnants of primeval forest and just as every farm crop has its own individual pattern so also have the different timber crops.

For example:



4

The rugged spread of wide-headed oaks, 4. One of the oldest of forestry patterns, the trees were widely spaced to produce the forked timber required in the making of wooden ships. Now forked timber is little used, the demand being for straight-grown wood.

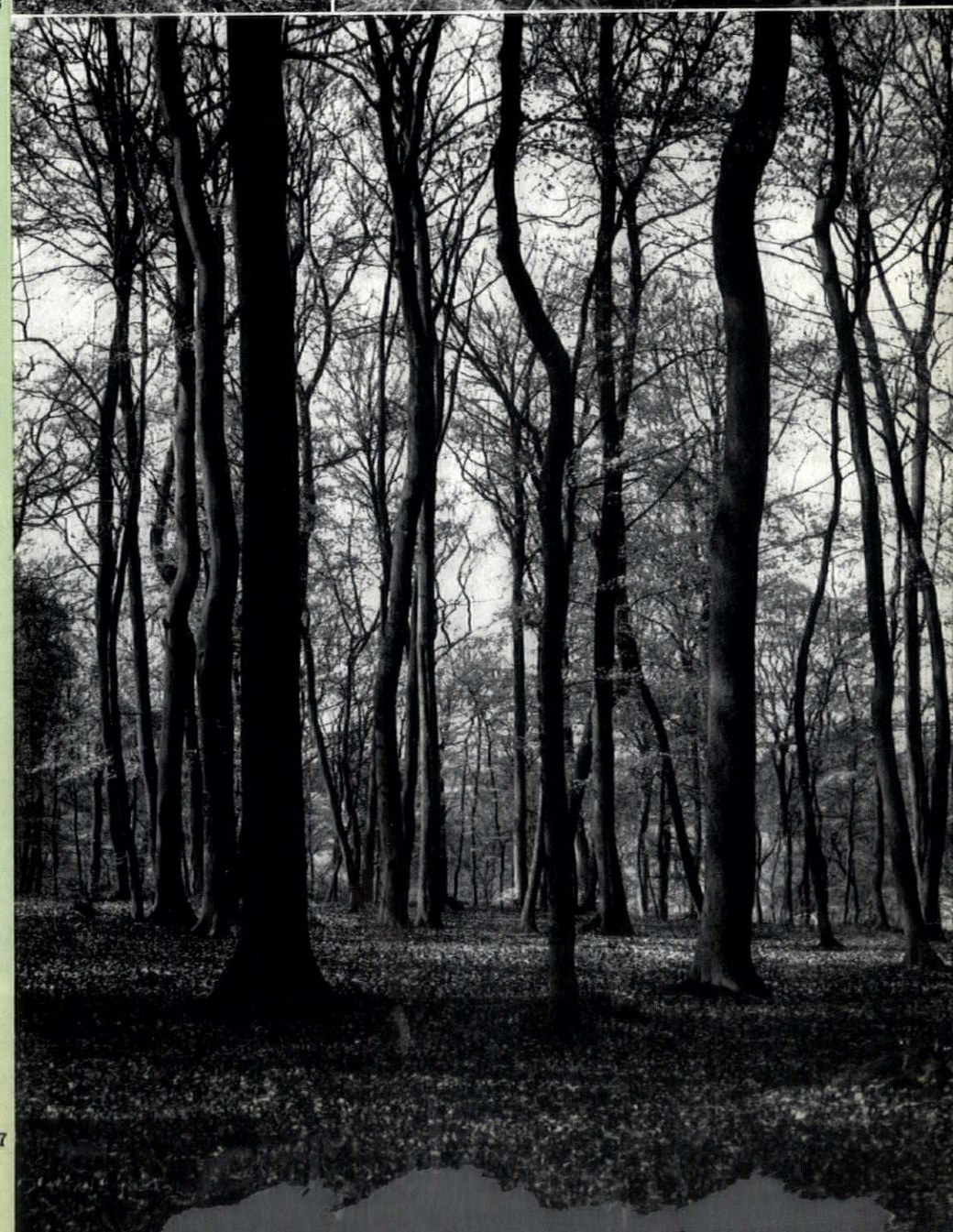


5, 6

The clean straight trunks of an Ash stand with the light coloured boles standing out against a background of Spruce, 5. This is modern planting to supply even, straight timber, the trees being grown close together and spreading branches discouraged.

The alternating geometrical pattern of conifers (larch) acting as nurse crop to deciduous (young oak), 6.

The pillared magnificence of a stand of pure Beech grown for selective filling, 7.



7

these patterns can be applied to the landscape either . .

A **B**

ruthlessly A or in sympathy B with the countryside

FOREST LANDSCAPE

the pattern applied

CONIFERS can either be stuck in square shapes on the hillside, 8, or emphasize a crag while deciduous trees merge into them from the lower slope, 9.

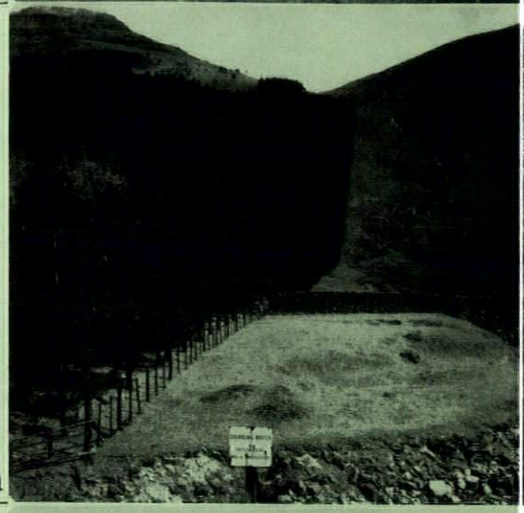
8, 9

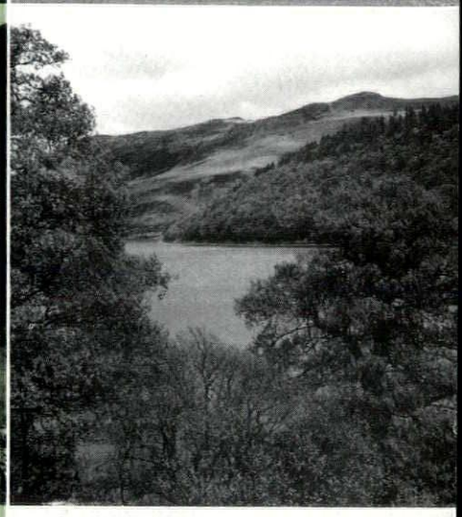




PLANTATIONS may ignore natural boundaries, 10, and present a dead straight edge because this is the cheapest and easiest boundary to fence, or follow the lie of the land, 11, even if it costs a bit more.

10, 11





RIDES can shear the hillsides in straight lines, 12, or wind up with the contours, 13, which on steep ground makes for easier extraction of the timber as well as for better landscape.

12, 13





CLEAR FELLING may present the uninspiring appearance of an enclosed cabbage field, 14, but often there is the opportunity to use it creatively to open up a distant view, 15.

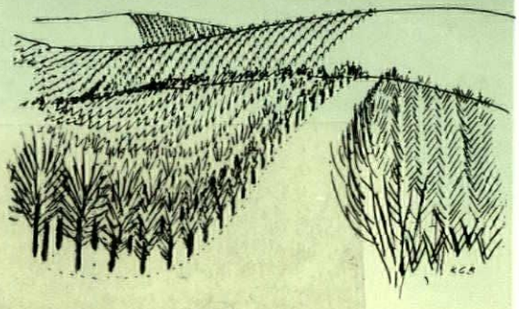
14, 15





PRODUCTION without thought of landscape results in the monotony of great stretches of young trees all looking exactly the same, 16. Even one or two old trees left standing amongst the young crop give scale, focal point and a sense of history.

16, 17





CASE AGAINST FORESTRY

Though the plea that a certain landscape has been treeless throughout the memory of living man may not be in itself a valid reason against its afforestation, there are certain kinds of landscape to which tree planting can be fatal.

Massed trees have two main effects on landscape:

Firstly, they soften contours, hide detail and have a general blanketing effect.

Secondly, owing to contained shadow and texture they are often dark in tone and in consequence the actual shape of a belt of afforestation, good or bad, is often the most noticeable feature in a landscape; more noticeable sometimes than the shape of the land itself with which it may or may not comply. The landforms may be further disrupted by differences in colour and tone of the trees themselves in mixed planting, e.g., conifers against deciduous trees.

Where the countryside has been cluttered or disfigured by man or is naturally dull and bleak, the blanketing, hiding effect of forestry is an advantage, but where the landform itself is very beautiful in shape, subtle in modelling or dependent for dramatic effect upon a feeling of remoteness and detachment, forestry can only be harmful.

The South Downs, 18, are a good example of a landscape whose attraction depends upon a landform of rhythmical curves, subtly shaded, and a feeling of exhilaration due to the complete freedom from enclosure and the proximity of the sea. The effect of tree planting, 19, would be to mask the subtle beauty of curve against curve, fuss the skyline, muffle the shading and kill the feeling of freedom.

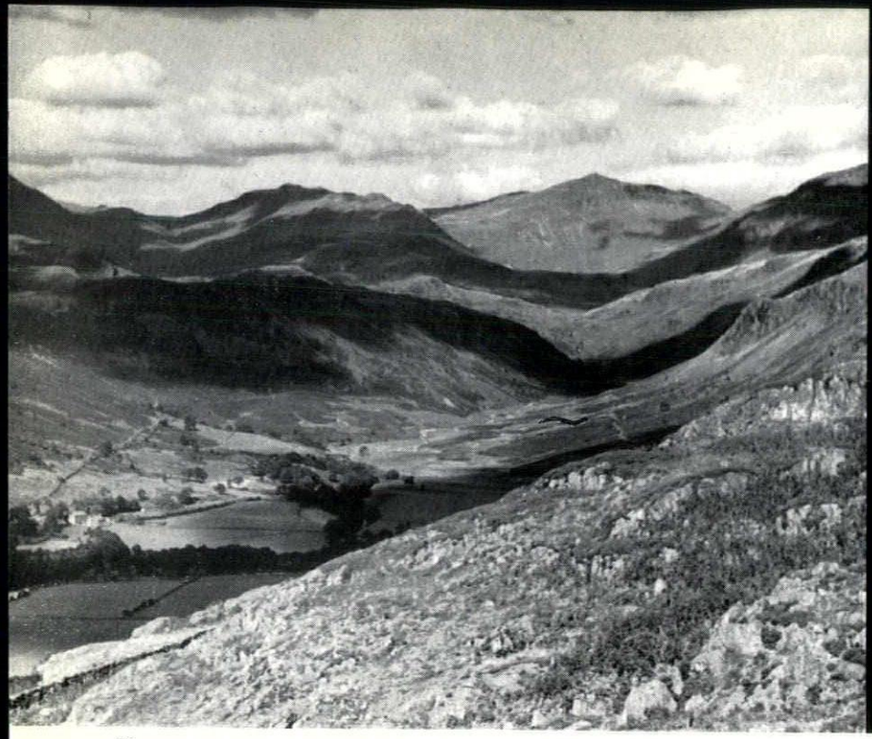
A good example of landscape dependent on the pattern of light and shade on subtly



18



19



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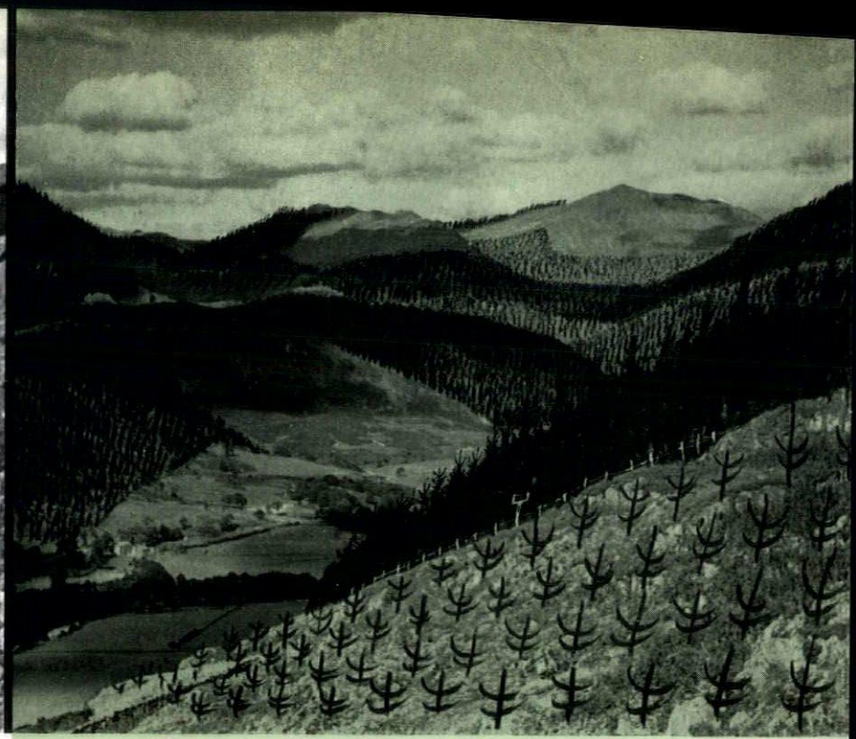

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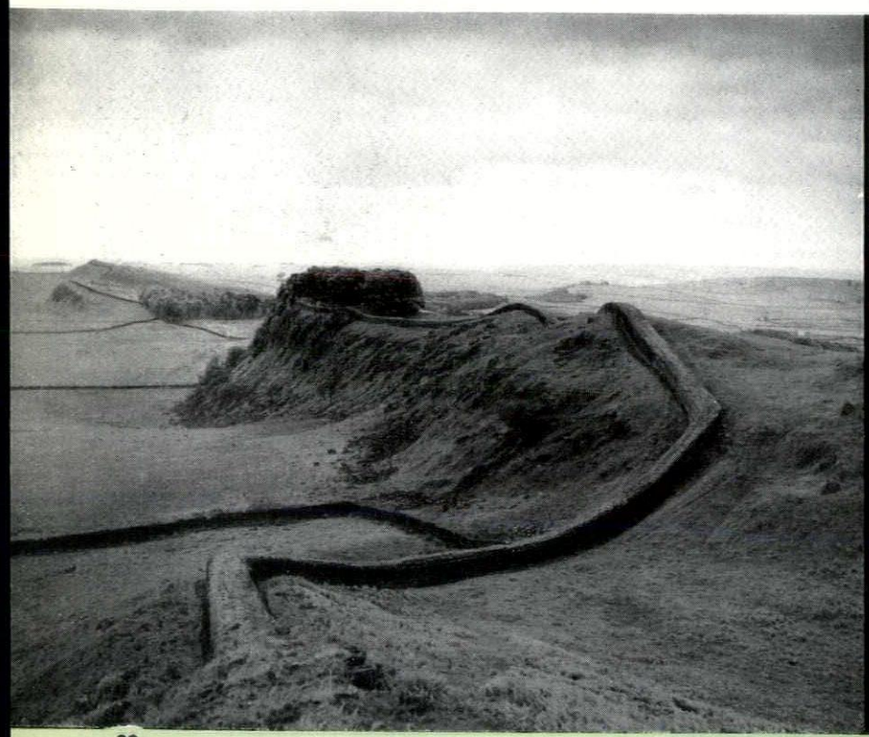

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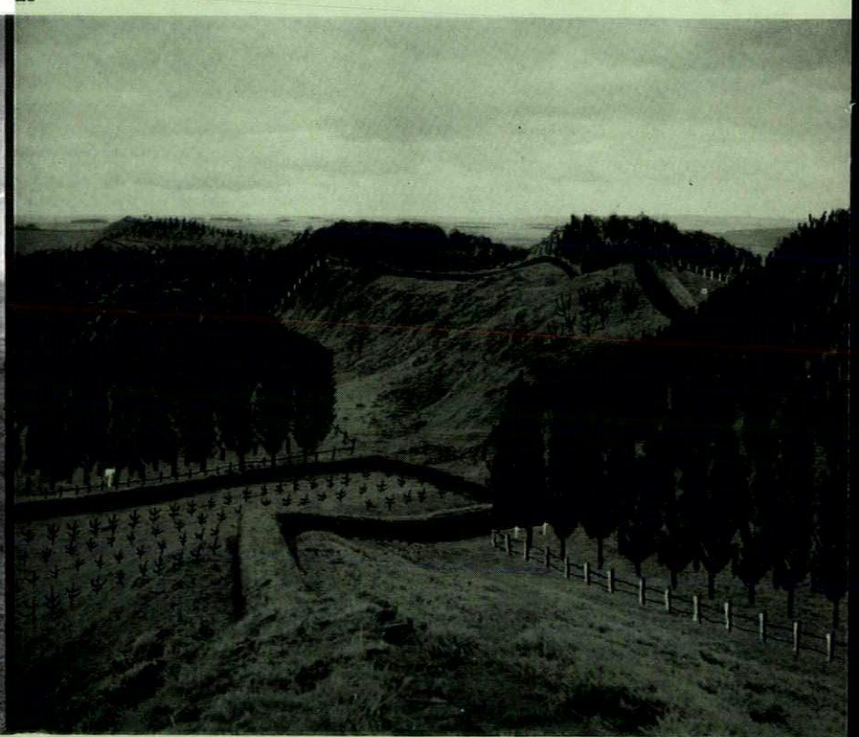


23

case against forestry

modelled hills is Bowfell in the Lakes, 20. This subtlety would be completely lost in a blanket of forestry and the shapes of the forest belts themselves would be far too dominant, 21.

The landscape of the Roman wall swinging along the backbone of the Whin Sill, 22, is an example of landscape relying for dramatic effect on complete nakedness. It must be stark and comfortless and open to all the winds. Once soften such a landscape with planting and the whole effect is gone. The magnificent angular line of the wall is broken and whereas it was originally the most dominant feature, that dominance would be lost to the forestry; result—commonplace landscape.

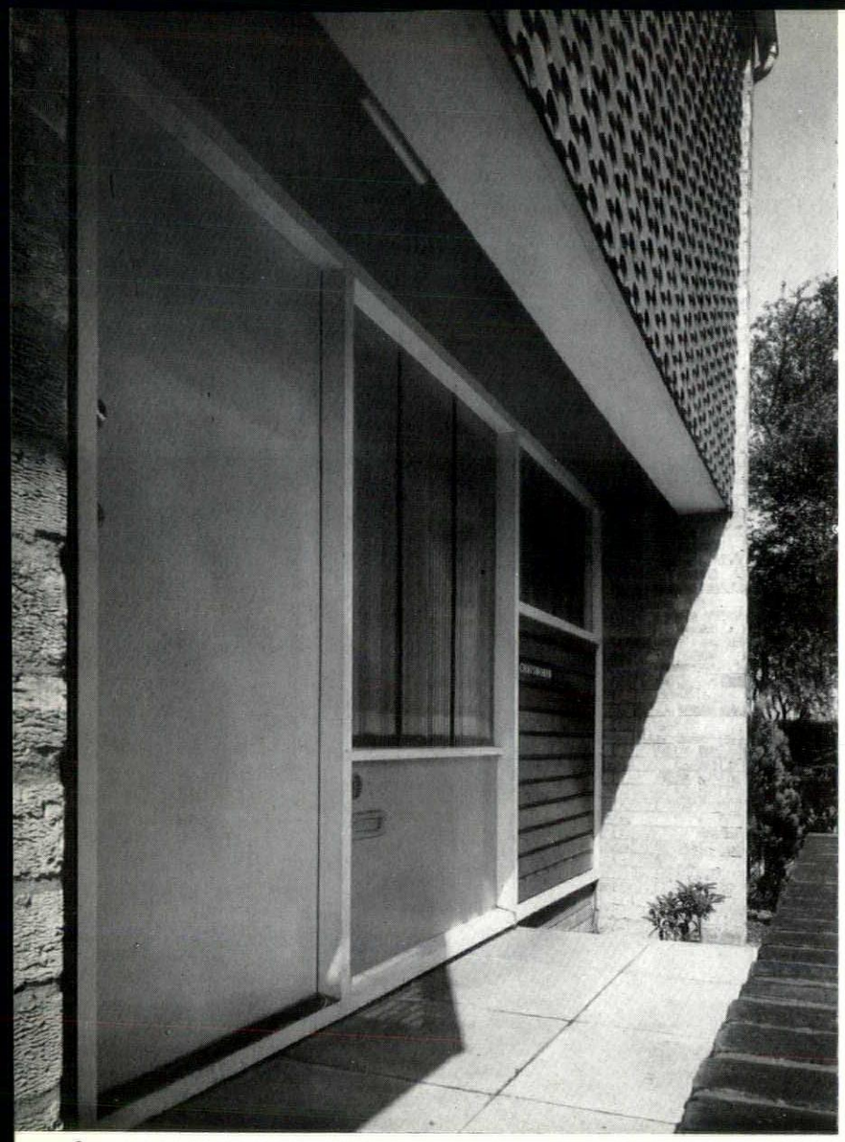


HOUSE AT TWICKENHAM

ARCHITECT	ERIC LYONS
ASSISTANT-IN-CHARGE	G. SCOBLE

1, the front to the main road, from the south-east.





2

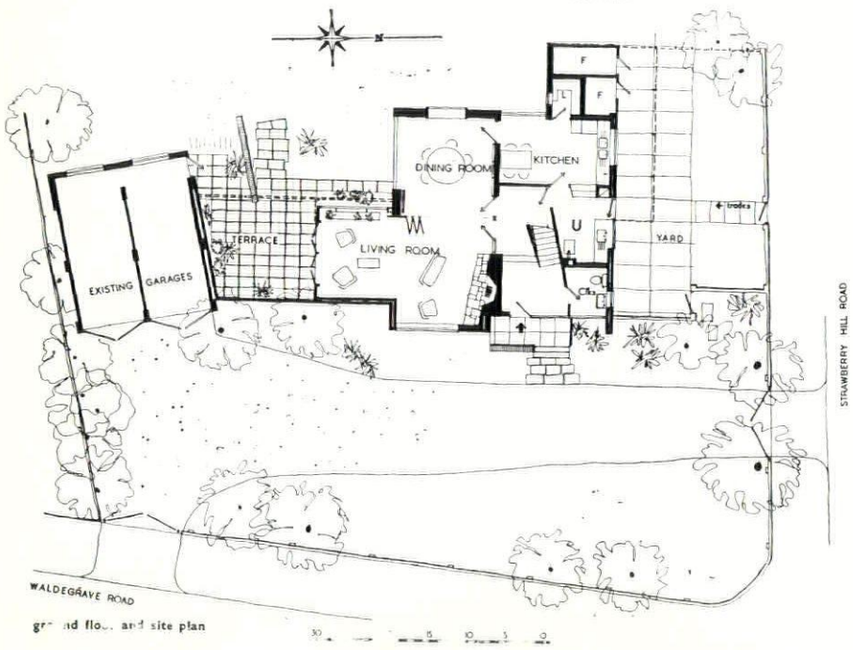


3

2, the front door, the panel beyond carrying the name-plate—Chatsworth—is varnished cedarwood. 3, the terrace and living room from the south-west. On the facing page, 4, the rear elevation, and 5, from the north up the drive from Strawberry Hill Road.



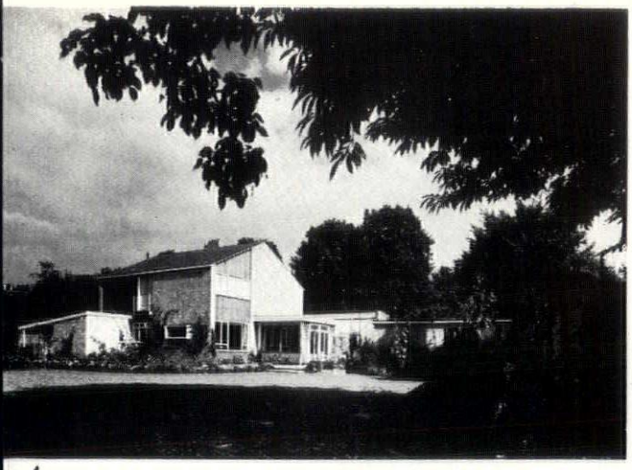
first floor



ground floor and site plan

This house is in Strawberry Hill Road, Twickenham, on the site of a Victorian house which was bombed: size and cost were limited by both client and the War Damage Commission. The site is not ideal, with suburban housing south and west, and a major road carrying buses on the east side. In addition the cellar and foundations of the old house had to be reckoned with in siting the new building. The pair of garages which had not been destroyed had to be made serviceable and being at the south boundary were awkwardly sited. As a result the house is planned so that the main living rooms have restricted views on to garden and the terrace which is screened from the road by a wall linking house with garages. A sliding/folding partition enables the living and dining rooms to be combined.

The construction is load-bearing brickwork walls, but a large part of the east, south, and west elevations has external wall panels of 4 in. framed timber nogged with clinker block and faced with either cedar boarding or patterned clay tile-hanging. These panels have wood-wool slabs on the inner face for additional thermal insulation. The ground floor is solid concrete slab, the first floor timber joists; the slate roof is laid on 30° pitch rafters carried on trussed purlins. Both red and



4



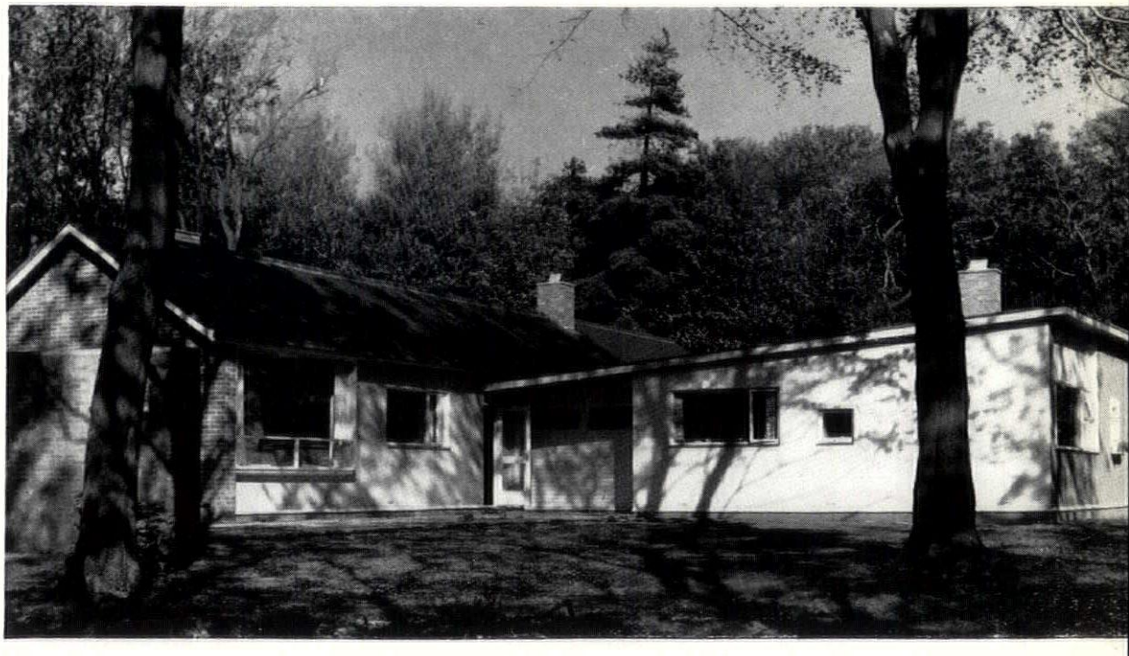
5

buff facing bricks are used—buff for the main house walls and red for garden walls and outbuildings. The cedar boarding on the south elevation is oiled. The house is heated by radiators from the boiler in the utility room, and this also supplies hot water.

HOUSE AT LYTHAM ST. ANNE'S

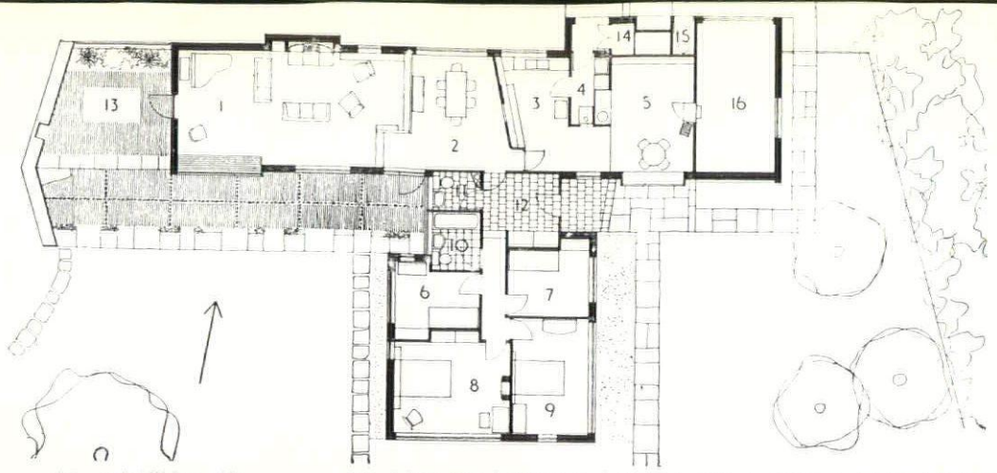
ARCHITECT | **TOM MELLOR**

1, from the south-west, with the bedroom wing on the right.



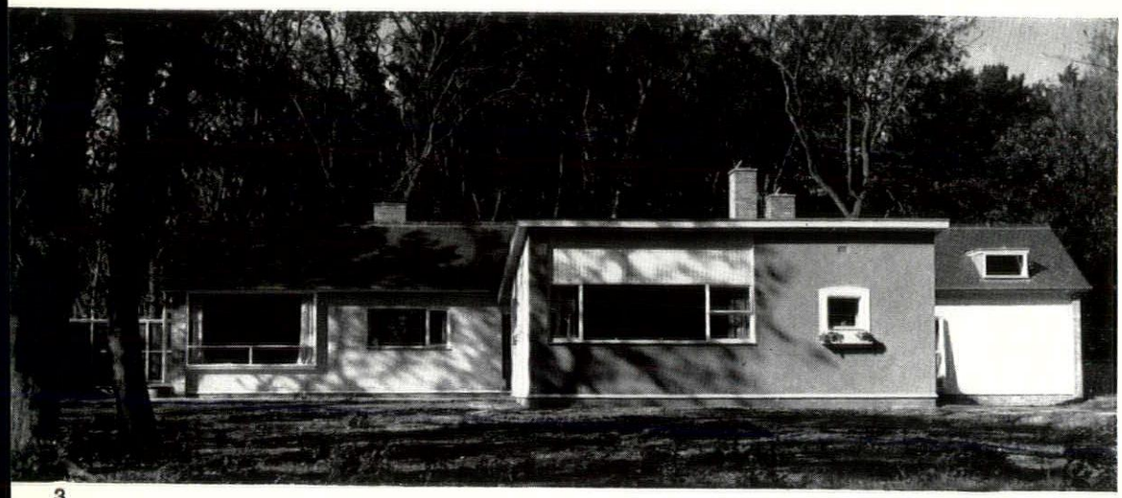
The house is in Church Road, Lytham: the T-shaped plan is tilted to give the living room a view to the south, over the Ribble estuary. It has brick load-bearing walls, suspended timber or solid concrete floors and a pitched tiled roof over the living room-kitchen area. The bedroom wing is a monopitch falling to the wall of the living room wing where a 6 in. diameter internal rainwater pipe takes water off both roofs.

Heating is by low-pressure hot water, using concealed ceiling panels, with a thermostatically-controlled anthracite boiler ; the living-room heating also has a thermostat.



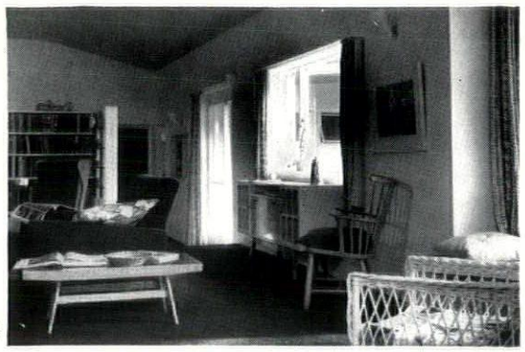
plan scale 1/24 in. = 1 ft.

key: 1, living room. 2, dining room. 3, kitchen. 4, utility. 5, playroom. 6, bedroom. 7, bedroom. 8, bedroom. 9, bedroom. 10, bathroom. 11, cloakroom. 12, hall. 13, terrace. 14, fuel. 15, w.c. 16, garage (studio over with access by ladder from playroom).



3

2, the living room looking towards the dining area, down the steps, and screened by the bookcase. 3, the south front—the walls rendered white-grey and pale grey-green. 4, the front door, in the east angle between the bedroom block and the rest of the house.



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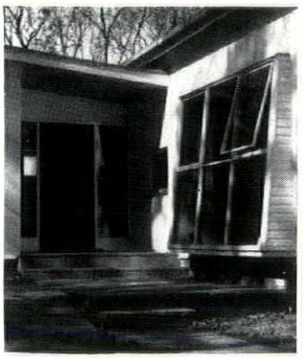
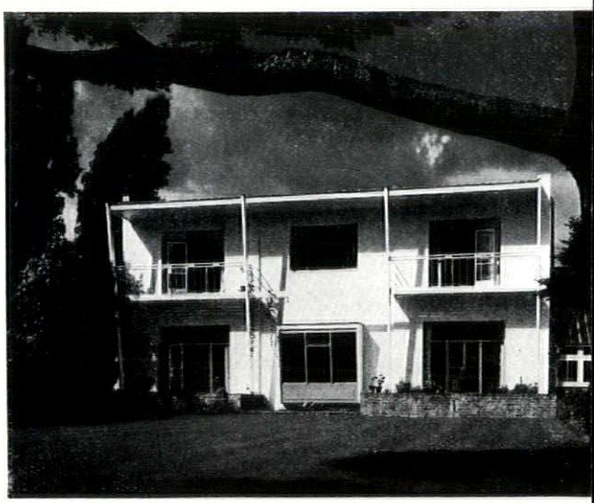


4

HOUSE AT LYTHAM ST. ANNE'S

HOUSE AT BLACKHEATH

ARCHITECT | **PATRICK GWYNNE**

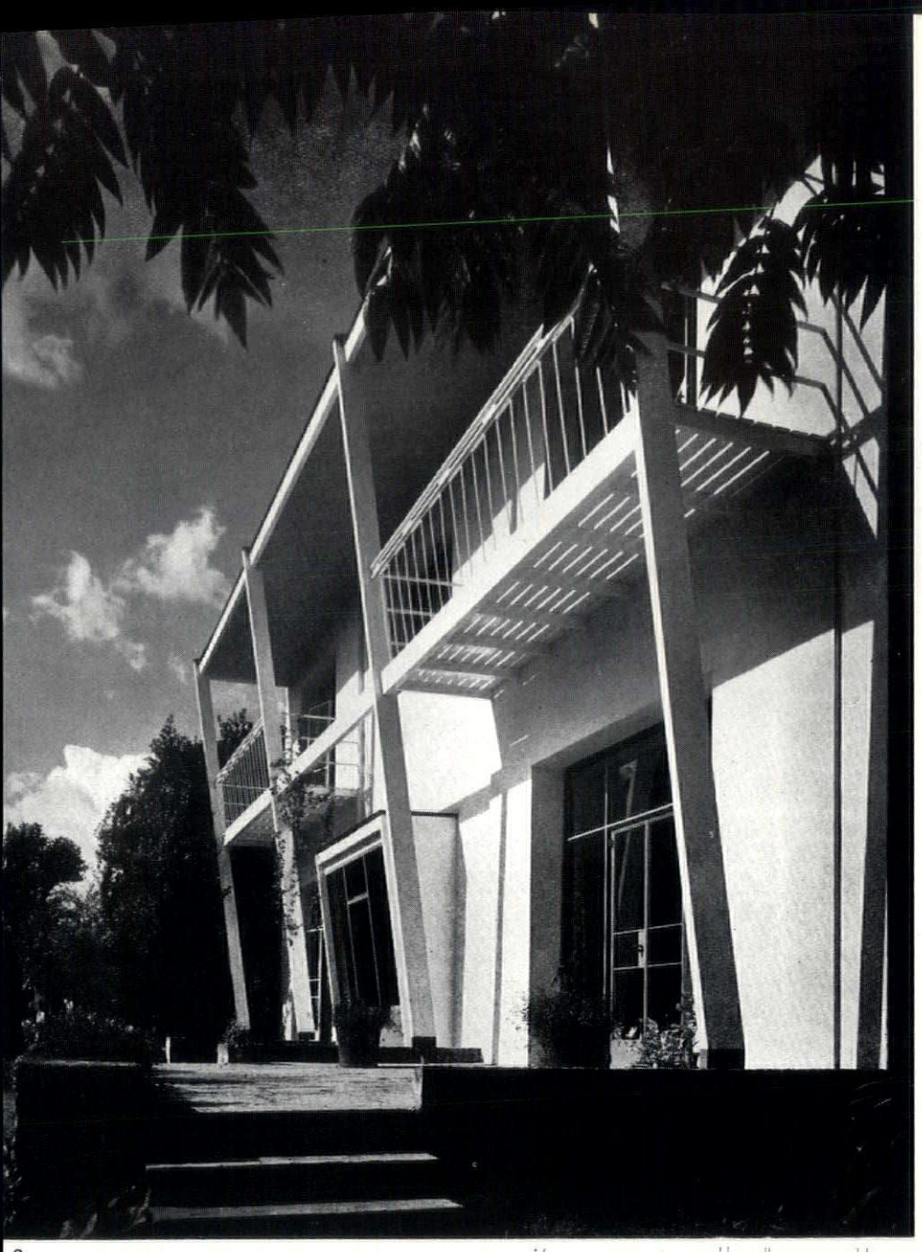


1

The house is a rebuilding of an early Victorian house on the Blackheath Park Estate which was bombed, keeping largely to the original walls and using the old window and door openings. A small cloakroom has been gained from the original wide vestibule space, an opening has been cut to connect sitting room and dining room, and a pair of bathrooms and w.c. have been inserted on the first floor. Apart from these the only structural changes have been the removal of the two large bay windows from the garden side and a lowered ceiling over the sitting room to give relief from the very high—11 ft. 6in.—ceilings.

The new roof to the house is of slate-coloured asbestos sheets, first introduced for the ARCON permanent prefabricated house, which employ a curved ridge section. The roof is brought forward to an eaves overhanging about 5 ft. to keep summer sun out of the bedrooms. This overhang is supported by canted posts which in turn carry the bedroom balconies; the gutter is hidden behind a timber fascia.

HOUSE AT BLACKHEATH



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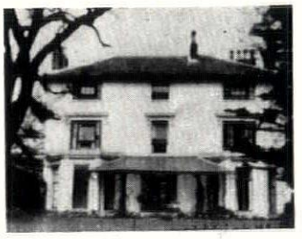
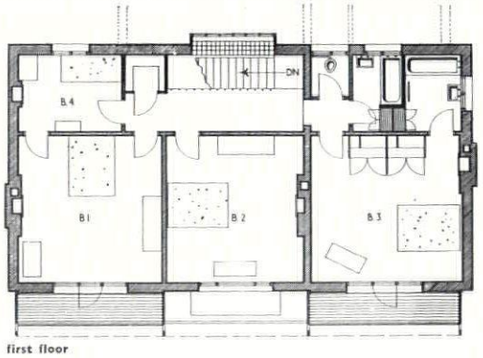
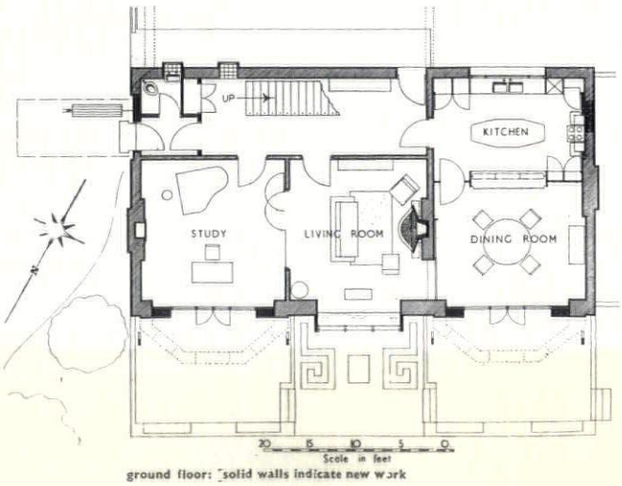


3

1, opposite, the south front, rendered and painted pale yellow with white trim. 2, this front from the north-east, showing the canted posts supporting the roof. 3, the original Blackheath Park villa before bombing. The walls are re-used in the present house. 4, the kitchen, and 5, the dining room, both showing the screen wall and hatchway separating them, which is sideboard on one side and dresser on the other.



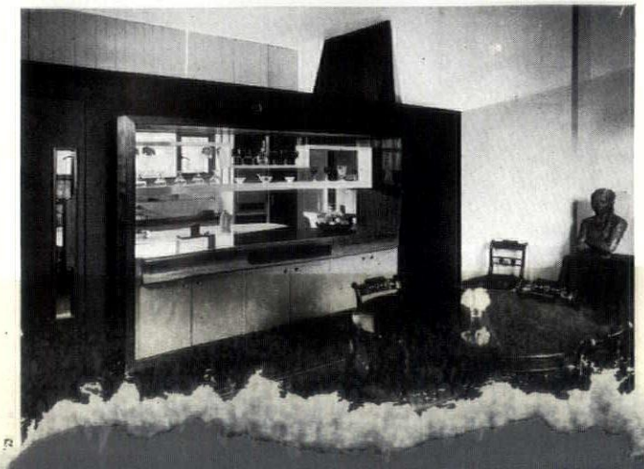
first floor



ground floor: solid walls indicate new work



4



5

Lord Grimthorpe will be longest remembered for his drastic restoration of St. Albans Cathedral. In the article which follows, Peter Ferriday recounts how the church was a patchwork of old repairs, below, when Grimthorpe first interested himself in it and how he left it, in defiance of everyone, the tidy, pinnacled and gabled structure it now is, on the right.



LORD GRIMTHORPE

Peter Ferriday

LORD GRIMTHORPE

VERSUS ARCHITECTS AND OTHERS

OR ALL THAT MONEY CAN BUY

When Lord Grimthorpe's name is mentioned two things come automatically to mind—Big Ben, which he designed, and St. Albans Cathedral, which he restored out of his own pocket. He was the man who bought St. Albans, bribed the clergy who were supposed to protect it, bullied the architects and antiquaries who dared to oppose him; the man who was allowed to work his wicked will on the fabric and to boast about the rape. But perhaps there were mitigating circumstances—for one thing Grimthorpe always claimed that he was exercising matrimonial rights, and others, while not admiring him, admitted that not all the advances came from his side and that what a man does with a thing he's bought is his business. Like all restoration matters it is more complicated than it looks at first.

To have all but rebuilt a cathedral and to have designed the most famous clock in the country would have satisfied most men. Lord Grimthorpe, however, was also the leader of the Parliamentary Bar, treasurer of Lincoln's Inn, a theological pamphleteer, the author of the standard book on clocks, author of books on architecture, Chancellor and Vicar-General of York, and the inventor of a new style of writing English. If one thing can be safely said of him straight away it is that he was not lacking in versatility.

Having disposed of some £400,000 on charitable and church work in his lifetime, Lord Grimthorpe left £2,300,000. That is the key to the following story.

* * *

Edmund Beckett Denison was born in 1816. His father was Sir Edmund Beckett, 4th baronet, who took the additional name of Denison in 1816, and relinquished it when he succeeded to the baronetcy in 1872. Young Denison was educated at Doncaster Grammar School, Eton, and Trinity, Cambridge. He graduated B.A. as 13th wrangler in 1838. His early interests were all mechanical—his dislike of sport and lack of interest in art and literature were lifelong. But he showed an early concern for architecture; by his own account he converted his tutor from a love of classic to a love of Gothic. And his tutor, as Dean Peacock, was instrumental in the restoration of Ely Cathedral.

After Cambridge, Denison was called to the bar in Lincoln's Inn, became a Q.C. in 1854, a bencher in the same year and treasurer in 1876. His legal career was splendidly successful from the financial point of view. Everything was on his side, especially his name. Denison signified the Great Northern Railway, and the Great Northern Railway signified money. Millions of it! Denison senior was of the two great railway speculators of the time, and he outlasted and outsmarted his rival Hudson. (War between them was declared on the platform of Derby station—'I shall never speak to you again,' said Denison.) The father put his son in line for all the legal business he wanted and gave him the rudiments of the clumsy-trenchant style that was to be developed so thoroughly—'no fallacy', wrote the father, 'could be so great as to suppose that the British public would travel circuitously if they could go directly; such a theory might do very well for railway makers, but not for the public; sooner or later traffic, like water, would find its own level.' Young Denison first appeared for the Great Northern in 1845 during the great parliamentary railway session and from then until 1881 he guided the company's struggles before the Parliamentary committees. Between them the Denisons must have been a formidable pair. Both were six-foot, powerfully built, inexhaustible, brutal, rich, handsome and out to win.

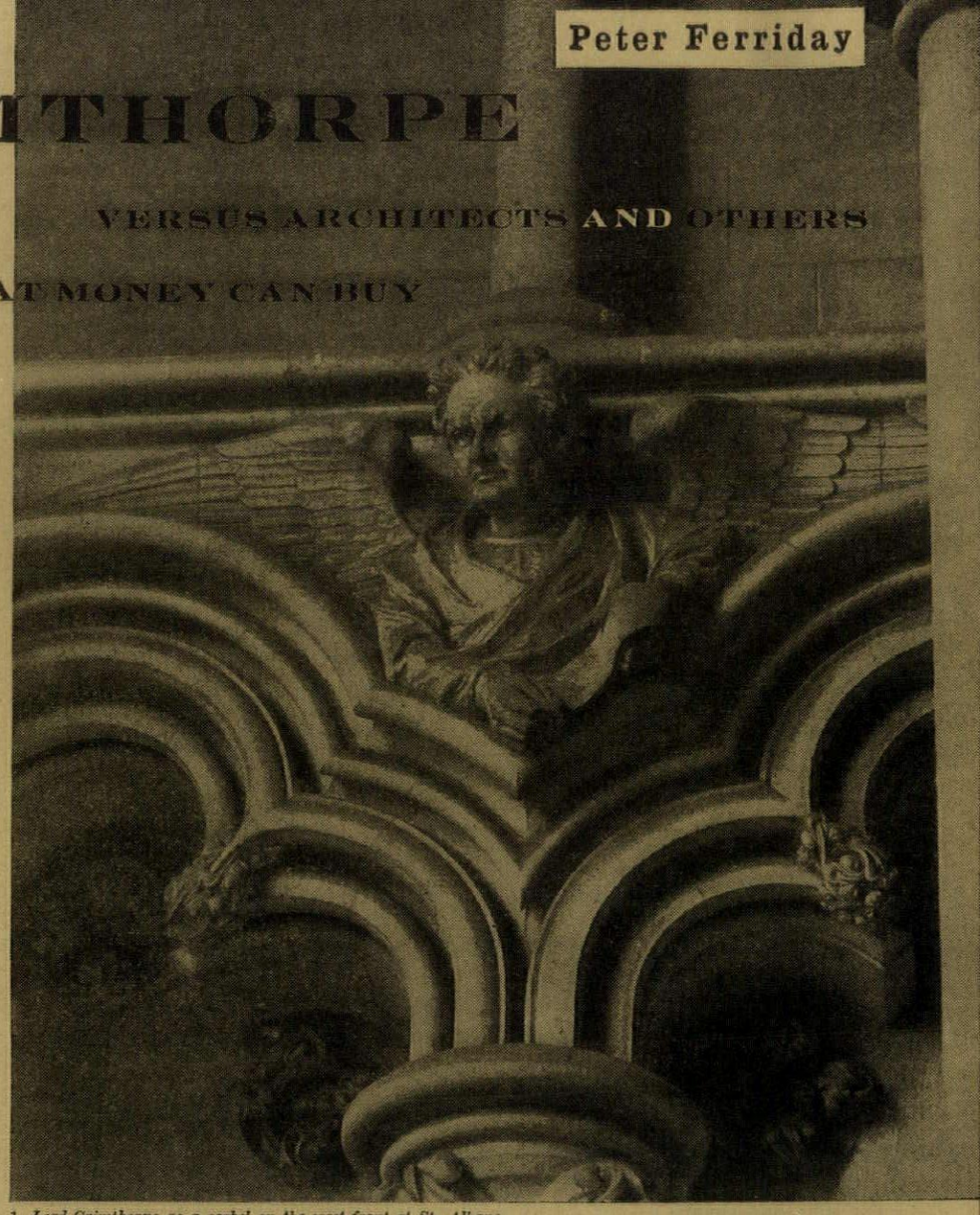
Denison's first published works were religious and it was inevitable that he should embroil himself in the question of the Deceased Wife's Sister. Unlike most of his contemporaries he thought such a marriage neither incestuous nor indelicate—he recommended a journey to Scotland to those contemplating such an alliance. His position in the church was considerably to affect his architectural work; it accounted for some of his antipathy for Street and Butterfield. He was a strong believer in the right of the laity to keep the clergy under firm control and a strong opponent of ritualism and ritualists. Bishop Phillpots of Exeter, Archdeacon Denison, Pusey, Lord Halifax, he hated the lot of them. He hated 'old Phillpots' for fifty years. He saw the Roman consequences of it all. 'And do you think I was wrong in writing in *The Times* not long ago that Lord Halifax reminded me of the Spanish nobles whose highest ambition was to act as acolytes or "familiars" to the Inquisition? And what has Spain become among nations?' Ritualism was the impertinent self-assertion of clergymen who didn't understand their station in life. He kept a watchful eye on them, and took them to task with his pen year in and year out. As chancellor of York (from 1877) he was able to browbeat any number and he could get at the bishops, and did, in Convocation and the Lords. Of an interview Archbishop Benson reported: 'He was agreeable, but the interview terminated with a minacious "Very well" from him. Grimthorpe was quite civil.' Grimthorpe was rarely civil.

* * *

It seems that Grimthorpe's name (though he was still Denison at the material time) is an insult to the descendants of the Dent clockmaking family in Pall Mall. They go out of their way, none too successfully, to denigrate his work. Big Ben is the sizable bone of contention.

In 1844 Barry wrote to Vulliamy, the Queen's clockmaker, for plans for the great new clock. Barry's terms were accepted by the authorities but all was upset by E. J. Dent who asked to be considered as a candidate in the manufacture of the clock. The Astronomer Royal, Airy, was consulted and produced a set of conditions for the design which infuriated the profession. Vulliamy considered the conditions impossible and there the matter rested to everybody's discontent. On to the scene came Edmund Beckett Denison, who in 1850 published *A Rudimentary Treatise on Clock and Watch Making with a Chapter of Church Clocks*. He was appointed chairman of the horological jury of the Great Exhibition—the medal was awarded to a clock of Dent's designed by Denison. (This clock went to the Great Northern's new terminus, King's Cross, in the end.) As a result of this Airy asked that Denison should be associated with him in the matter of the Parliamentary clock.

At this point the situation was simple. 'Was the proposed "national timekeeper at Westminster" to be,' so writes Commander Gould, 'as the Board of Works had undertaken in 1846 that it should be, "the very best that the skill and science of the country could supply," or was it to be a quiet, lucrative job for the benefit of the mandarins of the clockmaking and bell-founding trades? And was it likely that the latter would tamely submit to the dictation of a scientific amateur whose only qualifications—as, too late, they discovered to their cost—were that he was amazingly competent, largely disinterested, and utterly ruthless?' The upshot of the appointment was that Denison designed the clock, incorporating for the first time the gravity escapement invented by another Q.C., Bloxham, and got Dent the job of manufacturing it. The Company of Clockmakers, backing Vulliamy, tried to get him out. The Government took five opinions to see if they could slip the Dent contract, but Denison was not the sort of man easily got rid of—'and thereupon Sir W. Molesworth and his Board retired from the contest in a kind of sulky despair,' wrote Denison. 'Sulky despair' was all his opponents were ever left with. The next victim was Airy, who wrote in his resignation letter of 1853: 'Our subsequent intercourse, while it has fully confirmed me in the high opinion which I entertained of Mr. Denison's mechanical ingenuity and horological knowledge, has also shown that our ideas of the mode of conducting public business are very different and has at last forced on me the conviction that we cannot with advantage profess to act in concert.' After that things went a little more smoothly but Denison had to put up with a lot of stupid criticism from the press—what's a lawyer doing a' making our clock?—and he had to put up with 'the stupidy of Sir Charles Barry.' Barry's vice was to



1, *Lord Grimthorpe as a corbel on the west front at St. Albans.*

mix up his accounts with Denison's (thus doubling the cost of the clock and leaving Denison open to unjust comment), while Denison's vice was to write to the newspapers about the architect's stupidity. The clock was finished by Frederick Dent (E. J. having died) and only the bell remained to be cast. No bell of such a size had ever been made before but Denison was confident—he was, in addition, an expert on bell-making. The first bell, made by Warner's, cracked under Denison's tests. (Warner was paid out of public money, Denison was attacked by the public—for looking after their interests.) The next bell was made by George Mears, and Denison declared himself satisfied after inspecting it. The bell was ready but the bell frame wasn't; Barry had made it too weak. It took five months to set it aright. Then the hands wouldn't move ! The press was delighted at what they thought would be Denison's humiliation; Denison blamed Barry, Barry blamed Denison. Denison had hollow hands made, with the decisiveness of Wellington and his sparrow hawk. At last, on May 31st, 1859, the clock began to work. It worked for two months and then the bell cracked. (Denison, determined to get a good note out of it, had put on a heavier clapper than was stipulated in the agreement.) Denison blamed Mears and Mears brought a libel action and won. He won because Denison was not allowed by the Board of Works to have the bell examined by a metallurgist; when Dr. Percy did examine it he disclosed that Mears had carefully hidden the faults and made a bad job of the whole casting—but too late for Denison's pocket.

Had the matter rested there all might have been well. The struggle had been acrimonious and undignified. Denison's methods had been deplorable, but probably justified. The greatest clock in the world had been built and old quarrels might have been forgotten. Instead, early in 1860, Frederick Dent was laid low with delirium tremens and decided the time had come to make a will, and his decision cost Denison his reputation.

Dent asked Denison, as a personal favour, to draw up his will. This was done, with blanks left for the beneficiaries. There was £50,000 and businesses producing £8,000 a year to be disposed of. When Denison returned to the sick bed he found that the family had been left about £5,000, that Smith, the capable foreman, had been remembered, and that the rest had been left to himself. The extraordinary thing is that Denison appears to have accepted the will, which considering its contents and the maker's state of mind, would have inevitably been challenged in the courts. However Dent came to his senses sufficiently to order a relative to burn the will and so to die intestate with the result that in December, 1860, before the Court of Probate and Divorce, the case of Dent v. Denison made its squalid appearance.

The case, if squalid—and with £50,000 at stake what else could it be?—was lively. Two of Mrs. Dent's witnesses reported the deceased as frequently saying, 'Denison hunts me up so about the will.' It transpired that Denison wouldn't allow the family into the sickroom and even tried to get the invalid carried off to Brompton—the carriage was at the door but the invalid refused to go. Dr. Pinching of Walthamstow certified that Dent was of sound mind when he destroyed the will—Denison's counsel elicited the admission from Dr. Pinching that his reputation in Walthamstow wasn't good because he had tried (but failed it seems) to seduce the fifteen-year-old daughter of a patient there. Witness John Denning, the son-in-law of 'Lord Chief Baron' Nicholson, the founder of the society of wits, the Judge and Jury Society—needless to say this provoked from counsel, 'I suppose he is your legal adviser (laughter)'—reported that Denison had said to him, apropos the will, that he had no doubt there would be 'a jolly shine' (laughter). The 'jolly shine' turned out badly. The jury, after eighty minutes, decided for Mrs. Dent and Denison didn't even get his costs defrayed from the estate.

The fine, handsome and uninsured parish church of Doncaster was burnt down in 1853. Denison subscribed £500 and was placed on the building committee. And then came the perfect pliable tool, George Gilbert Scott. At the time Scott was just about able to see the broad and rich acres before him awaiting tillage. Mrs. Scott had shown Moffatt off the premises, Carpenter was dead. But Scott was never a man to fall out with anybody who could jingle the sovereigns, and the son of the chairman of the Great Northern, the rising lawyer, the emerging layman was not to be crossed.

Denison, the opportunity to hand, mugged up his Gothic; 'I made what speed I could,' he wrote, 'to improve the small amount of such knowledge which I possessed; for I had had to do with architects before, and I confess I had not faith enough, even in the best, to feel inclined to take whatever plans might come out of his office, without being satisfied that they were at any rate the best he could produce, nor to refrain from complaining of what appeared to me wrong the moment I saw it, instead of waiting till the end, in the hope that it would turn out right. . . . Having said this—and I could say a great deal more on the same subject—I am bound to add that I have found Mr. Scott quite above the professional vanity of refusing to listen to the suggestions of an amateur.' Poor Scott had to listen to a great many suggestions from the amateur over the next twenty years.

All the old perpendicular of St. George's, Doncaster, was replaced by Geometrical at Denison's insistence. Denison redesigned the tracery, supervised the building, saw to it that all the gutters were laid on flags, and claimed all the credit. Scott recorded in his notebooks; 'It has been brought almost *ad nauseam* before the public by my friend, and at the time tormentor, Mr. E. B. Denison. He was, however, a strenuous supporter of doing the work well, and was a very liberal contributor to the funds; and were it not that he has an unpleasant way of doing things which makes one hate one's best works, I should have far more reason to thank than to complain of him.'

On the strength of this church Denison gave some lectures on Gothic which were printed in book form in 1854 (and reprinted with additions in 1856). The book remains readable in spite of its unpleasant tone; he hated fine writing and believed that the written word should go like the spoken word—not realizing it seems that there are ways and ways of talking and that a lawyer's is perhaps the least ingratiating. Much of the book is elementary information derived from Rickman, Pugin and the Brandons but there is plenty of good sense on such things as ornament, pews and ventilation. There is just criticism of the arrogance of Ruskin and a good deal of the author's arrogance—'But I can tell you this, which none of the books that I know of will tell you. . . .' Looking at Rickman's classified Gothic Denison picked on Geometrical as the style to be imitated; 'as to the exact point which is to be taken as the climax of the Gothic styles, I have no hesitation whatever in fixing it at the period of the Geometrical, or Complete, or Universal style, of which the year 1300 may be taken as the middle. Up to that time I think architecture was ascending, and from that time it began to decline.' In this style are full windows and fine tracery absent in Early English, the strength absent in the later ogee work and the variety absent in Perpendicular. He condemned Wilton church as 'exotic' and described All Saint's, Margaret Street, as 'a fantastic building.' The best modern church, after St. George's, Doncaster, was the Gordon Square one, though its mouldings lacked distinctness and its tracery was too thin. That the revival buildings were all too spindly was a just observation that he was to make again and again. Of the demand for a 'new style' he commented, 'such a proposal [is] rather like advertising for tenders for a volume to supercede Shakespeare.' What marked the book as the work of an amateur was the attack on Cockerell.[1] It was something no professional could have perpetrated, however Gothic he was in his tastes.

In 1859 Denison amplified his views in a paper *On some of the grounds of dissatisfaction with modern Gothic architecture.* He returned to the problem of finish: 'But our modern workman with his files, and scrapers, and pencils, and rules, and broad chisels, is not going to abandon the perfection of his art so easily. He thinks the masons of York Minster were a kind of savage of the dark ages, and laughs at "those old fellows, who" (as our contractor so contemptuously said to me) "could not make two sides of a church of the same length by a foot or more very often," and left their work at York Minister so "unfinished" that our clerk of works told me that he was "quite shocked at it." ' When Denison and Scott ordered the masons at St. George's to chop the stone in the natural oblique way with broad axes to give it the true rough Gothic finish they drew lines at exactly 45° and gave it a 'vertical corduroy' effect. (They should have resorted to Pearson's method which was, so the story goes, to have a proportion of left handed masons on the job to give surface variety).

For the rest of his career Denison kept his views unaltered. He added to his criticism of Early English in his St. Albans guide book and he attacked the introduction of vigorous (Street) Gothic as 'shadowless.' (The key passage is conveniently quoted in Mr. Goodhart-Rendel's lectures—Denison failed the 'test for taste'.) He thus stuck firm to the tone of the 'forties and 'fifties, very English, very imitative, uninventive, unpolychromatic, pre-Ruskinian, Gordon Square-ish, and was an aesthetic anachronism at any early age. This was no doubt largely due to his position in the church. All Saints, Margaret Street, was certainly 'fantastic,' but the near Papist goings on inside it were a good deal more so. Street's and Butterfield's clients made it impossible for Denison to look impartially at their buildings.

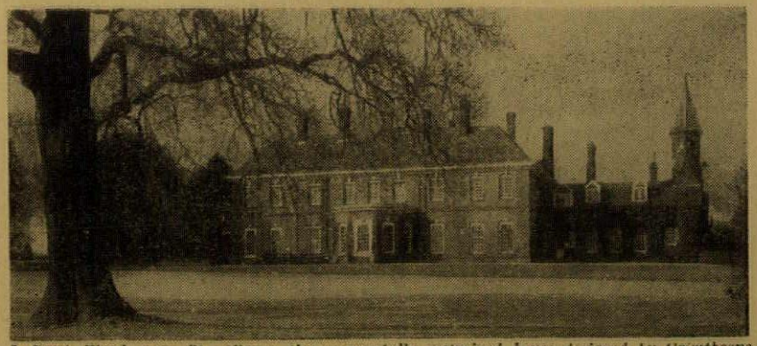
In these early years Denison's architectural activity was limited. He supported and subscribed to the Architectural Museum (ten guineas a year), wrote furiously in defence of Scott's Gothic Foreign Office design, and intervened in the interesting St. Mary's, Taunton, case.

In the sixties Denison was architecturally quiet; whatever he did was done in decent obscurity. By the end of the decade he was the dominating figure of the Lincoln's Inn building committee, and on January 31st, 1870, he introduced a motion for extending the Hardwick library eastwards. It was agreed—and a most desirable step it must have been—and Scott was called in and asked to estimate the cost of the additional three bays. His extraordinary way of estimating is worth recalling. He said it was difficult. He said he would be able to do it by comparing it with the cost of the Hardwick library. But unfortunately the cost of the library alone wasn't known. Nothing daunted Scott informed the committee that all the new buildings, all 1,094,000 cu. ft. of them, had cost £60,000. The proposed addition was 173,500 cu. ft. so the cost would be in the region of £9,000, which, other things being equal, would be £8,000. (This jovial way of computing could hardly have been much to Denison's taste.) In the event the extension cost a great deal more. The work went on from 1871 to 1873 and Denison claimed all the credit for it, though the drawings were Scott's (or from Scott's office) and the design was Hardwick's. The touch of originality was the turret on the south-east corner, and no doubt that was Denison's. He said it was 'the handsomest room of the kind in London, and not even surpassed by any College Library except Wren's internally beautiful one at Trinity, which however is ugly enough outside, as nearly all his churches are except St. Paul's though some of them are fine inside, even the ugliest of all, St. James's, Piccadilly.' In its hefty way the room is no doubt excellent, but all the credit is Hardwick's.

By now Denison had already some experience of restoration work. He was involved in the Dudley restoration of Worcester Cathedral; he tolled its new bell for the first time in 1869 and then went on to deal with the tower parapets and pinnacles. He claimed, and no one denied it, that they were entirely his own design. His next work was the design of St. Chad's, Headingley, Leeds, which he and his father built and endowed with an income of £200 a year.

Denison disappeared in 1874 and Sir Edmund Beckett was born. He took himself along to the R.I.B.A. and had a few things to say on the health of the profession. 'An architect in the country told me lately that his clerk had left him. Knowing the clerk, I answered, "I should think that is no great loss." "Oh, but he tells me he has acquired a connection here, and is going to set up for himself!" I replied, "He acquired a connection! Why, where did he ever see a bit of building done, or do anything but copy your plans and specifications?" So a man becomes an architect in that way, and acquires a connection by going out to tea in a country town, and talking about the plans he has been making.' That was fair comment and made at the right place, but Beckett didn't stop at fair comment. With Sir Gilbert Scott in the chair he turned his attention to competitions in which architects had to submit fancy drawings to dazzle ignorant judges ('we are obliged to,'

[1] The only architect whose elevation of character placed him beyond criticism. The *Builder* appeared in black twice in the century I think, once for the Prince Consort, once for Professor Cockerell.



2, Batch Wood, near St. Albans, the unexpectedly restrained house designed by Grimthorpe for himself.

Sir Gilbert intervened, with a wealth of experience behind him) whereas their work, if commissioned, would have been quite different. Beckett modestly gave an example. A committee sent him the two best designs in a church competition. 'Whether the other twelve were really worse I cannot tell, because I did not see them. But the two were both so bad that I could only answer that I was sure one was a delusion, and could not be done honestly for the money; and having no reason to suspect that of the other, and knowing something of the architect, I thought they might employ him—provided he would adopt a perfectly different design, which I made myself; and so they did, and are well satisfied with the result.'

This, to a body of architects! And they had made him an honorary associate!—because they needed the two guineas Beckett said later.

By the time Beckett published his once famous *A Book on Building* (1876) he could lay claim to being the architect of two churches in Peterborough, one at Cliffe in the East Riding, St. Paul's, Burton (J. M. Teale helping), the Grammar School and the vicarage of St. James's in Doncaster, St. Mary's, Lichfield (excluding tower and spire), as well as those mentioned before. The book was well received everywhere, even in the architectural press. It was thoroughly practical, covering everything from keyholes to chimneys, and often amusing. The moral all the time was, don't trust the builder—he's a rogue, don't trust the architect—he's a fool. Clients were warned about the RIBA contract which landed them with the architect as an agent, and unexpected bills. (Beckett knew of a case where, quite legitimately, the 5 per cent. had become 17 per cent. as a result of the contract; but he also knew of a room where the windows and doors were so well made that the fire went out for want of a draught.) The tone was manly; 'People talk and write fine language about the philosophy of art and theories of architecture and may call it "the expression of a people's wants" and many other things which sound well and mean anything or nothing; but the long and short of the matter is (as I said just now) that architecture and architects want only two things, expressible in two short words, taste and knowledge.' All anybody could say to that is that it is the long to the matter and not the short as Beckett implied. The best of all Beckett's anecdotes reappeared in the book and he recounted it in his splendid 'I told you so' manner. 'I did indeed know one case where a London architect thought he had overcome the difficulty [of having a stone lintel over a carriage porch] by dovetailing the stones endways. I happened to visit the place just before this portico was finished and when I learned how it was done I said, "then there will be a pretty smash there some day." The very day the props were removed the whole thing fell and killed one of the men I had been talking to.' (The architect's name is to this day hidden in the report of the inquest in a Doncaster paper for April 25, 1862.) On the whole *A Book on Building* was a creditable work. From its publication Sir Edmund became, for the general press, 'an expert on architecture.'

* * *

St. Albans had been reseated from money out of the million pound fund in 1820, had been expensively patched up by Cottingham in the 'thirties and repaired again by Perkins in 1850-1. Later, when the movement to elevate it to cathedral status began Scott was called in, but not till the 'seventies was any progress made. There was a lot to be done. The boys of the Grammar School had to be got out of the Lady Chapel. The right of way through the ante-chapel had to be closed. The south wall of the nave was leaning dangerously and all the western part of the nave was windowless. The porches at the west were in ruinous condition, so was the exterior of the Lady Chapel. The great west window was cracked, the nave roof was rotten, one of the piers of the crossing was unsound and the fittings were no longer suitable to the spirit of the age. Scott spent over £20,000 between 1870 and 1877 without being able to deal with many of the serious faults. His two most important works (excluding the piecing together of the shrines) were the pushing straight of the nave wall in which 20,000 cu. ft. of timber shoring and trusses were used, and the strengthening of the tower. He stripped the plaster off the tower as well. His work there is recorded in detail in the *Recollections*, where he said, 'the leader among those who wish me to do what I ought not to do is Sir Edmund Beckett.'

Sir Edmund had built himself a house, Batch Wood, at St. Albans, from which he could contemplate the near ruin of a cathedral. He joined the restoration committee and exerted himself. At the time he was at the height of his power, at the peak of his legal career. He was an irresistible force.

The Abbey became the Cathedral in 1877 and the restoration committee had a faculty entitling them to do what they thought fit. Straight away the question of raising the flat roof was mooted; the controversy lasted throughout 1878. Lord Carnarvon, the President of the Society of Antiquaries, protested that the flat roof gave added height and dignity to the tower, and if the roof were raised there would have to be a new gable. Where would the matter end? Morris, for the newly founded SPAB, supported the noble lord, and Earl Cowper said the restoration money had been collected by false pretences—there being no mention of any roof raising in the appeals. (Cowper refused to pay what he'd promised so Beckett had him taken to court and got the money out of him that way.) Beresford Hope, now well past his best, denounced the critics of the restoration committee and said their doctrine was one of 'decay and death.' Beckett answered as any lawyer would, by laying down a verbal smokescreen and misquoting his opponent's case. 'As we must rebuild the roof somehow, we are not inclined to build up an interesting copy of ugliness to be gazed upon by the inhabitants of St. Albans for the next three or four centuries, merely to enable a set of gentlemen who call themselves antiquaries to point to it as a copy of a monument of the depravity of the monks before their fall.' The false assumption lay in the first words—it was by no means agreed that the roof had to be rebuilt.

Beckett's dislike of Street was of long standing. Street was a high churchman and that was enough. He had also gone Italian and that was more than enough. He had also restored Eccleshall church out of money raised in memory of Bishop Lonsdale, Beckett's father-in-law. The work there had been finished in 1868, the workmen given a supper at the King's Arms, 182 old ladies of the town and district given tea and plum cake in the Town Hall—all this done and six months later the nave aisle caught fire and did £600 worth of damage to the uninsured church. Street wisely absented himself from the inquiry and sent his chief clerk up, and his chief clerk admitted under cross-examination that a beam end would have been better 12 inches from the fire clay lining of a flue instead of 3. Beckett must have been waiting patiently for Street and in September 1878 he settled scores. The *Athenaeum*, the organ of the Dilke family, critics of the restoration movement, reported that Beckett had succeeded Street as architect to the York Diocesan Church Building Society. Street informed them that what happened was that the office was abolished at a meeting which he had had to leave early. Archbishop Thomson, Beckett's man, said in the *York Herald* that this was untrue—the Society had been reorganized and there was no longer need for an architect, so there was no dismissal only discontinuance! Street wrote to the *York Herald*; 'only yesterday I had to examine a set of plans for a church in Yorkshire, the specification for which was scored in various directions with remarks meant to be practical, all of them characteristic, and some of them satirical, as to the authorship of which there could be no mistake, since one of them directed the architect to "see my Book on Building, page —."' Beckett had to deny the report that he was taking Street's place in restoring York Cathedral, and added, 'If I had, I should certainly not have allowed the alterations he has made there under his favourite pretence of "Conservative Restoration".' So Street was got rid of, even at the expense of forcing an Archbishop to behave in a manner worse than discourteous. (This habit of scribbling on architect's drawings was not always successful; when he added marginal notes on some of Bodley's plans in 1879 Bodley had them rubbed out and returned.)[2]

In November of 1878 the Society of Antiquaries went into the roof raising problem seriously. Street, Christian and Blomfield went off to inspect it with J. O. Scott's consent—Scott was the nominal architect. Then Street read his findings; he dated the roof, described its condition, pointed out some of the consequences of the raising but didn't oppose the idea if it was properly carried out. In December the restoration committee decided, by five votes to two, on a new roof and disagreed with some of Street's findings. Scott accused him of paying 'a surreptitous visit' to the cathedral; he amended this to 'a hasty visit' when Street produced the facts. Beckett called it 'sneaking down' and didn't amend it.

Beckett and Blomfield continued an acrimonious exchange of letters in *The Times* about the roof and the parapet which would have to be taken down. The amiable Blomfield displayed the better manners but got the worst of the argument—Beckett was given the right to the closing letter and that was enough. (Beckett must have been a shareholder in *The Times*.) Beckett never had liked Blomfield because he disliked his distinguished father. That quarrel was followed by one between J. O. Scott and Street about the age of the parapet. The significance of its date was its relation to the new roof; if it dated from before 1323 it should be kept, if it was later it should be taken down. (Neale, the St. Albans expert, claimed that the projected roof height was all wrong and didn't fit the markings of the tower.) Street and Scott got steadily more annoyed and finally the point at issue was lost in 'the shower of amenities.' 'Anybody who takes the trouble to look again at my letter will see that Mr. Scott has omitted to answer it on most points'—Scott replied to the same effect. Then the SPAB asked that the nave roof paintings should be restored and Scott promised they would be. (Of course they never were and they were the source of much quarrelling; were they thirteenth or fifteenth or eighteenth century? At all events, to judge from a photograph, they were worth keeping.) Later in the year Beckett applied for a faculty to continue the work on his own since the committee's money had run out. Excluded from the faculty were the three western porches, which the Freemasons of England had undertaken to restore. Beckett announced that he would rather give lectures on church building at the University of Bedlam than argue with Street-Christian-Morris crowd. The year ended with a violent quarrel between William White (the restorer of Selbourne, not the secretary of the RIBA) and Chapple, Beckett's clerk of works, about the corbel table, already demolished, underneath the parapet on the south side of the nave; White said it was Norman, Chapple that it was post-1323. Chapple ended on a note of triumph by reporting that his adversary had cut away old work at Boxgrove to put in a nondescript reredos of his own—and that this reredos had been replaced and the White 'abortion deposited on the rubbish dump.'

1880

Beckett told the architects of the Institute that they were tradesmen and all the rest was 'cant, selfishness and breeches-pocket.' 'Sir E.B.,' commented the editor of the *Architect*, 'has a pleasant way with him of addressing architects as if he were delivering a penny reading to an assembly of persons in the intellectual condition of the missing link.' (This wasn't too appropriate as Beckett was very anti-Darwinian.)

The second edition of *A Book on Building* which appeared in February contained a new chapter on restora-

[2] Clarke, *Church Builders of the Nineteenth Century*.

tion. The *Builder* and the *Architect* received it well because it was against the SPAB and nearly everybody was then—for good reasons it may be said. 'In short,' wrote the baronet, 'we have now this practical issue to fight, are churches to be kept for archaeologists to amuse themselves with as long as they will stand, or to be made as useful and beautiful as we can get them?' This antithesis was used hundreds of times by opponents of the Society—and one suspects it was regarded as a bunch of agnostics anxious to put a spoke in the wheel of the religious revival. (In fact the membership wasn't very churchy though it was loaded with Ruskinian spirituality.) In any case, as Beckett related a dozen times or more, the Society had made a bad start by recommending the vicar of St. John's, Chester, to leave his church tower alone. It fell down the next year. But Street, as always, was Beckett's main target. 'They, and Mr. Street especially, have been distinguishing themselves again by proclaiming and demonstrating that the undulation of the mosaic pavement in St. Mark's, Venice, is a most interesting and original feature, which it is a desecration to "restore" into flatness. Then comes one of the two greatest engineers in the world [Fowler], and says it is continually changing, and all is due to the ignominious cause of the water continually soaking in underneath.' Following Viollet-le-Duc he bluntly stated that where Perpendicular work was in a bad state of repair it should be replaced by work in a better style; no decadent work should ever be copied. Anti-restoration 'is just as wise as it would be to take no physic when you are ill for fear you should not take the best, or let your leg remain broken for fear it should be badly set.'

In May Beckett secured his faculty and the objectors from the Society of Antiquaries were condemned in costs. Bishop Claughton wrote to *The Times* appealing for money to pay off the committee's debts and he said of Beckett; 'He has undertaken the restoration of the west front, under a faculty, at his own expense. But he is not content with this. He is now rebuilding the northern wall of the nave at its western end, which had been discovered to be in a dilapidated state, and doing other important work, after having already expended large sums of money both on the Abbey itself and in the erection of the new rectory-house.'

1881

The rebuilding of Lincoln's Inn had been proceeding steadily since Scott's death and in 1881 it was the turn of the chapel. The chambers partly hiding the west front and the west front itself came down. In their place was built the vestry and the entrance now in use; the window was moved westwards. Later on Samuel Salter, the official architect, removed the plaster ceiling accredited to James Wyatt while Beckett presented a new communion table made of wood from the old St. Albans roof. The buttresses were refaced and the characteristic pinnacles added. On the whole the new works were inoffensive and the general effect probably an improvement.

The west front of St. Albans came down and Beckett's began to go up. There had been three plans, his, J. O. Scott's and Canon Davys's. According to Beckett the Bishop had selected his without knowing the author.

In the St. Albans struggle there were already four parties. There was Beckett and his set, there was the professional opposition (Street and others whose objection was that they could do the job better themselves), the anti-restorationists at any price, and the motley crowd of anonymous letter writers ('clericus,' 'Architect,' etc.) whose views were as varied as they were uninformed. But one party had the money, one party had the faculty.

A lot of people could be brow-beaten and a lot, especially the professional restorers, were already condemned by their own previous actions. But J. J. Stevenson had a clear conscience and he began the big anti-restoration movement inside the RIBA by denouncing Sir Gilbert and Street. (The significance was enhanced by the fact that he was a friend of the great son, G. G. Scott). In 1881 Stevenson launched forth again at the R.I.B.A. and Beckett's comments were read during the discussion. They were splendid. 'Mr. Stevenson perhaps imagines himself to be the coming man of the anti-restorationists, whom the world has been waiting for to change the destiny of the west front of St. Albans, and either to convert or frighten me into letting it fall down, as it very soon will if let alone, or else into rebuilding it according to the dictation of somebody else. He may persuade himself, too, that the time is at hand when the decision of these things is to be taken out of the hands of the proper legal and ecclesiastical authorities, together with those who pay for the work, and handed over to those who have nothing to do with it which must be accompanied with the power of taxing somebody to provide the funds, and that it is our duty to convince a set of meddling strangers, and not their's to convince us who have the work to do, which they will not by making statements about facts which we know to be wrong, and expressing opinions which we have no reason to consider worth a farthing, but very much the contrary, seeing the absurdities with which they are accompanied.' That is magnificent, unalloyed Beckett.

Sir Edmund retired from his legal work in 1881. His time could be entirely devoted to the supervision of his designs for St. Albans.

1882

A quiet year. Handing out the prizes at the St. Albans School of Art and Science Sir Edmund told the students about the seamy side of medieval architecture. 'They were bad builders; they did not know how to make their mortar; they did not know how to select their stone; they designed contrary to all rules of mathematics, and therefore contrary to all rules of mechanics; the buildings began to split and almost to fall down from time to time.' The truth behind these observations was ignored by the reporters, so annoyed were they at the speaker's conceit; 'if we may offer a word of advice, not to Sir E. B., who is inaccessible to it, . . .' said the *Builder*. He was referred to in the *Architect* as 'a lawyer whose foible is omniscience.'

1883

Peterborough Cathedral became the centre of attention and Peterborough was a town in which Beckett had an interest. It was a railway town and the railway was the Great Northern.

Cracks in the tower made its demolition necessary. Beckett likened the situation there to St. Albans and Lincoln's Inn—'in both churches we have been sitting under Damoclean roofs unconsciously for years.' No sooner was the tower down than controversy broke out. Pearson, in charge, suggested a new design for the tower, a Normanizing of it. The two pointed arches were to give way to round ones. The authorities were divided. The Dean, a friend of Beckett's, and some of the canons were for Pearson, Bishop Magee and the canons led by Canon Argles were against—they wanted a replica. The Bishop threatened to withdraw his subscription.

At St. Albans the west front was completed and it was admirably reviewed in the *Builder*, presumably by Heathcote Statham. 'The present addition to St. Albans Abbey, on the contrary, is a coarse piece of second-rate Gothic, which in almost every detail shows incapacity to realize the feeling or style of the original work. The caps and other mouldings are like coarse imitations of the original; the carving is in some places so vulgar that it is difficult to understand how any man able to carve at all could have executed the "Early English" caps, for instance, of the north-west porch, with the specimens of original caps in the interior of the porch within a few feet of him, or how any educated man could allow such work to be done in such a situation. The one fine point in the total effect is that which was inevitable from the old lines of the building—the deep recessing of the west window between the buttresses, and the gable of the centre porch rising in front of it. This would produce a fine effect, by mere force of mass and shadow, with whatever detail. But, apart from this, the general look of the whole front may, perhaps, be indicated by saying that it is very much the sort of Gothic which one sometimes meets with in competition designs for the larger class of Dissenting chapels—effective, in a showy way, but totally devoid of refinement.'

That was perfectly fair, and yet entirely unjust. It left nothing to say about the merits of the design but a great deal to say about journalistic ethics. Neither the *Builder* nor the *Architect* had before, or after, gone out of their way to examine a design so candidly or in such detail. They certainly ought to have done so, but in point of fact they hadn't. And a good many worse things had gone up between 1840 and 1880. Scott, Street, Pearson, Christian, Clarke, Salvin, White, Ferrey, Phipson, Goddard, Seddon and countless others had carried out vigorous and vulgarizing restorations, but they were exempt from criticism because it was their job, because they got paid for it. The dispassionate criticism looked to the outsider like a mere closing of the professional ranks, however much Beckett had asked for it. Not that he was worried, he could see the work of genius when he built it in front of himself. He trotted out old Ferguson to say it was a fine piece of work—this would have been more impressive if Ferguson had not by then been almost blind.

About the review Beckett had a few words to say in the ever-open columns of *The Times*. He said the *Builder* review was a conspiracy—the R.I.B.A. had given its late editor, George Godwin, the Gold Medal, and the review was payment for services rendered. He managed to get it all round to Street again: 'And as for church restoration, I would sooner trust a clergyman who has really learnt architecture and some building practically, and is always on the spot, than a dashing architect sending down orders from London, and snubbing old builders who know a hundred times as much as he does—sometimes even by their architects' clerks; never condescending to try patterns of anything, and boasting of making an armful of working drawings while a man was waiting for them; for which we were told to admire the author of the Law Courts, in one of the absurd eulogies of him last year, and to build a statue of him in that dreadful failure of a vaulted hall, which he made just the widest and yet look the narrowest in England, from not knowing how to manage it.' In the earlier remarks there was a good deal of truth.

(In October Beckett was trying to get the Street reredos thrown out of York Cathedral. He crossed swords with Blomfield about it.)

1884

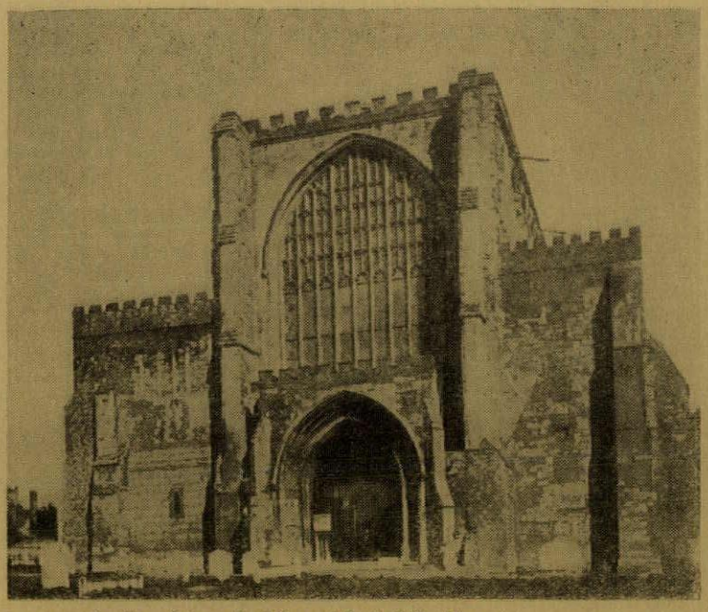
'Sir Edmund Beckett has resigned his connection as Honorary Associate with the Royal Institute of British Architects in a letter to the Secretary, in which he declared that the primary object of the Institute has become to advance, not architecture, but architects.'

In his second home Beckett blew his trumpet very loud for the benefit of forty members of the Oxford Architectural and Historical Society. 'It so happened,' he said to them, 'that I had not been "carrying on trade" for 40 years entirely at a disadvantage. I had not been spending my living riotously and I thought that instead of getting a certain number of thousands a year by making speeches, I would stop and do something else; and, after some more legal opposition, I got legal power from the ecclesiastical authorities of this diocese to deal with the west front myself. That was thought still more horrid. If I, as one of seven, had done all the mischief attributed to me in building the high roof, what could I not do alone? I was looked on as a wicked spirit, and the wickedest of them all. Nevertheless I had the law on my side, and I was not the man who was going to give up an advantage when I had got it. So the west front went on, and there it was. I did not expect that they would approve of it. I never expected anyone to approve of anything I did. If I was myself satisfied I was content. By degrees people came round.' He did not specify which 'people' or what they came round. If this 'Englishman's right to do what he wants' nonsense seems only funny now it could hardly have seemed funny to civilized men living in an age when Englishmen, with the means, were doing what they wanted. The farce of St. Albans, the clowning of the lawyer, amused the audience and embittered them at the same time.

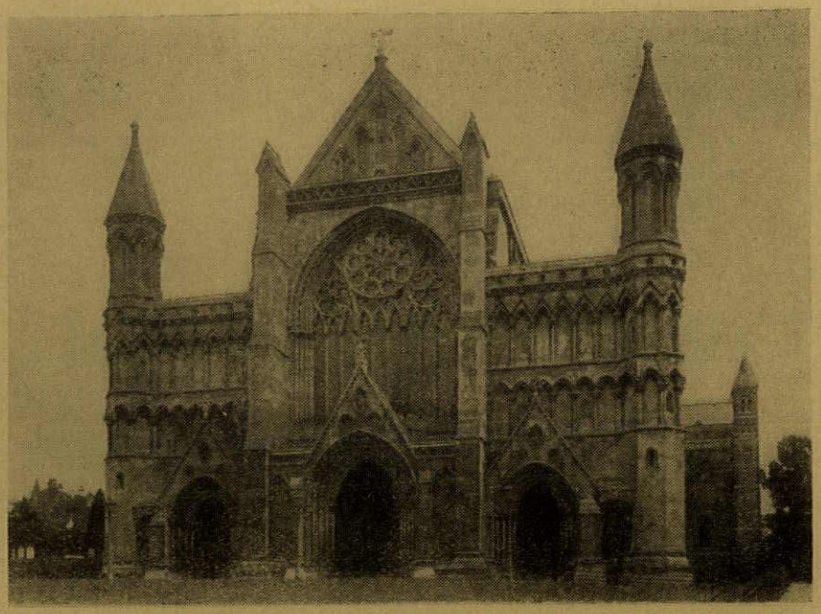
The situation at Peterborough had developed extraordinarily. Beckett had taken over Dean Perowne's case and wrote and agitated on his behalf against the canons and the bishop. In December he warned Bishop Magee that if he withdrew his subscription he would be 'legally in a scrape.' (He was referring to his action against Earl Cowper.) By all accounts the bishop was much revered and there is Matthew Arnold's testimony that he was the greatest preacher he ever heard; but respect for the episcopacy was not among Beckett's possessions.

1885

'I confess I am sick of answering what I called the other day the modern cant about "preserving the historical personality" of buildings. Happily the talkers and writers have a monopoly of it, for no practical man attends to it. Sometimes they pretend to do so. . . . I decline to discuss abstract or imaginary cases. Here [at Peterborough] is a plain and straightforward one. A tower, which had become simply a botch from decay and the only rebuilding it



3, *a pre-restoration photograph of the west front of St. Albans.*



4, *the same after Grimthorpe's restoration of* 1882.

would stand, is down. Is it to be built up again as a lying pretence of being the old botch, though plainly a new one, as it will be for ages; or is it to be the best imitation we can make—or, if you like, the best substitute we can invent—for the original one, with the Decorated top mainly as before? Common sense can give only one answer to that question, and uncommon nonsense another.' (January.)

Seddon was all for common sense, T. G. Jackson and Professor Freeman for uncommon nonsense. The whole matter was referred to Archbishop Benson and uncommon nonsense prevailed—lest anybody should think the issue as simple as Beckett made out, one way or the other, it should be remembered that though the old tower went up it did so without the early nineteenth century turrets, 'Dean Kipling's chimneys.'

St. Albans was prominent yet again in the Press. Its architect published a vigorous and entertaining book on its restoration and he opened up the completely restored nave. In celebration of the latter event there was a luncheon at the Peahen hotel. Bishop Clayton toasted Sir Edmund and said: 'Surely I am the most fortunate of bishops, for when my cathedral was tumbling down, a great layman came forward to build it up again! God bless him! God bless Sir Edmund Beckett for his good work towards this church.' (Clayton, with less flourish, called Beckett's pulpit 'a rotunda' and refused to preach from it.) At this same luncheon it was reported that the joke that went the rounds of the tables was that now Sir Edmund had done his good work the sooner he was called to receive his Heavenly reward the better.

The south transept was next attacked. Its south window dated from the reign of William IV and it was made of wood so Beckett had a perfect case. But in taking out the window he also pulled down a Norman turret—he claimed it fell to bits so rotten was it—and that provoked many furious letters. They had no effect. The damage was done.

Beckett was fed up with the interference of the Press. He decided to disclose to all the motives of his critics. 'The *Builder* need not suppose that anybody in the neighbourhood of St. Albans, or perhaps elsewhere now, is ignorant that its continual abuse of everything done there is due to the fact that none of the R.I.B.A. fraternity have been getting £500 a year for doing it for the last six or seven years. We had had enough of them when I began. The brass plate man would have been just as absolute in spending other people's money as I am in spending my own to save the church from ruin all over, and would probably have insulted anybody who remonstrated with him besides, as I have not, if he had once got into the saddle.' (The first section was of course true; the *Builder* was all in favour of a restoration by an F.R.I.B.A. The professional would have, as Beckett said, been just as 'thorough'—Street, Pearson or Christian would certainly have rebuilt the south transept front and very probably the west front. The £500 was another matter.)

The Times revolted. They printed a letter from Beckett approving the intention of pulling down a range of buildings on the west side of Weston's Yard at Eton College. Beckett wrote; 'I have not met with or heard from a single old Etonian who has signed the paper of condemnation which has been circulated in blank pretty freely of late, and some private letters sent to help it.' His words appeared under a letter of condemnation signed by at least 500 old Etonians—two columns of two rows of names.

1886

Sir Edmund Beckett went in February and Lord Grimthorpe was born. The man beneath was not mollified by the honour.

His protagonist throughout the year was Canon Venables, the antiquary and mediaevalist, who was a sloppy thinker on matters of restoration. Venables had supported the restoration to begin with and so was an easy target for Grimthorpe's shafts. The baron referred politely to 'vapouring outsiders' and that was that.

1887

At St. Albans the south transept rebuilding was finished. Its architect was the only man to think it compared well with the Five Sisters window at York.

Grimthorpe's opinion, so he informed readers of *The Times*, on the architectural profession was fully justified by the report on the burning down of the Exeter Theatre in which at least 127 people lost their lives. The report put the responsibility straight on the architect's negligence.

The end of the year and the next three months of the next year, he gave over to a quarrel of remarkable acerbity with doctors on the subject of homoeopathic medicine. All one can see here is that it was the jolliest shine of the lot, and he won hands down.

1887

Grimthorpe dealt with Mr. Evans, P.S.A. He told him that St. Albans would have fallen down if it has not been taken in hand. If the anti-quarian-ruinationists had had their way the country would have been one cathedral short. 'I am not going to expatiate on principles of restoration. You know, as I have said, I abhor principles. No good or great thing was ever done by them, but all by the genius of common sense, with the requisite special knowledge.' Evans replied that Grimthorpe merely amused him. The professional press said he was ' more to be pitied than blamed' and better still that his outbreaks should be regarded as 'the lucubrations of a person not perfectly sane.'

1889

The great screen of St. Albans was being restored by Henry Hucks Gibbs, a high churchman. The architect in charge was Blomfield, the sculptor Harry Hems, the mass producer of ecclesiastical art in Exeter. Gibbs also wanted to restore the Lady Chapel and applied for a faculty; Grimthorpe wanted to stop him putting a crucifix in the centre of a screen. The early months of the year were devoted to the insults of the two parties in the forthcoming law case.

A strange violent exchange of letters appeared in the *Building News*. Harry Hems v. 'Ars.' 'Ars' was pro-Grimthorpe and anti-Hucks Gibbs (or Hems). Hems discovered that 'Ars' was a Dublin lawyer named Ellis and claimed that Ellis's fury was accounted for by the fact that he had been put out of the cathedral by young Hems when found climbing the scaffolding round the screen to exanine the work in progress. Ellis and Hems threatened darkly about libel actions. An architect in Johannesburg wrote to say that he would send a 'sjambock' (a hippopotamus hide whip) to anybody who promised to use it on Lord Grimthorpe's back. Lord Grimthorpe for his part was busy protesting against the persistent story that Chapple, who had died in 1887, had been the real architect at St. Albans. 'And after abusing the west front for nine years as mine, as soon as my late clerk of works was dead they turned round and discovered that it was too good to have been designed by me, but must have been by him, without even pretence of evidence that he ever designed anything at all, except a dreadful brick house in the Italian style for himself to die in, as it unfortunately turned out.'

H. Roumieu Gough organized a grand scale memorial to the authorities about Grimthorpe's activities. Grimthorpe exposed that too. According to him Gough was doing it out of pique, because he had refused to support a Bill for the registration of architects which Gough was backing. The memorialists regarded the restoration with 'intense indignation, horror and dismay.'

Hucks Gibbs was represented by Sir Walter Phillimore and C. A. Cripps, Grimthorpe looked after his own interests. Said Grimthorpe: 'the faculty was asked for the purpose of creating a row between two sets of workmen, as that was what it would come to'—a nice lawyer-like confusion of cause and effect. He further announced that he wouldn't be stopped from restoring the Lady Chapel whatever decision the Chancellor reached. However Chancellor Jeune found in his favour and went out of his way to pay him compliments; Grimthorpe 'came to the rescue of St. Albans when the committee, the parish, the diocese, and the public were forced to abandon it in despair.' The result of the case was that Hucks Gibbs kept the screen, his opponent the rest. Grimthorpe put his case in *Murray's Magazine*: 'The conspiracy naturally has its branches and architects here; and another similar straw out of a sheaf of them is the constant glorification of the last year or so of Mr. Gibbs, and his image-maker as a new Michel-angelo, and "his accomplished architect," who has had to do nothing that I can see—unless he is the Diocletian who ordered off the heads of some of these modern Albanian saints, which have happily come on again with variations, and so their necks will attest the miracle for ever.' Grimthorpe went on to defend his alterations to the slype and with some justice to attack the Scott buttresses on the south side of the nave; he condemned the copy of the

old tower put up at Manchester Cathedral by J. S. Crowther—'they are already ashamed of it and want another.' He quoted splendidly one of his triumphant conversations. 'And when I asked Mr. Longmire how he was going to work the 110 new shafts at the west front, he answered, "O, turn them I suppose." I replied "Do you? That may do for architects, but no turned shafts are going in here"; and being a very clever and observing man he soon saw that I was right.' The essay ended with some Latin verses sent to him by 'J.G.L.' as a tribute to his restoration of the transepts. 'I wonder how many great—or small—scholars have written poems in praise of any product of the R.I.B.A.?' he asked. 'J.G.L.' was his brother-in-law.

A doggerel appeared during the year:—

'Said the Builder who builded the great West door,
"What shall I put in the spandrels four?"
Then answered the architect, thus quoth he:
"Put St. Mark, and St. Luke, and St. John and ME!" '

1890

In January Morris was reported as saying that many people might think the restorer of St. Albans a great fool but they were wrong. 'He was so clever that he had made a large fortune, and bought the people who ought to have taken care of the building and put them in his pocket.'

The work at St. Albans coming towards its end Grimthorpe looked for fresh fields. He had rebuilt the Lincoln's Inn block on Chancery Lane north of the gateway and he wanted to pull down the gateway itself. 'Sir,—The antiquaries and "ancient building protectors" (by letting them go to ruin) are as accurate as usual in the statements they are publishing, wherever they can get a footing, about this gateway, and some chambers on another side of the square which nobody has proposed to meddle with, . . .' etc. To his indignation the cause of the 'mean, ugly and good-for-nothing fabric' was taken up by the editor of a popular science magazine, A. C. Ranyard. And Ranyard won!

1891

By an extraordinary coincidence Grimthorpe and Blomfield found themselves as comrades; and amongst their troops were Messrs. R. N. Shaw, Lethaby, Prior, Stevenson and Morris. They were all opposed to the registratior of architects Bill introduced by Wilson Noble. The architects opposed it because they thought matters of art were not susceptible to examinations, certificates of competence and so forth. Grimthorpe dissociated himself from that modestly: 'I do not very often agree with the R.I.B.A., but this time I do, though rather in the way of Appeal Courts, which confirm a judgment on some other ground than the inferior one.' The superior court's attitude was that registration would be licensing knavery—architects were like street walkers, allowed a little quiet soliciting and no protection by the law.

Hanover Chapel, 'a great blot,' was in danger of demolition and Grimthorpe prayed it would be demolished quickly.

1892

Apparently a Sabbatical year.

1893

The great work at St. Albans was over. The west front was rebuilt and the porches reconstructed. Ten of the clerestory windows and part of the wall of the south side of the nave were rebuilt and the buttresses cutting into the cloister remains added. The face of the south transept had been rebuilt and the five lancets which are truncated by the ceiling on the inside incorporated. The slype and its famous arcade was renewed. The choir was refaced, its tracery renewed, its roof raised. The Lady Chapel was refaced and the tracery that hadn't been worked over by Cottingham or Scott was renewed. The face of the north transept was rebuilt and given its halfpenny and multiples circular window. The north side of the nave was given new windows in the blank bays and its aisle roof was raised. Inside the Decorated columns of the nave were rebuilt, the aisle screens were added, new ceilings to the transepts added, two lancets put in the south wall of the north transept, new clerestory windows put in the presbytery. The oak screens in the retrochoir were new and so was the sculpture of the Lady Chapel. The Chapel of the Transfiguration was of Grimthorpe's design. What looked old was more than likely the work of Cottingham or Scott.

If Scott had spent £40,000 as Grimthorpe asserted then the total spent in the forty years 1850–90 was about £180,000; £130,000 from Grimthorpe, £10,000 from Gibbs, the rest from subscriptions. (The City of London, The Freemasons and The Ladies of Hertfordshire had provided small sums as well.) From being a dilapidated, dark, ill-used edifice it had become a light, sound, modern cathedral. Not much of great architectural interest had been lost. It might have been more kindly, more respectfully dealt with—less slicked up. The restorer might have acted with more restraint. more tact, more delicacy. But Scott had been as thorough at Oxford and Chester, Pearson as thorough at Westminster, Buckler as thorough at Lincoln, Salvin as thorough at Exeter, J. O. Scott as thorough at Lichfield, Street as thorough at York, and so on. The architects might have designed better transepts, a more graceful west front, but they would, the money to hand, have designed them. (And taken their 5 per cent.)

St. Peter's church at St. Albans was lengthened a bay westwards and given a circular window. He added decorated windows on the north side and rebuilt the vestry, he took out the west gallery, moved the organ, remade the tower buttresses and rebattlemented it. The church, though mainly distinguished now for its glass, is not unsightly.

When Knowles gave up being a second-rate architect to become the first-rate editor of the *Nineteenth Century* architects looked to him for some free publicity; they were badly treated by the press, excepting the *Athenaeum*. So when *Architecture, a Profession or an Art* was published by the art-wing of the profession Knowles was sounded for a review. D. S. MacColl was suggested but Knowles mixed him up with Canon MacColl, the religious and political pamphleteer, whom he didn't like. He selected Grimthorpe. Norman Shaw wrote to Blomfield (Reginald): 'of course the worst of Lord Grimthorpe is that he will bang us about the head as much as our enemies . . . it is past his powers to be anything but brutal. Still a good discussion and publicity is better than nothing.'

The 'prize-essay style' of the book annoyed Grimthorpe. Architects weren't artists because they didn't execute their own works like painters and sculptors. Moreover they knew nothing about building. (They had ghosts too.) He took a side kick at the unfortunate Sir Charles Dilke, settling old scores. The central passage was an interesting account of the Gothic revival and a libel on Street. 'My own opinion, formed from observation all that time, is that church architecture did improve during the first twenty years of it [the nineteenth century], from the mean and frightful abominations of the Georgian period. But the revival was then in its youth, and was cultivated by the clergy, who had not descended into millinery and superstition, and taken to patronizing architects according to their profession of "Church Principles"; in which I remember being told by one of them that Scott was sadly wanting (though he certainly was not), and so sent to another who professed them better (except among his friends, I was told) and became their fashionable architect; and so have others, who never did anything as good as Scott, with all his deficiencies of mechanical instinct. . . . But his work never exhibited the coarse vulgarity under the pretext of originality which its leading practitioner named "vigorous".' He went on to say that Gothic didn't suit domestic work and that Bath was the most beautiful town in England.

Grimthorpe's last complete work was begun in 1893. The church of Hexthorpe, near Doncaster, was his; the nominal architect was H. Athron.

1894–1905

Towards the end of 1896 Peterborough Cathedral was in trouble again. Pearson wanted to rebuild the gables of the west front and all the younger architects vigorously campaigned against him. Webb and his friends devised a method of restoring the gables without any demolition; their specification was signed by, amongst others, Halsey Ricardo, Wilson, Newton, Dawber, Lathaby, Macartney, Ashbee, Horsley and Stevenson. Blomfield was called in and supported Pearson; the Dean and Chapter rejected the advice of the younger men—'we should be guilty of most culpable neglect of duty were we to allow any hazardous experiments to be made on so important an example of Early English architecture.' (The contractor Thomson insisted that the Webb method involved danger to the workmen.) Grimthorpe wrote encouragement to Pearson rehashing the old story of how the chance to redesign the tower had been lost.[3] His letters to *The Times* were followed by one of high femininity from Octavia Hill: 'We may recarve, rebed, and relay, but we cannot restore the old builders' handiwork, nor give back to this old fenland fane the unimaginable [*sic*] touch of time.' The old guard had the gables rebuilt.

[3] The editor of the *Builder* was furious and informed G. that the only way he could help Pearson was by keeping his mouth shut. He was a 'blustering busybody.'

The final fling was at St. Michael's, St. Albans. It had been worked over by Scott in 1865, with Bacon as the bait for subscriptions. In 1897 Grimthorpe rebuilt the tower and finished off what Scott had left undone; between them they licked the platter clean. In reply to criticisms he wrote a few notes on 'brass-plate architects.'

The declining years were quiet; a few letters on ritualism and then silence lay over Batch Wood. He died there on the 29th April, 1905. Among the tributes paid was that of the Dean of Canterbury in the memorial service at Lincoln's Inn Chapel; 'Such characters as his were like the backbone of society in public life.' The obituaries hardly did him justice; *The Times* underestimated his mechanical genius and overpraised his powers of invective in comparing them with Cobbett's, while the architectural press treated him as someone they vaguely remembered having heard about in the dim and distant past. While the burial service was being conducted—the body was laid to rest in the cathedral graveyard—the business of the town was largely suspended as a mark of respect. The only hymn was, 'Now the labourer's task is o'er.'

* * *

Grimthorpe's opponents in his many controversies, however good their case, lost the argument. They moved their pieces on the black squares only to find that Grimthorpe had gone right through them on the white and was triumphantly crowning his men and telling all and sundry what a good player he was. When they talked architecture he replied with building, when they talked building he hinted at their financial interests, when they talked of restoration principles he enlarged on religion. He could never be caught out. One by one his opponents went the way of the fifth little nigger boy.

Denison-Beckett-Grimthorpe was astonishingly able while his joy in bullying must be unique considering the variety of the victims and the invariable success. No doubt the success was promoted by the £2,000,000, but could the architects, churchmen, clockmakers say that the onslaughts were entirely undeserved?

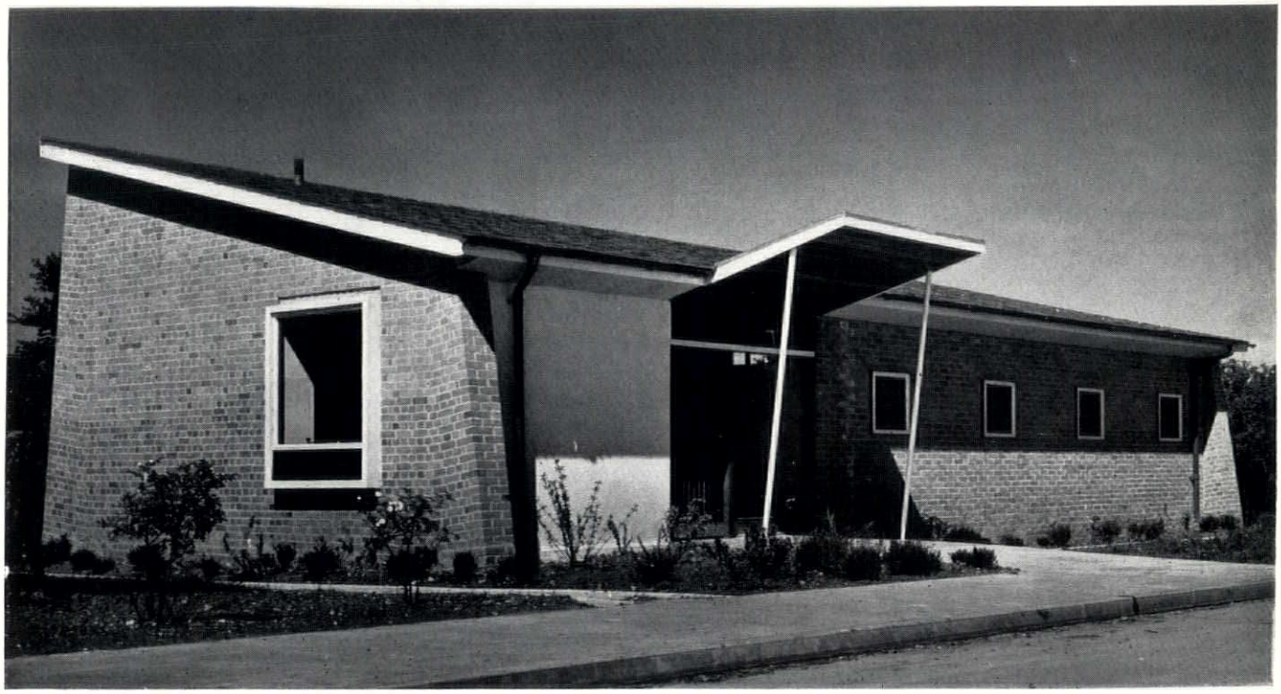
acknowledgments: Mr. F. B. Cowen, F.B.H.I., and Mr. F. West of the British Horological Institute were kind enough to allow me to see material in their safe keeping. I am indebted, too, to Mr. C. W. Ringrose, Librarian to the Honourable Society of Lincoln's Inn, for permitting me to see the building records and to Mr. A. Clapham for showing me drawings of the unrestored Lincoln's Inn chapel. If I have not made too many errors in references to the history of Victorian architecture that is due to the writings of Mr. Goodhart-Rendel; if there are errors I can only plead I forgot what Mr. Goodhart-Rendel said.



5, *Lord Grimthorpe in old age.*

current architecture

recent buildings of interest briefly illustrated.

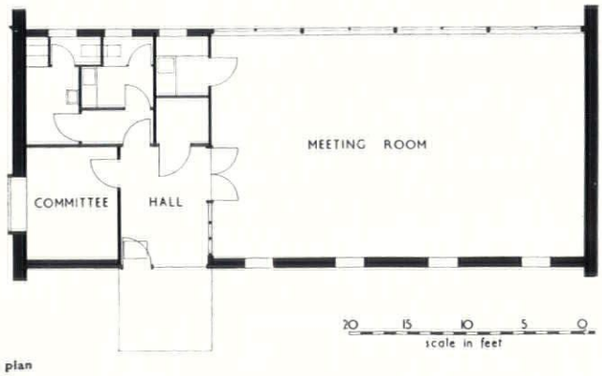


1, *the east side with the entrance canopy, supported on 2 in. mild steel columns.* 2, *from the south-west; the south end is rendered, the meeting room beyond has horizontal and vertical boarding above and below the windows respectively.*

MEETING ROOM AT POTTER STREET, ESSEX

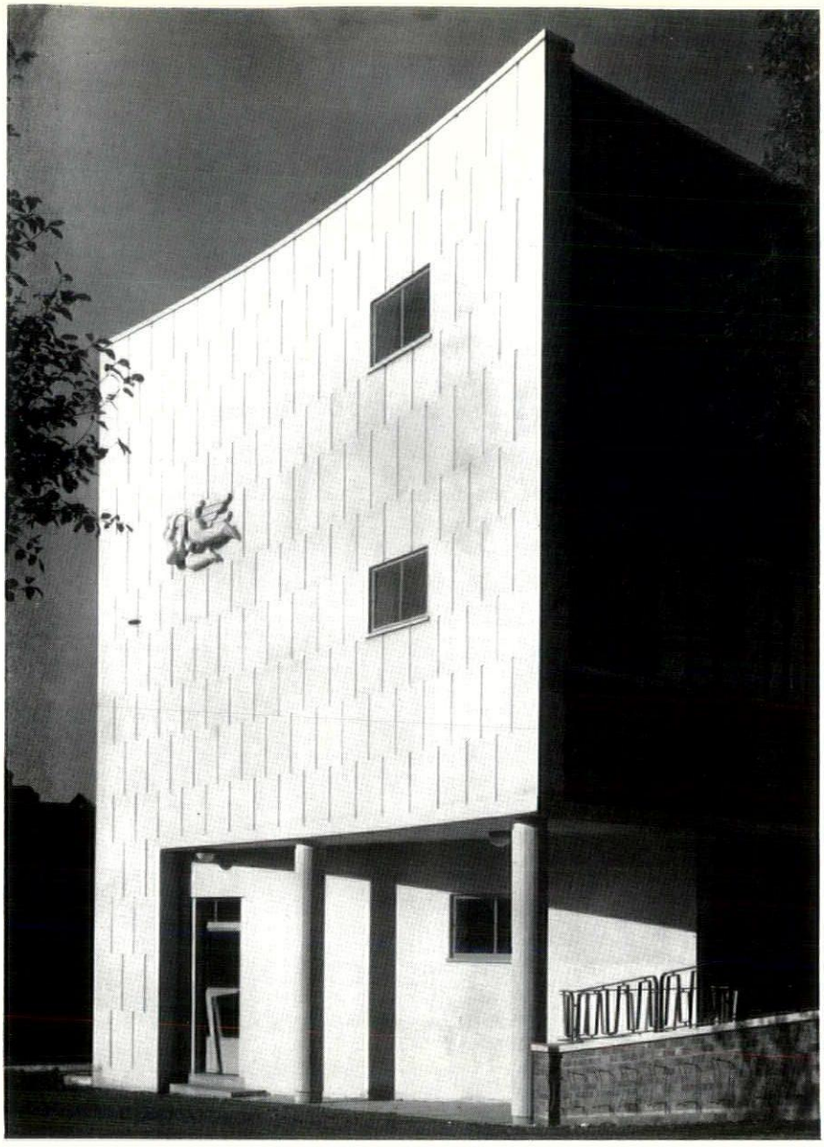
ARCHITECTS: HENING & CHITTY

Potter Street is a village on A11 between Epping and Harlow, around which one of the neighbourhoods of the New Town has been built. The neighbourhood—designed largely by the architects of the meeting room—splits naturally into two parts east and west of A11; this meeting room serves the 'parish hall' needs of the eastern section. The meeting room therefore consists of a single all-purpose room well lit and heated, with hardwood strip floor. The construction is load-bearing brickwork with monopitch roof and exposed light steel open-web joists. All windows, doors and cills are in dark coloured hardwood and the inside walls are papered.



plan





3, the east façade, faced in Portland stone; the sculptured panel is by Anthony Foster.
4, the south façade, facing the High Street, set back 30 feet to fit a post-war improvement line.

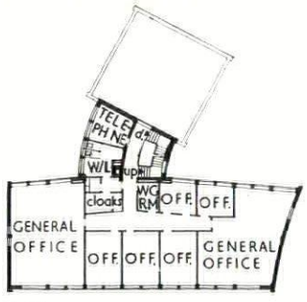
3

CROWN OFFICE AT THORNTON HEATH, SURREY

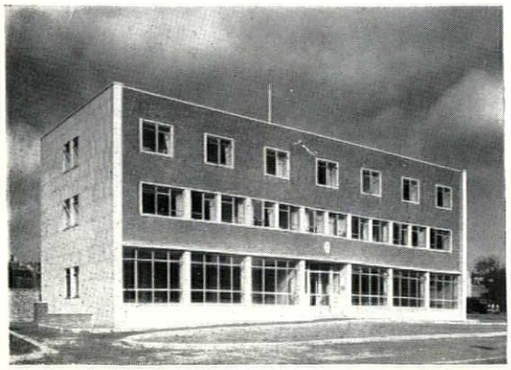
ARCHITECTS: MINISTRY OF WORKS

SENIOR ARCHITECT: E. H. BANKS

This Crown office houses the local branches of the Ministry of Pensions and National Assistance Board, on the north side of Thornton Heath High Street. The western flank wall, which is faced with Portland stone, is curved above first floor level and supported on tile-faced concrete columns. The building is steel framed and has external walls of 13½ inch brickwork. The stanchions are carried on mass concrete blocks, cast in situ, and the walls are carried on strip mass concrete foundations. The stone-faced flank walls are 9 in. brickwork and there is also a stone plinth under the ground floor windows to the public spaces.



first floor



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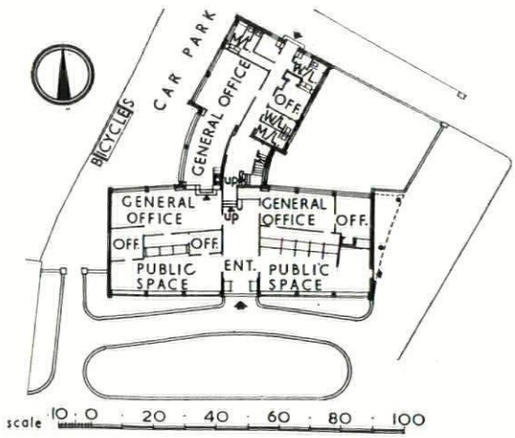


ground floor

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

miscellany

EDITORS ONLY

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

LOSING THEIR DOOR-CHAINS

More and more it seems the business man is beginning to hanker for his own office front door, for the little place 'just off' somewhere, rather than for the smart anonymity of Rooms 37–63, 4th Floor, Lessor House, W.1—however shabby and at times inconvenient may be the former, and however well-warmed and handsomely commissionaired the latter. The new multi-storeyed beehives continue to rise throughout Central London, while the bees for whom they are built scour with the desperation of parole prisoners under sentence the backstreets of Mayfair, Kensington and Belgravia for the little stuccoed cell with its own entrance. And who are we architects to blame them? Justly, as a rule, we are accused of building multi-storeyed tenements for Other People to live and work in while we nestle back into our converted toll-houses and disused stables, bleating our professional need for 'character' and 'personality' in our surroundings and conveniently forgetting that in Planners' Parlance we are apparently classed as Commercial rather than Professional users of space. 'Only in manacles' we say, as we put the finishing touches to some monster office block in W.1, 'would a real architect'—by which we mean a man who prefers a T square to a telephone—'be seen dead in one of these heated pigeonholes'—soon, perhaps, the same will be said of the business man. But as the manacles, in the shape of planning powers, hammered out, of course, in part by architects, hang ready and polished on the hooks in every planning office, Lessor House, W.1, cannot fail to be filled, since it is the only place we are permitted to set up shop. If, however, it became a prison without bars, or there was a jail-break, or even a stay-out strike perhaps zoning might be reconsidered, and reversed, so that the little house of Chelsea and the vast terraces of Bayswater became our offices, and we all trooped back to Central London to live in Lessor House—now converted into admirably compact flats. Where, in fact, will the drift westwards be halted? When will the leapfrog back into E.C. begin?

Hugh Casson

BOOKS

VICTORIAN CAPITAL

EARLY MELBOURNE ARCHITECTURE: 1840 TO 1888. *Edited by Maie Casey, Joan Lindsay, D. A. Casey, John Freeman, Tom Freeman and Allan Henderson. Oxford Press*, 1953, 40*s*.

This unpretentious book is a collection of two hundred photographs in five sections—Melbourne City, Northern Melbourne, Eastern Melbourne, Southern Melbourne and Williamstown—with a short introduction to each section.

The book has for me a nostalgic quality because, with the exception of the public buildings which it illustrates, most of the examples are doomed to disappear, sooner or later, and, indeed, Sir Owen Dixon remarks in his introduction that 'this book does for Melbourne what, it may be hoped, will be done for other cities of the Commonwealth before it is too late.'

Before it is too late! So one begins to look at these buildings, particularly the lesser ones, with a fresh eye. The public buildings are magnificent examples of their period and look enduring enough. They are buildings of which Melbourne is justly proud—the Customs House (1841), Parliament House (1856), Treasury Buildings (1862), the Royal Mint (1869), Government House (1872) and the Law Courts (1875). Then there is the very elegant Melbourne Club (1858). How well the old branched cast-iron lamp standards look at the approaches to Parliament House and the Treasury.

But it is to the small buildings that I turn with genuine affection and particularly to the early 'colonial' house, a genus which must endear itself to any sensitive artist, whether it is in Ireland, America or Australia. Melbourne has its own excellent variety, of which 'Pately,' South Yarra, 'Seagrove,' Brighton, and 3, Catani Square, St. Kilda, are good examples. Then there are the larger, more sophisticated, extremely elegant houses such as 'Como,' South Yarra; 'Oberwyl,' St. Kilda; 'Linden,' St. Kilda and 'Trawalla,' Toorak.

How perfect are the slender iron lamp-posts in the rhythm of 'Como's' verandah posts and railings. How elegant is the gracious verandah balcony of 'Linden.' Like a setting announcing characters it anticipates the play. The ingredients of this scene are white railings, picket fences, weather boarding, shutters, venetian blinds and the bright Victorian sunshine.

The commercial buildings are by no means the least interesting examples of the architecture illustrated—the bluestone warehouses, and, in particular, the 'strong box' designs. Notable amongst these commercial examples are the massive Goldsbrough Mort Building



483-485, *Flinders Lane, Melbourne. A warehouse in contrasting brick and stone whose severely controlled fenestration gives interest to an elevation of simple dignity. An illustration from 'Early Melbourne Architecture:* 1840 *to* 1888.'



Another illustration from 'Early Melbourne Architecture: 1840 to 1888', reviewed on page 269. An old livery stable, 529, Elizabeth Street, North Melbourne, in which the curve of the high barrelled roof is repeated in the lines of the street front.

and Swallow and Ariell's Steam Biscuit Manufactory, A.D. 1854, which appears to have maintained its character, and probably also its product, incredibly intact for exactly a hundred years.

Finally, I would draw your attention to an admirable piece of design—the hitching post in Bouverie Street, Carlton, page 92. The caption runs: 'Inviting horse and man to rest and refreshment, this cast-iron hitching post, topped by a barrel, is one of the few survivals from Melbourne's coaching days.' Long may this beautiful post survive and may the editors' regard for it be rewarded.

Raymond McGrath

Shorter Notices

SCHOOL DESIGN AND CONSTRUCTION. *By J. A. Godfrey and R. Castle Cleary. Published by The Architectural Press.* 36*s*.

This book begins with a brief history of education in the British Isles, and some illustrations of characteristic school plans from Victorian times to the present day. The main body of the text is a review in general terms of changes in school design occasioned by the 1944 Education Act. Each type of school—Nursery, Primary and Secondary—has a separate chapter, ordered under paragraph headings such as 'Main planning requirement,' 'Communal areas,' 'Daylighting,' 'Heating,' 'Furniture,' and so on. The discussion provides general advice, and reference is made to regulations and the M.O.E. requirements.

In addition, three further sections are provided. The first of them deals with specialized aspects of constructional design, such as lighting, heating, ventilation and hot water supply; also sound insulation and precautions against fire. Recommended standards are given, and the problems of attaining them are discussed in general terms.

There follows a chapter on building construction, the authors expressly confining themselves to fundamental principles rather than actual constructional methods. Illustrations show progress photographs and isometric drawings of some of the better known systems of school building. The final section is devoted to Furniture and Fittings, and—a less familiar topic—audio-visual teaching aids. This discusses items such as radio installations, epidiascopes, and film projectors.

The book concludes with a list of references of books and articles, Codes of Practice and British Standards, relating to all aspects of school design. There are over 130 plans and photographs.

C.B.J.

ENGLISH ART 1100-1216. *Edited by T. S. R. Boase. Oxford University Press.* £1 17*s*. 6*d*.

Mr. Boase is a mediaeval historian. He has also been director of the Courtauld Institute. This combination explains the uncommon excellence of his volume of the Oxford History of English Art. His technique of stylistic analysis is impeccable (and incidentally combined with a literary presentation of outstanding elegance and precision). His skill in leading from architecture to art and back, and from generation to generation is as admirable, and he commands a first-hand knowledge of the sources exceptional amongst living writers on English art in the Middle Ages. His references to England and Sicily (p. 189), England and Saxony (192), to Anselm (111) and St. Victor (161) are examples. Two doubts remain after one has tried to digest so palatable and so nutritious a fare. Is 1100–1216 a span that Mr. Boase, the editor, should have chosen for Mr. Boase, the author? It deprives his volume of the first generation of Norman architecture, and the author of the future volume following his of the first forty years of Early English architecture. Perhaps the editor in choosing this division thought more in terms of painting than of architecture—which leads to the second doubt. In a general treatment of the Romanesque style might architecture not have had precedence over the other arts? Mr. Boase gives less than fifty out of over 200 illustrations to architecture. Readers of Mr. Boase's book who are at the same time readers of THE ARCHITECTURAL REVIEW will sympathize with this complaint, even if perhaps not others.

N.P.

EXHIBITIONS

In the ninth century a C Emperor, seeking a moderate of the endless quarrel betwee worshipper and image-bre pressed an equal disapprova who venerated and those wh the painted semblance, and that 'pictures are not to be c with books as sources of edu yet they are worth having for of their commemorative and tive value.' It is a view shar reasonable people until a new expected work seems to chal commemorative conventions, we are back where we were, a magical powers to the image, a with wonder or horror at the of a statesman about to rise to feet. Fortunately there are long intervals between the emergen unexpected work and another, the Francis Bacon Retrospectiv held at the ICA failed to a primitive instincts.

Two of the pictures, a st Velasquez, 1, and a study of hun



1

in grass, were painted recently not been exhibited before, but not break new ground, and fro Francis Bacon is likely to be to it to undermine the seasone goer's conviction that his el provisations on canvas 'blackb 'worth having for the sake decorative value.' We might tempted into superstitious awe to re-open the investigation of huge, stained sudariums com

but they are so effective as interior decoration, so actively functional as space-equivocators and light-deepeners that their fearsome content can be considered as one of the processes involved in the production of useful wall-objects. The ICA Gallery never looked more lofty, dignified, luxurious and vividly silent than when the Bacons were hanging there, and this power to transform a room does not exhaust their value as furnishings: the typical Bacon picture, protected by plate-glass, is also a black mirror, and the room one sees reflected in its depths is more desirable than the one Alice saw in the looking-glass, for it contains one's own reflection, flattered by the dark, and lent a rare, almost aristocratic poise by comparison with the uneasiness of the painted apparition.

Louis Le Brocquy's flesh painting has a lovely soft cloudy look which gives his figures something of the apparitional quality which has become one of the aims of contemporary painting under the pressure of Bacon's vision, and if Le Brocquy's figures are less effectively phantasmal than Bacon's it is not because they are milder and sweeter but because the paint is not allowed to adumbrate the forms. One is aware of a mannered, modernistic linear structure hiding under the rich facture and it gives the sense of a comic machine for trapping drifting masses of seductive paint. It may be that Le Brocquy is a natural linear artist and cannot take paint beyond the point of brilliantly embellishing a drawing, but there are signs in his recent exhibition at Gimpels that the paint may get the upper hand, for it already blurs the division between being and non-being, and in a painting of a boy looking round a door, the paint turns the door-knob into a displaced ear. On the other hand, the most satisfactory paintings in the show—two 'veristic' portraits of the daughters of Mr. F. R. S. Yorke, and the painting called *Children in a Wood*, 2—are openly and emphatically linear. *Children in a Wood* is a paraphrase of a picture by the seventeenth-century Dutch painter Nicolas Maes, which in the outcome has an affinity with Wifredo Lam's voodoo jungle pictures. This is not surprising, for in treating the theme of figures against trees both painters have adopted the shallow-space concept of analytical cubism. Le Brocquy also exhibited several tapestries at Gimpels and the one named *Garlanded Goat* is, apart from a few of Lurcat's things, the most successful contemporary tapestry I have seen, and a superb latter-day example of the celtic art of surface decoration. Altogether this was an unusually delightful and exciting show.



2

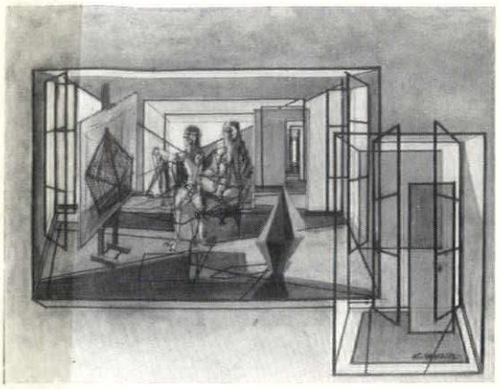
The Italian exhibition at the New Burlington Galleries, devoted to sculptors and painters who have made a name since the war, and intended as a supplement to the exhibition of modern Italian art held at the Tate five years ago, was extremely disappointing. Perhaps it was a mistake to leave the selection to the Italian Ministry of Education. There are quite a number of English people who could have made a more balanced and interesting survey than this, for apart from the sculpture and drawings of Emilio Greco 3, a bronze cock by Luciano Minguzzi



3

and one or two recent paintings by Santomaso, whose colour has become more harmonious since his exhibition at the Hanover Gallery, the effect was dismal beyond belief.

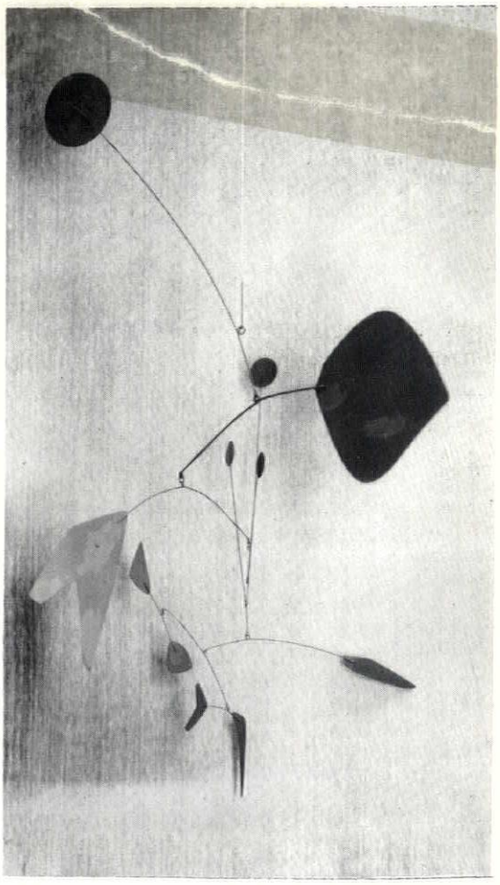
A short while ago the Mayor Gallery hung some small paintings by Buffet, Civet and Venard on the walls leading to that fabulous inner office to which so many fine modern pictures have found their way. An elegantly spiky flower-piece by Buffet was enchanting; Civet's subtle landscape painting should appeal to the English taste, and it is to be hoped that Mr. Mayor will organize a fuller showing of his work; Venard, the least of the three, has sparkling colour and pictorial wit,



4

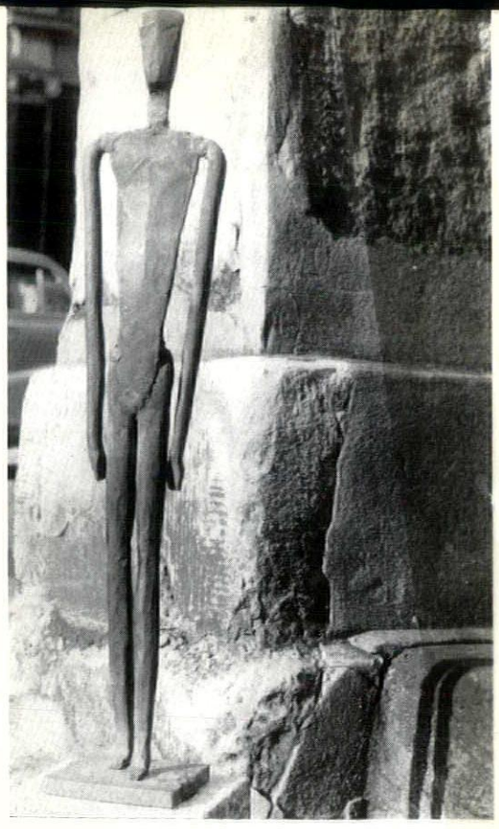
and a professional attack that is inordinately difficult to attain if one is not a Frenchman, 4.

The Lefevre Gallery has held another packed and glittering exhibition of Calder's mobiles which shows him to be still unrivalled in this field. The electric fans were only working at one end of the Gallery so some of the mobiles were quite violently active while others were almost still, and it was difficult to decide which



5

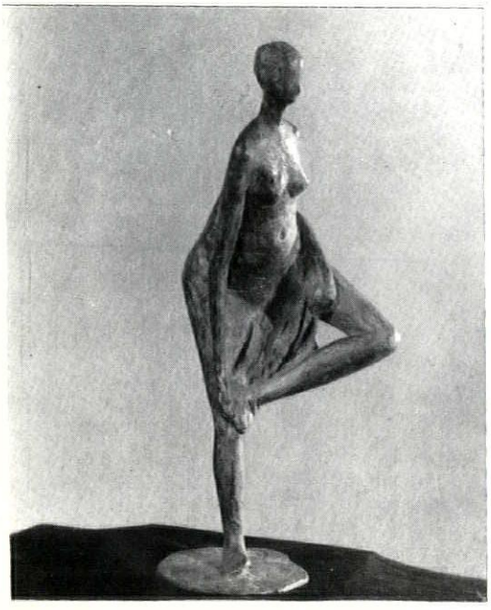
state of activity one preferred. What one can say with certainty is that the mobiles of medium size, 5, are the most appealing. The very small ones are toys, and their movements are trivial. The large ones are too ponderously seated to ad[illegible]



6

fantasy. But the others, with their delicate articulation, and dreamy movement, seem to refine the air they inhabit.

The Hanover Gallery has been showing the work of three very promising young sculptors. Takis Vassilakis, from Greece, exhibited alert, naked, narrow-waisted figures 6, which have been taken to an extreme point of archaistic schemetization without seeming the least bit mannered. They are simple, unpretentious and civilized and quite outside the range of any Northern sculptor. Robert Clatworthy is extraordinarily exuberant, and at the moment he is gleefully pinching the tail of the Zeitgeist to obtain louder and longer squeaks of Angst. Rosemary Young is already far beyond the stage exemplified by



7

Clatworthy's desire to 'go one better' than Picasso or Germaine Richier. She is deeply involved in her own sculptural problems, and some of her figures have a sensitively awkward poise 7, which augurs well for her future.

Robert Melville

HISTORY

CLÉRISSEAU AND ADAM

The precise relationship between the Adam, Louis XVI, and Empire, styles has recently been a fruitful source of art-historical disputation, and the precise parts played by Piranesi, Adam and Clérisseau in their creation, but disputation has proceeded largely on insufficient evidence. The collation of a large body of Clérisseau material, and a careful re-examination of the documents has now made it possible to establish an order of priority favouring Adam, and to introduce into the discussion a hitherto undiscussed source, Lesueur's Cabinet des Muses. In Hautecoeur's *Le Style Louis XVI*, the author states, page 483, as regards Clérisseau, that 'when Clérisseau sent his portfolios to the Empress Catherine, he wrote: "The arabesques are an inexhaustible source of decorating in a good style, the interior and exterior of modern buildings . . . " In these arabesques he had himself borrowed from the Loggie Raphaël and from the Baths of Titus.' (He cites his own book, *Classic Architecture in St. Petersburg*, 1912, page 46.)

Hautecoeur continues: 'Clérisseau had already shown in Rome resources of this character; he had decorated his "café" of the Villa Albani. He, therefore, had no need of imitating Adam who had been received by him in Rome and perhaps been inspired by him. Their common studies, their identical admirations, their friendship explain the similitude of their production.'

Mr. Thomas J. McCormick, Jr., of Princeton University, has now made an extensive collection of everything regarding Clérisseau which is available outside of inaccessible Russia. It includes, indeed, fourteen of the drawings in Russia itself, mostly ones which were reproduced in *Starye Gody;* also all things existing in England, either at the Soane Museum, the Victoria and Albert, the British Museum, and the Royal Institute of British Architects, and in the hands of dealers. None whatever of these Russian drawings, which went there in 1779, foreshadows the Adam or Louis XVI styles. This is notably true of the sheet of decoration reproduced in *Starye Gody* for his *Maison antique*, 1, for Catherine, 1773. This shows a wall between frieze and dado. The frieze suggests ancient medallion bas-reliefs; in the dado there are horns of plenty as well as a medallion with a Medusa head. The main body of the wall itself is in two main tiers, each with views of Roman ruins, small below, larger above. They are surrounded by bands and strips of classical arabesques. These do, indeed, occasionally contain small tabernacles and even certain derivations of figural reliefs. However, all this in the way of surrounds already existed in France under Louis XIV in the Cabinet des Muses by Lesueur, of which the arabesques remain in place. Clérisseau no more invented the Adam style here than Lesueur did one hundred years earlier. The illustration shows that Clérisseau had looked at certain classical arabesques, just as, for that matter, Lesueur and, indeed, Errard had, but it does not imply at all a derivation from the Loggie.

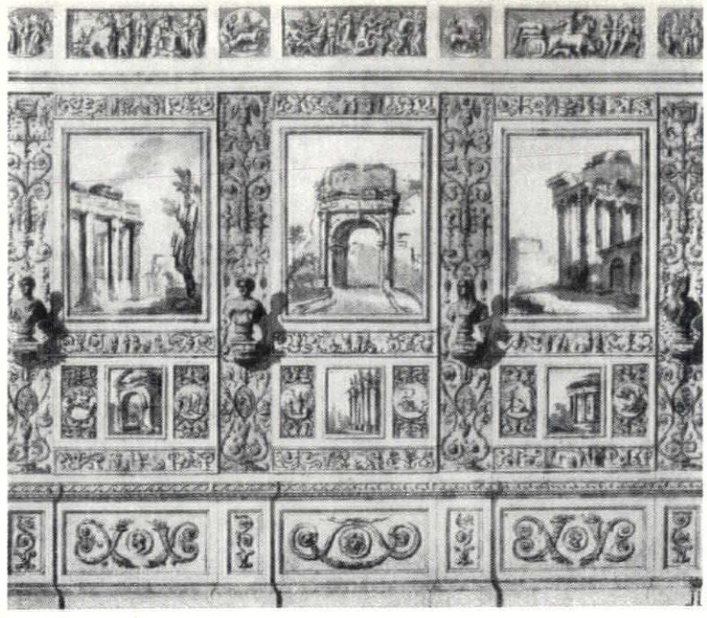
The Cabinet des Muses was among the suite of plates engraved by Bernard Picart in the *Mercure de France*, 2, second volume for September, 1739, 2215. These engravings, of course, were widely distributed and perfectly available to Clérisseau. One has only to compare them with his room for Catherine for the resemblance between them to spring to the eyes. Clérisseau did not follow the Loggie or the Baths of Titus. He merely followed a monument standing on the banks of the Seine all during his student days.

Even Hautecoeur says, page 10, of his volume on Louis XVI, that it was with views of Dalmatia that Clérisseau decorated the café of the Villa Albani. We readily admit that these views of Dalmatia might well have been surrounded, as the views in Catherine's house were, by arabesques. But, if so, they do not anticipate the Adam or Louis XVI any more than did those of Lesueur.

The fact was that, as Hautecoeur himself says, Clérisseau had been to London in 1771, and therefore could readily know the Adam style as it had already existed for twelve years. So indeed it appears in the Hôtel Grimod de la Reynière, 3, a design made, as Hautecoeur himself says, not earlier than 1772—as we know it through the drawing of the Polish architect, Kamsetzer, 1782 (published by Réau in the *Bulletin de la Société de l'Histoire de l'Art Française*). This is very much like Adam's work at Bowood, 1764, and at Syon, 1763–1765. There may be other English examples more closely parallel.

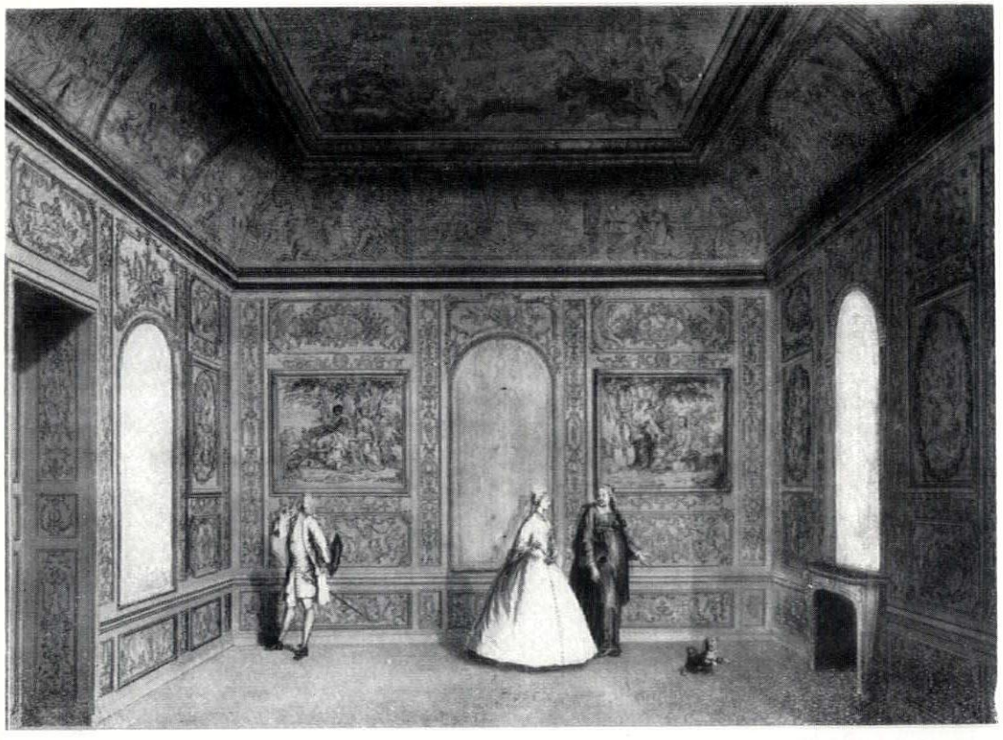
It was Adam, not Piranesi or Clérisseau who invented the Adam style, and thus invented also the Louis XVI.

Fiske Kimball



1

1, *design by Clérisseau for a room from the* Maison Antique, 1773, *reproduced in* Starye Gody. 2, *the Cabinet des Muses by Lesueur in the Hôtel Lambert, engraved by Bernard Picart in the* Mercure de France, *second volume, September,* 1739, 2215. 3, *salon by Clérisseau in the Hôtel Grimod de la Reyniére, a design made not earlier than* 1772.



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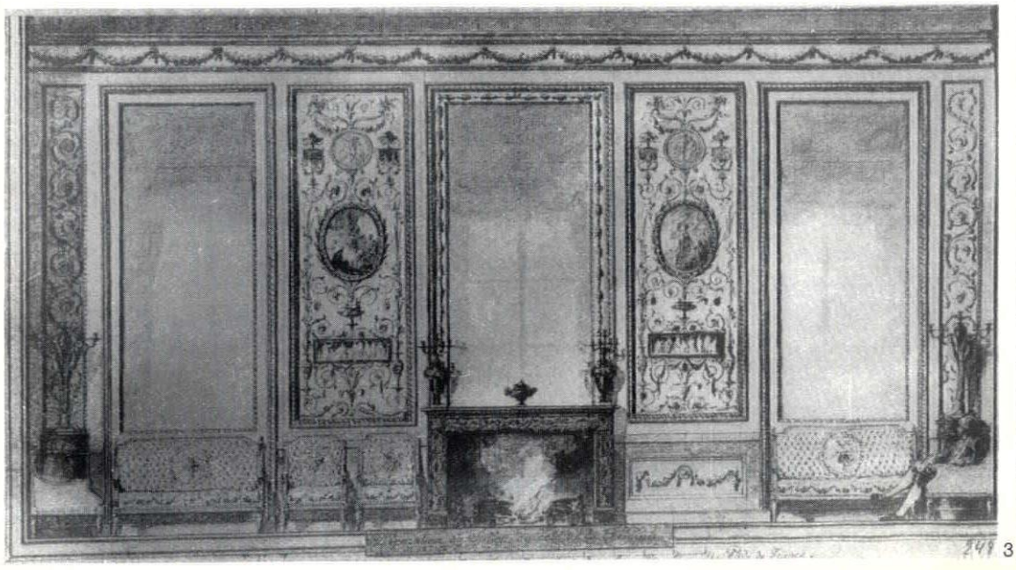
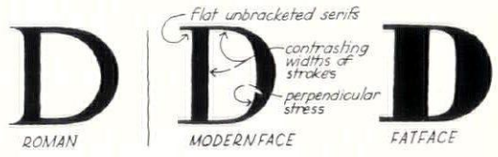


3

LETTERING

MODERN FACE AND FAT-FACE

These are typographical terms and typographical inventions, but ones which have been used architecturally and might be considered, adapted, and more used with advantage. Modern face is defined by the typographers as a Roman with flat and unbracketed serifs, abrupt and exaggerated modelling and vertical shading. The fat-face is a swollen version of the same design. From our point of view I think the important



Three drawings showing characteristics of the typefaces described.

point is that these letter categories are *Roman*. These are letters in the Imperial-Renaissance tradition with style, finish and sophistication. If we are looking for versions of the Roman, alternative to Trajan's, this is surely an obvious way to look. The motives which one imagines to have stimulated the invention and success of the fat-face are desire for the brilliance of heavy black, lost to the book with the abandonment of Gothic, for stylishness through contrasting fine line and new perpendicular stress, and exploitation of the technical precision of type-founding by the use of fine curves, and the sharp angle of the unbracketed serif. The last characteristic does not seem to me particularly appropriate to architectural design; I wonder if the very fine slab serif has very much use outside the painted letter, although that is by no means a negligible architectural field. The other characteristics are obviously of architectural interest.

One sees very few examples of modern-face lettering in English towns. In France, on the other hand, it was a regular type of design and one sees widely distributed examples of metal letters similar to the French Egyptian, Sanserif and Tuscan letters reproduced in earlier articles (AR, June, 1954, 10; April, 1954, 14; October, 1954, 18) all presumably nineteenth century designs. Our first illustration, 1, from the rue Jacob, Paris is, as might be expected from its wording, nearer to classic typographic forms; Firmin Didot was one of the pioneer designers of



1

modern face type; his first version appeared in 1784. Compared to 2, a standard design and use, the shapes are sharper and finer, particularly R, but the result



2

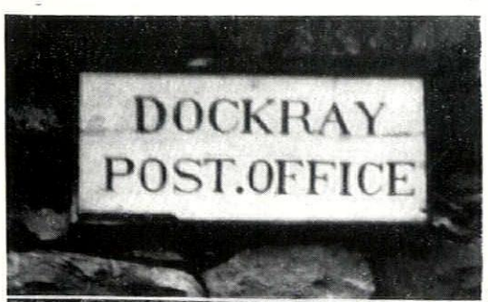
is perhaps not so successful. The wider spacing of 2 is more effective and the mitigation of the thinness of the serif by the splaying of the underside of the section—in contrast to the Didot lettering which has a uniform right-angled section—is interesting. 3 is an elegant example



3

of a compressed letter of the same type, also from Paris.

In England examples are more difficult to find: occasionally one sees charming painted notices such as 4, Cumberland, and 5, Worcester. Both have a modesty

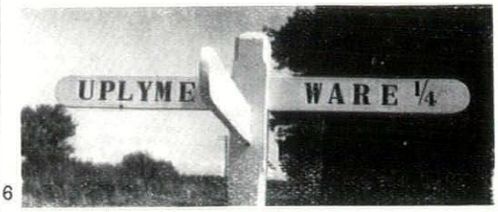


4



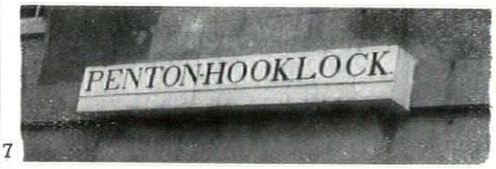
5

and an elegance which would be lacking if the style were Trajan. There seems to be also a particular affinity, a congruous crisp neatness between modern face and black and white. Neither 6 nor 7 is a particularly well designed letter; but the first seems to direct one in a much more civilized land than the usual sanserif



6

signpost, and the second shows the interesting affinity between the vertical shading—characteristic of modern face—and architectural terms. I suppose that it is of the



7

date of the building, 1814, and very much of its period.

The fat-face was on the other hand immediately recognized as an architectural letter in England. Indeed I wonder if it had not another genesis parallel to that derived from the modern face. Both engravers of title pages and cutters of stone needed a bolder letter than the eighteenth century printer, and it is these which one feels to be the ancestors of the early nineteenth century lettering rather than Thorne's rather crude first fat-face. Gardner's Brewery, Cheltenham, 8, certainly derives its italics with their swashes from printed designs, but the Romans are less exaggerated, though they introduce the ugly triangular serif to the E.



9

But Montpellier Exchange, 9, also at Cheltenham, is a magnificent letter where the contrast between thick and thin is not



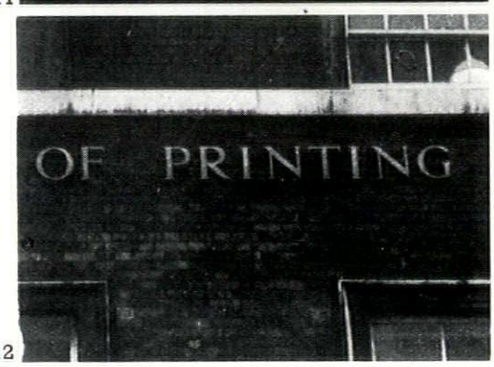
10

merely a question of width but of depth of cutting and shadow. Unbracketed serifs, which would be quite foreign to the technique, are not introduced. Even finer is the deep-cut granite lettering on Nelson's Column in Dublin, 10—the foreshortening of the photograph suggests an exaggeration which does not exist in the original.

In fact, I would ask 'Is the architectural fat-faced Roman an exaggerated letter like its typographical namesake?' It is a question, I think, of design and material. Bad design easily makes a very crude letter. The great contrast between thick and thin—of the essence of the printed letter—is beautiful in an incised, but exaggerated in a relief, or painted letter. But the weight, the relation between height, and width of letter-stem which is so fat-faced on paper may, on a building of any scale, become quite normal*. For



11

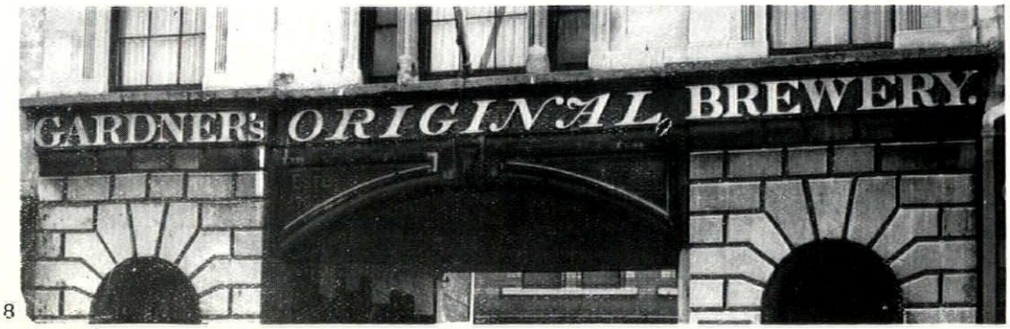


12

comparison I reproduce the fat-face (square section) above and the Trajan below on the London School of Printing 11 and 12, and would ask which is the better architectural letter?

Nicolete Gray

* See Lettering: Classical in Practice. AR Dec. 1953.



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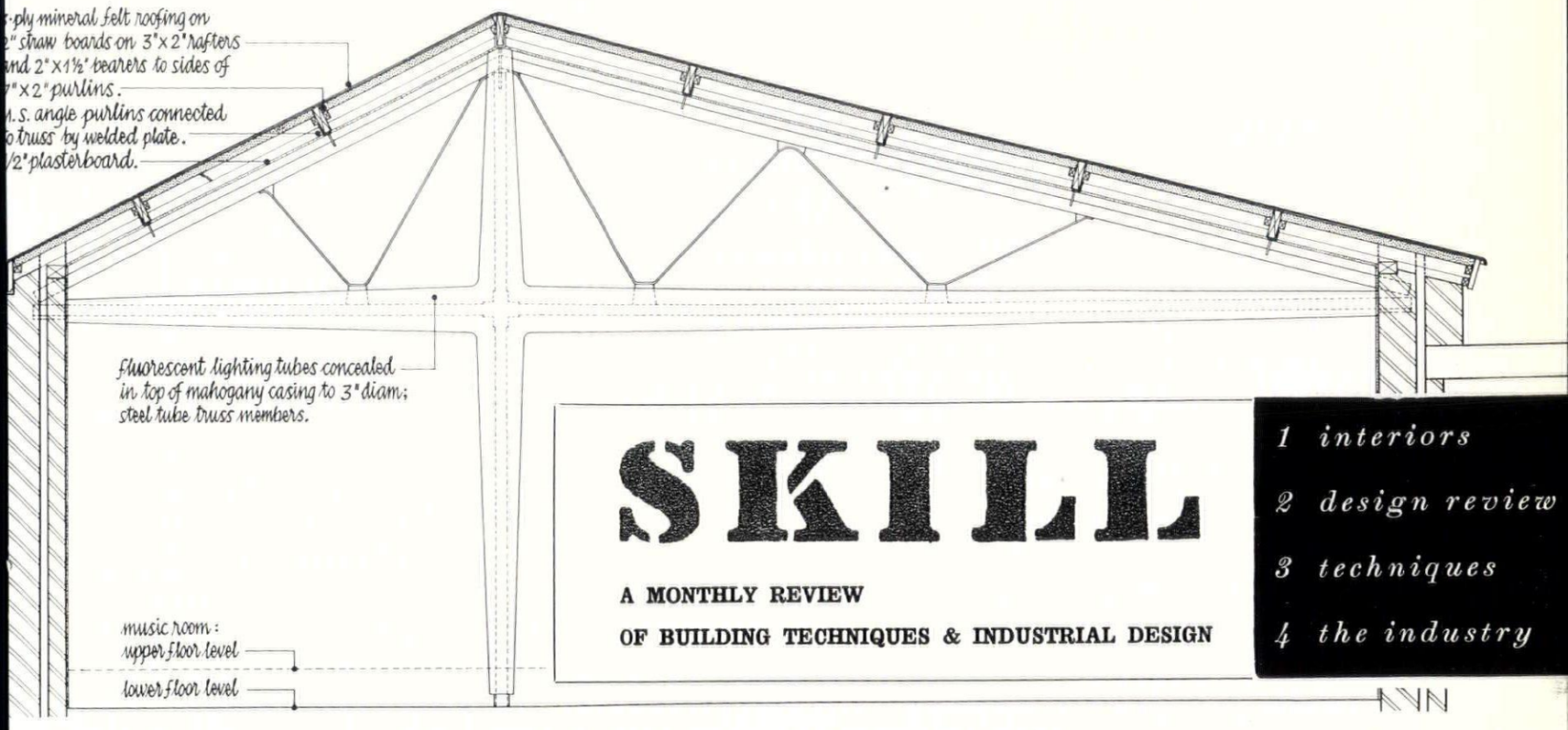


SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry

Above, section through roof and column, seen in 1, *below.*

1 INTERIORS

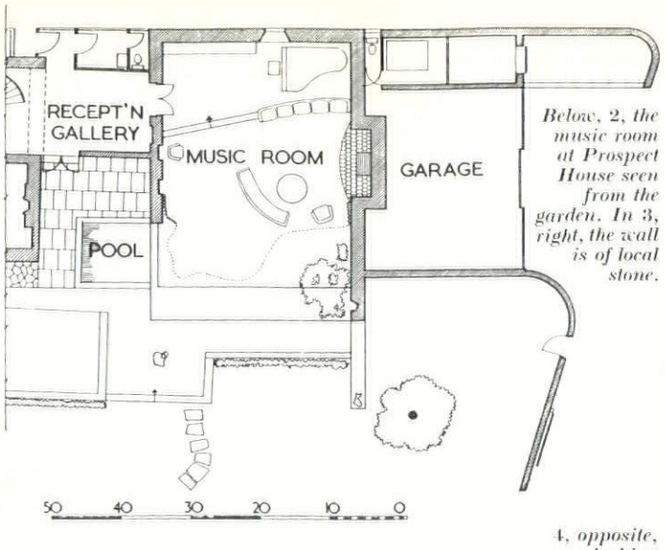
MUSIC ROOM AT GRINDLETON, YORKS, W.R.

Architect: Tom Mellor

The music room is one of a series of alterations to Prospect House, Grindleton, near Clitheroe, Yorks, W.R., which include the conversion of a stable and outbuilding into a separate house for staff accommodation, and modifications to the existing house. The house faces south with a view across the Ribble Valley to Pendle Hill. The music room, which also acts as a living room and reception room, is east of the house and connected to it by a new entrance hall and cloakroom. The door from the hall opens on to the upper level of the music room, a platform large enough to accommodate a small orchestra.

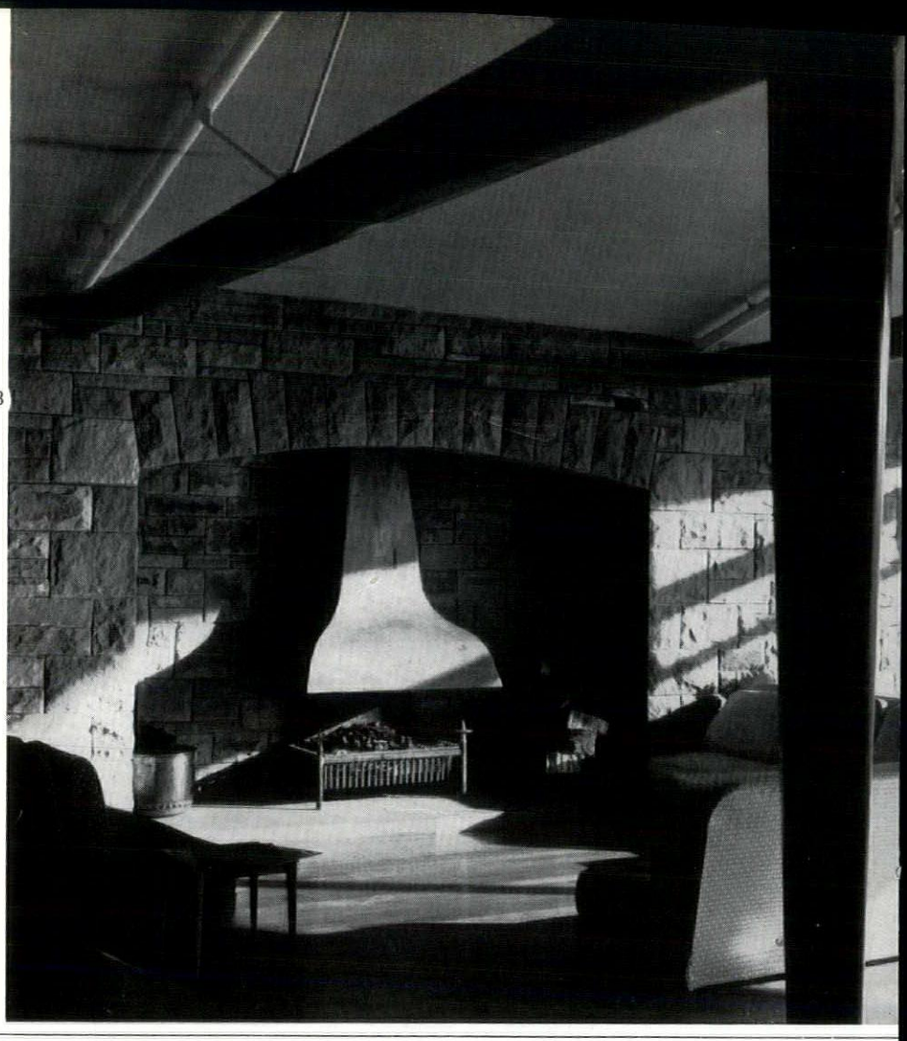
The east wall of the room is of local stone exposed internally and the large open fireplace has a sheet copper hood and specially designed fire basket. The roof trusses and columns are partially cased in polished mahogany and form the principal decoration of the room. The horizontal 'boom' is of U-section and contains strip lights for the general lighting of the room. The niches on the east wall





Below, 2, the music room at Prospect House seen from the garden. In 3, right, the wall is of local stone.

3



4, opposite, looking through to the reception gallery. The orchestral platform, 5, and 6, a view of the garden.

are designed to accommodate two of the owner's collection of Epstein heads.

Door frames and windows are painted white, with the metal opening lights black. The ceiling is pale grey-green; the west wall dark earth red, and the north wall (behind the platform) of timber panelling consisting of vertical boards alternating with strips of corrugated section. The boards are white and moulded sections polished.

2



MUSIC ROOM AT HIGHGATE

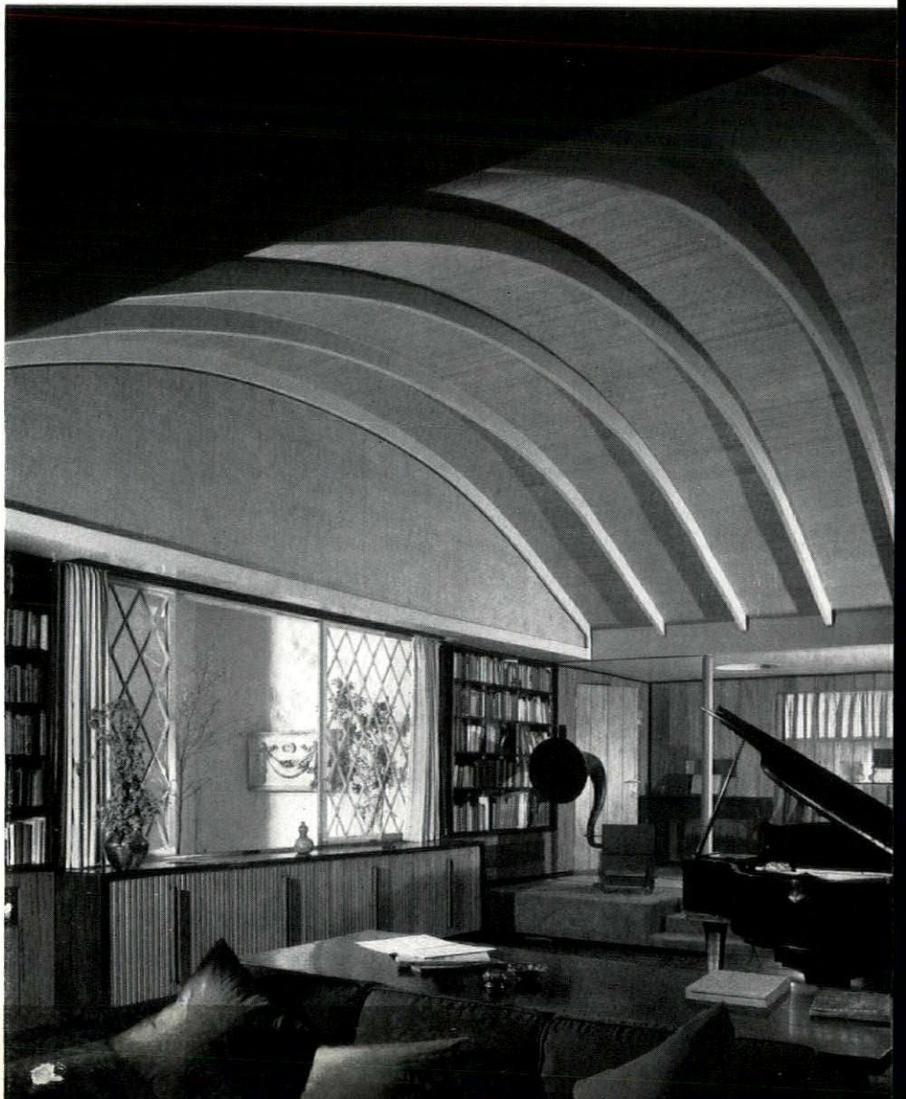
Architect: Patrick Gwynne

The studio has been built in what were originally the kitchen quarters of a house in Millfield Place, Highgate, which, together with a 10-foot extension, give a space 39 feet by 21 feet. Within these limits and those of the existing hipped roof, the studio has been designed to meet the needs of the owner, Clifford Curzon, as a rehearsal room and study.

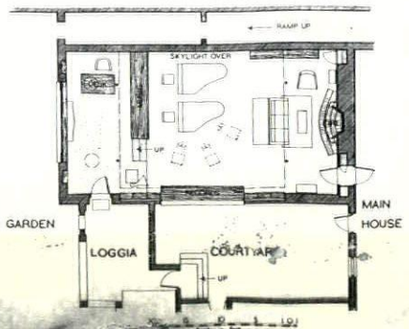
The studio had to be soundproof, especially towards the side of the closely adjoining property on the north. To ensure this the whole ceiling was covered with glass quilt and all door and window openings were sealed with rubber and felt gaskets. A number of absorbent surfaces have been disposed about the ceiling, panelling, fitments and floor so as to give a good balance. The arched ceiling required special treatment over the curved part to reduce focal reflections and this was done by perforating the fibrous plaster through to the glass quilt above, the latter being covered with hardboard to prevent the sound escaping through the roof and to return it a second

1

In 1, right, the high arched ceiling in the centre and the low 7 ft. ceiling at the end combine to prevent the platform appearing too much like a stage.



2, opposite page, shows how the fireplace has been given strong treatment to provide a secondary centre of interest.







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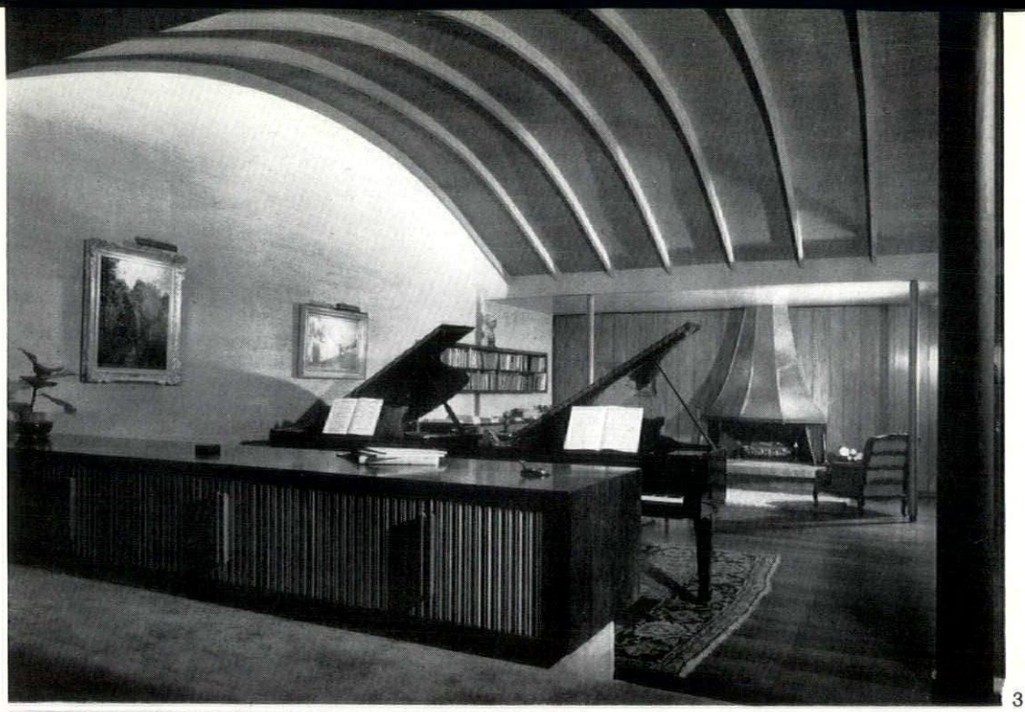
6





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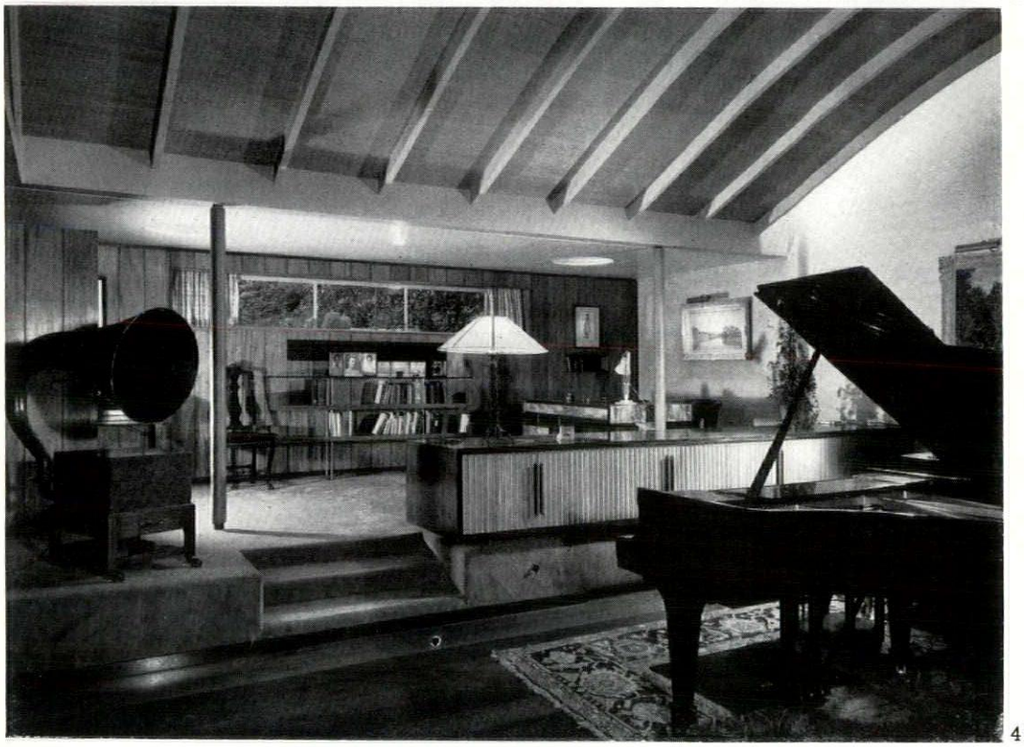


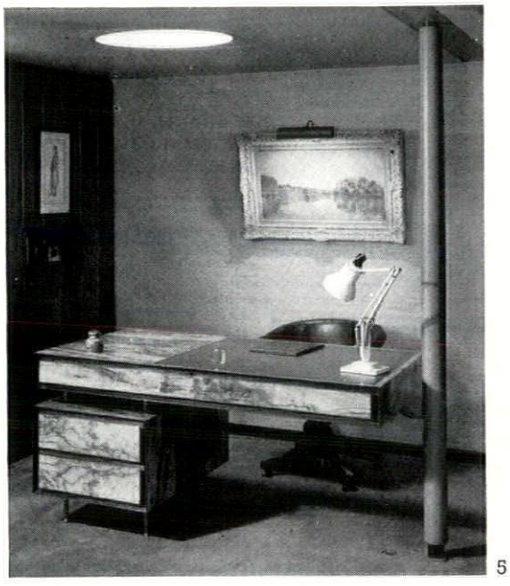
4

time into the absorbent material.*

Surfaces are made up mainly of various woods and of Japanese grasspaper. No strong colours are used.

The columns are 4 inch diameter steel, covered with fawn leather; the ceiling has warm grey Japanese grasspaper on fibrous plaster arch, and paintwork in two shades of broken white. The tympanum over the window is linen, dyed yellow-grey, stretched in front of woodwool blocks, with mahogany strip trim. The windows themselves are hardwood, painted light grey. The floor has 8 inch wide Mansonia planks; and the panelling 8 inch Agba planks, bleached, stained grey and waxed, with recessed trims in dark mahogany. The plastered wall has a pale honey coloured Japanese grasspaper.

* The acoustic consultant was William Allen.



5

On the wall of 3, *above left, are Impressionist paintings from Clifford Curzon's collection. On the right of the platform,* 4 *left, is the desk shown in* 5 *above. With cinnamon veneer and dark toned mahogany trims, the metalwork is painted grey.*

2 DESIGN REVIEW

Woolland's New Department

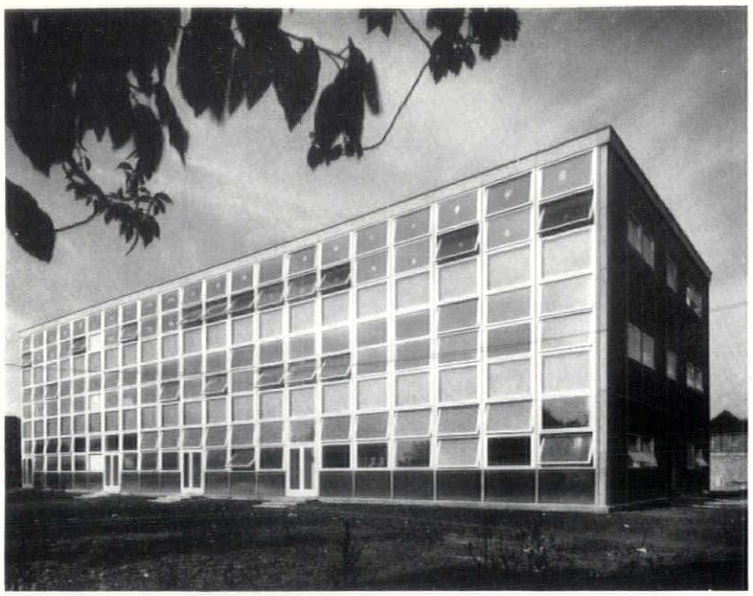
Those of us who are used to hunting out our furniture in crowded basements or agoraphobic wastes should feel grateful to Woolland's of Knightsbridge for their new department, Modern Interiors, which is both simple and spacious in effect.

However, the actual smallness of the floor space involves the staff in the laborious task of weekly rearrangement; though to the public this is a further benefit as they are faced with a décor freshly done, instead of just so many tables and chairs.

The most notable departure from the usual practice in furniture retailing is that every object in this showroom is marked, not only with the price (so often a secret to be decoded) but with the designer's name. In spite of the smallness of stock that can be held in the space available the range of design covered is a very wide one, with one or two important exceptions; and it is so well up to date that the work of some student designers is included. This is not the first London retailer to eschew the convention of 'cageyness'—of answering questions in the form that they are put but never volunteering information—but it is a welcome addition to the frank and informative school who will help the customer to realize his project rather than sell the object nearest to hand.

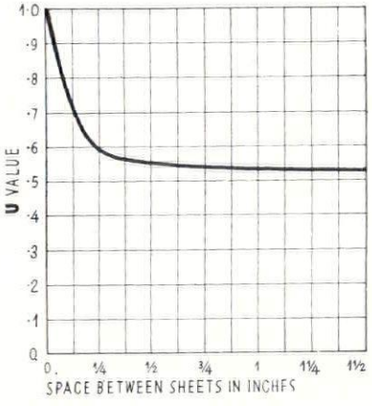
The following examples indicate the diversity of design included in one week's display:

dining chairs 1, designed by Ray Elston for Talon. The intention is to give support to the back while the diner is leaning



1, *double glazing can often be justified on economic grounds alone, for buildings which are continuously heated for a large part of the year. This school at Chiswick, designed by John and Elizabeth Eastwick-Field, has completely double glazed window walls; the consequent saving on heating plant was £500, and it is estimated that the annual saving on fuel costs is £60.*

having a thicker layer of air. The graph below shows the U values of vertical double glazing for various widths of cavity.



2, *thermal insulation graph.*

Apart from the actual conservation of heat, there are other benefits to be gained from double glazing, due to the warmer surface which it presents to the room. Condensation on the room side of the window is reduced (so that a clear view is possible even in frosty weather), down-draughts are avoided, and personal comfort is increased because the 'chill' of the window from a short distance is not felt, as it is with single glazing.

sound insulation

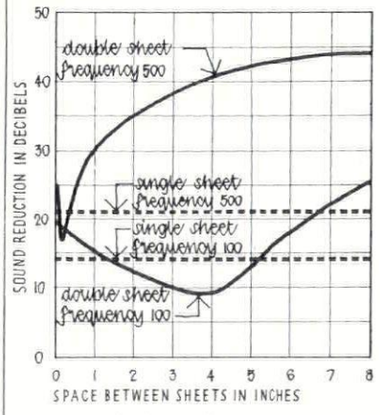
Although double glazing has been advocated in recent years mainly on account of its thermal insulating properties, it was first used in this country to provide sound insulation chiefly in offices adjoining city streets. Double glazing designed specifically for thermal insulation will not necessarily have good sound insulation qualities, since the factors to be considered are very different for the two functions.

Airborne sounds reaching a window cause the glass to vibrate, setting up new airborne vibrations on the other side. Increasing the thickness (and hence the weight) of the glass reduces this effect. For single glazed windows it has been found that the following reductions in noise level are given by various thicknesses of glass:

26 oz. sheet glass: 29 *decibels* reduction.
¼ inch polished plate glass: 34 *decibels*.
½ inch polished plate glass: 38 *decibels*.

The noise reduction continues to increase as the glass thickness is made greater, but in practice the thicker types of glass would be far too expensive for the method to be economical.

Much greater reductions in noise level can be obtained by using two sheets of glass. The thickness of each sheet is still important, but the width of the air space is of greater concern. The graph below shows the reduction in sound for different spacings of the glass (in this case 21 oz. sheet):



3, *sound reduction graph.*

It will be seen that, to give effective insulation at all frequencies, the air space must be at least 6 inches wide.

One other consideration is the transmission of sound through the window frame; this can be avoided if the two sheets of glass are fixed in separate frames spaced apart. An added refinement would be to line this space between the frames with a sound absorbent material such as acoustic tiling.

The fact that the optimum widths of air space differ for thermal and sound insulation by no means implies that the two functions are incompatible, although it is certainly difficult to design an economical window which will achieve maximum efficiency in both. As a general rule it may be said that a window designed mainly for sound insulation will give good thermal insulation as well, while a small measure of sound insulation will always be provided by a primarily heat-insulating double glazed window.

design: systems and practical considerations

For windows in the vertical plane (to which this survey is limited), there are three practical systems of double glazing:

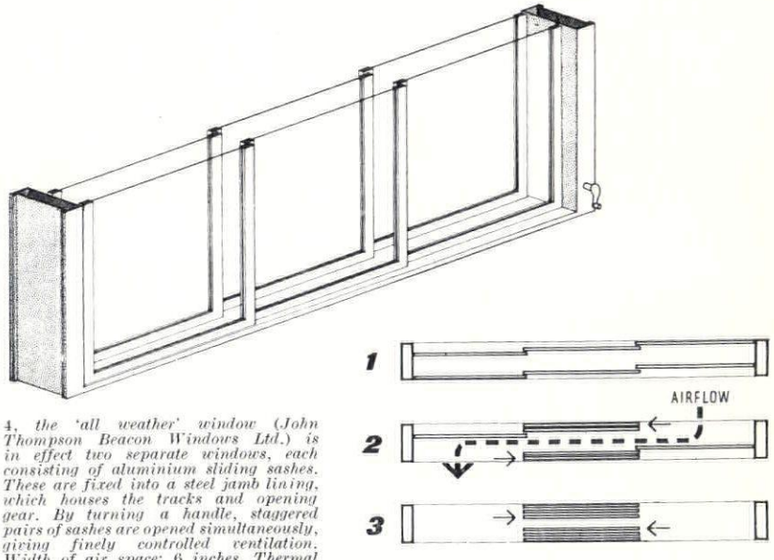
(*a*) Two completely separate windows.
(*b*) Two sheets of glass fixed into one window, which itself may consist either of a single frame—the glass being separated by beads—or of a composite frame, hinged to open to allow cleaning of the inside faces of the glass.
(*c*) Factory-made double glass, with a spacer incorporated and the cavity hermetically sealed. This can be glazed into rebates in the normal way.

Separate Windows

This is the method usually chosen where sound insulation is the main consideration, for reasons already discussed. One design problem which usually occurs is the way in which opening lights are hung. Here the simplest method would be to design the opening parts in both windows to come opposite each other, either one opening inwards and the other outwards or both sliding, but this complicates what should preferably be a simple matter—the spontaneous opening of a window. For this reason the two lights should, if possible, be 'ganged' so that they open together in one operation; they can then be centre-pivoted if desired. The connecting link should be bedded on absorbent packing to prevent transmission of sound from one frame to the other. If some degree of sound insulation is required even when the window is open, the opening lights can be staggered, and here some form of ganging is essential though likely to be expensive.

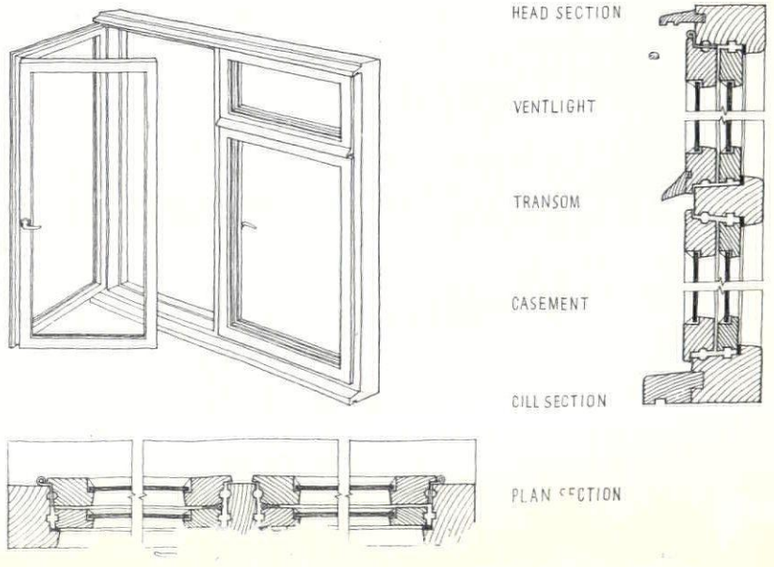
Single Frames

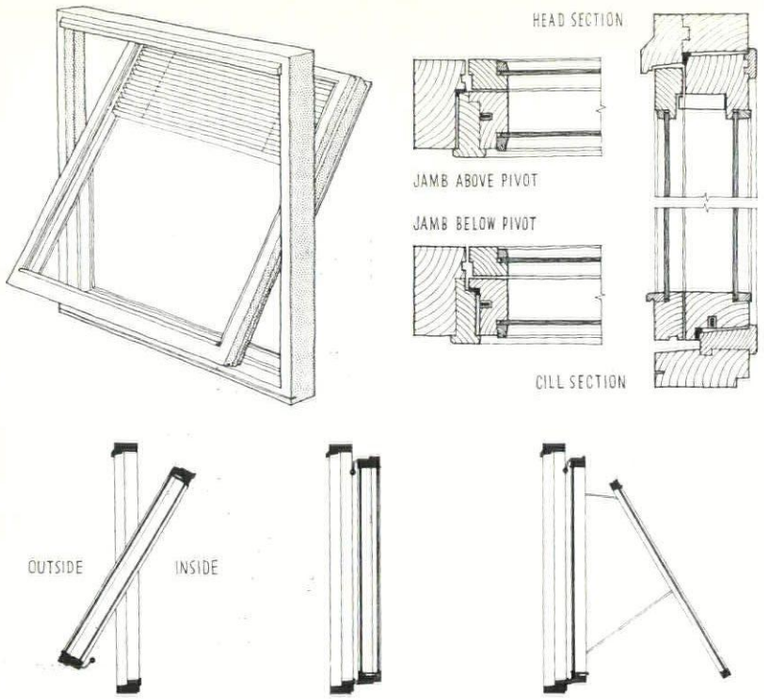
If two sheets of glass are fixed into one window, by far the simplest and cheapest method is to have them glazed into a single frame, with a



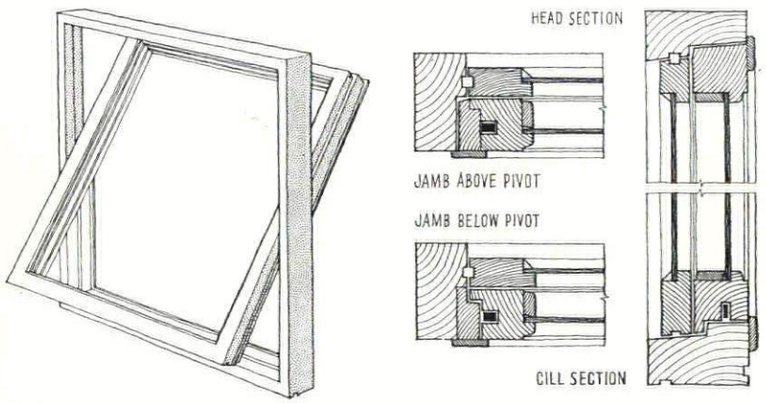
4, *the 'all weather' window (John Thompson Beacon Windows Ltd.) is in effect two separate windows, each consisting of aluminium sliding sashes. These are fixed into a steel jamb lining, which houses the tracks and opening gear. By turning a handle, staggered pairs of sashes are opened simultaneously, giving finely controlled ventilation. Width of air space: 6 inches. Thermal transmittance: U = 0.42. Sound reduction: 37-40 decibels.*

5, *below, the EJMA double glazed casement window is available in one-, two-, and three-light widths, and 3 heights. The casements and ventlights consist of double frames which part for cleaning, and the crevices around them are sealed with weather stripping. Width of air gap: 1⅛ inches. Thermal transmittance: U = 0.53. Sound reduction: average 30 decibels.*

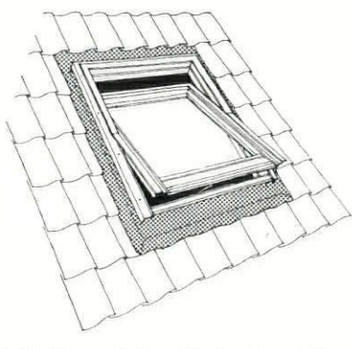


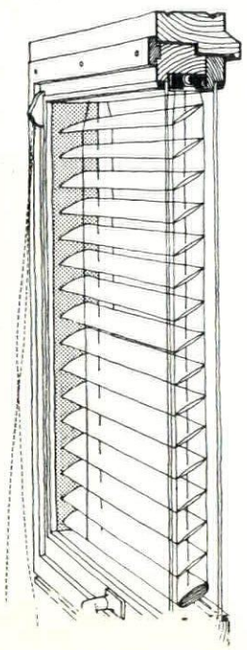


The horizontally pivoted light is a particularly suitable form for double glazed windows, giving ease of cleaning and control. Several makes, of the multiple frame type in timber, are now available. 6, above, the Carda window (Holcon Ltd.). Width of air space: 2¾ inches. Thermal transmittance: U = 0.6. Sound reduction: average 50 decibels. The lower diagrams show the way in which the window is reversed and opened for cleaning. The space between the glass surfaces is large enough to accommodate a Venetian blind. 7, below, the Tomo window (Tomo Trading Co. Ltd.). Width of air space: 1⅞ inches. Thermal transmittance: U = 0.5. Sound reduction: average 35 decibels. This window is designed to accommodate a pleated paper blind between the glass surfaces.

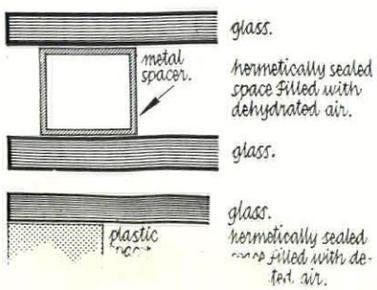


8, below, the Velux window (The Velux Co. Ltd.). Width of air space: 2¾ inches. Thermal transmittance: U = 0.6. Sound reduction: average 30 decibels. This firm also produce a rooflight (right) operating on a similar principle. Both the window and the rooflight accommodate a Venetian blind.





Manufactured double glass, consisting of two sheets of glass separated around the perimeter by a spacer. The cavity is filled with dehydrated air. 9, below, Insulight (Pilkington Bros. Ltd.), has a metal spacer. With an air space width of ¼ inch, thermal transmittance: U = 0.57, with ½ inch U = 0.53. 10, bottom, clear-cavity Plyglass (Plyglass Ltd.), has a ductile plastic spacer which absorbs differential movement between the two sheets of glass. With an air space width of ⅛ inch, thermal transmittance: U = 0.5, with 3/16 inch U = 0.48, and with ¼ inch U = 0.47.



spacing bead. This, however, has one great disadvantage: due to day-by-day changes in atmospheric pressure, air from outside finds its way into the cavity, bringing with it water vapour and dust. Periodically the inside faces of the glass will need cleaning, and so some method of removing one of the sheets of glass must be provided. The inner sheet could possibly be glazed with beads fixed to the frame with screws and cups for easy removal, but the taking down and cleaning of the glass then becomes a specialist's job and rather beyond the capabilities of the average householder or maintenance man.

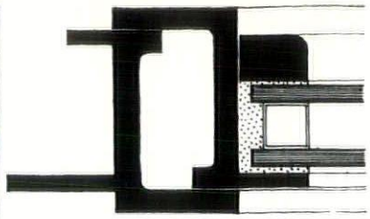
Multiple Frames

We come then to what is perhaps the most common double glazing system: two glazed frames hinged together. The cleaning of the inner faces can here be carried out with no more complicated an operation than the opening of an ordinary casement. Using this system, fixed lights can be designed with the outer sheet of glazing fixed into the main frame in the normal way and the inner sheet held in a casement frame. Opening lights present a more difficult design problem. At sides, head and sill three frames are necessary: the fixed outer frame, and two casement frames which must both open as a unit and also, when required, part away from each other. One of these will be hinged or pivoted on the outer frame and will have to be strong enough to resist the stresses normally taken by an opening light, while also supporting the weight of the second frame hinged to it. Sections will tend to be heavy and of complex shape, and it follows that large undivided windows are preferable in order to avoid their duplication. This also gives a saving on hardware, for each separate set of frames requires two sets of hinges and fasteners.

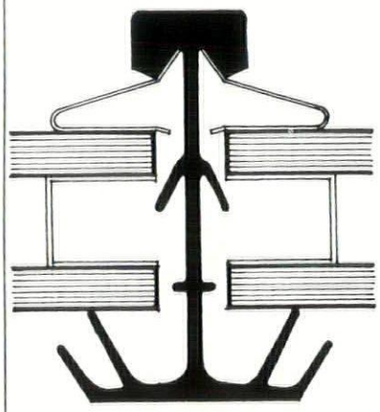
A general consideration in the design of all windows, but especially important in double glazed windows, is the accessibility for cleaning of the outside surfaces. In high buildings it often becomes essential that the windows should be cleaned on both sides from inside the building. Centre-pivoted (either horizontally or vertically) sashes meet this requirement better than any other arrangement, and have the added advantage that they can be used in the very large sizes suggested above, since they are statically balanced and easy to control. On the other hand, the profiles of the framing sections become even more elaborate.

Manufactured Double Glass

For thermal insulation purposes, double glass in factory-made units has been found to be very efficient.



11, manufactured double glass units require large rebates on the window frame. Both timber and metal framing sections will therefore tend to be larger than is usual. These framing sections, designed by the Crittall Manufacturing Co. Ltd., to accommodate double glass, are of aluminium.



12, a patent glazing bar (Williams and Williams Ltd.) designed for double glazing, for side walls or roofs. Thermal transmittance: U = 0.54. Sound reduction: average 37 decibels.

Two (or more, for even greater insulation) sheets of glass are separated by a spacer around the perimeter, and the cavity filled with dehydrated air and hermetically sealed. The unit can then be fixed into glazing rebates—which must, of course, be larger than is usual—with beads or glazing compound. The units must be ordered specially by size, and when designing for this system attention should be given to manufacturers' tables of limiting sizes for each weight of glass—an important economic factor.

Generally

Although both timber and metals have been used for the frames of double-glazed windows, it has been found that timber is the more suitable where thermal insulation is the main consideration, on account of its smaller heat transmittance. Metal frames, on the other hand, are the more suited to sound insulating windows; their advantage here is their greater mass.

Lastly, with all forms of double glazing, efficiency will be greatly reduced if the crevices around opening lights are left unsealed, and some form of weather stripping or packing is essential.

4 THE INDUSTRY

A NEW RADIATOR

Since the publication of our article on Radiators (AR, November, 1954) a new version of the wall type has come on to the market which is sufficiently different to call for special mention. The 'Econarad' is a copper radiator manufactured on the 'spun strong' method which the makers

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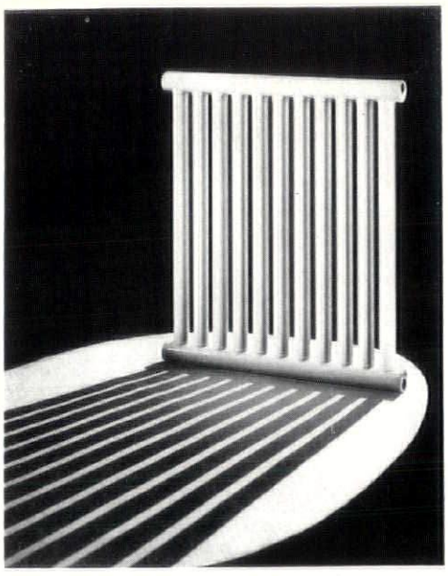


The Econarad Radiator.

(Econa Modern Products Ltd.) use for their smooth bore waste fittings. This ensures that there are no rough edges in the interior of the pipes to impede the flow of water. The radiators are tested to 200 lb. per sq. in. pressure and each is supplied with four $\frac{3}{4}$ in. toppings and two removable plugs.

The chief technical advantage of using copper is, of course, freedom from corrosion, and the chief æsthetic advantage neatness. The Econarad is normally supplied self-coloured ready for painting, but can also be supplied stove enamelled in a standard colour range. *Econa Modern Products Ltd., Aqua Works, Highlands Road, Shirley, near Birmingham.*

THE TILE PEOPLE IN THE BORO'

If we make one or two honourable exceptions, the English tile industry has been rather a disappointment to architects, certainly so far as floor and wall tiles are concerned. The reason for this being that English tilemakers have been kept fully busy for a long time manufacturing tiles for fireplace surrounds, a class of work which offers little scope for ingenuity or inventiveness.

It seems likely, therefore, that for some years to come the products of Continental tile yards will continue to provide a valuable addition to the English architect's tile repertoire. One of the best places to see Continental tiles at the moment is the new showrooms of Langley London Ltd., at 163–5–7, Borough High Street, S.E.1. These showrooms have the advantage of being exceptionally well lit by natural, as distinct from artificial, light: a circumstance which is so important for the choice of tiles and yet—in London—so rarely met with. In the photographs are specimens of one of the many classes of product that can be seen there: three different surfaces of the German 'Sinzig' tile: granulated, 'twenty-five panel' and diagonal grooved. These can be obtained in grey-white speckle, white, black and brown-red and cost approximately 36s. per square yard (38s. for black), delivered in the London area. As is usual with German tiles, they are more accurately made than comparable products manufactured over here.

ALUMINIUM ROOF-TILES

A feature of roofing practice during the last year or two has been the marketing over here of light-weight aluminium roofs which have been pioneered on the Continent. Readers will remember the Swiss Fural sheeting discussed in these columns in the issue of April 1954. We now have the Austrian Prefatile which is being marketed by Prefatile (G.B.) Ltd., of 78, Buckingham Gate, London, S.W.1.

The Prefatile, as its name suggests, is literally a tile, each unit being approximately 2 feet by 1 foot 6 inches. Each tile interlocks with its neighbour, top and bottom, and overlaps its neighbour on one side in the usual pantile fashion.

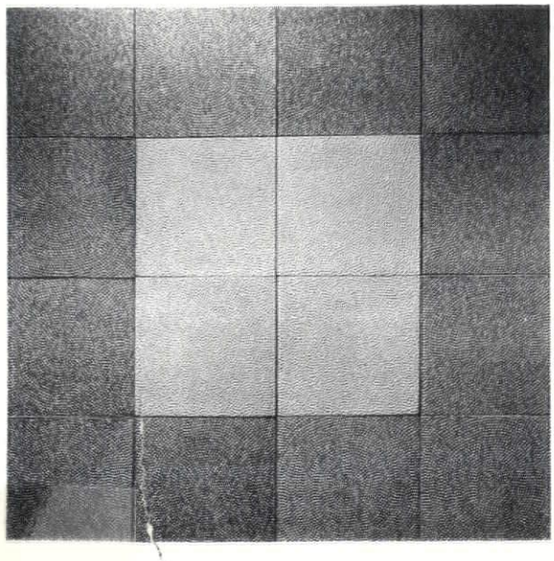
The chief advantages of this method are speed of fixing (the makers claim that tiles can be laid at the rate of 8–10 square yards per man hour), the exceptionally low pitch of 9° to which the tiles can be laid and, of course, the tremendous saving in weight (4 lb. per square yard, compared to the 60–100 lb. per square yard of traditional roofing). It has good insulating properties, is well suited for use with woodwool slabs or some other form of insulating base and is readily adapted to different plan shapes having an easy repertoire of trimming details at eaves, verges and upstands.

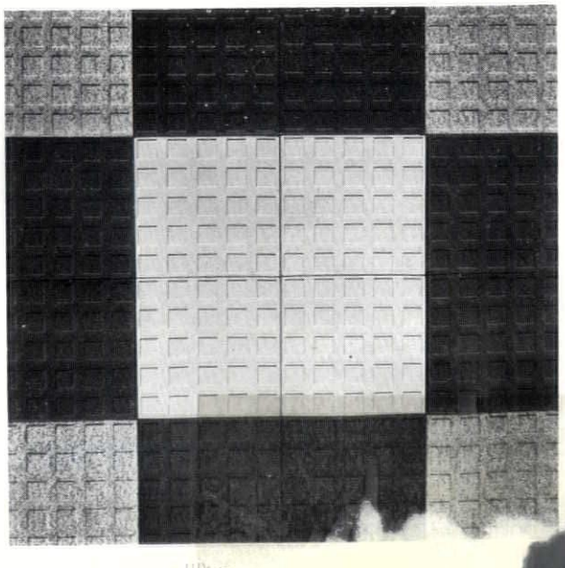
Time alone can tell whether methods of aluminium fixing which rely wholly on clips will stand up as well in our humid atmosphere as in the drier conditions of the Continent, but the ascertainable qualities of this version merit for it a fair trial.

HOT WATER BY GAS

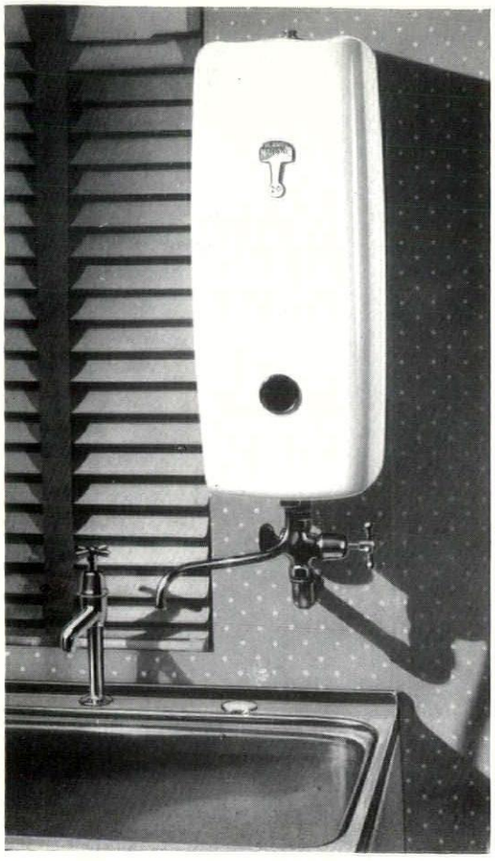
The gas water heater is a piece of equipment which first attained efficiency and good appearance many years ago. A newcomer to the field is the Flavel National No. 20 Instantaneous Gas Water Heater which adds to the traditional virtues that of being exceptionally easy to clean and to maintain. By removing a single knurled nut—it is claimed—the heat exchange unit can be unhooked and

Below, some of the German 'Sinzig' tiles, reviewed in the note 'The Tile People in the Boro'.'









The Flavel National No. 20 gas water heater.

cleaned in less than five minutes. This will be appreciated by all those who, at some time or another, have been prevented from washing their hands by a clogged jet. *Sidney Flavel & Co. Ltd., Eagle Foundry, Leamington Spa.*

CONCRETE FACING SLABS

Architects must always be grateful when technologists betray an interest in the question of surface finishes. The Cement and Concrete Association's new booklet 'Concrete Facing Slabs'—which incidentally is written by an architect (J. Gilchrist Wilson, ARIBA)—gives the most thorough review of this subject so far available. It is, we believe, the first work to state in measured terms what sizes of aggregate will read at given distances. This information is so much to the point that it seems valuable to reproduce the table here:

Size of aggregate in inches	*Distance in feet*
$1\frac{1}{2}$ — 1	350
1 — $\frac{3}{4}$	300
$\frac{3}{4}$ — $\frac{1}{2}$	200
$\frac{1}{2}$ — $\frac{3}{8}$	115
$\frac{3}{8}$ — $\frac{1}{4}$	75
$\frac{1}{4}$ — $\frac{3}{16}$	60

ver, the [illegible] dds a

distances are not necessarily those at which the finish is seen to the best advantage—for this may be as little as a quarter of the readings shown. This whole question of the choice of aggregates has come much to the fore during the last few years: some good notes on it were appended to this year's *Specification*, and we have recently had two new British Standards on concrete aggregates from natural sources. This is an interest which appears to portend a humanizing and localizing influence in concrete technology: for if the cement represents the unchangeable and uniform in concrete, aggregate represents the principle of differentiation.

Another detailed matter which seems particularly well discussed is surface treatments. Here again our architectural language is steadily growing richer. To produce a *smooth* surface we grind with carborundum stones, to produce a *fine* surface we use a felt covered wood float. We doubt if a distinction of this kind would have been so much as noticed even ten years ago. But if here we have legitimate cause for self congratulation we have less when it comes to weathering: for in this we have to re-learn so much that our forebears knew perfectly well. The booklet can be obtained from *the Cement and Concrete Association, 52, Grosvenor Gardens, S.W.*1.

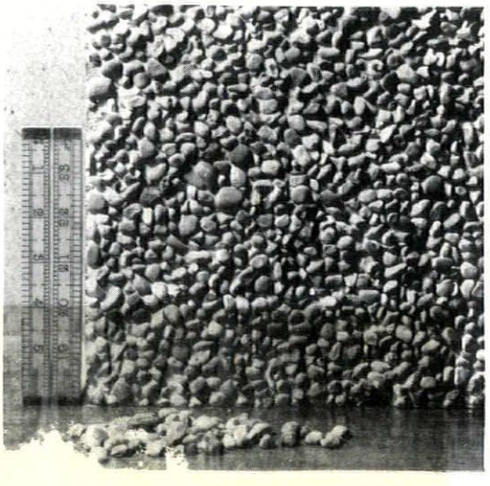
THE HEAT BARRIER

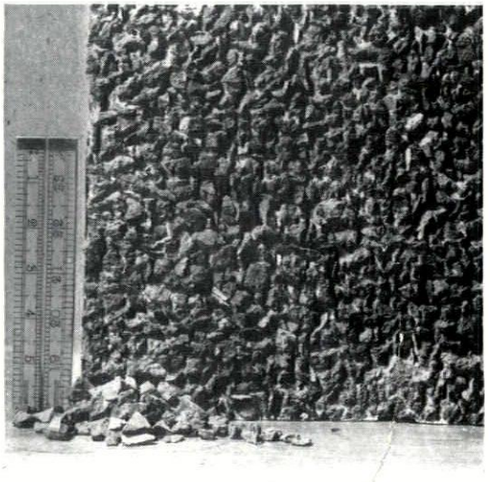
This is the title of a new brochure issued by Bowaters Building Boards Ltd. which contains rather more of the kind of technical information that architects want, but so rarely get from manufacturers' literature.

It deals with the use of fibre board for thermal insulation, provides abbreviated case histories of insulated buildings and gives a number of isometric fixing details. But the main point of interest is in the data on the economics of heat loss. Architects are able now to tell their clients that money spent on insulation is a profitable investment, but figures are rarely to hand and a proper assessment calls in any case for the services of an engineer. But in this brochure a chart is shown which can give a fairly reliable approximation in a few minutes. Approximate because it is based on certain assumptions—plant efficiency, length of heating season, calorific value and cost of fuel and so forth—which are not constant for all buildings. The chart has a number of columns representing annual fuel savings, number of years in which fuel saving repays cost of insulation, saving in heating plant cost and so on. These are aligned with a column of graduated U values. Now if a straight edge is laid across this last column at a value representing the difference between insulated and uninsulated construction, the various implications of this insulation can be read off on the other columns. All the figures relate to 1,000 feet super of external skin.

Thus if you increase the U value by 0.5, you save $4\frac{1}{2}$ tons of solid fuel or over $2\frac{1}{2}$ tons of oil fuel a year, and £65 on the cost of the heating plant. This for every 1,000 feet super of external skin. The data given by this quick method would not, of course, be a sufficient basis for design, but it does indicate the economic implications in broad terms, and thus forms a useful preliminary to exact assessment. *Bowaters Building Boards Ltd., Bowater House, Stratton Street, London, W.*1

Two illustrations from the Cement and Concrete Association's booklet, Concrete Facing Slabs. *Left, Dorset pea shingle. Right, crushed brick.*





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Wykeham Abbey, from a painting by Felix Kelly



Wykeham Abbey, near Scarborough, has belonged to the Dawnay family since 1830. *The present head of the family is the* 10*th Viscount Downe, O.B.E., D.L. Both the space- and water-heating systems of this* 70*-room building are oil-fired.*

SEVENTY ROOMS ON THREE FLOORS TO KEEP WARM

Only oil fuel could do it so easily and so cleanly

YOU MIGHT THINK that Wykeham Abbey, with seventy rooms in a main building of three stories and a staff wing of two stories, was a difficult building to heat—especially as the East coast of Yorkshire is a rather bleak part of the country.

In fact, however, the oil-fired space-heating system heats the whole building most effectively, at exactly the temperature chosen, and it keeps the temperature constant indefinitely.

The day-to-day attendance required on the plant is almost non-existent. There is no stoking, no ash to clear out, and any necessary regulation is controlled by a push-button. Such servicing of the equipment as is required is carried out four times a year involving only an hour or so's work during the whole year.

Lord Downe tells us that his records over a number of years, both before and after conversion to oil fuel, show that he has achieved a 15 per cent. reduction in costs compared with solid fuel without taking labour-saving into account. Not unnaturally, he has also installed a similar oil-fired system to provide a constant supply of piping hot water.

If you would like to know whether oil fuel could be used to advantage in any building which you are designing or altering—be it larger or much smaller than Wykeham Abbey—please write to Shell-Mex and B.P. Ltd., Fuel Oil Department 2G, Shell-Mex House, Strand, London, W.C.2. A representative will be glad to give you any detailed information you require without, of course, placing you under any obligation.

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PULVERIZED FUEL ASH

The knowledge that this country is piling up a stock of pulverized fuel ash at the rate of some 2,000,000 tons a year, and the reflection that we must either find some use for it or see our country disfigured by it, must surely lead us to take an interest in any practical steps to exploit it commercially. Despite every encouragement from BRS and the British Electricity Authority, and despite the prospect of producing a not inferior product at substantially reduced cost, the brickyards as a whole have not shown any willingness to change over from clay to fuel ash.

It is all the more interesting, therefore, to notice that a new fuel ash building block has recently come on the market. It is named the 'Melfil' and originates in Scotland—a country which, like Germany, has had more occasion to use building blocks than England.

Melfil blocks interlock horizontally and, being hollow, are designed to play the part of precast shuttering for in-situ concrete walls. They would thus seem to be particularly well suited to provide the load-bearing walls in cross wall constructions. Each block is $16\frac{3}{4}$ inches by 7 inches by $8\frac{7}{8}$ inches, but weighs only 30 lb., and should therefore be easy to handle.

*The blocks are marketed by Refcon Structures Ltd., Tavistock House South, Tavistock Square, London, W.C.*1.

ADHESIVES IN BUILDINGS

Architects who are sufficiently strong-minded not to be put off by the drawings of funny men with which it is sprinkled, will get much useful information from the new Bostik-Prestik brochure. They will also be surprised by the very wide range of uses to which the various Bostik products can be put. It is one of the signs of the times, this growing dependence of ours on adhesives; and if there has been a certain reaction against their use in exposed positions subject to much structural movement, there is little doubt that they are an integral part of light weight building. The booklet describes most adequately the four methods of application: using putty knife, serrated trowel, brush and—most interesting of all—the new Bostik (Model A) hand gun; and it finishes with some good photographs showing the application of the Prestik sealing strip to prefabricated panels and cladding units. *B. B. Chemicals Co. Ltd.*, Ulverscroft Road, Leicester.

CAST IRON GOODS

For some years architects have been aware that they ought to detail their drainage. But attempts to act upon this have been cruelly hampered by the difficulty in getting enough information on such matters as pipe sizes, profiles and fittings. The publication, therefore, of a new catalogue which is at once clear, compendious and reasonably handy is an event of lasting interest. 'Cast Iron Soil, Drain and General Castings' is described as volume 2 of the standard catalogue library of the Finch organization, but it is altogether more ambitious than volume 1 of the series, the catalogue of heating stoves and ranges which appeared some years ago. This volume 2 is published in two versions: a full version which approximates to quarto format and a pocket version. The latter, which is for more general distribution, appears to be most adequate for ordinary architect purposes. It gives dimensions, sizes and prices not only for such relatively elaborate

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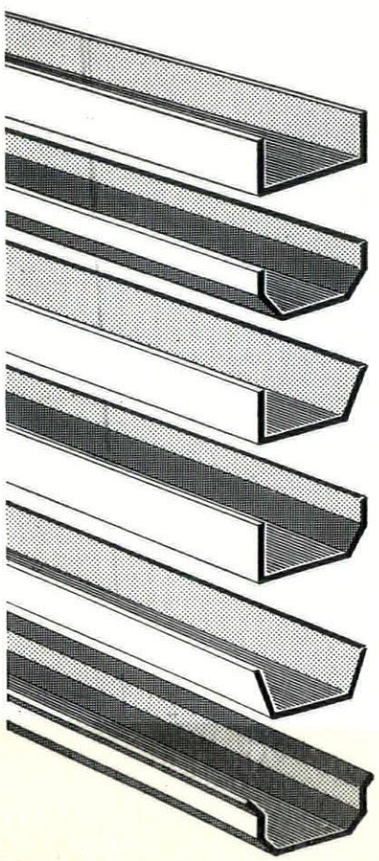
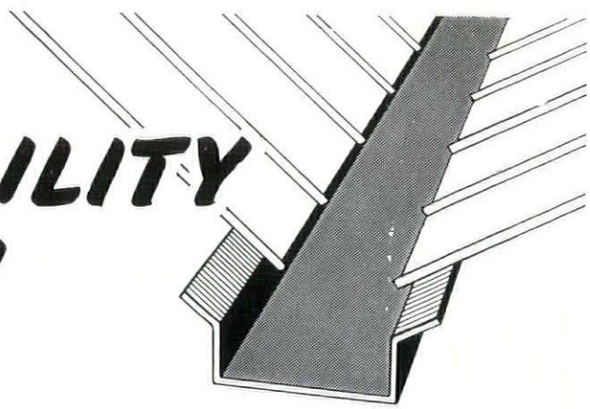


Where DURABILITY is Vital



Out of sight, yet playing an important part in the protection of a building and its contents, roof gutters must be robust and dependable. Produced by specialists in the fabrication of steel, 'Harco' Pressed Steel Gutters conform to B.S. 1091/1946. They are made in standard sizes or to special girths and lengths to meet specific requirements, with pressed socketed joints or butt straps. Supplied self-colour, in painted finish or hot dip galvanized after manufacture by the 'Harco' process.

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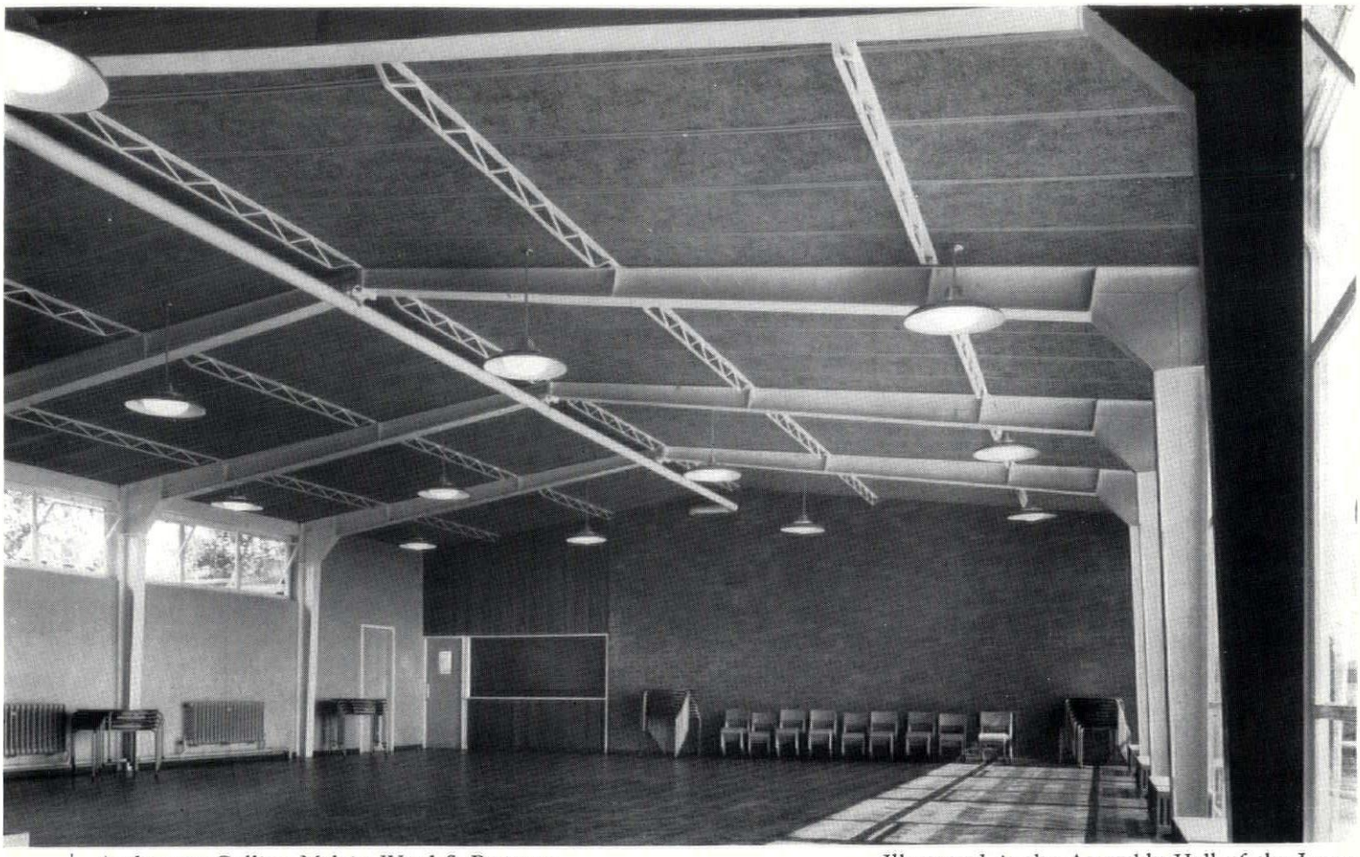

Architects: Gollins, Melvin, Ward & Partners.

Illustrated is the Assembly Hall of the Langstone C.P. School, Monmouthshire. The whole of the structural steel for the school was fabricated and erected by Bracketing, Centering & Lathing Ltd.

BCL specialise in the design, fabrication and erection of all forms of light structural steelwork. Among recent contracts completed are St. Paul's Cray Primary School and other schools for Kent County Council, Springfield Hospital, Tooting, Gas Works at Bromley-by-Bow, Territorial Army Centre at Enfield and the new printing works for Messrs. Hazell, Watson and Viney at Aylesbury.

BCL made and fixed the steel bracketing and metal lathing for the suspended ceilings in such notable buildings as the Royal Festival Hall, the Time-Life Building, and in Stella North, Stella South, Staythorpe and Brighton "B" Power Stations.

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BRACKETING, CENTERING & LATHING LTD.

Light Structural and Welding Engineers

Suspended Ceiling and Metal Lathing Specialists

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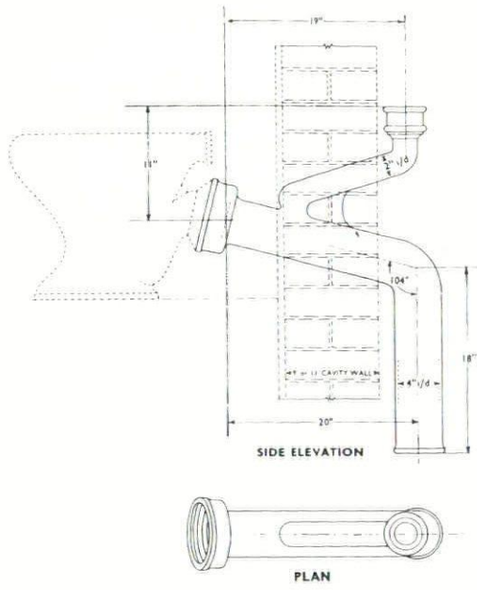
continued from page 286]

items as the Spruce-Thrower Soil Unit which are manufactured by Finch alone, but also for the full range of ordinary standard drainage components which are obtainable through the Finch organization. Though usefulness is, of course, the criterion which matters most, we must also comment on the good typographical quality, and say how glad we are that the designers have chosen to reinforce their diagrams with a disciplined but graphic type of illustration which recalls the woodcuts traditional to plumbing manuals. The catalogue is obtainable from *B. Finch & Co. Ltd., Belvedere Works, Barkingside, Essex.*

Finch's Spruce-Thrower Soil Unit, and fixing diagram.





CONTRACTORS etc

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[continued on page 290

Background to Business

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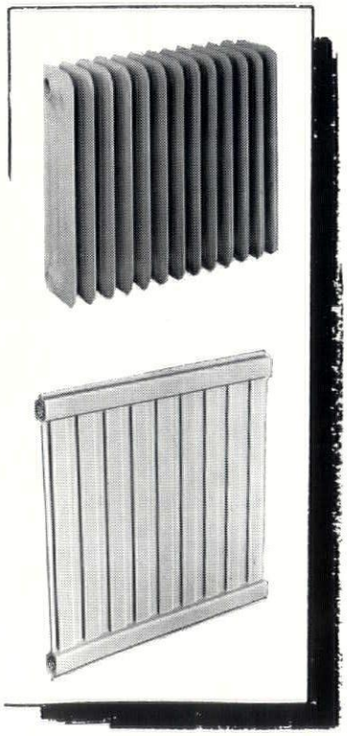

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continued from page 288]

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House at Strawberry Hill, Twickenham. *Architect:* Eric Lyons. *General contractor:* Eden Residential Construction Co. *Sub-contractors: dampcourses:* The Ruberoid Co. *Precast lintels:* O. B. O. Construction Co. *Reinforced concrete:* Smiths Fireproof Floors Ltd. *Bricks:* Ibstock Brick & Tile Co. *Tile hanging, slates:* Wm. Sandfield & Co. *Roofing felt:* Neuchatel Asphalte Co. *Glass:* Frank Mayle Ltd. *Cork flooring:* G. Stephenson & Co. *Patent flooring:* Horsley Smith & Co. (Hayes) Ltd.; Semtex, Ltd. *Gasfittings:* North Thames Gas Board. *Electric wiring:* F. C. Clover. *Sanitary fittings:* James W. Sergeant Ltd. *Electric light fixtures:* Merchant Adventurers, Ltd. and General Electric Co. *Door furniture:* Stedall & Co.; A. J. Binns Ltd. *Casements and kitchen fitments:* Boulton & Paul, Ltd. *Metalwork:* S. G. Day, Ltd. *Wallpapers:* John Line & Sons. *Signs:* The Lettering Centre.

House at Lytham. *Architect:* Tom Mellor. *General contractor:* Trades let separately. *Sub-contractors: bricklayer and concretor:* R. M. Rigby. *Joinery:* J. Matthews. *Facing bricks:* The Buckley Junction Metallic Brick Co. *Stone:* George Farrar (Quarries) Ltd. *Tiles:* Acme Flooring & Paving Co. *Special roofing:* Stramit Boards, Ltd. *Roofing felt:* D. Anderson & Sons. *Patent flooring, corktile flooring:* Wall and Floor Tiling Co. *Boilers:* Janiter Boilers, Ltd. *Electric wiring:* Thistlethwaite & Edgar. *Electric light fixtures:* The Merchant Adventurers, Ltd.; Falk, Stadelmann & Co. *Sanitary fittings:* Shanks & Co. *Central heating:* Whitlock Heating Co. *Casements:* Thomas Blackburn & Co. *Plaster:* Wm. Cooke & Son. *Textiles:* D. Whitehead, Ltd. *Wallpapers:* Arthur Sanderson & Sons.

House at Blackheath. *Architect:* Patrick Gwynne. *Main contractor:* Leslie Bilsby, Ltd. *Sub-contractors: roofing:* Turners Asbestos Cement Co. *Steel windows:* Williams & Williams, Ltd. *Electrical:* F. Rogers, Ltd. *Terrazzo fireplace:* Liverpool Artificial Stone Co. *Joinery, fitments, special furniture:* Leslie Bilsby, Ltd.

Tenants Meeting Room at Potter Street, Harlow New Town. *Architects:* Hening & Chitty. *General contractors:* W. & C. French Ltd. *Sub-contractors: plastering:* A. Charldwood & Sons. *Plumbing:* A. Scull & Sons. *Painting:* Jenner Bros. (Ilford) Ltd. *Glazing:* Aygee, Ltd. *Felt roofing:* Wm. Briggs & Sons. *Hardwood flooring:* S. Bennett & Son (Wood Flooring).

Crown Office Building at Thornton Heath. *Architect:* E. H. Banks, Senior Architect, MOW; D. C. A. Parsons, Senior Engineer; G. H. Stewart, Senior Structural Engineer. *General contractor:* Truett & Steele Ltd. *Sub-contractors: structural steelwork:* Redpath Brown & Co. *Asphalt tanking:* Limmer & Trinidad Lake Asphalt Co. *Metal windows:* Wainwright & Waring, Ltd. *Hollow tile floors:* Caxton Floors, Ltd. *Bitumen felt roofing:* The Ruberoid Co. *Glass dome lights:* Faulkner, Greene & Co. *Composition floor tiles:* Marley Tile Co. *Suspended ceilings:* Steel Bracketing & Lathing, Ltd. *Terrazzo work:* Jaconello, Ltd. *Metal fuel hoppers:* G. E. Welstead Ltd. *Lavatory partitions:* Flexo Plywood Ltd. *Railings and gates:* H. & C. Davis & Co. *Electrical installation:* Beasley Electrical Contracting Co. *Heating and gas installations:* Heat & Power Engineers, Ltd. *Ash hoist:* Hammond & Champness Ltd.

Music Room at Grindleton, Yorks, W.R. *Architect:* Tom Mellor. *General contractor:* James Brierley. *Structural steelwork:* Foster Bros. (Preston), Ltd. *Metal windows:* Thomas Blackburn, Ltd. *Painting:* Thomas Coupe, Ltd. *Lighting fittings:* Merchant Adventurers, Ltd.

Music Studio at Highgate. *Architect:* Patrick Gwynne. *General contractors:* F. G. Minter, Ltd. *Heating and ventilation, electrical installation:* White, Bays & White, Ltd. *Fibrous plaster ceiling:* Jonathan James, Ltd. *Fireplace hood and fireback:* Bratt Colbran, Ltd. Remainder of furnishings arranged by F. G. Minter, Ltd.

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Correction

We regret that in the list of contractors published in the February issue for Broadgate House, Coventry, the name of the facing brick suppliers was misspelt and should read Messrs. Blockleys Ltd., who also supplied the facing bricks used in the Store for Messrs. Owen Owen Ltd., illustrated in the same issue.



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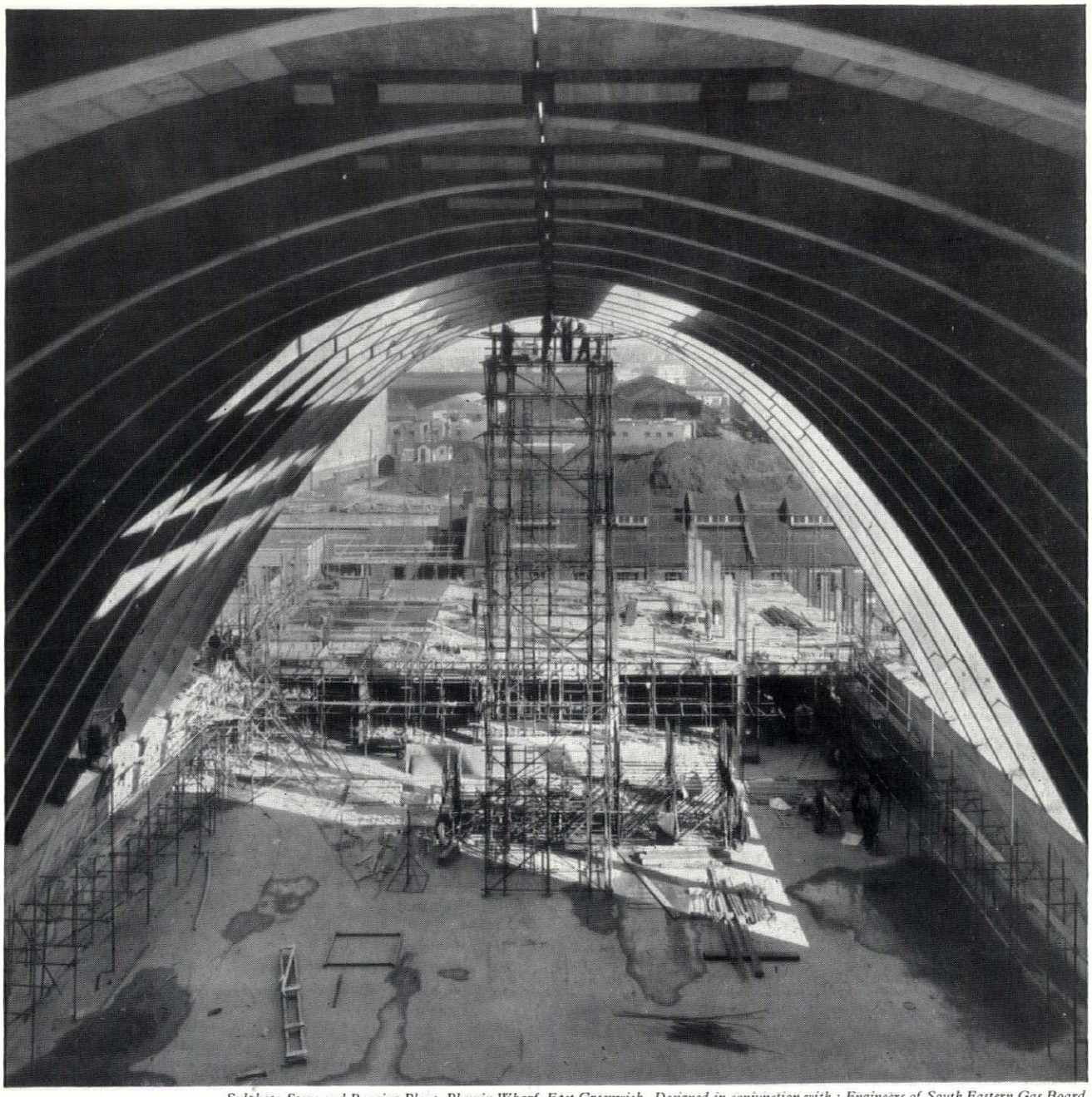

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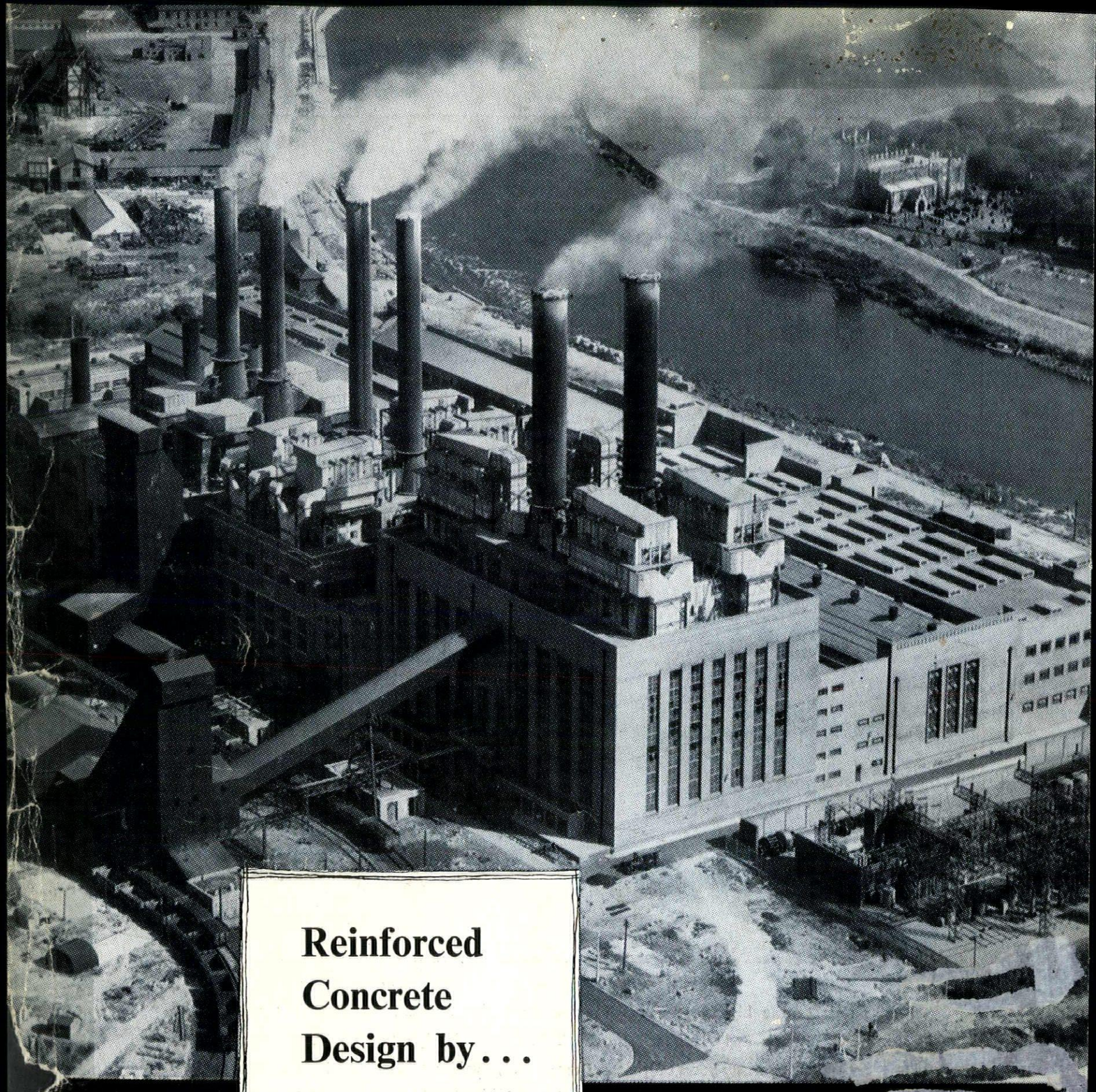

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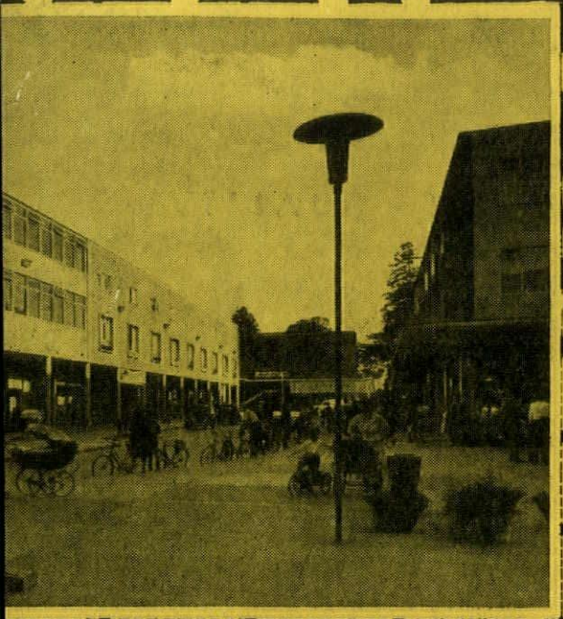

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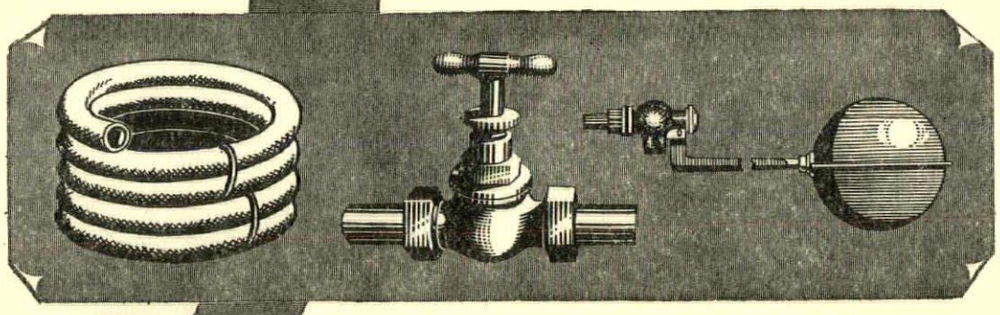

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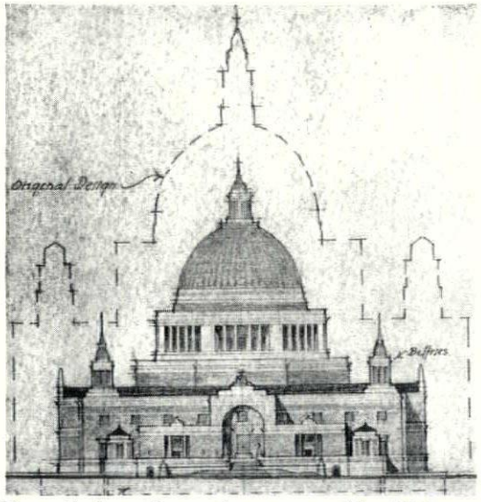
L.I.

MARGINALIA

Liverpool Cathedral

Proposals for reducing the bulk of the Roman Catholic Cathedral in Liverpool to more realistic dimensions were announced late in February. The new scheme, prepared by Adrian Gilbert Scott, would telescope Sir Edwin Lutyens's original design by about one-third vertically, and calls for some contraction of its plan-wise spread as well, 1.

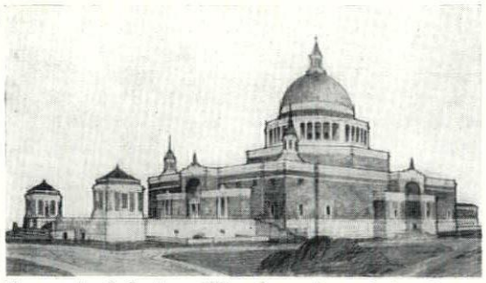
1



Nevertheless, these changes would still leave the central crossing capped by a bigger dome than those of the Pantheon, St. Peter's or St. Paul's,* the main bulk about the same as that of St. Peter's, and the total structure still among the largest buildings for Christian worship in the world.

But this seems to be all that can be said for

2



the revised design. The dropping of the dome leaves it looking like a lost *tempietto* on an over-wide podium, 2. The proportions of the whole have been altered in such a way that the conspicuously 'architectural' qualities of Lutyen's design are destroyed and the retention of his carefully scaled elements of composition and detailing on the cut-down version seems no more than a piece of insensitive archæologizing. There can be little cause to wonder at the scheme's hostile reception: if it is accepted Catholics will have lost a great temple, the city of Liverpool a skymark, and the reputation of Lutyens what would have been one of its greatest supports. Protest from all quarters, however, has been so vigorous and so prompt that the whole project may well be reconsidered.

* See p. 344 for the relative dimensions of these buildings.

Aujourd'hui

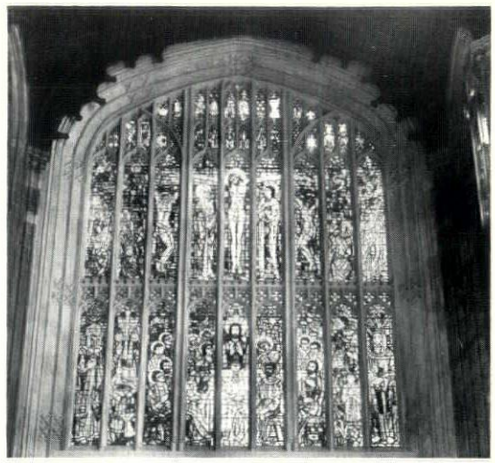
Any new periodical from the Rue Bartholdi is bound to excite the interest of architects, and the latest addition to Andre Bloc's line of magazines takes its place alongside *Architecture d'Aujourd'hui* and *Art d'Aujourd'hui* under the simpler but more general title of plain *Aujourd'hui*, with the exciting promise of being better than its elders by virtue of embracing both their fields and that of product design as well. Its programme as set out in the advance publicity is to take account of all branches of human activity from the point of view of *la plasticité*, and to grapple with the problem of supervision of all other techniques by that superior technique—*la beauté*.

This programme—so French in its submission to high level abstractions and its acceptance of an academic hierarchy of disciplines headed by pure design—sounds alarmingly like a deliberate return to the absolutist æsthetics of the early twenties, but the first issue of the magazine, now that it has appeared, is so full of cheerful self-contradictions that this threat is hardly fulfilled. Thus, a well illustrated and entirely approving article on Ben Nicholson is followed by a frontal assault on the reputation of the late André Derain, whose academic formalism surely gives him an honoured place among the forefathers of abstract; and further on one finds four pages of practical businesslike aeroplanes followed by two pages of impractical, frivolous and arty automobiles, all discussed in the same—high-flown and starry-eyed language—which is capable of such factual inaccuracies as to suggest that if beauty is served the other techniques can go and get lost.

But the treatment of architecture and furnishing is excellent. Here, in the fields where Bloc and his associates have always moved most freely, *Aujourd'hui* will clearly speak with authority. The reportage of new building—mostly South American—is up to the best Rue Bartholdi standards, and the treatment of the late *Triennale di Milano* (the perfect opportunity for this magazine to demonstrate its powers of synthesis between the different techniques) is as full and as thorough as one is ever likely to find between two covers. Copies are 900 Frs. each, annual subscription (6 copies) 4,500 Frs.

Miss Evie Hone

The death, on March 13, of Miss Evie Hone, has deprived the applied arts in England of a figure who was almost unique in that, though she was best known as a glass-painter, she was not descended from the Gothic Revival tradition of the Art-Workers Guild and similar organizations. Her roots as an artist were struck in the school of Paris, where she studied under Albert Gleizes and André Lhote, through either of whom she would have been in touch with that revival of interest in the craft of the *artisteverrier*, which had grown up, within the modern movement, among the friends of Gauguin. Much has been made of the fact that she was a descendant of Galyon Hone, glass-painter to Henry VI, but this is not much more relevant than the fact that she was the first significant practitioner of abstract art in Ireland since the illuminator of the Book of Kells. Her work in stained glass, however, is predominantly figurative—as one would expect in a pupil of Lhote—and, apart from work in her native Ireland, she is best known for her work at Farm Street, and for her grandest and most brilliant



performance, the new East window, above, in Eton College Chapel, replacing the bomb-damaged Victorian work.

Architects in this issue



Architects of Ontario Architects' Association Headquarters Bui'ding (see pages 302–306). John B. Parkin Associates of Toronto, Ontario, left to right: Dr. P. T. Mickluchin (structures), Edmund T. Parkin (construction), John E. Owen (architect, hospitals), Edward R. Wilbee (industrial engineering), J. C. Parkin (design), John B. Parkin (administration), R. V. B. Burgoyne (architect, schools), J. Ewart Mews (mechanical engineering) and John G. Spence (architect, working drawings). A typical large transatlantic office, with a total staff of about 120 assistants, and a finely graded system of specialization and division of labour, the John B. Parkin Associates are one of the best-known offices in Ontario, and indeed in Canada. As the specialized qualifications of the associates would suggest, hospitals, schools and factories form the greater part of their output, and in these fields they gained one gold and three silver medals among the 1952 Massey Awards in Architecture, and a diploma of honour at the 1952 Olympiad. An adaptability of approach is shown by the fact that a silver medal for a church was also among the Associates' large haul of Massey Awards, while the prize and commission for the OAA headquarters shows that this adaptability persists.

Architects of interior, Royal Hotel, Cardiff (see pages 345–347). John Morton, born 1919. Trained in AA after the war. Chief assistant to R. Y. Goodden and R. D. Russell on the

building of the Lion and Unicorn Pavilion in the South Bank Exhibition. Since 1951 has worked with Tom Lupton on the establishment of a furniture factory, and is now employed as designer to the company. Married to a Danish interior designer with whom he won an award in the *News Chronicle* house design competition in 1953. Has one daughter aged three. Lives in a new house which he and his wife are building themselves in an old walled garden in the middle of Wallingford. Is a member of the Borough Council of Wallingford. Works in occasional collaboration with Tom Lupton, born 1920, who trained in Cambridge and the AA. He also worked on the Lion and Unicorn job in the Goodden and Russell office. In 1952 he resigned his membership of the RIBA in order to become the director of the new furniture company. Is married and has two children. His new house is now being built in Wallingford. Plays the violin in an orchestra; his wife plays the oboe.

CORRESPONDENCE

G. F. Watts

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—Watts' place in history was not his fault, but a fault in him. His nineteenth century critics used to say he was born too late; your critic precisely reverses this suggestion. I do not know that there is much point in playing this game with history, but I should favour the former idea, which is also Mr. Loshak's.

Your critic writes that, 'He (i.e., Watts) was a failure on a vast scale and deserves to be treated as such.' I cannot allow that Watts should be praised or merely found interesting for his failures. He was both vain and modest to a fault. Nor should your critic hoist the artist with the petard of the painter's own modesty. Watts' disclaimer is misinterpreted by your critic. 'My attempts,' Watts said, 'at giving utterance and form to my ideas are like the designs of a child who was once asked by his little sister to draw God, and made a number of circular scribbles . . . and stuck his pencil through the centre, making a great void.' This may be 'the sign language of modern painting,' as your critic suggests, and as I pointed out years ago. It may be good enough for little sisters and for your critic, but, after all, great voids and little holes come to much the same thing, and as works of art they are frankly nonsense, and that, of course, is what Watts meant. What the painter thought a weakness, your critic mistakes for a modern virtue.

Yours, etc.,
R. W. ALSTON,
Guildford. Curator, Watts Gallery.

[Robert Melville writes: *I think Mr. Alston's hatred of modern art is at the bottom of this controversy. If Mr. Loshak favours the notion that Watts was born too* late, *why does he claim that the range of Watts includes kinship with Boccioni and Kandinsky? I do not expect Mr. Alston to understand the largeness of this claim, and unfortunately it is in any case quite untenable, as I pointed out in my review of the exhibition. There is no evidence whatsoever in the work itself that Watts had a precognition of the modern idiom. But this 'stranded whale,' gasping in the Victorian shallows, had something to say about the child's drawing that deserves to be protected from the interpretation put upon it by his friends. He does not envy what the child has actually set down, but finds in it a hazy presentiment of a more subtle language for the presentation of his 'cosmic' vision than the cliché-ridden symbolism that he strove so fruitlessly to bring to life. His remark is an admission of failure, but humility is not its most vital attribute, and his final sentence provides the key: 'This was utterly absurd as a picture,' he wrote, 'but there was a greater idea in it than in Michael Angelo's old man with a long beard.' Those are the words of a man who was turning away from the past with something like horror, and facing towards an inaccessible future.*]

City Replanning

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—With reference to your publication of my scheme for the area between Bread Street and St. Mary-le-Bow (A.R. March pp. 202-203). I would like to comment that I found the City Planning Officer and his staff extremely co-operative and receptive to my ideas, even though they differed from their preconceived notions as to how the site should be developed and am forced to the conclusion that too passive an attitude may have been adopted by the Architects concerned in some of the City redevelopment.

Yours, etc.,
London. FRANK SCARLETT.

The Champion

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—There is one thing lacking in the illustrations of the Champion Pub in the last two issues of the REVIEW. The pictures look very pretty in a smart way, but where are the customers? Surely the architects have designed Typical Customers in the palmy Victorian style they have employed on the other details—cads, sporting a flash, taken direct from Phil May; and pale feathered ladies with a gay laugh and TB cough—for the incursion of present-day characters would certainly ruin pictorially all their carefully contrived effects. My point is that this sort of fancy-dress design is out of place, unnecessary, unrelated to current life; and, for all its pretences, lacking both in style and vigour: no excesses of reference-library intellectualism, however fashionable, can bring a live art to the living.

Is there any satisfactory answer to the question why an imitation Victorian background should be good, and an imitation Tudor one bad? Why not have a few imitation Elizabethan pubs done by the best architects? After all, the Elizabethans were not inferior trencher-men to the Victorians, and could equally well be imagined to be an inspiration to the poor-appetited moderns.

The new face of the Champion has all the characteristics which bedevil the arts in this country to-day: a slavish shuffling of clichés, a passion for styles at the expense of style, a ponderous heavy-handedness of statement and scrupulous avoidance of the unexpected. Far from hoping, with the REVIEW, that this may be the 'first example of the creative refitting of an existing pub,' let us pray it will be the last. You cannot pre-fabricate a pub atmosphere. That is something organic which can only come slowly from the personalities of publican and regulars. I am all in favour of brightening up pub interiors, but suggest that refresher courses in bric-a-brac collecting for publicans might have better results than mock Victorianism.

Apart from deploring the idiom which has been used at the Champion, I wonder what persuaded the designers to build up that appalling weight of barrels, bottles and so on on the light canopy over the bar? One assumes that all these containers are empty, but, even so, the implied weight is such that any timid drinker (and aren't we all nowadays) must be discouraged lest the whole lot come crashing down upon him, crushing him with the maidenhair ferns and old beerpulls.

One thing only I am grateful for. This must be the only modern interior that does not include an india-rubber plant.

Yours, etc.,
Devon. ALAN SMITH.

[*John and Sylvia Reid, architects of 'The Champion,' write: Whilst we are most grateful for the interest shown by Mr. Smith, we think that an actual visit to The Champion would convince him, far better than we can, that most of what he says does not accord with the facts.*

It is unfortunate that photographs could not be taken when the pub was open, for it is the people that complete the picture. 'Present-day characters contrary to Mr. Smith's expectations, contribute far more than any that he or we could hope to design.

Why a Victorian background?—the building is basically Victorian and its owners had saved some valuable examples of Victorian craftsmanship for which they wanted a permanent home. The Victorian work is therefore 'genuine Victorian' and as for the rest, whatever else it may be it is certainly not 'mock' or 'revival' Victorian. A 'restoration' was never a part of our intention.

Mr. Smith is mistaken if he believes that 'you cannot prefabricate a pub atmosphere' (or any other atmosphere for that matter) because such a 'prefabrication' was the whole object of the exercise and surely the still widening circle of its regulars is proof enough?

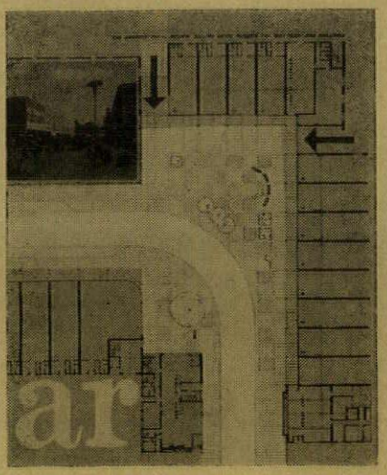
The display of barrels, etc., is intended to give the illusory, but nonetheless comforting feeling that supplies are plentiful, and London drinkers must be less timid than Mr. Smith for none have yet displayed a fear of sudden annihilation.]

ACKNOWLEDGMENTS

MARGINALIA, page 291: Eton Window: Kemsley Picture Service; John B. Parkin Associates: Panda. FRONTIS, Gordon Cullen. SANT' ELIA, pages 295–301: drawings from Museo Civico, Como; photo: Banham, Arphot. ONTARIO ASSOCIATION OF ARCHITECTS BUILDING, pages 302–206: Nos. 1, 2, 3, 4, 8, Ben Schnall; Nos. 9, 10, 11, 12, 13, Panda. HILL HALL, pages 307–309: HM Stationery Office; two drawings: A. C. Cooper; 3, HM Stationery Office; 4, A. F. Blunt. HARLOW NEW TOWN, pages 310–329: page 313: Photoflight, John Maltby. Nos. 2, 3, 5, 11, 12, 13, 15, 21, 29, 30, 32, 37, 38, 45, 46, 47, 48, 49, Galwey, Arphot. No. 3 (page 313), John Maltby. Nos. 4, 6, 7, 10, 14, 17, 18, 19, 27, 28, 31, 33, 39, 41, 44, Wainwright. No. 20, Photoflight. Nos. 22, 23, Henry Lewes. Nos. 24, 25, 26, John McCann. Nos. 8, 9, H. T. Cadbury-Brown. No. 42, Sound Stills Ltd. No. 35, Alfred Cracknell. No. 36, Peter Pitt. RESERVOIRS, pages 330–335: Frontis: K. G. Browne. Nos. 1 and 10, Crown Copyright. Nos. 2, 3, 4, 5, 6, 8, 12, 13, 16, 17, 18, 21, 22, K. G. Browne, Arphot. No. 11 supplied by Christopher Tunnard. Nos. 14, 15, 23, 24, Sylvia Crowe. No. 20, Toomey, Arphot. CURRENT ARCHITECTURE, pages 336–338: Hotel in Bond Street: Public Relations Associates. House at Chorley Wood, Herts: John R. Pantlin. MISCELLANY, pages 339–344. Criticism: Nos. 1, 2, 3, 4, 6, 7, 8, 9, John R. Pantlin. No. 5, Sydney W. Newbery. Exhibitions: No. 1, Capt. D. Malcolm; No. 2, B. Buffet; No. 3, Maywald; No. 5, Cauvin. SKILL, pages 345–358: Nos. 1, 2, 3, 5, 6, 11, 12, Hylton Warner; Nos. 4. 7, 8, 9, 10, Galwey, Arphot. Designers in the Making: Nos. 1, 8, 14, 15, 16, 17, 18, 31, 37, 40, 41, 42, 43, 44, 46, 48, 49, Toomey, Arphot; Nos. 2, 3, 4, 5, 9, 10, 11, 12, 13, 19, 20, 21, 22, RCA; No. 6, Topical Press Agency; No. 7, Wainwright; Nos. 34, 36, COID; No. 35, Alfred Lammer; Nos. 45, 50, Leonard Hill; No. 47, Harold King.

THE ARCHITECTURAL REVIEW

Volume 117 Number 701 May 1955



This month's cover shows, in plan and in photograph, the Stow—the shopping and social centre which serves a cluster of newly completed neighbourhoods in Harlow New Town. With its feeling of enclosure and positive topographical character, both deriving largely from the form of its plan; its sense of animation and population, due to its combination of pedestrian security with reasonable vehicular circulation; and its feeling for variety of architectural aspect, the Stow is perhaps the most successful work of permanent Townscape planning that has been executed since the war. It is described and illustrated, along with other features of the Harlow neighbourhoods which it serves, on pp. 310-329.

291 **Marginalia**

292 **Correspondence**

294 **Frontispiece**

295 **Sant'Elia** *by Reyner Banham* Although there is a fair body of literature about him, Antonio Sant'Elia, the Futurist architect, is one of the least understood pioneers of the modern movement. Since no known buildings from his hand survive, the evidence for his ideas and achievements lies in his writings and in his surviving sketches. After summarizing the contents of Sant'Elia's Manifesto of Futurist Architecture and placing it in its proper relationship to other Futurist writings of 1914, Mr. Banham turns to the problem of the drawings, and particularly the large corpus now in Como that have not been published before. This unpublished material, he suggests, gives us a profounder view of a designer whose mental calibre has hitherto been under-estimated. Sant'Elia emerges as the possessor of a unique sense of plastic form, related both to sculpture and civil engineering, and this sense of form produces, in sketches for industrial buildings, solutions which are so prophetic of the architecture of the 'twenties and 'thirties, that, when the three-dimensional quality of his town-planning is also considered, he is assured of a place in the family tree of the Modern Movement.

302 **Architects' Building, Ontario:** *Architects, John B. Parkin Associates*

307 **Hill Hall** *by Nikolaus Pevsner* If an Elizabethan dating for the courtyard of Hill Hall, Essex, can be accepted (and Professor Pevsner begins by assembling the evidence for such a date) then the building occupies a key place in the introduction of columnar architecture to this country, and the problem of the sources of the wide set columns of the courtyard, their flat entablature and their squat proportions is an important one historically. Sir Thomas Smith, its builder, was connected with the Cecils, and travelled extensively in France, both as scholar and statesman, so a French source for Hill Hall is more than probable. Much of Hill Hall must have come, specifically, from French Vitruvian sources —for Smith's library catalogue contained five editions of Vitruvius, one certainly French, and another almost certainly Philander's—yet the essential conception of widely-spaced, superimposed orders is not in the books, and the most likely source is the courtyard of Bournazel, near Toulouse, which would have been completed in time for Smith to see it when he was in the south of France in the fifteen-sixties. As a postscript, Professor Pevsner draws attention to the more complex problem presented by the giant order of the exterior of Hill Hall.

310 **Harlow New Town** *by Frederick Gibberd* With twenty thousand persons housed, work on Harlow New Town has progressed so far that its architectural and townscape qualities can begin to be seen and appreciated. In the article which opens this special feature on Harlow, Frederick Gibberd, architect-planner to the New Town Corporation, describes the principles of planning and landscaping which have been developed for the first neighbourhoods to be completed: Mark Hall North, Mark Hall South and Netteswell. He draws attention to the basic pattern of housing unit, neighbourhood and neighbourhood-cluster, which governs the location of social facilities, and to the pattern of built and unbuilt land which arises naturally from the topography of the new town site, from the needs of circulation, and from certain basic procedures in the disposition of services. These have all had their effect on the grouping of buildings and thus on the emerging townscape pattern in which planting and landscaping have also played their part. Mr. Gibberd's description is followed by a map, giving the route of a tour through the completed neighbourhoods, and by illustrated descriptions of thirteen selected buildings and building-types which have been erected there.

330 **Reservoirs** *by Sylvia Crowe and Kenneth Browne* Reservoirs are part of a growing programme of canalizing and controlling the water available in this country. They and the programme are obviously necessary, and their effect on the landscape could be visually magnificent, but in practice they often lead to geological changes, the disappearance of streams and waterfalls, their construction often involves drastic but not well-considered alterations of land-form, and their ancillary constructions—retaining banks, dams, spillways, sluices—are often ill-designed and inept in their settings. Worse still are the attempts to restore visual amenity by unconsidered planting of unsuitable trees. Still, examples do exist, in Britain and elsewhere, of reservoirs that do make a contribution to the beauty of the landscape, and the authors demonstrate with text and pictures how this is achieved, and how the common mistakes in the placing and treatment of large sheets of water can be avoided.

336 **Current Architecture**

Miscellany

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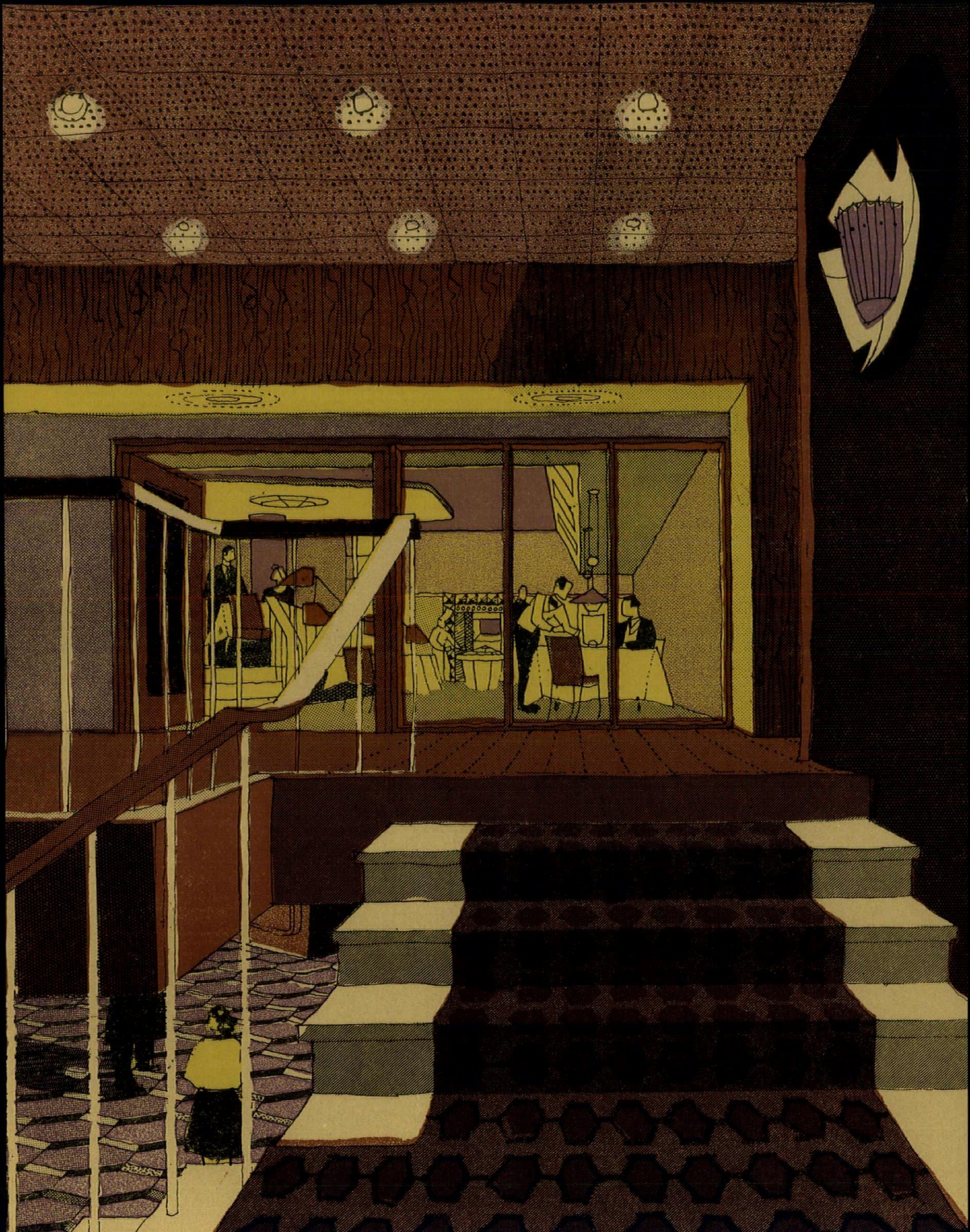
FIVE SHILLINGS



The Leofric Hotel in the rebuilt city centre of Coventry, is the first hotel since the war to be put up and equipped with British capital. It is therefore encouraging to see that the designers—W. S. Hattrell and Partners, working with the furnishing department of Ind, Coope and Allsop under Anthony Drew—have decided not to use Regency, or some other period style, but a straightforward contemporary idiom. This is exemplified in Gordon Cullen's impression, opposite  , *of the treatment of the stair that rises from the lower foyer to the upper one, with the silver grill beyond the glass doors at the higher level. The Leofric will be described and illustrated in full in a forthcoming issue.*

Reyner Banham

SANT' ELIA

The Modern Movement can have left behind few monuments as baffling as the memorial to the war dead of the town of Como. Seen from a steamer coming down the lake its white form—a truncated dipylon gripped between powerful canted buttresses—suggests the remains of some grandiose engineering project, such as a suspension bridge, abandoned before completion. Seen from the land, its stance astride the axis of the inevitable *Via Vittorio Veneto*, and its flanking hemicycles of cypresses, make its monumental intentions unmistakable. Yet it is quite free of the usual flabby symbols of Fascist military rhetoric; all is fine-drawn, stark and abstract. It is, as the red CTI guide-book of 1936 truly says, *una severa costruzione architettonica.*[1]

The red guide offers one other piece of information on the monument: that it was built by the *ing. e arch. Terragni, su disegni del caduto arch. Sant'Elia.* The architectural information in CTI guide-books is usually perceptive and well informed, but most students of modern architecture would find the monument so unlike what they know of the manner and intentions of the fallen architect Antonio Sant'Elia, that they would suspect that what they see is much less his work than that of the engineer and architect Giuseppe Terragni, fallen, in his turn, in another world war, some six years after the guide-book was written.

But how much do we really know of Antonio Sant'Elia, futurist and architect? A very well-read student of the Modern Movement, who used the resources of the RIBA and *Victoria and Albert* Libraries to the full, going on even when the catalogue had lost interest in the subject, would be acquainted with: a longish footnote in Dr. Pevsner's *Pioneers;* four paragraphs in *Space, Time and Architecture;* a collection of essays entitled *Dopo Sant'Elia,* which includes the text of the *Manifesto of Futurist Architecture;* two pages in P. M. Bardi's *Belvedere;* a dim little book by Alberto Sartoris, whose accidental importance, as we shall see, outweighs its patent demerits; two articles in *Casabella* in the early thirties, and one in *Architettura;* and six pages of involved and

[1] CTI guide, *Lombardia*, 1936 edn., sub *Como.*

high-flown exegesis of the Manifesto, in Zevi's *Storia*. This may seem quite a respectable literary memorial for a man who never built a building, but the entire body is bedevilled by an inescapable defect—it is based upon a very limited knowledge of the existing evidence about the architect. Most of the Italian material is also spoiled by jingo rhetoric before the last war, and political embarrassments after it. The student who has consulted all these books and periodicals will have seen no pictures of the Monument, and only ten of his drawings. Four of these, all skyscraper projects, are from the *Città Futurista* exhibition of 1914; one is a sheet of drawings dated 1913, which can be cut up to look much more numerous, and the rest, which appear only in the obscure second edition of Sartoris's book, come from another source altogether—and suggest, faintly but tantalizingly, unknown aspects of Sant'Elia's personality.[2]

[2] The Sant'Elia bibliography available to a student working in London is as follows: Pevsner, *Pioneers of the Modern Movement*, 1st edn., p. 223, note 8; Giedion, *Space, Time and Architecture*, 3rd edn., pp. 319–20, 442–3; *Dopo Sant'Elia*, essays by various hands (notably G. C. Argan), Milan, 1935, RIBA; P. M. Bardi (editor) *Belvedere*, Florence, 1933, RIBA; Alberto Sartoris, *l'Architetto Antonio Sant'Elia*, Milan, 1930, Courtauld Inst. and V & A, much altered and republished, with important illus., as *Sant'Elia e l'Architettura Futurista*, Rome, 1943–4, V & A; *Casabella*, 1933, no. 82, p. 2, and 1934, no. 90, p. 2, RIBA; *Architettura*, vol. X, p. 325, RIBA; Bruno Zevi, *Storia dell'Architettura Moderna*, Florence, 1950, pp. 224–31. This bibliography may not be all-inclusive, and the author would be glad to hear of other Sant'Elia literature in England.

The student who commanded this material would know Sant'Elia's views on architecture, as they appear in the Manifesto, but apart from the *Città Futurista* drawings, would have only the vaguest idea what those ideas were to look like in the round; he would know that his memory was honoured by Sartoris, Terragni and the Italian rationalist architects, but also by the apologists of Fascism; that he was born in 1888, and was thus younger than the great masters of the 'twenties, finally qualified in 1912, *summa cum laude*, joined the Futurists in the same year, and set up his own office in Milan, but had to waste his talents detailing other people's competition projects; and that he died, under conditions of almost too-conspicuous gallantry, in the fighting round Monfalcone, October 10, 1916. His last words, according to a well-nourished legend, were: 'To-night we sleep in Trieste, or in Paradise with the heroes.'

Essentially, this information is all that is needed to form a true estimate of Sant'Elia's historical position, and his contribution to the Modern Movement, but most of us would be hard put to interpret the evidence, or to know which saying illuminates which drawing, and *vice versa*. The basic obstacle is the fixed image we have in our minds of Futurism as a closed æsthetic system with a single aim, the praise and illustration of movement. But though studies of motion represent the great contribution of the Futurists to twentieth-century art, it should not be thought that the delight in speed, noise and machinery which gives rhetorical vigour to the Manifestos of 1909 and 1910 remained the sole object of the Manifestos even of 1912, still less of 1914. The situation was quite otherwise, and after the Milan group had fused with Soffici and the Florentine Cubists in 1912, the leading Futurists began to retrace their steps. Lesser figures like Balla and Russolo might continue to pursue and refine the theme of motion, but the founder of the movement, F. T. Marinetti, and its greatest exponent, Umberto Boccioni, were both on the way back to a static and classicizing ideal, achieved by the latter, who died two months before Sant'Elia, in the form of an open and understanding imitation of Cézanne in the last two or three paintings he produced.

In the case of Marinetti the change is harder to see. One who is essentially a public figure and popular performer must inevitably repeat his accustomed verbal formulæ, and his earliest phraseology carries through by its own momentum into 1914. But the title of his most carefully worked out policy-manifesto, which appeared in March of that year—*Geometrical and Mechanical Splendour, and the New Sensibility of Number*[3]—though it promises a greater change than the text exhibits, clearly reveals the new tendency. Sant'Elia, who was not a foundation member of the group, but rather the *Beniamino della squadra*, took his style from the leaders, and everything which remains of his thought and work is marked by this transitional frame of mind, between motion and stasis, between empiricism and classicism, with the world of machinery and an aggravated sense of patriotism as the only stable elements to which a man might look for support.

The *Manifesto of Futurist Architecture* is almost exactly contemporary with that on *Geometrical and Mechanical Splendour*, and was certainly written very much under Marinetti's influence. It has never been translated into English—very little Futurist literature has—and though this is not the place to examine it in detail, its main drift must be known before Sant'Elia's drawings and projects can be understood.[4] It is arranged in the common Futurist form of a general prologue, analysing the present condition of the aspect of life due for Futurist attack, followed by sets of tabulated propositions about what should be done. In this case the prologue opens with the statement that there has been no architecture since 1800, but only a hotch-potch of decorative styles. 'So-called renovators of the art have simply added new

[3] The French text is in the V & A Library.

[4] The best and most reliable text is in the first edn. of Sartoris, op. cit. The author hopes to publish full and accurate English translations of this and other Futurist documents in due course.

variations to an old game, undisturbed by the complete revolution and mechanization of modern life, and our cities remain sunk in the squalor of the centuries, instead of answering the needs of to-day. Thus a great art is debased to an empty game of revivals, as if we, with our turbulent mechanized life, could live in buildings designed for the needs of five centuries since, and students are forced to copy the past, instead of studying the true needs of the contemporary city.

'The problem of Futurist architecture is not one of finding another style of detailing, but of starting afresh on sound foundations, using every resource of science, abandoning all that is heavy and antique. Architecture has been worn out by traditions, and must be remade by force. Precise structural calculation, the use of concrete and steel, exclude architecture in the classic sense. We no longer believe in the monumental, the heavy and static, and have enriched our sensibilities with a taste for lightness, transience and practicality. We must invent and remake the Futurist city like an immense assembly yard, dynamic in every part; the Futurist house like a giant machine, without painting or sculpture, enriched only by the innate beauty of its lines, extraordinarily brutal in its mechanical simplicity; and streets must be buried storeys deep below the buildings, served by escalators and high-speed conveyors.

'We must abolish decoration, and solve the problems of Futurist architecture by strokes of genius and the use of scientific techniques. Everything must be revolutionized: roofs cleared, cellars opened up, façades devalued, and attention transferred to the grouping of masses and disposition of planes on the broadest scale. An end to monumental commemorative architecture!'

The reader who has been hanging on to his hat in the gale of prophecy that blows through this remarkable document—he will have noted the anti-monumentalism twenty years before Mumford, the house/machine equation eight years before Le Corbusier, mechanistic brutalism nearly forty years before Hunstanton—has further buffets to follow in the tabulated propositions which make up the rest of the Manifesto.

Sant'Elia proclaims:

'(1) that futurist architecture consists of precise calculation, boldness and simplicity, concrete, steel, glass and lightweight materials

'(2) that it is not, for all that, merely an arid combination of practicality and utility, but remains an art . . .

'(3) that diagonal and elliptical lines are dynamic by their very nature and a thousand times more emotive than horizontals and verticals

'(4) that decoration as something stuck on to architecture is an absurdity

'(5) that just as the ancients drew the inspiration for their arts from the world of nature . . . so we should draw ours from the mechanized environment we have created

'(6) that architecture must be understood as the art of disposing the forms of a building according to finite and stable laws

'(7) that architecture must also be understood as the power to harmonize man and his environment

'(8) that an architecture such as this breeds no permanence, no structural habits. We shall live longer than our houses, and every generation will have to make its own city.'

If these eight propositions reveal his sources—Adolf Loos, Boccioni, Marinetti and so forth—they also carry deeper the tone of prophecy. Not merely the short-term prophecies of the superficial æsthetic of the expressionists, as in §3, but also in the subtler and more durable prophecy of the essential philosophy of the International style, for §5 and §6 bring together, probably for the first time, the idea of mechanism and the idea of absolute æsthetic laws, the Machine Æsthetic. But we can go further than this: §2 rejects, as every great architect of the Twenties was to reject, the essentially Victorian concept of Functionalism, while §7 and §8 adumbrate a philosophy astonishingly close to that of Buckminster Fuller.

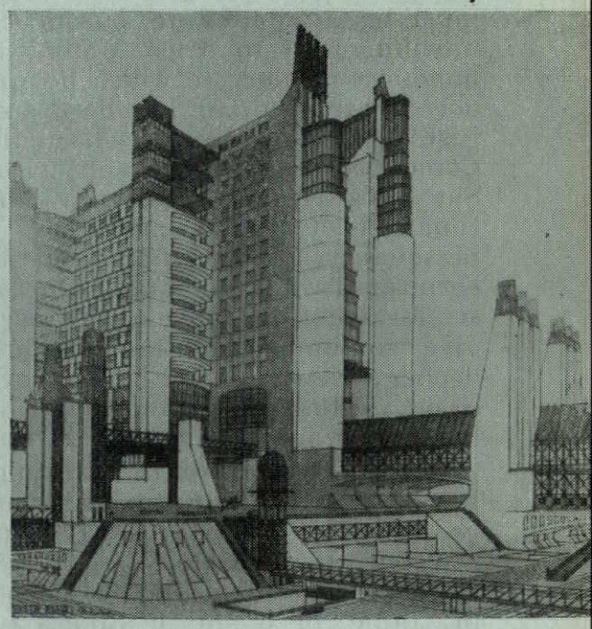
Yet to have prophesied the common intellectual currency of the Twenties is not enough to make him a Pioneer of the Modern Movement, any more than statements about beauty following function, uttered in the eighteen-fifties, can make Horatio Greenough a founding father of contemporary American architecture. To have bracketed together machinery and æsthetic law, or steel, concrete, daring and calculation, would only guarantee Sant'Elia an honoured place on the side-lines, like C. R. Mackintosh, who anticipated many of the forms of modern architecture, without arriving at its essential intellectual basis. What gives an architect his place in the family tree of the Modern Movement is the manner in which he gives plastic form to certain basic assumptions about architecture and mechanism—and in the absence of completed buildings, this brings us back to the question of Sant'Elia's drawings.

As has been mentioned above, the apparently extensive literary record of his life and work contains very few drawings, and the literature normally available to an English speaking student, only one, from the *Città Futurista* set, 1. Other drawings from this set have appeared in Italian publications, there is the single sheet which appeared in *Dopo Sant'Elia* and in *Belvedere*, and there are the other five which appeared in the second edition of Sartoris. This is precious little to have survived from an artist who according to Reggiori,[5] made hundreds, and died less than forty years ago.

However, when Sartoris issued the first edition of his book in 1930 it

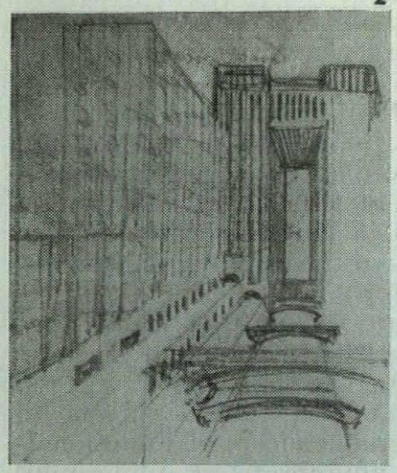
[5] *Architettura*, loc. cit.

1



1, *Sant'Elia's drawings for his* Città Futurista—*an imaginary town of high rise development and multi-level circulation—are the only part of his output that is at all well known*

2



2, *a sketch for a street in the* Città Futurista.

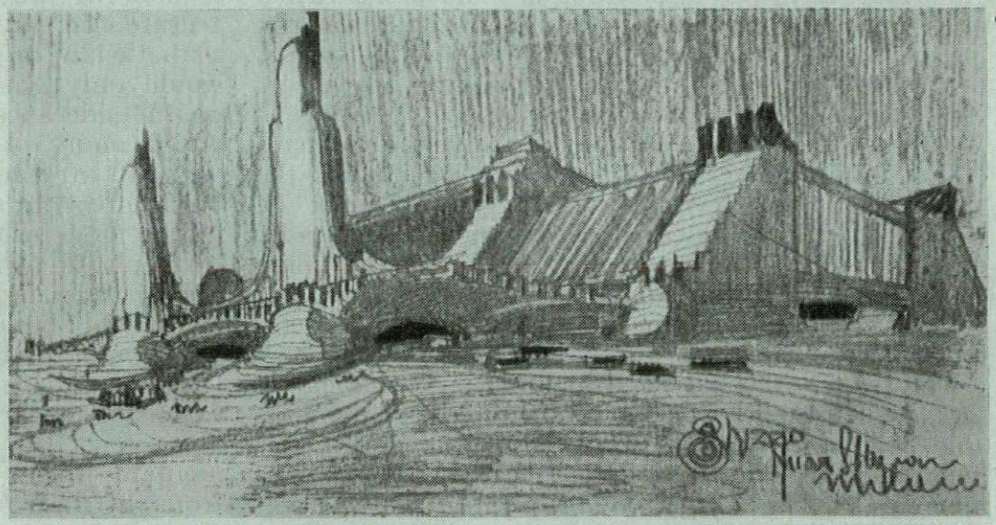
contained no drawings at all, and a rather huffy introduction by Carlo Ciucci explains that this is solely due to one who, though bound by the strongest moral ties to assist those who wished to honour the dead architect, had repeatedly put obstacles in the way of the publication of his sketches. The implication of this is clearly that the main corpus was already within one person's control, and there is internal evidence in the book to suggest who this might be, for in the very full bibliography there is listed a *de luxe* edition of Marinetti's book on Sant'Elia *di* 13 *copie con allegata una opera originale di Sant'Elia*—though no example of this edition with original drawings bound into it seems to survive. Circumstantial confirmation of Marinetti's responsibility is offered by a corpus of ninety-four drawings, all but four of them unpublished (except those mentioned below) which were given to the *Museo Civico* in Como in 1945, by the architect's family it is said, yet within three or four months of the death of Marinetti at Bellagio, just up the lake.

These drawings may have been out of Marinetti's control even before his death since some of them appear in Sartoris's second edition, dated somewhat uncertainly 1944, but even so it seems fairly certain that the paucity of published drawings must be attributed to Marinetti's unwillingness to trust others to honour a memory to which he was deeply attached. As has been suggested, the five drawings from the Como corpus which appear in Sartoris's second edition do give intimations of a more complex artistic personality, and the totality of this corpus,[6] of which the *Città Futurista* set form less than one-eighth part, give so immensely broader and deeper a view of Sant'Elia that revisions of the common estimate of his stature are clearly required.

About a dozen of the drawings belong to the *Città Futurista*, or are connected with it in some way, such as 2, with its Wellsian valley-section streets, graded for different classes of traffic, or 3 and 4, studies for the reconstruction of Milan Central Station which lead on to 5, the station for the *Città*. The exterior view, 3, looks as if it must have some part in the prehistory of Erich Mendelsohn, but 4, looking out over the tracks, certainly prefigures one of the characteristic dream-images of the urbanism of the twenties—the airstrip between skyscrapers of Le Corbusier's *Plan Voisin de Paris*.

The other eighty-odd sketches represent *terra incognita*. They do not exhibit much of the Viennese influence which has been suggested by some non-Italian writers, and this is hardly surprising in view of the Futurist loathing of Austria-Hungary. Yet, in spite of the outburst in the Manifesto against 'pseudo-Avant-garde architecture from Austria, Hungary, Germany and America,' there are unmistakable traces of International Art Nouveau in drawings such as the villa, 6, or the frequently redrawn project, 7, for a theatre. Yet here, framing the apparently cast-iron-gothic detailing of the central bay, one sees great stone buttresses of simple geometrical form which do show some affinity with the Monument. But, in

3



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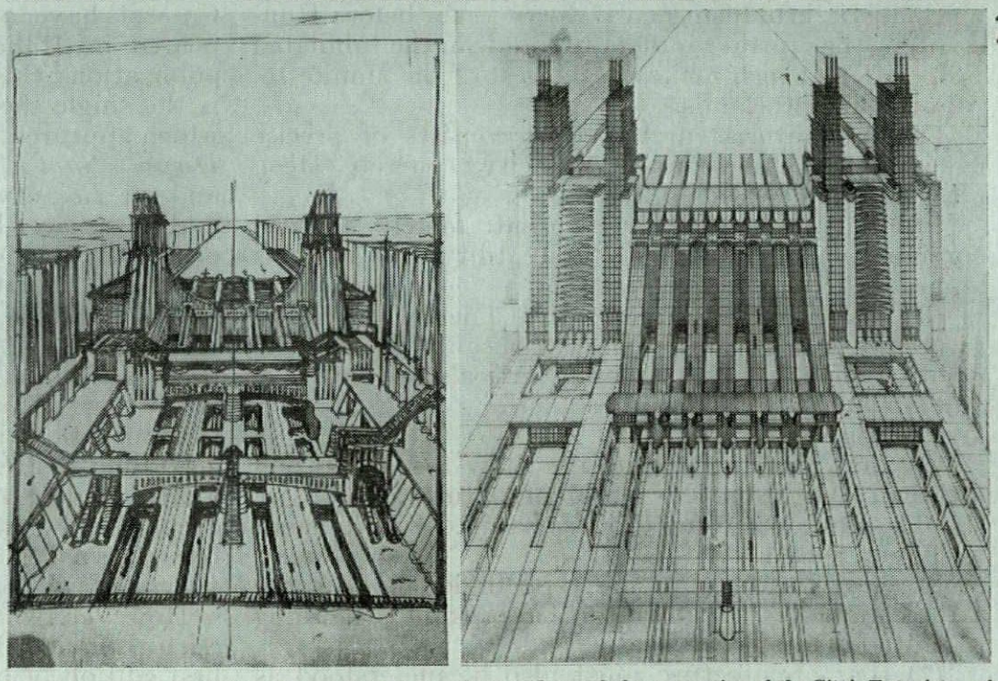
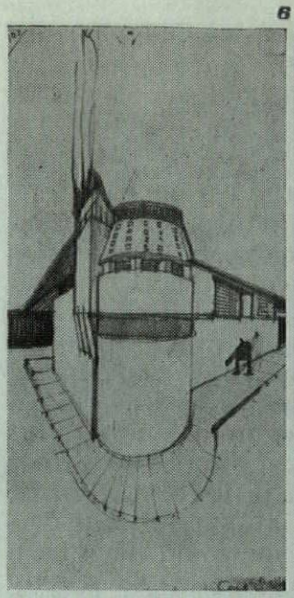


3 *and* 4, *studies for Milan Central Station may have influenced the conception of the* Città Futurista, *of which* 5 *is the rail terminal. But,* 3 *could have influenced Mendelsohn; and* 4 *shows, ten years before Le Corbusier, an airstrip between skyscrapers.*

[6] I am indebted to Joseph Rykwert, for the suggestion that these drawings might be found in Como.



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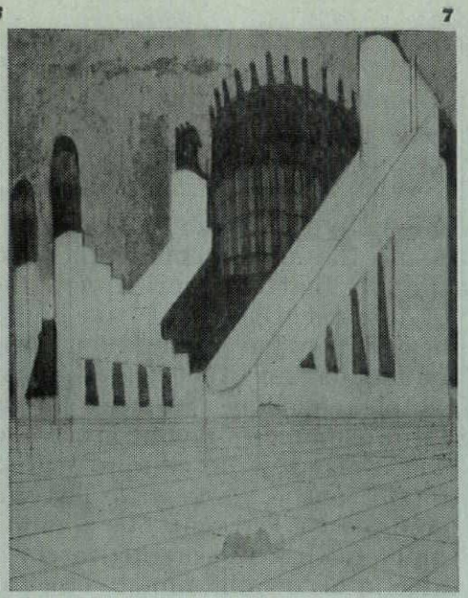
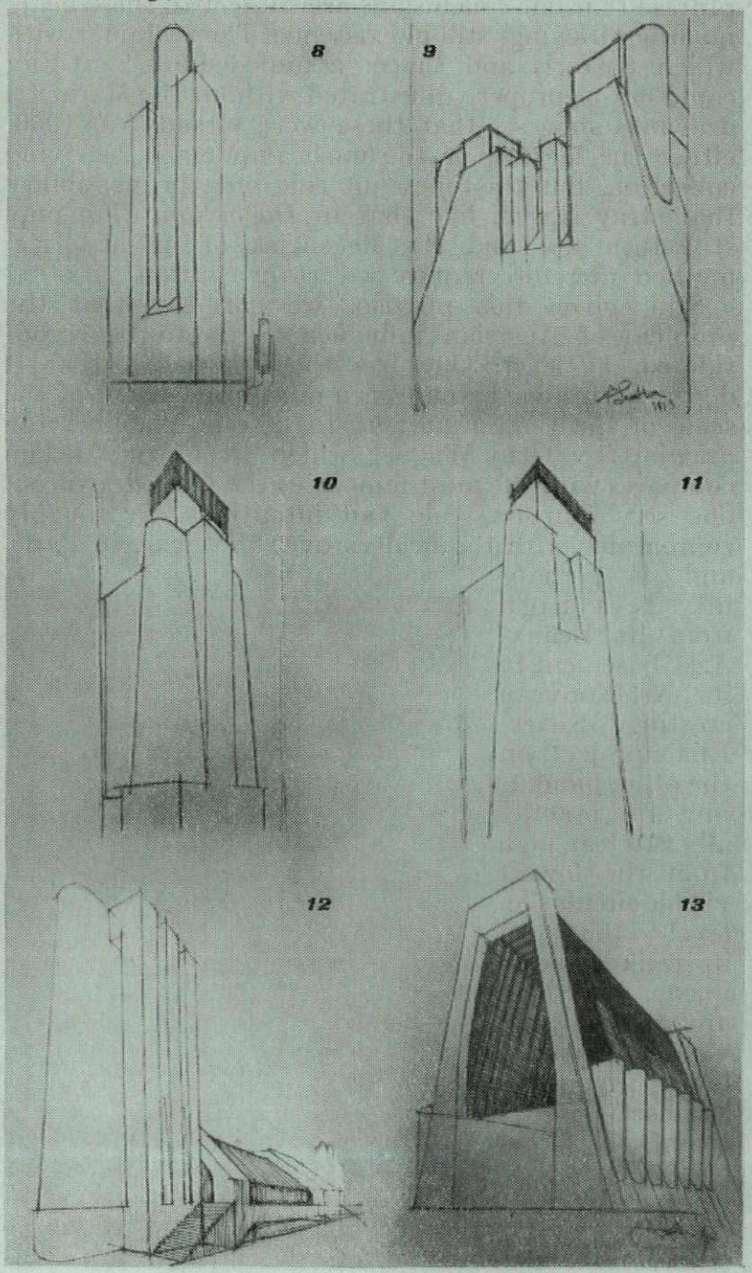


7

6 and 7, Sant'Elia's sketches often show traces of Art Nouveau, but a more important tendency which emerges from the unpublished drawings at Como is the strong sculptural sense of 8, 9, 10 *and* 11. *Possibly due to his work in civil engineering, it is at its best in projects for a factory,* 12, *airship hangar,* 13, *and two-decker bridge,* 14.



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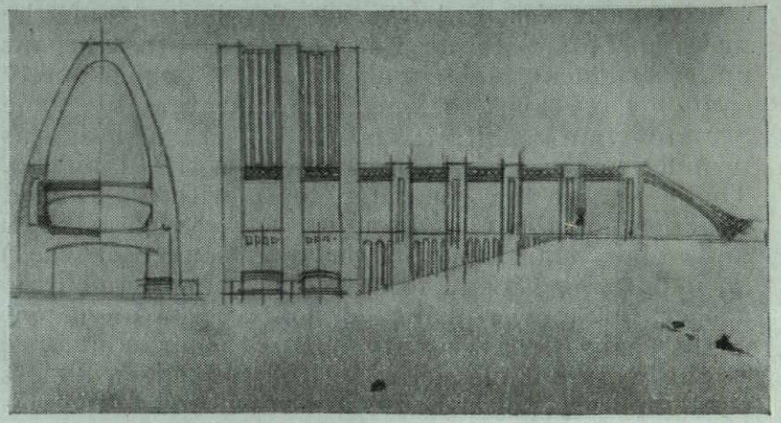
fact, there are nearly a score of drawings which show closer affinities than this, and reveal a designer whose intentions in the modelling and disposition of forms were of a simplicity and boldness far ahead of those of his older contemporaries Gropius, Lurçat, Mies and Le Corbusier at that time, though his functional and planning intentions remain inscrutable in the complete absence of any plans among these drawings.

These purely formal exercises are called mostly *dinamismo architettonico or torre faro;* 8 and 9 are typical of the former, purely abstract group, 10 and 11 of the lighthouse projects. They all exhibit large plain areas of flat unadorned surface; bold arrises; thin refined re-entrants, as on the Monument, wherever a rounded form shoulders back on a rectangular one; the use of canted cut-backs in vertical surfaces, or of upright buttresses rising out of sloping planes; all imbued with a highly sculptural sense of form, of moulding and cutting large masses of apparently homogeneous material. But beside a sculptor's sense of form, one can also sense that of a civil engineer, of the nineteenth-century bridge and dam-builders, or of one who, as Sant'Elia had done, had occupied a responsible position in the works department of the city of Milan, and of the Villoresi Canal, even before his qualifying exams. Not unnaturally, it is when this particular and forceful formal sensibility is employed on substantial functional problems, especially industrial ones, that his talents begin to resemble those of a major designer.

The factory project, 12, is perhaps not the most exciting of these, though its combination of high, sculptural accents with the low shed between does pre-echo Mendelsohn again, in this case the factory at Luckenwald. But in projects like the two-level bridge, 14, or the even more proto-Mendelsohnian airship-hangar, 13, one can see a truly imaginative, but well-informed, appreciation of the possibilities of reinforced concrete, and can educe some idea of how Futurist architecture was to be not merely 'an arid combination of practicality and utility, but an art . . .' by virtue of the dynamic potentialities of diagonals and ellipses. However, it is in three power-station projects that we see the culmination of this engineer-sculptor sense of formal manipulation.

The theme of the generation of electricity was clearly much in the minds of the Milan group in 1913 and 1914, and it contributed a characteristically rhetorical image to Marinetti's *Manifesto of Geometrical*

14



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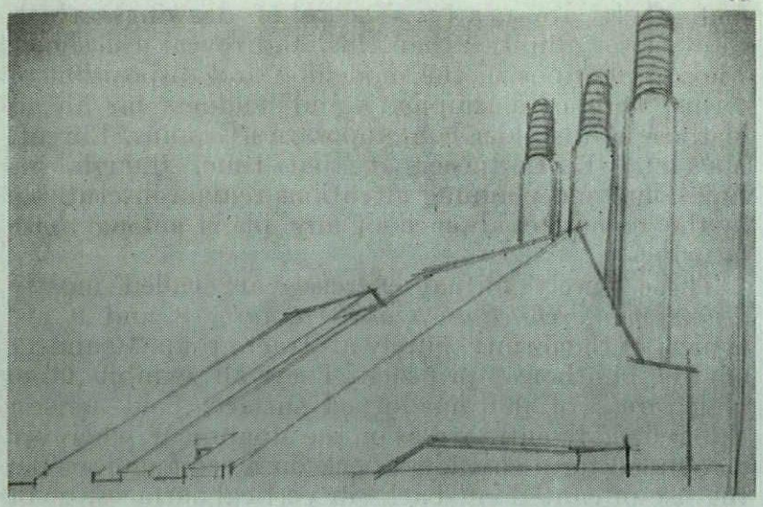
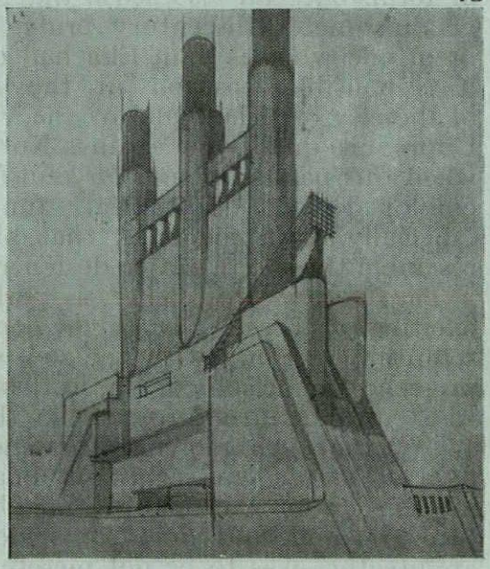


As a Futurist, Sant'Elia was naturally interested in new industrial building-types, and inspired by Marinetti's admiration for power-stations. This theme showed his capacity for functional simplicity in 15, *for rhetoric in* 16, *and for sheer prophecy in* 17. *Signed and dated* 1913, *it anticipates power-stations of the 'thirties.*

16



and Mechanical Splendour: 'There is nothing in the world so beautiful as a great generating station, humming with power, holding back the hydraulic pressures of a mountain chain, storing the power for a wide landscape, integrated by control panels gleaming with switches and commutators. These powerful images are our only models. . . ' This passage, another example of Marinetti pioneering an aspect of machinery as an emotionally-loaded symbol that was to have a respectable career in the avant-garde thought of the twenties, also shows the change which had come over Futurism by 1914. For however mechanistic and emotive this image may be, it does not deal with noise, speed and physical impact, but is static, clean, subdued and essentially abstract. Sant'Elia parallels this with the superbly rhetorical composition of 16, with its sense of soaring *excelsior* and the shouldering up of the massive buttresses at its base; with the elegant understatement and simplicity of 15, which surely cannot have long to wait for realization by some Scandinavian architect; and in 17 with a design as prophetic as any of the propositions of the Manifesto. The block of the generator shed, with its ranked cylinders of the chimneys, its tall canted window and high transformer-tower (or condenser-stack) anticipates in general form and in some details, the aspect of power-plants designed by intelligent engineers in the last twenty years. It is far in advance of the worn-out classicism of Tony Garnier's almost contemporary power-house in Lyons, and few architects since have conceived of forms which so truly summoned up the mechanical and geometrical splendour of the theme as this sketch of Sant'Elia, done in 1913.

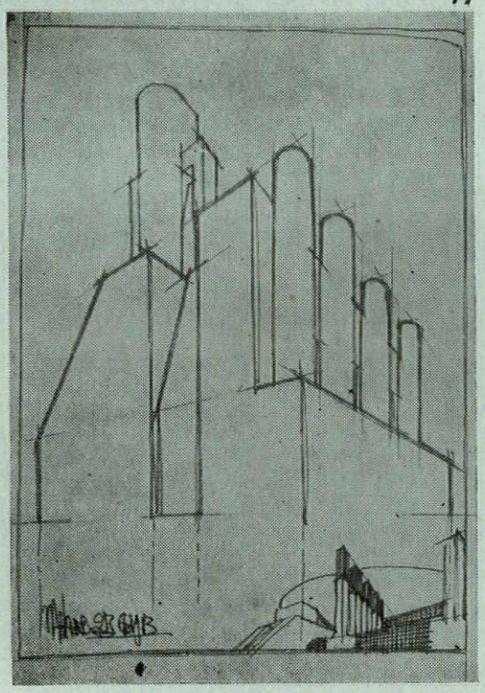
* * *

Where does this leave us with the various problems raised by the person and work of Antonio Sant'Elia. As to the Monument, we now see that, allowing for the fact that he despised monuments, this is the kind of monument he might have built. For obvious reasons he could not have designed a war memorial for 1915-18, but its flavour of frustrated engineering, its plain and simple modelling, its canted buttresses, and its general form combine to give it a place as an appendix to his works—and if a certain stiffness, and the rather unpleasantly *Novocentista* flavour of its base must be credited to Terragni, one should also recall that it is unlikely that the original architect would have been able in his own lifetime to erect a structure so blankly devoid of cornice or detailing.

The other two problems, that is: Sources and Stature, can only be dealt with under the important proviso that our conclusions are subject to there being no other drawings still in existence. The certainty with which Sartoris and Ciucci assumed that Sant'Elia could not be properly illustrated without the Marinetti drawings suggests that these were already, in 1930, either the largest, or the most important surviving collection, but this does not rule out the possibility that stray sheets, like that in *Dopo Sant'Elia*, may still turn up, and the decencies of art-historical method therefore require a certain caution.

Still, given this proviso, we can say that the problem of Austrian influence needs to be reconsidered, at least. One has the impression that it depends, to some extent, on a misapprehension of the scale of the *Città Futurista*, for if one examines the drawing by Otto Wagner which Professor Giedion compares with the most famous of the *Città* drawings,[7] one sees that its scale and intentions are roughly comparable with the bridges over the Seine in Paris, and is perhaps fifty feet high from its Beaux-Arts basement to its Art-Nouveau cresting. Sant' Elia's project, on the other hand, 1, must be practically 270 feet high from the lowest visible circulation level to the top of its ranked radio-masts, and there are at least six visible circulation levels, anyhow, as against Wagner's two. On this kind of scale, what are compared to de-

17



[7] *Space, Time and Architecture*, p. 319.

corative details on Wagner's project are, in fact, quite large structural units. There certainly are Viennese influences to be detected, but they are more convincingly found in, say, the actual draughtsmanship of 14.

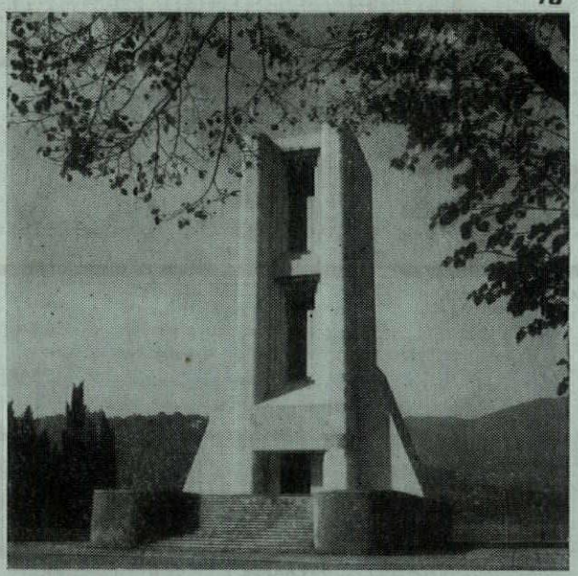
But these details are merely the surface flourishes upon a highly individual manner of conceiving architectural form, and the sources of that manner, with its simplicity and broad glyptic planes, are very difficult to identify in the Europe of 1910–14. Thus, though it is only too easy to see in Wagner where the architecture leaves off and the engineering structure begins, Sant'Elia's *Città* exhibits a completely integrated structural conception, and blends different materials as equably as, say, the Library Wing of Glasgow Art School. That Sant'Elia could have seen pictures of this celebrated elevation is unlikely, and we are driven back to an enquiry as to the men he met in the course of his practice and training—who taught structures at Milan Polytechnic, or Bologna,[8] whom did he work under on the Villoresi Canal, what engineering plants did he know, could he see in magazines, or were pointed out to him by Marinetti and Boccioni? Or was there still a constructive tradition descending from Antonelli's work in Turin and Novara, passed on to d'Aronco and the *Stilo Liberty*?

The fact that names and places do not immediately spring to mind is a warning that we have come to accept a rather narrow view of the sources of the Modern Movement, and inspires one to hope that some Italian student is currently gathering the personal memoirs of the survivors of what must have been an exciting period before it is too late.

As to Sant'Elia's stature in the Modern Movement, it seems unlikely that further drawings will seriously upset the estimate which one may now form, given the extended and deepened appreciation of his intentions which the unpublished drawings provide. Though he had no direct followers, he clearly ranks with Adolf Loos as an early abolisher of decoration, but whereas Loos seems often, as a consequence, to find himself stuck with a collection of rather dull boxes, Sant'Elia is rarely stuck, but goes on to create forms which are exciting in virtue of their mechanistic inspiration. In fact, putting the total corpus of drawings against the text of his manifesto, we see that he was among the very first to combine a complete acceptance of the machine-world with an ability to realize and symbolize that acceptance in terms of powerful and simple geometrical form. The acceptance is more complete than Le Corbusier's, the forms more powerful than those of Gropius.

To say, as Professor Giedion has done,[9] that he intended 'to introduce the futurist love of movement into his city as an artistic element,' seems now an underestimate of his mental calibre, and a misunderstanding of his place and time in the development of Futurism. The drawings entitled *Dinamismo Architettonico* make it clear that 'movement' as a quality of individual buildings has a very special meaning in his hands, while an examination of the *Città Futurista* drawings suggests that far from trying to 'introduce' movement, Sant'Elia is basing his whole design on a recognition of the fact that in the mechanized city one must circulate or perish. He seems to have foreseen the technological cities of the Fifties, each of which, in Gerhard Kallmann's neo-Futurist phrases,[10] 'is a dramatic demonstration of motion-existence articulating space. At the centre of congress motion surges upwards . . . in towers that pin-point the sky . . . horizontally it articulates highway ribbons charged with a continuity of energy missiles; omnidirectionally it radiates outwards by aeroplanes arriving and departing,' and having seen all this he tried, and may yet prove to have succeeded, to give this concept of the city a comprehensible architectural form which should enhance its character and facilitate its essential functions. Even though he left behind no completed buildings, he was a pioneer of the International Style, and the first to conceive the planning of cities as fully three-dimensional structures, and his position in the family-tree of the Modern Movement is thus assured.

18



Though no acknowledged buildings to Sant'Elia's designs exist, the monument to the war dead at Como was designed by Giuseppe Terragni on the model of Sant'Elia drawings like 9 and 11—an act of homage to a compatriot whom he recognized as a great fore-runner both in arms and architecture.

[8] Dr. Franco Carpanelli has kindly checked the Bolognese records, and points out that Sant'Elia graduated from the *Scuola Superiore di Belli Arti*, and that there was no Faculty of Architecture at Bologna in 1912, nor ever has been. On the face of it, this turns the search for engineering influences back to Milan, unless the School of Fine Arts at Bologna was remarkably in advance of its time.

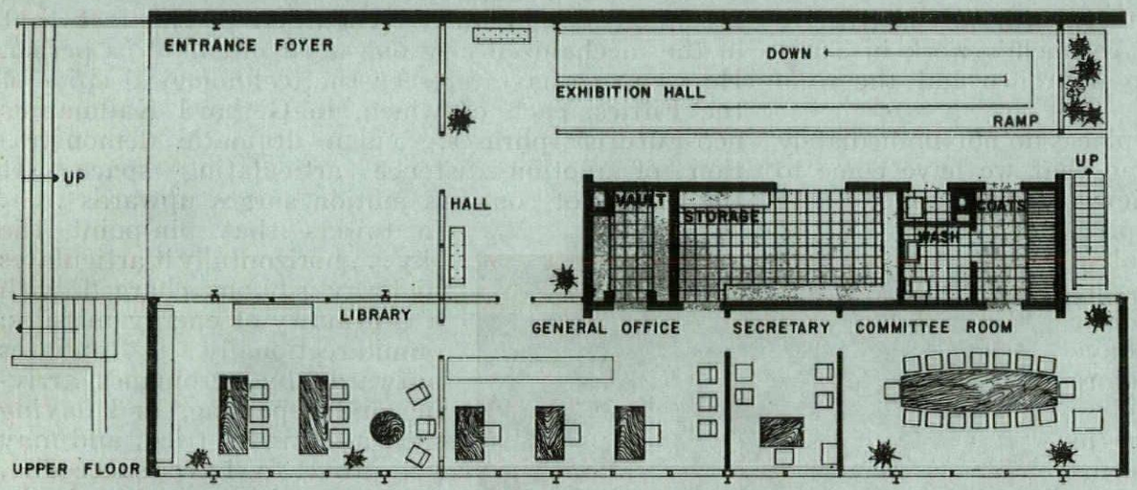
[9] Ibid., p. 443.

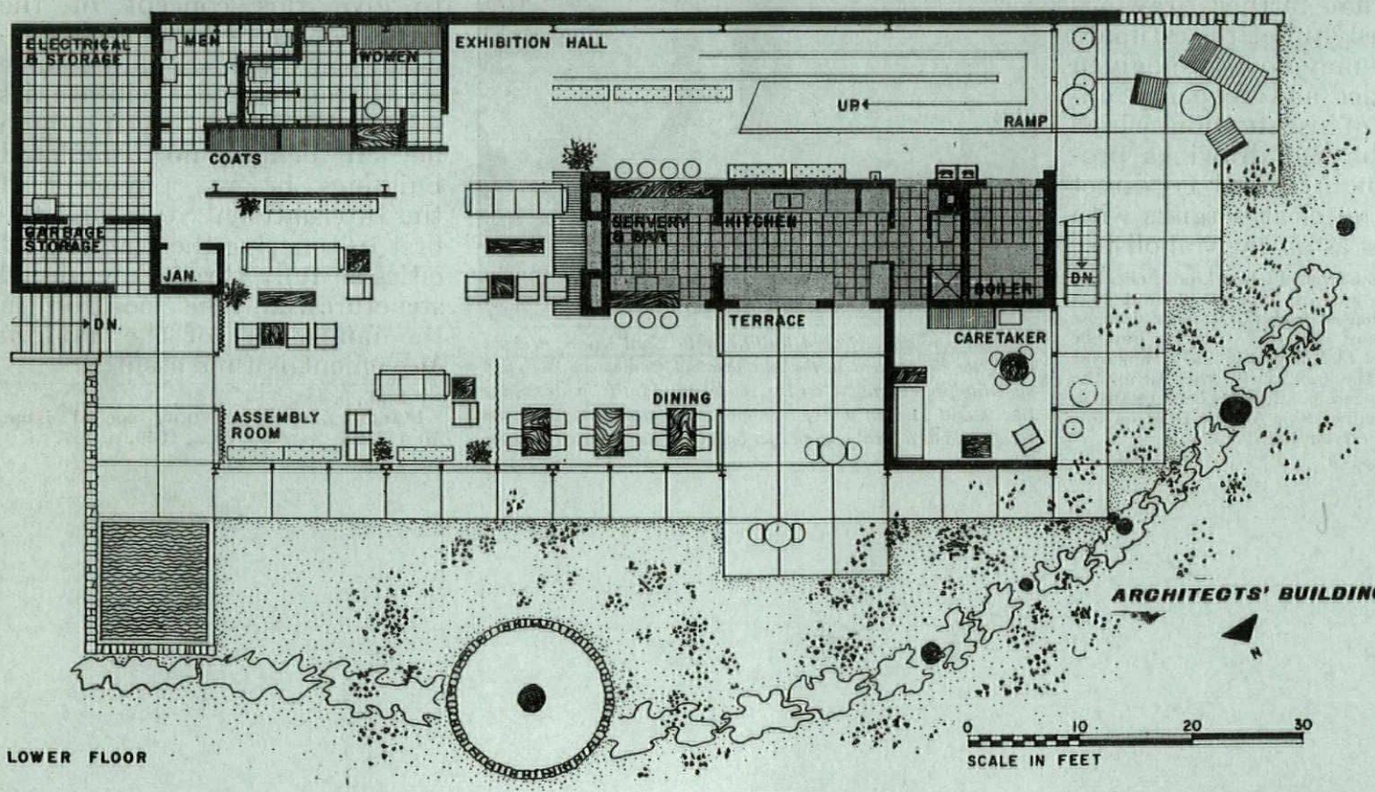
[10] ARCHITECTURAL REVIEW, special issue, *Man Made America*, Dec., 1950, p. 407.

Founded in 1890, the Ontario Association of Architects is one of the senior architectural organizations of the North American Continent, and the direct descendant and heir to earlier societies of architects which preceded it in the province. Among its services to the profession may be counted the part it played in bringing into being—along with the other provincial societies—the Royal Architectural Institute of Canada, and its work for the improvement of professional training, including the creation of a chair in Architecture at Toronto University.

In spite of this distinguished record, or because of the concentration of effort which went into building it, the Association never found itself in a worthy headquarters building of its own, and it was not until 1949, the year before its diamond jubilee, that a committee was set up to look into the question of a suitable, permanent headquarters building. In the following year a site was found, and acquired, near Eden Smith's Studio Building—a structure closely connected with the arts and design, since at the time of its building in 1911 it represented an early attempt at progressive design, while its occupation by the Group of Seven and later generations of painters has kept up its connection with the plastic arts. The design of the Headquarters Building was put out to competition later in 1950, and in the following year the first prize was awarded to John B. Parkin Associates, whose design forms the basis of the present structure.

The resultant building is a remarkable achievement for any provincial society anywhere in the world—even in a more-or-less metropolitan province like Ontario. Most such societies have of necessity to inhabit existing buildings, and practical professions of faith in the good principles of architecture must be limited to their loving restoration and careful maintenance. But in Toronto this profession of faith can take the form of the creation of a resolutely mid-century building, designed around the needs of a specific group of men and women, and in its realization such entirely contemporary techniques as welded steel framing are brought into play, just as in its equipment it offers, as it were, an anthology of the best that is currently available to the Canadian designer. In its conception and construction the Ontario Association—of which the John B. Parkin Associates are, of course, members—have set an example to other architectural bodies, by their practical demonstration of adherence to the best principles of contemporary architecture. Not all societies will have the means or opportunity to emulate them, but their gesture must constitute an ideal.





ARCHITECTS' BUILDING, ONTARIO





Left, McConkey's restaurant, King Street West, Toronto, meeting place of the Toronto Architectural Guild in 1894. Above, the members of the Guild in 1888.

ARCHITECTS' BUILDING, ONTARIO

ARCHITECTS | **JOHN B. PARKIN ASSOCIATES**



1, the entrance portico from Par

This two-storey building is the new headquarters of the Ontario Association of Architects, in Park Road, Toronto, and is situated on the side of a gully in the south-east corner of the Rosedale Park.

A module of 5 ft. was chosen for the ramp width and office furniture, and this was extended to the main elements of the building, to the 10 ft. floor to floor height, the 20 ft. height of the building, its 40 ft and 80 ft. length.

The slope of the hillside was covered with a fill varying in depth from 18 ft. to 30 ft., which tated a set of reinforced concrete caissons, diameter, with ends belled out to 5 ft. 6 in. The tied together by means of r.c. beams supporting



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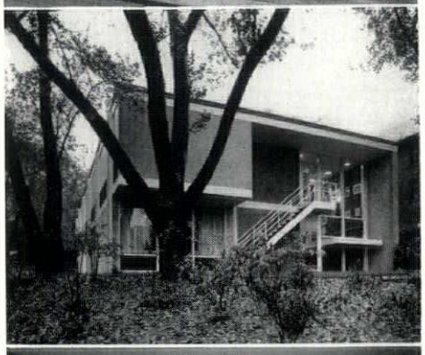

4



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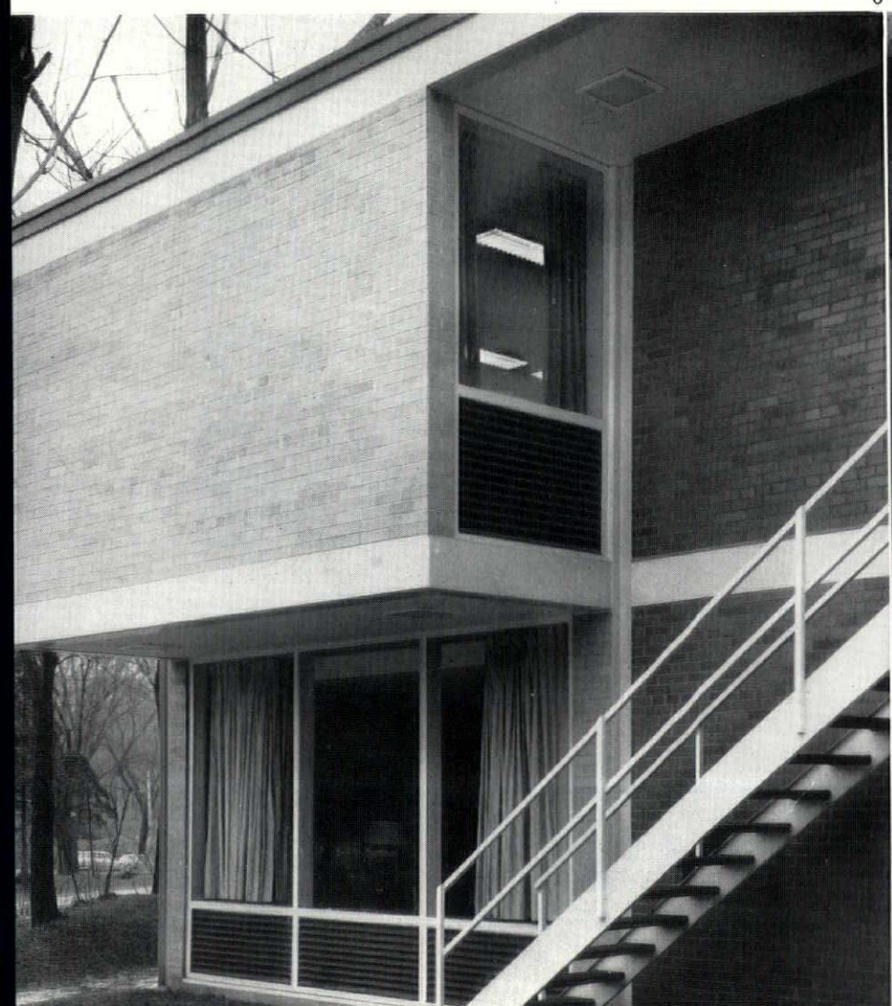
floor construction. All these members were cast integrally, creating a continuous r.c. raft serving as a foundation for the superstructure. The superstructure consists of a steel frame with two cantilevered bays at the east and west ends of the building. All main structural members are completely exposed. Externally, the materials are: painted steel columns, beams and window frames, with panels and walls of buff brick. The roof construction consists of bituminous felt and gravel finish with $\frac{1}{2}$ in. rigid insulation on $\frac{7}{8}$ in. tongued and grooved sheathing supported on 2 in. by 12 in. timber joists at 16 ft. cc. between structural steel members.

To preserve the continuity of space within the building interior partitions have been avoided as much as possible and only where necessary are these carried up to the ceiling.

The buff brick is continued inside the building. The south wall of the exhibition hall is faced with blue-grey cork, while the boardroom and library panels and partitions are of French walnut. The service core is of purple brick, darkened with linseed oil.

2, on the facing page, the east corner, showing the ventilation louvres seen from the inside in 7. In winter the air is warmed by passing it over the convector heating system. 3, the building from Park Road. 4, the north-west elevation from the gully in Rosedale Park. 5, inside the entrance portico, the sculpture is by Jean Horne. 6, the caretaker's room on the lower floor and the committee room on the upper floor of the north-west corner. 7, interior showing the ventilation system.

6



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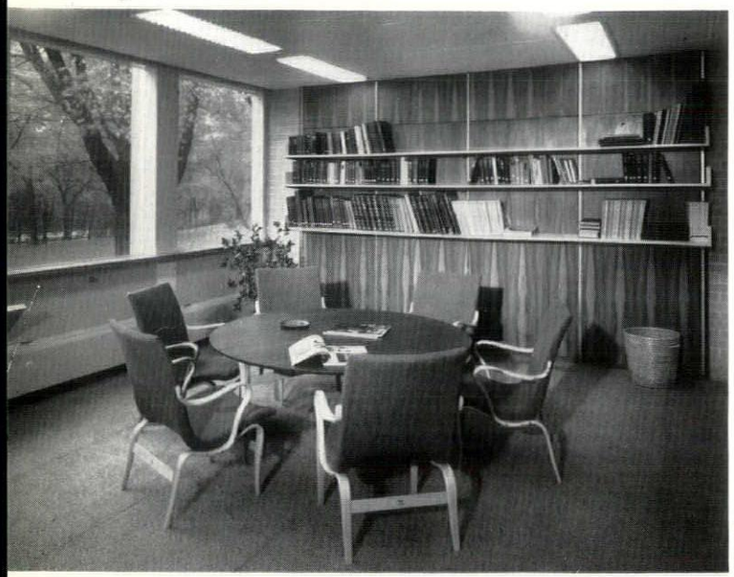

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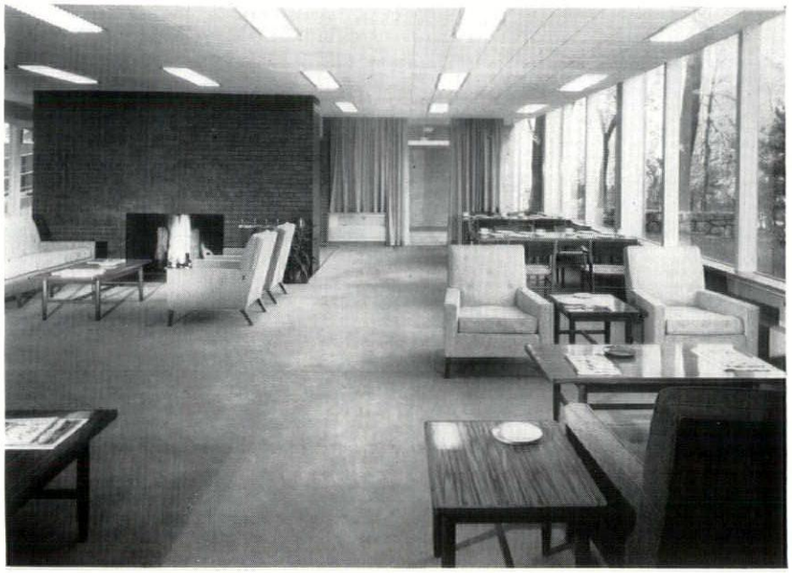

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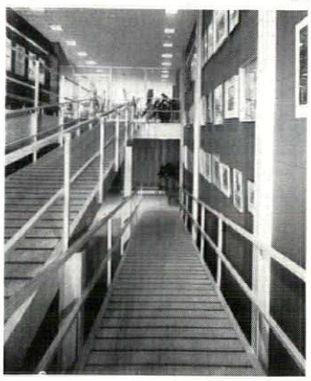

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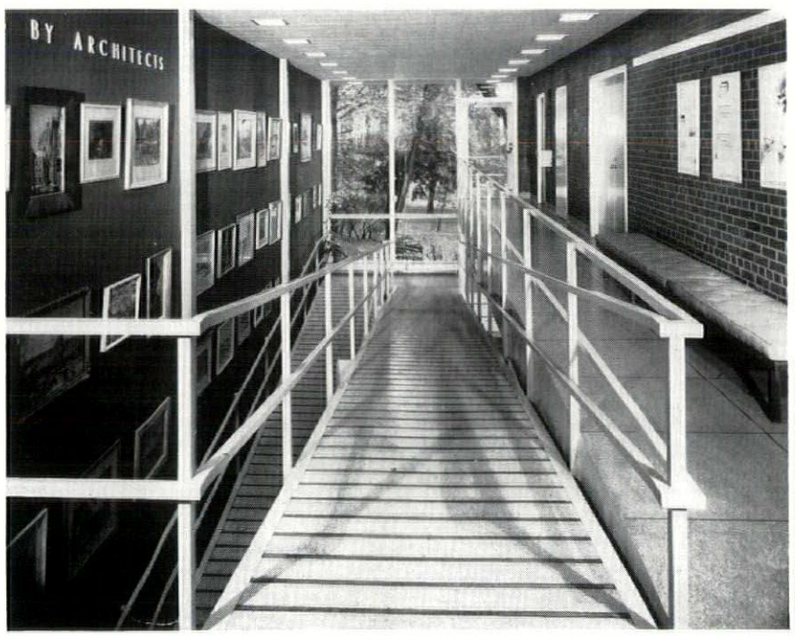


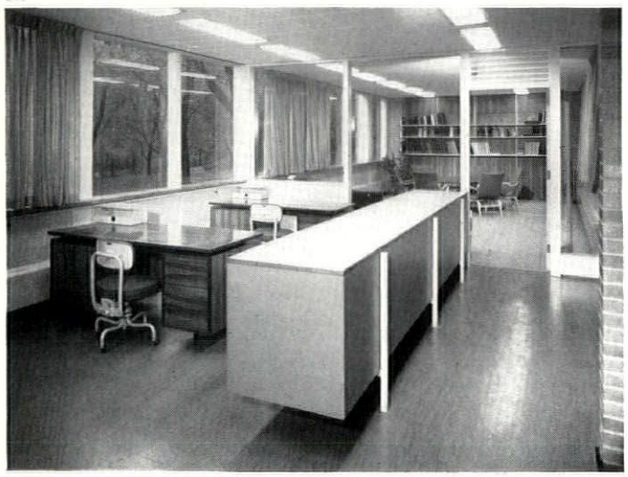
8, a corner of the library. The furniture was designed by Bruno Mathsson. 9, the lounge dining area, looking towards the purple-brick service core. 10, the exhibition hall, looking up the ramp to the entrance lobby. 11, the exhibition hall, looking west. The hall was designed for architectural exhibitions, and also to provide a centre for the affiliated arts. 12, the board room. The wall panels are of French walnut and the furniture was designed by the architects. 13, the general office looking through to the library.

12



ARCHITECTS' BUILDING, ONTARIO

13



Floor finishes in the circulation areas are terrazzo panels set in a dark putty-coloured matrix. Other floors are of $\frac{3}{4}$ in. plywood supported on 12 in. by 12 in. joists at 12 in. cc. and covered with broadloom or a lino finish of grey tiles. The portico floor is covered with coconut matting. Ceilings are all of flame retardant fibre acoustic tiles.

Lighting in the offices, assembly room and exhibition halls is by recessed fluorescent fixtures with steel louvres finished in enamel, and they are fitted with warm white lamps to enhance the over-all colour effect.

Heating is by an oil-fired and completely automatic boiler unit, situated in the service core. The largely glazed perimeter is heated by means of continuous fin-type convectors.

HILL HALL

Nikolaus Pevsner



Built for the statesman and classical scholar Sir Thomas Smith, Hill Hall is one of those buildings which bear upon the problem of the introduction of attached and superimposed columns into Elizabethan Architecture. The orders and entablature of the courtyard may, as Professor Pevsner suggests below, be traceable to French Vitruvian sources, but the giant order of the south front, above—if also of Elizabethan date—presents a problem of a more complicated kind.

Hill Hall, Essex, has not so far found the attention it deserves. Its exterior, it is true, is Georgianized and the Elizabethan parts are somewhat irregular and not gratifying to the eye, but its courtyard remains complete with the remarkable motif of attached columns in two superimposed orders all the way round, one Tuscan, the other unfluted Ionic, and both carrying straight entablatures. The motif is, as far as I know, unique in England, and has for that reason been so baffling to scholars as to make them attribute it to a much later date. The late H. Avray Tipping[1] wrote: 'The columns are part of the transformation which gives to Hill Hall the character of a Late rather than an Early Renaissance house,' and the Royal Commission on Historical Monuments[2] expressed its agreement: 'The courtyard has all four walls of brickwork, largely original, except for the south half of the west side. In the north-east angle is an original semi-octagonal brick turret. The windows on the north side are probably original and there is an original doorway with moulded jambs and four-centred arch. The rest of the openings and all the ornamental work of the courtyard are modern.'

However, that is not so. Strype writing in 1698 calls the house 'quadrangular, adorned with great columns, imitating stone, which look very gracefully'[3]. In the same passage it is true, he mentions 'great alterations and improvements made . . . by the present owner,' but the short, squat proportions of the columns and their excessively wide spacing rule out late seventeenth century design. They go well, however, with the Elizabethan age, in which we find everywhere masons as well as patrons capable of such solecisms.

Once an Elizabethan origin is accepted for the orders of columns of the courtyard, the dating of Hill Hall offers no difficulties. The house seems unusually well dated, by some entries in its then owner's own hand. Sir Thomas Smith, for whom Hill Hall was built, entered into an autobiography:

1557 Montaula aedificavi.
1558 Aedificavi adhuc montis aulam.
1568 Coepi aedificare fortius et splendidius boreale et occidentales Montisaulae.[4]

In addition Strype tells us that, when Sir Thomas died in 1577, he had made a will dated 1576 in which he left to 'Richard Kirby, his chief architect, twenty pounds, to be paid him as soon as the new house was tiled, and all carpentry work done,' and to John Dighton, his overseer of the works, ten pounds 'to encourage him to take pains to see the workmen do their work as they ought.'[5] On the other hand, also according to Strype, the 'shell of the house was finished' in 1568, and the stained glass windows were put into the 'dining room upstairs' in 1569.[6]

Hill Hall then was built in two phases, 1557–58 and 1568 to *c.* 1585. It is tempting to assume that the irregular south wing belongs to the first and the motif which interests us to the second, especially on the strength of a curiously similar building development in two other of the leading houses of the same time: Sir William Cecil's Burghley and Sir John Thynne's Longleat. Both were begun in the fifties to plans, it seems, not yet fully regularized, and both assumed their final Elizabethan form only in second campaigns during the sixties to eighties.[7]

This parallel in itself could of course be entirely accidental, if it were not for the ties which link Sir Thomas Smith with both Cecil and Thynne, and for his life and experience altogether.

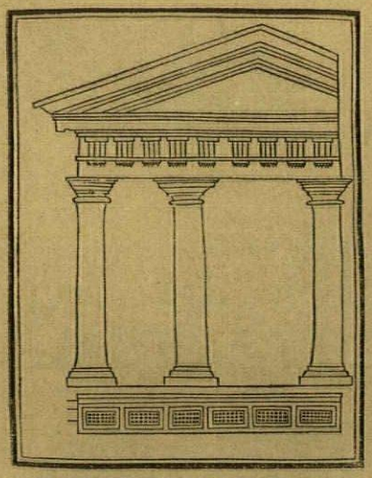
Sir Thomas Smith was born in 1512. In 1526 he entered Queens' College, Cambridge. His ability was so great that Henry VIII awardep him a King's scholarship, together with John Cheke of St. John's College. In 1531 Smith was made a fellow of his college, and in 1533 lecturer in Greek, a subject which was the speciality also of his more learned friend Cheke. The two were the pioneers of a modernized pronunciation of Greek in the university and were widely attacked for it, for instance by Bishop Gardiner in 1542 and later by Dr. Caius (in his *De Pronunciatione Graecae et Latinae Linguae*). William Cecil was eight years younger than Smith. He entered St. John's College in 1535 and in 1541 married Cheke's sister who however died in 1544. In 1538 Smith was made University Orator, and in 1539 he decided to go abroad. He went to France and conferred in Paris with Jean Strazelius who taught Greek at the Collège de France, and then went on to Padua where he settled down to study Civil Law. In due course he was given a doctorate. Dr. Caius lived at Padua at the same time. He arrived in 1539 took a degree in medicine, lectured in Aristotelian philosophy and returned in 1544. By then Smith had been back two years and been made Regius Professor of Civil Law.

It was due to Edward Seymour, Duke of Somerset, that Smith exchanged the university for the Court. The architectural importance of Somerset's new London residence, Somerset House, built chiefly between 1546 and 1549, has recently been recognized by many scholars. In an article which I published in this journal last September (vol. 116, 1954) I emphasized the appearance of columns at Somerset House and compared their use with that by Holbein and also in the Dormer monument at Wing. I warned how hard in many cases it must be to say for certain whether the source

[1] *Country Life*, vol. 41, 1917, p. 452.
[2] *Essex*, vol. 2, 1921, p. 236.
[3] *The Life of the learned Sir Thomas Smith, Kt., D.C.L.*, ed. of 1820, p. 172.

[4] Quoted from British Museum Slo. 325 in *Archaeologia* vol. 38, 1860, p. 126. I owe this reference to Dr. S. Lang who has altogether helped me greatly in my research on Hill Hall. It should, however, be added that Mrs. Dewar who has for some time done research on the life of Sir Thomas Smith tells me that Sir Thomas built two houses close to each other, one called Mount Hall and the other Hill Hall. The documents seen by her make her suggest that the dates 1557-58 and 1568 refer to Mount Hall of which not a stone remains above ground, and that Hill Hall was begun only in or about 1575. I hope Mrs. Dewar will soon publish the results of her research. Meanwhile the later date, if it must be accepted, does not alter the case made in this article.

[5] Strype l.c. p. 171. Mr. Summerson has found Richard Kirby's will and told me that Kirby was a relative by marriage of Sir Thomas Smith.
[6] l.c. p. 173.
[7] For Burghley *see* J. A. Gotch, *The Old Halls and Manor-Houses of Northamptonshire*, London, 1936, p. 5; cf. also J. A. Gotch "The Houses of the Cecils", London, 1905, p. 48 in *William Cecil, Lord Burghley*, for Longleat C. Hussey, *Country Life*, vol. 105, 1948.

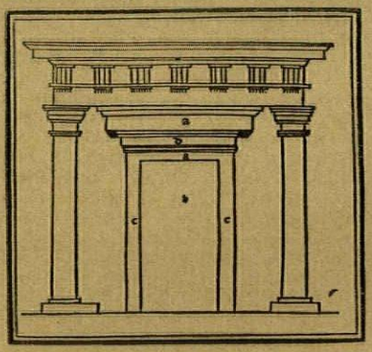


1, *the Doric order, from Martin's* Vitruvius.

of such motifs is Italy or France—France always standing for an adopted, translated, but even so secondhand, Italian. For Somerset House some motifs at least could, with certainty, be traced back to France. Sir John Thynne had been in France with the Earl of Hertford, Great Chamberlain in 1547,[8] and Sir John Thynne was the Protector's clerk or supervisor of the work progressing at Somerset House.

In 1548 the Protector had made both Thomas Smith and William Cecil Secretaries of State. By then Smith was also Provost of Eton and Dean of Carlisle. When Somerset fell, Smith, Cecil and Thynne were all arrested and kept in prison for longer or shorter periods. During Somerset's years of rulership Smith was for the first time sent abroad on an embassy. He was at Brussels in 1548, in France in 1551.

The places visited there by the embassy to which he belonged were Blois, Saumur, Châteaubriand, Angers, Nantes.[9] Under Queen Mary he was out of office and lived a retired life chiefly at Hill Hall, which had come to him by marriage in 1554. It was then, as we have seen, that he began to rebuild the house. After the accession of Elizabeth and Smith's ensuing return to favour he embarked on his chief embassy. He lived in France from 1562 to 1566 and followed the court of Catherine de Medici, the Queen



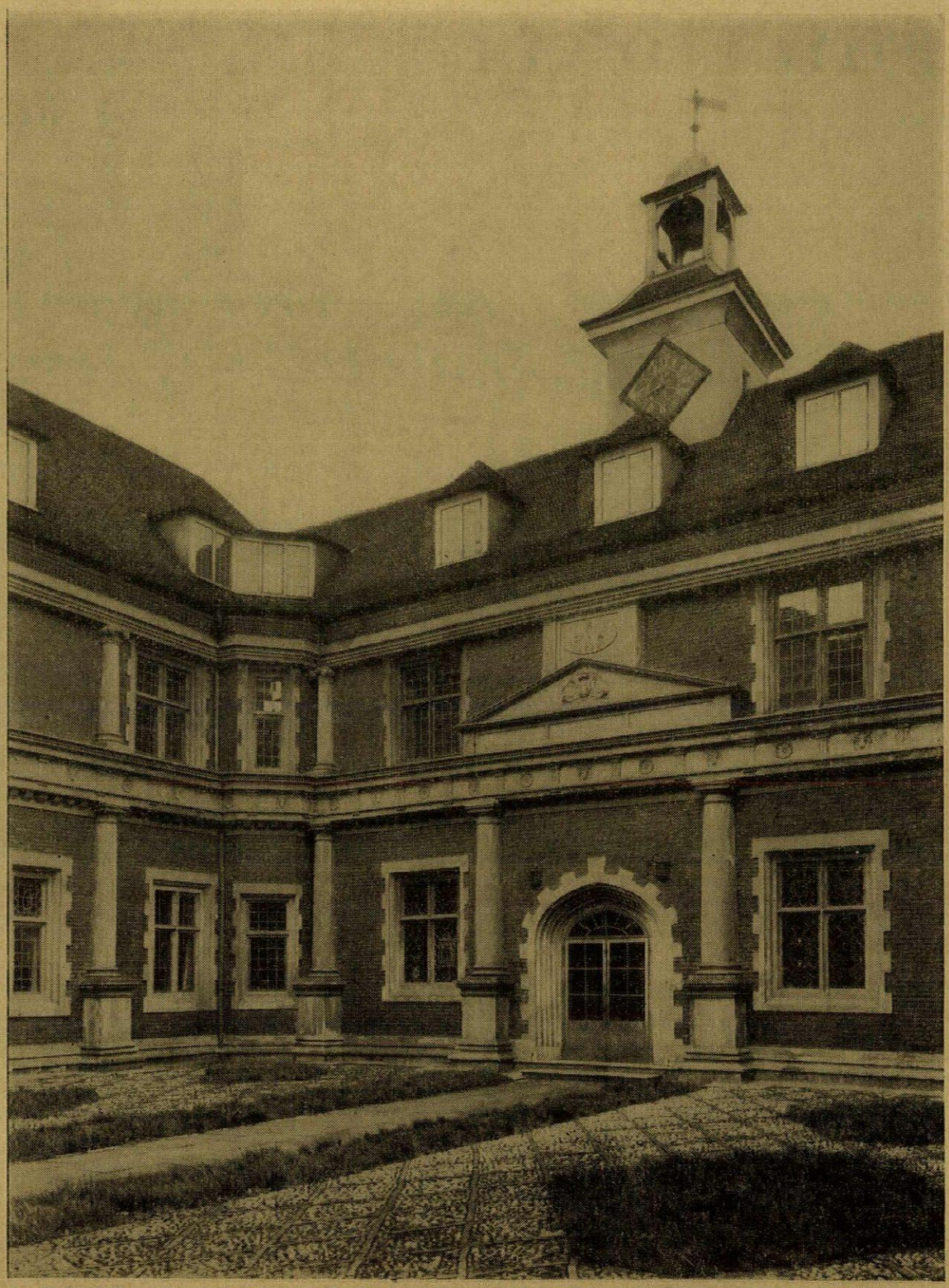
2, *a Doric doorway, also from Martin.*

Mother, through the country, as it travelled from place to place.

The last eleven years of his life require little comment. He was made a Privy Councillor in 1571, went again on a short embassy to France in the same year, and was at last once again made a Secretary of State in 1572 (to replace Cecil, who was then Lord Burghley and had risen to be Lord Treasurer).

[8] *See Letters and Papers, Foreign and Domestic, of the Reign of Henry VIII*, ed. G. J. Gairdnier and R. H. Brodie, vol. 21, pt. 1, 1908, p. 474.

[9] *Cal. of State Papers, Foreign*, 1547-53. 1861, pp. 129, etc.



3, *though the squatness of the order, the wide intercolumniation and the flat entablature, at Hill Hall might all derive from Martin's edition of* Vitruvius, *there is no convincing sixteenth century documentary source for their occurring together with superimposed orders.*

We can now return to the courtyard of Hill Hall. That the columns in two orders should belong to 1568 rather than 1558 is not only indicated by the 'splendidius' in Smith's note quoted before, but also by the style of the motif. Smith, it must be realized, was himself keenly interested in architecture. He was a man of extensive interests and wide reading, as is proved by the range of books which he possessed. Strype appends to his biography a catalogue of the library at Hill Hall in 1566, and this contains apart from Dante, Petrarch and Boccaccio (*Filocopo*), from Aretino, Straparola, Dubellay and Grévin, from Castiglione's *Courtier*, from St. Augustine, Chrysostom, Origen and Bede, from Poliziano and Pico della Mirandola, also four editions of Vitruvius and one commentary to Vitruvius. They are marked in the catalogue as follows:

L. Vitruv di Architect.
L'Architecture de Vitruve.
Le Vitruvio.
Vitruvius de Architectura.
Philonii comment in Architectur. Vitruvii.

That does not tell us much as to what editions they were, whether they were illustrated, and what Smith might have learnt from them. The first seems an Italian edition, the second certainly is French, the third either Italian or French and obviously wrongly listed, the fourth Latin and the fifth in any case not by a Philo. Not one of the five seems to survive.[10] There were by the middle of the sixteenth century so many editions of and commentaries on Vitruvius that it would be no use trying to trace what Smith had. Italian editions had begun as early as 1486 and multiplied since. The first illustrated Italian edition was

[10] Sir Thomas Smith left most of his books to his old college at Cambridge, but his Vitruviuses are not in the library of Queens' College now.

Fra Giocondo's of 1511, the largest and best-known one Cesariano's of 1521. The best-known French editions are those by Jean Martin (1547) and by Guillaume Philander (1543 and 1544, later editions 1545, 1550, 1552, 1557). In addition there was of course as a modern and far more immediately useful source Serlio who had gone to live in France in 1540. His treatise on architecture had begun to appear in 1537 (Book 4, Venice) and continued in 1540 (Book 3, Venice), 1545 (Books 1–2, Paris), 1547 (Book 5, Paris), 1551 (Livre Extraordinaire, Lyons). French authors also had, by the time Smith travelled in France, begun to write on architecture, Ducerceau in 1559 (*Livre d'Architecture*), Delorme in 1561 (*Nouvelles Inventions pour bien bâtir*) and Bullant in 1564 (*Règle générale*). The first special Book of Orders—the first of many to follow—was Vignola's of 1550. So there are plenty of possible sources of Smith's architectural wisdom, and they should all be taken into consideration, especially as we happen to know that he possessed more architectural books than are contained in the catalogue of 1566. In a passage found by Gotch some fifty years ago[11] Cecil in 1568 wrote to Sir Henry Norris, then ambassador in Paris, asking him to provide for him there 'a book concerning architecture' which he had seen at Smith's house. The title unfortunately is not preserved, but some years later Cecil expressed the wish to purchase Delorme's *Nouvelles Inventions*.

The point is not without interest; for although Delorme and Ducerceau do not seem to contain anything applicable to Hill Hall, Martin's Vitruvius (Book Four, p. 62 *verso*) has an illustration which has superimposed orders of columns attached to walls. This in itself is of course a motif familiar from many pages of Serlio, but their squat proportions in Martin are specially similar to Smith's. However, Martin does not show them to be as widely spaced as Hill Hall. For this decisive motif there is apparently no precedent in the treatises. But there is at least one possible precedent in a French mansion still in existence: Bournazel.

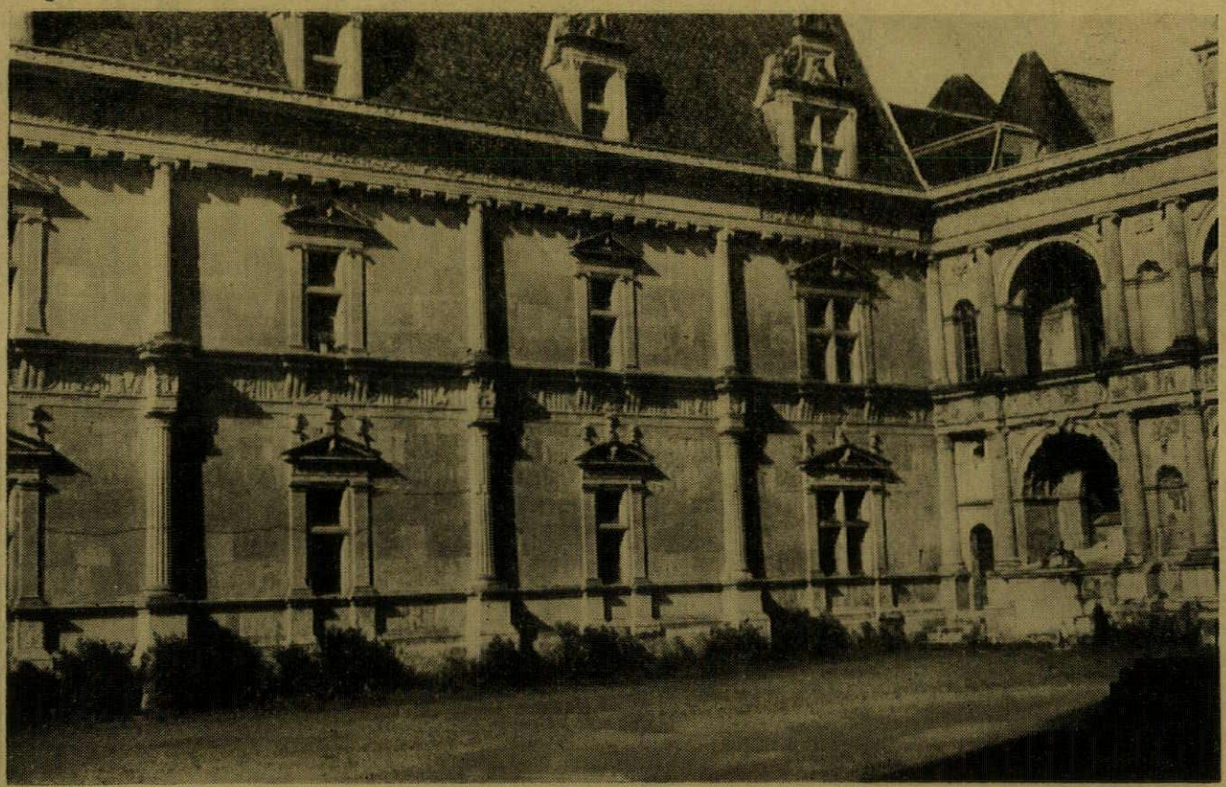
Bournazel lies about 75 miles north-east of Toulouse, on the road between Rodez and Villefranche[12]. The house was built for Jean du Buisson Sieur de Mirabel and never completed. Its north façade, which concerns us here, is dated 1545, its much more remarkable east range is undated. The north front has the very same motif of attached columns in two superimposed orders, not at all a usual thing in France either.

Can Smith have known Bournazel? His frequent letters to London from his embassy in France[13] allow us to follow his progress through France. This led him to Lyons and Provence, and then by way of Montpellier and Narbonne to Toulouse, where he stayed for more than six weeks, before moving on to Bordeaux. At Toulouse he fell ill. His autobiography says: 'Jan. 19–Feb. 28 Aegrotavi ex frigore Tolosae; March 1 convalii.' But it is probable all the same that, while at Toulouse, he met the Archbishop, Georges d'Armagnac. Now Armagnac had been Bishop of Rodez before. He is responsible for divers works of architecture in the Renaissance style begun as early as about 1530. From 1536 to 1544 he was in Italy as an ambassador, and on this journey he was accompanied by Guillaume Philander whose name we have come across as the earliest French commentator of Vitruvius. Philander was made a member of the Roman *Accademia Vitruviana*, when this private body of students of Vitruvius was created in 1542. He calls himself a pupil of Serlio[14] and lived at Rodez. He kept in touch with Armagnac at Toulouse and died there in February, 1565, that is at the very time when Smith stayed there. So Smith may well have known him. The *Philonis Comment. in Architectur. Vitruvii* can be no other than Philander's. And if Smith knew Philander, might he not well have visited Rodez and Bournazel?[15]

This is all that can be said. It establishes, not with full certainty but with gratifyingly close approximation, another link between the most classical mid-sixteenth century architecture in France and the Early Elizabethan style.

postscript

So far the most interesting motif of the exterior façades of Hill Hall has not been mentioned. The angle pavilions of the south and east fronts have each extremely widely spaced giant Tuscan columns carrying a straight entablature. Their details, especially the high bases, are similar to those of the smaller Tuscan columns in the courtyard, and they are too ignorant in many ways to make it likely that they belong to the alterations done in the late seventeenth century and referred to by Strype in 1698. Must it then not be assumed that they are the 'great columns' mentioned by Strype, in the passage quoted above, and not the columns in the courtyard. The case for the dating of the courtyard is strong enough even without Strype. But if this interpretation of Strype is accepted, can one assume such giant columns to have been designed in England in 1568 or even in 1575–80? In any case they are not on the sides of the house which, according to Smith were made splendidius. Moreover, the history of the spread of the use of giant orders is not much in favour of an Elizabethan date. Giant columns as against giant pilasters (which were used already by Alberti) occur once at Ecouen in a frontispiece of about 1555–60, and in Palladio's Loggia del Capitanio in 1571. They became much more frequent in France later, but not early enough to make influence on England at all probable. And giant columns of the Tuscan order, moreover, seem to be completely absent in sixteenth century work. They were on the other hand particularly popular in the Wren office. Could they then at Hill Hall not be after all a very rustic echo from Wren, that is a late seventeenth century alteration? Such a case as the porch of Christchurch Mansion, Ipswich of 1675[16] makes it quite imaginable.



4, the most likely source for the superimposed orders of attached columns would appear to be this partly completed courtyard at Bournazel, in the south of France. Built in the fifteen-forties and fifties, by no known architect, it could have been seen by Smith on his diplomatic travels.

[11] *Early Renaissance Architecture in England*, London, 1901, p. 260.

[12] F. Gébelin: *Les Châteaux de la Renaissance*, Paris, 1927, p. 62, etc.; *Congrès Archéologique* (Société Française d'Archéologie), 1937.

[13] *Cal. of State Papers 1563* (1869), *1564-65* (1870).

[14] L. Hautecoeur: *Histoire de l'architecture classique en France*, vol. 1, 1943, p. 204.

[15] Alternatively, as Professor Blunt suggested to me, there may well have been courtyards of town-houses at Toulouse itself, with the motif of Bournazel. The Hôtel d'Assézar of 1555 has coupled columns and arches in superimposed orders, but orders with straight entablatures may just as well have existed. The town palaces of Toulouse were remarkably sumptuous.

[16] *See Country Life*, vol. 116, 1954.

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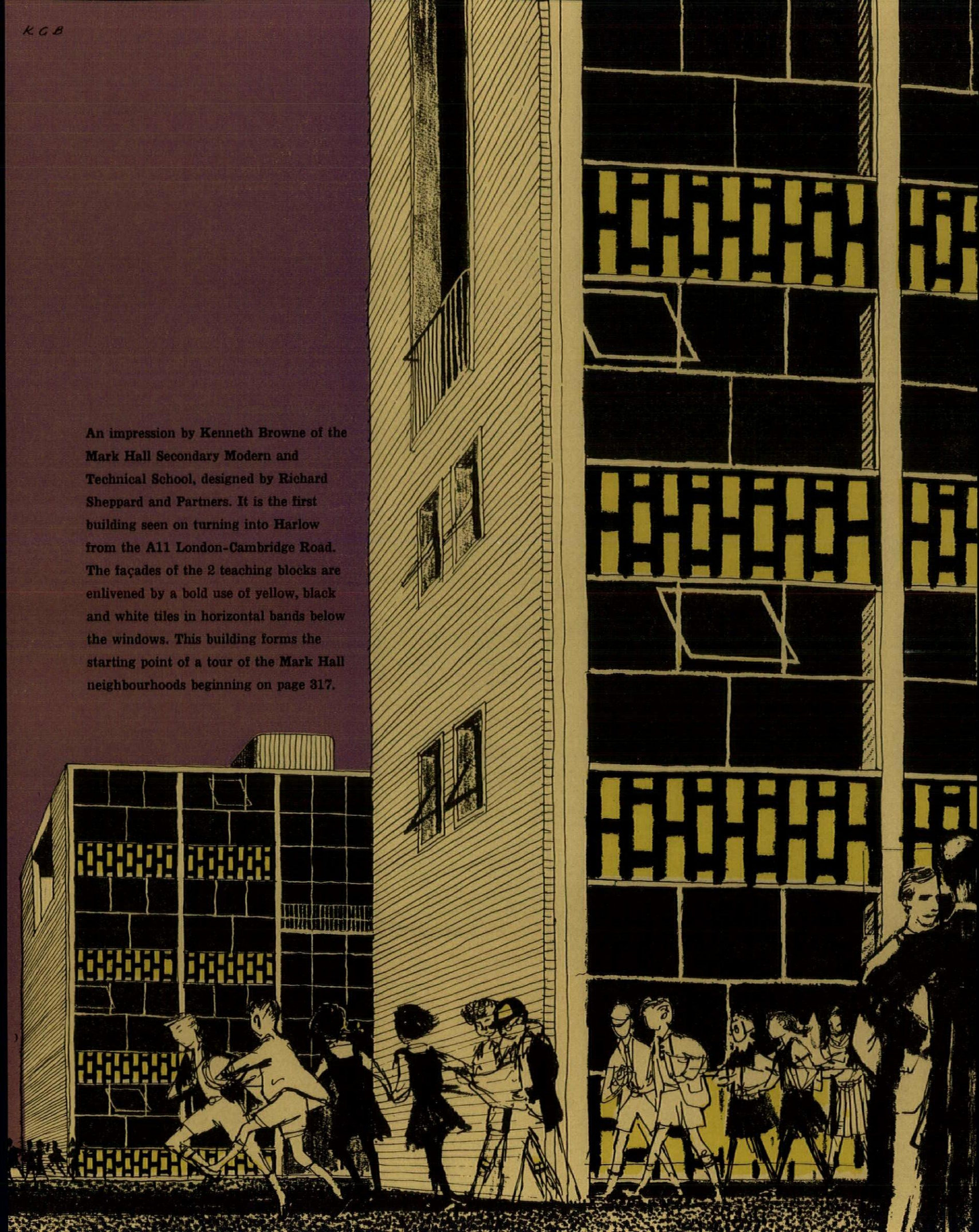


An impression by Kenneth Browne of the Mark Hall Secondary Modern and Technical School, designed by Richard Sheppard and Partners. It is the first building seen on turning into Harlow from the A11 London-Cambridge Road. The façades of the 2 teaching blocks are enlivened by a bold use of yellow, black and white tiles in horizontal bands below the windows. This building forms the starting point of a tour of the Mark Hall neighbourhoods beginning on page 317.

A sufficiently large part of the New Town of Harlow has now been completed for its architectural and townscape qualities to be seen and understood. In the article below Frederick Gibberd discusses the planning and landscaping principles as they appear in the now almost-completed Mark Hall neighbourhoods. On later pages will be found illustrations and descriptions of thirteen buildings or building-types to be seen there, with a map showing the route followed. W. Eric Adams is responsible to the Development Corporation for the building of the town, Frederick Gibberd is the Architect Planner, Victor Hamnett the Executive Architect and O. W. Gilmour the Chief Engineer.

HARLOW NEW TOWN

Some twenty thousand people are now living and working in Harlow, and building operations are geared to take in some six thousand people a year.*

This review is concerned with the Mark Hall Neighbourhood cluster, and in particular the two neighbourhoods, Mark Hall North and South. Since it is the intention of the new towns to be self-contained and not satellites the industrial development and social facilities provided for the neighbourhood are also described.

Unlike other new towns situated in the London region, the site for the central area is in open countryside some two miles from existing development—the village of Harlow. In consequence the town centre could not be built until building operations had reached it, and before there was sufficient population to support central area functions. This situation has now been achieved and work is in progress on the Market Square.

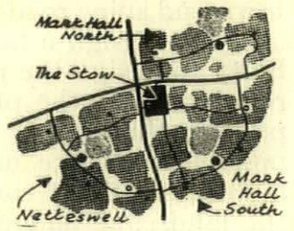
Unlike the central areas of large cities the land is not so expensive, and the pressure on space is not so great, that it is necessary to require people to live in a dwelling form unnatural to them. Some eighty per cent of the population coming to the new town has a marked preference for a two storey house with a private garden. This percentage together with tight planning and the principle of mixed development, has enabled the neighbourhoods to be designed on a population density of fifty to sixty people to the acre. Although the number of people on each acre is nearly twice that of the average English housing estate, the area covered is a large one. Large areas of open space are also required for the school system, for recreation, and for the main traffic ways. Since any large area of land with an even pattern of development is dull, and since it was desired to obtain an urban quality, the development has sought to contrast a pattern of built up areas, in which architecture forms the visual background, with an overall landscape pattern, in which the natural topography is the dominant.

The built-up portions of the town already constructed appear more open than they will eventually be as sites have to be left for future development. Thus adjacent to the first neighbourhood centre are various open grass areas which are destined for such large buildings as a service garage, a twelve storey flat block and a church.

The existing topography is very beautiful and is used as the basis for providing a contrast between open and built-up areas. Variety in the built-up areas themselves is provided by architectural design.*

neighbourhood social pattern

The diagram, 1, shows the social structure of the neighbourhood cluster. The three neighbourhoods with a total population of some seventeen thousand are divided from each other by the main town roads and the landscape, and converge on the main centre situated at the cross roads—the traditional place for a shopping centre. This centre is within half a mile of its catchment area. The grouping of the three neighbourhoods made possible a large centre with some sixty shops and community facilities on an urban scale.



1, *neighbourhood social pattern.*

All three neighbourhoods have their own primary school located in the heart, close to which is a small

* For a detailed description of the plan see *Landscaping the New Town*, by Frederick Gibberd, AR, March, 1948, pp. 85–90.

* Each housing area (of some 150 to 400 dwellings) is designed by a different architect, either in private practice or as a design team in the Corporation's own architectural department: the schools are the responsibility of H. Conolly, the County Architect, who has again utilized the services of private practitioners; and both public and private bodies have employed their own designers.

centre consisting of four or five shops, a public house and hall, and a recreation area. All parts of the neighbourhood are within walking distance (a quarter of a mile) of the centre. This pattern ensures that school children walk to the quiet heart of the area and away from the main town roads; it provides day to day shopping facilities within easy reach and it provides a visual focus.

Each neighbourhood is sub-divided into a series of distinct housing groups of from 150 to 400 dwellings equipped with play spaces and in some cases a small tenants' common room. This comparatively small unit makes possible more intimate and friendly social grouping than is provided in a neighbourhood based on school sizes.

There are thus three stages of community grouping; the housing group with its play space; the neighbourhood with its primary school, minor shopping centre, hall and pub; and the neighbourhood cluster in which communal facilities are provided on a large scale.

The Secondary schools are sited in the landscape between the neighbourhood clusters as these serve the town as a whole. Both they and the Primary schools are placed where the contours are reasonable for playing fields, and where their architectural values can contribute towards the scene.

circulation pattern

The two main town roads run at right angles to each other between the neighbourhoods and intersect at the centre. That running East to West (First Avenue) forms the main connection to the town centre, and the other one (Howard Way) to the industrial area. The roads are free of building frontage, are twenty-two feet wide, have a minimum number of intersections, and large radius curves to give a reasonably fast and smooth traffic flow. The roads are designed to give varied prospects when driving along them, and to combine with the topography to form interesting road architecture, 3, opposite.

Spine roads are run from these main town roads through each neighbourhood to connect the housing groups to each other, to the centres and to the rest of the town. These roads are 22 feet wide and being used as building frontage, are kept to the absolute minimum to avoid restricting the housing layout.

A general development plan showing the main town and spine roads was given to each architect when asked to design a housing group. It was his responsibility to design the roads in his area of land, the only restriction on the plan pattern being the spine road passing through or alongside his area. It was thus possible to make an architectonic approach to the layout; dwellings could be grouped in relationship to the landscape and to form spatial compositions, and the road pattern evolved to suit them—the reverse of the usual practice of laying down a road pattern and then placing dwellings on its frontage.

After the road layout had been agreed between the architect and the engineer, the latter prepared the detail design of the roads, built them and handed them back to the architect.

Not only did this procedure give opportunities for town design, but it led to great savings in road costs —for example, dwellings could be grouped round pavings or a 'cul de sac,' or road intersections could be adjusted to make the buildings occupy the full frontage with no unnecessary gaps at street corners.

The heart of the housing group is in many cases a paved square or close, with no road intersecting it, 4. But the size of such pedestrian spaces was limited by the distance tradesmen, and in particular the coal and dust men, were willing to carry. After a great deal of experiment, a dimension of 120 feet from the road to the doorway of the dwelling proved to be satisfactory. Roads running from a paved close or 'cul de sac' are only 13 feet wide, and from this they increase to 16 feet before joining the spine roads.

The resulting organic pattern can be seen in the diagram of Mark Hall North, 7. It can be likened to a river: the source is the small square or close of dwellings and from here the road becomes broader in scale, and the intersections become fewer, as the traffic increases in volume to flow into the main town roads.

It will be noticed on this diagram and the aerial view that there are no cross-roads, all junctions being in 'T' form—the main crossing at the neighbourhood centre is temporary, the ultimate form being a roundabout.

The effect on the townscape of the services, and the need to provide an adequate view for motorists at traffic intersections is seldom understood. For example, the land between the road and the dwelling frontage is not just virgin soil but the path of a complicated system of services. The diagram, 5, shows what may be below the surface. It is illogical to place services under a road and in consequence they take up a width of 9 feet beyond it—a dimension accepted by the services authorities as giving a reasonable working distance. The sewers are also laid outside the roads for accessibility, and they require a trench about three feet wide; furthermore this trench must not affect the foundations of the building, or be affected by them, and so the dwelling must be set back beyond the sewer a safe distance—an angle of dispersal of 45° is the usual practice. In addition the house drains may still further widen the land that is sterilized to building. The consequence is that the architect cannot always place his building as near to the road as he may wish, and a close relationship of dwellings to each other is impossible. It is true that the buildings can be brought together around paved areas, but there must be roads to connect these paved areas together and such roads must be used as building frontage if the capital cost, and therefore the rent, is to be reasonable.

A 22 feet wide spine road plus all its services is likely to be a wide space, and it is often that three or four storey buildings are necessary to establish a visual relationship across it. But such buildings are more costly than two storey houses, and they are more difficult to let.

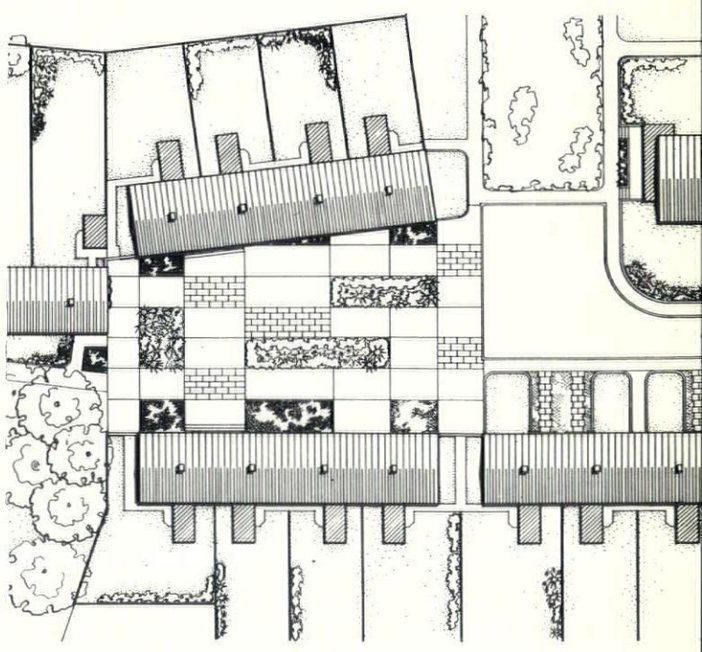
There is much the same story with the road junctions. Here it is necessary to keep the corners sufficiently open to give the motorist a view of oncoming traffic. The angle of the 'sight line' can be grossly exaggerated, but a case such as that shown, 10, is not unreasonable for a junction between sixteen and

continued on page 315]

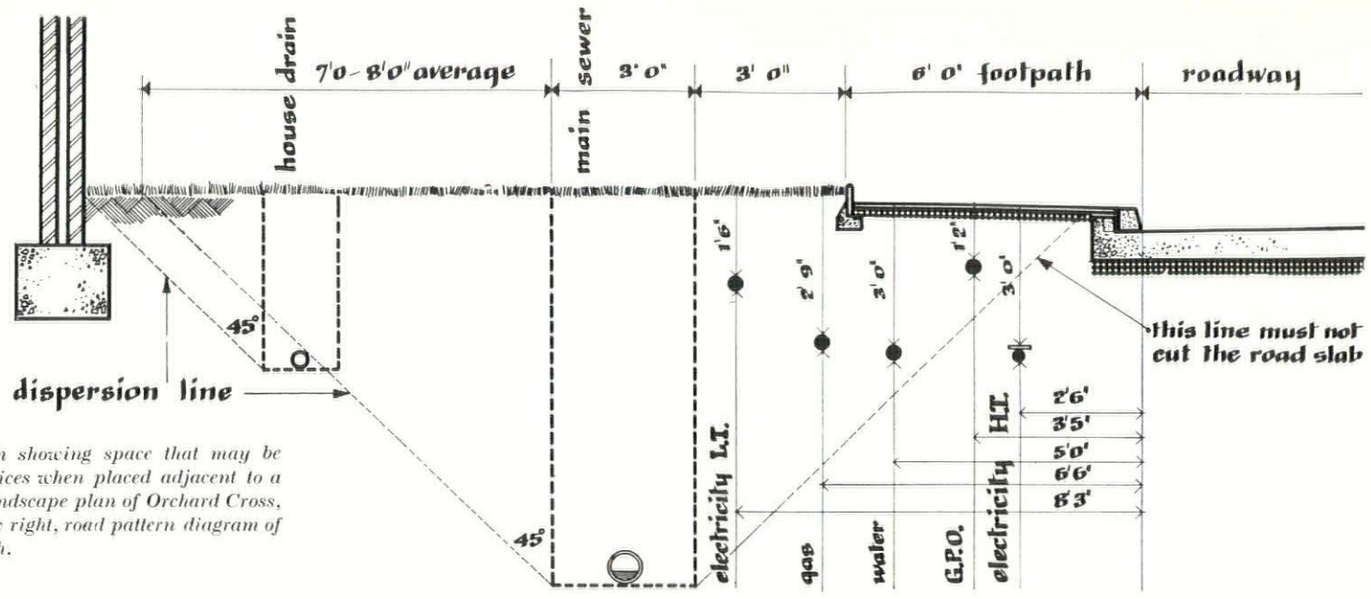
2, *aerial view showing Mark Hall South in the foreground and Mark Hall North and the industrial estate beyond.*



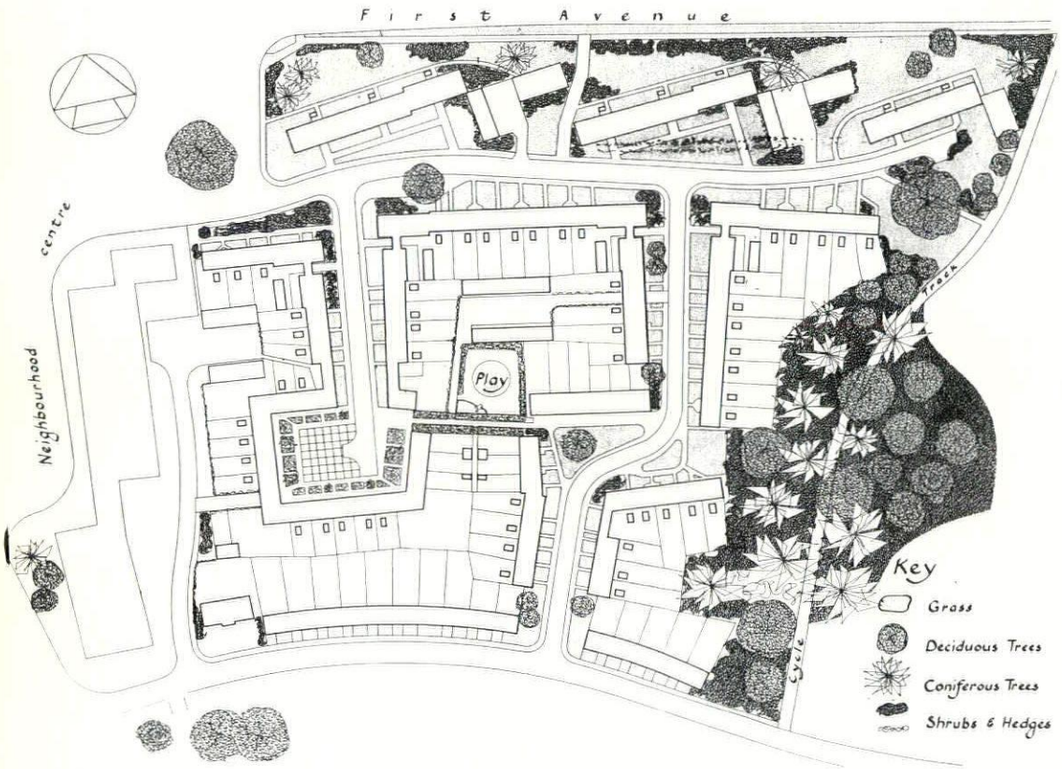
3, *a cycle underpass below First Avenue.*

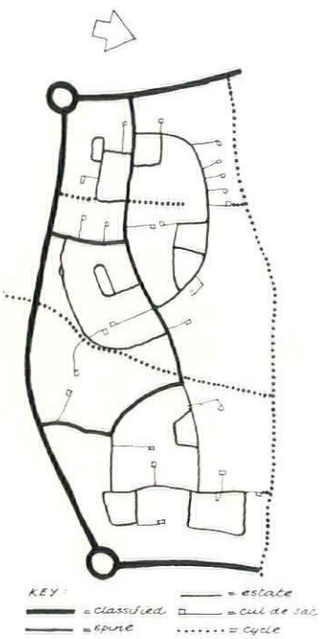


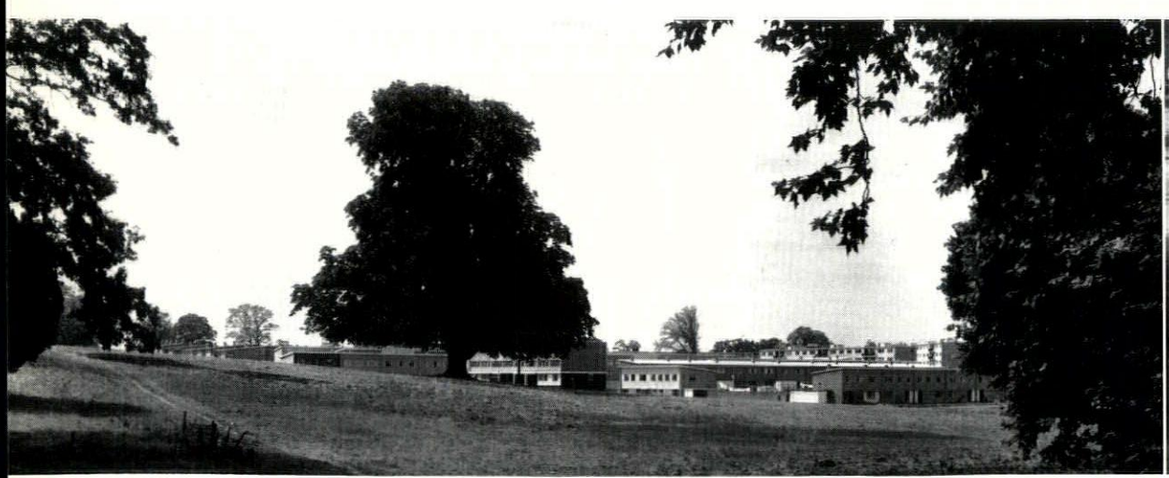
4, *housing grouped round a pedestrian square.*

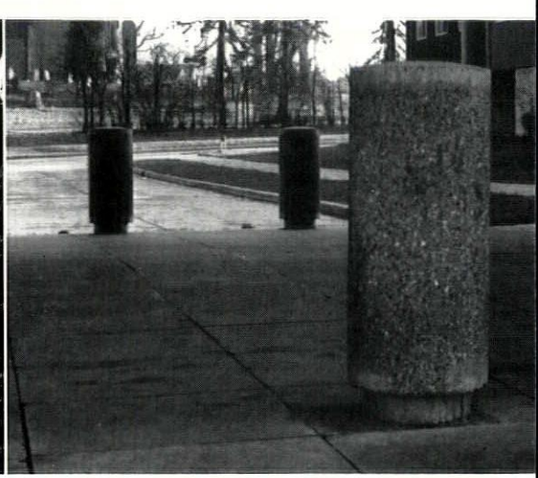


5, right, diagram showing space that may be taken up by services when placed adjacent to a road. 6, below, landscape plan of Orchard Cross, Area 13. 7, below right, road pattern diagram of Mark Hall North.









8, one of the landscape belts which run between neighbourhoods. 9, bollards on each side of the underpass at Tanys Dell.

eighteen feet wide roads; such an angle may prevent the buildings being knit closely together and leaves an area of ground which, although better treated as a paved area, is generally grass.

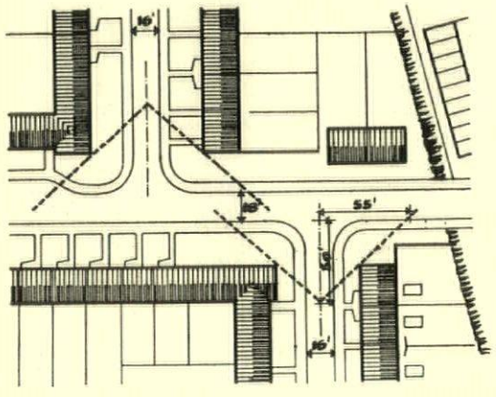
An independant system of cycle tracks is provided; where they cross main roads, underpasses are provided, 3.

landscape and building pattern

The neighbourhoods are separated by landscape belts through which the main roads run and in which are sited large areas for recreation such as play fields and the secondary schools. These belts are intentionally broad to prevent the housing closing up visually, and to give the maximum contrast between landscape and building, 8. But inside the neighbourhoods the landscape is restricted to that necessary for recreation and to topographical features worth keeping to give the area individuality. Such natural features that are retained are used to separate one housing group from another, but in the main visual variety is provided by a change in architectural character—each, area, as described above, being by a different designer.

The housing areas are designed to a system of mixed development to ensure that each family has available the dwelling most suitable to it. The housing is classified into two main groups : Standard I for the lower and middle income groups and Standard II for the higher. The grades are not arbitrary, and design is varied within the Standard I category to provide a wider range of rents and choice of dwelling. Dwelling sizes vary from bed-sitting room flats in tall buildings to detached five bedroom dwellings standing in their own grounds.

The majority of the new families wish for a two storey house with a private garden in the rear which eventually leads to a suburban uniformity in scale, however skilled the architect may be. Some three or four storey flat blocks have been built in each area and further changes in scale and on the skyline have been obtained by such devices as building flats over houses, or houses over houses (maisonette blocks), and by three storey housing. In addition four tower or point blocks are sited in the neighbourhood to form large scale focal points from the main town roads. In Mark Hall North the percentage of flats is about 29 per cent, and over the complete neighbourhood cluster 20 per cent.



10, *"sight lines" at corners of road.*

In the first areas to be developed in Mark Hall North, the dwellings are sited in a wide variety of ways with considerable variations of density and the development tended to be open. But due to the experience gained there was a general tightening up of layout and increase in density in subsequent areas. In particular the tenant's desire for a private garden in which he can do more or less what he likes leads to the development of corner flats, screen walls and other devices to hide the rear gardens. The Standard II houses are generally sited on the edge of the area or on irregular land where gardens of different shapes and sizes can be provided.

After experimenting with gardens of various sizes a minimum area of 100 square yards proved satisfactory for most tenants, but allotments are dispersed over the neighbourhood for those whose hobby is growing things—this policy of minimum gardens backed up by allotments led to considerable savings in land.

The spaces formed by the dwelling groups are regarded as part of the townscape and in consequence the aim was to establish a relationship between the floor and the walls. There are therefore no front gardens, the space being designed as a horizontal surface. To avoid grass verges, the footpaths are run next to the carriageway. The area from the back of the paving to the dwelling fronts is treated with a variety of materials, but owing to the cost of hard pavings grass is the most common.

Where the area is a landscaped one the footpaths leave the roads to take short cuts or to avoid natural features like tree clumps.*

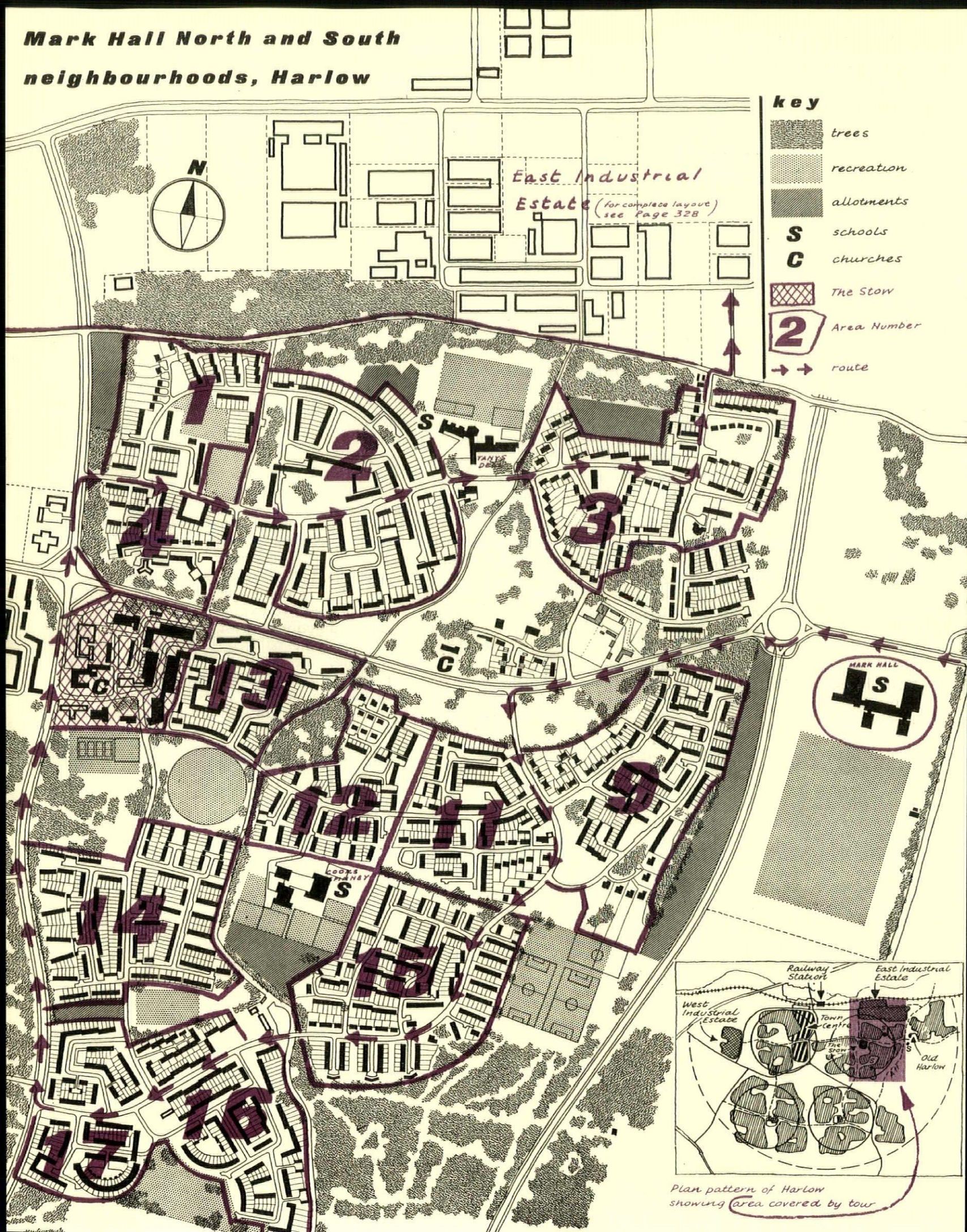
The general landscape pattern of the neighbourhood is one of surrounding farm and wood land flowing into the town along stream courses and main roads, with a secondary flow along the footpaths interlacing housing and open space. The aim of the landscape treatment was to exploit natural characteristics employing indigenous forest trees and planting of the wild type, e.g., oak, hornbeam, sycamore, poplar, Scots pine, birch, holly, thorn, vibernum, euonymus, Traveller's Joy. This treatment offers a smooth transition from rural to urban landscape, and heightens by contrast the sense of cosiness within the housing areas.

The existing parkland surrounding Mark Hall and areas of woodland provide the main open space. Old gravel pits accommodate dry playgrounds for children. Surplus excavated material has been contoured to mounds, and later planted with trees to screen industry or filter road noise from housing.

To contrast with the naturalistic treatment of the surrounding woods and roads the housing areas are more sophisticated in landscape design. The plan, 6, is typical. Existing natural features and tree types provide the key to preservation of genius loci, transposed to the urban idiom. The ground pattern is shorn turf and paving, with ground-hugging shrubs, most marked in the westerly square from which a cobbled walking way gives access, past bollards, 9, under pleached limes to more grassy squares to the East. Forest size trees, drawn together in groups for emphasis, assist scale and intricacy. Evergreen shrubs and hedges are chosen for shelter and screening. The centrally situated play space for smaller children has a stabilized grass circle surrounded by hoggin.

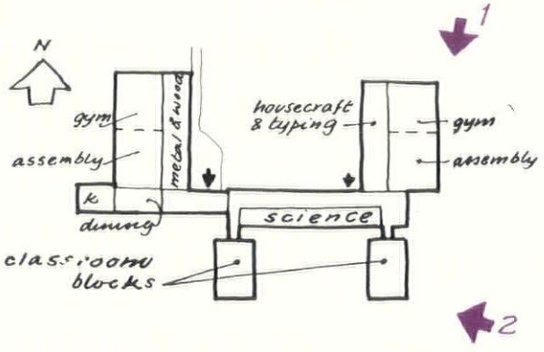
* The general landscape designs were prepared by the landscape architects, Sylvia Crowe and Bodfan Gruffydd, and those to the Housing areas by the architects in consultation with the former.

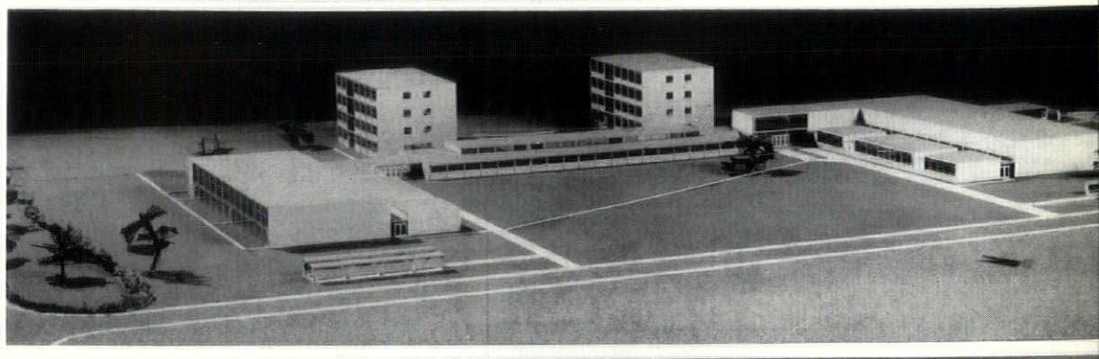
Mark Hall North and South neighbourhoods, Harlow



Plan pattern of Harlow showing area covered by tour

On this and the following pages are illustrated descriptions of buildings in the newly completed neighbourhoods of Harlow, arranged in the order in which they would be seen by a visitor following the route shown in the map opposite, from Mark Hall School, adjoining the main road, to the industrial area near the railway. Some of the industrial buildings lie off the map, but are found on a detailed plan on p. 328.



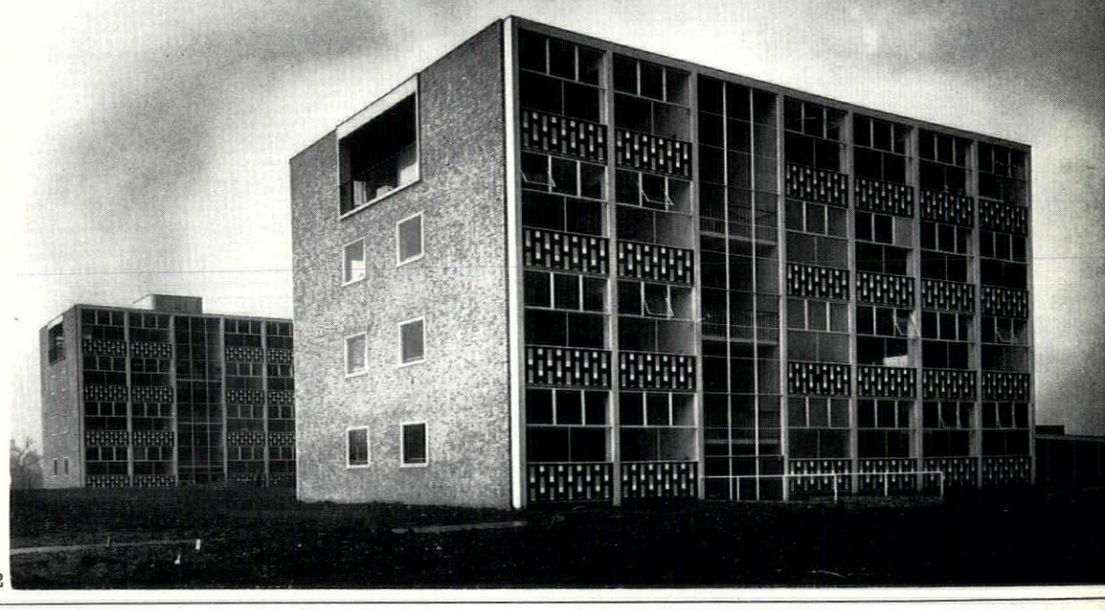


1

Mark Hall Secondary Modern School

Architects: Richard Sheppard & Partners, in collaboration with the County Architect, H. C. Conolly.

The school is a six-form mixed entry for just over a thousand children. There are two four-storey classroom blocks, connected by low glazed links to the main part of the school. This is in the form of a U, with an assembly hall, kitchen, gymnasium, workshops, library and staffrooms to the west, and a similar block with assembly hall, gymnasium and housecraft rooms to the east. The science rooms are on one floor and face south, in a low block which links the two arms of the U. London stock and Staffordshire blue bricks have been used externally. Panels under windows are finished with black glazed tiles, except the classroom blocks, which have a pattern of black, lemon-yellow and white tiles (see 2 and 3, and frontispiece drawing on p. 310).



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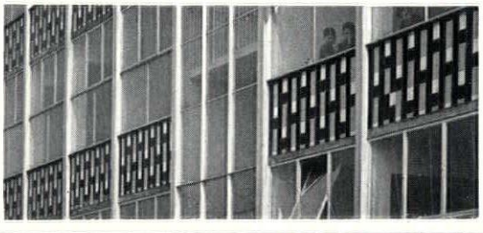
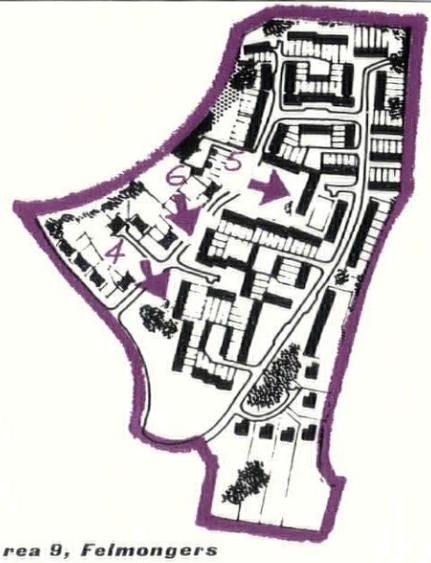


3



Area 9, Felmongers

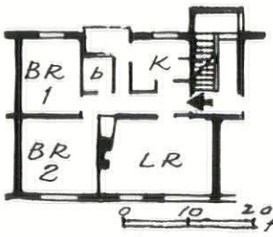
Architects: Harlow Design Group. Frederick Gibberd, Architect Planner. Victor Hamnett, Executive Architect. J. S. Rank, Senior Architect. G. T. Goalen, Industry. A. J. McCowan and D. L. Dyer, Housing. R. E. Turner, Planning.

The area is a well-timbered one and the layout was designed to use the trees as part of the street picture. 4, two-storey, three-bedroom terrace houses.



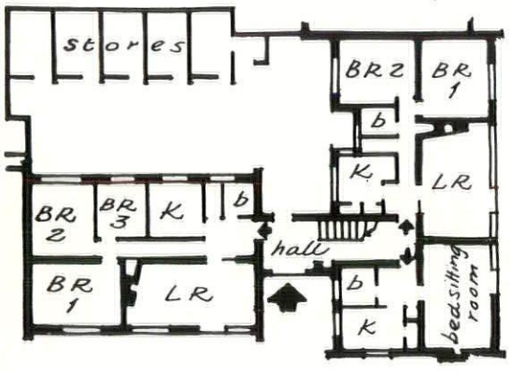
4

A feature of the Felmongers scheme is the central square, 5, containing three-storey flat blocks.

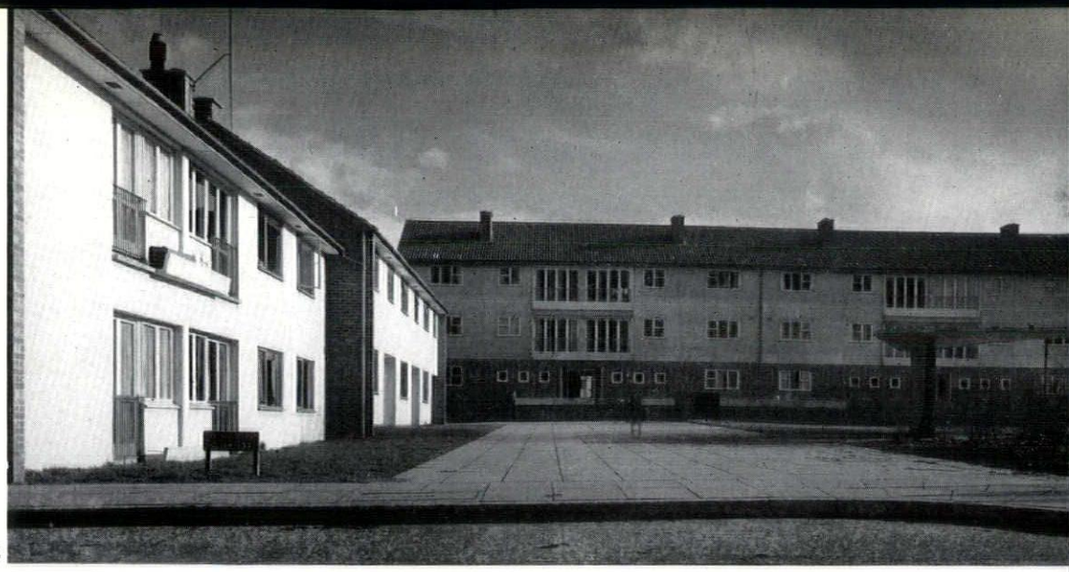


typical flat

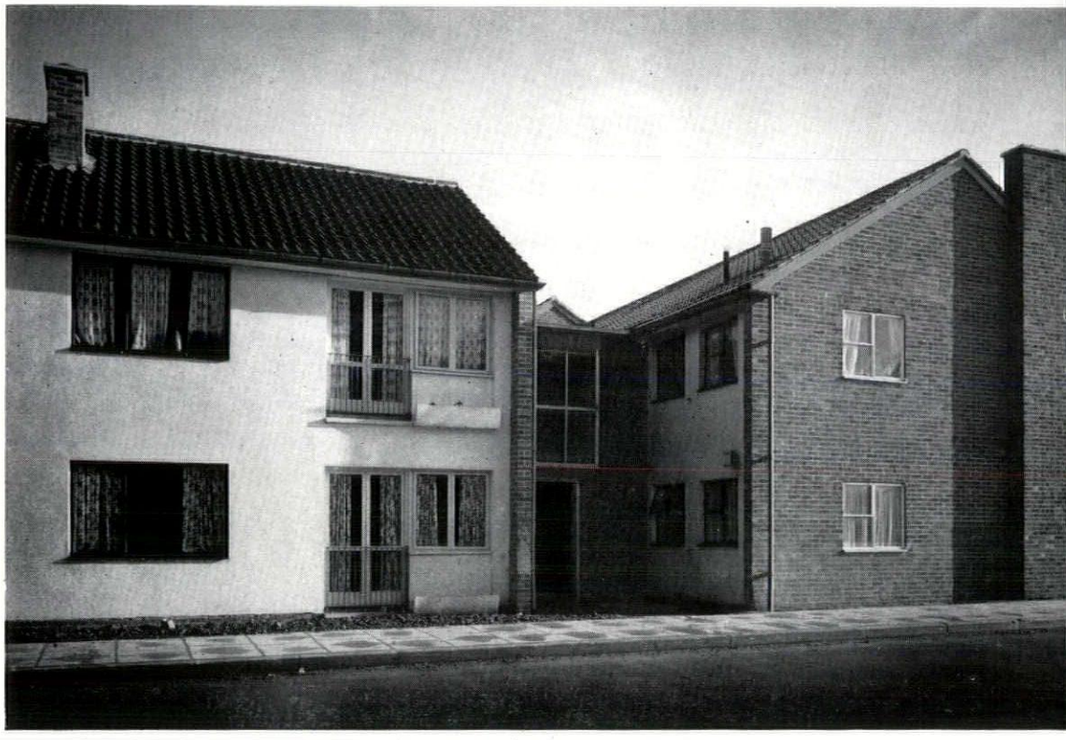
Two-storey corner flats, 6, are used to give a built-up appearance and to screen back gardens.



corner house 0 10 20 ft



5



6



7

Area 11, Churchfield

Architects : Richard Sheppard and Partners.

Three-storey one-family houses containing five bedrooms, 7. On the right of the photograph are two-storey, three-bedroom houses completed in 1952.



7

"The Spinney" County Primary School

Architect: H. T. Cadbury-Brown, in collaboration with the county architect, H. Conolly.

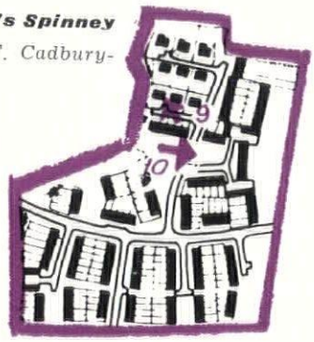
The school, 8, comprises three units, junior 320 places, infants 240 places, and a dining/kitchen block. These face on to a central space. The teaching units are grouped round the assembly halls which rise, with a high glazed clerestory, through a general roof level which is low. Bricks are dark-brown Lingfield semi-engineering. Metal windows finished dark grey metallic paint. Fascias painted white.



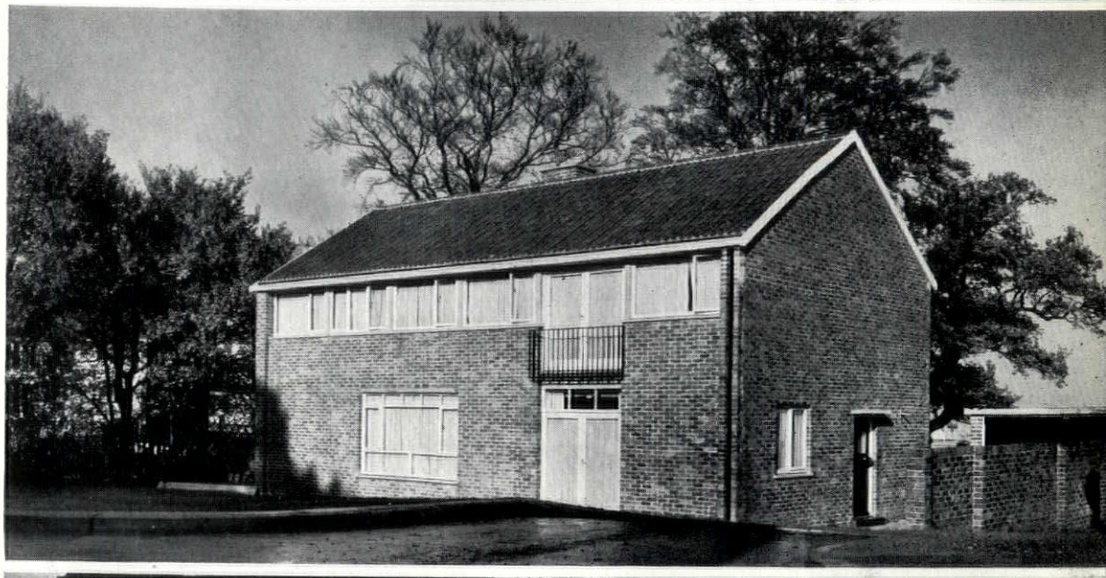
8

Area 12, Cook's Spinney

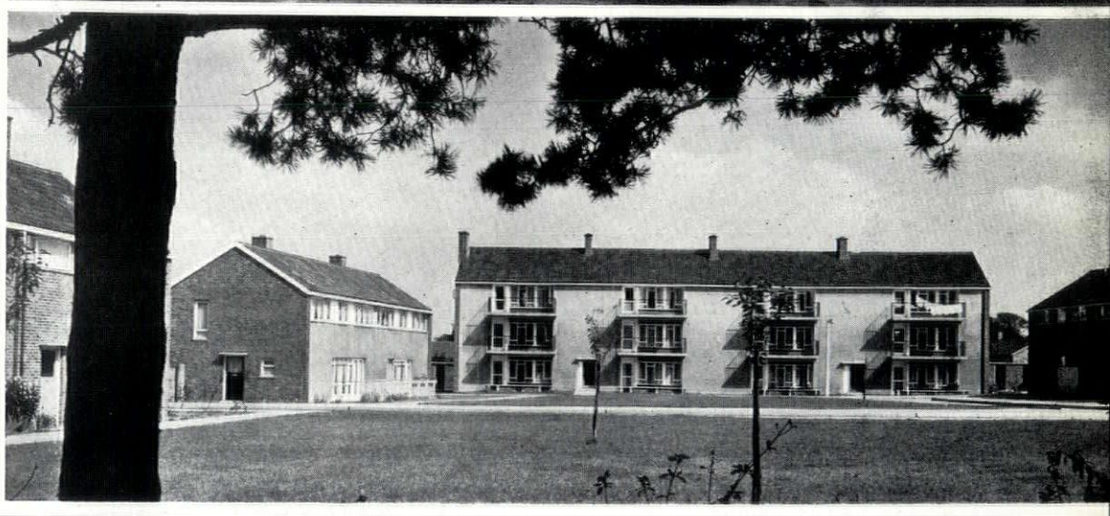
Architect: H. T. Cadbury-Brown.



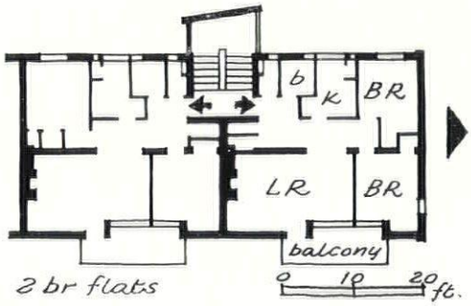
The programme included three five-bedroom, two-bathroom houses, 9 is one, in Cook's Spinney, designed with the same details for windows, eaves, roofs, etc., as the remainder of the houses. Heating is by a No. 6 New Carlton boiler feeding a bank of radiators in the hall. These radiators also serve the dining/living room and the study. Bricks are Sussex stock; roof Bridgwater tiles; Finlock gutter. 10, three-storey flats with load-bearing brick, cavity wall construction (inner skin 9 in. brick work on ground floor), reinforced concrete floor and staircases; roof of Bridgwater double Roman dark-brown tiles; the long elevations rendered and plastered with Tyrolean silver-grey colour-mix.



9

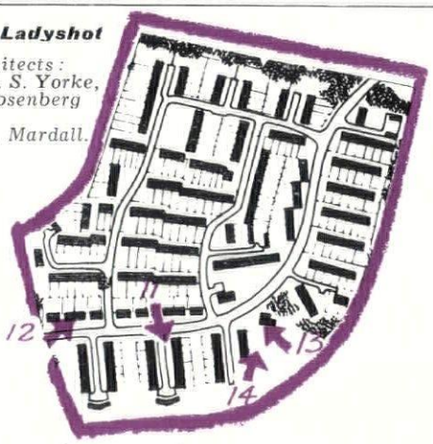


10

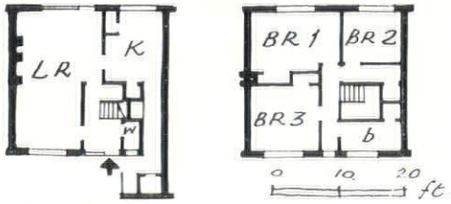


Area 15, Ladyshot

Architects: F. R. S. Yorke, E. Rosenberg and C. S. Mardall.



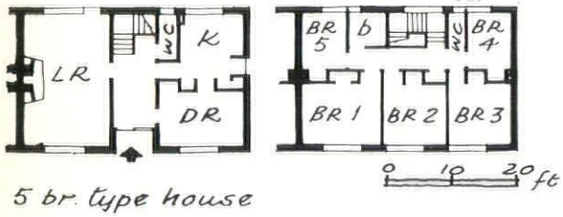
11, terrace houses in the Ladyshot area, which is a mixed one of houses and flats. These are





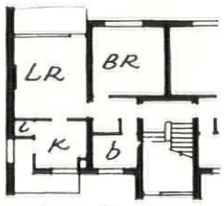
11

three- and four-bedroom houses, planned in the manner of the London mews. The end houses have built-in garages and intermediate ones have their garages grouped at the end of the mews. These mews run directly down towards the wood, at right angles to the spine road, so that the trees can be seen from within the site.



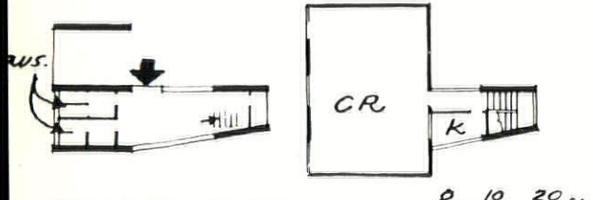
5 br. type house

The two-storey houses, 12, are constructed of cavity brick walling on strip concrete foundations, flettons are used below ground and yellow stock bricks, milds, seconds and LCC grade facings above. Ground floors are concrete *in situ* with asbestos resin tiles on screed. First floors are boarded on joists and the roofs are single-pitched timber construction with asbestos cement Trafford tiling on building paper. Windows are timber mainly sliding, Yorkshire lights on garden fronts and standard steel with



1 br. flat

2-ft. opening lights on the access side. 13, four-storey one-bedroom flats seen beyond the Common Room, 14, which provides for the social needs of the 490 dwellings in the area. It is used for whist drives, dances, Mothers' Union meetings, Boy Scouts, etc., and contains a hall with a small kitchen adjoining. The main accommodation was planned on the first floor to avoid a hut-like or temporary appearance.

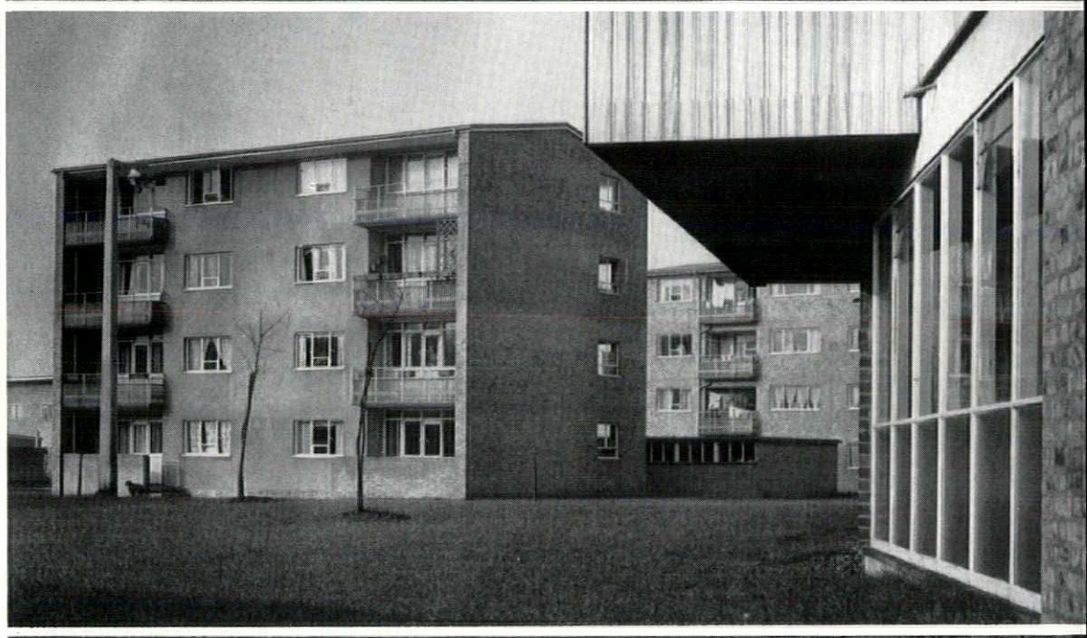


common room

12

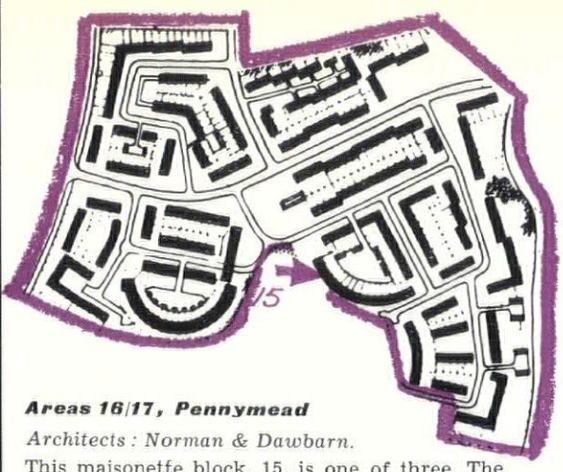


13



14

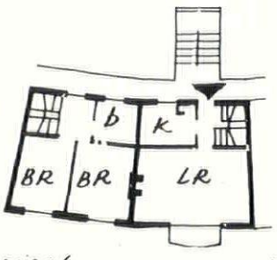




Areas 16/17, Pennymead

Architects : Norman & Dawbarn.

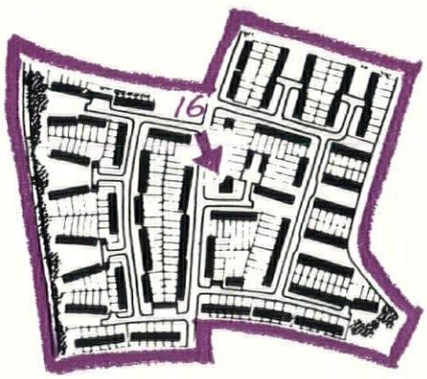
This maisonette block, 15, is one of three. The construction is load-bearing brick walls with hollow - pot floor between maisonettes at second-floor level; intermediate floors and roof are of wood. Facing bricks are Leicester Mixed facings with red Surrey stock pilasters on convex side.



typical maisonette 0 10 20 ft.



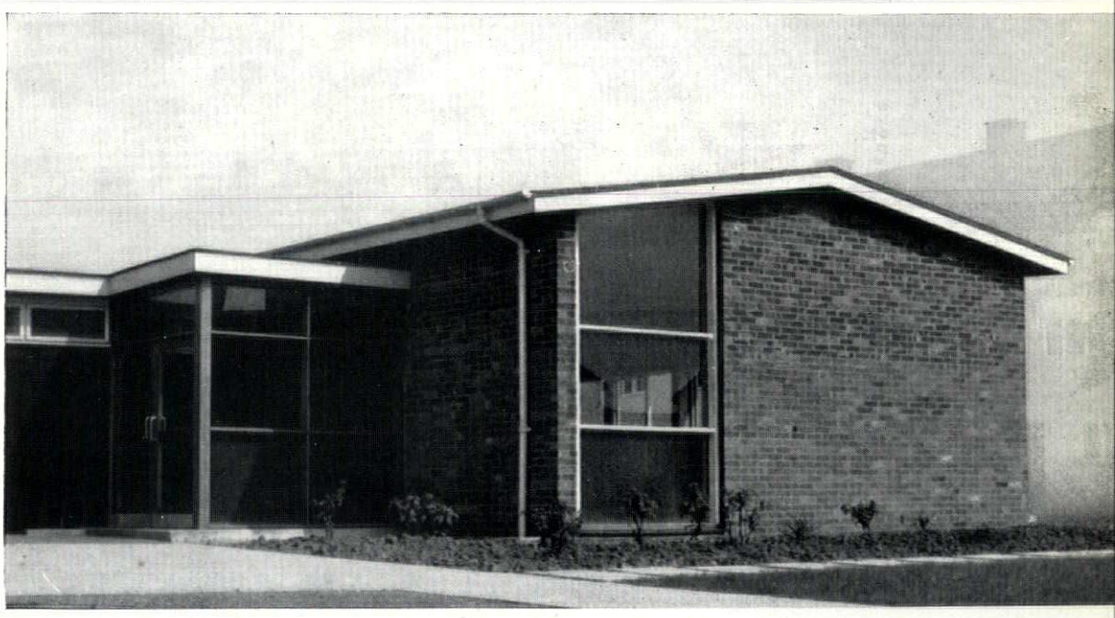
15



Area 14, Blackbush Springs & Vicarage Wood

Architects : Harlow Design Group.

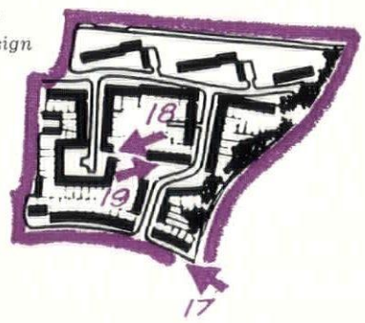
16, the tenants' common-room at the centre of the Blackbush Springs and Vicarage Wood area.



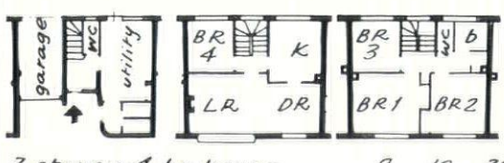
16

Area 13, Orchard Croft

Architects : Harlow Design Group.



The south of the Orchard Croft area is designed as a three-storey curved terrace, 17, to overlook, and give definition to, the cricket field. On the north boundary three-storey flat

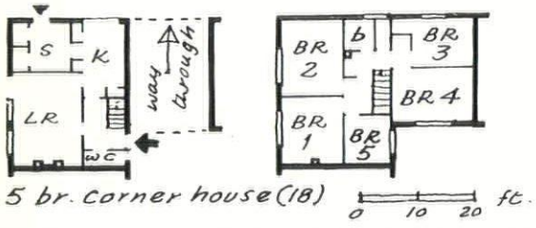


3 storey 4 br house 0 10 20 ft.



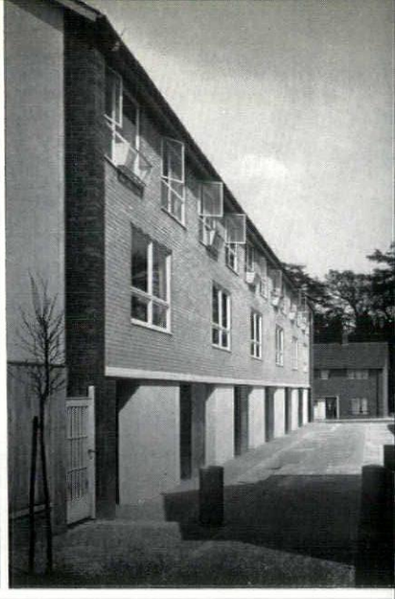
17

blocks are inclined to the road to give distant views both from and into the neighbourhood centre. The core of the Orchard Croft area is a tightly planned square with continuous walls and built-up corners, 18. From this a pedestrian way runs in one direction into the shopping street and in the other to an adjacent close, 19, in which there is a three-storey terrace house block.





18



19



The Stow Neighbourhood Centre

Architect-Planner : Frederick Gibberd.

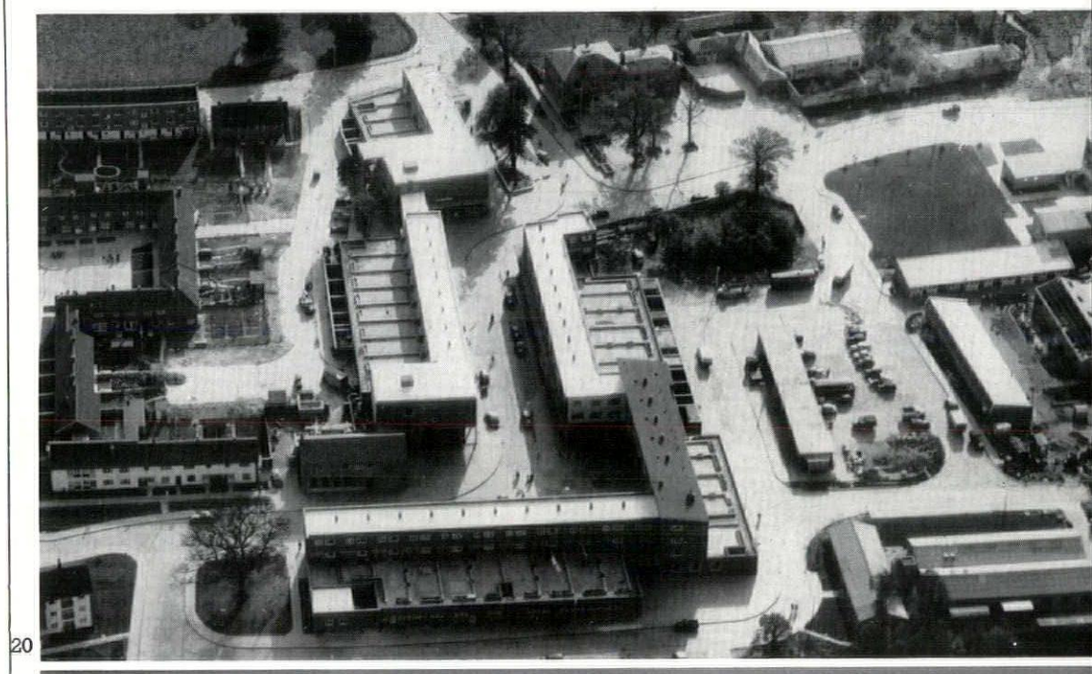
Executive Architect : Victor Hamnett.

Senior Architect : S. S. Rank.

Architect-in-Charge : A. J. McCowan.

The centre has three broad zones ; shopping on the east, service industry on the west and recreation on the south (plan page 324 and aerial view, 20). The shops are arranged with other building types to form two squares or piazzas connected by a straight and narrow shopping street. The plan form is Z-shaped so that the views are closed in both directions down the street, 25 (facing page), and so that the views are closed into each square, 28, page 324. The north square, 26-28, page 324, is principally business and is open on one side giving a view out of the space to the adjacent housing area and, in the distance, the church. The shops on one side are terminated by a bank and the Post Office and on the other by a public house, 22 and 23. The south square, 24 and 25 (facing page), combines business and pleasure and is more loosely composed. A dance hall is placed over the shops at the south end and is linked to the shopping street by a restaurant bridging the pedestrian way to the adjacent housing area, 25 (facing page). The dance hall itself is two-storeys high, with windows the full height to give a spatial link with the trees which are hard up against it, 24 (facing page). The shops themselves have

[*continued on page* 324]



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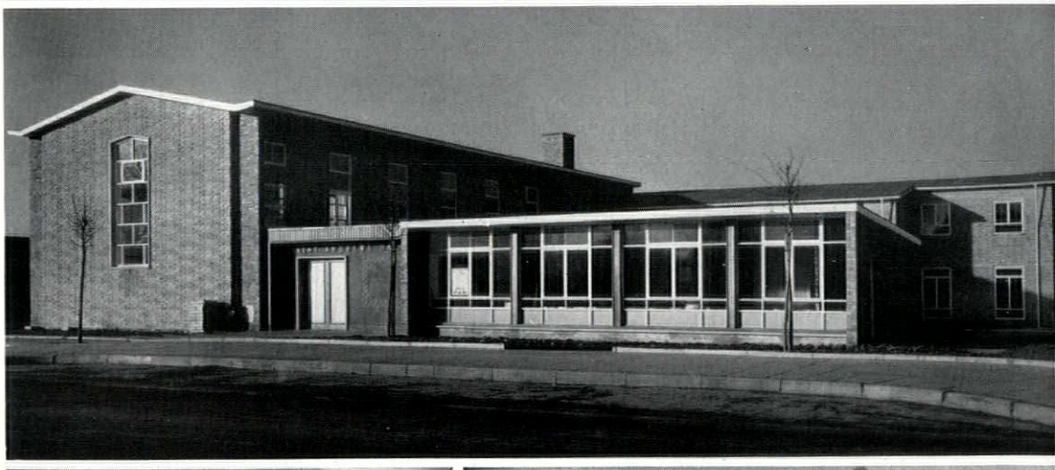
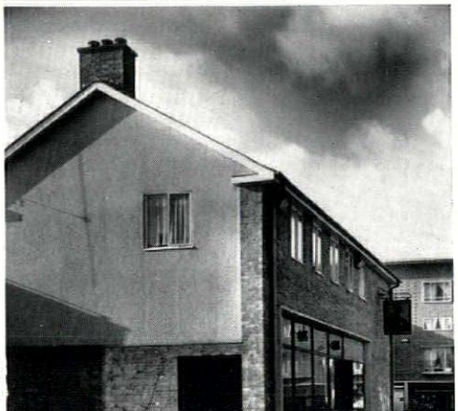


21



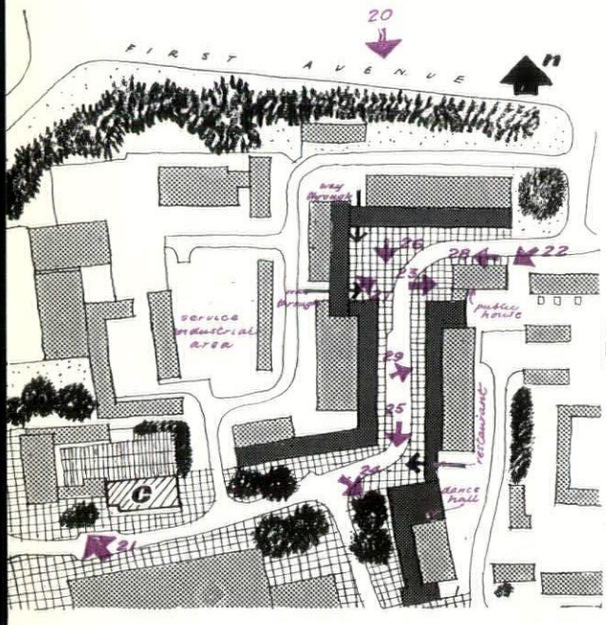
22
23



opposite: 24, 25


DORRINGTONS
CO-OPERATIVE


HARLEQUIN
DORRINGTONS



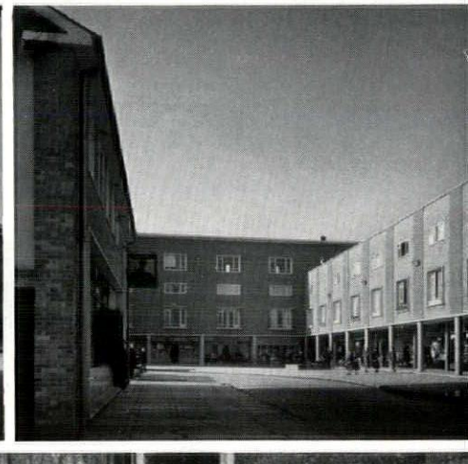
either recessed fronts, 29, forming an arcade or a projecting canopy. The existing Vicarage on the south was converted to a community centre. Adjacent to it is a health centre and on the opposite corner is the Methodist church group, designed by Paul Mauger and Partners, 21. Street lighting generally is by fluorescent light fittings fixed to the face of the buildings with wiring carried out in internal chases. The purpose of the service industrial area is to provide accommodation for all the small servicing industries: it also provides for car parking and garaging and for shops' stores.



26



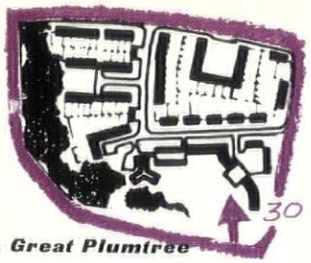
27



28



29



Area 4, Great Plumtree

Architect : E. C. P. Monson.

This block is the first stage of a scheme eventually providing 58 flats. The three-storey block contains 28 flats consisting of six two-room, 16 three-room and six four-room dwellings. The final stage will be the erection of a ten-storey Y-shaped tower block of 30 flats to the west. The building is constructed of load-bearing walls with hollow-tile concrete floors. The facing bricks are hand-made Surrey multi-coloured facing bricks with a band of London stocks above the top-floor window cill level. Cream pointing has been used to the facings. Internal window cills are formed of quarry tiles.

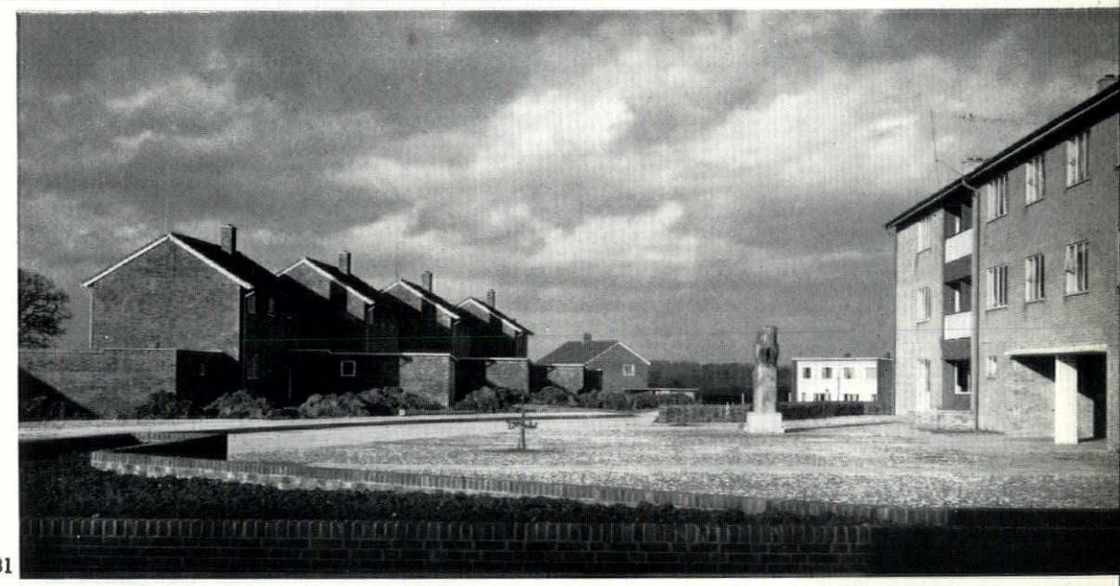

30

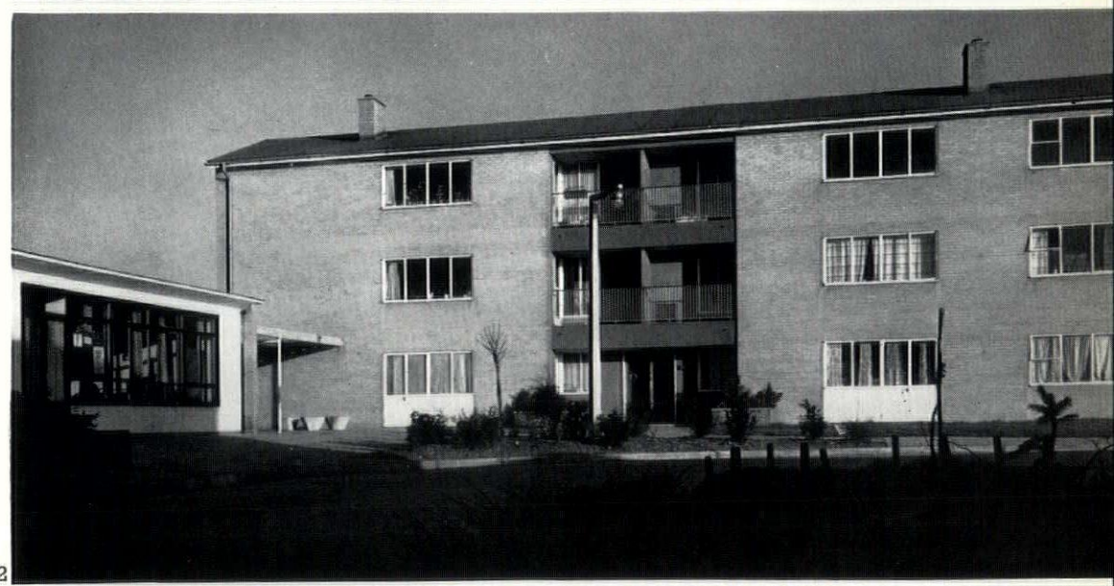


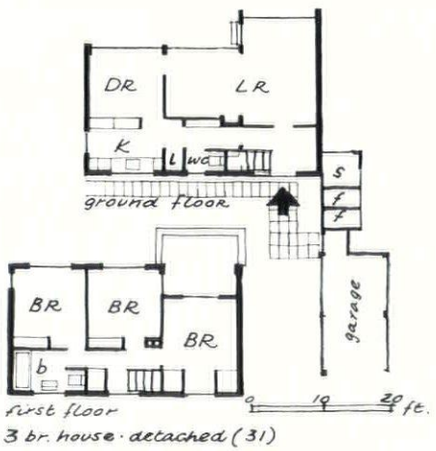
Area 1, Glebelands

Architects : Harlow Design Group.

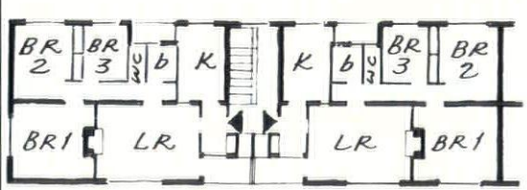
The core of the Glebelands area consists of two three-storey flat blocks linked by a Tenants' Common Room, left of 32, and associated with children's play areas, designed by Miss Sylvia Crowe.
The forecourt of one of the flat blocks, 31, is a cobbled square in which is sited Miss Barbara Hepworth's Contrapuntal Forms. A block of three-storey terrace houses, 33, is placed on high ground and at right angles to the flats to break the skyline.


31


32

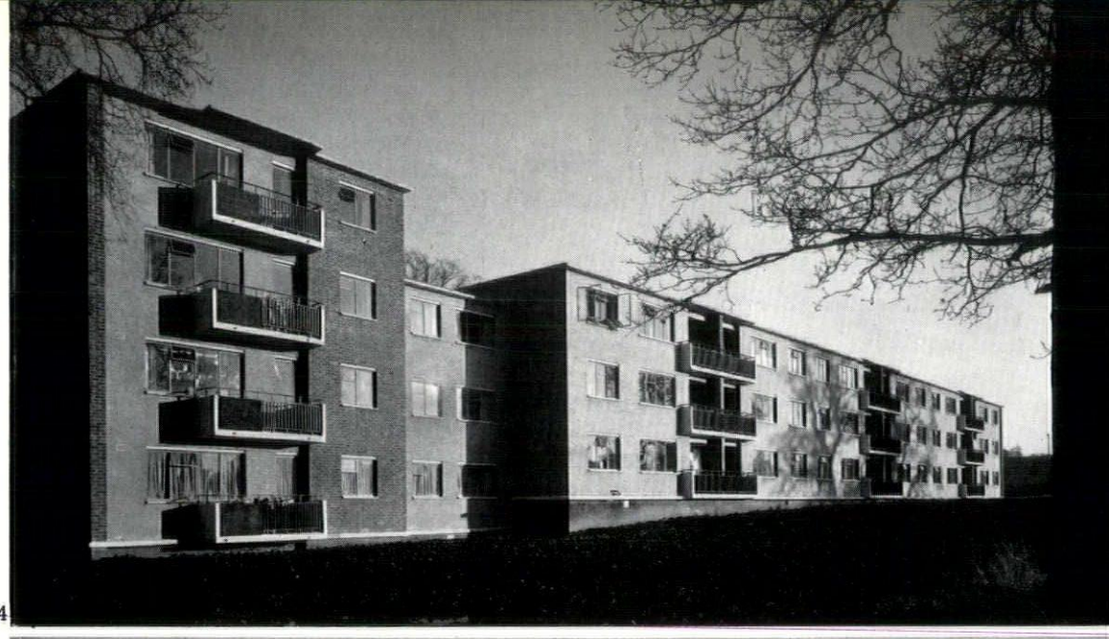


first floor
3 br. house · detached (31)









34

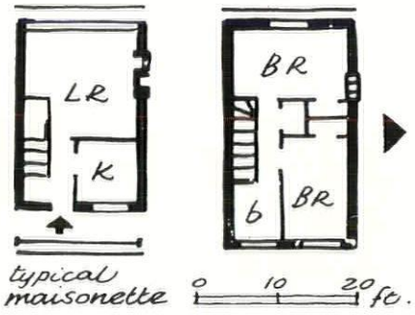
Area 2, Tanys Dell and The Chantry

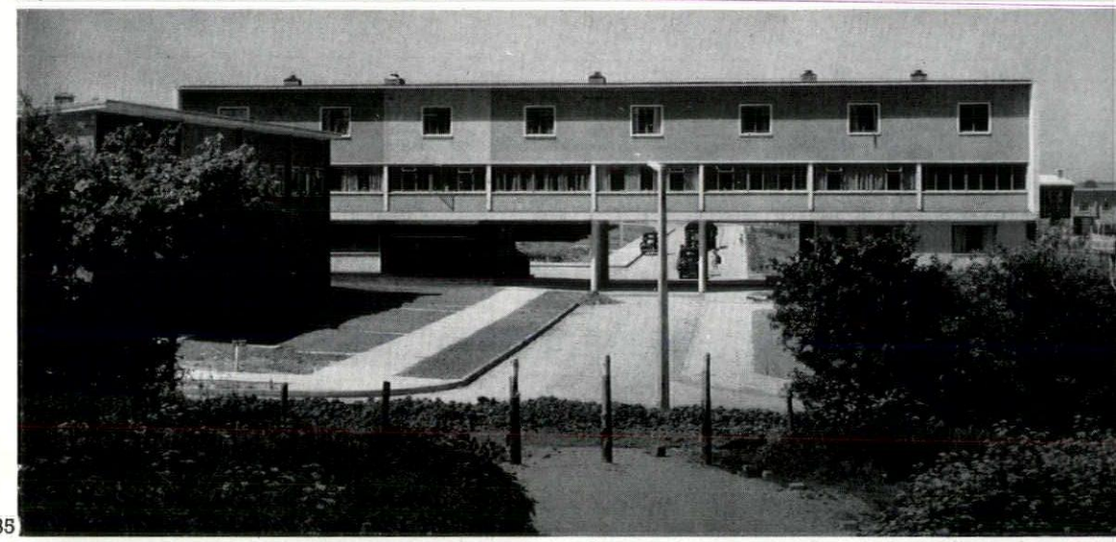
Architects: Fry, Drew and Partners.

Assistant Architect for flats: Theo Crosby.

Assistant Architect for houses: Barbara Auld.

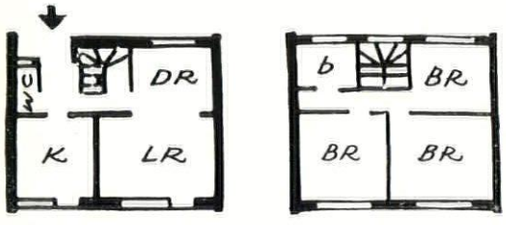
The area provides 161 three-bedroomed and 23 four-bedroomed houses; 21 one-bedroomed and



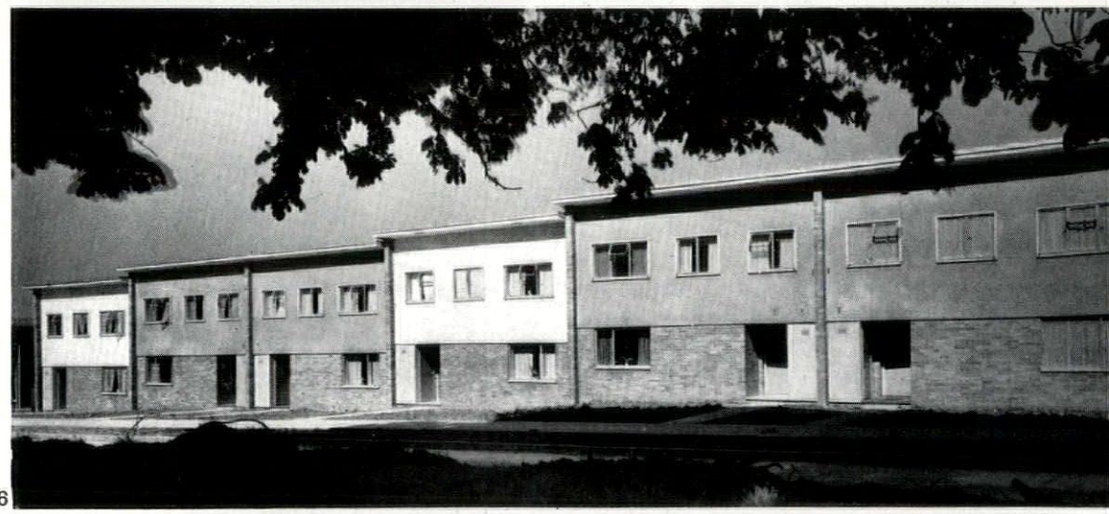


35

82 two-bedroomed flats and four one-bedroomed bungalows for old people. The terraced blocks of houses generally lie along the contour lines, and face downhill towards the most interesting views. On the higher ground stand the three and four-storeyed blocks of flats, surrounded by grassland, and are arranged in a series of connected units. The flats in this central group are all linked to each other by a central hot-water and heating system, which

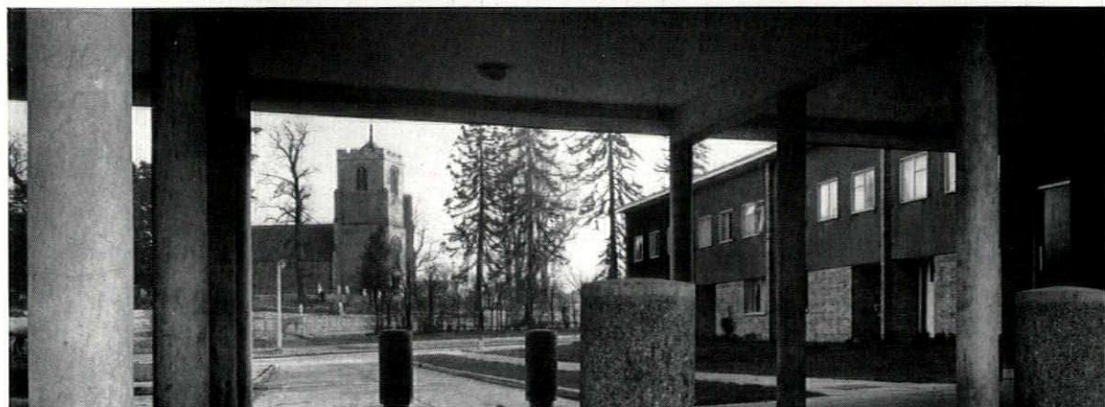


3 br. terrace house



36

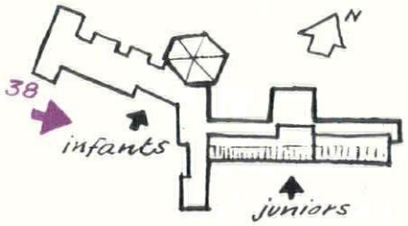
also serves a communal laundry. The area also contains a health centre. Ground-floor walls are 11 in. cavity brickwork, first-floor 6 in. hollow clay blocks rendered and sprayed. Ground floors are concrete slab with Marley tiles in mastic on waterproof screed, and first floors timber joists and boards. Roofs are of

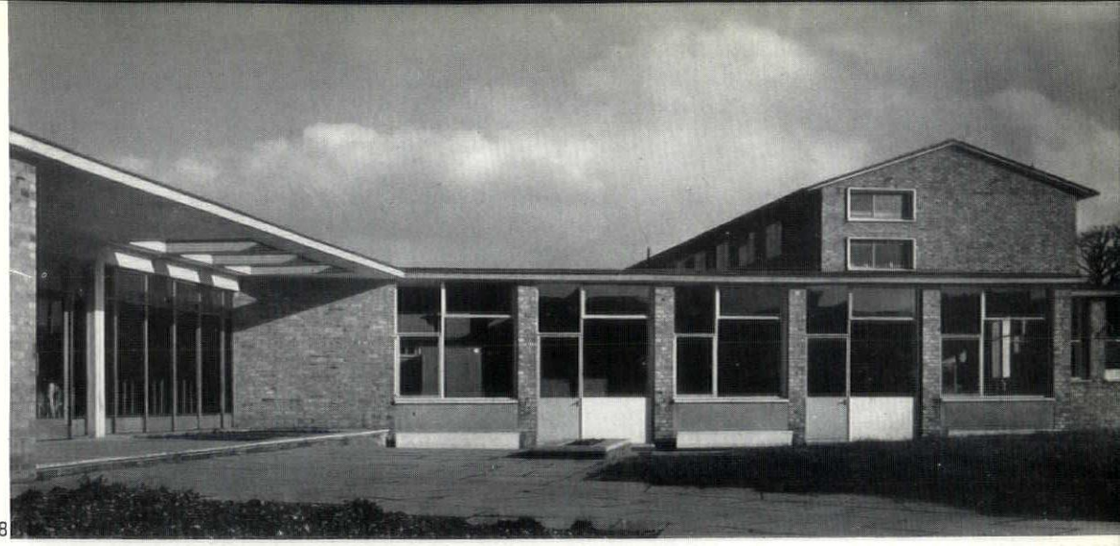


Primary School at Tanys Dell

Architects : Richard Sheppard & Partners.

38, entrance to infants' department. The school is for 240 infants and 320 junior children. It was designed in collaboration with the county architect for Essex County Council and completed in 1952. Construction: load-bearing brick work.





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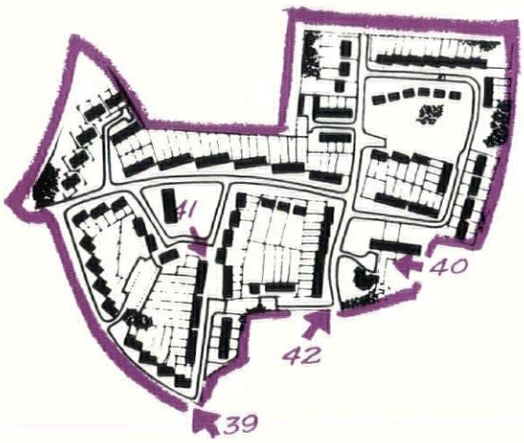
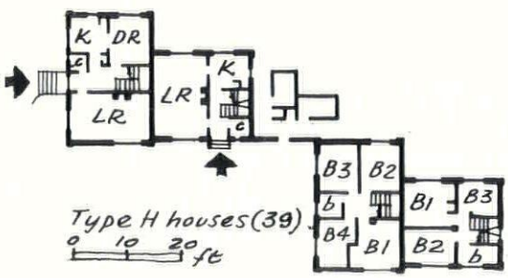


Area 3, Mark Hall Moors and The Lawn

Architect : Frederick Gibberd.

The west of this area, overlooking the landscape valley, is designed as a series of linked T-shaped blocks, 39, to give a serrated but con-





39

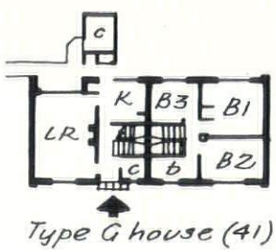


40

tinuous wall to the space and to give a progression of gable ends when driving along the roads.

Small internal closes are formed by the dwellings, 40, and in one of these is placed a three-storey flat block. A tall flat block, 42, is placed on the east of the site to break the skyline from the adjacent A.11 main road.* It is related to a three-storey flat block and nine large oak trees.

*See AR, September, 1951, pp. 154-161.





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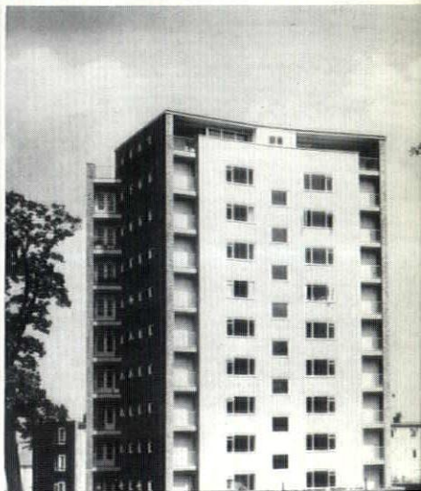
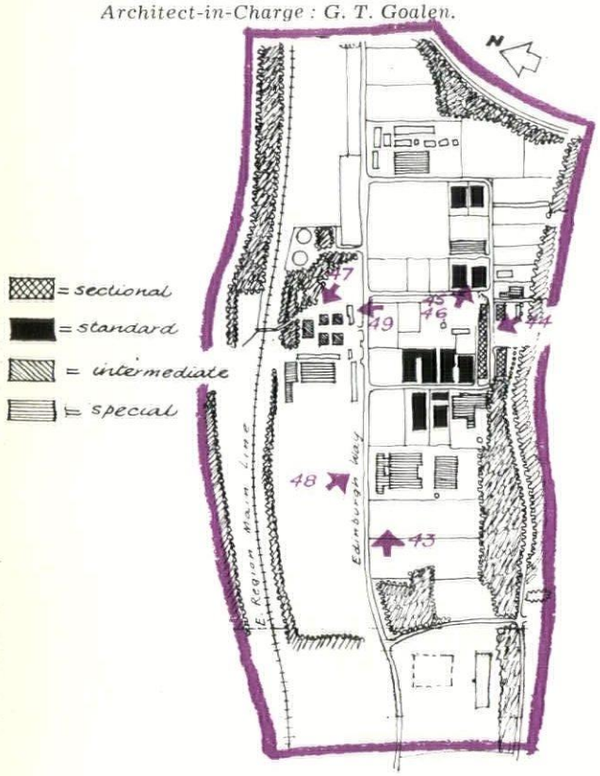


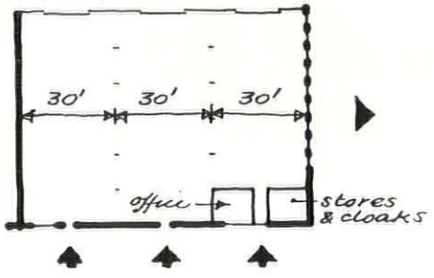
42

East Industrial Estate

Architect-Planner : Frederick Gibberd.
Executive Architect : Victor Hamnett.
Senior Architect : S. S. Rank.
Architect-in-Charge : G. T. Goalen.

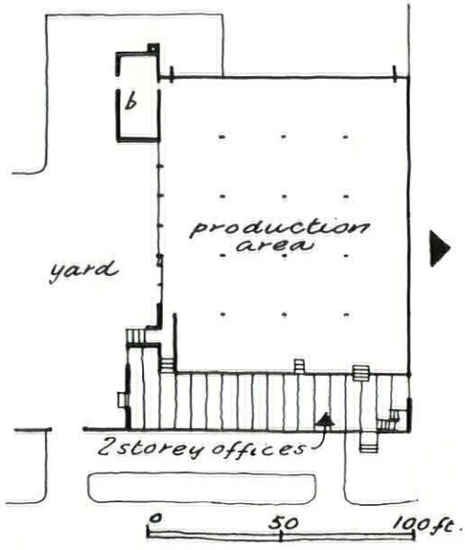


The East Industrial Estate, known as Templefields, is a rigid rectangular grid superimposed on the landscape, 43, as this provides the most suitable sites for the large boxlike character of contemporary industrial buildings.

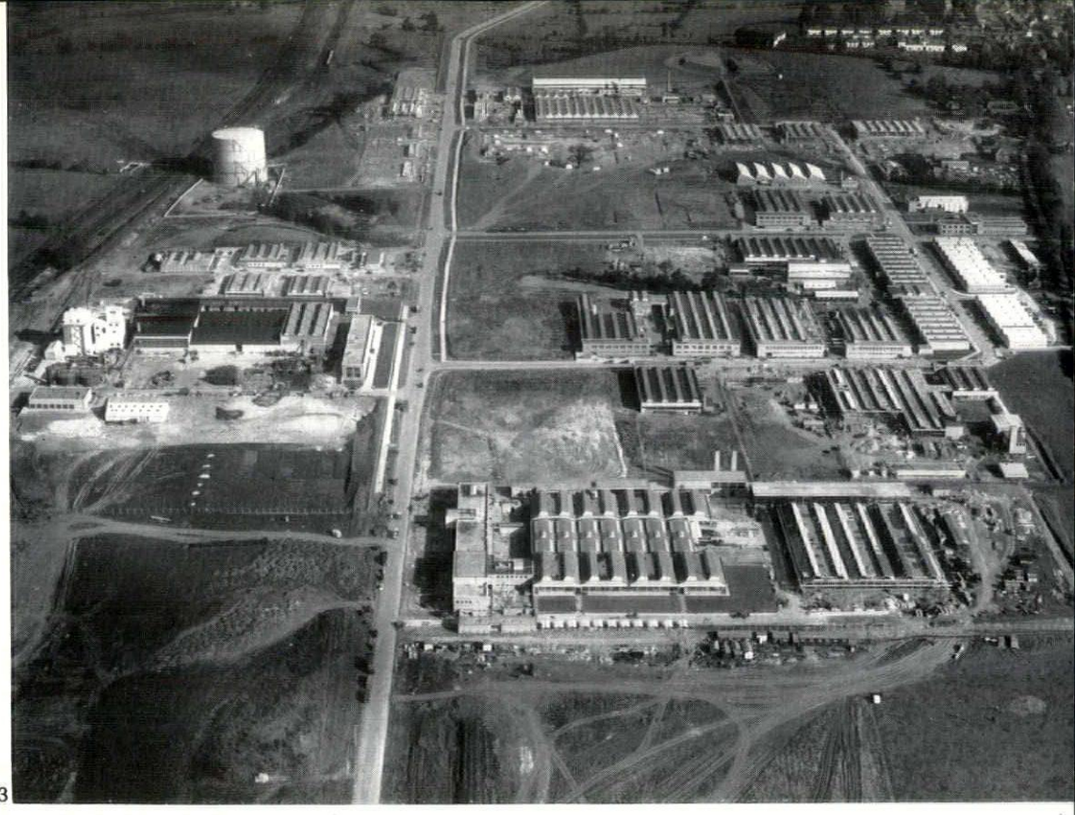


sectional factory

The Estate provides some 150 acres of factory sites. It is developed by four main types of factory: Special, designed to the manufacturer's own requirements by his own architect or by the Harlow Development Corporation, 48. Standard factories, 45, consisting of a single-storey production area of about 14,000 sq. ft. with a two-storey administration block designed and built by the Corporation and let to the industrialist—although the plan is a



standard factory



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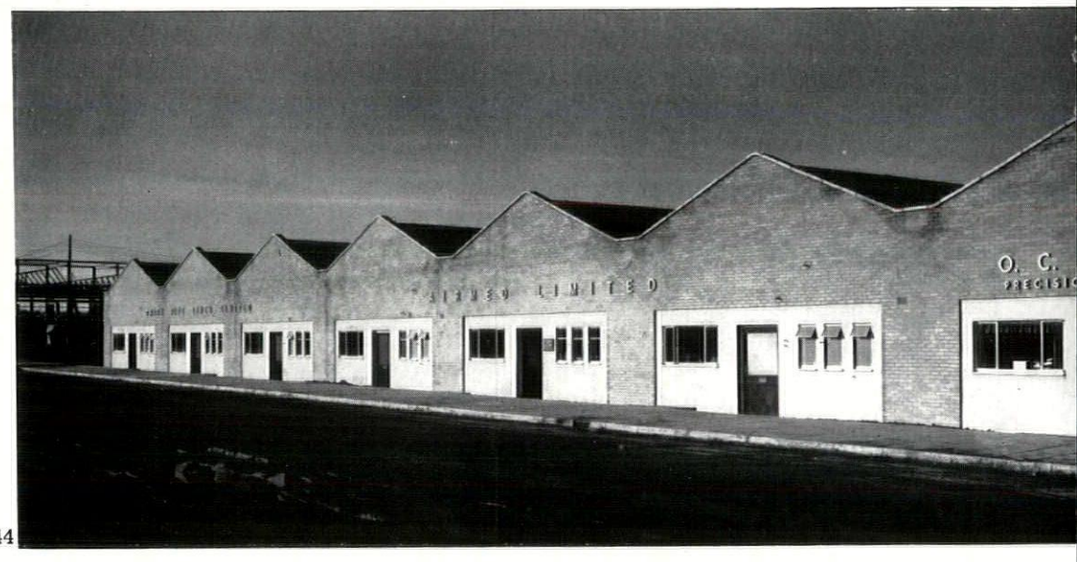


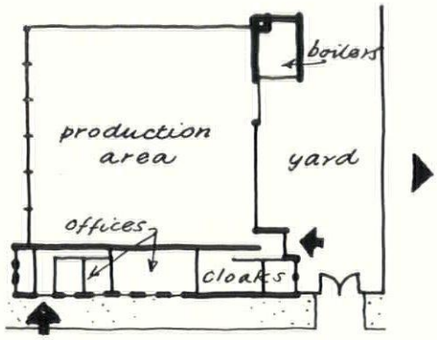
44



45

standard one, variations have been made to suit the different manufacturing processes and different structural systems have been employed. The sectional factories, 44, are single-storey structures with an area of about 2,000 sq. ft. which are let as a single bay or a series of bays for smaller firms. The fourth type, the Infermediate factory, 47, of 6,700 sq. ft., was developed at a later stage owing to the demand by industrialists for a factory intermediate in size and amenity to the Corporation's Sectional and Standard factory.

Apart from the factories, the Estate contains the town's railway goods yard—on the north-east of the spine road; the gas-holder, fed by high-pressure mains from the regional gas works, and one of the principal electrical sub-stations. Since the area is an integral part of the town and not a trading estate a large centre with recreational facilities was not required, but a small group of five shops, 49, is located on the centre of the spine road. It is hoped that the centre will later have a public house, and the possibility of an industrial health centre is being considered.

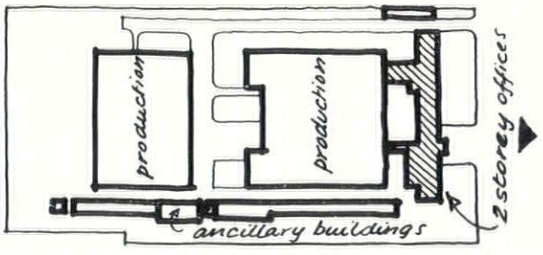


Intermediate factory
0 25 50 ft.

As only a guess could be made of the type and size of factories that would come to the new town, the Estate was developed by means of a spine road running east to west down the heart of the site, and from this rectangular super blocks were set up as required.

The largest factories such as The Standard Telephones & Cables Ltd., 48, are placed on the spine road as here the scale is largest, and smaller specially designed buildings are placed on the perimeter of the Estate on irregular sites.

Standard and Sectional factories are ranged on the frontage of the super blocks leaving a space in the heart of the plan for expansion. The office blocks face the road and are ranged as closely as possible together to provide a series of street pictures with the back areas, which are inevitably untidy, shut out of view.



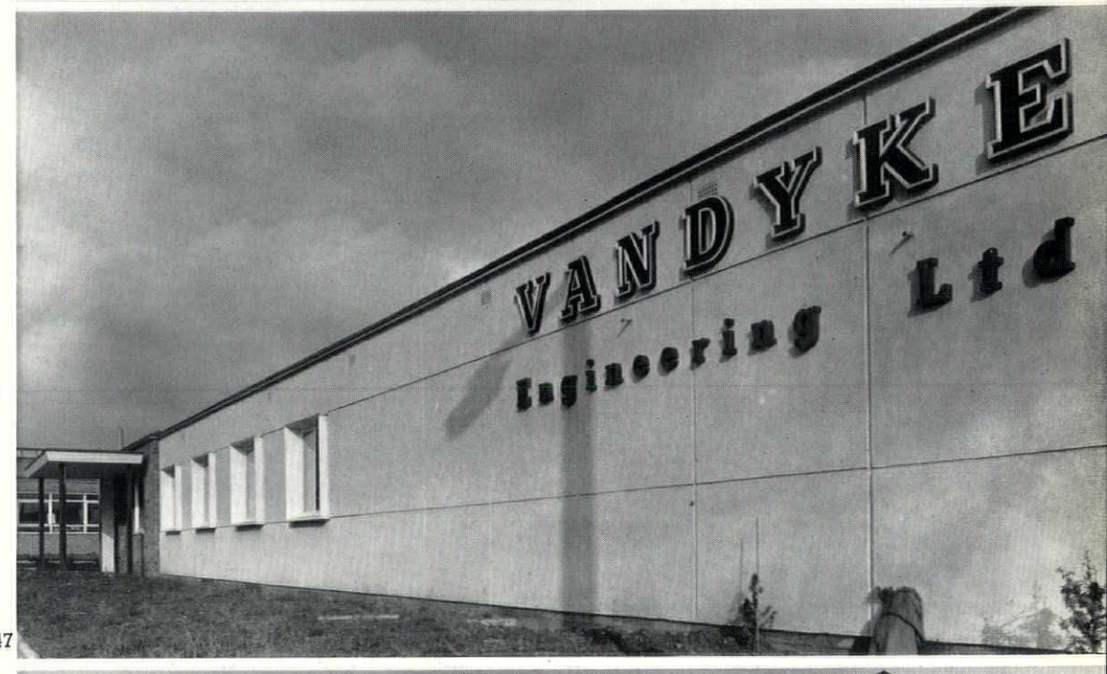
special factory
0 200 ft.



49



46



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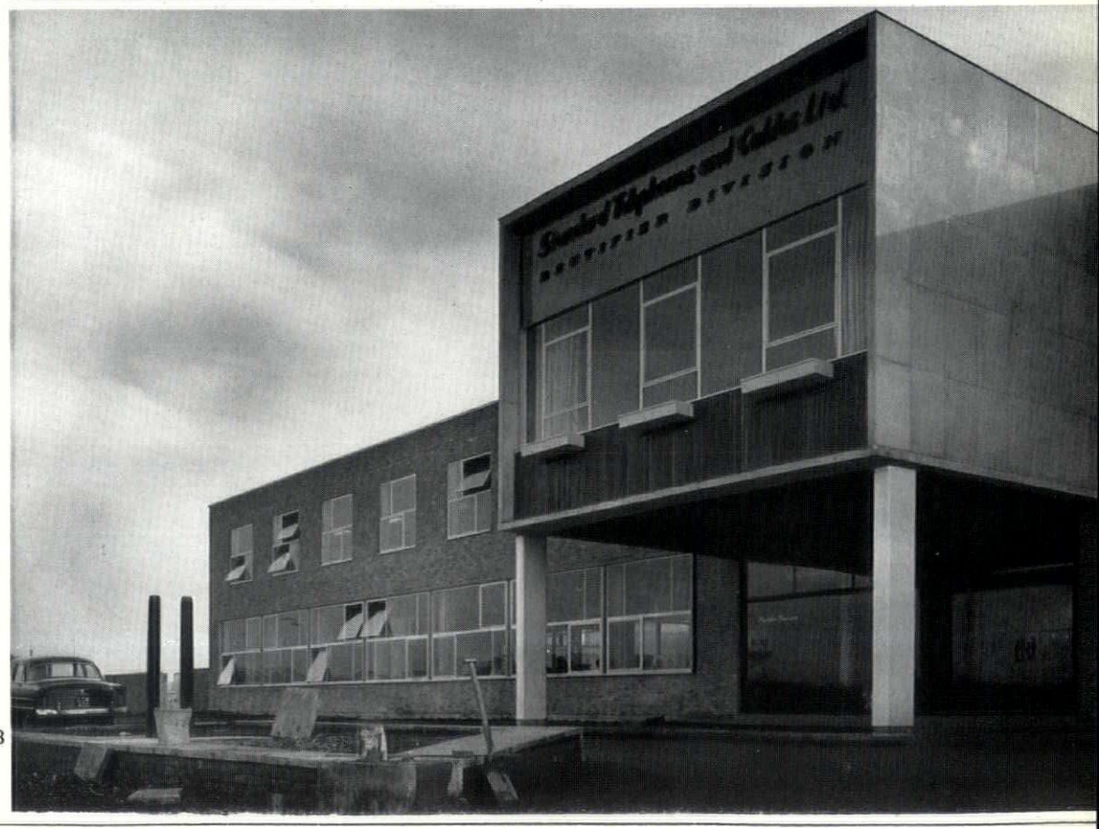

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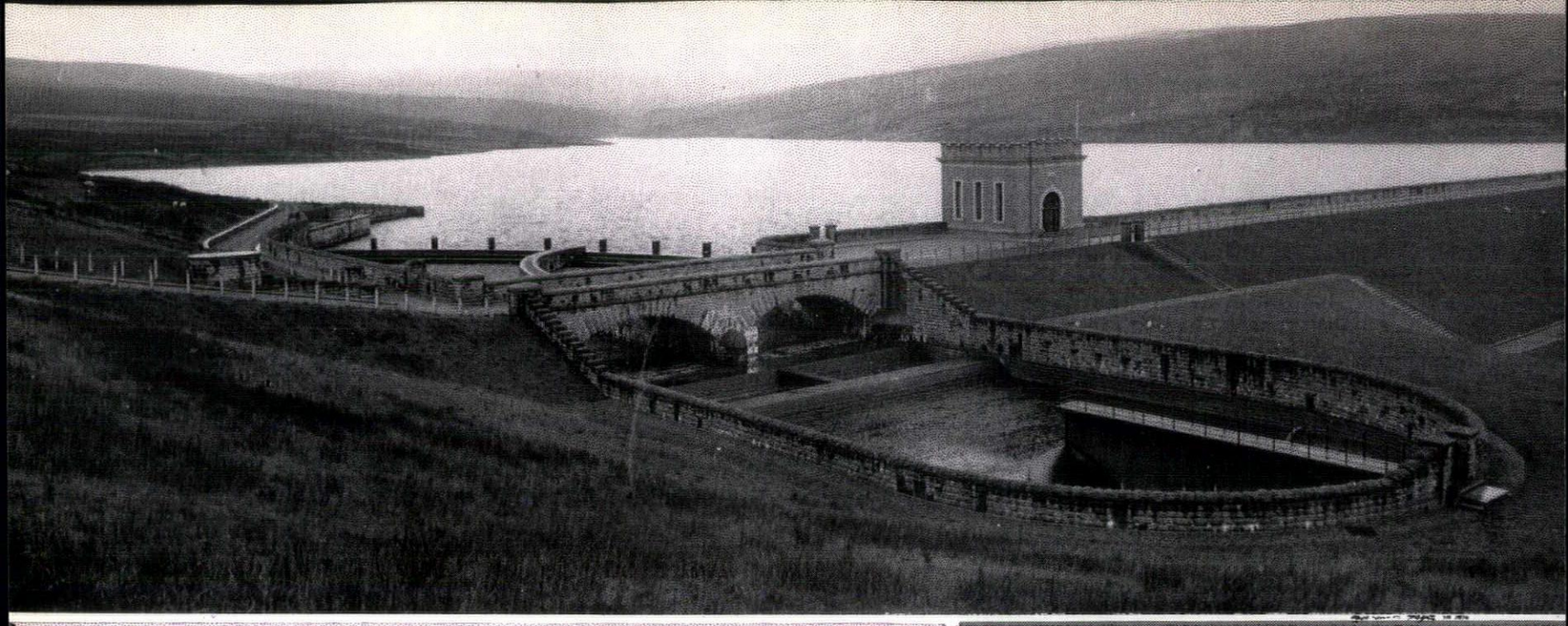
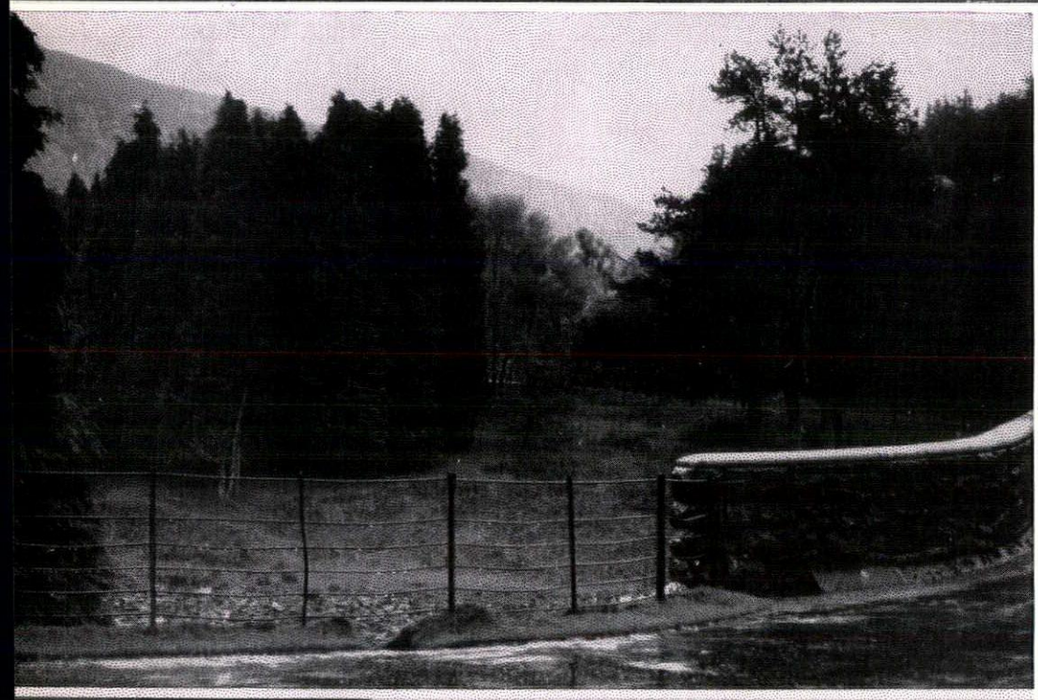
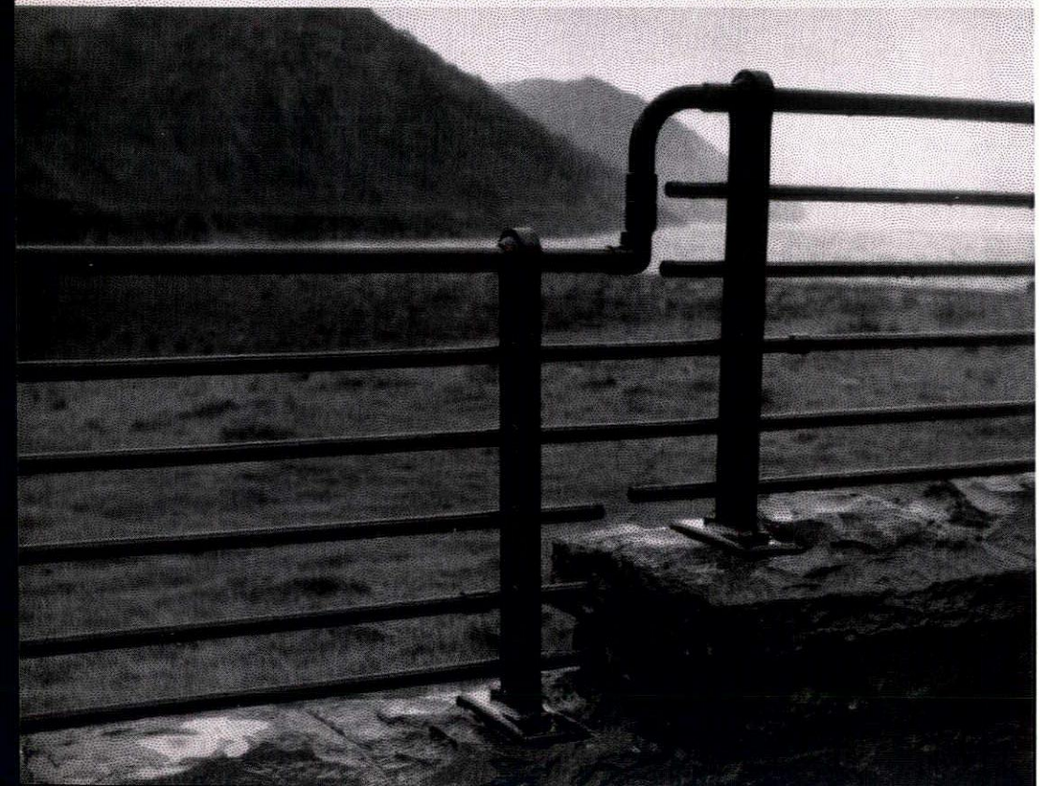






1

RESERVOIRS

Large areas of water in a landscape can be a great scenic asset; thus water collection and storage presents great opportunity. More often than not, the opportunity is completely mishandled. As the larger reservoirs are nearly always sited in wild country the problem of their design demands sensitive handling since there are all too few wild areas left in Britain. Inevitably, the essential character of a landscape of lake and mountainside demands either that the hand of man shall pass unnoticed or else be bold, clean and, very important, not destroy the existing scale. Lapses into prettiness or vulgarity stand out as an immediate affront.

2

The intrusion of ponderous municipal building into an otherwise wild landscape (1) is a typical outrage on the scenery, which completely destroys its remote, primitive atmosphere. To obscure all view of the water by thick funereal clumps of black conifers (2) or to plant them in an artificial manner with regular spacing along the water's edge is another. To bar the immediate foreground by a forbidding municipal railing which says 'Keep Out' is a third.

3

Sylvia Crowe and Kenneth Browne

Reservoirs

The vital need for adequate water collection and storage in this country is responsible for ever increasing canalization of the waters of natural streams and bogs. This has caused major geological changes but, in addition, the diminution of streams and waterfalls is a very definite scenic loss. Can we consider that the reservoirs have given the landscape a compensating advantage? Theoretically these great sheets of water should form magnificent elements in every type of country. In the case of Lake Vrynwy, parts of the Elan valley complex, and, in lowland Britain, the Aldenham reservoir, they have realized their potentialities. But sometimes by reason of genuine technical difficulties, or, more often, through lack of understanding and vision, reservoirs either make no contribution to the landscape or fall far short of what they might achieve.

The most famous complex of reservoirs in the world is probably that of the T.V.A., but to use these as an example of what may be accomplished is to ignore some very real technical difficulties. The chief use of the T.V.A. reservoirs is for the storage of water for irrigation and the collection of a water-head for the provision of power. These uses allow a freedom of public access which would be dangerous in the case of reservoirs used for the storage of drinking water. This need to keep the water uncontaminated lies behind many of the missed scenic and recreational opportunities in this country; it is the reason for the fencing, of varying degrees of repellence, and, in some cases for the total prohibition of access even to the gathering grounds. Another difference from the T.V.A. is in scale. In the larger setting, the ancillary buildings and machinery, if well designed, can fit into the landscape without challenging its grandeur. But in the small scale mountains of the

British Isles these constructions often take on an undue weight in the general scene. For the same reason details which would be lost in the grander landscapes become features of importance. For instance, an unsightly shore line revealed by the rise and fall of water level, essential in any storage reservoir, can be sufficient to mar the whole appearance of the lake.

These difficulties can be at least partially overcome.

With proper precautions, it has been found that total prohibition of access is seldom necessary.

The ancillary constructions can be kept subordinate to the general scene by simple design, careful siting and the use of landform and planting to tie them into the surrounding landscape.

The harsh margin built of exposed concrete or stone blocks can be replaced by a natural shore, partly by siting the reservoir so that it lies naturally within the landform, instead of taking an arbitrary shape arrived at by blasting away headlands and filling hollows, and partly by allowing the water level to rise and fall against gently sloping shingle beaches in the bays, and sheer walls of natural rock on the headlands.

But even more disturbing than insensitivity in the engineering works are the misguided efforts at amenity which build round islands in unnatural positions, plant garden groups of rhododendrons and thujas on wild mountain sides, and dress up honest dams with minarets and cupolas.

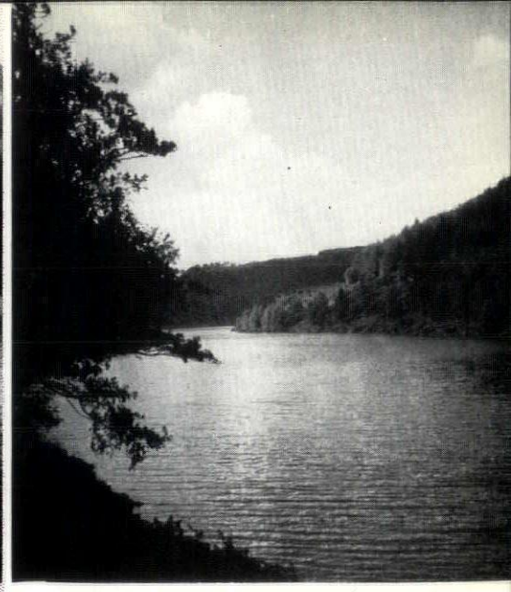
Worst of all are the black spiked railings, ugly, urban and ubiquitous.

But if in the hill-lands these reservoirs require only sympathetic handling to make them into a landscape of lakes, lying naturally cupped in the hills, a very different problem is set by the storage reservoirs which abound in the river valleys round London. On the map these appear as an exciting complex of great sheets of water. In fact, seen from ground level they are a series of harsh square embankments, surrounded by fences of varying degrees of repulsiveness. The embankments are unavoidable, for the water is stored above the level of the surrounding ground. The fences reflect a genuine need under these circumstances to protect drinking water in a densely populated area. Can the reservoirs be made to play any part in the landscape? From near at hand, contouring the outer sides of the retaining banks and planting with subjects whose roots would not interfere with the clay core could transform the paths which often lead between the reservoirs into pleasant walks, although the water would in most cases not be visible. But the value of distant views of the water from high ground can be seen from certain back streets in Chingford and to better advantage from the flats lately built at Seven Sisters. With the prospect of higher buildings, great areas of London, otherwise lacking in open space, could be given views as spacious as the seaside.

design problems

margins often consist of a hard concrete or stone ramp, square cornered and fringed with dark conifers, 4. All is artificial, but weakly so, and no attempt is made to come to terms with the countryside beyond. In other cases, where advantage has been taken of the contours, the margin may appear to be perfectly natural and the planting goes back in depth to link with the surrounding hills, 5.





4, 5

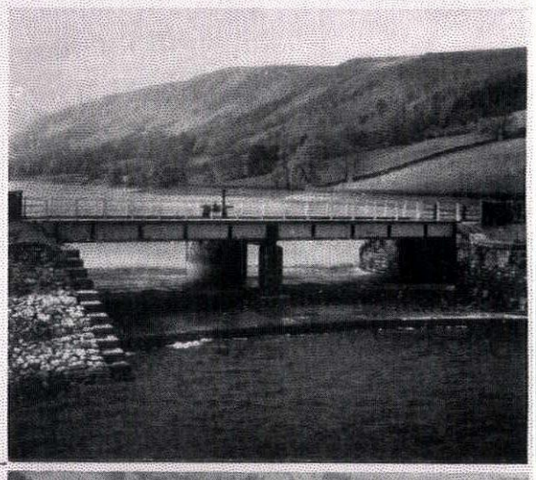
filter beds and their associated buildings cannot be avoided but the black municipal railings which go with them can and the approach to many reservoirs is ruined by them, 6. Suitable planting can be used to assimilate the buildings and clutter, whilst fencing should only be used where absolutely necessary and then be either in local materials, 7, or else set back from the road behind planting.

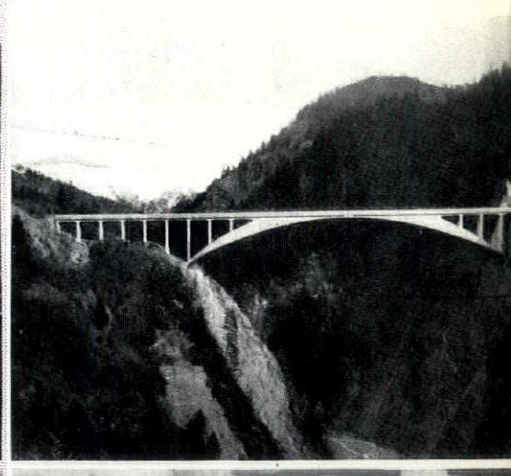




6, 7

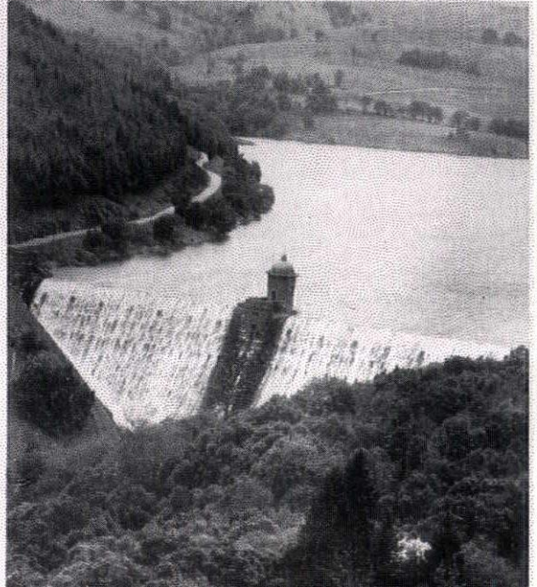
bridges are often extremely clumsy and 8 is better than many, but it is surely time that some exciting forms in steel or concrete, 9, were seen in this connection.

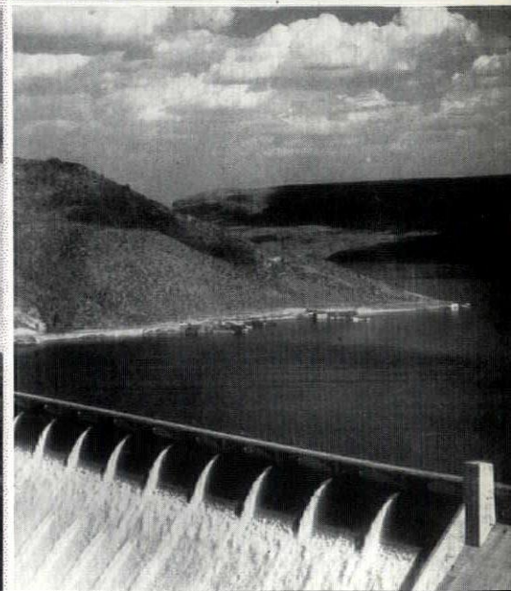




8, 9

dams are frequently treated in a whimsy and incongruous manner, quite out of harmony with the setting, 10. A clean piece of engineering, 11, can be a real contribution by man to the landscape. + instead of —.





10, 11

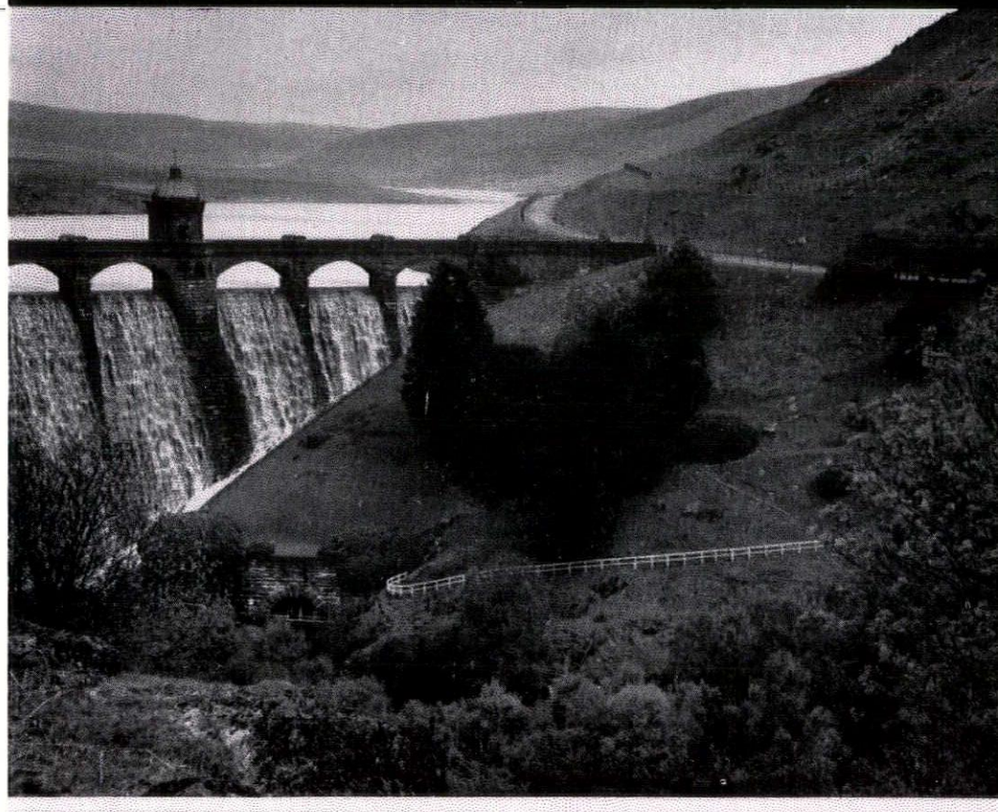
A landscape of lake and mountain will not tolerate prettiness. Man must either make a bold contribution to the landscape or his hand must pass unnoticed. The Elan valley reservoirs, for instance, provide many examples of incongruous intrusion in a wild landscape.

congruity The upper Elan reservoir lies naturally cupped in the bare hills and civilization seems remote, 12.



12

. . . yet only ¼ mile farther down the valley the scene changes considerably, 13.



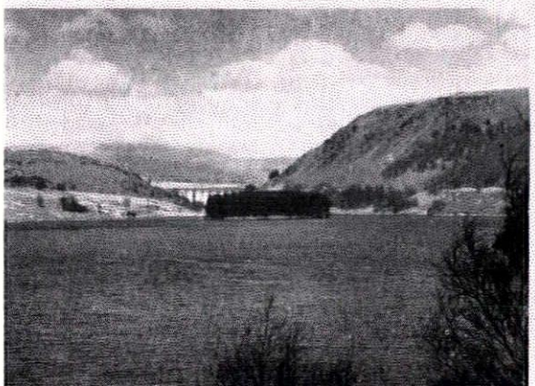
13

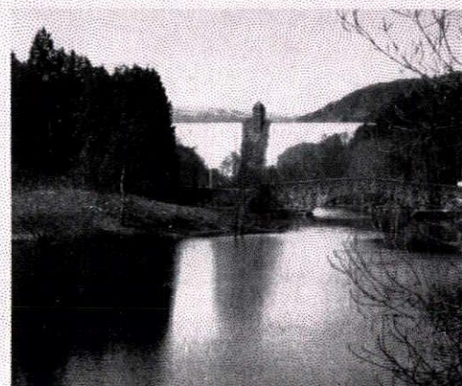
incongruity The hills of the previous photograph still form the background, but the foreground is all man made—the contrast is not a pleasing one for the intrusion is pretty and trivial; the mosque topped dam, grouped conifers, round blobs of rhododendron bushes and white painted fence, bring an Ideal Home garden to the Welsh hills.

From 1½ miles lower down the valley the view of the falls is almost completely blocked by a misplaced amenity in the unnatural shape of a round island man made and packed solid with black conifers, 14. The trees crowd, like survivors on a lifeboat, in contrast to the sparsely planted hills around, making the whole scene ridiculous.

In 15, another mosque-like tower turns what could be a fine view, with its contrast of falling water and massed trees, into a pretty stage scene.

In several parts of the Elan Valley





14, 15



16



17

we are confronted by the most uninviting scenery, 16, where crude concrete and wire fencing and massed conifers create a forbidding atmosphere in contrast to the attractive and apparently natural lakeside scenes farther along the valley, 17.



18



19

urban storage

generally suggests a landscape of harsh embankments and prison railings with no view of the water, 18. However, by contouring embankments and planting them naturally with gorse, broom, and hazel, and by keeping railings back from the footpath, and masking them by planting, the landscape could be transformed, 19.

From high level these reservoirs provide a feeling of spaciousness and in siting tall buildings this should be borne in mind. The view from the LCC flats at Woodberry Down, 20, shows the lakeland of London which no one on the ground can see.



20



1, *the entrance from the north-east.*

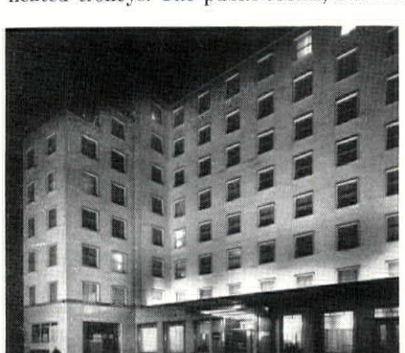


typical upper floor

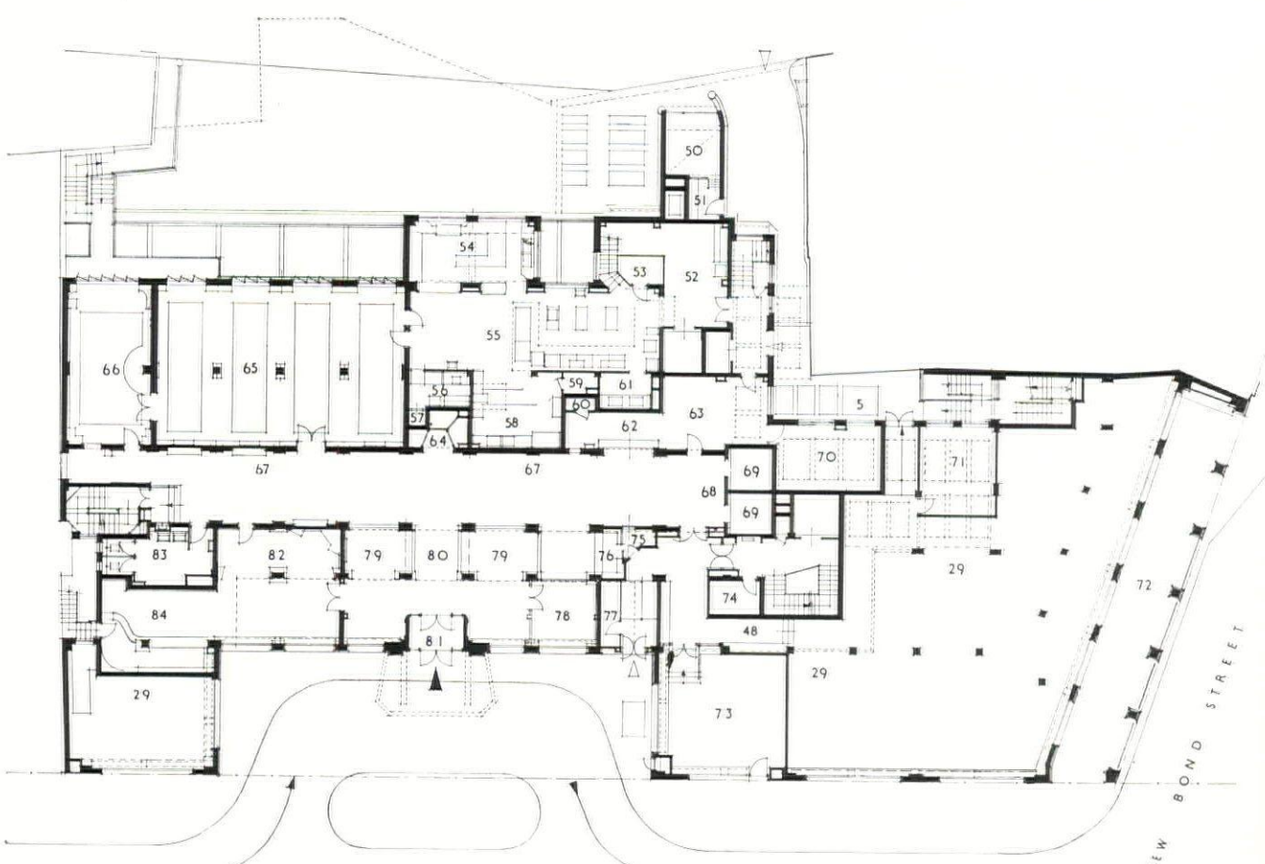
HOTEL IN BOND STREET, LONDON, W.1.

ARCHITECT: MICHAEL ROSENAUER

The Westbury Hotel on Bond Street and Conduit Street is the first hotel to be built in London for over 20 years. Though owned by the Pearl Assurance Company it has been built specifically for the lessees, the Knott Hotels Corporation of America, who will run it primarily (but not exclusively) for the use of Americans staying in London. From the planning point of view the hotel differs from the pre-war hotel type, chiefly in the development of the idea of the bed-sitting room and of room service. Thus, though there are 219 bedrooms, the dining room accommodates only 90, and the area of public rooms is proportionately small. Part of the kitchen is devoted exclusively to room service: food being carried from there to the bedrooms, via a service lift, on specially heated trolleys. The public rooms, but not the bedrooms, are fully air-conditioned. Each bedroom has its own bathroom. The structure is of reinforced concrete clad on the main elevation with 9-inch brickwork and 3-inch Portland stone—which on the ground floor is replaced with Roman stone and at plinth level with Aberdeen granite. All external windows are of aluminium.



2, *by night, from the north-west.*



ground floor

Hotel in Bond Street, London, W.1.

key

basement

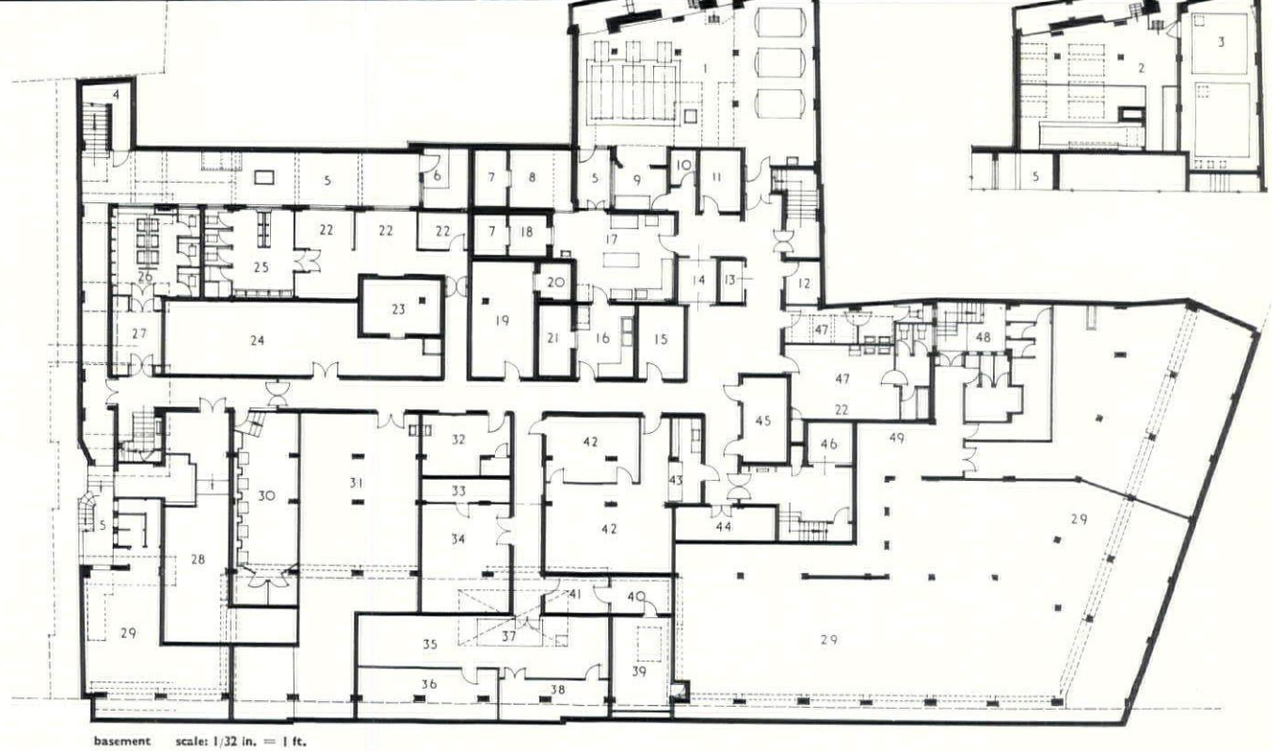
1, boiler house.
2, pump gallery.
3, fuel store.
4, paint store.
5, area.
6, refrig. plant room.
7, deep freeze.
8, meat store.
9, ice making machine.
10, pneumatic tube plant.
11, water softener plant.
12, silver cleaning room.
13, goods lift.
14, service lift.
15, tel. equipment.
16, veg. preparation.
17, butcher's shop.
18, fish store.
19, dry goods store.
20, dairy store.
21, veg. store.
22, lockers.
23, cold room.
24, wine store.
25, lavatories, male staff.
26, gentlemen's toilet.
27, shoeshine.
28, air conditioning plant room.
29, letting space.
30, barber's shop.
31, linen store.
32, engineer's office.
33, store.
34, workshop.
35, furniture and trunk store.
36, china, glass and stationery store.
37, ejector room under.
38, meter and interceptor room.
39, transformer room.
40, battery room.
41, intake room.
42, staff dining room.
43, servery.
44, dry refuse sorting and storage.
45, lift well.
46, luggage lift.
47, staff and goods entrance.
48, corridor.
49, corridor.

ground floor

50, refuse bins.
51, bin wash.
52, room service.
53, chef.
54, wash-up.
55, kitchen.
56, wine service
57, wine lift.
58, hors d'oeuvres.
59, cold store.
60, safe.
61, pot wash
62, reception and cashier.
63, office.
64, telephones.
65, restaurant.
66, tea room.
67, gallery.
68, shift lobby.
69, pass lifts.
70, office.
71, manager's office.
72, arcade.
73, B.O.A.C. booking office.
74, parcels and baggage.
75, tickets.
76, bookstall.
77, luggage.
78, private lounge.
79, lounge.
80, lobby.
81, hotel entrance.
82, cocktail lounge.
83, ladies' cloaks.
84, bar.

typical upper floor plan

85, room service.
86, single bedrooms.
87, double bedrooms.
88, valet room.



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

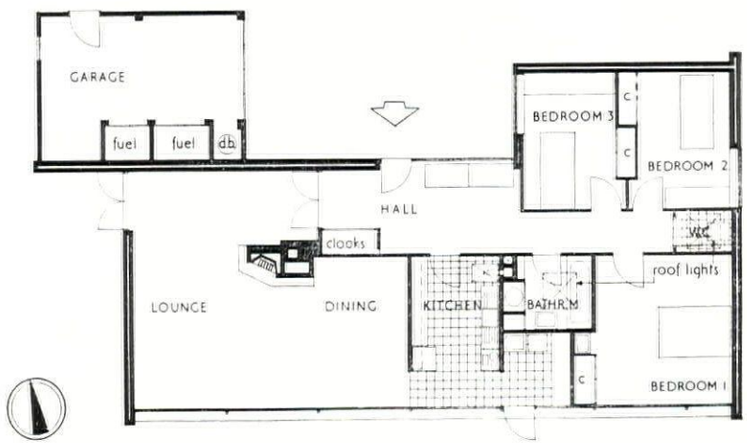


HOUSE AT CHORLEY WOOD, HERTS.

ARCHITECT: C. B. RATCLIFFE

This single storey house at 49, Grovewood Close, Chorley Wood, was designed by the architect for his own occupation. The main axis is east to west, and the south wall is almost entirely glazed to gain maximum sunshine. The house is partly steel framed, and solid external walls have an outer skin of 2-inch Dutch facing bricks and an inner skin of 4¼-inch breeze blocks. Floor finishes in the living room, hall and bedrooms are of dustproof cement screed. Heating throughout is by floor panels consisting of iron pipes embedded in the 4-inch

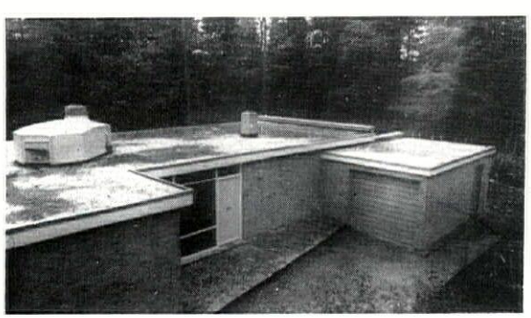
3, *the garden façade from the south-west.*



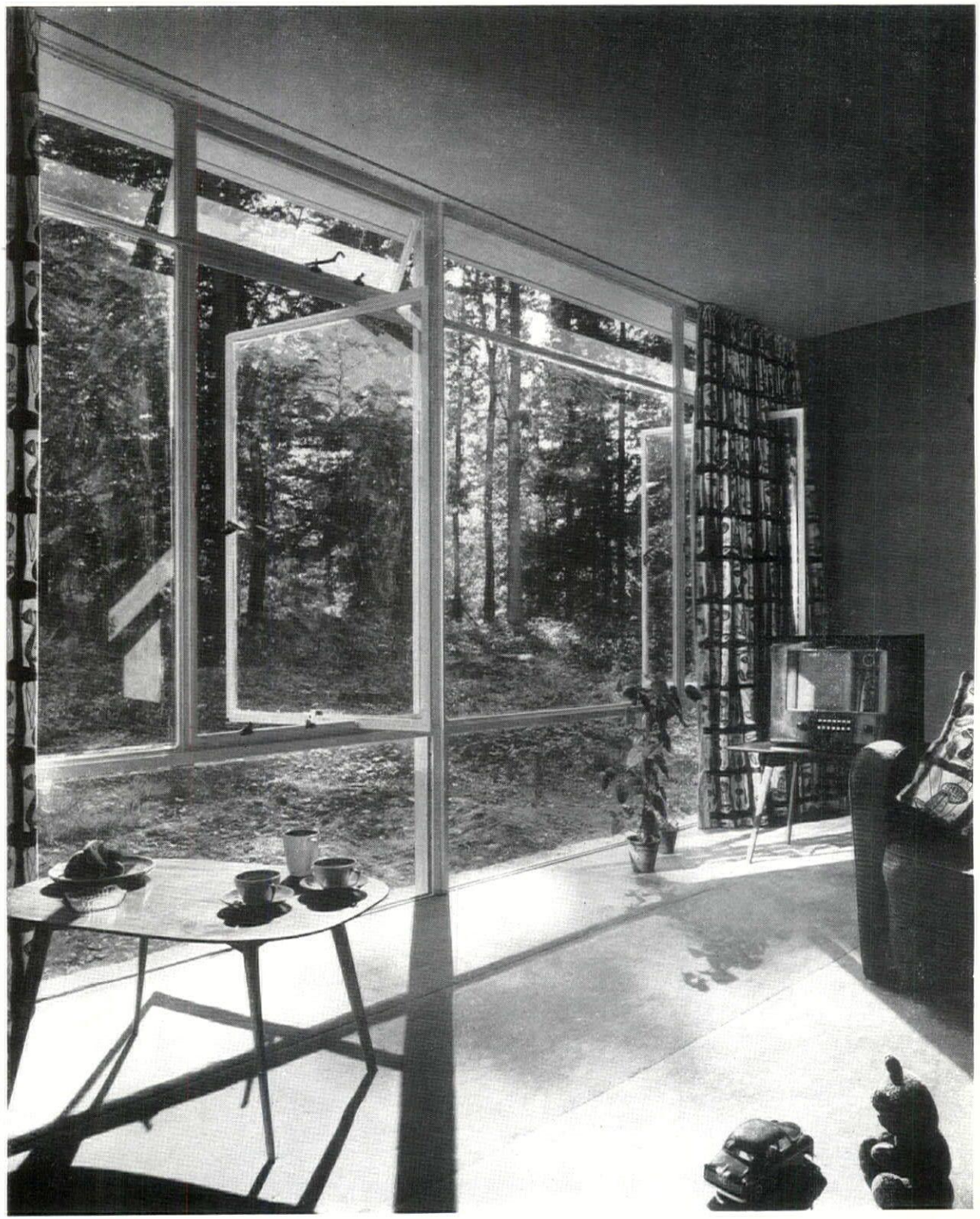
ground floor plan scale: 1/16 in. = 1 ft.

House at Chorley Wood, Herts.

thick concrete foundation slab, with supplementary wall panels. To form a heat barrier around the perimeter of the building for the floor slab, 1-inch thick cork slabs 2 feet wide were stuck to the site slab with hot bitumen, and a 6-inch upstand of cork was also provided.



5, the main entrance at the north. The garage is on the right.



4, the south wall of the living room.

EDITORS ONLY

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

PRESTIGE EXHIBITIONS

The absence at international prestige exhibitions of officially sponsored exhibits from Great Britain has received some airing in the press. In a letter to *The Times* of January 6, Sir Kenneth Lee explained that 'The Board of Trade is responsible for our information stands at Trade Fairs, the British Council for exhibitions of fine art,* and a British Pavilion at a large international exhibition is co-ordinated by the Central Office of Information under the authority of the Foreign Office. But no one appears to be responsible for prestige exhibitions of British goods abroad.'

The most conspicuous gap is always at the Milan Triennale, where large and lavishly arranged exhibition rooms house the products of France, Germany, the Scandinavian countries and so on, and where the British, lacking official support, are represented, if at all, by valiant private enterprisers whose resources are inevitably more restricted than those of governments, and whose efforts tend therefore, however good in detail, to look pathetically modest by contrast.

That the exhibition at Halsingborg, Sweden, which opens next month, will include a British section in scale with those of other countries is still not due to official help, but this time to organized private enterprise, inaugurated by Sir Kenneth Lee's letter referred to above.

At present there is no sign that officialdom is arousing itself to correct this unfortunate state of affairs. The baby is still handled like a hot brick. 'No money' cry the Board of Trade, the British Council and the Foreign Office, 'outside our terms of reference' the Council of Industrial Design. In fairness it must be said that the last-mentioned body is always ready to offer help whenever and wherever it is permitted to do so; the organizing of the Halsingborg exhibit, for instance, is being undertaken by the COID.

Why, then, cannot the terms of reference of the COID be enlarged to include prestige exhibitions abroad? Since its raison d'être is propaganda for better design in Britain, it would seem both logical and efficient that propaganda abroad of the improved standards it has helped to create should also be its responsibility. **Ian McCallum**

* Unless special funds are made available to them for exhibitions which include industrial design, as was the case recently at Zurich and Bulawayo.

BOOKS

WREN: SHORT AND LONG

SIR CHRISTOPHER WREN. *By John Summerson. Collins Brief Lives series,* 8s. 6d.
WREN, THE INCOMPARABLE. *By Martin S. Briggs. Allen and Unwin.* 35*s*.

By current standards, both in literature and psychology, the *Brief Life* is an unlikely size and shape for a biographical study to take, yet it is almost the ideal instrument for the biographer of the creative artist, whose works, unlike the empires of the sword and pen, enjoy a material persistence. The model is Vasari, and although there is missing from Mr. Summerson's book that sense of living under the long shadow of departed giants—Leonardo and Michelangelo—which animates the triumphant gloom of Vasari, he is able to compensate with a sense of balance and a psychological subtlety which the Aretine could not command. This is Wren seen plain, as well as in the round, and his character, both as man and as architect, is examined in the light of the available evidence, rather than in terms of some extraneous standard of judgment. The increased mobility of mind which this affords makes it possible to put the whole of this complex personality into the picture, and to attempt to explain those alterations of temperament which turned the boy genius of mathematics first into an astronomer, then an anatomist, then into a structural engineer, and, with ripening years, into a genius of architecture.

These changes of mind are the nodal points of his career, and must be dealt with convincingly—it will no longer suffice to offer us the multi-headed *zeitgeistlich* simulacrum of the 'all round genius of Baroque science' complete with membership of the Royal Society. Mr. Summerson gives us strong hints of a changeable personality looking for a field in which to 'make a figure in the world' and finding it in the area which had been barely cultivated since Inigo Jones's death—and if this figure of a Baroque adventurer of the intellect is not quite respectable from some 'historical' points of view, it is infinitely more probable from a human and psychological one.

Mr. Summerson has conjured up his mighty ghost in an easy and comprehensible manner—if only one could say as much for Mr. Briggs! His book is an accumulation of documentary sources almost unrelieved by exposition or interpretation. As a florilegium of relevant quotations from and about Wren, it is very useful, although it contains some gratuitous historical inaccuracies, but having read it one would still have to be Mr. Summerson to draw from it a clear picture of its subject. By means of a few ingeniously selected plans, and a half page of apposite description here and there, the author of the *Brief Life* is able to give a lively generalized characterization of Wren's architecture, but this Mr. Briggs, in his unquestioning adulation, fails to do in much greater bulk. Unable to illuminate his material with any opinions of his own—even that of Wren's incomparability he owes to John Evelyn and Nicholas Hawksmore—he is doomed to lie buried beneath his sources, a victim of his own industry. A comparison of these two architectural biographies could teach some salutary lessons to those intending to write Lives—architectural or otherwise—and a study of Mr. Summerson's book is essential to anyone who desires a better insight into the seventeenth century, and the greatest of the architects who lived to see the century out. **Reyner Banham**

THE AMERICAN DESIGNER

SURVIVAL THROUGH DESIGN. *By Richard Neutra. Oxford University Press. New York.* $5.50.

In this long book, Mr. Neutra has collected and refashioned a number of essays on the subject of design written over several years. His essential thesis is that the human race will be overwhelmed by the uncontrolled advance of technology unless much more experimental information about man's reaction to his environment is obtained and imaginatively used by architects. To have the ideas of so sensitive an architect is extremely valuable and few people would quarrel with Mr. Neutra's aims, but the book is fairly heavy going, particularly for English readers, being in the learned written style of American with its strange mixture of slang and impossible abstractions. It is somewhat surprising, for instance, to meet St. Ignatius Loyola as 'the sixteenth century representative of practical reflexology.' The book is also quite without construction; the same ideas are expounded over and over again and no effort is made to impose a logical sequence.

Mr. Neutra is at his best when he is nearest to architecture—his description of the construction of the Golden Gate Bridge is

excellent—but unfortunately he is far away for most of the time. All the main modern preoccupations: psychology, physiology, biology, sociology come in, but they do not seem to have been assimilated into any consistent world-view. There is also a good deal of very doubtful history. Mr. Neutra seems obsessed by the insecure position of the architect in the United States and determined that he shall be given, as a result of physiological experiments, some irrefutable and objective design-data which will convince even the roughest politicians and business men. He advocates fact-finding about human behaviour with almost religious intensity, but it is hard to believe that any very significant work of art could spring from the statistical comparison of 'quantitative analyses of the end products of glandular activity.' But, of course, it is not at the typewriter but at the drawing board that Mr. Neutra will make his ideas prevail. **J. H. V. Davies**

NEO-CLASSIC CHARMER

ANGELICA: A BIOGRAPHY OF ANGELICA KAUFFMANN. *By Adeline Hartcup. Heinemann.* 21*s*.

Angelica Kauffmann presents an interesting problem to the historian of taste. Her paintings were almost universally admired in the eighteenth century. She started without any advantage of birth or education, yet she was welcomed with open arms by the greatest academies of art as well as by the highest ranks of society, in an age when society did not readily accept artists unless their achievement was outstanding. Why then do her works appear so insipid today?

Unfortunately Mrs. Hartcup throws no light at all on this problem. She describes her book as 'the portrait of an artist,' adding disarmingly that she has no intention of assessing Angelica's art, since she is concerned only with those 'nuances of personality, mood and background by which a portrait brings its subject to life.' Unfortunately Mrs. Hartcup's acquaintance with her subject's background—which was, after all, the artistic life of London and Rome—is so superficial, so obviously 'worked-up' for the occasion of this biography, and sometimes so inaccurate, that no living portrait of an *artist* emerges at all; only some disconnected notes about a woman of charm. Even where her heroine is concerned Mrs. Hartcup is far from reliable. Her reference to 'Angelica's paintings' at Mrs. Montagu's house in Portman Square, 'said to have been done in 1781' when the house was built, is more unfortunate than other such slap-dash statements, because she rests a discussion of late eighteenth century taste upon the point. It is known that these paintings were the work of Biagio Rebecca and date from considerably later than Stuart's original decoration of the house.

Amongst Angelica's earliest successes was her portrait of Winckelmann, painted at Rome on the eve of the publication of his *Geschichte der Kunst des Alterthums*. This really sets the key-note of her art. For the publication of that book proved a turning point in the history of neo-classicism, and it is as a popularizer of neo-classic idiom that Angelica's immense success was achieved. Those artists who were her greatest admirers, Fuseli, Benjamin West, Goethe, and even Reynolds, were all protagonists of neo-classicism. They were clearly not fools led astray by a pretty face or a charm of manner; they merely exemplify the type of weakness to which even the most informed contemporary judgment is prone. There can be no doubt that Angelica's feeble pastiches of classical themes echoed for them with a genuine note to whose overtones our ears are no longer attuned. A serious study of Angelica's art against the background of neo-classical theory and practice should prove illuminating to both. Mrs. Hartcup's book adds nothing to our knowledge of either. **Francis Watson**

Shorter Notices

DAS PUNKTHAUS IM EUROPÄISCHEN WOHNUNGSBAU. *By E. F. Sekler. Abhandlungen des Dokumentamonszentrums für Technik und Wirtschaft, No.* 16, *Vienna* 1952.

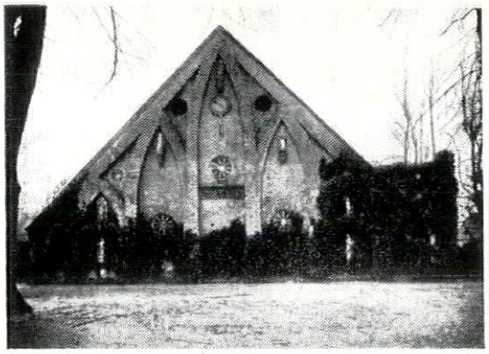
Dr. Sekler is known to readers of THE ARCHITECTURAL REVIEW for his studies in the history of the staircase. An article on the subject appeared in the REVIEW for May, 1951. He has now completed a book on Sir Christopher Wren which will be published in Vienna. It is rare for architectural historians to research at the same time into topical problems of building, and so Dr. Sekler's account of point blocks from Drancy to Harlow deserves special notice. It is mimeographed and paper bound, competently done, illustrated by many plans and provided with an English summary. **N.P.**

CASTLES OF GREAT BRITAIN. *By S. Toy. Heinemann.* 25*s*.

In 1939 Mr. Toy published a brief account of European castles. He has now followed this by a more detailed study of British castles. Comparisons will naturally be made with Mr. Braun's book of similar content which came out in 1936 and with Professor Hamilton Thompson's scholarly volume of 1912. The latter is still indispensable, for instance for the bibliographical footnotes. It would indeed be a great addition to the value of Mr. Toy's book if in a second edition he would fully annotate his statements. We are in urgent need of a bibliographic summary of literature on castles since Hamilton Thompson. Mr. Braun has the better photographs and writes for a wider public, but Mr. Toy's drawings of the plans of castles are extremely valuable. His treatment of the Anglo-Saxon centuries will no doubt be challenged. This is not the place to do so. What may disappoint the general reader is the arrangement which Mr. Toy has chosen. It amounts over long stretches to a catalogue with castle following castle, and no more than an occasional paragraph or two every ten pages or so to link up the list. There is no distinction for instance between hall-keep and tower-keep, between halls on the ground floor and on the upper floor, between the Harlech type and the Bodiam Lumley type and so on. The dating of the halls at Stokesay (c. 1240) and at Haddon (early fourteenth century) is surely fifty years too early. **N.P.**

GOTIK OHNE GOTT. *By Alfred Kamphausen. Matthiesen Verlag Tübingen* 1952.

Gothic without God is the title chosen for a small book dealing with the significance of the Gothic Revival. The material, especially on the English side, is far from complete, but interpretations and analyses (in the German art-historical tradition) will be of interest to readers in England,



Barn at Niendorf Manor near Lübeck, c. 1820, *now demolished. Here is an example of how remarkably twentieth century the early nineteenth could be in Germany and especially the circle around Schinkel.*

and there are also plenty of German works which have so far remained unknown over here, for instance the remarkable barn formerly standing at Niendorf near Lübeck and illustrated here. It is dated by Dr. Kamphausen c. 1820. **N.P.**

CRITICISM

GAIETY RECONSIDERED

The recent competition (judged in February) for a new office block on the site of the Gaiety Theatre in the Strand, London, for the English Electric Co. was limited to nine of the more enterprising of our established architects. It is never easy to draw general conclusions from the results of open architectural competitions. The entries which seriously represent the ideas and convictions of the profession are swamped by the productions of the lunatic fringe, of the aspiring student whose work reflects nothing but his own inexperience and of all those competitors who hope that a façade of banalities and clichés will be accepted as a substitute for the proper analysis of the problem.

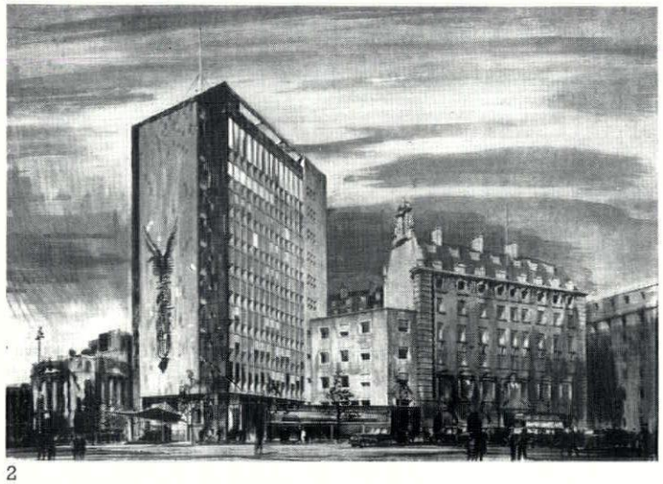
A limited competition is another matter. The designs come from architects who are chosen because they are expected to have something to contribute, and their solutions often throw light on the various and conflicting directions in which architecture is moving. So it proved in this case. Banalities and clichés were by no means absent, but along with them went several ideas and experiments that provide a real contribution to the problem set by the big office building on a crowded city site. Another reason for welcoming the results is that the winning design was undoubtedly the best.

The site posed several difficult problems, especially those concerned with the relationship of a new city building to its neighbours of different periods and styles,

1, the winning design by Gordon Tait, in the English Electric Company offices competition. 2 and 3, the two designs commended by the assessors, by Basil Spence and Adams, Holden and Pearson respectively.



1



2



3

and with the degree to which it is desirable to design with an eye on future rebuildings, ignoring any unbalance of effect that may be created until these take place. For this site, at the corner of Aldwych and the Strand, is now undergoing considerable changes: in particular, a traffic roundabout is to be created at the junction of Wellington Street and the Strand which will demand an imposing scale in the buildings surrounding it if the enlarged open space is not to dominate the architecture (instead of vice versa, which should be the case in a town).

The ten-storey tower of Mr. Gordon Tait's winning design, 1, rising behind a lower block which, placed at right-angles to it, presents a short vigorously fenestrated face to one side of what will eventually be a pentagonal open space, promises to do this effectively. In its impersonal contemporary fashion it will provide as interesting a termination of the western Strand as Norman Shaw's rounded, colonnaded exercise in late Victorian baroque, which it will replace.

Another problem is how much notice to take of an established lay-out when its quality and style are not such as to deserve perpetuating at all costs. The triangular site forms part of the symmetrically planned Aldwych-Kingsway lay-out, and on paper it might seem undesirable to break the line of the crescent, which is what the winning scheme with its open type of planning does. But in practice the Aldwych island site does not read at all effectively as a unified piece of formal planning. Owing to the varied skylines and styles of architecture, and the breaks that occur in the southern frontage of Bush House, the view along the Strand past St. Mary's church is romantic rather than classical, and even the view up Aldwych (this is the side of the winning design depicted in 1) should be improved rather than disturbed by a vigorous upstanding block at its western end.

Efficient use of the site as an office building, moreover, also demanded an open plan rather than a plan that followed the existing street frontages. In their report, the two assessors of the competition, Sir Percy Thomas and Mr. J. Murray Easton, comment on the winning design thus:

> 'The rectangular block on the axis provides the most satisfactory solution to the problem—it avoids the drawbacks of an internal courtyard and long communicating corridors, and the setting back of the central block must reduce the noise of traffic in the offices. . . . In form and mass it is simple and impressive. . . . On the ground floor a large entrance hall, approached either by foot from the Strand or by car from Aldwych, links up directly with the existing entrance hall in Marconi House' (the other Norman Shaw building next door, of which the new building is, in effect, an extension) 'and the two new lifts being adjacent to those in the existing building, become part of a well-placed vertical circulation. . . . All the offices are well lighted and suitable for dividing up by movable partitions.'

It is surprising that of the nine competitors, five nevertheless sent in designs built up round the perimeter of the site, usually with internal courtyards of the kind it is surely agreed is obsolete for buildings of this kind. Presumably their authors were hypnotized by the existing building lines which, as I have said, look on paper as though they should not be broken into. Two designs were commended: that by Basil Spence, 2, and Adams, Holden and Pearson, 3. The former is a vigorous attempt, even more emphatic in character than the winner's, to live up to the scale demanded of this key site with its new traffic roundabout. Mr. Spence's spine block takes the form of an

almost isolated tower, with a windowless sculptured face to the Strand, joined to Marconi House by low linking blocks; also by single-storey shop windows, which latter seem to be the least satisfactory part of the scheme. They fill in the corners at the pedestrian's level, just where the open treatment of the site most needs to be made apparent to the eye.

The scheme by Adams, Holden and Pearson has the street frontages built right up to a height of eight storeys, enclosing a courtyard. The practical drawbacks of this type of plan are obvious, and the assessors point out that it involves two main vertical circulations instead of one. Its visual drawbacks are evident in the perspective, 3, the somewhat forbidding scale (note how it overpowers the classical buildings on the opposite side of Aldwych, seen at the extreme left of the picture) being aggravated by the use of cornices and other classical features, introduced, it must be assumed, so that the building should be 'in keeping' with its surroundings. It is an ironical fact that a cautious compromise with the style of adjoining buildings is generally more destructive in its effect than a clean breakaway from it.

This comes out most clearly when we look at the effect of this design on the façade of Marconi House. The assessors comment that the authors of this scheme have obviously attached great importance to the integration of the elevations of new and old. This 'integration' consists in fact of carrying on the old cornice, window and parapet levels, with the result that the old elevation loses its identity by being merged into a watered-down version of itself. A notable virtue of Mr. Gordon Tait's winning design, and Mr. Spence's, is that they leave the old façade visually uncompromised, letting new and old serve as foils to each other. In particular, the decorated gable, which is the feature of the old building most typical of its period, is allowed to remain and to play its part with full effectiveness. The Adams, Holden and Pearson design emasculates Norman Shaw by doing away with the gable altogether.

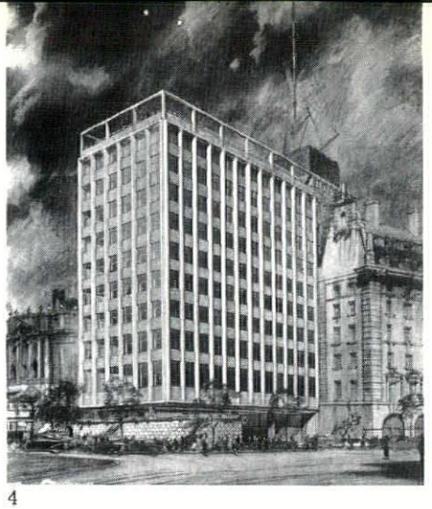
The other scheme in which the building occupies the centre of the site is that of Messrs. Farmer and Dark, 4. All the accommodation is compressed into a 10-storey rectangular block past the flank of which the gabled end of Marconi House will be visible in the view from the west Strand: a neat enough solution which does not seem, however, to pay enough regard to the silhouette of the whole, an important consideration on this key site.

With the exception of Mr. Aberdeen's monumental circular tower, 5, in which too much in the way of convenience in plan appears to have been sacrificed for the sake of the central idea, all the remaining schemes involve building up round the perimeter of the site. That of Mr. Louis de Soissons, 6, uses a more refined version of the Adams, Holden and Pearson idiom and is less overpowering in scale. The Norman Shaw gables peer somewhat unhappily over the parapets of the new building. So do they in Messrs. Yorke, Rosenberg and Mardall's design, 7, a straightforward, efficiently planned modern office block, a little lacking in character and with a splayed-out frontage towards the new roundabout which might give rather an awkward skyline when seen in perspective from any direction but straight in front.

The design by Mr. Michael Rosenauer, 8, seems to the writer to combine all the defects discussed above in reference to other designs, and to add to these a clumsiness of shape and proportion, a coarseness of detail and an emphasis on pretentious and meaningless ornamental features which bring to mind the sort of architecture that is being put up in so many other parts of London in the name of modernity. It thus serves to emphasize the refreshingly high standard set by this competition as a whole.

The design by Messrs. Farquharson and McMorran, 9, is in many ways the most interesting of those which did not receive a commendation, especially for its original treatment of the old building, part of which is incorporated, as it were, within the framework of the new. The characteristic gables have gone, but this is an example of integration by a positive act of design, not merely by lining up some features of one building with those of another. The new utilizes the scale, texture and colour of the old to set off its own qualities, as all urban architecture should, since the building up of a townscape is a continuous process spanning generations. New and old, moreover, have been given jointly a new scale appropriate to the new breadth of their eventual setting.

J. M. Richards



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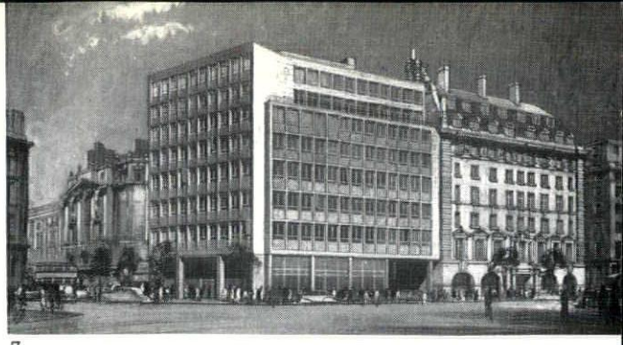
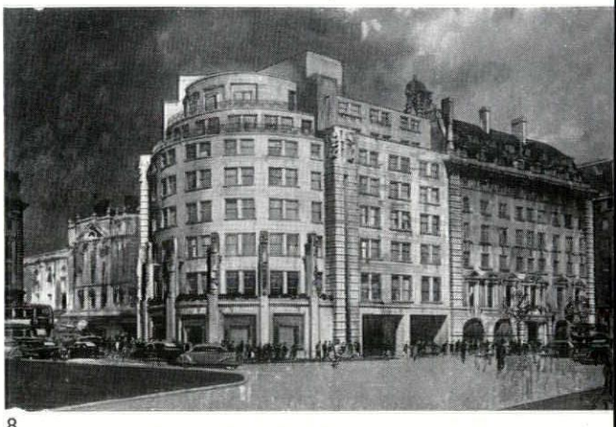


7



5



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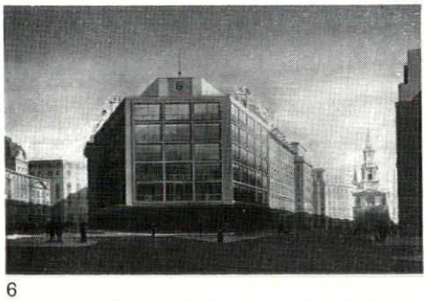

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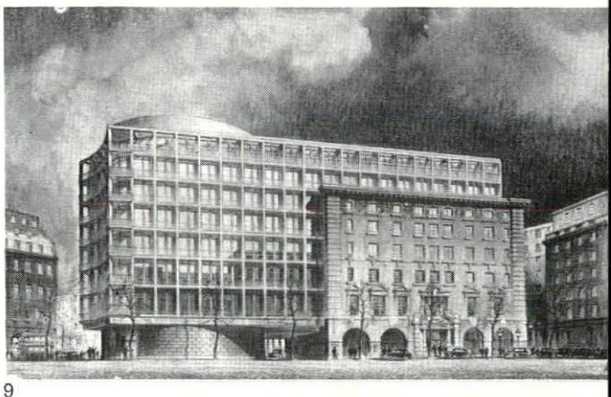


9

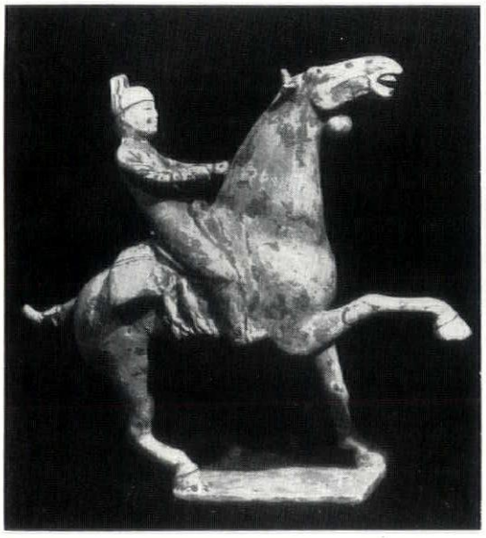
The remaining six designs submitted in the competition. 4, by Farmer and Dark; 5, by David du R. Aberdeen; 6, by Louis de Soissons; 7, by Yorke, Rosenberg and Mardall; 8, by Michael Rosenauer; 9 by Farquharson and McMorran.

EXHIBITIONS

PAINTING AND SCULPTURE

The sculptors of the T'ang Dynasty, carving in the service of Buddhism, perfected the image of serenity, and in the T'ang exhibition at the Arts Council there was a stone head, probably of the Buddha's favourite disciple, which one could not afford to dwell upon too long, for its smile did not acknowledge the necessity of one's other engagements. To Western eyes, the serenity of the great Buddhist images is more immoderate than the volcanic violence of the winged dragons in Korean tomb paintings, and one found oneself turning to the fine array of pottery tomb figures—the dancing girls and the prancing horses—for protection from the promise of Nirvana.

The T'ang horse—head tossing, off foreleg raised, game hanging from the saddle, 1, or, with off foreleg still raised, nibbling his own shoulder, or, with a long cloth hanging from the saddle, just standing—is so fascinating when centuries of burial have dealt harshly with the original colours, and the catalogue refers to 'vestiges of pigment,' that it is clear that its connections with the dead and its long sojourn in the 'underworld' play a part in our appreciation. These horses are wonderfully alive, and at the same time a bit phantasmal. The Chinese didn't set much store by them, and considered the

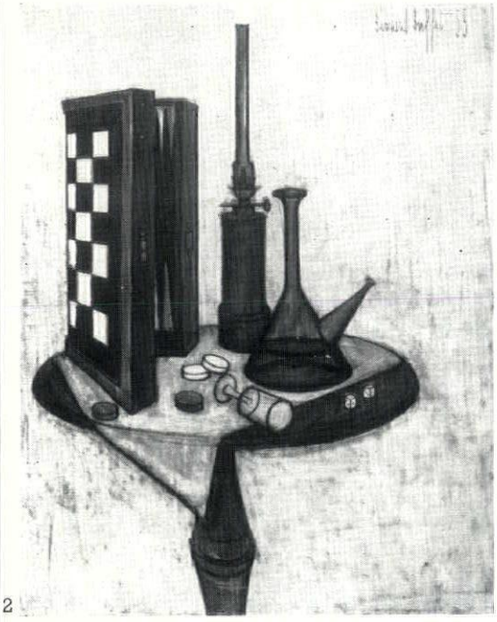


1

making of them to be a craft rather than an art, but it might be argued that the image that went into the tomb was not the same as the one that came out of it.

If, as it seems, the Chinese created purified and abstracted forms for the contemplation of the living, and provided animated and realistic ones for the comfort of the dead, it is a division which offers no argument for our constructivists, for the subtlest work of the twentieth century is equivocal, as befits a civilization hovering between life and death, and Picasso's monochromatic 'Guernica' with its spectral clash of energies is its emblem and its masterpiece.

Bernard Buffet, whose art derives directly from 'Guernica,' is only twenty-seven years old, but, apart from Picasso, he is the most accomplished of living draughtsmen, and the *nature mortes* which he recently exhibited at Arthur Tooth and Sons make it evident that he has become one of the finest of living painters. His still life with a backgammon board, 2,



2

painted in grey monotone with vestiges of colour, makes a virtue of anxiety. Out of the thinness of the objects, the confined space they occupy and the perilousness of their situation, Buffet has fashioned an image of what we call 'living on our nerves.' He offers neither consolation nor hope, but in presenting us with our predicament couched in terms of the utmost elegance he bridges the gulf between poise and tension, and gives the life we lead a kind of dignity.

Many excellent examples of the sculpture of Maillol have been on view at Gimpel Fils, but Maillol's conception of the nude has ceased to be impressive, for the time being, at any rate. He tried to make an art of monumental serenity by, so to speak, tidying up the forms of fine, strapping desirable girls, 3, but the results seem to occupy a limbo between the naked and the nude, and only the absurd and adorable pudding-basin hair-do keeps them in one's thoughts.

Josef Herman, too, tends to generalize



3

the figure without transforming it, and although his vigorous collection of drawings at Roland, Browse and Delbanco makes Maillol's drawings in sanguine seem slack and inert, his chunky stand-ins



4

for peasants and miners are no less monotonous than Maillol's modified girls. It is a fine rhetorical way of saying that peasants and miners are the salt of the earth, but its impact is reduced by each repetition, 4.

At the Marlborough's exhibition of works by the early twentieth-century masters there was a noble example of Braque's analytical cubism. In this phase of cubism, Braque and Picasso brought Western painting to the verge of mysticism, for they seemed to be on the point of finding the visual elements for a conception of diffused being. If, on the T'ang principle, we divided our art between the living and the dead, the Braque would be among the purified and abstracted works reserved for the living, and Kees van Dongen's 'La Chemise Noire,' 5, in the



5

same exhibition, is a painting that would undoubtedly alleviate the loneliness of the tomb for any gentleman who spent his youth in the first decade of the century.

Robert Melville

ARCHITECTURE

RELATIVE DIMENSIONS

Students of architectural history whose knowledge is acquired solely from text-books seldom realise the relative scale of the buildings which they have to study. In the drawing (right) the Great Pyramid of Cheops has been used as a sort of yard-stick for the purpose of comparison.

When viewed from a distance the Pyramid may give some idea of its magnitude, but it is only when standing close to it, perhaps with some Arabs and camels grouped about its base, that one begins to realize its real vastness. An even fuller revelation follows as one climbs up to the summit.

It has been calculated that about six million tons of stone were required for its construction, and that some hundred thousand men were employed for the work for a period of some twenty years. The area covered by the Great Pyramid is roughly thirteen acres.

S. Peter's, Rome *1506–1626.* It will be seen that the elevation approaches in scale that of the Pyramid, and the titanic design requires close consideration. For instance, the giant Order of columns and pilasters of the façade are over 90 feet in height, which is only some 7 feet less than that of Hadrian's column, or of the memorial column of Marcus Aurelius.

S. Paul's, London *1675–1710.* As will be seen from the illustration, S. Paul's is far smaller than S. Peter's. It is worth noting that whereas S. Paul's had but one architect, S. Peter's had 13 in succession, and was about 120 years in building compared with the 35 years occupied with S. Paul's. Incidentally, the area covered by S. Peter's is about 5½ acres, and by S. Paul's about 3 acres.

The Colosseum, Rome A.D. *70–82*: Upper storey added A.D. *222–224*. As shown by the illustration, the Colosseum is well named, and it is interesting not only for its enormous size but also for the skill with which the engineering problems were dealt with.

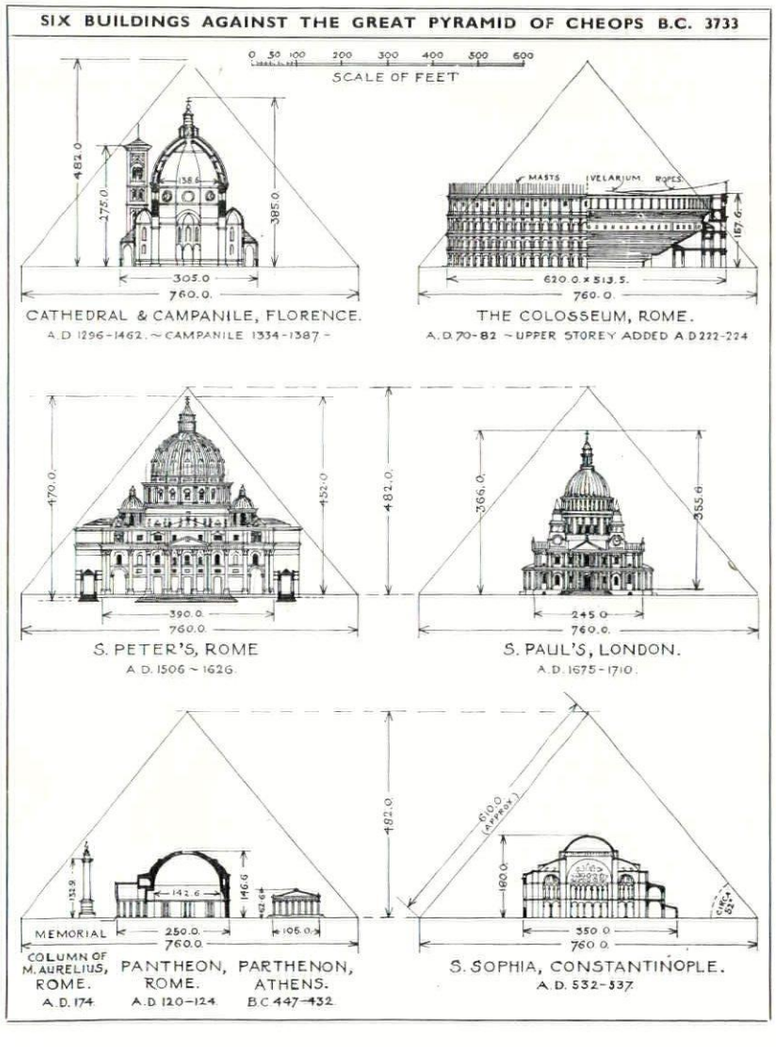
Florence Cathedral *1296–1462*: Giotto's Campanile *1334–1387*. The illustration shows the great dome designed by Brunelleschi for the completion of the Gothic building. Its erection took place between 1420 and 1434, without the use of centering. The lantern was placed over it in 1462. The great size of this dome should be compared with those of the Pantheon, S. Peter's and S. Paul's. Giotto's Campanile was erected between A.D. 1334 and 1387, on the site of an earlier tower, and is 45 feet square with a height of 275 feet. It is crowned by an arched corbel-table; the original intention to provide a spire was not adhered to.

The Pantheon, Rome A.D. *120–124*. The Rotunda was erected by Hadrian on the site of a temple built by Agrippa between 27 B.C. and A.D. 14. Later on, about A.D. 202, the portico of the older building was re-used and added to the Rotunda. As shown in the drawing, the huge hemispherical dome with its single unglazed lighting opening at its crown—has an internal diameter and height of 142 feet 6 inches. This compares with the 138 feet 6 inches diameter of the great dome of Florence Cathedral.

S. Sophia, Constantinople A.D. *532–537*. This unique building, never subsequently imitated, remains for all time the masterpiece of the Byzantine style. Originally built as a church, it became a mosque after the capture of Constantinople by the Ottoman Turks in A.D. 1453, after which four lofty minarets were added, one at each corner of the mosque. (These are not shown on the illustration.)

The Parthenon, Athens *447–432* B.C. The drawing reveals the astonishing difference between the size and scale of this masterpiece of the finest period of Greek art and S. Peter's, Rome. Few students would realize that it would take over seven Parthenons, piled one on top of the other, to reach to the height of S. Peter's.

George O. Scorer



On the right, a drawing by George Scorer, who qualified as an Associate of the RIBA in 1895, and has been a Fellow since 1913, showing the relative sizes of six famous buildings depicted against the silhouette of the Great Pyramid of Cheops.

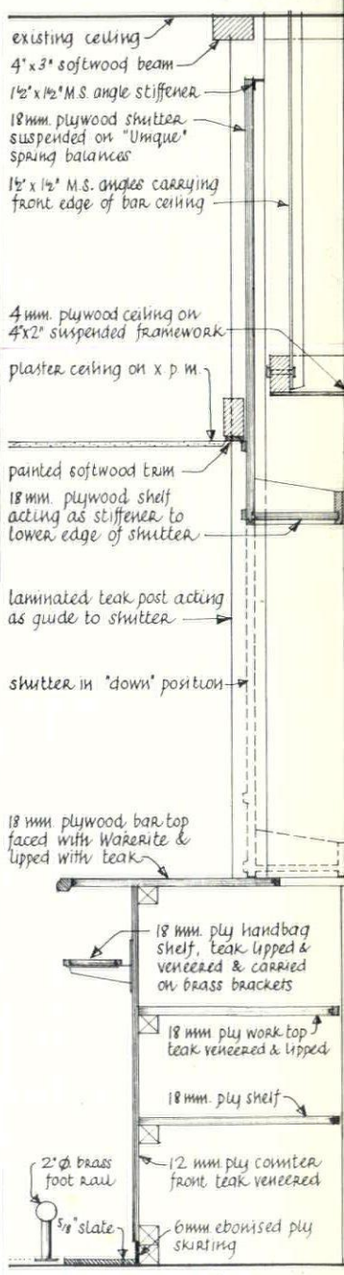
SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry



1, *view through the existing portico to the newly-designed entrance doors.*



section through front of bar shown on left

1 INTERIORS

THE ROYAL HOTEL, CARDIFF

Architects: John Morton and Tom Lupton

The owners of this hotel, Messrs. Ind Coope and Allsopp Ltd.—proprietors also of the new Hotel Leofric* in Coventry—wished to furnish and decorate the major rooms in an up-to-date manner and of a quality befitting one of the main hotels of the city. Very little interior work had been done in the hotel during the last twenty years and so a complete scheme was necessary. The programme of the work was very restricted. Four weeks were available for the restaurant and a week after it opened work began in the grill rooms, servery, cocktail bar



2

* See frontispiece, page 294.

BEFORE ↓ **AFTER** →



3



4

and entrance foyer. The first part of the work had to be put in hand whilst tenders for the second part were being dealt with.

The work on the ground floor: the grill room, servery, entrance foyer and cocktail bar involved extensive structural alteration. The original servery was quite inadequate and a concrete block wall was built forming a new servery, of almost twice the area. A new main ventilation extract duct from the servery, grill room and cocktail bar was installed with the motor and fan mounted at roof level. The floor of the servery was tiled and a complete set of servery equipment installed. Twelve paintings by Charles Burton were specially commissioned for the various rooms.

cocktail bar previously there was an entrance to the grill room from the street through an ill-shaped entrance foyer from which a door led to a very ordinary smoke room bar. The aim of the new scheme was to convert this to a high quality cocktail bar. The doorway to the entrance foyer was enlarged to an opening 12 feet wide and this makes the bar bigger and produces an interesting entrance to the grill room. Afromosia panelling is used on the partition walls of the foyer and the other walls are papered with a specially printed paper in two shades of purple. The inner entrance doors are in teak and the outer doors are standard Armourplate doors with two engraved bands across them. A large show-



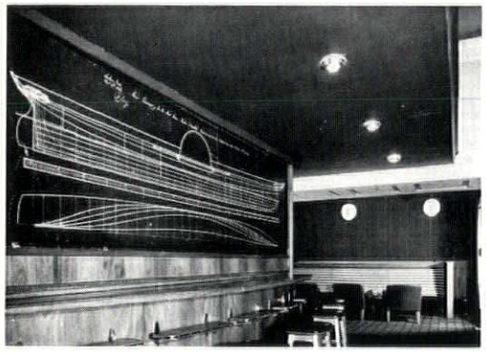
5

3, interior of the cocktail bar before, and 4, from the same viewpoint after, redecoration, showing the lower ceiling that was inserted over the bar. 5, the cocktail bar looking towards the foyer, and 6, on the facing page, another view from the foyer. 7, the shutter to the bar front shown lowered. 8, the foyer looking towards the grill room before, and 9, from the same viewpoint after redecoration; part of the staircase has been built over to provide an upholstered bench.

case is arranged at the entrance and new terrazzo steps and brass handrails have been provided.

The room was far too high for the floor space and so a lowered ceiling was arranged over the bar itself, this also permitted the use of shutters which could slide up into the space over the new ceiling, and the housing of connections to the air-extract system. The bar counter is in teak with polished brass fittings and foot rail: the top is a red plastic. The back fitting is made up of panels of green marble and mirror with glass shelves for bottles and glasses. A gold moire paper is used on the walls and main ceiling and the curtains are a red woven cotton. The lowered ceiling over the bar is painted blueberry blue: chairs are upholstered in grey-blue and black. Three wall mirrors are fitted to make the room appear larger and more interesting.

grill room since the ceiling was untidy with several very deep beams, a suspended



7

ceiling of plaster on expanded metal was erected over the whole room at a height of 9 feet 6 inches. A lighting core was formed at the walls and over the windows and recessed lights were fitted over the main ceiling. Extract ventilation was arranged over the new ceiling through slots in the lighting core and through the recessed light fittings. The ceiling is painted red and the two flank walls a warm grey; the other walls are panelled with vertical boards of

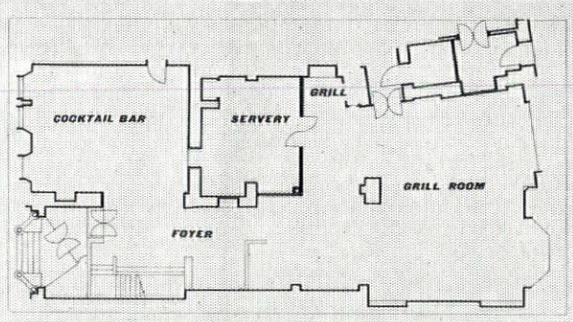


8

BEFORE ⬆ **AFTER** ➡

6





ground floor plan of redecorated area



9









10, 11 *and* 12, *three views of the grill room; the ceiling is painted red and the walls warm grey; panelling is of Afromosia, machine-moulded to a pattern.* 13, *the first floor dining room before and* 14, *from the same viewpoint after, redecoration.*

Afromosia which have been machine moulded to give an all-over pattern. Seats with high backs and upholstered in a deep purple fine quality tapestry are fitted along the walls; chairs are in African mahogany and upholstered in black hide. The carpet of moss green with a lime green pattern, is used throughout the newly decorated rooms; curtains are blue-grey woven cotton.

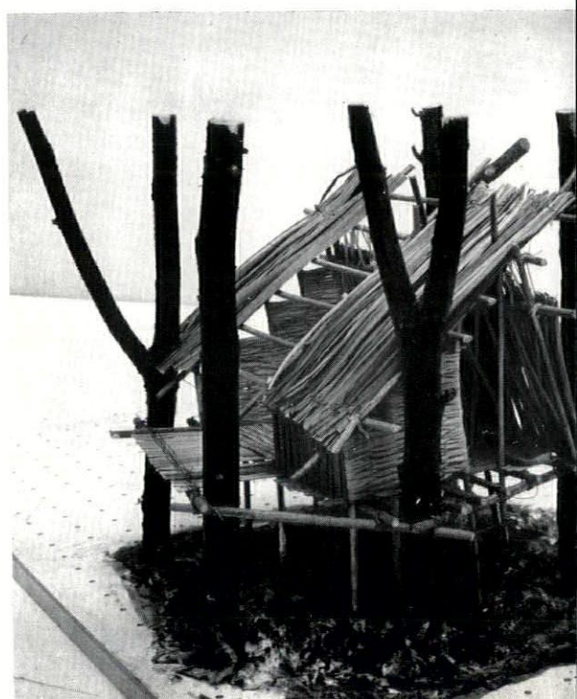
restaurant on the first floor required little structural alteration: new double swing doors were provided for the servery and one doorway was bricked up. Extract ventilation had to be provided and this was done by arranging a grille over the new servery doors connected to a new main extract duct coming up from the ground floor; extract fans for the other end of the room were provided in louvred boxes adjacent to one of the windows. Semi-circular heads to the doorways were removed and the architraves carried straight over and painted gloss white. New mahogany doors with polished brass furniture were fitted in deep mahogany linings. The walls were stripped of all applied mouldings and papered with Edward Bawden's 'Flute' wallpaper: the ceiling was painted pale blue with the mouldings picked out in flat white. There are wall bracket lights mounted on panels of red velvet to give spots of rich colour on the dark walls. Curtains are a sharp yellow damask and the windows and reveals are painted gloss white. Chairs and waiters' service tables, which were specially designed, are in African mahogany, the chairs upholstered in black hide with polished brass trim.

2 DESIGN REVIEW

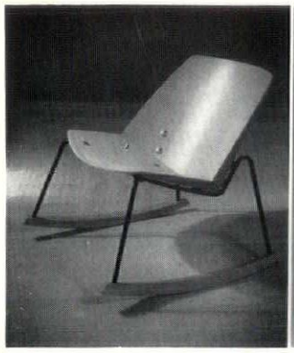
DESIGNERS IN THE MAKING

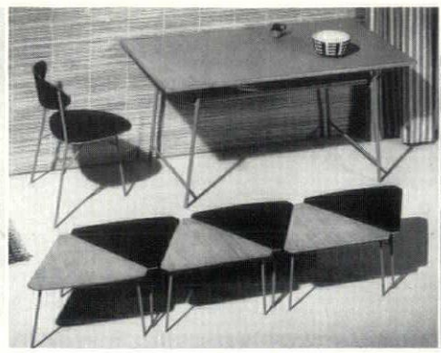
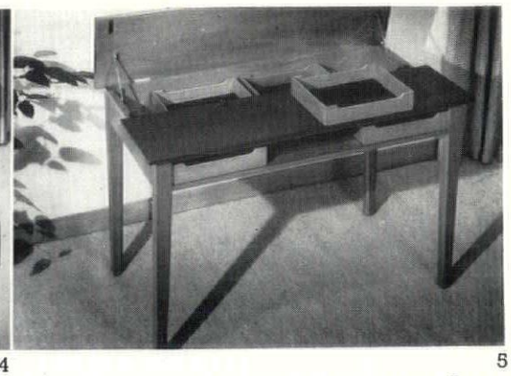
by Diana Rowntree

In the March issue Diana Rowntree examined the methods used to teach Design in the various Industrial departments of the Central School of Arts and Crafts and the Royal College of Art. On the following pages is illustrated a selection from the work done in these departments. Most of the examples are finished designs by students at various stages of their training, though some illustrate particular methods of teaching. It is a tribute to the seriousness and effectiveness of the teaching that neither school has branded itself with a recognisable style.



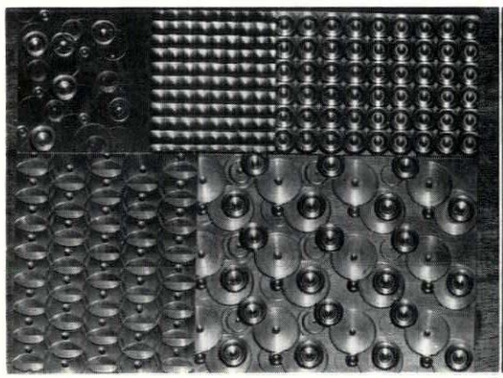
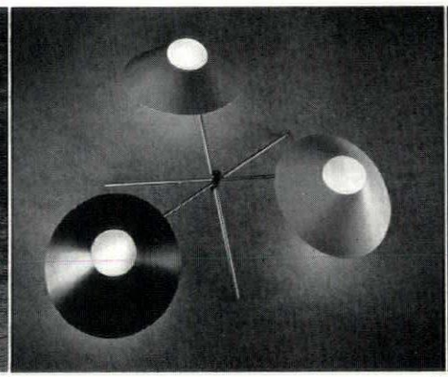
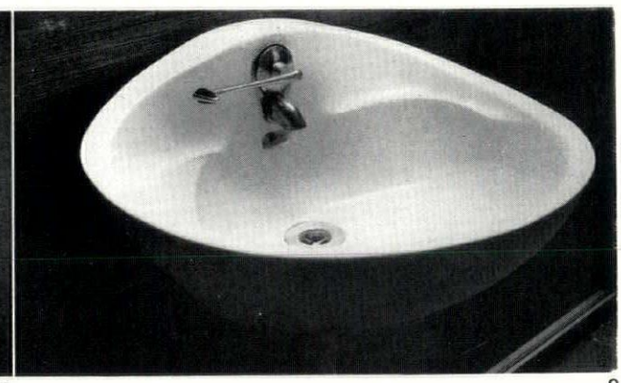
1, *right, a primitive structure built by a first year student in the school of interior design at the Royal College of Art.*



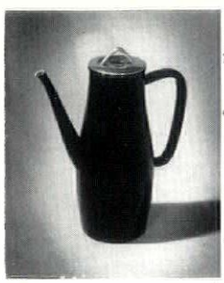
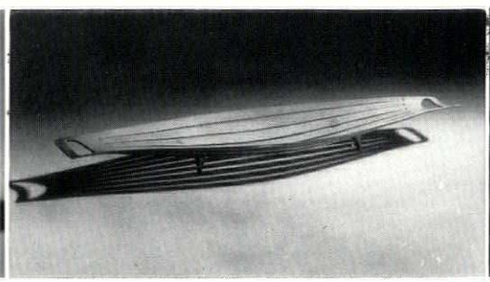
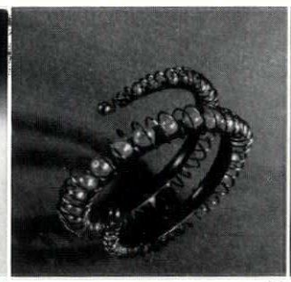
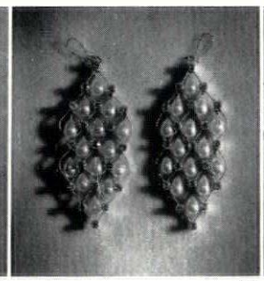
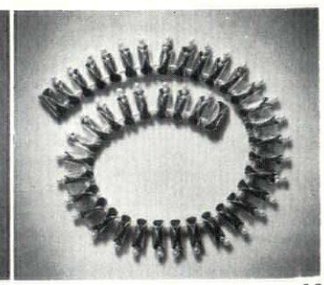
2 3 4 5

FURNITURE. **2**, rocking chair by Aidron Duckworth, 3rd year. The ply back and seat units are formed to a curve in one direction. The tubular metal frame fits into the rockers which are removable when not required; without them the frame is finished by rubber shoes. **3**, chair, table and adjustable floor standard lamp by Norman Slater, during 2nd and 3rd years. Steel framed chair with wicker seat and back. Prototypes were made of this frame and covered in different materials. The coffee table can be used singly or in a group. The plywood tops are veneered in Warerite of different colours, or woods. The glass ash-tray is held by a swivelling arm. The outer reflector of the lamp is fitted with an inner shield pivoted to direct light upwards or downwards. **4**, table, three-legged chair and occasional tables by Mary Shand. These designs cope with the constricting requirements of modern living. The occasional tables can form a hexagonal coffee table. The three-legged chair is particularly useful with a circular dining table. **5**, writing table with removable trays by T. B. Dunne. Half of the top is leather-covered.

6 7 8

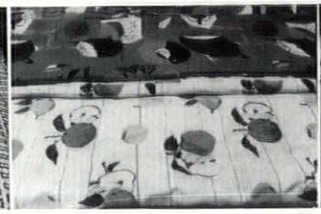
ENGINEERING DESIGN. **6**, a series of milled textures applied to brass, by N. Slater. Such exercises are connected with lectures on texture applied to various materials. **7**, triple wall light fitting by A. Irvine. The fitting is adaptable to ceilings. Light is mostly reflected with a little direct light through the apex of the cones. **8**, wash basin for use in small bathrooms of quantity-produced houses. Designed by J. V. Sharp.

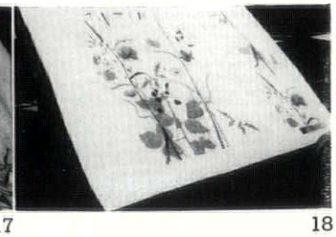






9 10 11 12 13

JEWELLERY AND SILVERSMITHING. **9**, coffee percolator in vitreous enamelled ware, green with white inside, and anodized aluminium lid, by A. G. Benney, 3rd year. **10**, fruit dish in anodized aluminium, by A. G. Benney. **11**, spring coil bracelet in oxydized silver, with lacquered, gilt metal spiral enclosing pearls, by John Donald, 1st year, 1953. **12**, earrings by N. Hukin. White paste and pearls, with gilt metal. **13**, necklace by L. E. J. Keene. Silver gilt with black inside, and paste pearls. In this department at the Central (p. 351) a craft tradition is evident. At the RCA stress is on the study of natural forms (**11** shows this), and on design as a product of hard mental exercise, rather than a by-product of the proper use of tools and materials.







14 15 16 17 18

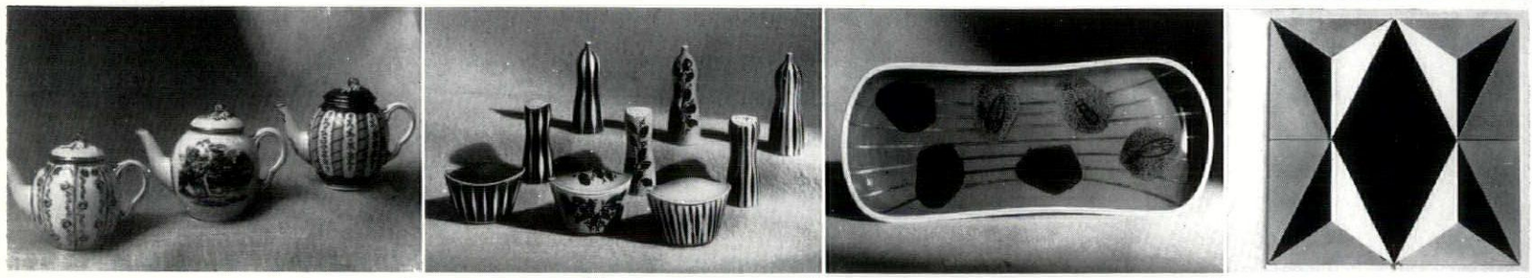
TEXTILES. **14**, woven dress materials. Top left, mercerised cotton by Jessica Buckley. Top right, pure silk with cut weft by Frank Davies, 3rd year. Bottom, pure silk taffeta by Patricia Turner, 1st year. **15**, heavy weaves for coats and furnishing. Left to right, heavy coat tweed by Jessica Buckley; heavy

coat tweed, and a furnishing cotton both by H. Harcourt-Peacock, 1st year; coat tweed by Mary Lawrence, 1st year; all cotton furnishing by Frank Davies. **16**, furnishing prints. Below: viscose grosgrain by Jean Myers, 2nd year. Above: spun viscose by Anthony Logsdale, 3rd year. **17**, first year exercise in prints repeating in one direction only. **18**, completed design for the repeat of a print at the drawingboard stage.

19 20 21 22 23



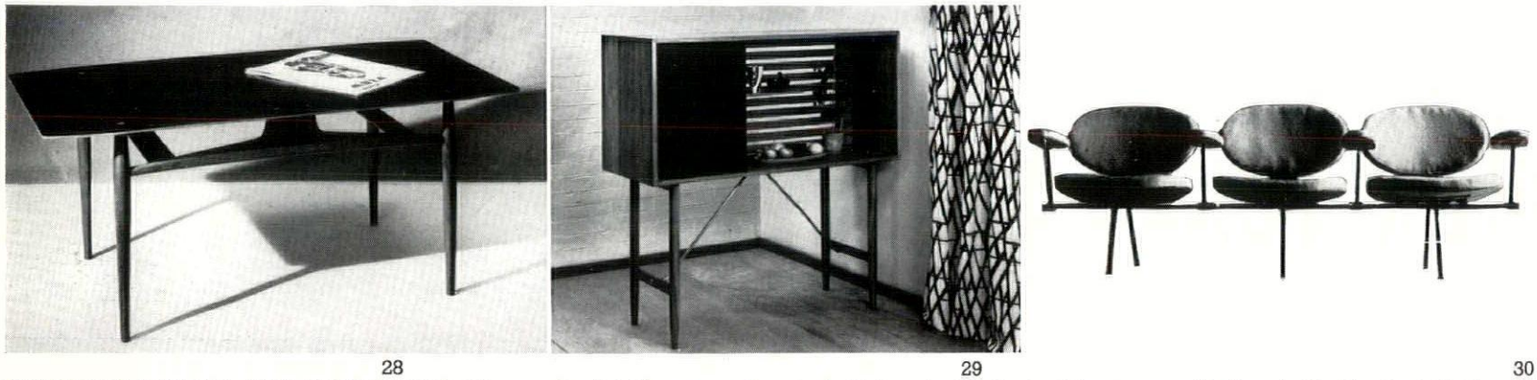
24 25 26 27



CERAMICS. **19–23**, five decorated plates in different styles and techniques: **19** and **20**, ground lay and brush decoration by Betty Davies; **21**, litho decoration by Ulla Goodman; **22**, decoration with yellow engobe and black by Tom Arnold; **23**, painted decoration by Jim Matthews. **24**, three tea pots by Monica Ford; the right hand one is a copy of one in a museum; the other two show alternative methods of decoration. **25**, cruet sets by Robert Jefferson. **26**, large dish with underglaze slip, gold stripes, and litho decoration by Kenneth Sproson. **27**, set of 4 decorated 6 inch tiles by Betty Davies.

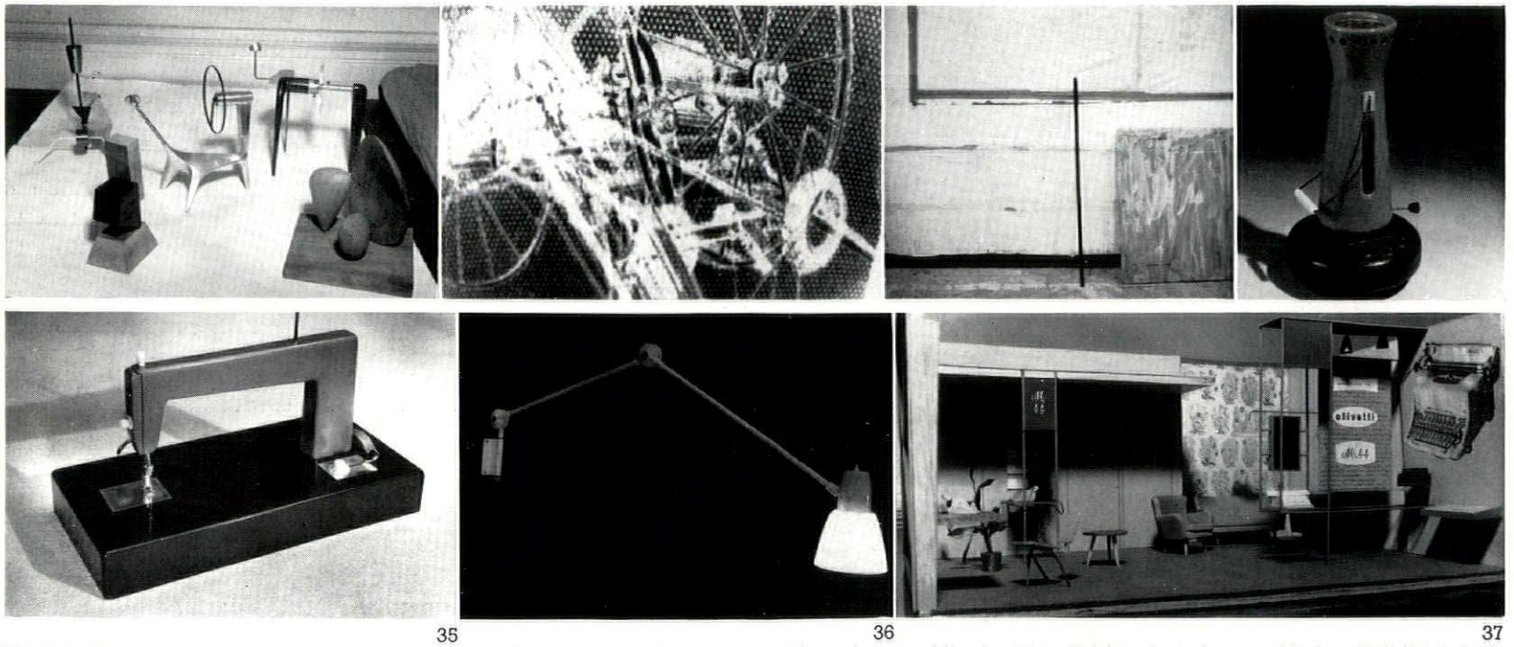
CENTRAL SCHOOL OF ARTS AND CRAFTS

28 29 30



INTERIOR DESIGN AND FURNITURE. **28**, occasional table veneered in macassar, with legs of afromosar by Bernard Heppenstall, 1st year. **29**, teak sideboard with ebonized doors, accessible from both sides, by Julia Powell, 2nd year. **30**, model of a ribbon seating system by Martin C. Grierson, 3rd year.

31 32 33 34

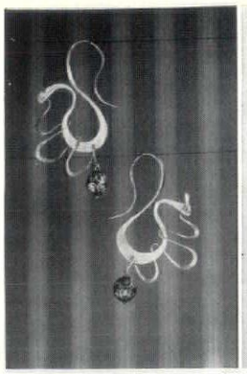


35 36 37

INDUSTRIAL DESIGN. **31**, various examples of machine sculpture in wood and metals. Creative photography, **32**, and, **33**, tonal composition with the materials nearest to hand. **34**, oil heater by Anthony Mann. **35**, sewing machine by Ray Colthurst, 3rd year. **36**, hospital light fitting; this subject was undertaken by a group of five final year students, researching in collaboration with hospital authorities. From conception to

final production over 100 drawings were made. The fitting was designed to sell for under £5. In fact the calculated retail price turned out to be £4 6s. 4d. **37**, model of a design for an Olivetti showroom. This kind of subject is the final stage of the Basic Design course. In this department and in the RCA engineering design department avowedly different educational approaches in the two schools are clearly working to the same end. The Central School spends more time and thought on æsthetic theory; theory of design, machine sculpture and creative photography figure in the syllabus. The RCA does machine carving but is impatient of theory generally. Considerable attention is given there to making teasingly exact models of objects and plants.

JEWELLERY AND SILVERSMITHING. **38**, silver earrings by Mrs. Sowers, 1st year. **39**, coil bracelet in copper and German silver, by J. Metcalfe.



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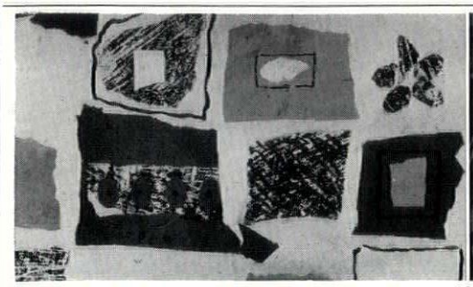

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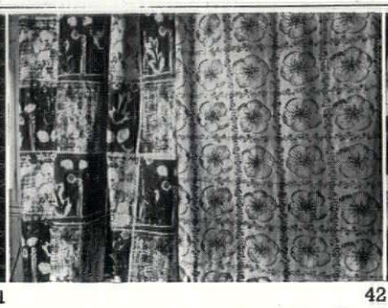

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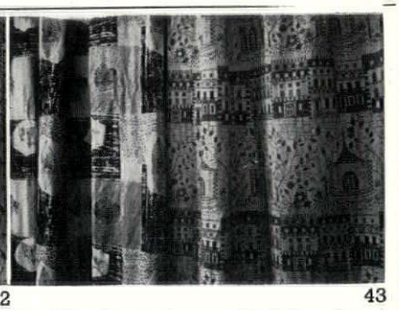

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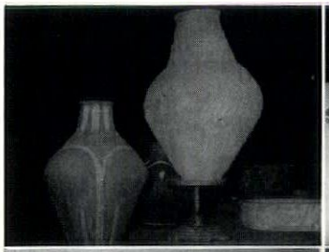
TEXTILE DESIGN. **40**, limbering up; one example from a class exercise using scraps of coloured paper. **41**, four woven fabrics; every Central School weave student learns to spin. Hand-spinning is subject to infinite variation so that this is a method of giving the students insight into the possibilities of yarns: left to right, a stole in hand-spun Spanish Piebald; black, brown and white wool; by Marta Teibak, 1st year; light suit-weight Cheviot tweed by Michal Illan, 2nd year; cotton furnishing by Margaret Ratcliffe, 1st year; jacquard woven cotton furnishing by Eileen Davies, 2nd year. **42**, left, printed cotton furnishing by Michele Thomas, 2nd year; right, printed cotton dress material by Ann Bates. **43**, printed cotton furnishings, left, by Ann Bates and right, by Wanda Wistrich, both 2nd year. The amazing speed of the turnover in textile designs makes the examples of work in this field even less 'representative' than they are in other departments. In both schools the versatility and range of idiom are striking.

44



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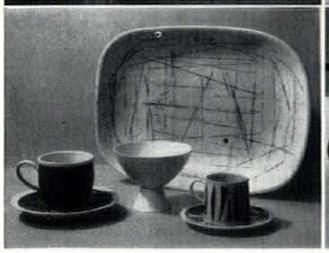

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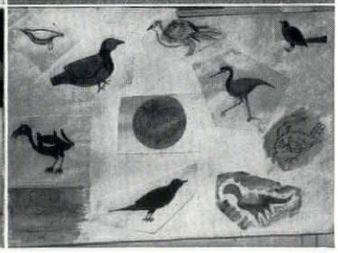
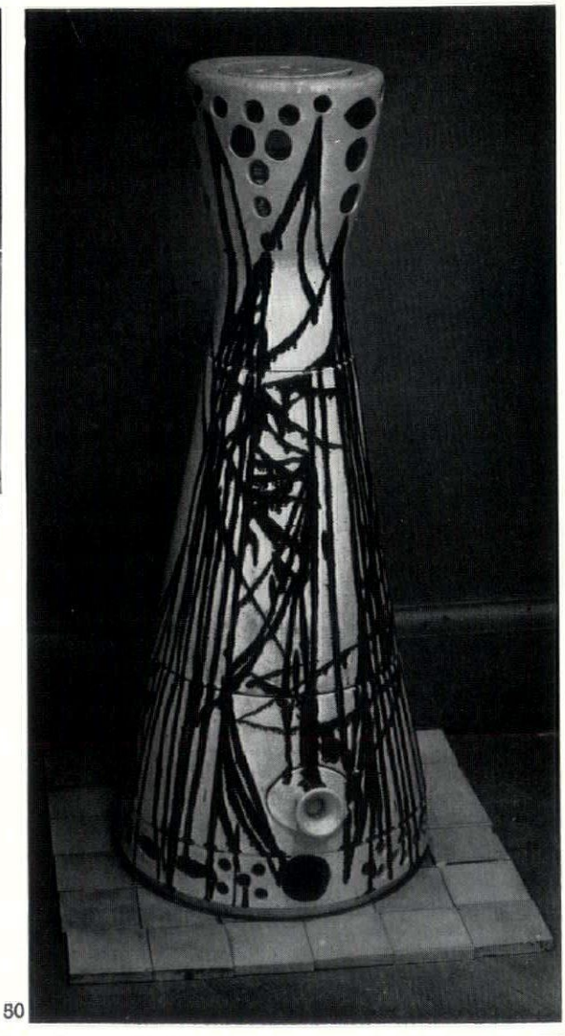


POTTERY. **44**, examples of rolled work; much of this is done by African students who will return to cater for a primitive way of life. **45**, tea set in painted earthenware by Doreen Lambert, 2nd year. **46**, earthenware tea pot, cup, saucer and plate by Gordon Baldwin, 3rd year. **47**, large dish with scratch decoration, cups and bowl by Kenneth Wright, 3rd year. **48**, large dish with pattern scratched in the glaze by Ann Wynne-Rees, 3rd year. **49**, drawing exercise by pottery student. **50**, earthenware convection heater by Gordon Baldwin, 3rd year. The convector is made in three sections, and can be used with gas, electric or oil heat. Pottery is the only department where the two schools are in marked contrast. The School of Ceramics at the RCA maintains close co-operation with the Potteries. In serving the Industry it is governed more by present-day conditions than by opinions of what those conditions ought to be. The students are taught a very high degree of technical accomplishment. A system of apprenticing 1st year students to those in 2nd and 3rd years gives them valuable experience in co-operation. The Central School is training studio potters; it is its æsthetic principle to concentrate on the importance of three-dimensional form.

Diana Rowntree



50

3 TECHNIQUES

SLIDING DOORS AND DOOR GEAR

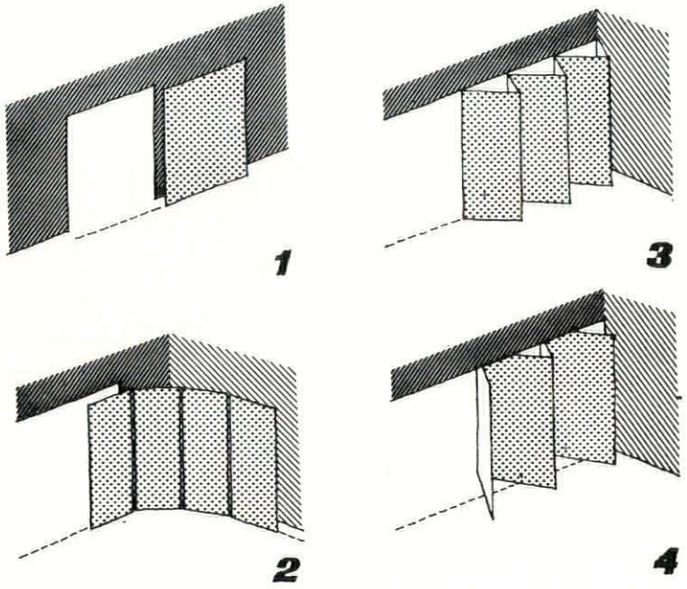
by Robert Maguire

Sliding doors have for long been taken for granted for certain specialized purposes—such as in lifts and railway carriages—where their use is a matter of necessity. The technique has been developed to a point where it is reliable and efficient, and the many advantages offered by sliding door systems have encouraged their use in an increasing number of new applications. The industry has met this demand, with the result that a bewildering variety of gear systems is now available, for uses ranging from cupboards to aircraft hangars. Here Robert Maguire describes the basic types which have been developed for each.

Under the name 'sliding door' comes a number of very different products. The term can be taken to mean any door, window, gate or shutter which slides either horizontally or vertically. This article is concerned with those types of horizontally sliding door in which the design of the doors themselves is left open to the architect, and for which separate, flexible systems of gear are manufactured.

The main reason for the large variety of types of gear is that there are four distinct systems of sliding doors, each of which has its special requirements. Added to this is the choice of either an overhead or bottom track; these can both be applied, as alternatives, to each of the door systems. Further variation is introduced by conditions of size of gear and the weight it has to carry, and occasionally cost.

The *straight sliding* type of door, 1, is the simplest and most familiar. The door moves to one side of the opening while remaining in the same plane. A development of this type, but one which modifies the system sufficiently to warrant separate consideration, is the *angle sliding* type, 2, in which the track is taken round an angle to permit the doors to slide into a different plane. The third is the *end folding* type, 3. Here a new principle is introduced: only one end of each leaf is connected to the track, and the doors slide and fold simultaneously, arriving at the side of the opening stacked face to face. Similar in many respects, but again to be clearly distinguished, is the *centre folding* type, 4, which slides and folds while being connected to the track at the centre of alternate leaves.

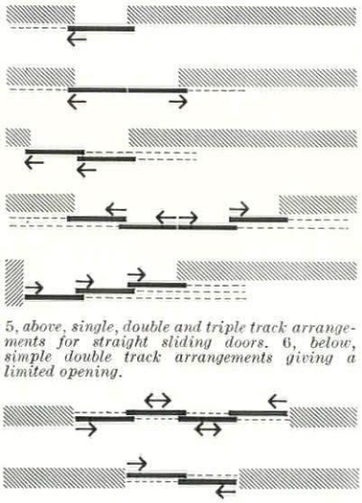


1, *straight sliding door.* 2, *angle sliding doors.* 3, *end folding doors.* 4, *centre folding doors.*

straight sliding doors

Arrangement The size and number of the leaves necessary to fill an opening depend on several factors. The size of each leaf is largely governed by the design load of the gear. A fundamental requirement of all sliding door gear systems is that not more than two roller carriages can be used on any one leaf, since a third carriage would be taking either all or nothing of the load. The weight of large doors cannot therefore be distributed over a number of carriages; the two courses remaining are to use a heavier duty (and more expensive) gear, or to break the door down into a number of smaller leaves. The number of leaves, of course, depends on the size of each and the width of the opening, but there are limits to the number which can economically be housed at the sides of the opening if this is required to be left completely clear. The diagrams, 5, show several economical arrangements of leaves which give a clear opening, while if the whole width is not required to be opened at any one time (such as, for example, in storage walls and cupboards) simple double track arrangements needing no space at the sides, 6, can be used.

Gear For very small doors to cupboards and cabinets it has been found that no rollers are necessary and the doors will slide quite smoothly on fibre runners, 7. These are let into the underside of the door and run on a fibre track. For small frameless plate glass doors, channel section tracks are available in fibre or in brass with an inserted composition strip, 8.



5, *above, single, double and triple track arrangements for straight sliding doors.* 6, *below, simple double track arrangements giving a limited opening.*

Heavier cupboard doors (up to 30 lb.) begin to require some form of roller gear, and small bottom rollers, 9, which can be housed within the thickness of the door in narrow mortices, are now made for this purpose. These have either an 'endless chain' of ball bearings or a small wheel mounted on a ball-race, and run on a coppered steel track.

In the light duty straight sliding gear so far described, the weight of the door is taken on a bottom track, and the top of the door simply runs in a groove made in the soffit. For heavier doors, from the standard internal domestic door upwards to the large warehouse type, it becomes necessary to provide gear at both top and bottom, to withstand the greater amount of wear. There is usually a choice between supporting the weight on bottom rollers, together with a guide channel at the top, or hanging the door from an overhead track, in which case a guide channel is needed at the bottom.

Bottom rollers and their top guides are basically similar in design for all sizes of straight sliding door, 10. The track is usually in the form of a T with the web pointing upwards to take a grooved wheel; the projection of this is undesirable in some instances, although it is possible to recess it to be flush with the floor surface. An alternative is a sunk channel track and a centre-flanged roller wheel. Top guide tracks are always simple channels attached to the top of the opening, with either horizontal roller guides or fixed 'shoes' travelling in them. Although taking none of the dead weight of the door, these top guides are often subjected to considerable horizontal forces due to wind pressure and impact.

For all except the heaviest doors, overhead tracks with trolley hangers may be used. This arrangement, of course, puts the whole load of the doors on the lintel, which makes it unsuitable for some applications. On the other hand it has the great advantage of permitting the least amount of obstruction on the ground—in many cases the floor can be left completely uninterrupted. The simplest and cheapest type of overhead gear is the strap hanger with a single wheel running on a bar type track, 11. This is sturdy, easy to install, and accessible for lubrication, but it takes up a large amount of

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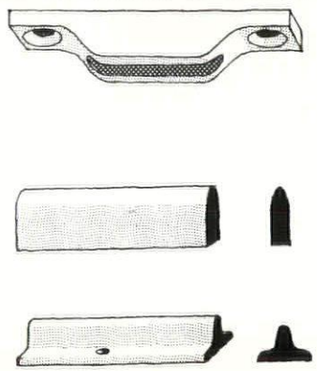
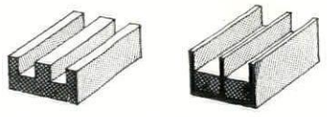
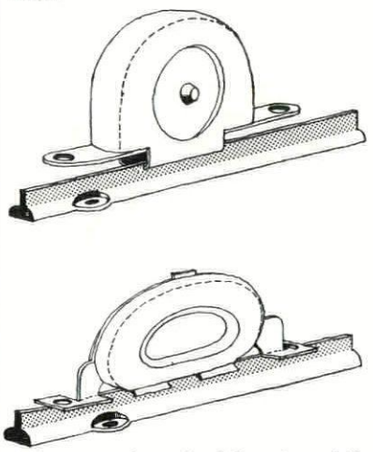


7, *fibre runners and tracks for cupboard doors.*



8, *tracks for small frameless plate glass doors: left, fibre; right, brass with inserted composition strips.*



9, *bottom gear for cupboard doors: top, a ball-bearing sheave; above, a roller; both run on a coppered steel track.*

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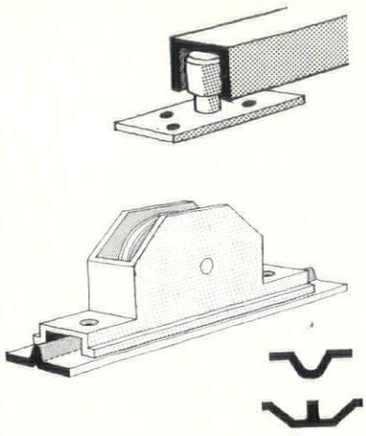
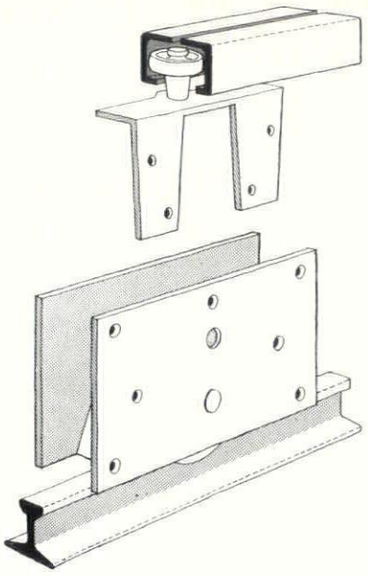
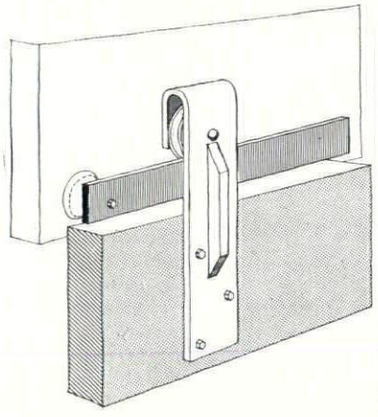
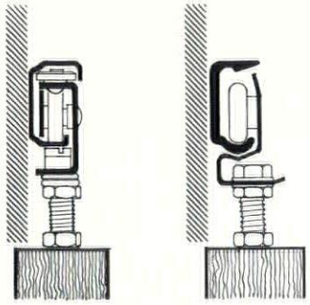


10, *bottom roller gear for straight sliding doors: above, a small domestic type, suitable for doors weighing up to 100 lbs; right, heavy industrial gear, for doors weighing up to 4,000 lbs.*

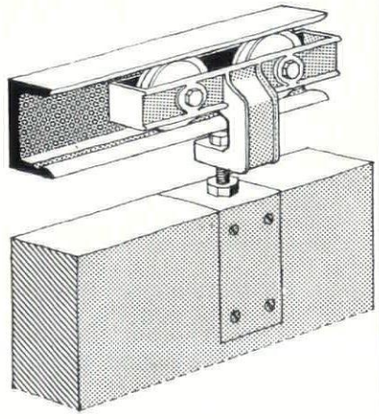




11, *a strap hanger and bar-type track.*



12, *two types of overhead gear with channel-section tracks, for light domestic doors: left, with a pressed steel track; right, with an extruded light alloy track.*



13, *channel-section track and gear for heavier doors.*

space. One method of saving space and improving the appearance, while still retaining the low cost, is to use a channel type of track, 12; this construction is not so strong, but quite suitable for small doors up to 100 lb. For heavier doors there is a type using two wheels and a rolled steel channel, 13.

One problem relating to light domestic doors is that the weight of the door is often insufficient to counteract the sideways thrust of opening; the door tilts and tends to jam. Several ingenious systems have been developed to avoid this, operating on the same basic principle, 14. The door is connected through adjustable brackets to a steel 'inner track,' running within the main track on two rows of caged ball bearings. The inner track is therefore prevented from moving laterally and holds the door square.

The tubular track system, 15, is not only applicable to straight sliding doors of all kinds (except the very largest, over 3,000 lb.) but is also the principal system used for angle sliding and sliding folding doors, on account of its versatility. It consists of an inverted U-shaped track in which two- or four-wheeled trolleys run. The track is made in a large number of sizes and gauges, and the trolleys are available in sizes corresponding with the track. For exceptionally heavy doors an eight-wheeled trolley with load-equalising couplings may be used, 16.

All the better-quality overhead gear is equipped with a vertical adjustment on the link between the trolley carriage and the door; some types also incorporate a swivel at this point to ensure that the carriage still runs true if either the door or the track is out of plumb. Carriages are varied in design to take account of fixing to both wood and metal-framed doors.

Bottom guides for overhead suspended doors take several forms. Leaves immediately adjacent to the side of the opening are usually arranged to slide back into a position where a few inches of the leaf still project, 17, in order to allow access to the pull handle and to avoid trapping the fingers between the door and the jamb. With this arrangement a short upstanding guide can be screwed to the floor in the position always concealed by the door, and this engages in a metal channel grooved into the underside of the door. In this way the threshold is left clear of any obstruction. Leaves which slide back some distance from their closed position require a guide track at the bottom, usually a metal channel let in flush with the floor. Short guide shoes, pins, rollers, or a continuous metal T screwed to the underside of the door engage in the channel. Experience has shown that the guide shoe is the most practicable of these alternatives, and its use is now superseding that of pins or rollers. The plough-shaped shoe has been developed by some manufacturers with the object of clearing the dirt, which inevitably collects in the floor channel, as the shoe travels. It has been found that rollers cease to turn after a time and then become worn with two flat faces. The continuous T guide is used when a draught-proof door is required.

Weather hoods are made for most types of overhead track and these also to some extent provide draught-proofing at the top of the door. To be really effectively draught-proof, the head detail should include a complete boxing-in of the track, the soffit of the box coming as close as possible to each side of the door, 18.

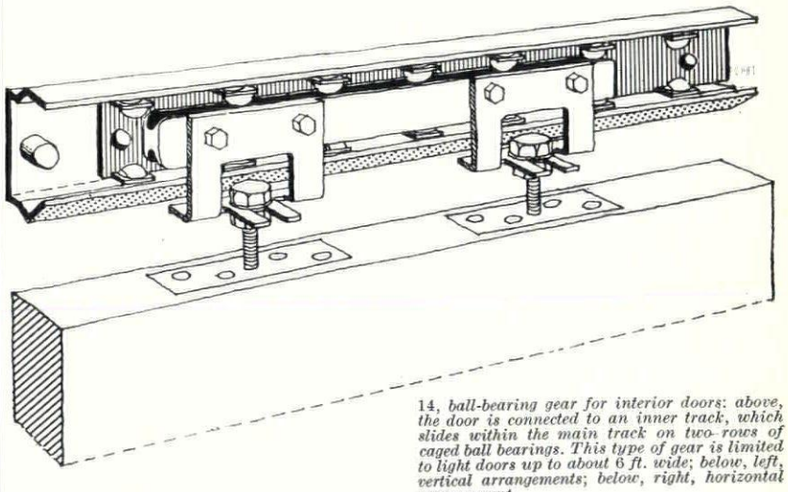
Some makes of straight-sliding door gear incorporate a rubber end buffer in the track itself, while other manufacturers recommend a stop half-way up the door—an arrangement which prevents the momentum of the moving door from causing it to tilt when suddenly arrested.

Almost all types of track are provided with means of fixing to either soffits or vertical wall faces.

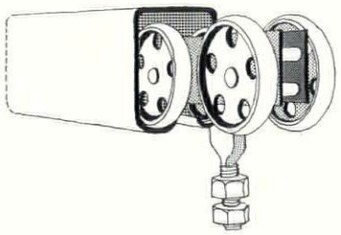
Special gear has been evolved for certain types of straight sliding door. For instance, bi-parting doors, 19, can be coupled together by a system of pulleys and cables for sympathetic operation. Access to this gear for maintenance must be given particular attention, especially in those cases where the doors slide into wall cavities.

angle sliding doors

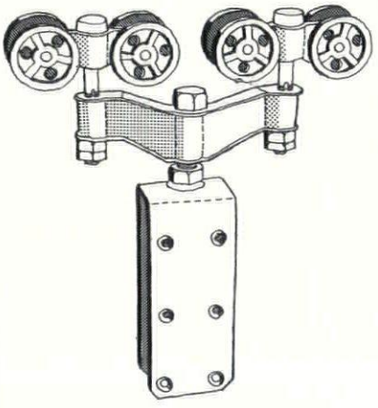
Arrangement This type of sliding door provides a solution to the problem of large openings which have little space at either side to



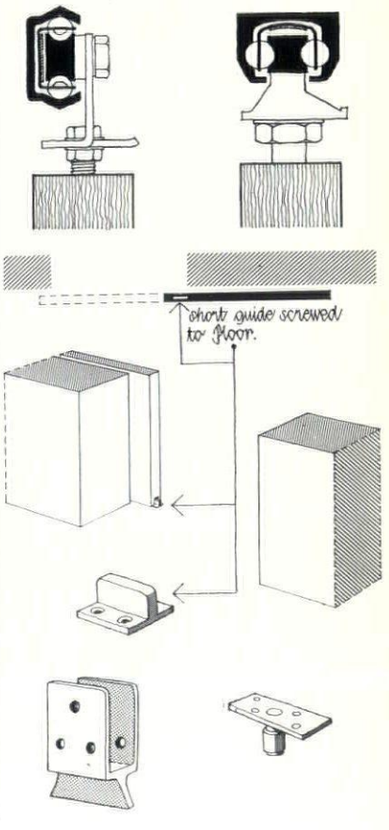
14, *ball-bearing gear for interior doors: above, the door is connected to an inner track, which slides within the main track on two rows of caged ball bearings. This type of gear is limited to light doors up to about 6 ft. wide; below, left, vertical arrangements; below, right, horizontal arrangement.*

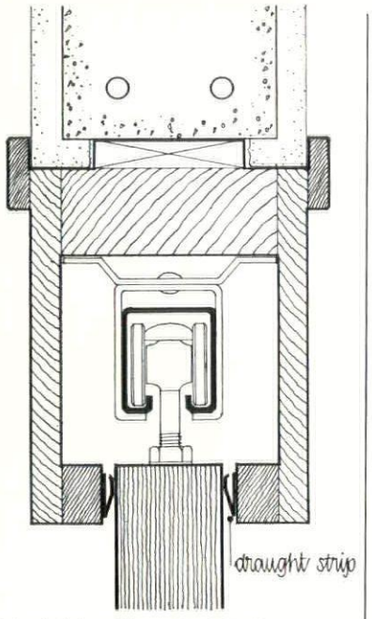


15, *tubular track and hanger. The hanger may be attached to the door in many different ways, depending on the construction of the door.*



16, *above, an eight-wheeled hanger with load-equalising couplings, for very heavy doors.*
17, *right, bottom guides for overhead suspended doors: top, floor guide; bottom left, guide shoe; bottom right, guide roller.*





18, *typical draught-proof head detail.*

house the doors. By curving the track around the corner at one or both ends, the doors can be accommodated when open along the side walls. A single track only is needed, and the system becomes more economical than a multi-track straight sliding system for wide openings.

The leaves may be hinged together in suites of up to five to facilitate opening, or they may be quite separate—this becomes essential with the larger types of door. One problem peculiar to this sliding door system relates to the tracking of the end leaf adjacent to the curved part of the track. If there is sufficient space to provide a short return wall next to the opening at this end, about 6 inches longer than the radius of the track curve, 20, the end leaf will close into the same plane as the other doors. There is often no space for this, however, and in such instances the end leaf must be hinged separately. Two arrangements are possible, 21; the first is to hinge the door to the adjacent leaf, and provide a pilot bolt which drops into the bottom track when the door is opened a few degrees. This has one great disadvantage: the gear attached to the adjacent leaf has to take the weight of both doors, and consequently the size of gear required will be uneconomically large. The alternative is to hinge the end leaf to the jamb of the opening. A separate hinged end leaf is useful for the ordinary access of persons; with the arrangement shown in 20 a small wicket gate in one of the leaves would probably be necessary.

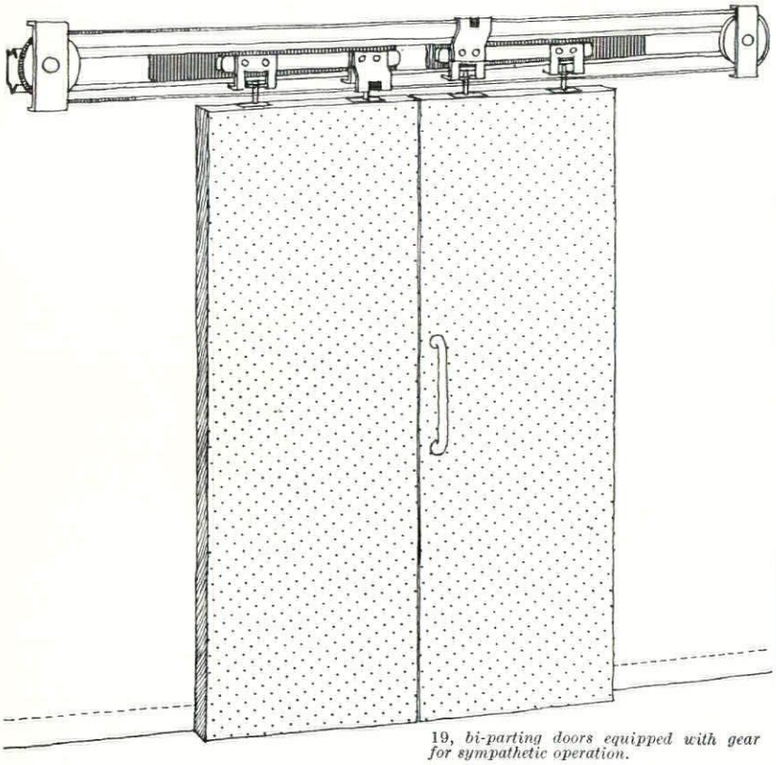
Gear For all except very heavy doors, the overhead type of gear is most suitable, provided that the lintel over the opening is strong enough to take the load.

Advantage is taken of the fact that the doors are hinged, by incorporating the hanger of the carriage, and also the bottom guide, in the pins of the hinges. The illustration, 22, shows a light duty gear suitable for doors up to 10 feet high and 120 lb. per leaf. For end leaves the hanger is similar but with only one backflap.

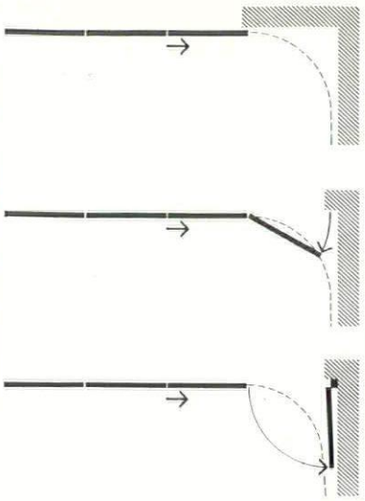
Two important points relating to this type of gear are, firstly, that the bottom guide channel must be exactly plumb under the top track, and secondly that the centre of gravity of the door is offset from the centre line of the hanger; this puts considerable horizontal thrust on the bottom guide, which must therefore be a roller.

Heavier duty types use the tubular track system already described. Two- or four-wheel carriages can be used according to the load conditions, and the fixing to the door is incorporated in the hinge pins.

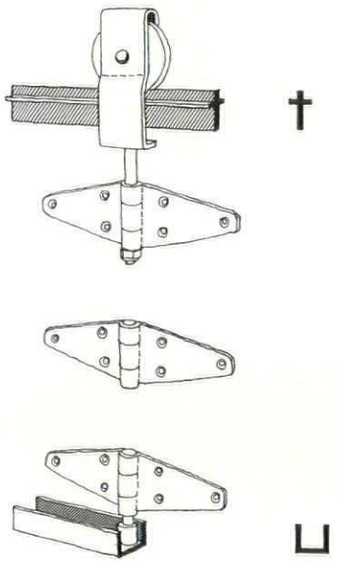
The very large doors (up to 1½ tons) needed for aircraft hangars and bus garages are too heavy to be suspended from above, and bottom rollers are necessary. Since there is usually no space problem, wheels of large diameter and with heavy ball journals can be used, 23, giving smooth running. A large horizontal roller guide running in a steel channel track provides stability at the top. The doors are not linked together and



19, *bi-parting doors equipped with gear for sympathetic operation.*



20, *top arrangement of angle sliding doors with a return wall.* 21, *above, arrangements without a return wall, using freely hinged leaves.*



22, *lightweight angle sliding door gear suitable for small garages.*

so are provided with two rollers each. Despite their weight, doors of this size can be opened manually with great ease, and no special opening gear is necessary.

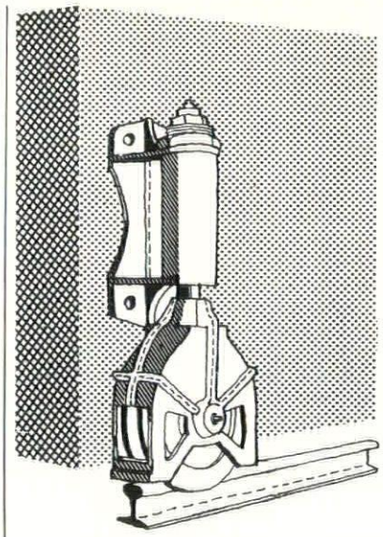
Small bottom rollers are made for light installations for which overhead support is not practicable. These are attached to the hinge pin in a similar manner to the hangers of overhead gear.

end folding doors

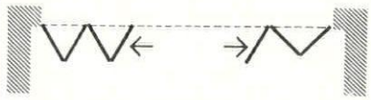
Arrangement Theoretically any number of leaves may be used on this system, but when the number becomes very great—as, for example, on aircraft hangars—power operation is required to open them.

The hinged suites of doors may slide to one or both sides of the opening, and each suite may contain an odd or even number of leaves, 24. If an odd number is used, one leaf will be swinging free; this puts extra loading on the gear and consequently increases its size, but on the other hand is useful as a pass-door.

Small suites of doors should have their end leaf hinged to the jamb for stability, but suites of even numbers over four can be entirely free and this arrangement permits their being slid back beyond the opening on an extended track, 25. Another method



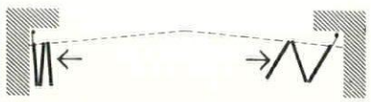
23, *a heavy duty bottom roller gear for doors up to 1½ tons.*



24, *arrangement of end folding doors in suites of even and odd numbers.*



25, *arrangement with doors sliding clear of the jambs.*



26, *track arrangement to give a clear opening.*

of achieving a clear opening is a diagonal multi-track system, 26, but there are obvious limits to the number of leaves which can be used.

Leaves should be kept as narrow as possible in order to reduce the thrust on the track; for normal installations 3 feet is considered a maximum. With all systems of sliding folding doors, the calculation of the exact widths of leaves—complicated as they are by rebates and special end conditions—is a specialist's job, and the gear manufacturers should always be consulted.

Gear Several types of overhead tubular track and bottom roller systems are available, all of which work satisfactorily, and it is difficult to find any outstanding advantages of one over another.

The overhead tubular track gears differ only in the type of hanger used. One type is similar to that already described for use with angle sliding doors—the hanger is connected to the pin of the door hinges. A neater version, 27, has a strap which screws to the top and side edges and so is concealed when the door is closed; ordinary butt hinges may be used between leaves.

Bottom roller types usually have two roller wheels in order to keep the gear running straight, and two guide rollers at the top; for neatness they are accommodated in the thickness of the door although coupled to the hinge pin by a cranked connection piece, 28. When the doors are opened, they fold away from the roller gear and this is exposed to view. A special gear with a swivel

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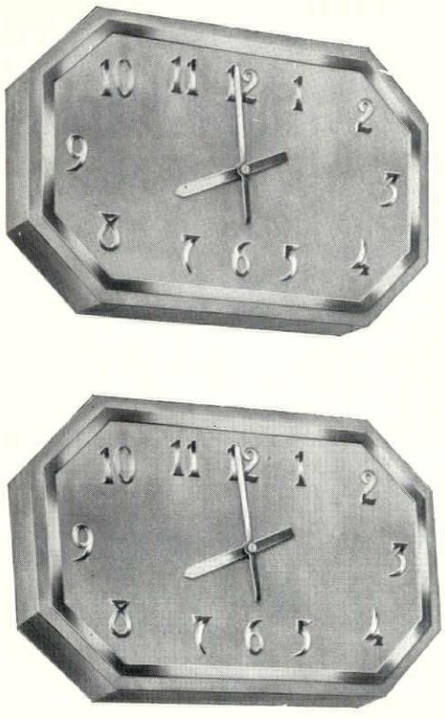

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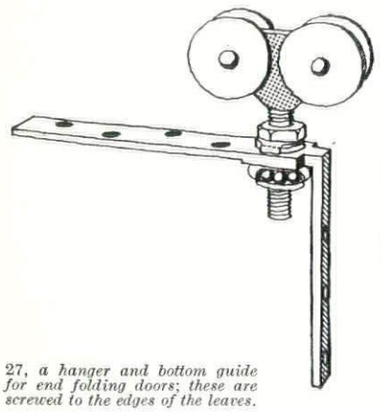
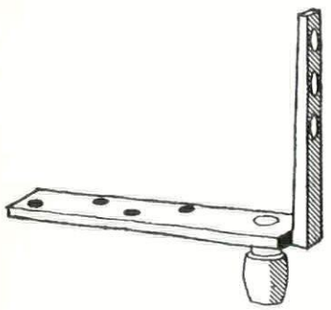
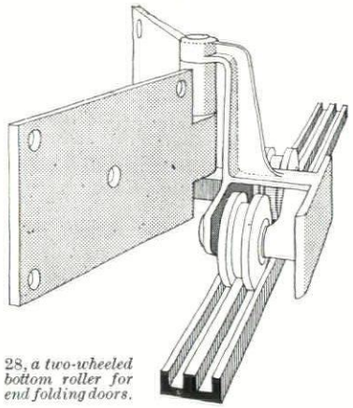


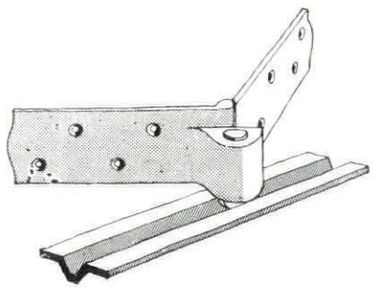
27, *a hanger and bottom guide for end folding doors; these are screwed to the edges of the leaves.*



roller is necessary for the end leaf, because this leaf must always overlap the track in order to close into the jamb. Swivel bottom rollers, 29, may be used for the whole installation, in which case they are attached



28, *a two-wheeled bottom roller for end folding doors.*



29, *a swivel bottom roller for end folding doors.*

to alternate leaves.

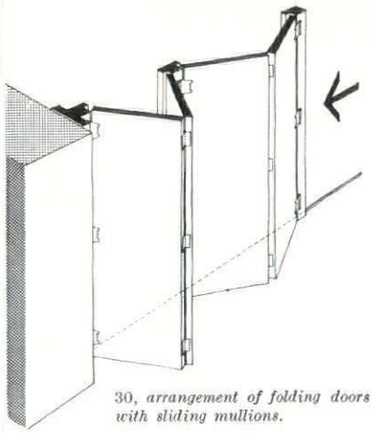
A system which has proved very efficient, especially for very large doors, introduces sliding mullions between the leaves, 30. The mullions may be considered as short straight sliding doors, and so require no swivelling gear.

centre folding doors

Arrangement By supporting sliding folding doors at their centres, the horizontal thrust on the tracks, due to the dead load of the doors, can be eliminated. It is then possible with the overhead suspended type to omit the bottom track altogether where conditions are favourable, although more eare will be needed in the opening and closing of the doors. This system is most suitable for such purposes as dividing dance-halls, where a completely uninterrupted floor is essential while the width of the opening is very large. It is limited, however, to installations where the weight of each leaf does not exceed 200 lb.

Any number of leaves can be used, but when the doors are free, i.e., not connected to the jamb, there should preferably be an odd number. The reason for this is that only each alternate leaf is equipped with gear (to avoid the 'lazy-tongs' effect of every door being forced to open simultaneously), and having an odd number ensures that end leaves are supported. The diagrams, 31, show the two arrangements, one with free leaves, and another with a half-leaf hinged to the jamb, which lends stability. When connected to the jamb in this way, the doors and gear must be very accurately set out if they are to run smoothly.

Gear Only two forms of gear are suitable: the overhead tubular track with swivelling hangers, 32, and swivelling bottom rollers in the thickness of the door, 33. Guide tracks for both types consist of



30, *arrangement of folding doors with sliding mullions.*

channel sections, with horizontal roller guides running in them.

automatic control

The ease with which even very large sliding doors can be opened manually makes automatic control unnecessary in most instances. It is an expensive addition to any installation, and so normally is only considered for those cases where its cost is justified and where manual control is impossible or not fast

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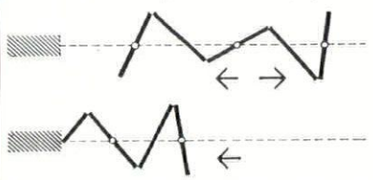
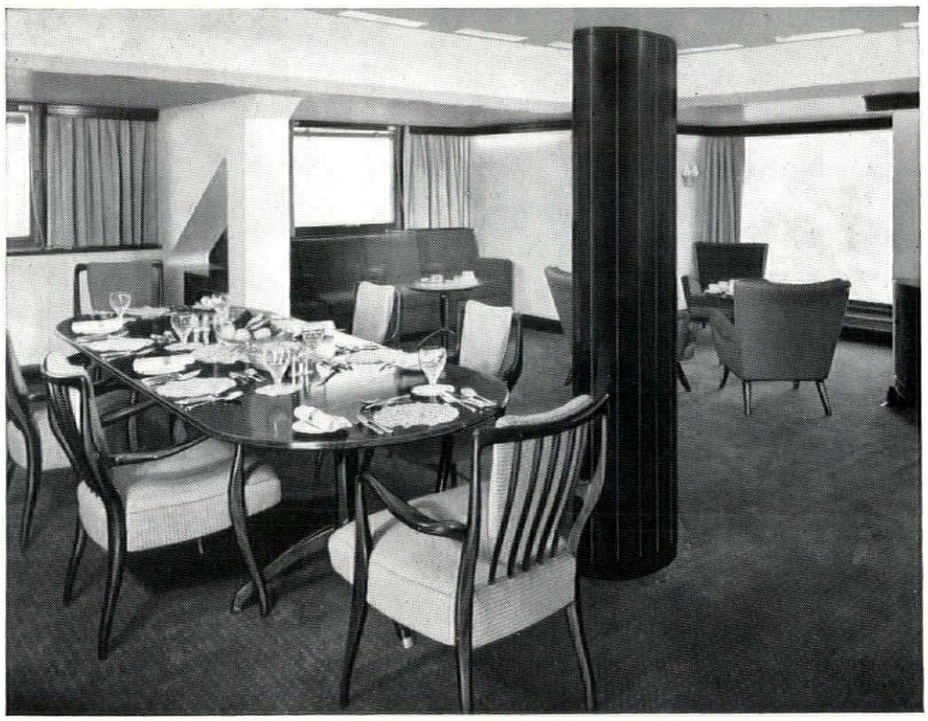


31, *arrangements of centre folding doors with 'free' leaves and with half-leaf hinged to the jamb.*

Room at the top

The problem: to find space for a directors' dining-room for Messrs. Venesta Ltd., in Vintry House, E.C.4—where floor space is at a premium. The answer: a skilful conversion of the roof tank storage space by the architects Messrs. Kersey, Gale & Spooner, with whom Heal's Contracts collaborated in designing and providing the special lighting, interior decorations and furnishings. The panelling is in off-white hide, the metal work is silver bronze, and the furniture and woodwork generally is Bombay rosewood. If you would like to see more of Heal's recent work for offices, hotels and ships, our illustrated booklet *Furniture for Special Needs* is available to architects.



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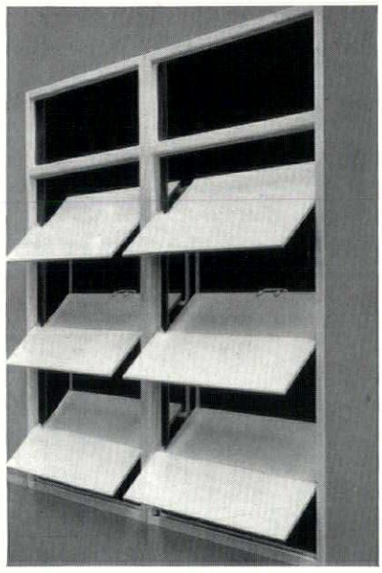

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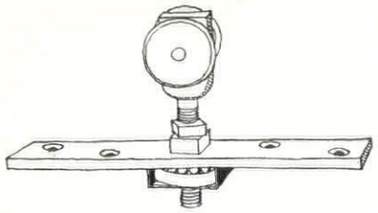
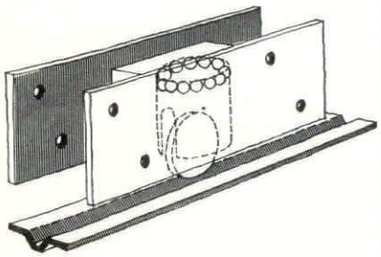


32, *a swivelling hanger for centre folding doors.*



33, *a swivel bottom roller for centre folding doors.*

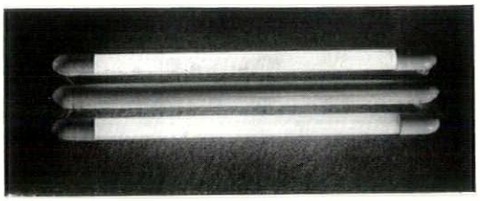
enough, such as for aircraft hangars, fire stations and lifts. Very different types of control have been developed for each of these, and the field is too specialized to be covered here.

The illustrations for this article were taken from material supplied by E. Hill Aldam & Co. Ltd., 10, 11, 12 (b), 14 (a), 14 (b), 16, 17, 19, 23, 27, 28, The British Trolley Track Co. Ltd., 29, Clarke Ellard Engineering Co. Ltd., 9 (a), 22, Esavian Ltd., 30, P. C. Henderson Ltd., 33, Lockerbie & Wilkinson (Birmingham) Ltd., 13, Charles P. Moody & Co. Ltd., 7, 8, 9 (b), 12 (a), 14 (c) and O'Brien Thomas (London) Ltd, 15, 32.

4 THE INDUSTRY

TUBULAR FLUORESCENT LIGHT FITTINGS

The bugbear of tubular fluorescent light fittings is, of course, what to do with the choke. The new Golden Arrow range of fittings has grappled with this difficulty by accommodating a specially designed choke in a tube which has the same form and dimensions as the luminants themselves.



Two-lamp Golden Arrow tubular fluorescent light fitting.

These are one- or two-lamp fittings, 40 watts, 48 inches long and are obtainable from *J. Toubkin, 7, Rugby Street, London, W.C.*1.

A FORCED CONVECTION HEATER

As a solution to the problem of intermittent heating of large spaces Hurseal Limited have marketed a forced air unit heater. This is in the form of a stove-enamelled louvred box containing an enclosed type fan which drives air through a heating element in the form of a fine wire mesh. This mesh, it is claimed, offers a sufficient resistance to the passage of air to ensure an even heat distribution. If the unit is connected by a duct to the outside air it can serve the dual purpose of ventilation in warm weather. The standard models are designed to give three-heat control. Alternatively they can be readily controlled by a thermostat. There are three models:—

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10.5	32 19 6	35.840	500

As the louvres suggest, these heaters are designed for hanging at heights of 8–12 feet from the floor. They offer perhaps the most rapid means of heating the atmosphere

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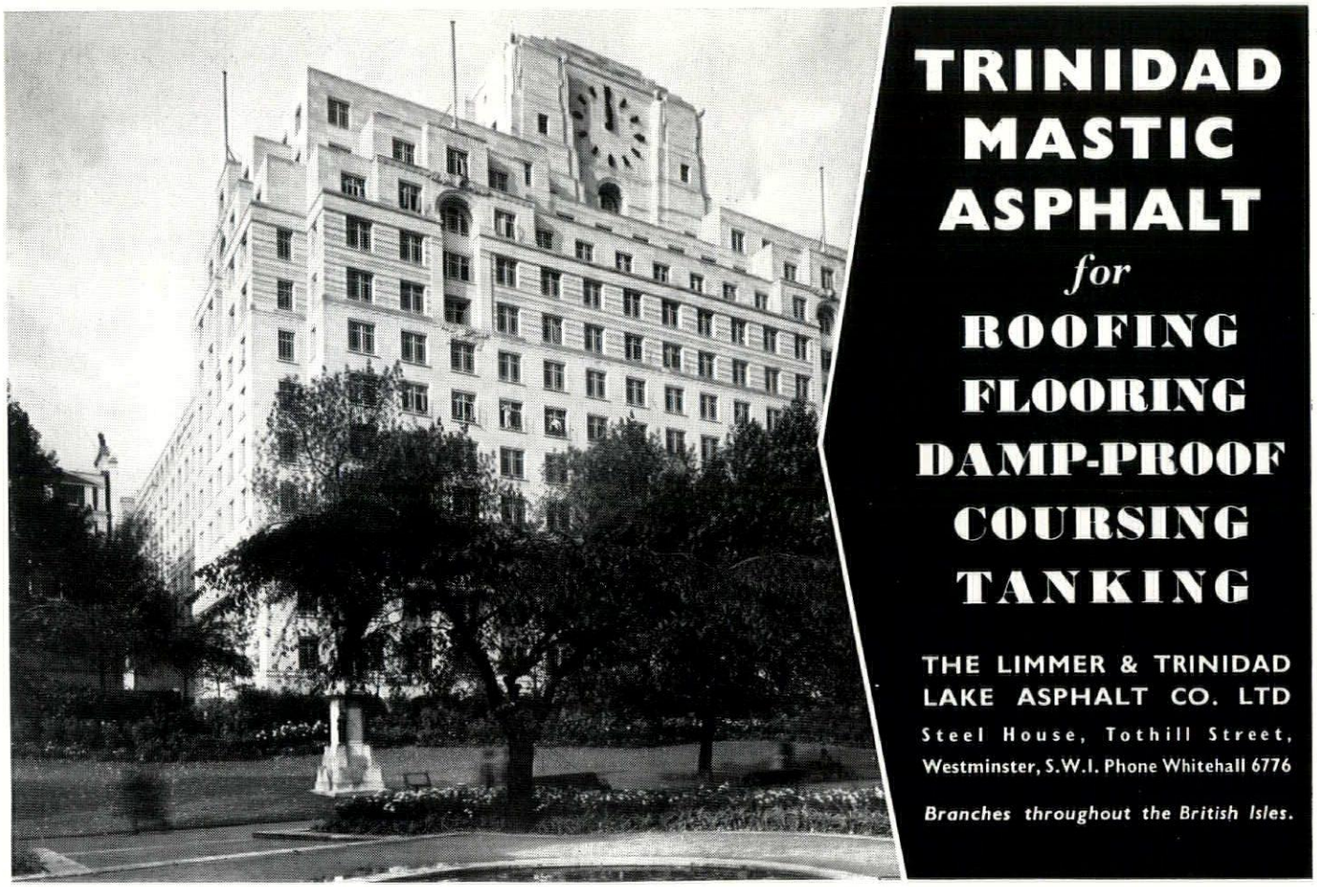



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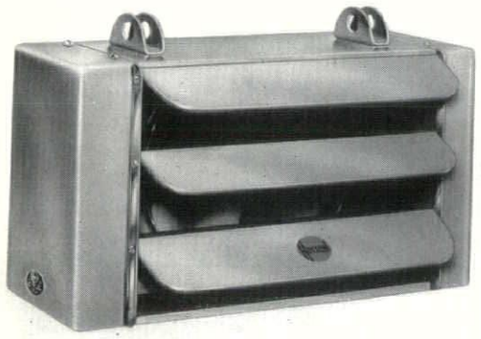
in a cold building and thus have a special application to churches. In this connection



The Hurseal forced air heater unit.

it is interesting to notice that the three models, in ascending order, when in action are rated for sound at Q, FQ and I. Obtainable from *Hurseal Ltd.*, 229, *Regent Street*, W.1.

LIGHTING AND THE ARCHITECT

British Thomson-Houston have mounted a small and useful exhibition at Crown House, Aldwych, to show their equipment in its relation to structure. It includes their new "module" recessed ceiling lighting: also Invertrunking (which made its first appearance last autumn) and a method of building lighting into a concrete shell. The exhibition will be open during the summer and is well worth a visit.

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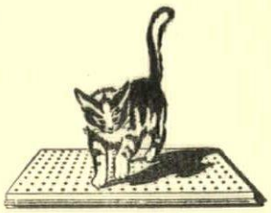

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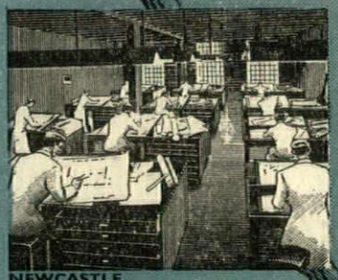

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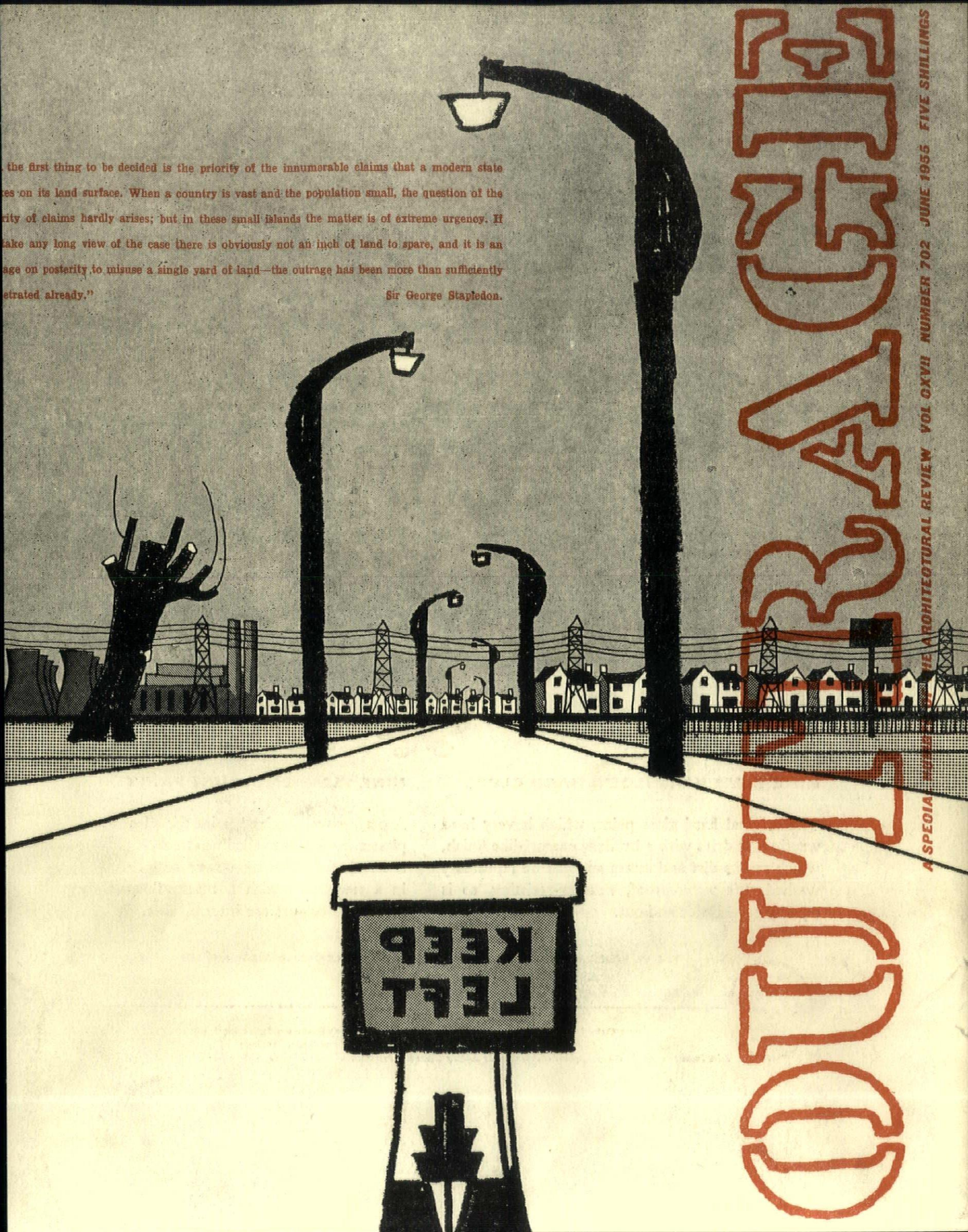

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MARGINALIA

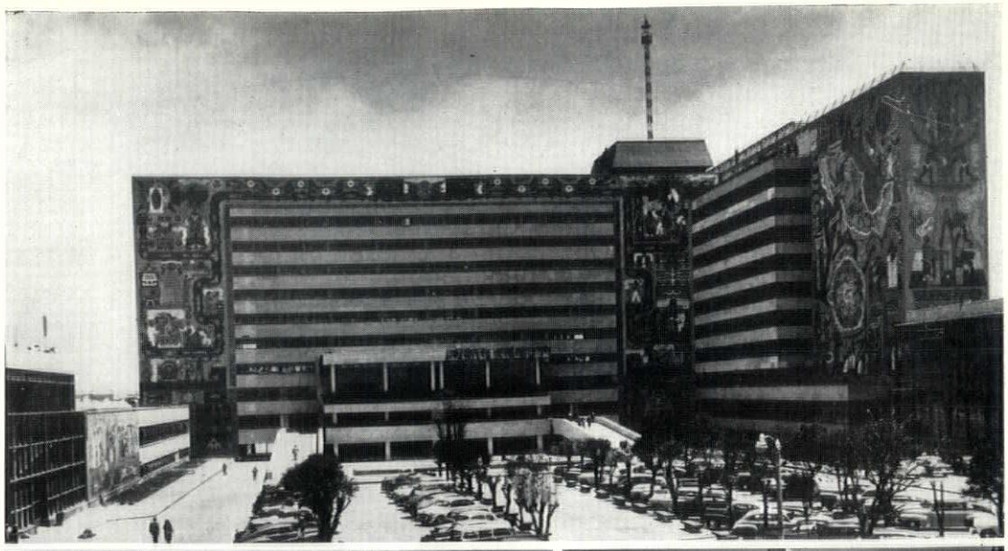
American Exhibition in Paris

London's need for a large permanent hall to accommodate major travelling exhibitions has been underlined yet again by the case of the 'Salute to France' exhibition recently staged in Paris by the Museum of Modern Art and the American Embassy in Paris. This immense and comprehensive exhibition will be seen in London, if at all, only in parts, some at RIBA, some at the Tate Gallery, and even so it is unlikely that it will be seen in its entirety since it took up most of the floorspace of the *Musée d'Art Moderne*, and neither the Tate nor RIBA could free so much space without disrupting their other activities. The exhibition was prepared under the direction of Rene d'Harnoncourt, Director of the Museum of Modern Art, New York. Most of the 500 works of art which were included came from the Museum of Modern Art's world-famous collections, and the organization and financing of the exhibition was carried out under the Museum's International Program, directed by Porter McCray, with assistance from the French government.

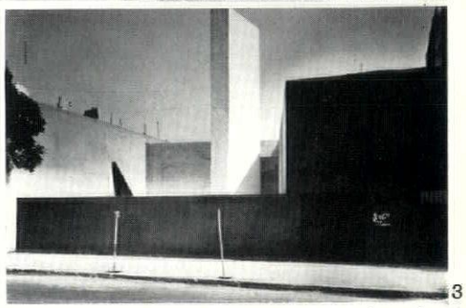
More than 200 paintings, sculptures and prints, by 114 artists, covering most of the main directions of American art in this century were shown, including some important loans from Museum trustees and patrons. Photographs ranging from abstract images to documentary photographs were shown and panels of stills from American documentary and experimental films.

Modern American architecture, selected by Arthur Drexler, Curator of the Department of Architecture and Design, was represented by 17 buildings designed since 1946, shown in large-scale photo enlargements, plans, models and three-dimensional colour slides in adjustable stereoscopic viewers. The United Nations Secretariat Building, New York, by Wallace K. Harrison and Consultants; the General Motors Technical Centre in Detroit by Saarinen, Saarinen and Associates; and Lever House, New York, by Skidmore, Owings and Merrill were among the buildings included. Models of Mies van der Rohe's Chicago apartment house, of Philip C. Johnson's glass house in Connecticut, and of a house by Marcel Breuer, and one by Richard Neutra, was shown. The architectural section also included an actual six-by-twelve-foot aluminium panel identical with those used in the façade of the Alcoa Building in Pittsburg designed by Harrison and Abramovitz, and a wall-sized photo mural of Frank Lloyd Wright's Johnson Wax Company Laboratory Tower in Wisconsin.

More than 150 mass-produced articles were shown in the industrial design section, a special feature being a group of modern chairs selected as particularly illustrative of the application of modern industrial tech-





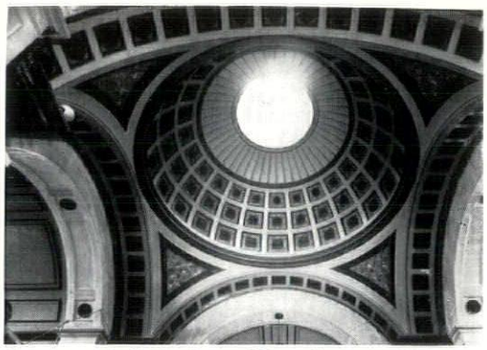


MEXICAN ARCHITECTURE. Last month at RIBA a remarkable selection of photographs of ancient and modern Mexican Buildings was exhibited, ranging from archaic stepped pyramids to new public buildings like the Ministry of Public Works, 1, *architect, Carlos Lazo. This broadly decorated block, which would cause something of a sensation in any other country would seem to constitute almost an official, middle-of-the-road style, for similar architectural and decorative procedures could also be seen on most of the buildings for the new University City (AR, November,* 1953). *The photographs on show did exhibit wide variations from this most unusual norm, yet they did not reach the extremes of present Mexican architectural practice. There was nothing in the exhibition to parallel the strange blend of academicism and modernity exhibited by another work by Lazo, a bank in Santa Cruz,* 2, *nor anything approaching the forceful New Brutalist composition of* El Eco, 3, *an experimental museum of sculpture, murals and space manipulation designed by Mathias Goeritz, 'to produce emotional effects'. Henry Moore has contributed some of the murals.*



EXHIBITION AT LEIGHTON HOUSE. Kensington Borough Council in a recent exhibition made an attempt to draw a wider public's attention to country houses open to the public. The exhibition included houses still owned by the nation and many owned privately. Among the illustrations was the Gothick library (1750) *at Arbury Hall, Warwickshire, above, which shows how well justified was the recent fight—now happily won—against open cast mining in its closest vicinity. A screen with photographs arranged by the National Buildings Record told the sorry story of demolition still going on and there, too, one can only hope that a wider public will be aroused to protest against such vandalism.*

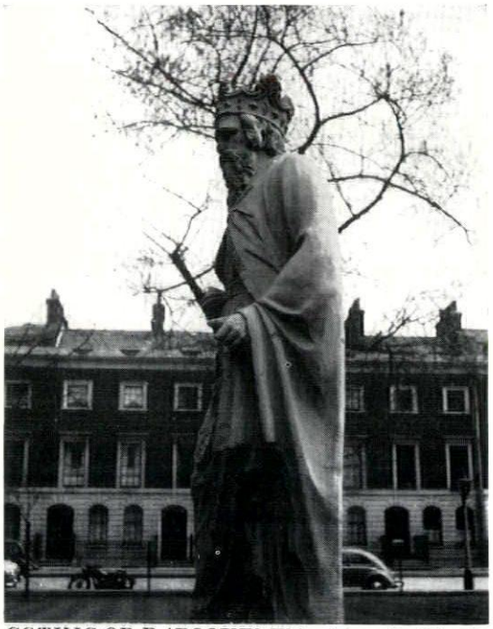




DODINGTON CHURCH, GLOUCESTERSHIRE, above, was built by James Wyatt in 1805. *The blank walls, the distribution of the windows and the lighting effects are all reminiscent of Soane. A few years ago the roof began to leak and dry rot was discovered. Thanks to the efforts of the Georgian Group, action was taken in* 1951, *but nothing was done until the dry rot had permeated most of the building and last year the National Buildings Record had to report its more or less imminent demolition. This was averted by a grant from the Ministry of Works acting on advice of the Historic Buildings Council. This grant was to meet the cost of eradicating the dry rot, but since it has progressed so far the only method now is to remove the entire interior plasterwork. This is to be done leaving only the Doric columns and the shell.*

nology to American design. Other furniture, as well as lighting equipment, glassware, china, cooking utensils and kitchen equipment, tools, toys and radio sets were also shown.

Whether any of this material at all will be seen in London remains uncertain, but RIBA may stage in 1956 an exhibition equivalent to the architectural section of 'Salute to France' in scope but on a larger scale, organized by Prof. Hitchcock for the U.S. State Department.



GOTHIC OR BAROQUE? This statue of a king in Trinity Church Square, Elephant and Castle, is, according to N. Pevsner (Buildings of England, London), *characteristic of the style of the late fourteenth century. The statue is heavily restored, particularly the face, the back and shoulders and also some of the folds, but the posture is obviously that of a piece of Gothic sculpture, and the unrestored folds, particularly those falling down from the waist, are characteristically late fourteenth or early fifteenth century. It is surprising, therefore, to find that in the latest volume of the London Survey* St. George's Fields (*published April,* 1955), *the old myth of Rysbrack's authorship is repeated. The only evidence for this attribution lies in the fact that Rysbrack made a statue of King Alfred for Carlton House and that Carlton House was demolished shortly before Trinity Church Square was formed and the statue put up. In addition a book in* 1830 *calls the statue King Alfred. Surely to anyone trained to date sculpture on the evidence of style there is not enough documentary evidence for a shift by nearly* 350 *years.*

City Churches

The new dispensation regarding the greater part of the City of London's heritage of churches is now beginning to manifest its effects. The Act of 1952 reoriented their activities away from parochial matters towards the idea of service to the daytime working population of the City, and other specialized activities, and the Guild Vicars for these functions have now been appointed. The concomitant programme of repairs and rehabilitation of the church fabrics is now also getting under way, and work is in hand at St. Lawrence Jewry (architect, Cecil Brown), St. Mary-le-Bow (architect, Laurence King), St. Bride, Fleet Street (Godfrey Allen), and St. Vedast, Foster Lane (S. Dykes Bower). Plans are also being drawn up for the rebuilding of St. Andrew, Holborn, by Seeley and Paget; St. Andrew-by-the-Wardrobe, by Marshall Sisson; and St. Nicholas Cole Abbey, by Ansell and Bailey.

Soane Redescribed

One of the most useful and memorable products of Mr. John Summerson's curatorship of the Soane Museum will undoubtedly prove to be his *New Description* of the buildings and their contents, which has just been published.* Traditional in its adherence to the form of a description, rather than a catalogue of the exhibits, the new publication breaks with the long-established practice of merely revising and altering Soane's original description, and establishes an entirely new text, the work of Mr. Summerson himself. This *New Description* follows the Soanian prototype in setting out to tell the visitor precisely what he will see in each room or passage as he comes to it, but uses the text of 1833 only to explain what the founder of the museum thought or felt about any particular exhibit. Thus Sir John's description of the Monk's Parlour is quoted at some length—this valuable document tells us almost as much about Soane as it does about the way we are supposed to view and appreciate this particular piece of mock-medievalism. Elsewhere the text is, for the most part, entirely new and incorporates all the fresh information and revised attributions which have accumulated since Soane's death.

Besides this new and extensive description, the handbook also gives illustrations of the more celebrated rooms and works of art, plans of the property at different stages in Soane's rebuilding of it, and a chronology of the Museum from the birth of the founder to the present day—a document which occasionally provides a sombre note of *sic transit Gloria*, as in the entry for 1917: 'Walter L. Spiers died. Arthur T. Bolton appointed curator. The Tivoli Recess converted into a w.c.'

* H.M.S.O. 2s. 6d.

Country Houses

On May 17th, *The Times* published an illustrated Review entitled *Historic Houses*, which covers the architecture of great houses in Britain and the outstanding art treasures inside them, their gardens, notable old and recent losses, and the accomplishments of the National Trust and the Ministry of Works in preserving and restoring. The price is 1s.; or orders may be sent direct to *The Times*, London, E.C.4, 1s. 1½d. inland, 1s. 2d. abroad, including postage.

INTELLIGENCE

The National Gallery has opened two more air-conditioned rooms, XIX and XX, to the public, reducing the number of rooms closed owing to war damage from ten to eight. The rooms contain German and Early Netherlandish pictures, and Jan Van Eyck's *Marriage of G. Arnolfini* will be seen at last, in Room XX, with its glass removed.

The National Buildings Record invites the submission of measured drawings of English and Welsh buildings to be copied photographically at their expense. Enquiries should be sent to The Director, National Buildings Record, 31, Chester Terrace, London, N.W.1.

The Council of Industrial Design announces the opening of a Design Centre for British Industries early in 1956. The Centre will be housed at 28 Haymarket, S.W.1, and will show a wide range of products, selected by the COID for their high standard of design.

German architecture, both from the East and from the West, will henceforward be represented at the International Union of Architects by a single delegation. This decision will first take effect at the Congress of the IUA at The Hague in July of this year.

ACKNOWLEDGMENTS

Except where stated, all photographs are by Toomey and Nairn, Arphot. Fronts: Aerofilms Ltd. Page 369: Photoflight Ltd. Route Book, page 397: 6, Galwey, Arphot; 7 and 8, Central Office of Information; page 402: 1, Galwey, Arphot; 7, Dell & Wainwright, Oxford County Council; page 405: 3–7, I. de Wolfe, Arphot. The Highlands, page 438: bottom right, Sam Lambert; pages 439 (both photographs), 443, 443 (1): Robert M. Adam; page 444: 3, 8, page 450: 1-6, I. de Wolfe, Arphot; page 444: 4, page 445: 3, page 446: 5-6, page 448: hydro-electricity, 3-6, trim, 2-5 and 7-10, Sam Lombert, Arphot; page 445: Roads, 1-2, page 446: Tourism, 2, G. Douglas, Bolton; page 445: 5, Wm. S. Thompson; page 446: 1, Scottish Tourist Board, 3, W. Kintail, 4, George A. Oliver; page 447: 1, N. of Scotland Hydro-Electric Board, 3, A. J. B. Strachan, 4, John H. Hogg; page 448, hydro-electricity, 2, W. Radston.

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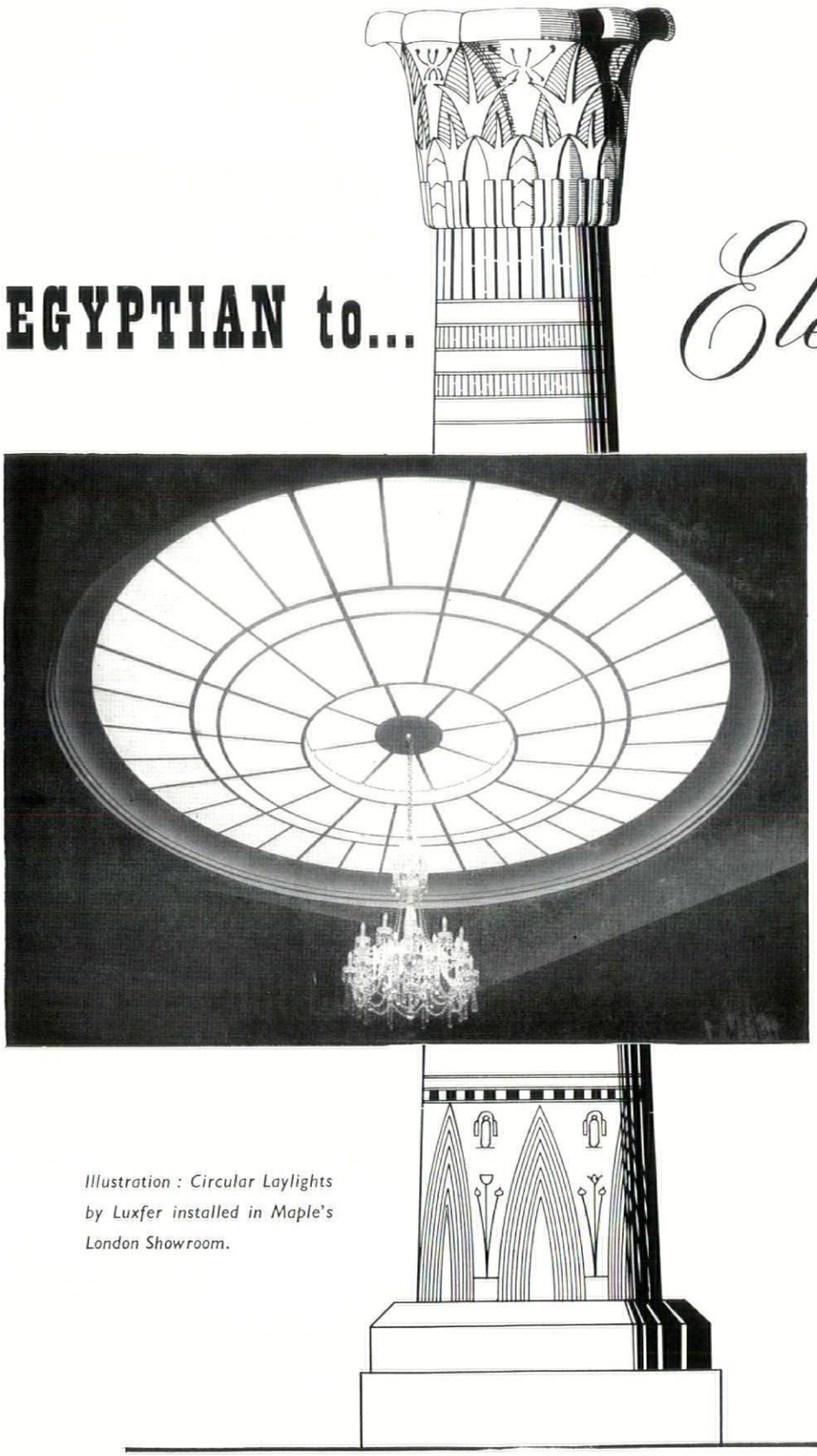

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A Special Number of

THE ARCHITECTURAL REVIEW

VOL. 117 No. 702 JUNE 1955

OUTRAGE

This issue started by being called Outrage in the Name of Public Authority, but in collecting the material it became clear that the issue was much wider, and that we are all offenders as well as victims. Public authorities are responsible for nearly all of the faults exposed in this issue; they have most power and often least awareness of the visual responsibility that should go with it, but they are only a corporate reflection of what goes on in the mind of each one of us. So the title of the issue became simply Outrage; and the Outrage is that the whole land surface is being covered by the creeping mildew that already circumscribes all of our towns. This death by slow decay we have called Subtopia, a compound word formed from suburb and utopia, i.e. making an ideal of suburbia.

Edited by Ian Nairn

361 **Marginalia**

363 **Frontispiece**

365 **Subtopia** In this special issue THE ARCHITECTURAL REVIEW utters a prophecy of doom—the doom of an England reduced to universal Subtopia, a mean and middle state, neither town nor country, an even spread of abandoned aerodromes and fake rusticity, wire fences, traffic roundabouts, gratuitous notice-boards, car-parks and Things in Fields. It is a morbid condition which spreads both ways from suburbia, out into the country, and back into the devitalized hearts of towns, so that the most sublime backgrounds, urban or rural, English or foreign, are now to be seen only over a foreground of casual and unconsidered equipment, litter and lettered admonitions—Subtopia is the world of universal low-density mess.

The REVIEW attacks this situation on visual grounds, which are its proper province, but philosophical justifications for a categorical condemnation of Subtopia are not wanting. Man's triumphs of conscience and consciousness have been achieved at the cost of a specialization that has cut him off from the rest of nature. His mental and physical health require that he shall be able to recreate himself in environments that are conspicuously nature-made, not man-made, that he shall be able to distinguish wild from tame, country from town. Subtopia smudges over this vital difference, destroys country without making town. Britain is a small and over-loaded island where the natural scene is already at a premium, but patches of spreading Subtopian blight are already beginning to coalesce, minor thoughtlessnesses are beginning to agglomerate into a major disaster. To battle with this amorphous destroyer is a daunting task, but bigger problems are being tackled in other fields, and something must be done, now, because the alternative is the abyss.

370 **Agents** Subtopia is made with human artefacts, often inoffensive in themselves, disastrous in the places, quantities and associations in which they are found. Within the town the agents of Subtopia are demolition and decay, buildings replaced by bijou gardens, car-parks and underscale structures, reduction of density where it should be increased, reduction of vitality by false genteelism, of which Municipal Rustic is the prime agent, the transporter of Subtopian blight to town and country alike, as is the badly detailed arterial road and its accompaniment of crank-necked concrete lamp-posts. The essential ancillaries of the road, garages and cafés, falsely genteelized and casually sited, merely spread Subtopia instead of functioning as elements in a coherent transport pattern. Public bodies lend their support to the spread, draping wire across town and country indifferently, for power, light or fencing—this last a speciality of the great super-agents of Subtopia, the Ministries of the Crown, with their camps and dumps, aerodromes and atom-plants; whether in use, but widely dispersed, or disused, but not cleaned up; bringing Subtopia to areas that might have seemed remote from attack.

392 **Route Book** A black guide to England along a line ruled across the map from Carlisle to Southampton. A line that passes through no great conurbations or other areas where blight might confidently be expected, but nevertheless finds in town and village and once-unspoiled country Subtopian indifference and thoughtlessness visibly expressed in malpractices that can be photographed and located on the map, documentary proof that Subtopia is all around us, and a warning that we can afford to take no isolated objects for granted because we are already approaching a density of such objects when they can no longer be taken as isolated, at which point it is already too late.

439 **The Highlands** Britain's last great reservoir of non-Subtopia, of rugged unspoiled landscape that is as natural as one can have it, lies in the Highlands of Scotland, an area that must gain increasing importance as the psychological balance to the Subtopian south. Certain things need to be done for the inhabitants of the Highlands—they need power and light and social services—but an opening-up of the Highlands to industry and charabanc tourism would be their ruin as a reservoir of wilderness. Action is needed now, for spots of Subtopian infection have already appeared, in the form of insensitive forestry, badly designed and ill-sited hydro-electric plant, thoughtless road building and plain suburbanism in house design.

451 **Summing Up** What must we do to be saved? THE ARCHITECTURAL REVIEW offers a Manifesto and a call to action, a programme, precepts and a check-list of malpractices for which the opponents of Subtopia must be ever on the alert. The programme calls for the development and the enhancement of the differences between places, it is oriented toward topographical responsibilities, rather than administrative ones, what can be seen, rather than what it says on a piece of paper. Decisions, private or departmental, affect the ground around us every day, may place a site in jeopardy, may require immediate action. That action must be directed to the right quarter, and in the right tone of voice, but it is needed now, and from all of us. The defence of the individuality of places is the defence of the individuality of ourselves.

The Author *Ian Nairn*, assistant editor (production) of THE ARCHITECTURAL REVIEW, born 1930; Maths. degree at Birmingham, then three years in the RAF as a pilot. Enthusiasm for architecture proving too strong, resigned to try to utilize it full-time.

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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS

This is the first and last view of rural England to be seen in these pages. It is just a reminder of what we are squandering with all the means at our disposal, confident that there will always be some left over. What follows proves that this is a criminally feckless illusion, and that we are in fact obliterating the whole countryside.



SUBTOPIA

This issue is less of a warning than a prophecy of doom: the prophecy that if what is called development is allowed to multiply at the present rate, then by the end of the century Great Britain will consist of isolated oases of preserved monuments in a desert of wire, concrete roads, cosy plots and bungalows. There will be no real distinction between town and country. Both will consist of a limbo of shacks, bogus rusticities, wire and aerodromes, set in some fir-poled fields: Graham Greene's England, expanded since he wrote in the 'thirties from the arterial roads over the whole land surface. Upon this new Britain the REVIEW bestows a name in the hope that it will stick—SUBTOPIA.* Its symptom will be (which one can prophesy without even leaving London) that the end of Southampton will look like the beginning of Carlisle; the parts in between will look like the end of Carlisle or the beginning of Southampton.

How has this come upon us? Britain is an industrial country. Britain has a population of 50,000,000 crammed into an island which could take 25,000,000 decently. Britain is top-heavy. Industrialization has created an 80 per cent urban majority. Popular misunderstandings of one sort and another—misunderstanding of the meaning of democracy —vulgarization of the concept of liberty—have led the man-in-the-street to kick against the principle of land planning.

False tolerance, likewise, has led him to tolerate every kind of abuse in the name of free competition or public expediency. There's a lot of unspoilt country, the feeling runs, and sooner or later the population graph will level out and even take a dive and then urban spread will cease. A fallacy. Spread is dependent no longer on population increase but on the services a power-equipped society can think up for itself. With radio and supersonic speeds you get the capacity for infinite spread, the limiting factors of time and place having ceased to operate. The city is to-day not so much a growing as a spreading thing, fanning out over the land surface in the shape of suburban sprawl. However, something even more sinister is at work: applied science is rendering meaningless the old distinction between urban and rural life; the villager is becoming as much a commuter as the citizen; the old centres of gravity have been deprived of their pull at both ends and in the middle; no longer geographically tied, industries which once muscled in on the urban set-up are getting out of the mess they did so much to make, and making a new mess outside. The arterial road has developed a way of life of its own with its own ribbon-type development —villa, 'caff', garage, motel, caravan camp—carried into the heart of a countryside which is under sentence to machine agriculture.

This thing of terror, which will get you up sweating at night when you begin to realize

*Subtopia: Making an ideal of suburbia. Visually speaking, the universalization and idealization of our town fringes. Philosophically, the idealization of the Little Man who lives there (from suburb + Utopia).

its true proportions, we have called, as we say, Subtopia. It consists in the universal sub-urbanization not merely of the country, or of the town, but of town-and-country—the whole land surface. Suburbia becomes Utopia, Utopia becomes suburbia.

This is not to say suburbia has no place in the scheme of things. The REVIEW has from time to time regaled its readers, to the dismay indeed of some, with the charms of the suburban ethos. What is not to be borne is that that ethos should drift like a gaseous pink marshmallow over the whole social scene, over the mind of man, over the land surface, over the philosophy, ideals and objectives of the human race; for this is what it is doing. And it is doing it not only as a psychological but a physical, a geophysical phenomenon. Not in England merely, in Europe, Asia, Africa, the Americas. Before the eyes of Frank Lloyd Wright in his hide-out in the Arizona Desert now runs a complicated pylon network. In the Pampas, once synonymous with the vast liberty of nature, areas the size of Britain are cut up by rectangular wire fences not unlike those that have completed the downfall of the once open downs of our own country. The same fate is overtaking the Highlands of Scotland. Australia boasts a wire fence a thousand miles long. Holland is already a suburb, Switzerland a hydro. Bagdad has trams. The Alps feed Italy with power that comes in endless chains of pylons over every mountain pass; the Dolomites are a vast hydro-electric scheme. Even in darkest Africa the warpaint and the tom-toms are no longer much more than an act put on for film companies and V.I.P.s.

Look where one may, in the East or the West, every background, no matter how sublime, has now to be seen against a universal foreground imposed by modern man, of posters, wire, disused petrol pumps, car parks, conifers, institutions for the insane, cement works, sanitation plants, generator stations, the wreckage of wars and War Departments. Right down to what the REVIEW in this issue calls Things in Fields. All this adds up to a way of life for the people who live with these objects which is neither agricultural nor urban, but Subtopian.

Well, why not? Is there something wrong with the Subtopian way of life? The REVIEW'S function in life is not philosophical but visual; its job is not to attack Municipal Rustic via the spiritual frustrations of a Black Country mayor, nor the grid wires by exposing the unrewarding life of an Electricity Board Commissioner. For the purpose of this issue outrages are classified in terms rather of the eye than of psychological disorder. Still, to meet the accusation that this method of approach is attacking from the surface inwards—which it is—it might be wise to say a word on the deeper issue.

Let us remember then that Nature is not to be denied. There is a nemesis prepared for those who ignore this simple fact. The roots of humanity lie in something more basic than a kosikot; the absurdities of good-earth cultists should not blind even rational men to the limitations of reason. It isn't merely that human nature can't live for ever on bricks and mortar. Nor is it merely that—whatever the charms of herd life and mass psychology—latent within every human breast is the craving to escape, if only for a season, from the eternal friction with other minds. It is more than that. The fate of the human race is to be of the universe but isolated from it—out on a limb of the tree of life by reason of its specialization of self-consciousness. The need to re-integrate the self-conscious identity with the unconscious universe, the need to return down the limb to the immortal trunk, to re-identify the human with the non-human, including the animal, world, in the shape of what Stapledon calls 'the simplicity, the severity, the silence and the beauty of nature', is the prime condition of personal re-creation.

Of this distinction between the self-conscious world of men and the un-self-conscious universe of nature, *town* and *country* are the equivalents in colloquial speech; the one man-made down to the last marmalade top, the other, man-modified or not, still carrying a bias weighted in favour of the unconscious part of 'creation'.

If this is so, the corollary, clear enough already to the sociologist and planner, should not remain hidden from the man-in-the-street. His duty to his background (far more than a duty in a crowded island, an elementary precaution) is twofold: on the one hand, to bring to the highest pitch of effective life his man-made environment—the 'city'—on the other, to put such limits to it as enable him to keep contact with the wild—the 'country'.

You can, of course, say this can't be done when the pressure of population grows as great as ours, but that is to ignore the landscape moral of the eighteenth century where every city did that very thing with a pocket handkerchief of a park.

What the eighteenth century did individually the twentieth can and must do collectively. Here lies the real challenge to modern planning, and there isn't much question what that challenge is. Everywhere where the borough engineer cracks the town wide open with road-widening and the local council obliterates the market place with a useless flower-garden, and everywhere outside where one department or another dumps a camp, a housing estate, or a sewage disposal plant into the indifferent wild—everywhere we are levelling down two ideal extremes (both necessary to our felicity) to a uniform mean: a mean which is a threat not simply to our felicity but to our continued development as more than an order of termites.

Why we are creating this mean of two extremes is equally clear. The environment is an extension of the ego, and twentieth-century man is likewise busy metamorphosing himself into a mean—a meany—neither human nor divine. And the thing he is doing to himself and to his background is the measure of his own mediocrity. Insensible to the meaning of civilization on the one side and, on the other, ignorant of the well-spring of his own being, he is removing the sharp edge from his own life, exchanging individual feeling for mass experience in a voluntary enslavement far more restrictive and permanent than the feudal system. This heritage to which he is heir, a great heritage, product of centuries not in fee to mass psychology, the meany is busy breaking down. The pages that follow are the record of his success to date, masquerading as Improvement, Progress or Amenity. To say it again, it is man enslaved dragging down his environment to his own level.

And planning machinery is being used to speed Subtopia, not check it. The planning offensive was started in a mood of idealism which assumed two things: that rules would be used flexibly and intelligently, and that England was of unlimited size. This last, single, radical miscalculation gave rise to the whole philosophy of dispersal—expanded towns, New Towns and every house with a garden, which is now the mainstay of official planning policy: an admirable idea *in vacuo*, and implemented in perfect good faith, but condemned before it started by our coast-to-coast dimensions. Now the tail is wagging the dog, the Brave New World has been twisted to become the decanting of overspills evenly throughout the country—Subtopia.

Any hope of intelligent interpretation was lost when planning was tied down step by step with local government, and made into another unrewarding office job. This chained it to the very points where democracy is most likely to give the lowest common denominator, not the highest common multiple: corporate Subtopia with all the planning rules as its armoury, perverted to make every square mile indistinguishable.

In 1950 the REVIEW traced this rake's progress, both planned and unplanned, in some of its manifestations in the U.S., a piece of research which drew from some of its American readers subdued applause but raised the blood pressure alarmingly in others. Unnecessarily, since the fact that we are all in this thing together, first as the victims and then, in varying degrees, as the offenders, is the first thing we have to know about it.

Here the REVIEW (as it promised then) turns the searchlight upon this country. We have tried to play fair. To pick and choose special areas of blight like Corby would be too easy and would lay the argument open to the accusation of special pleading. To avoid that accusation we have put a ruler across the map of England and Scotland and drawn a line as straight as main roads permit from the bottom to the top—from Southampton in the south through Carlisle on the Border to the Highlands. The line from Southampton to Carlisle we have followed in strides of 25 miles to a page in an effort to present a typical cross-section of the country—of the *countryside*, one might say, for the aim has been to choose a line which avoids the great conurbations. A line which, in fact, avoids the worst.

It shows, roughly speaking, two stages in the progress of the disease. First, main-road England, the limbo of shacks, bogus beautification, wire and radar stations, set in unhappy pastoral scenery. In the second part the Highlands themselves show the blight less advanced, much more thinly spread—and all the more noticeable since the outrages are isolated sores upon an awe-inspiring background rather than a rash of pimples amongst mildly complaining water meadows. With this is linked the thesis that here at least modern man has not yet trampled on the previous balance between man and nature; there is thus still time to make the Highlands a pointer to a saner visual world and a lung for the island's fifty million—a very different thing from the mixture of piecemeal industry, hydros, motels and charas, that some would like to impose on the Highlands.

Nevertheless, how widespread, how universal, is the feckless couldn't-care-less attitude of our whole society is seen as clearly in the far north as the far south; no remote Scottish loch but is ringed with a scum of sawn-off tins and shredded gumboots, lying where they were thrown to rot by the proud Gael. As we have said, we are all in this thing together. Look north, look south, you see either the services or the excreta of Subtopia.

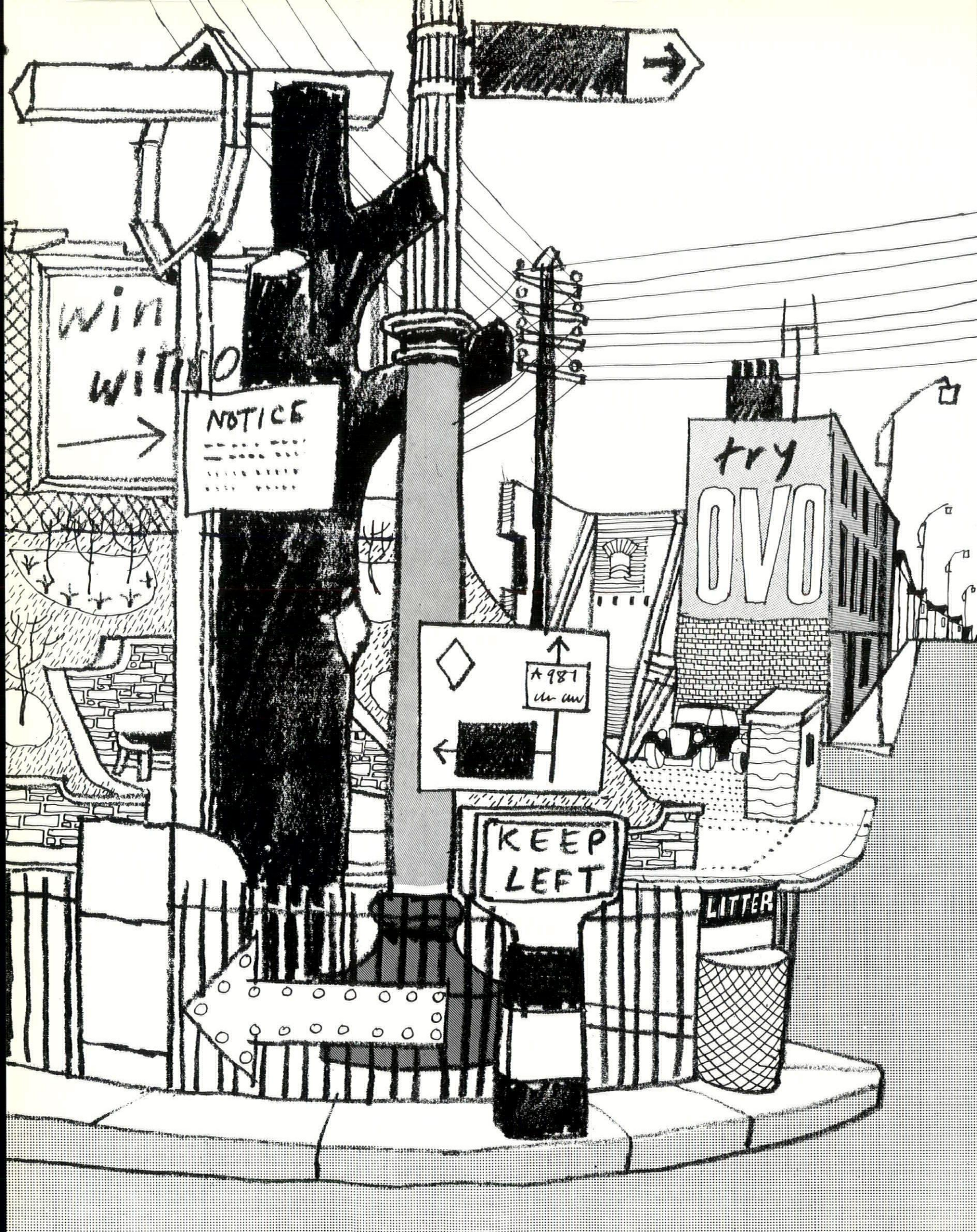
The moral is not the Simple Life. A return to more primitive conditions is wanted by few of us; the ultimate objective of all industrial civilization right down to canned beans and mod. con. is not to make Simple Lifers of us but to simplify our lives.

But because all the sustained scientific planning that goes into every industrial process or commercial undertaking stops short at the land surface, the colossal advantages that should be available are dispersed. The more complicated our industrial system, and the greater our population, the *bigger* and *greener* should be our countryside, the *more* compact and neater should be our towns. For if our urban sprawl and unplanned technology has squared since 1900, our potential, in ingenuity and techniques, for dealing with it has cubed. Too complex a problem? Not a bit of it—aircraft engineers are solving worse problems every day, and often producing visually wholesome results as a by-product. Surely we can manage to produce a little order by exerting all our powers? The alternative, quite clearly presaged in the sixty pages following, is the abyss.



Subtopia on the March: the morning after the battle, with pockets of field pattern awaiting mopping up. The whole country is beginning to look like this, as all development follows the same pattern of a careless romp of dispersal across the countryside, a pattern which is wasteful and dreary in itself and utterly impracticable in a small and crowded country.




win
NOTICE
try
OVO
KEEP
LEFT
LITTER

The effect of several agents of Subtopia acting in concert, as shown in Gordon Cullen's drawing opposite,  *, is only too familiar. Yet singly the eye may try to take them for granted—a fault which this section is attempting to counteract by abstracting them and showing them next to their counterparts in the next county.*

Agents

Subtopia is the annihilation of the site, the steamrollering of all individuality of place to one uniform and mediocre pattern. In travelling up our route, the first impression would be of a chain of assaults on particular sites, each with its own problem, and this is presented on pp. 392-438. *But Subtopia has already gone so far that it is possible to present scenes which have become indistinguishable, and to classify the causes which have made them look alike. These causes are the agents of Subtopia.*

Most of them are unwitting agents, what Lionel Brett has called the diagrams of progress, put into the environment purely as means of transmitting electricity, or improving communications, and treated by their authors as though they were invisible. With these in themselves the REVIEW has no quarrel at all. Each diagram of progress is a challenge to be taken up; intrinsically neither bad nor good, but capable of producing visually bad or good solutions. The equation that produces Subtopia out of a good idea is always the same: the mass application *of* misunderstood principles. *That is one reason—if a negative one—for adopting the functional tradition for a vernacular of trim; it is least likely to be misunderstood, because it is common sense. To deny progress is as lunatic as the situation to which uncontrolled progress has brought us: we are* enfants de notre siècle, *and if we regard the march of progress with a mannerist compound of admiration and disgust, well, we are* enfants de notre siècle *in that too. Hereafter, if pylons and arterial roads and lamp standards are objected to it is because they represent bad solutions, not because they are bad in themselves;* except—*and this 'except' will recur throughout the issue—where, because of overcrowding, the whole land surface looks like being submerged by them. This 'density clause' is why the REVIEW objects to the power station at Hams Hall on page* 410, *and its corollary, that the wild places must be kept really wild, is the reason for the quarrel with the quarry and A.A. Hut at Honister on page* 433.

Most of the agents are unwitting, but there are two classes that aren't. One could fairly be called the Bye-law and Borough Engineers' Subtopia: the

attacks on towns in the name of slum clearance, which spread sprawling estates in the suburbs, and leave the centre a collection of vacant lots. The other is the panic reflex to the spread of Subtopia, which attempts improvements using standards which are themselves Subtopian. Municipal Rustic, and the unhappy extension of Municipal Rustic back into the country along the roads. These two things are both wrong in their manifestations and wrong in themselves: typically they are the things least often regarded as eyesores. It is the great industrial plant that incites horror, however good its design, and not the cosy, but no less certain, break-open of the town with gardens and prettified car parks.

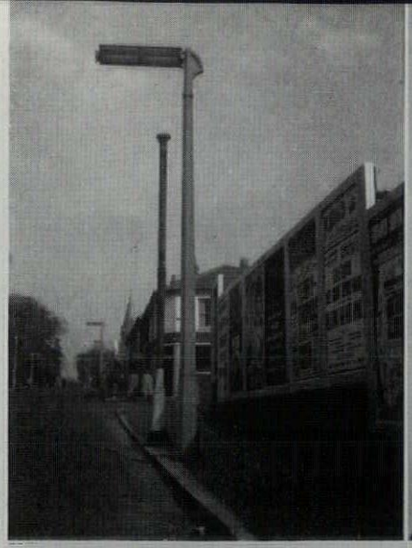
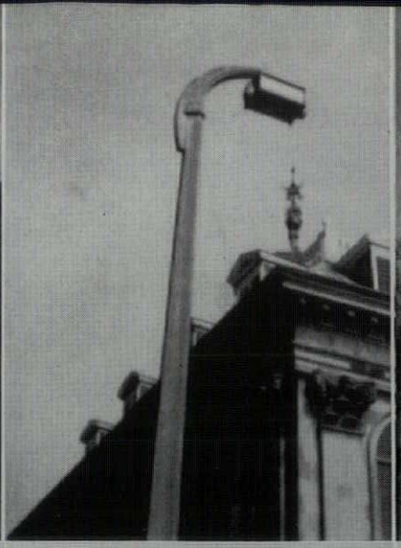
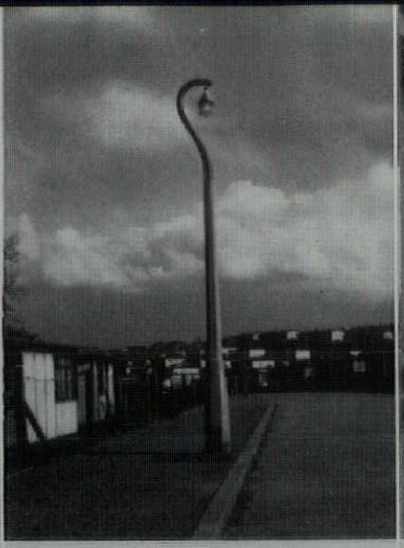
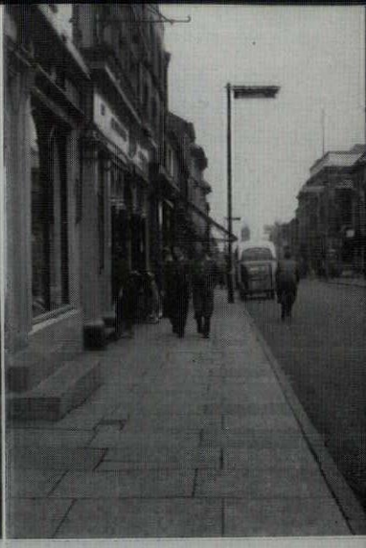
Finally, the agents are shown acting together in Standard Fringes. In the other groups there is sometimes enough character of landscape or townscape in the backgrounds for one to be able to guess where they are. That felicity has disappeared in this last set, and the REVIEW invites you on page 390 *to a bitter guessing game. Is this the best that all the architects, builders, engineers and planners of England can do? The REVIEW believes that it isn't; and its suggestions appear at the end of the issue. But buildings affect people, and Subtopia produces Subtopians—the REVIEW also believes that, unless we are shocked into awareness, the consequences of our visual laissez-faire may make us incapable of distinguishing good from bad, and we may be mutated into sub-humans without our ever knowing it has happened. It's not just aesthetics and art-work: our whole existence as individuals is at stake, just as much as it ever has been from political dictatorship, Left or Right; and in this case the attack is not clearly defined and coming from the other side of the globe, but a miasma rising from the heart of our collective self.*

lamp standards This is the agent that has most hope of being improved; and it has in fact been improved in the last year (see AR, December, 1954). However, any improvement will not affect this sorry stalk of poles for some time, and the first point about Subtopia is brought out straightaway: it is often largely a matter of trim. Functional trim like this is a means not an end: the end is—or should be—the main street of Kirkham, 12, or open country near Blackrod, 11. So it should be neat, clean and unobtrusive.

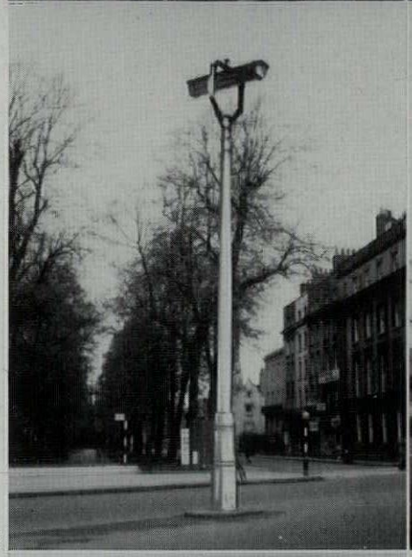
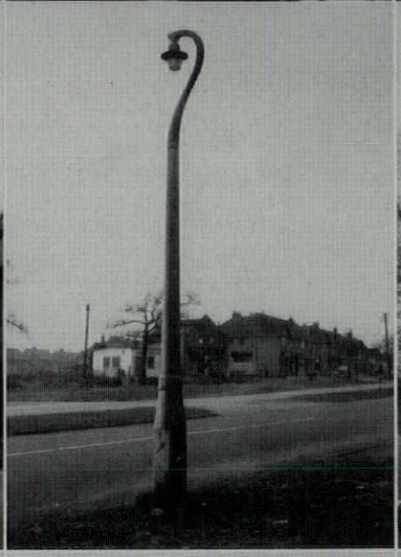
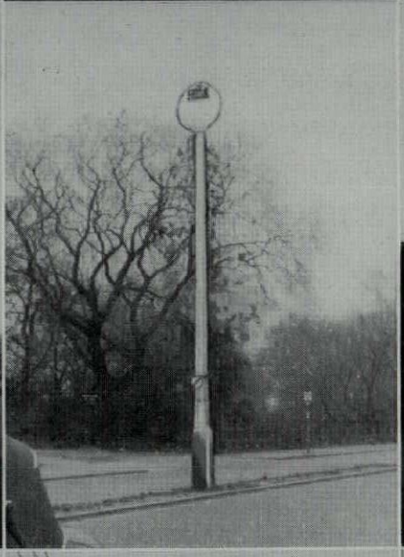
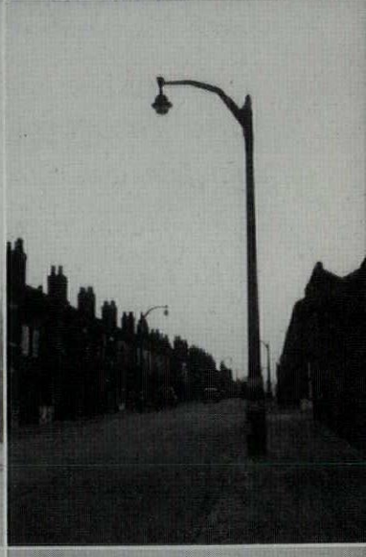
This is just what all these aren't: the reason—the usual one in matters concerned with England's appearance—is a combination of out-of-hand standardization and expediency. Standardization—25 foot poles on main roads, 15 foot on minor roads—produces the fittings of incredible size well above the roofline (1, 4, 14, 15). Expediency provides the concrete—steel shortage—and the clumsy designs. Quite a plausible ancestry: almost respectable—until you look at the results and see Warwick's Georgian main street beaten up with right angles, 4, and the dormers of Abingdon town hall competing with a 25-foot pole with a broken neck, 2. They stamp any scene in which they appear with their own apathetic pattern, and if the scene is fragile, as Warwick is, or having a hard time to stay intact anyway, like Blackrod, it disintegrates.

There is in any case a built-in handicap in making neat slight poles out of concrete—it just *won't*, it's inherent in the performance figures—why not try tubular steel instead?

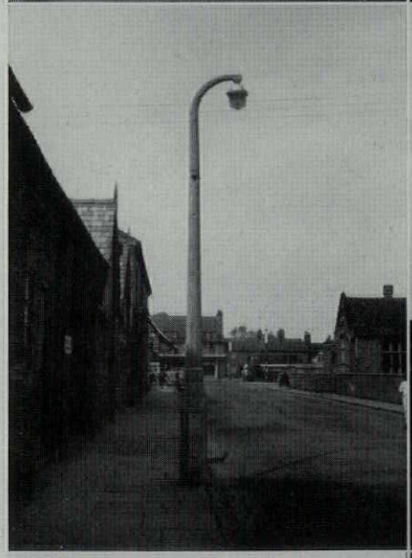
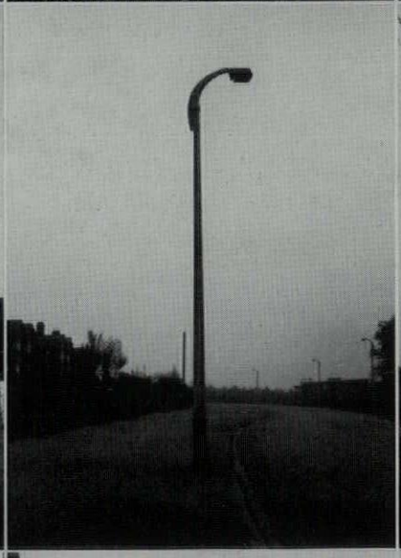
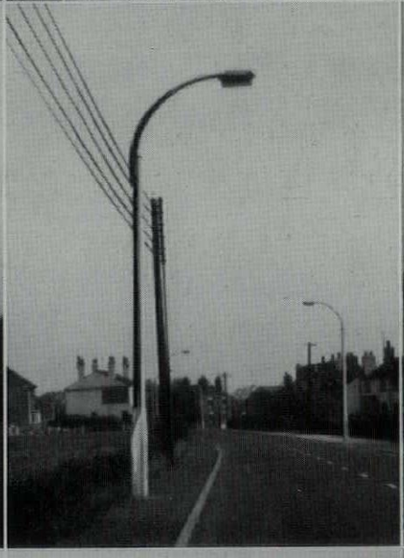
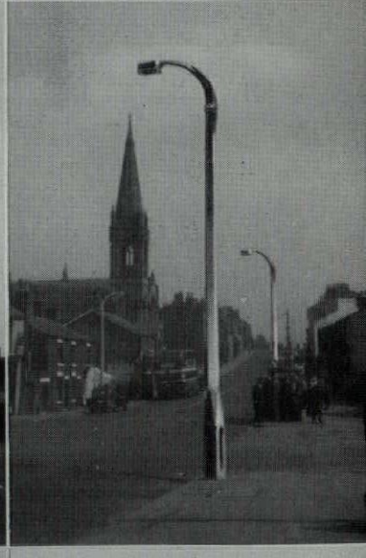
key: 1, *Southampton.* 2, *Abingdon.* 3, *Oxford.* 4, *Warwick.* 5, *Leamington.* 6, *Castle Bromwich.* 7, *Trent Vale.* 8, *Stoke-on-Trent.* 9, *Nantwich.* 10, *Warrington.* 11, *Blackrod.* 12, *Kirkham.* 13, *Kendal.* 14, *Kendal.* 15, *Cockermouth.* 16, *Carlisle.*

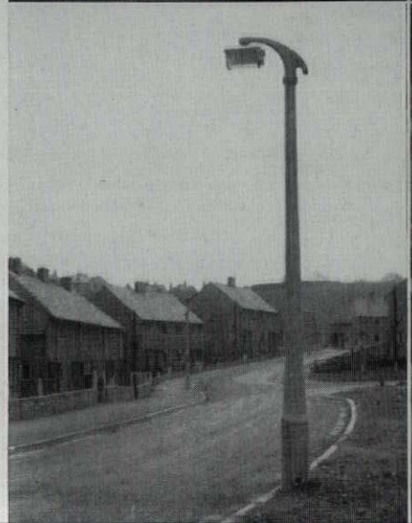
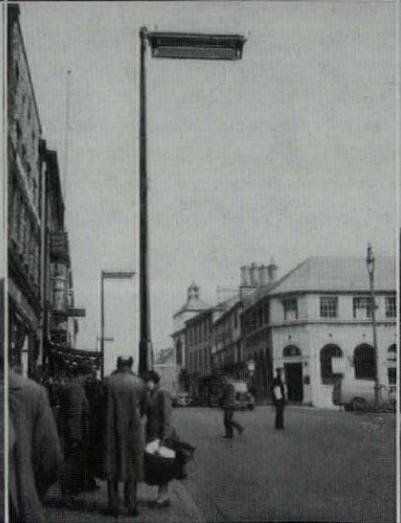
1, 2, 3, 4

5, 6, 7, 8

9, 10, 11, 12

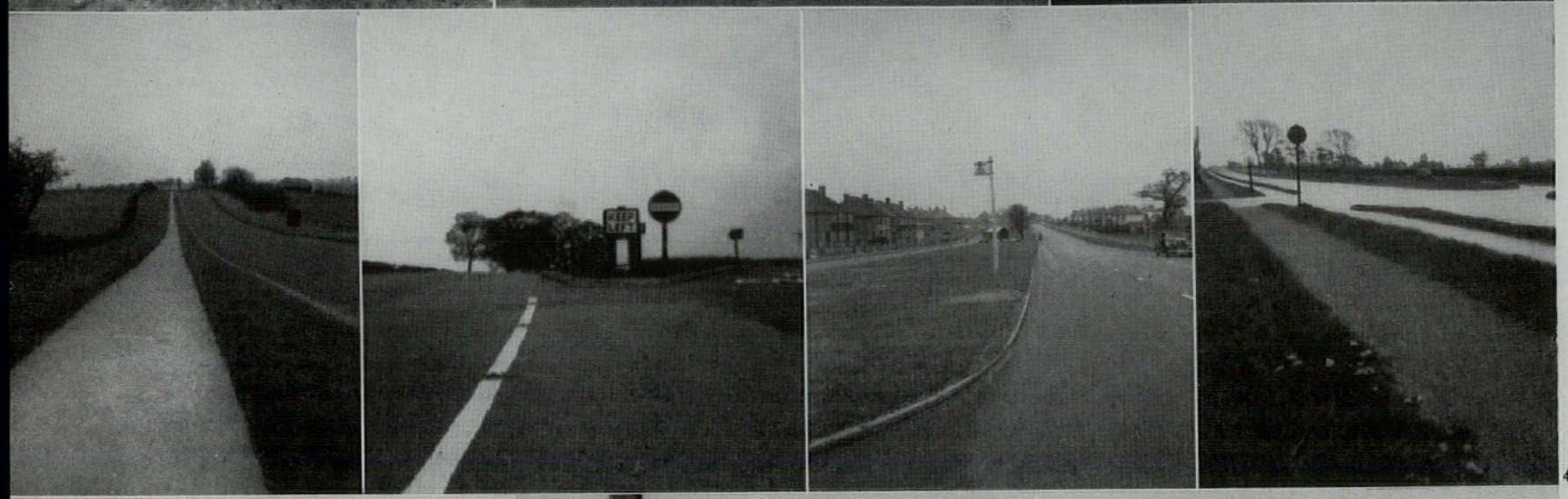





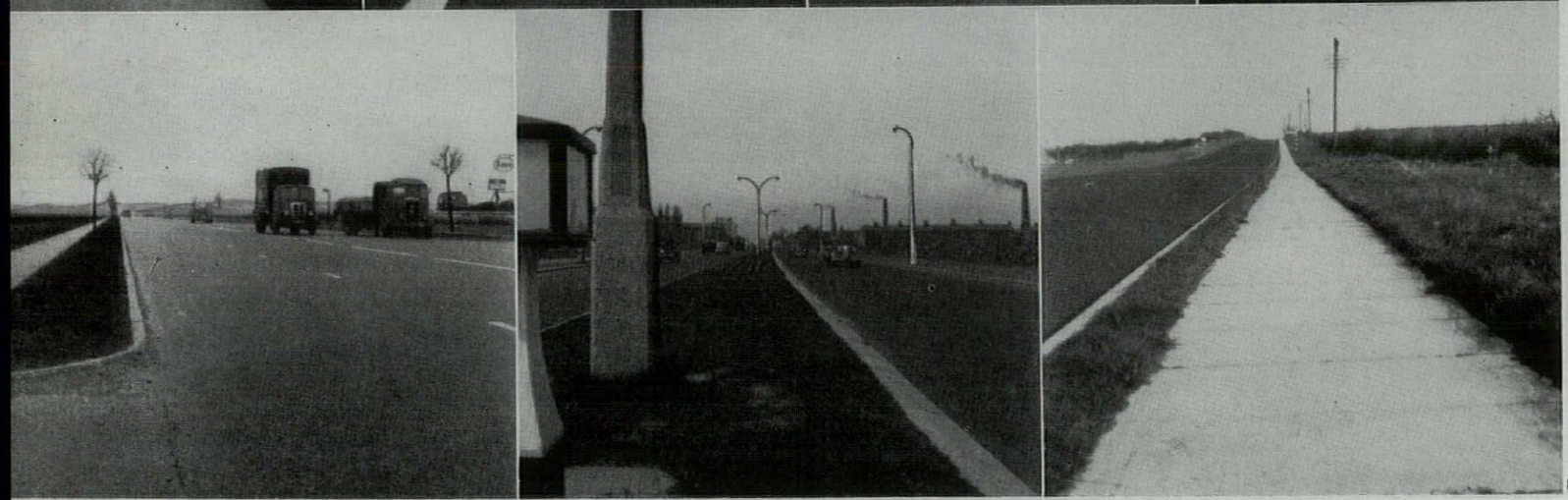
13, 14, 15, 16



1, 2, 3



4, 5, 6, 7



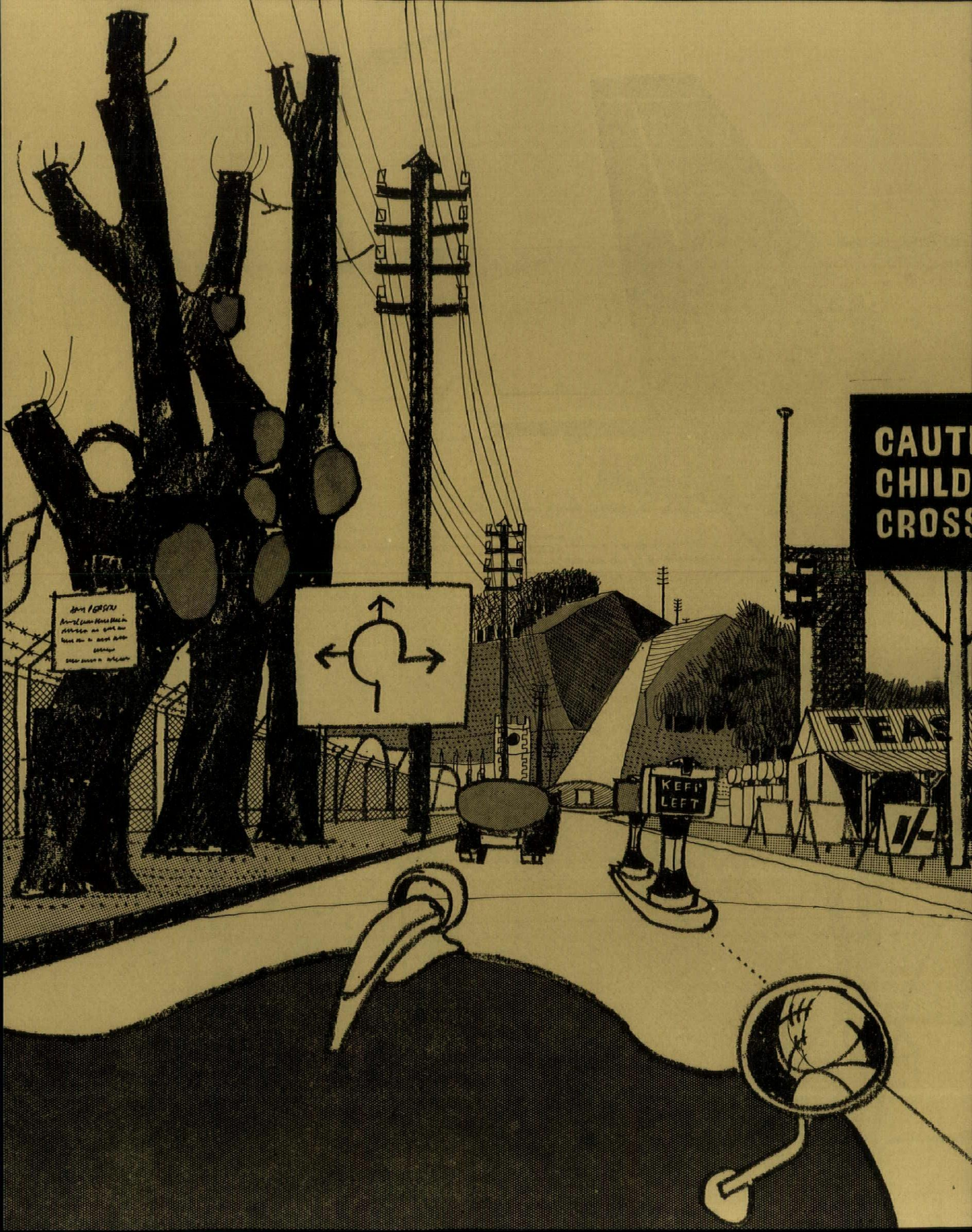
8, 9, 10

arterial roads Arterial roads are necessary, and they can be beautiful. These aren't; they have become the projection of mediocrity from one town to the next—a means of prolonging the Standard Fringe to be a Standard Ribbon. The roads have extended the suburban boulevard that was the way they left the town, instead of looking at the site and arriving at the blend of tautness and local conditions, a very different thing. The essentials, as far as they can be stated away from a specific site, are Green Edges, Clean Edges and No Nibbling: whether the roads are thoughtless cut-rate widening, fully fledged motorways or Beautified roads like those shown on page 389.

Green Edges means an end to the concrete footpath in 10, a brutality not justified by 'the density of regular pedestrian traffic from Carlisle to Penrith,' and also to the loophole in legislation which makes possible the provision of service roads a few feet from the main road without the result being called ribbon development, 6. The absurdly wide centre strip in 9 eats away the border space without preventing dazzle or being green enough to act as a foil itself. Either no borders and compactness, or wide green borders and a foil, but not diminuendi of the road fading away to the hedgerow: parts of A.34 have six metalled streaks dumped across the view, 2 and 7. *Clean Edges* means the exercise of simple good manners by tidying up and not leaving the roadside as a dusty exposition of local geology, 1, and *No Nibbling* means the repression of signs like those in 1 and 6, carted wholesale from the Subtopian fringes into the middle of the country. Some signs are needed: others—like 5—say just twice as much as is necessary.

key: 1, A339, *near Newbury*. 2, A34, *Bladon, Oxon*. 3, A34, *Yarnton, Oxon*. 4, A34, *near Chipping Norton*. 5, A452, *Coleshill*. 6, A452, *Castle Bromwich*. 7, A34, *Gailey, Staffs*. 8, A580, *St. Helens*. 9, A6, *Preston*. 10, A6, *High Hesket, Cumberland*.

The philosophy of the bad arterial road is split-and-dump, and the drawing opposite shows both aspects: splitting the hillside, cutting church from churchyard and maiming the roadside trees. In return it brings poles, wire, shacks and signs from the fringe of one town and scatters them all the way to the next.

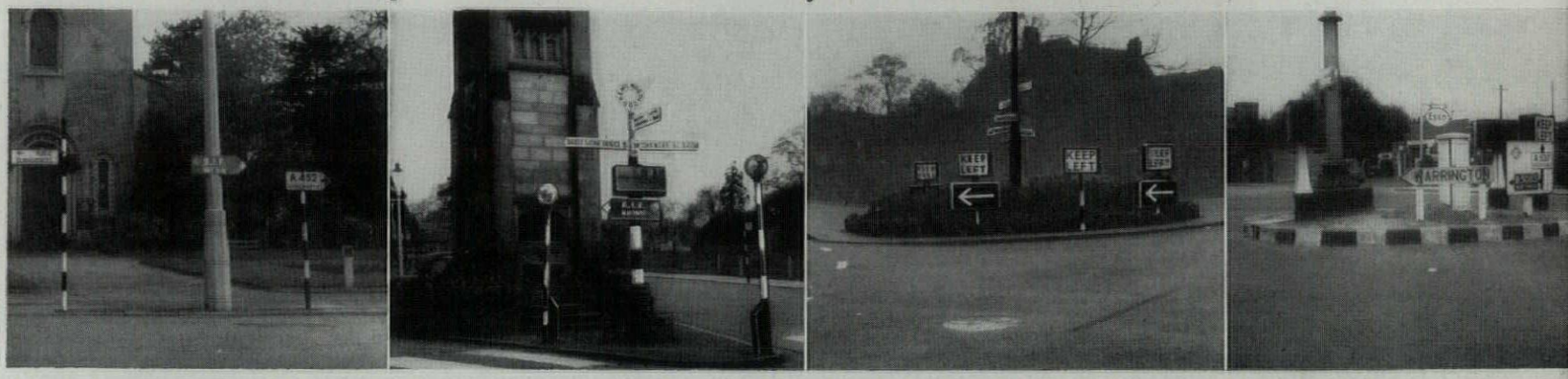

CAUT
CHILD
CROSS
KEEP
LEFT


WARNIN
NO LEFT TURNING

dumping ground . . 1: *the way in which island sites collect a scrapheap of signs*, as demonstrated by four Midland examples (1–4). The result is rather like coming across part of a junk yard carted into the middle of the road. Lack of co-ordination runs through them, each authority with its own pole, so that the Public Conveniences in 1 has a bigger pole than the signpost, and an inadequate sign in 4 has necessitated a makeshift 'Warrington' in wood. Duplication and redundancy run through them—the two beacons in 2 when there are kerbside beacons and zebras already; the multiplication of Keep Left's in 3—three visible at one time, doubled with arrows, when one arrow was all that was needed. Small things but in a crucial position, and simple use of a pair of eyes and a pair of removal men could clear up so much of it.

key: 1, *Leamington*. 2, *Kenilworth*. 3, *Rugeley*. 4, *Knutsford*.

1 2 3 4

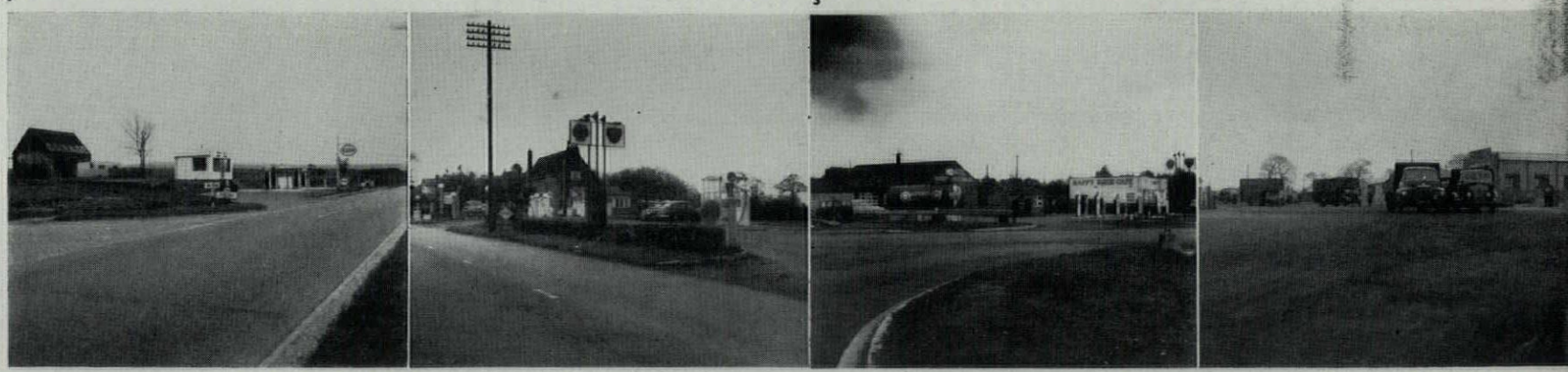


dumping ground . . 2: *using the whole road length as a dumping ground* producing an endless chain of cafés and garages like these. They are a natural function of the road and should be encouraged, but not as a continuous ribbon through open country. Gathered together in knots at junctions and tidied up (though a squalid transport café is far less offence than a genteel one), they become elements in a coherent transport pattern as the staging posts used to be.

The Density Clause operates as usual; the number of motorways must be restricted or the whole country will become like the strip of Herts., south of St. Albans—pastoral countryside carved in all directions by routes out, routes in, by-passes and links. There is also an Indemnity Clause—these roads must guarantee that the old network in between remains unexploded. The danger is not in the motorways themselves, but in the application of arterial principles by local authorities to every country road regardless of site: Subtopia.

key: 1, *Burghclere, Hants*. 2, *Hampton-in-Arden, Warwicks*. 3, *Bassett's Pole, Staffs*. 4, *Lymm, Cheshire*.

1 3

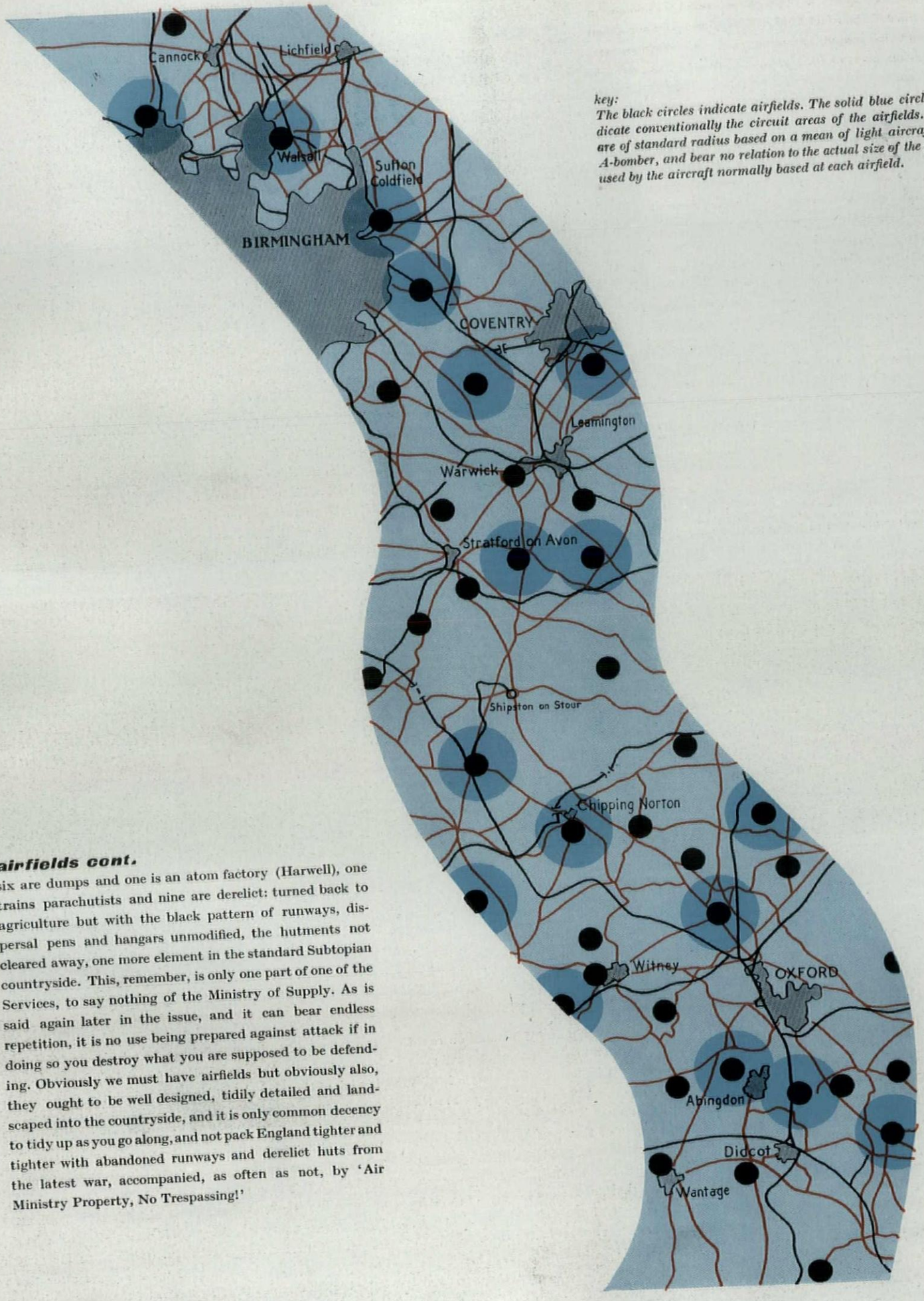


Most military installations are a necessary evil, but the drawing opposite shows how aircraft can also spread Subtopia in an extra dimension and through an extra sense. Even away from the airfield, the sight and sound of the six engined bomber and the formation of fighters can devalue a stretch of countryside, when repeated long enough and low enough.

airfields Any type of military installation could have been chosen. They all reproduce the same pattern—new extensions and old derelictions; but only airfields impinge on the countryside through the sky as well as the land. Just how they impinge is shown on the map overleaf, ten miles either side of that part of the route which snakes up through the Midlands. The black blobs represent airfields, old and new; the blue circles indicate the circuit areas of those airfields that are in use—the areas in which one could expect to see and hear aircraft consistently under 1,000 feet. Those areas are beginning to coalesce.

Again these airfields are necessary and inevitable diagrams of progress—though in only four of the seventeen can it be said to be peaceful progress. This doesn't automatically make them any better—the only crisp engineering job of the whole lot is Upper Heyford; the only neatly camouflaged airfield, and that incredibly well done, like a Repton park, is R.N. Culham—and that looks like the remote, still potent influence of the Nautical Tradition.

What, however, of the others? The twenty-three airfields marked on this map that did a useful job in the war, and are now too small, too near other airfields or redundant. There are so many that they could *never* all be used at the same time for fear of collision. Of these, as far as is known, three have been cleared up ten years after the war—the small grass training fields. Of the others, about



key:
The black circles indicate airfields. The solid blue circles indicate conventionally the circuit areas of the airfields. They are of standard radius based on a mean of light aircraft and A-bomber, and bear no relation to the actual size of the circuit used by the aircraft normally based at each airfield.

airfields cont.

six are dumps and one is an atom factory (Harwell), one trains parachutists and nine are derelict: turned back to agriculture but with the black pattern of runways, dispersal pens and hangars unmodified, the hutments not cleared away, one more element in the standard Subtopian countryside. This, remember, is only one part of one of the Services, to say nothing of the Ministry of Supply. As is said again later in the issue, and it can bear endless repetition, it is no use being prepared against attack if in doing so you destroy what you are supposed to be defending. Obviously we must have airfields but obviously also, they ought to be well designed, tidily detailed and landscaped into the countryside, and it is only common decency to tidy up as you go along, and not pack England tighter and tighter with abandoned runways and derelict huts from the latest war, accompanied, as often as not, by 'Air Ministry Property, No Trespassing!'

wire Wire obliterates the pattern of the countryside just as surely as though it were a blanket of semidetached housing. The view becomes wire and pylon first and site second, 12. In some cases it becomes wire and pylon everywhere and site nowhere, 1, 2, and 13: Subtopia.

Wire in a town blurs the form of the buildings and the shape of the street, whether it belongs to the GPO, 8, the bus company, 10, the electricity company, 6, or the neighbour's telly, 3. It reduces all urban scenes to the same common denominator—the lowest: Subtopia.

Though one can become accustomed to a little wire, one grid line, 12, or even one wire can spoil a whole view. In any case there is a density above which the self-erected defences cave in, and the mind becomes aware that the whole scene is covered with wires and poles: Subtopia.

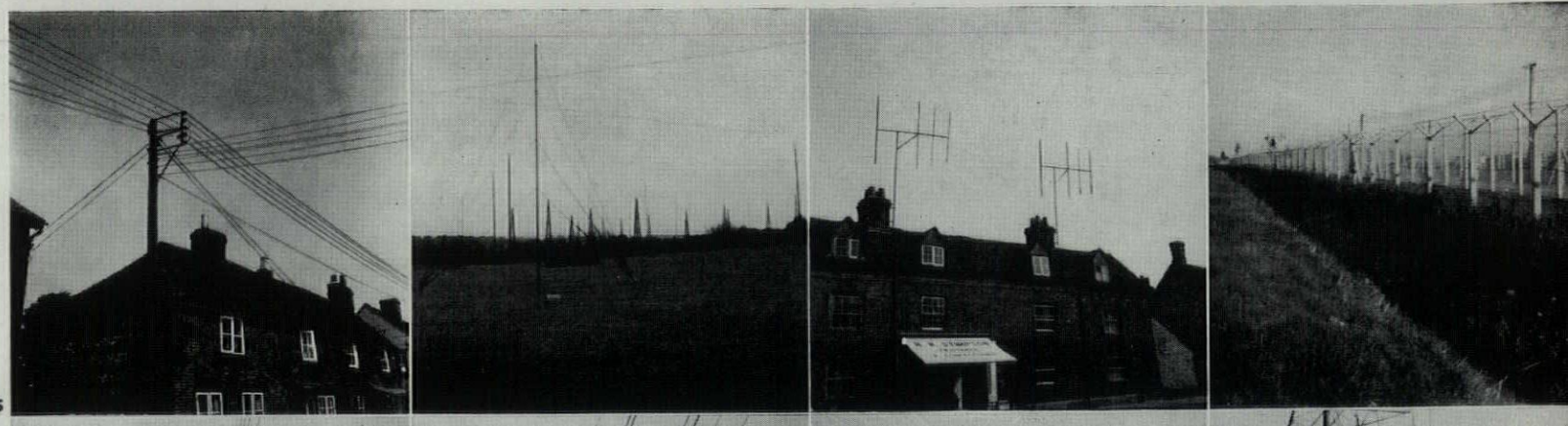
The proper use of wire is in a fence, as a light precise demarcation. If the fence is made long and high to keep people out or military stores in, it covers enough of a view to superimpose its grid on the whole scene, 1 and 11 (which the park wall never did—it robbed you of one space but gave another, the volume bounded by it and the road). The latest U.S. version has started marching across country in 3-D, 5: Subtopia.

How much more of an indictment does one need?

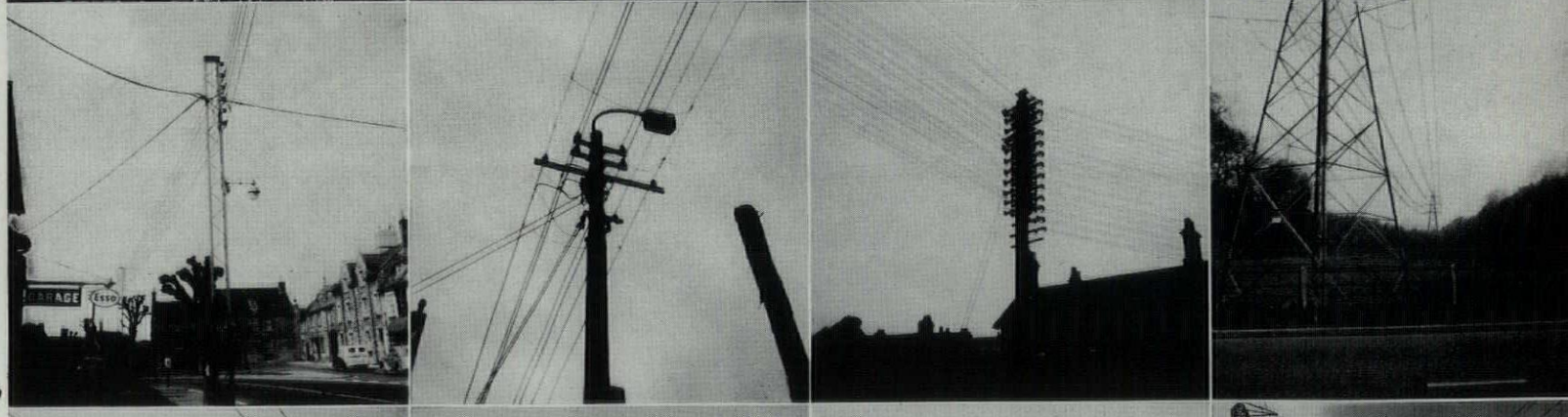
key: 1, *Bicester Garrison.* 2, *Stockbridge.* 3, *Worthy Down, Hants.* 4, *Abingdon.* 5, *Brize Norton.* 6, *Woodstock.* 7, *Brownhills.* 8, *Penkridge.* 9, *Mexford, Staffs.* 10, *Leigh, Lancs.* 11, *Culcheth, Lancs.* 12, *Beetham, Westmoreland.* 13, *Carlisle.*



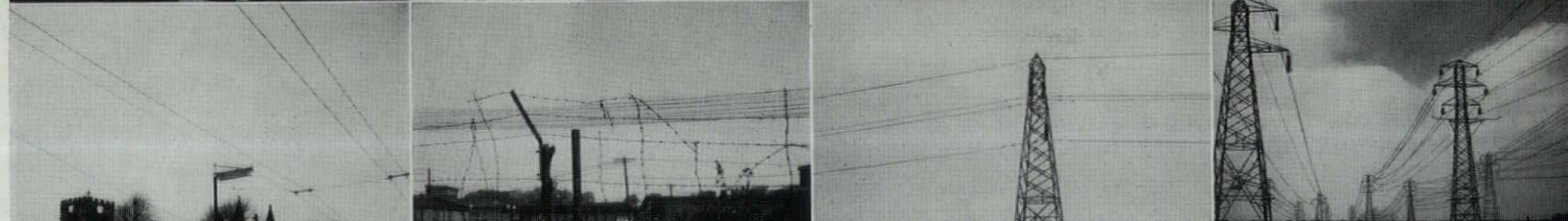
1



2, 3, 4, 5



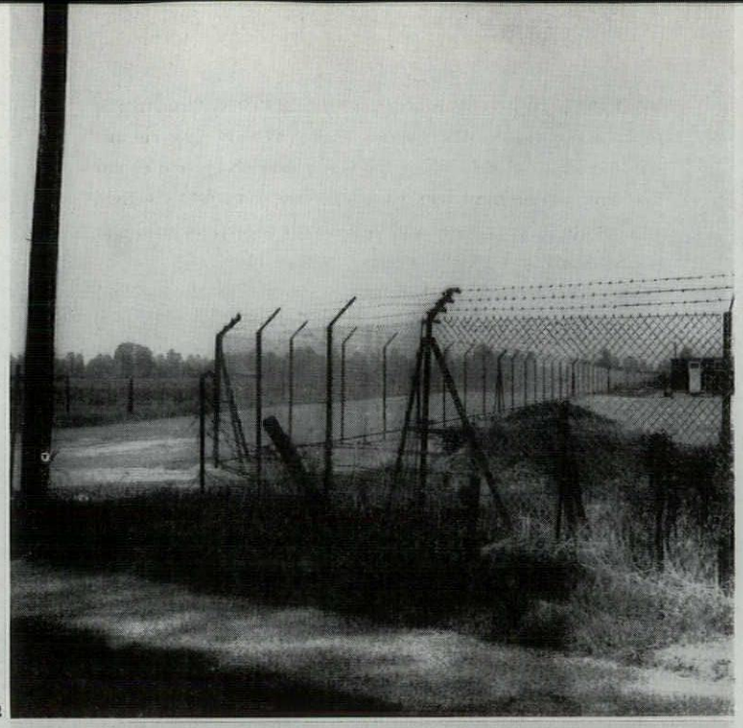
6, 7, 8, 9



wire and trees: how modern man can reduce both technology and nature to the same type of meaningless ugliness.

key: 1, *Witney*. 2, *Grove, Berks*. 3, *Chandler's Ford, Hants*. 4, *Highmoor, Oxon*.





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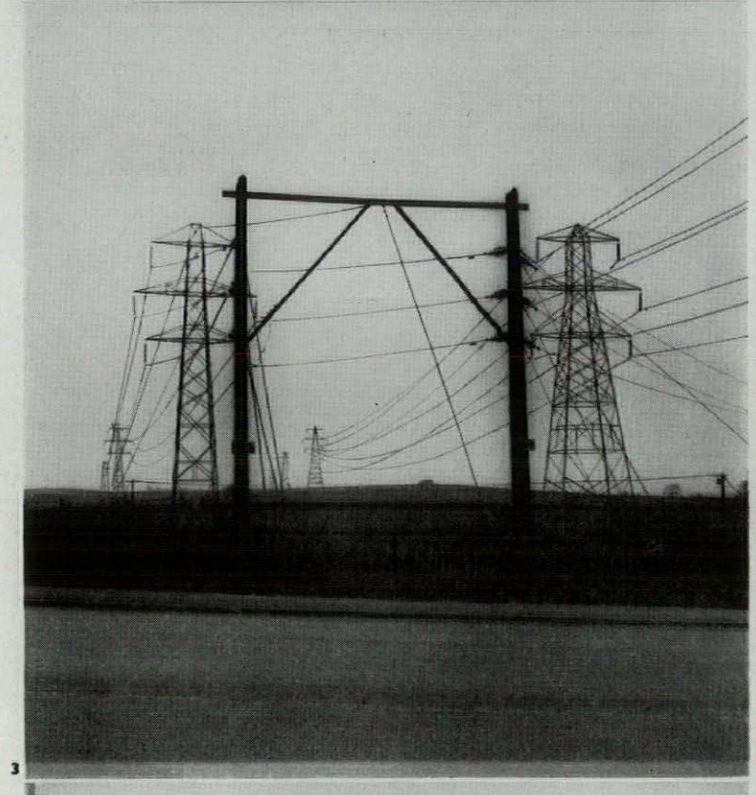


3

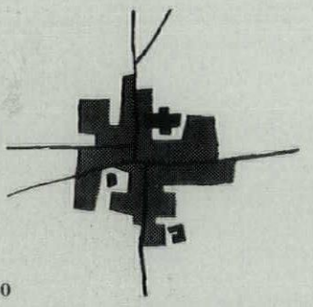


trees A sad cruel little story, maiming trees in the interests of uniformity, making living things grow to rule for the sake of the rule. There are necessary causes for lopping, which may not always be obvious from a look at the site (though nearly all ills can be cured by pruning, maintaining the shape and reducing the density, not hacking off regardless at x feet y inches), and some trees are born to be pollarded. For that reason this is not a selection up and down the route, but a saw-cut through one town just off it—Witney—where the trees really do seem to be reduced to a standard height regardless of type, site and appearance.

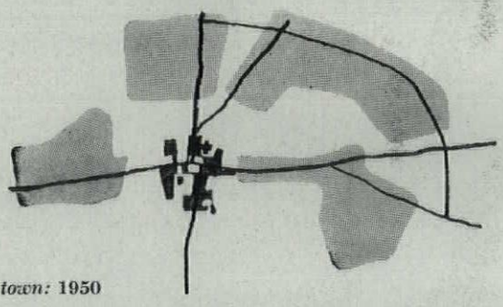
There isn't much to say that isn't self-evident from the photographs. What should be self-evident to Witney is the implication—that if the out of hand application of a rule gives results like this, then the rule is wrong, not the trees; and the implication of that implication, that the attitude of mind which exalts rules over the reasons for making them is wrong too. It will erode lives just as it has eroded the town's appearance—they are internal and external manifestations of the same thing: Subtopia.



1, 2, 3, 4



the town: 1850



the town: 1950

anti-urbanism Urban sprawl has come to its second stage; with everyone gone to the suburbs the centre has been left to decay. Towns have become half-alive: one half is where you work, but can't live, the other half is where you live but don't work. Half alive towns will produce half alive people, and the most immediate result is that in between working and living there can be up to two hours of limbo, nearly fifteen per cent of one's waking hours: forced and frustrating comradeship in public transport or forced and frustrating isolation in private cars.

That sounds like lunacy, and it is only a statement of the social muddle, not the visual one. It would be no better if the estates on the fringes were beautifully designed and models of urbanity or augmenting the site; it is so much worse that they aren't, and that the original social reason for the whole futile business has fallen flat. The drains may be better, but the environment is just as squalid: and we have got Subtopia instead of Town and Country, into the bargain.

There are two elements: eating away in the centre and dumping down at the fringe. The second is illustrated by council housing, not private housing, because the council ought to have known better, and because it is local planning, which ought to be reversing the trend, that is actually encouraging it. The leaders of planning—a long way up from the insides of the local offices that reject modern houses as being out of tone with the amenities of the (speculative semi-det) district—recognize the futility of it, but they have backed the wrong horse; decrying increased urban densities in the heart of the town, when that is the only thing likely to save us, and proposing new and expanded towns when the UK is so small that they will very soon all run together.

The creation of fragmentation public parks, as at Lancaster, is pointless (*Lancaster*, of all places, with the only urbane streets between Manchester and the Border); the amenity is negligible and the loss to the town enormous. Buildings must be replaced by buildings, but not as ramshackle and visually careless as the example in Carlisle, overleaf. Otherwise, the town centre will rot away, and Letchworth is round the corner, not for Garden Cities and New Towns only, but for all the old towns as well.

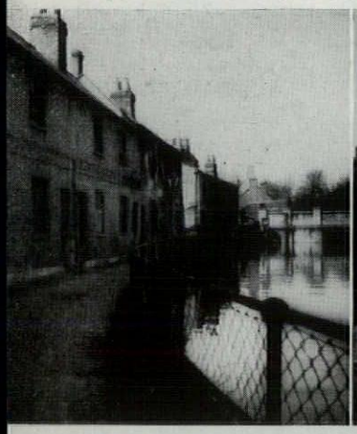
anti-urbanism
part 1: rot in the centre

This can be diagnosed in four stages:

1. DECAY. Neglected old age causes the decay of pleasant but infirm Georgian buildings in county towns and cottages in villages: nineteenth-century slums in industrial areas become uninhabitable.

key: 1, *Oxford*. 2, *Blackrod*. 3, *Kenilworth*.

1



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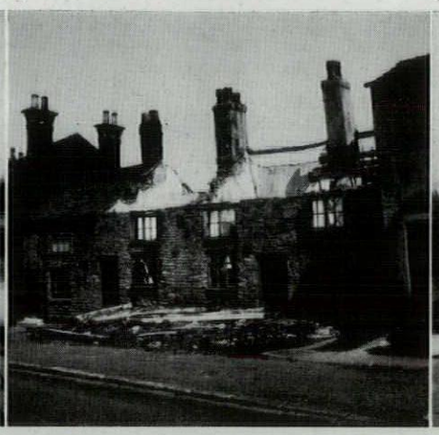

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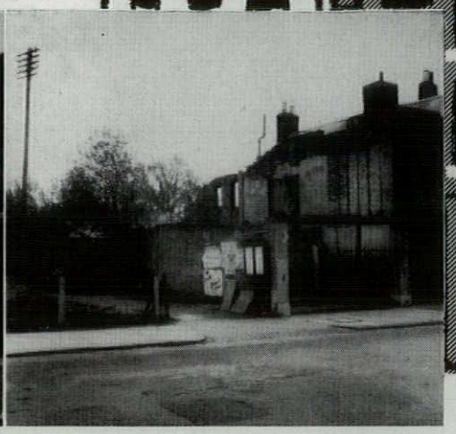
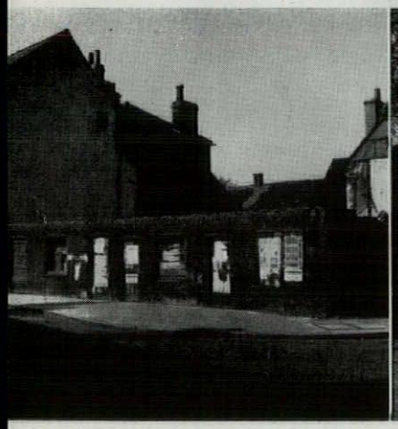


2. DEMOLITION. The offenders are demolished, the area is made into a vacant lot, a hole in the middle of the town. No thought of conversion, no thought of replacement on the site.

key: 4, *Abingdon*. 5, *Lichfield*. 6, *Nantwich*.

4



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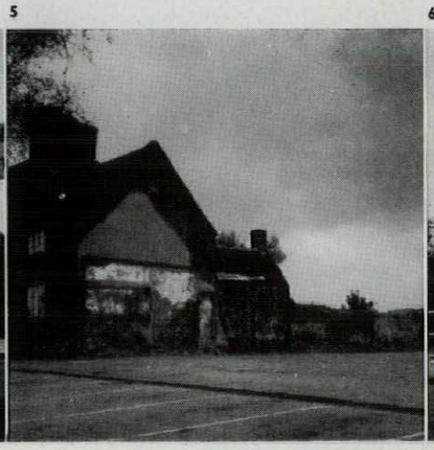

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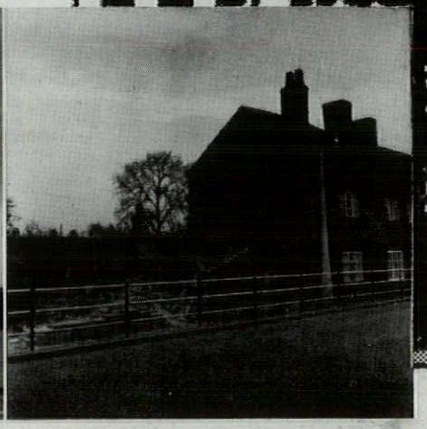
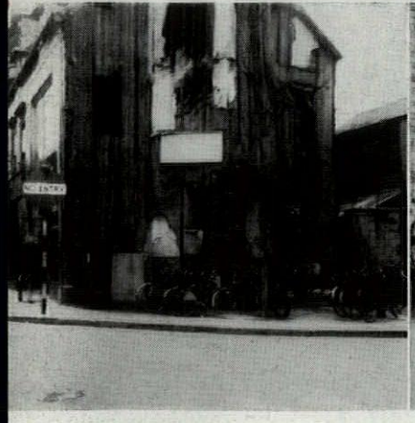


3. SQUATTING. Vehicles move in as buildings move out: privately, as at Warrington 9, or officially at Abingdon 8.

key: 7, *Oxford*. 8, *Abingdon*. 9, *Warrington*.

7



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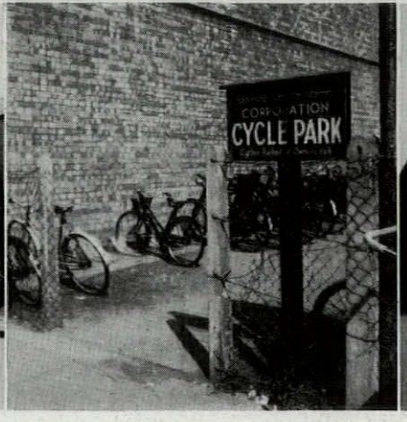

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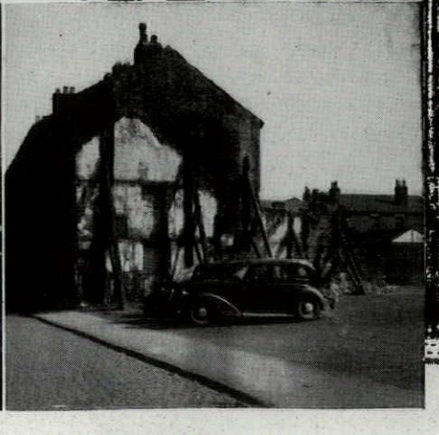
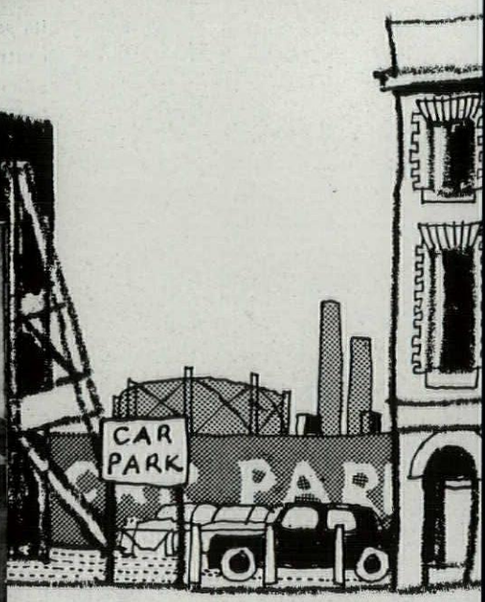
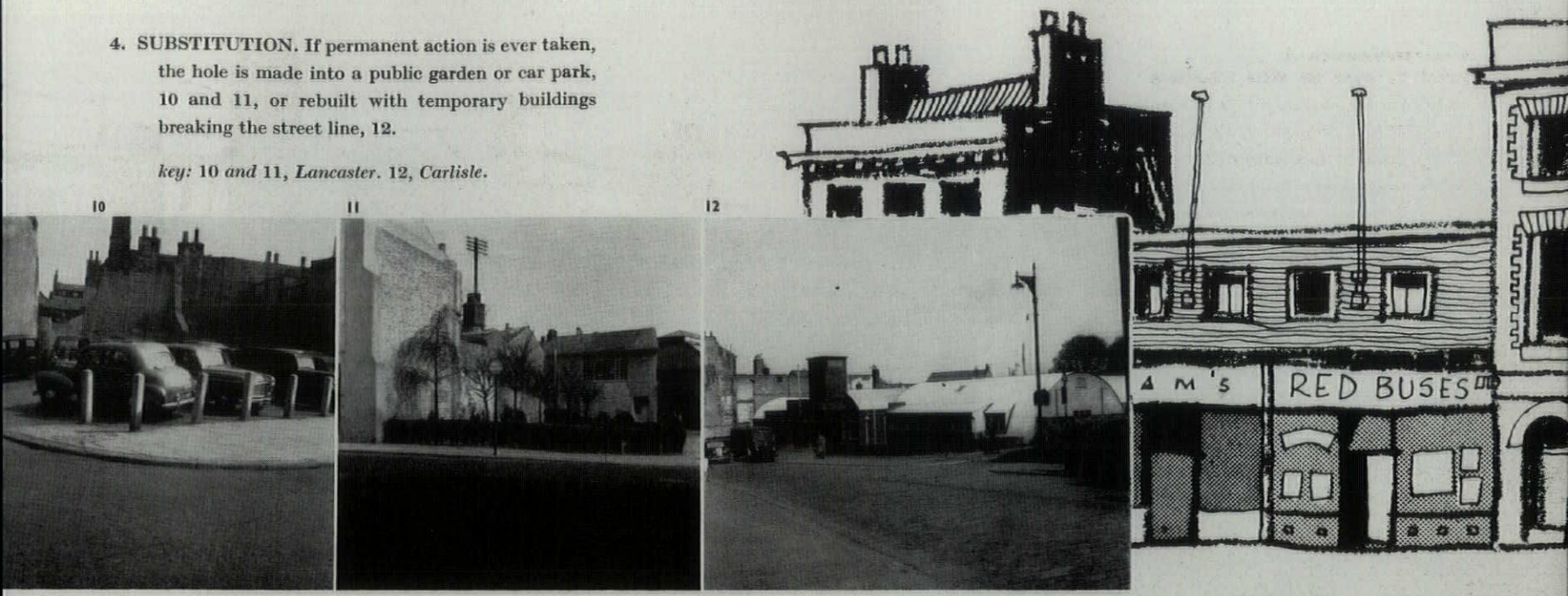




4. SUBSTITUTION. If permanent action is ever taken, the hole is made into a public garden or car park, 10 and 11, or rebuilt with temporary buildings breaking the street line, 12.

key: 10 *and* 11, *Lancaster*. 12, *Carlisle*.



10

11

12



1

anti-urbanism
part 2: sprawl on the outskirts

. . . And here is part of what we are offered in exchange for the death of the English town-centre: ten estates in seven counties; and what is there to show in siting or trim that there is any consideration of the genius loci in any of them?—that 5 is a small country town and 4 an outer suburb: or that 3 and 7 are different places at all. However inconvenient it may be for steam-roller planning, sites still have their own natural solutions. There is enough left to suggest that Abingdon, 3, could have been built as tight as possible, in a grid, to prevent sprawl; that at Blackrod, 7, there might have been terraces along the existing street, or closely parallel. Castle Bromwich, 4, eating up Birmingham's green belt, ought never to have been built at all—and still less the speculation now going up opposite the site. Local architects are just pawns in this estate game which is played by the Borough Engineers: if the architect tries to improve, he is soon deflated by footpath and lampstandard. The roads must be made for the houses, and the houses for the site and the county, and not vice versa: and this implies visual control by the architect, not the engineer, not the bye-laws, not the head of the housing committee.

key: 1, *Bletchingdon, Oxon*. 2, *Newbury*. 3, *Abingdon*. 4, *Castle Bromwich*. 5, *Sandbach*. 6, *Wigan*. 7, *Blackrod, Lancs*. 8, *Bolton-le-Sands, Lancs*. 9, *Ambleside*. 10, *Carlisle*.

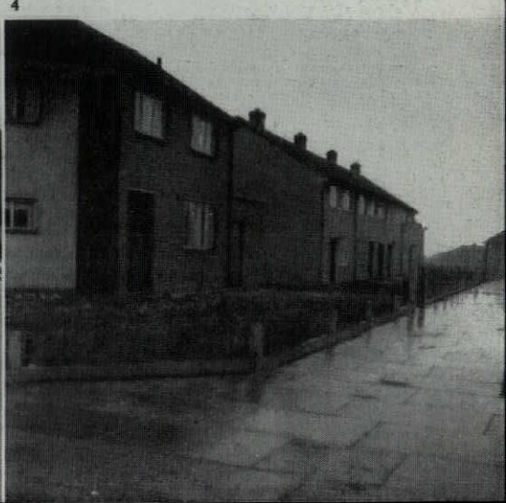
2

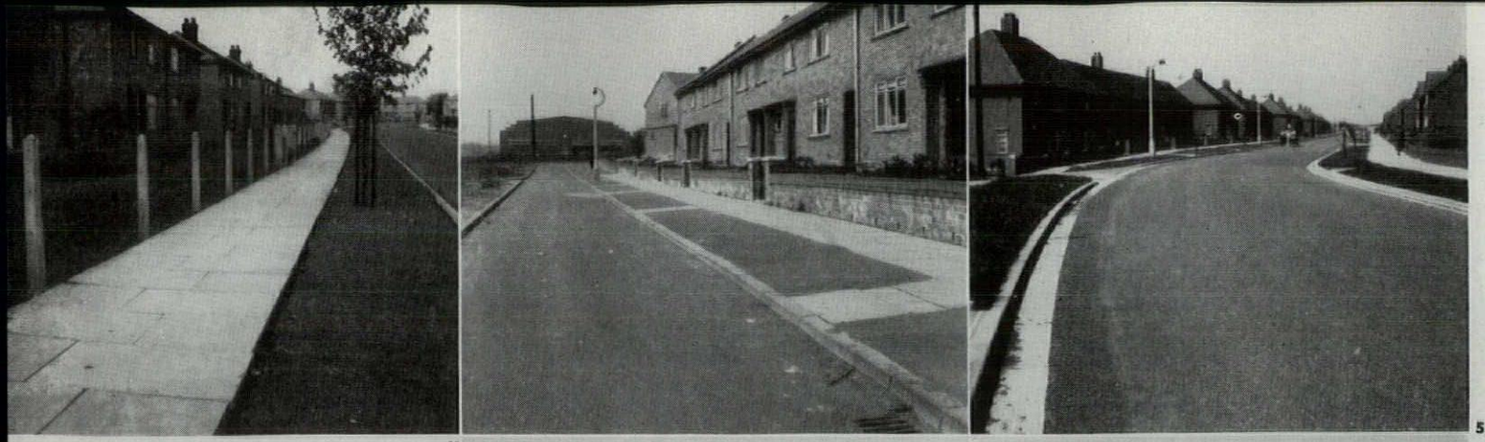


3

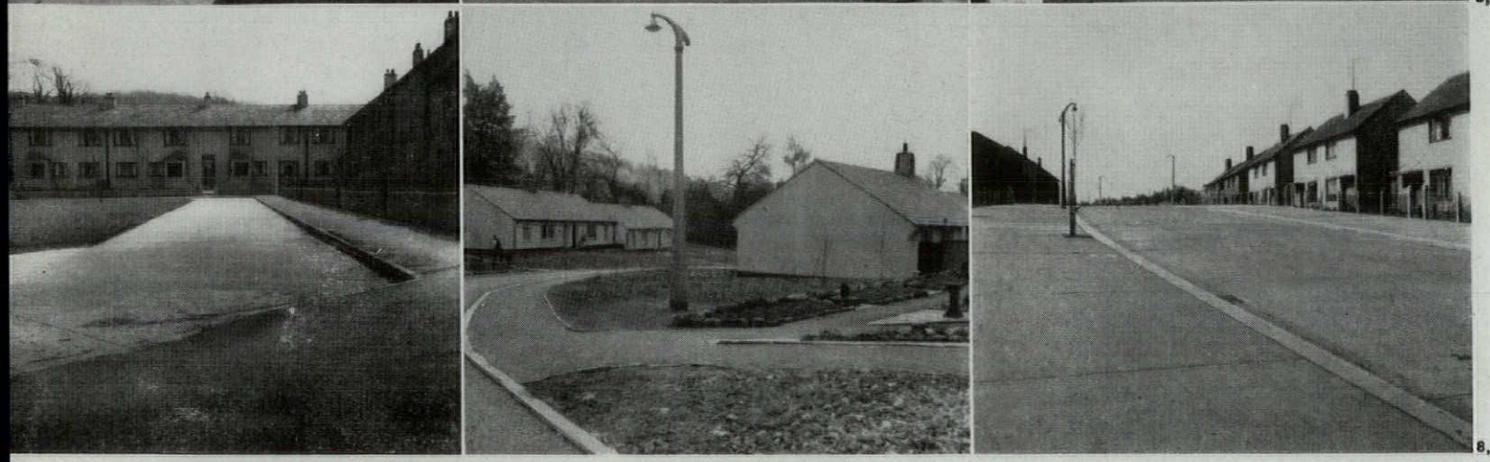


4





5, 6, 7

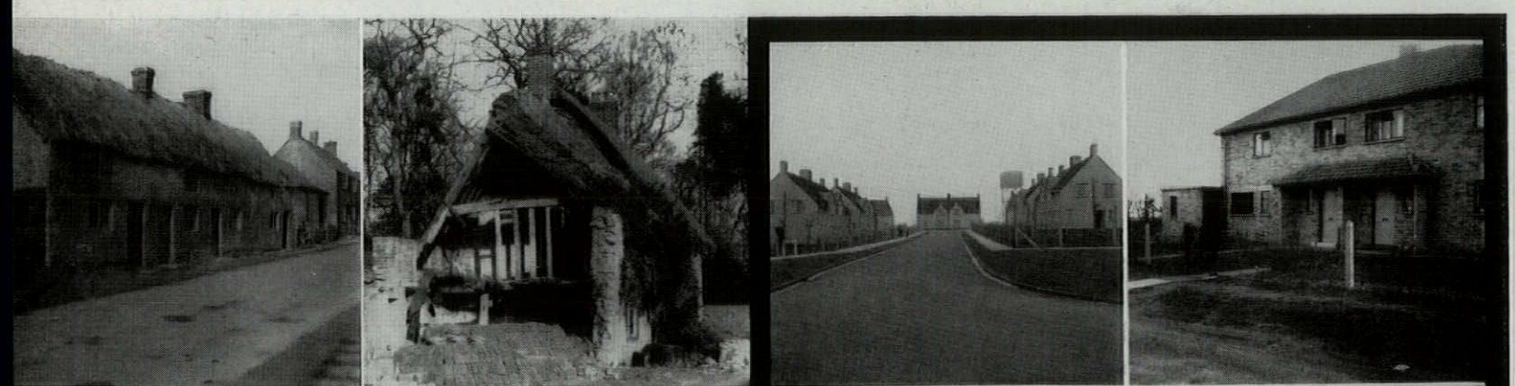


8, 9, 10

rural third-degree If anti-urbanism as applied to an industrial town is a crime, what can one say about the third-degree practised in some rural districts? These examples of the halves of our inevitable equation (decay of the good, replacement by bad) come from the Ploughley RDC, around Bicester, where in ten years one authority has gone a long way towards eradicating what centuries of local building has bestowed and—the worst crime—replacing it by estates that might as well be in Outer Birmingham. The slum drive which is being pursued with the same height-and-sanitation rules, applied blindly, whether the environment is a Salford slum or an Oxon village, will intensify this destruction, as local authorities seem unable to see that they save money if they convert instead of demolishing. England's heritage, going down for the last time, gentlemen!: won't someone see sense, even if it's only for the tourists' dollars?

key: Old: 1, *Charlton on Otmoor*. 2, *Bucknell*. 5, *Godington*. 6, *Finmere*. New: 3, *Souldern*. 4, *Oddington*. 7, *Kirtlington*. 8, *Bletchingdon*.

The village centre before and after subjection to Subtopian techniques is shown opposite ☞ *. This has happened to dozens of villages that have become engulfed by urban sprawl: what is much worse is that the same techniques are now being applied to villages in the middle of the countryside—they have become universal.*



1, 2, 3, 4



5, 6, 7, 8


TADCASTER ALES
CHLOE
LEB
£1,000
APPEAL
DANGER
KEEP
LEFT

municipal rustic Municipal Rustic started as the inevitable accompaniment to building splinter Public Parks in the middle of the town, and that was bad enough. It has now become divorced from any amenity. One can sit down or walk around in about one-quarter of these plots: in half of the remainder one can't even get in—they are railed off or on an island. So it is just a matter of applied decoration, and there are no social or economic advantages. Financially, the town can only lose by having them, and the cruellest thing about them is the waste of money, when they are often a council's only concession to the fact that visual standards exist. This is conscious and deliberate Subtopia; wrecking the environment so that man can everywhere see the projection and image of his own humdrum suburban life—mild lusts, mild fears, mild *everything*—a herbaceous border.

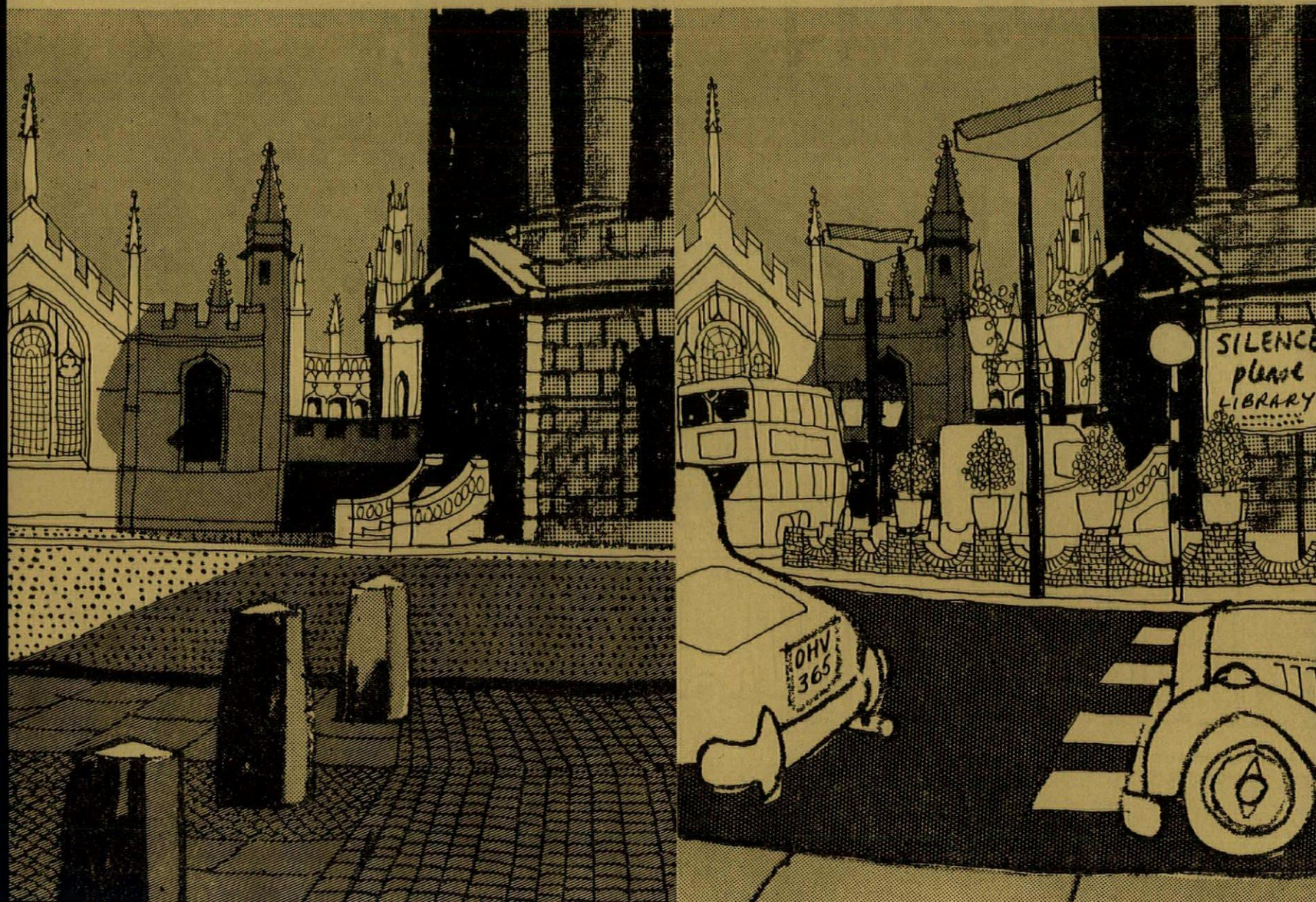
Subtopia, as applied to town fringes, came first, for Municipal Rustic is very nearly a post-war disease. This, then, is the second orbit of the downward spiral, the result of one generation having lived in limbo. The psychological chain by which it becomes the standard solution is worth tracing, because its pattern of phobia and nostalgia is not only a mess, it is *the* mess: the same pattern that produces fear of not getting on, or not keeping up with the neighbours, mixed with vicarious longings for a better world, projected through TV stars or the pools. When urban improvements are mooted, the official concerned gets an automatic reflex against urban forms and in favour of rural ones, the legacy of our squalid nineteenth century urban life. But the only rural forms he knows are suburban ones, and in a rush of nostalgia he translates his architectural equivalents of rustic gnomes and Devon pixies into the town centre, unable to see the difference. The result is neither town nor country—Subtopia.

Municipal Rustic is wrong because it replaces large scale by small scale—grass and trees by snippets of flowerbeds 5, dainty walls 4, coy fencing, 8 and 9.

It is wrong because it confuses private and public, 2 and 9—the flower garden is an admirable thing as a personal possession, but its significance is that it is personal.

It is wrong because it blurs distinctions—between country and town 13, between car park and street 8, even between one half of the town and another 6, where to convert an exciting change of level into an enlarged

Below, the surroundings of the Radcliffe Camera as they are and as they might be if it was decided that they ought to be 'improved'. It is obviously absurd, but equivalent absurdities have already happened in the towns opposite. The result is always the same whether it is practised in Oxford or Wigan—the overfurnishing of the outdoor room and the devaluation of the buildings that line it.



rockery needs a keen eye for the possibility of creating mediocrity.

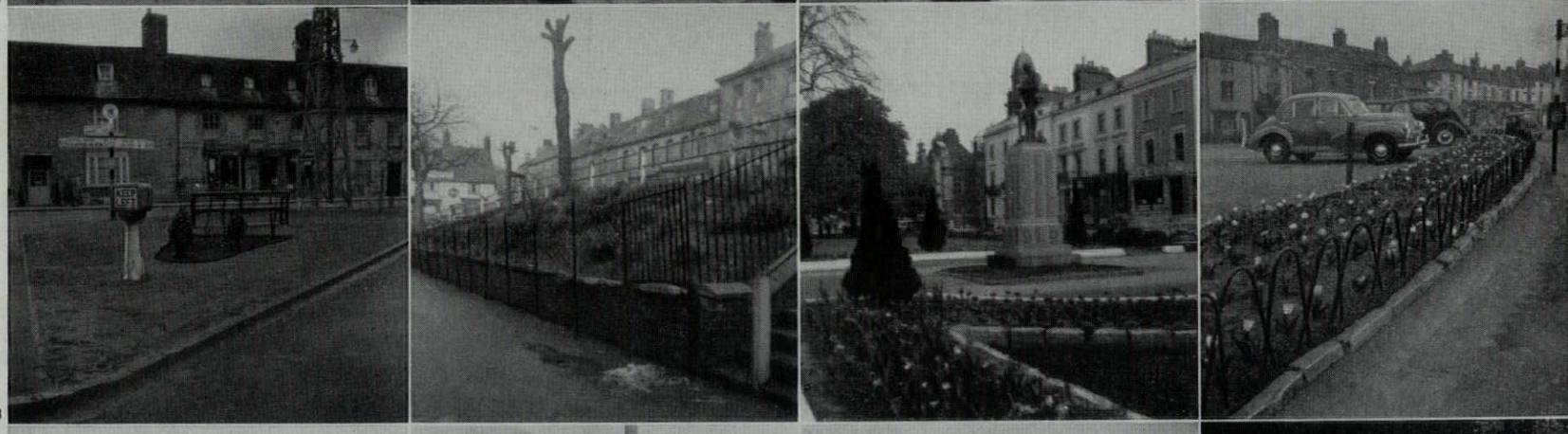
It is wrong because it doesn't act as a foil, the basic reason why greenery should be in the town at all. For one thing, most of the year it isn't green, just grubbed up soil and blackened shrubs, 13. The surroundings are crowded: the plots answer with high density art work. The traffic is bustling: the plots echo it in their fussy treatment. This is extension of the jungle, not amelioration.

It is wrong because, as the sum of all these things, it blows open the town, destroying the old relation of buildings, people and space and replacing it by . . . what? By nothing definable, and that is just the point: it is the gaseous pink marshmallow mentioned in the Introduction. These twenty views have stopped being urban scenes altogether, and become Subtopia.

key: 1, *Andover.* 2, *Newbury.* 3, *Abingdon.* 4, *Oxford.* 5, *Woodstock.* 6, *Chipping Norton.* 7, *Leamington.* 8, *Newcastle under Lyme.* 9, *Rugeley.* 10, *Nantwich.* 11, *Leigh.* 12, *Chorley.* 13 *and* 14, *Lancaster.* 15, *Bowness-on-Windermere.* 16, *Carlisle.*



, 2, 3, 4



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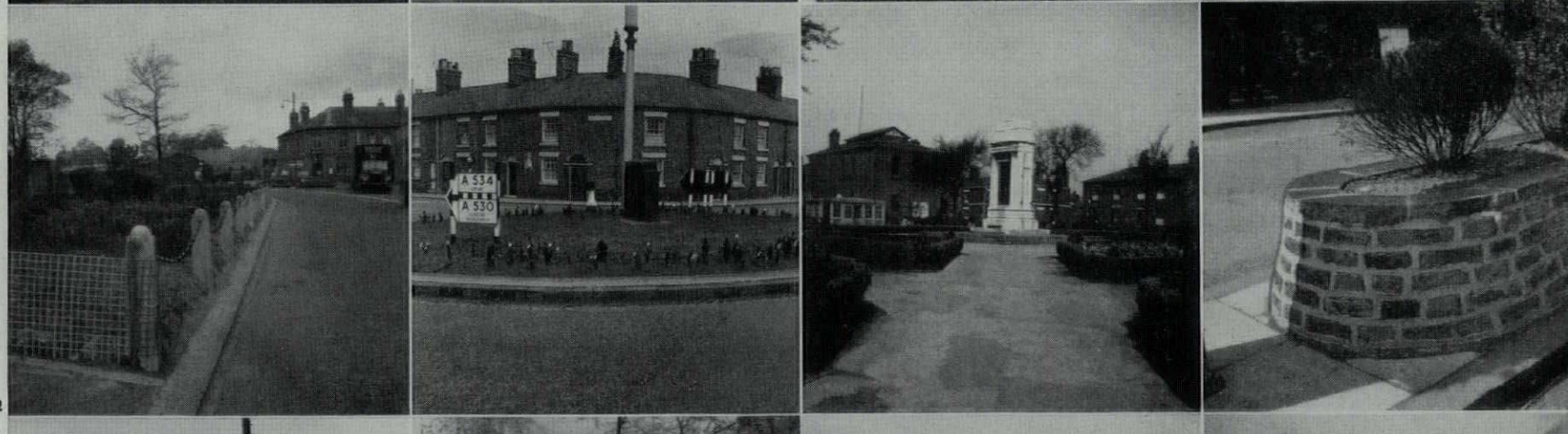

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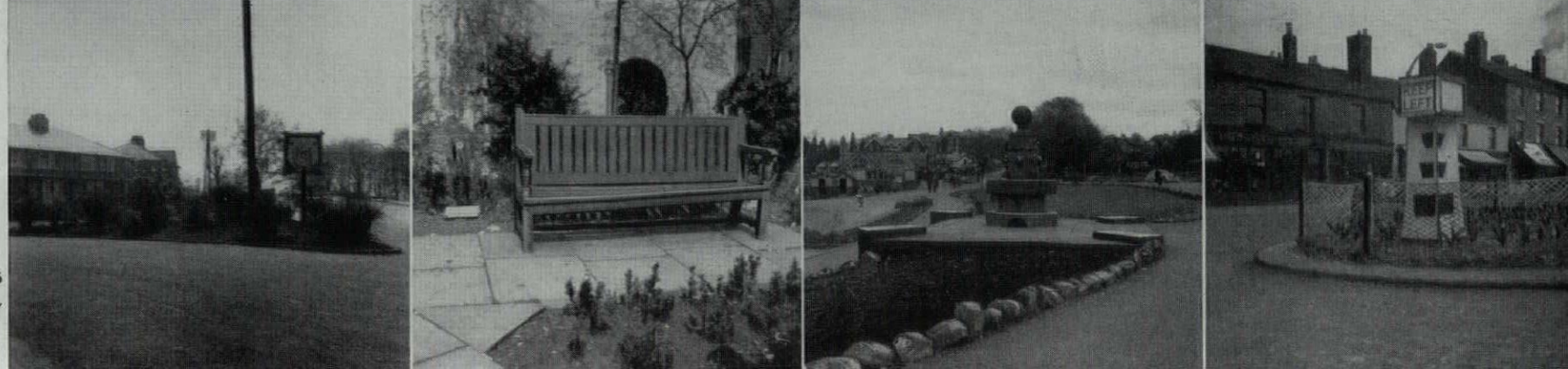
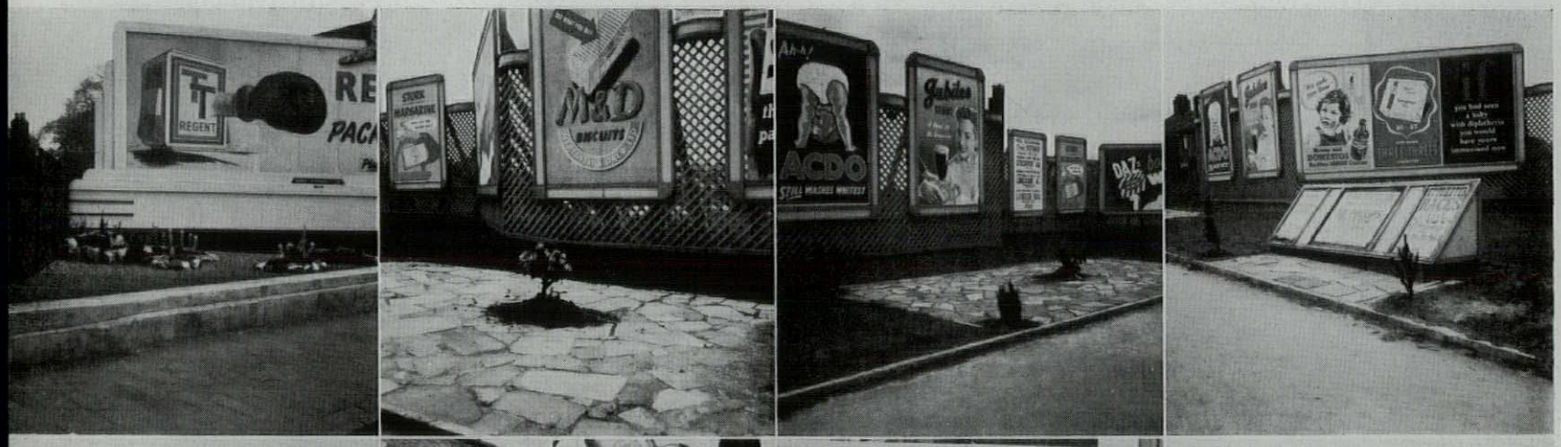


, 15, 16

advertising stations Beautifying in even sharper relief: planned-for and legislated-for attempts at reducing the impact of Horrid Commerce. The attempt to art them up is ten times worse than anything that Horrid Commerce can do. The worst thing about Northwich, 9, is the coy drystone walls and blushing shrubs in front: and at Lancaster, 8, the basic fault is a combination of the planning that caused the site to be a hole in the town and the planning that made the railed-off garden in the name of amenity. The REVIEW wants not less advertising but more: neater, crisper and less standardized (AR, November, 1951), made free of the walls from which planning, in the name of Good Taste, is trying to drive it. It would transform the perspective of the end walls of semi-detacheds, for example—but is it likely?

key: 1, *Southampton.* 2-4, *Longton.* 5, *Newcastle-under-Lyme.* 6 *and* 9, *Northwich.* 7, *Liverpool.* 8, *Lancaster.*



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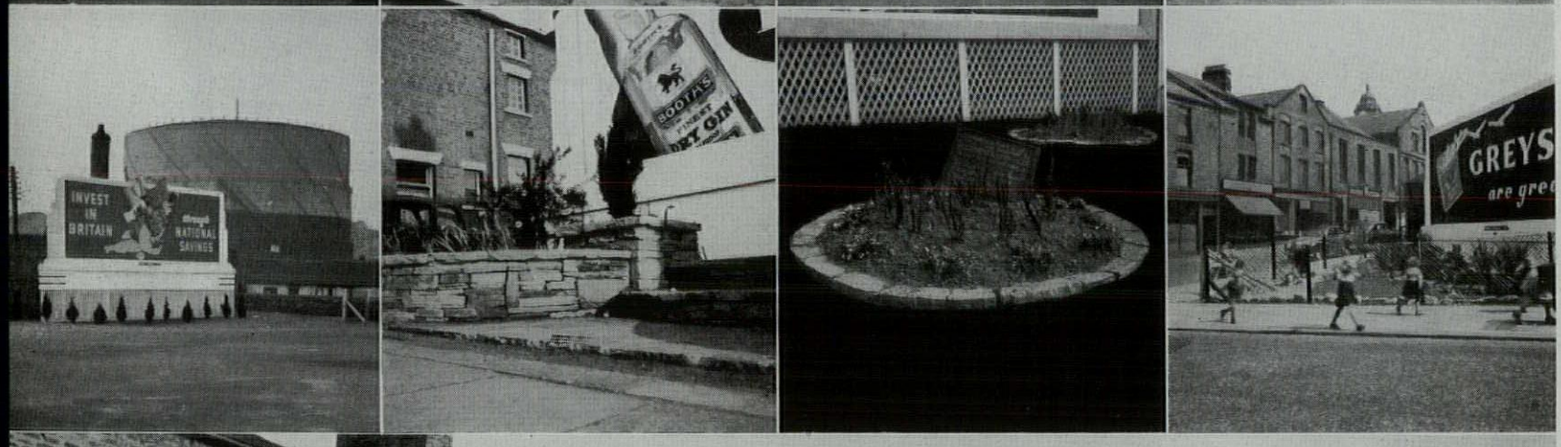


5, 6, 7, 8



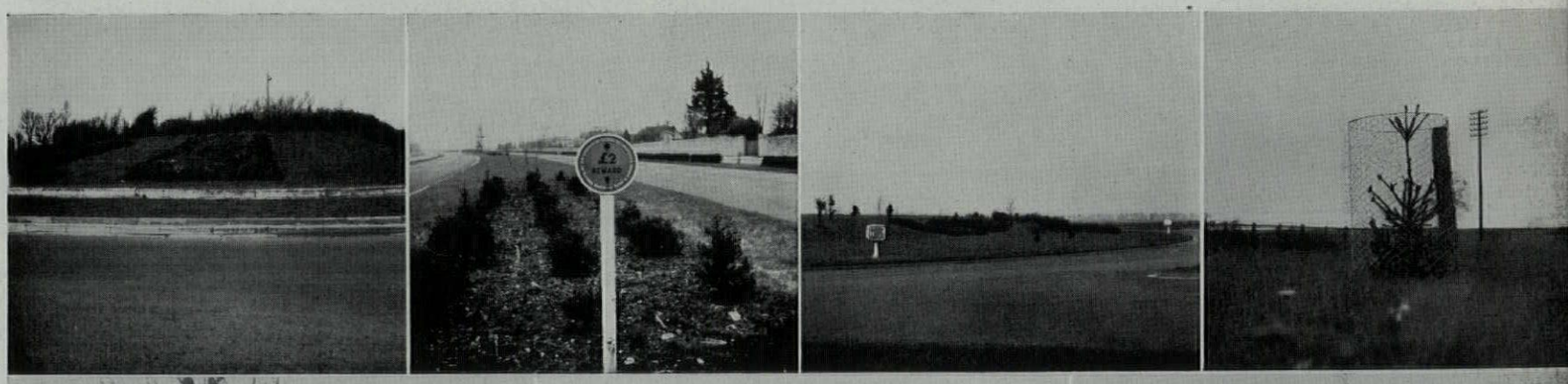
9

rural municipal rustic From gardening the roundabout in the city centre, it is only too easy to do the same thing to the road trim on the by-pass, and then to extend it along that newly-built double carriageway. This is Municipal Rustic put back in the country, and shown up all the more because the small scale planting and fussy design is seen against the genuinely rural rhythms which are neither small scale nor fussy. It is another reminder that the style is Rustic not Rural; the conception of the country has been modified psychologically and physically to fit a suburban back garden. It is an admirable microcosm in a suburban back garden, but it won't transplant.

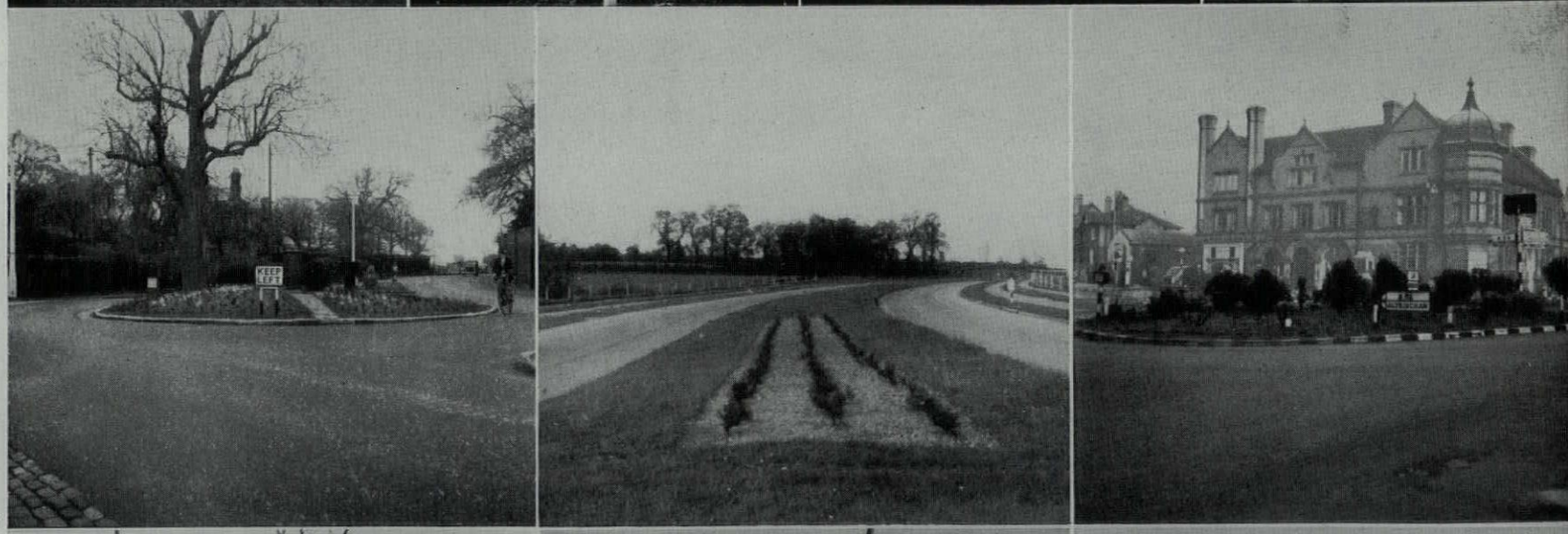
If the administrative fault behind this is cleared up, the visual offence would probably disappear. The planting should have been decided by trained landscape architects when the road was cut or the roundabout made. Instead, it has been left to the local authorities, and while this might have been an admirable thing in the 1500's or 1830's, it is disastrous in the 1950's. If you doubt it, look at the results: scratchings in the turf, 2, 6, 8—one of them with its attached reward—and carefully nurtured conifers, 4, that will never look anything more than dowdy poor relations of the oaks and elms in the hedgerows. Roundabouts in particular incite misapplied fantasy, like the concrete path neatly laid out for those who walk in the middle of the road, 5. And when what was obviously designed in two dimensions is translated into three, 1 and 3, the results are startling: a Le Nôtre layout applied to a Repton hill all seen through the wrong end of a telescope.

Planting may need to be camouflage it could often be a large scale setting, like that the Enclosure Commissioners provided—big hedges, big borders and a clean roadside; and in some cases it should not be there at all—road and landscape impinging directly. None of these cases is ever likely to be carried out under the present method of Beautifying by the local authority with a segment of the rates. This must always be a kind of advertisement hoarding: 'Look, we are spending your money wisely, we have dug a little plot, isn't it nice?' So it may be, in vacuo or behind the bandstand; but not out in the middle of Oxon, Warwicks, Staffs, Cheshire or Lancs.

key: 1, *Oxford By-pass.* 2, A.34, *Yarnton, Oxon.* 3, A.34 *near Woodstock.* 4, A.446, *Coleshill.* 5, A.34, *Trentham.* 6, *Northwich By-pass.* 7, *Warrington.* 8, A.57, *Barton-on-Irwell, Lancs.* 9, A.580 *near Leigh.* 10, A.6, *Bamber Bridge, Lancs.*



1, 2, 3, 4



5, 6, 7



8, 9, 10

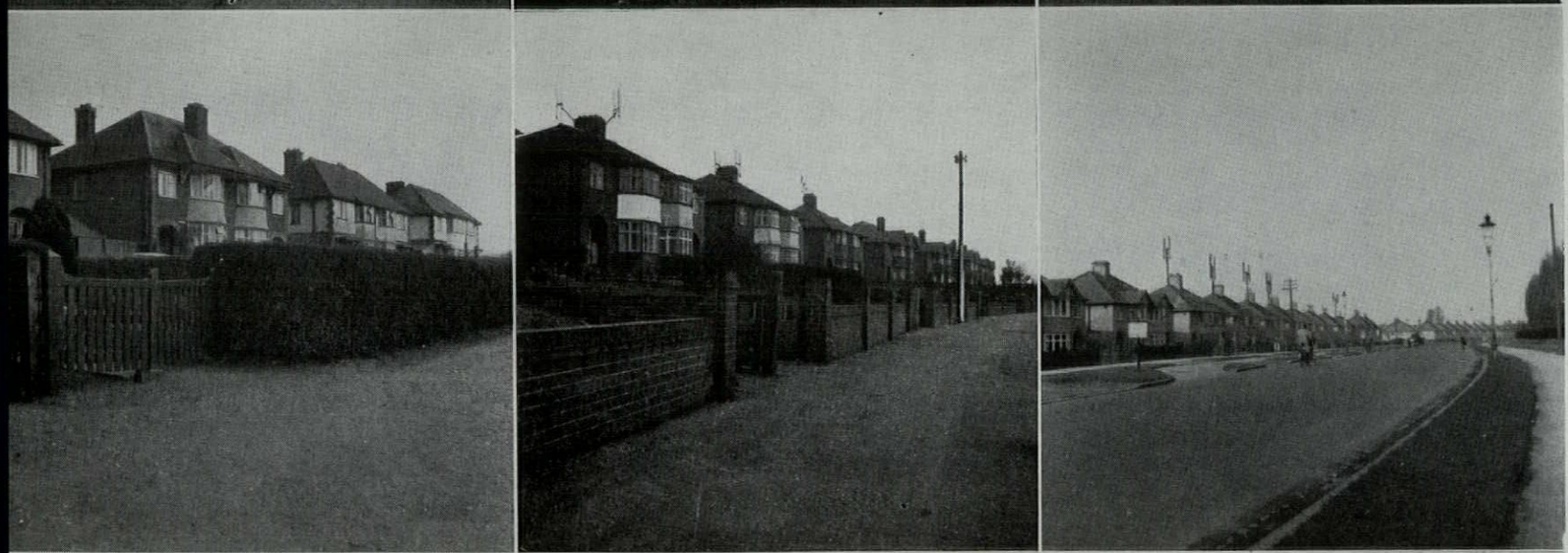
standard fringes Here is the guessing game. It is enough justification for a special issue were there nothing else to complain about on the whole route. Romsey, Oxford, Stratford, Birmingham, Stafford, Newcastle-under-Lyme, Northwich, Warrington and Bolton-le-Sands are shown here jumbled up; not in south-to-north order as the other sets have been. Which *is* which?

Everything has been said elsewhere in the issue about the visual and consequent social evil of this ring of Subtopia that girdles every English town. There is no point in repeating the arguments, and the photographs, unhappily, can speak for themselves. This is murder we are committing: first of our surroundings, then, as they react on us, of ourselves. If you say that to alter it is impracticable, uneconomic and unrealistic, remember that a nation-wide organization to track down physical murder is just as impracticable, uneconomic and unrealistic on the face of it, yet we have the CID. The obstacles will disappear if we want them to, and the first stage towards that is awareness. This issue, condensed, says Look Out: This is Awful.

key: 1, *Stratford.* 2, *Warrington.* 3, *Northwich.* 4, *Stafford.* 5, *Newcastle-under-Lyme.* 6, *Oxford.* 7, *Romsey.* 8, *Bolton-le-Sands, Lancs.* 9, *Birmingham.*



1, 2, 3



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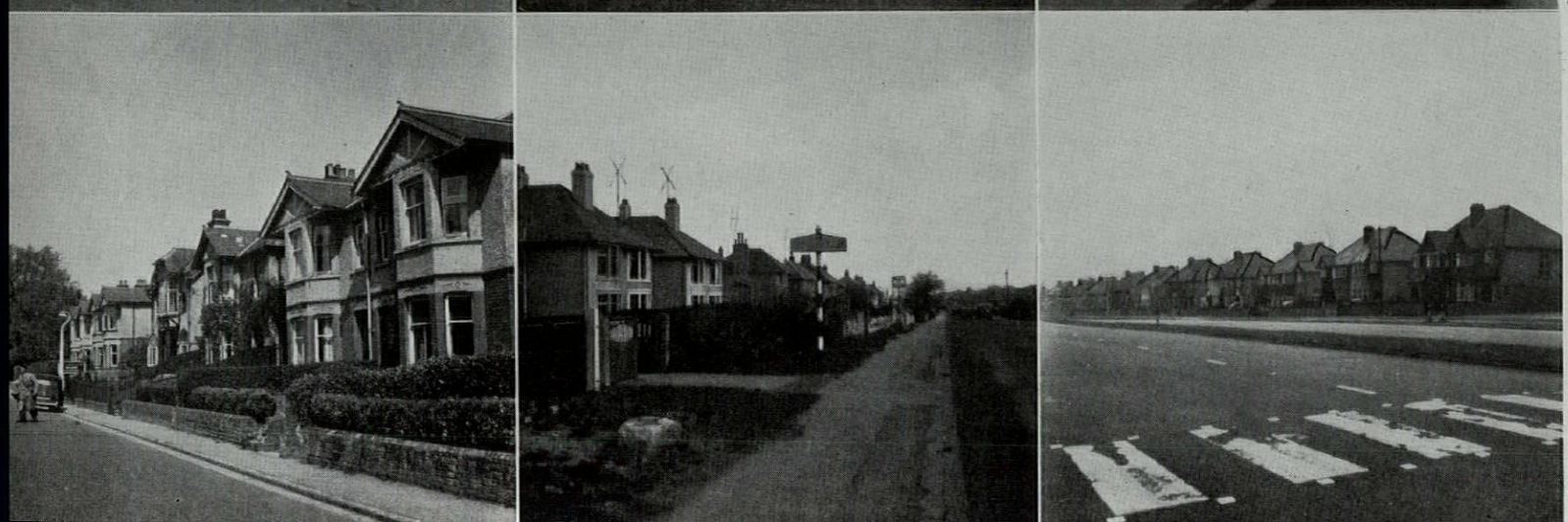

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leaving Southampton

the intervening

. . . . . >

400 miles



arriving at Carlisle

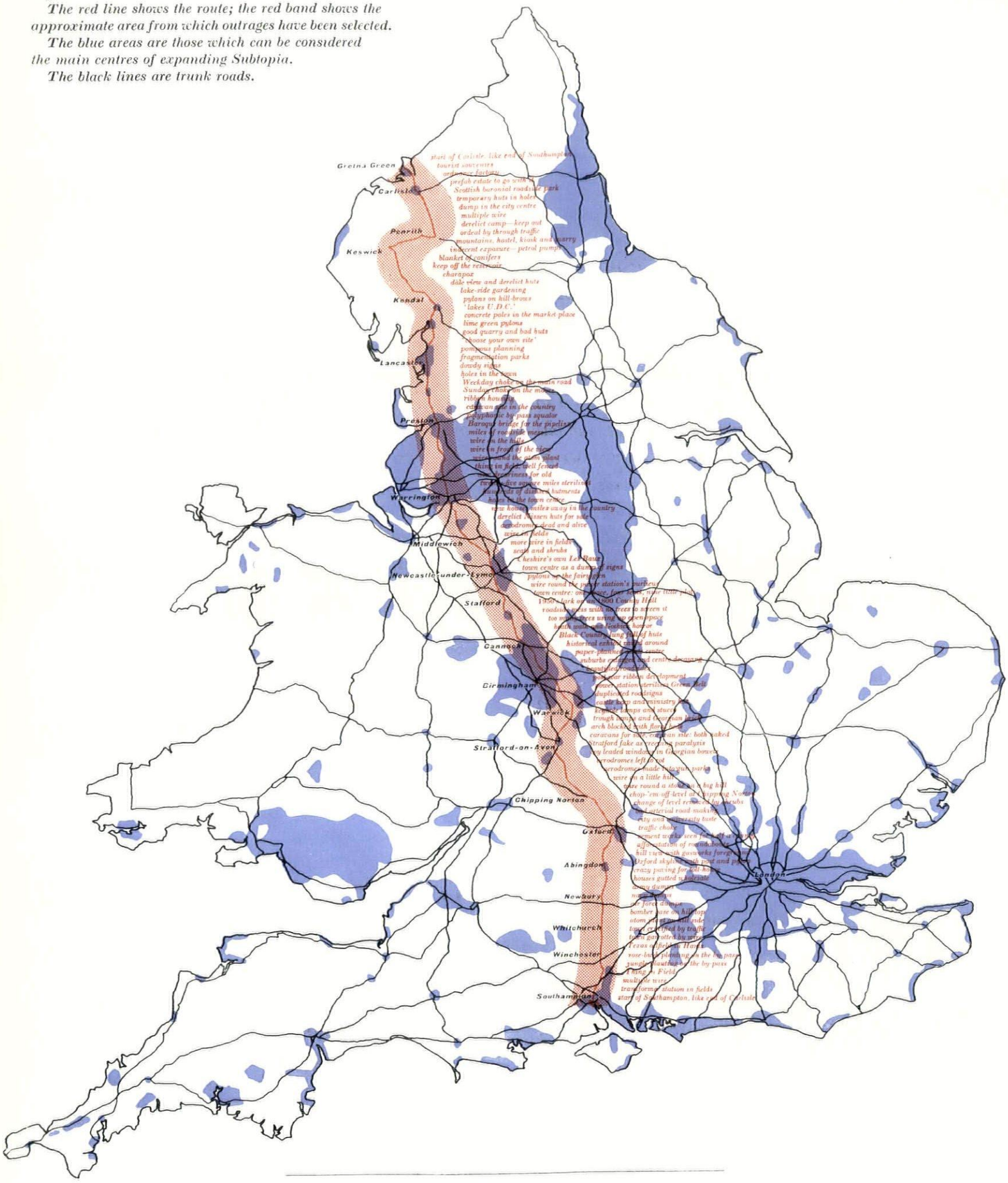
Subtopia Chart and Route Map

key:

The red line shows the route; the red band shows the approximate area from which outrages have been selected.

The blue areas are those which can be considered the main centres of expanding Subtopia.

The black lines are trunk roads.

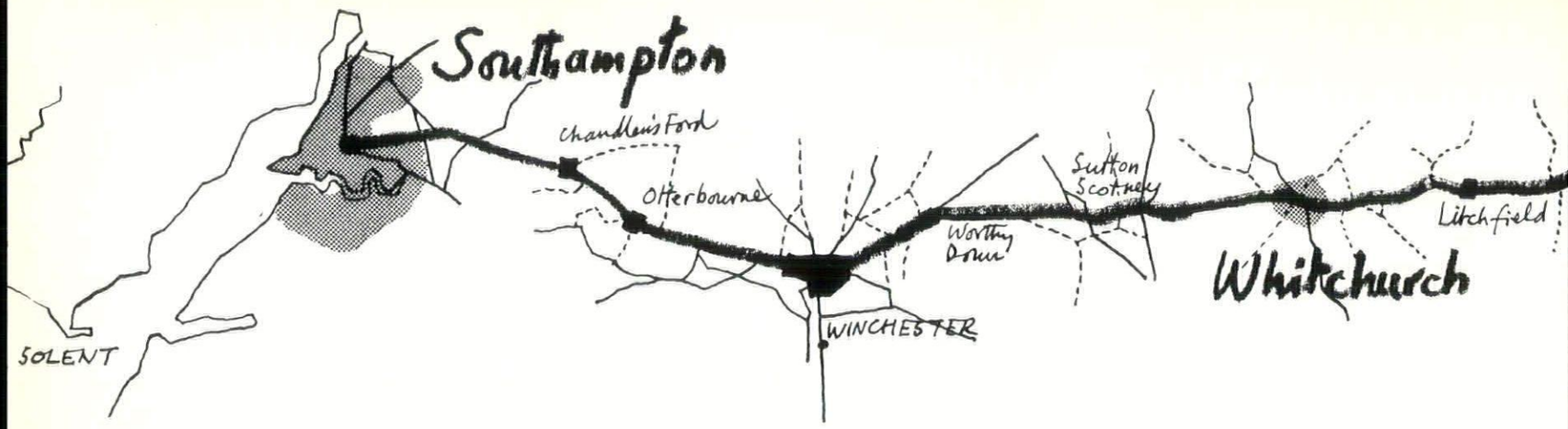


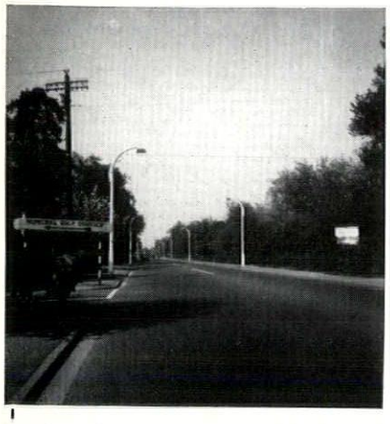
Route Book

The Route Book really needs no introduction: plan and intention of the next forty-five pages are painfully self evident. It may claim the doubtful distinction of being the first example of a travel agent's trip in reverse—picking out the bad, not the good—that has been carried through from one end of the country to the other and has not just picked on selected black spots. In fact it is only since 1939 that such a thing has been possible. That is one of the points made by the map opposite; the blue Subtopian areas (approximately done, but they give a good general idea) are at first glance just a restatement of population density. A closer look shows, besides the bloated sizes of the towns themselves, splinter groups spreading over the whole country, representing airfields, wholesale afforestation, military camps, wire jungles and 'out-county' estates. The map has caught the precise moment where it has begun to run together—whence our definition of Subtopia as the extension to the whole land surface of the mess that has already been made of the edges of our towns.

Point two to come from the map is that the route really is a fair cross-section: neither the best nor the worst but half of each. Lakeland was added as a deviation from the rigid north-south line to bring in an area which is supposed to be a National Park and show that the disease is just as rampant there too. The route takes in approximately thirty miles per page, and this means that only a limited number of outrages can be shown (those left over would make another Route Book). It also means that mid-Oxon gets the same coverage as industrial Staffs; the result proves unanswerably that Subtopia is already all round us.

The first stage towards doing something is to know what is wrong. Some of the things in the route may seem trivial, and to mention them may seem to be shouting about objects that can be taken for granted and assimilated by the eye, as railways have been. The point of that is to try and get rid of the habit of taking for granted, because above a certain density it ceases to work—with the railways, in Swindon goods yards, for example—and we are getting near that density now. Try this way of seeing things on some part of your holiday route this year. Before long you find yourself becoming incredibly angry; and when sufficient people become sufficiently angry, that will be the end of Subtopia.

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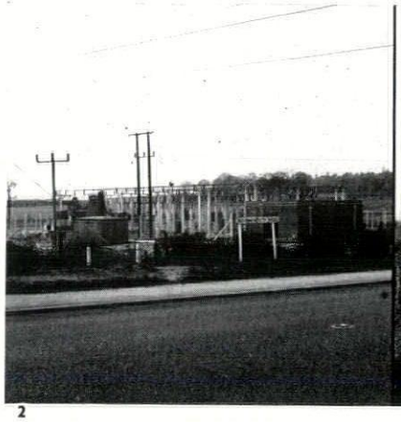
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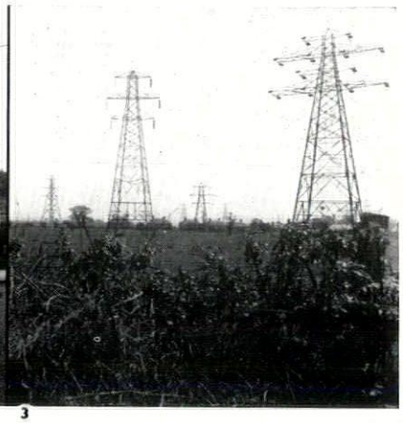
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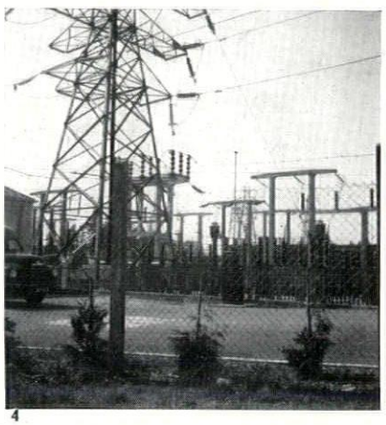
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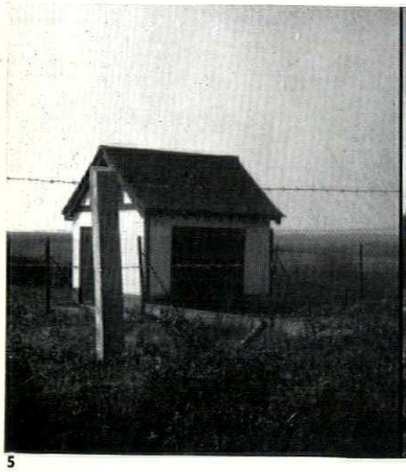
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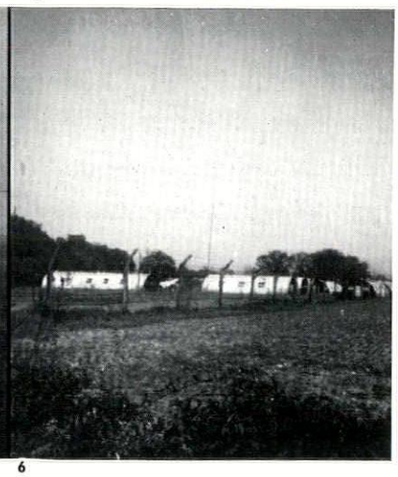
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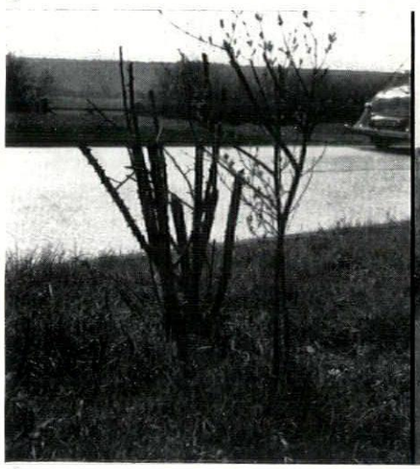
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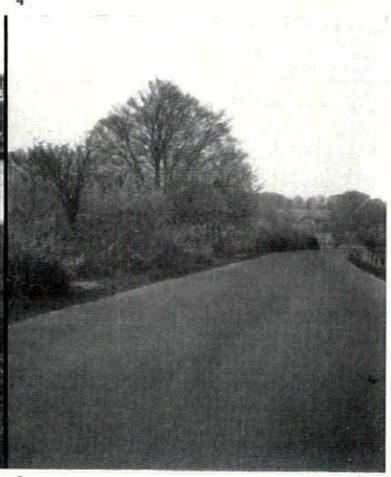
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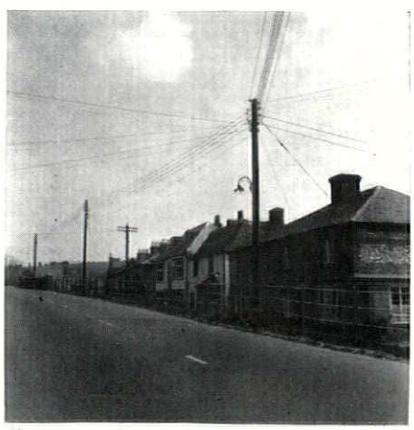
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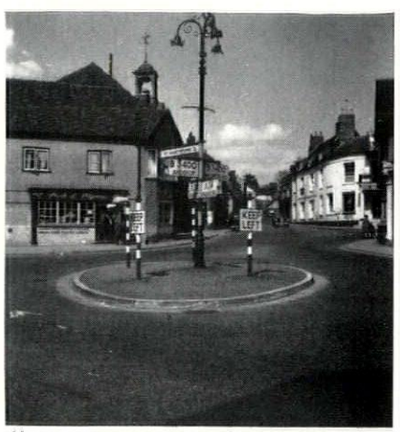
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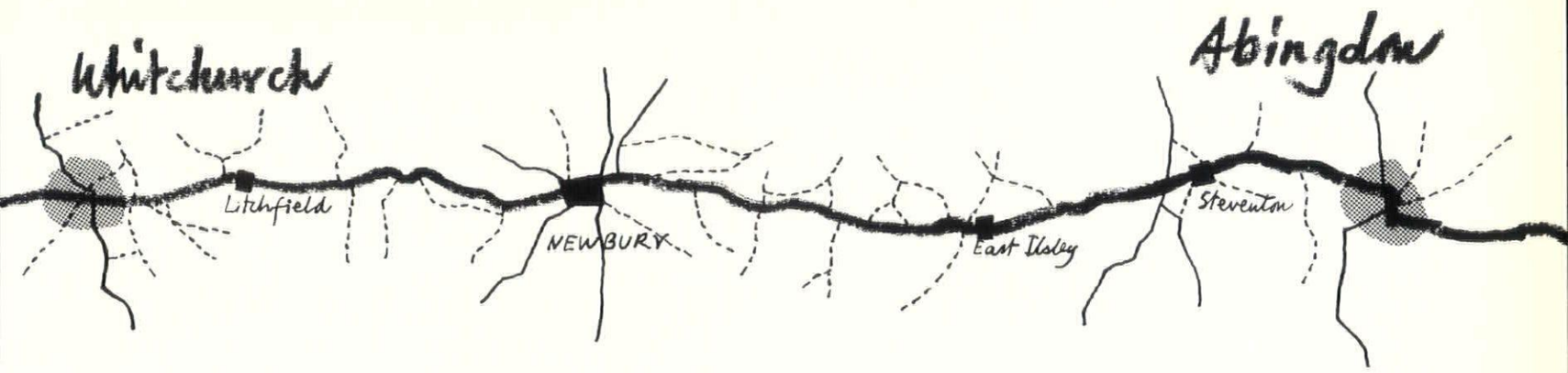

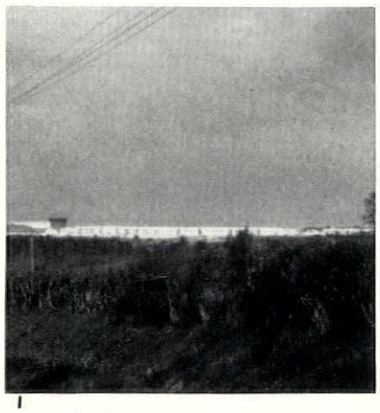
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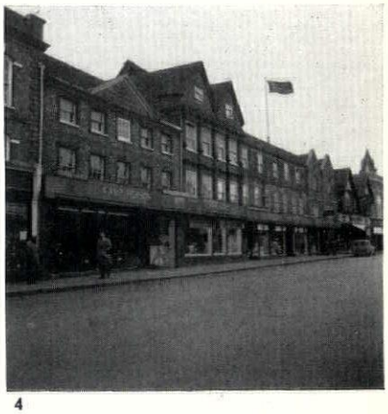
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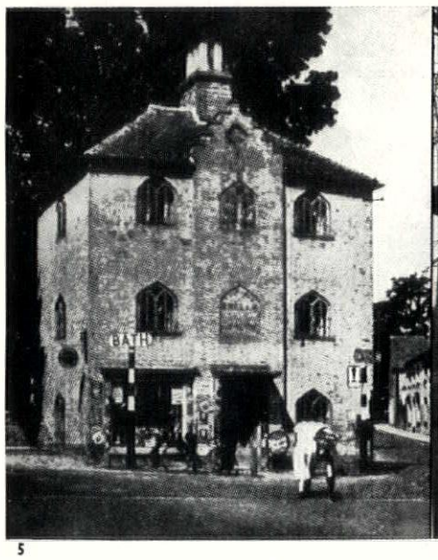

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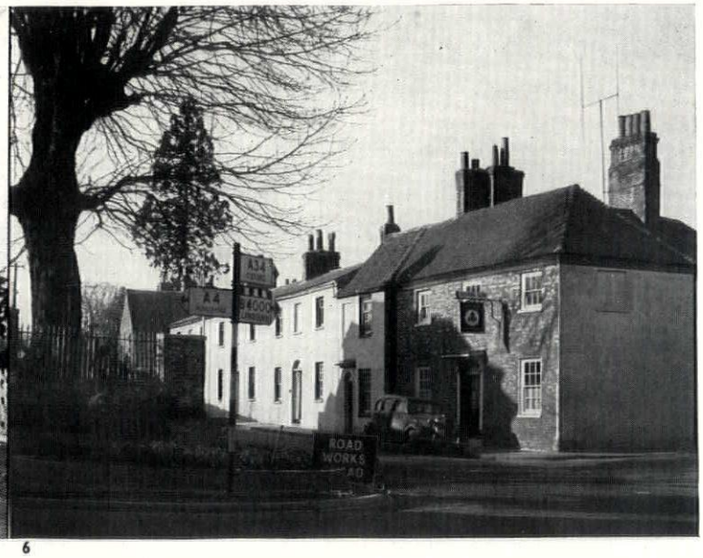

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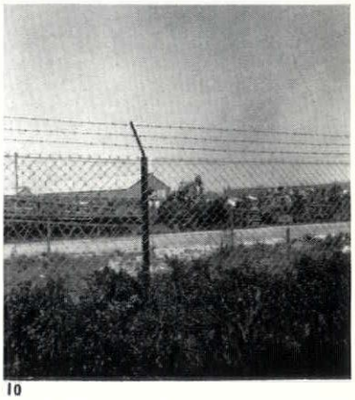
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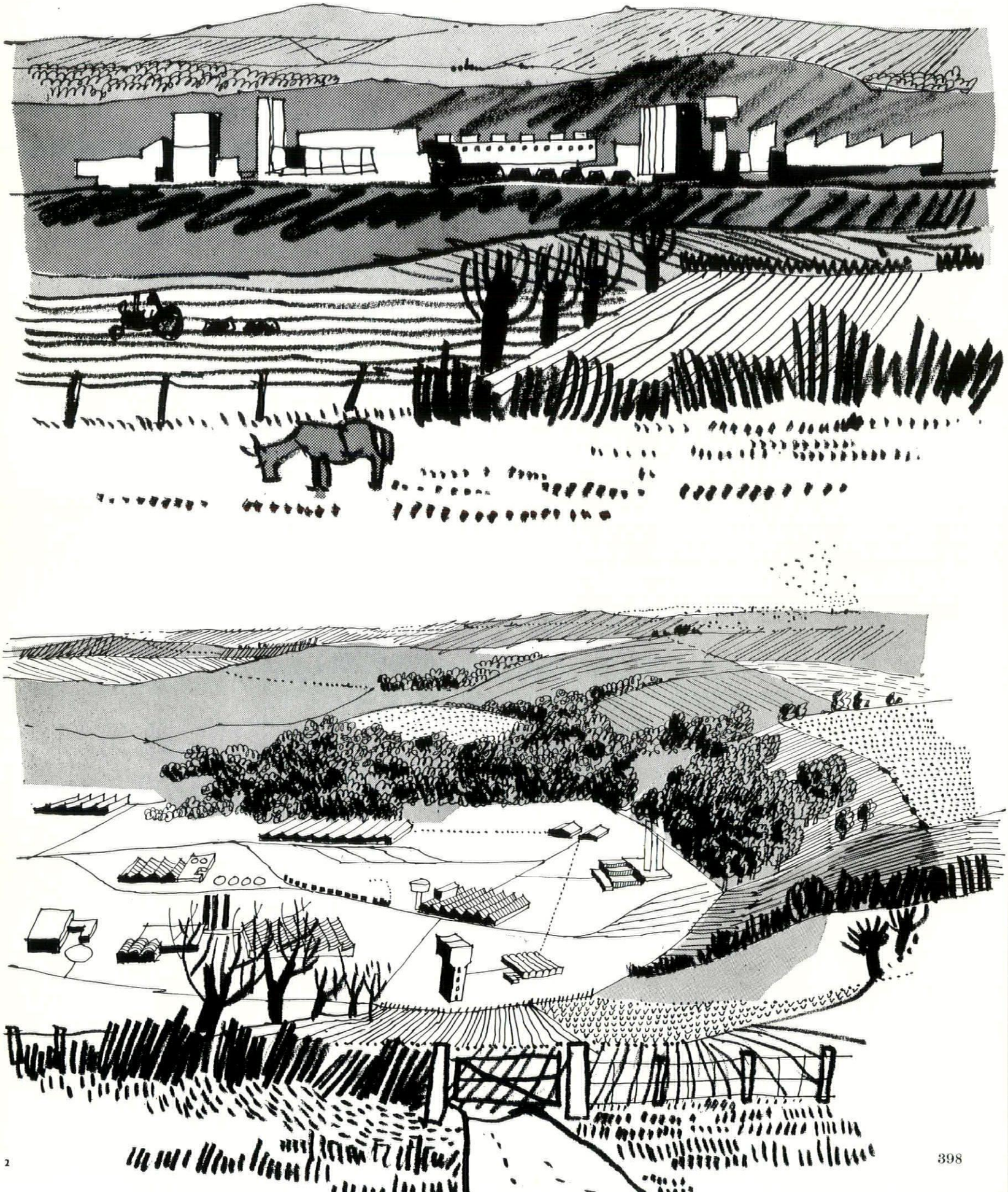
Land Grab



SOUTHAMPTON - WHITCHURCH

Subtopia breaks the traveller in gently: on leaving Southampton, the Winchester road is a leafy parkway passing from the centre of the town to the country, 1—a phenomenon achieved by a long thin common which hides the miles of suburbs on either side. No other town on the route will be so fortunate—but even here the illusion is blurred with concrete lamp-standards. Further out one realizes that the fundamental fact about the English scene is that most of it is crammed to bursting with private houses. There are just too many people chasing too few green fields. The triangle between Winchester, Southampton and Portsmouth is like this: so how inept to erect a post-war transformer station and its progeny of sleazy wires in one of the few pieces of green countryside, 2 and 3, south of Chandlers Ford. Following them west, one comes to their source, 4, a wire jungle in the middle of the country. Farther north, one of many little huts squats by the roadside, 5. It can stand for the whole band of Things in Fields—so many different uses resulting in such monotonous, similar buildings—a gabled roof, attempted resemblance to a small cottage, a firm boundary of wire, and an air of having been dropped from a great height. And opposite this are huts left over from a wartime camp, 6: what couldn't be helped but should be moved facing what can't be moved but should have been well designed. The Winchester By-Pass, 7 and 8, has prevented the city being battered without mercy, like St. Albans, and is a relatively gentle introduction to England's steam-roller roads. The centre planting is seen in two stages: rose-border in 7 and jungle in 8, both inappropriate. The jungle is an attempt at illusion, but it doesn't come off: cars peep through like lions and tigers in the Douanier Rousseau prototype; and reference to the other side of the road makes the absurdity complete—a bad illusion is worse than none at all.

Going north out of Winchester there is what looks like a small oilfield on the left, 9: a look at the map would show that it was, in fact, Crawley W.T. Station. Towards it the REVIEW is taking the unhelpful but justifiable attitude—'this is a horrid mess: what can be done about it?' The excuse of 'But there must be . . . airfields, grid lines and wireless masts . . .' is a convenient cover for lack of any attempt to control them.

Next, two small Hampshire towns with complementary problems: Whitchurch, 11, has traffic trouble but no wire, Stockbridge, 10, has wire but no traffic problem—being largely a coaching town the main street was tailored to fit: with such success that it is wide enough to take to-day's traffic comfortably. Houses are small scale in relation to the road, but the important thing is that they are *in relation* to the road, not thrown alongside it with mutual loathing like the ribbon-development south of Birmingham, on page 410. It is a compromise, not a war between steam-roller road and aloof houses, and this makes the wire all the more noticeable—with no thought of compromise at all, shouting 'this is a Main Road not a High Street.' Like the lamp-standards in Warwick High Street, it destroys the space enclosed by the street and the buildings, a space as real as any internal space: it is equivalent, say, to stringing up clothes-lines inside St. Paul's.

At Whitchurch the problem is pathetically simple—two main roads, meeting head-on in the middle of the small town. Make an arid roundabout where the town focus should be and traffic can go through it thicker and faster—vortex instead of focus, nailing Whitchurch securely to its cross of asphalt.

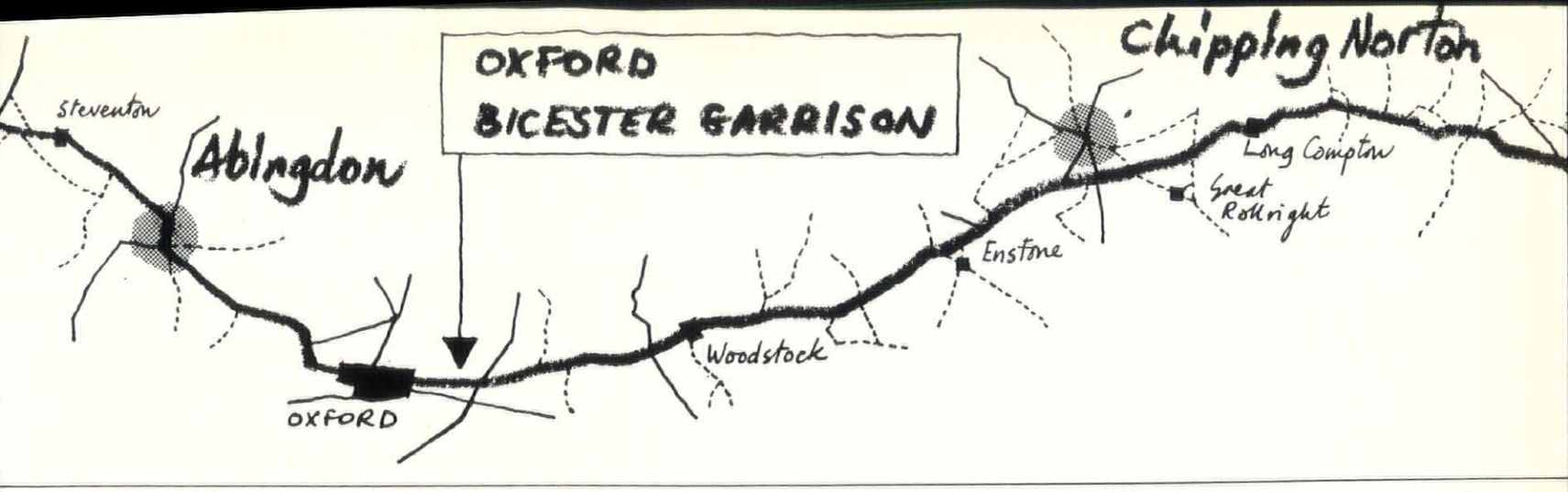
WHITCHURCH – ABINGDON

South of Newbury, at the newly enlarged American airfield at Greenham Common, there is an appalling rash of huddled huts on the skyline, 1, and the more subtle ruination created by the by-passes necessary to avoid the two-mile runway, and the extra area enclosed by wire for security's sake. There is no point in questioning the necessity; unhappily it is as necessary as coal mines or arterial roads. But one can ask two things: whether the siting was reasonable, and whether any attempt was made to respect the surroundings. As to the first, arguments could be advanced against any site in Britain; but even so, Greenham Common is on a ridge top, visible for miles, and while it didn't use up agricultural land it meant the loss of ten square miles of open common; the new form of an old battle—Enclosure. The surroundings obviously were not thought of at all—either by camouflage, which has obvious advantages or by making the airfield a crisp engineering job. Ironically, the refuse from the last war still exists alongside this bulwark against the next; huts from the 1945 use of Greenham Common, now occupied by squatters, 2: the council has provided, with infallible inappropriateness, a waney-edged privy, 3.

Newbury's shopkeepers have an unenviable reputation to keep up, for Newbury has more of its good buildings destroyed by shop fronts than any other town of its size. Especially cruel is the gouging practised in 4, which has spoilt not one house but five. Nor have the public authorities lagged behind: at the junction of A.34 and the Bath Road there *is* a beautified plot, 6. There *was* a Gothick toll house. Older readers may remember it, for this is how it appeared in 1939, 5, when the REVIEW protested against the proposed demolition—the ideal 'before and after' photograph, normally so hard to obtain after the event. A handsome building and an impressive roadscape effect (shuttling off the traveller to Bath or Oxford) have been replaced by a piece of Subtopia. Of course, it would be demolished for road widening; the road is as narrow as ever, the corner is as acute—the plots and paving even occupy exactly the same site.

The Berkshire Downs are the end of the chalk country and of Southern England: you get to the top and see before you Harwell, 7 and 8, stretched out like a slug in the foreground. The siting has made it an almost impossible problem; on a step halfway up the downs so that everything is presented to the surrounding countryside on a plate, and this had no justification—any aerodrome in Britain would have done as well. The apologium of Sir John Cockcroft has been quoted before (in Murray's guide to Berkshire) but it is worth repeating: 'a start had to be made quickly, and the only solution was to provide prefabs and to erect them on our own site where services and sewers were available and where the minimum of consent had to be obtained'. The old Litany of Expediency.

The Vale of White Horse is the vale of orchards and military dumps. The RAF created Harwell, the Ministry of Supply enlarged it—to complete the round of the Services, here is an Army dump at Steventon, 9, and a Navy dump at Grove, 10. We have become so used to wartime expedients that we have not noticed how they have quietly become peacetime fixtures, or just how much of England has been swallowed up by these parks of obsolescent equipment.


OXFORD
BICESTER GARRISON
Chipping Norton
Steventon
Abingdon
Long Compton
Great Rollright
Enstone
Woodstock
OXFORD


1


£2
REWARD
2


3


THIS FOOTPATH
IS CLOSED
4


5


6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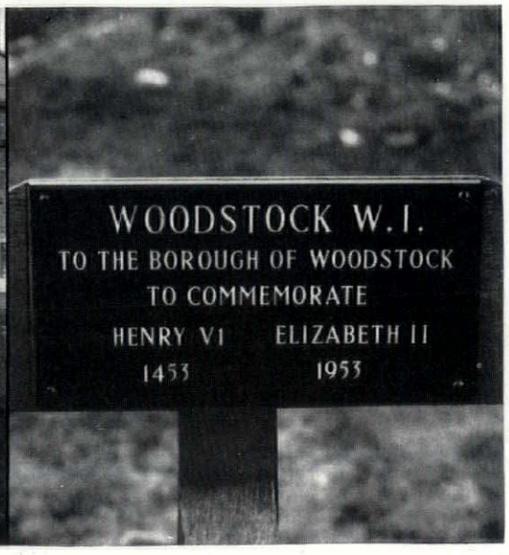
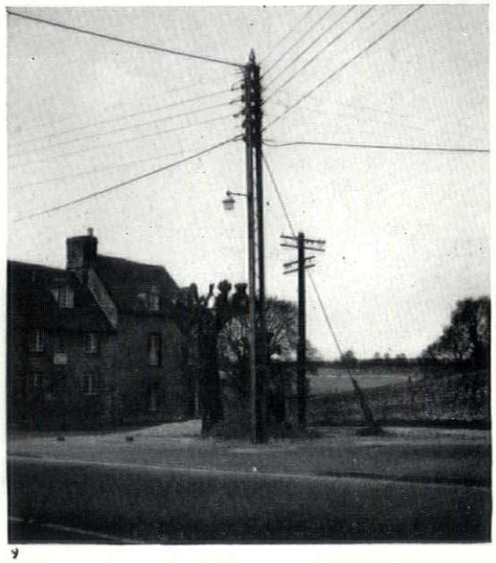

WOODSTOCK W.I.
TO THE BOROUGH OF WOODSTOCK
TO COMMEMORATE
HENRY VI 1453
ELIZABETH II 1953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Oxford



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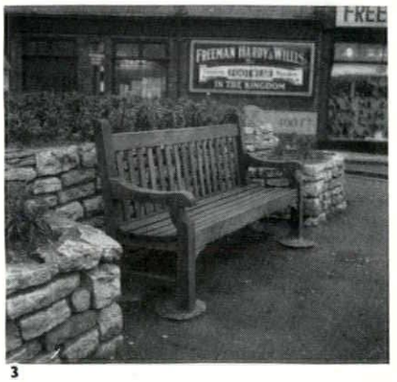

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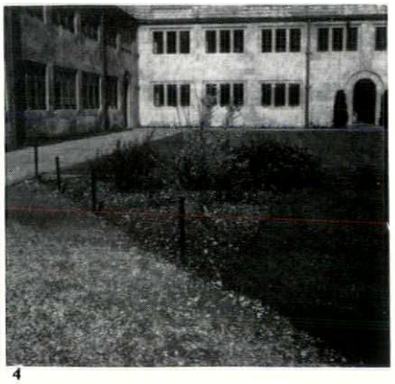
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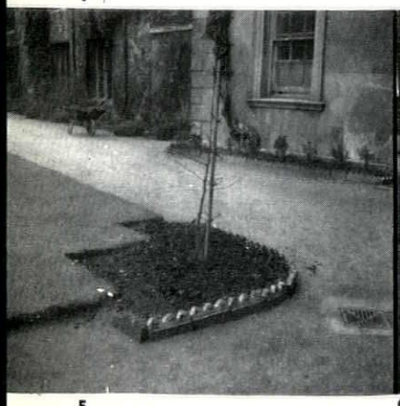
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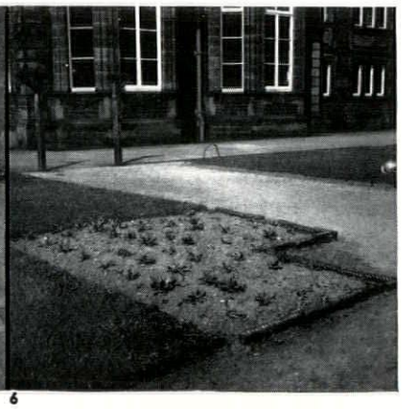
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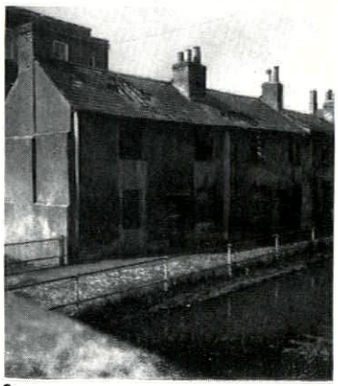
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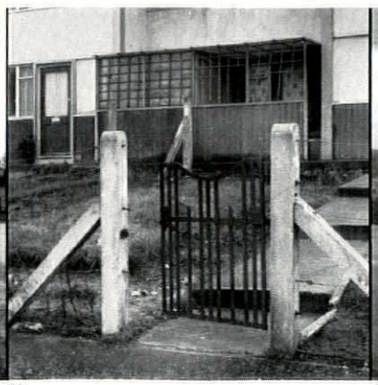
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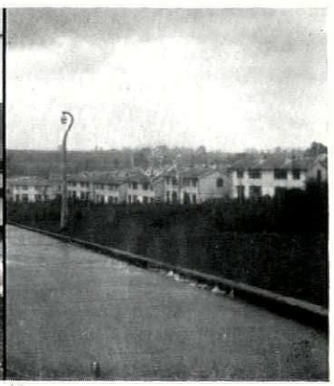
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OXFORD

Coming from Abingdon the first sight of Oxford will probably be from the foot of Boar's Hill, 1. It is typical of the whole problem, a magnificent skyline framed between concrete lamp standards, and with a foreground of pylons, railways and allotments. One longs for something that could cut across the random system by which changes are made in Britain's appearance and persuade, for example, the Oxford City Council to co-operate with British Railways to make over the money they use in laying out ornamental gardens to the Forestry Commission, who could plant trees to mask the foreground; to get someone from the Ministry of Transport (and the Berks C.C.?) to clear up the island, or at least make it consistent, and replace the lamp standards. This multiplicity is a basic problem: that each of these bodies has a different end in view, which is not visual, and that the visual case is only stated in opposition—by private individuals, or the CPRE—and not by co-operation. Planning, which was supposed to deal with it, has been castrated because it has no positive visual code but only negative non-visual rules. In the city centre there are conflicting and disconcerting impressions, and the most evident is likely to be the traffic round Carfax, 2: a system that required widening in the 1790's to provide for stage coaches now carries through north-south traffic and supports a 30,000 industrial population that should never have been sited there at all. There can be no question of widening now; and the only solution when the old plan and modern traffic are as irreconcilable as they are here is a partial or complete ban on vehicles in the centre. The false rural Cotswold tradition in architecture—false because applied to the most truly urban city in England (plus fours with an Anthony Eden hat)—exemplified by Nuffield College has been carried into the whole environment in the form of ornamental gardens, both by City and University: in the main street, 3, in Nuffield 'quad' itself, 4, and in Hertford College, 5, where measures have been taken to prevent the lawn from flying away by sticking it down at the corners like a photograph. And look at the same idea, 300 miles away, at the gardens at Carlisle, 6. One doesn't know which would be the more piqued, Hertford College or Carlisle City Council, at the idea that they shared identical bad taste, but it is true. The city has its own ways of upsetting the urban pattern. The view of the Clarendon building down Broad Street is dominated by a particularly inappropriate car park attendant's hut, 7, and the approach to Magdalen Tower from the east is dominated by a dowdy plot and shelter, 8.

Oxford is the perfect place to study rehousing because it had no bomb damage at all, so that one could expect to find a model essay in preventing sprawl and careful design. What it has got, in fact, is decaying houses in the centre, 9, condemned years ago and remaining condemned without a thought of conversion; and a huge post-war estate beyond the by-pass, in the middle of the countryside, that is a promising candidate for the most dreary in the whole country, whether in siting, skyline, 10, or detail, 11. The typical outlook of local planning to modern techniques is shown in the treatment of the BISF Gibberd houses; these were designed in the expectation that an informal and broken layout would be used, and bright colours to diversify the effect. What has happened?—rule of thumb has set them down in rows one after another like by-pass Tudor and then painted them all cream with cosy green trim to the doors and windows, 12. In designing them, Gibberd made the best of a difficult task; Oxford City Council have made the worst of an easy one.

OXFORD cont.

The tour finishes with two photographs that convey some of the savage humour in extremes of inappropriateness that makes Oxford read like an extra chapter of Gulliver's Travels. The Oxford gasworks, 1, was an appalling blunder of siting in the 1890s and remains so to-day—yet 60 years of it did not prevent the City from contemplating an extension after the war, and after the Oxford Plan had specifically recommended resiting, which was only stopped with immense effort. The *jeu d'esprit* of 2 is not a glade in the New Forest, but the top of a roundabout on the Oxford by-pass, Oxford's parting gesture to the northbound tourist, the wrong thing in the wrong place. It overlooks streets full of inter-war semi-detacheds, and a few vacant sites where post-war semi-detacheds are being put up in the same style.

BICESTER GARRISON

Bicester Garrison: Five miles of it on your car speedometer, ringed with wire and full of 'keep-out' notices . . . Keep out . . . Keep out . . . Dogs patrol at night, 3. The centre is a little hill which has been completely covered with huts, 4, and this is visible for miles in the flat country around—the area it poisons is more like forty square miles. We have become conditioned to large areas of the country being given over to military use—Aldershot and Salisbury Plain, for instance—nor can one dispute the necessity for dispersal; but when one of the Services makes an assault on fresh country, two things can be asked of it—that it attempts camouflage and that it tidies up as it goes along. Planting—even conifer planting—would make an immense difference to Graven Hill. Is it impossible to ask the Government departments to co-operate, and at the same time prevent more square miles elsewhere being eaten up by conifers? In any case there is no excuse for the dereliction of 5 and 6. The Gun Park, 7, raises a third point—it is three miles from the main depot and there are many other installations at a similar distance. Dispersal must stop somewhere, there must be a compromise between the need to be secure against attack and the need to prevent the whole country being overrun with dumps and camps. It is no use being prepared if in the process you destroy what you are supposed to defend, and the English countryside, equally remote from collective or prairie farm, is a very special part of that heritage.

Oxford cont.



1



2

Bicester Garrison



3



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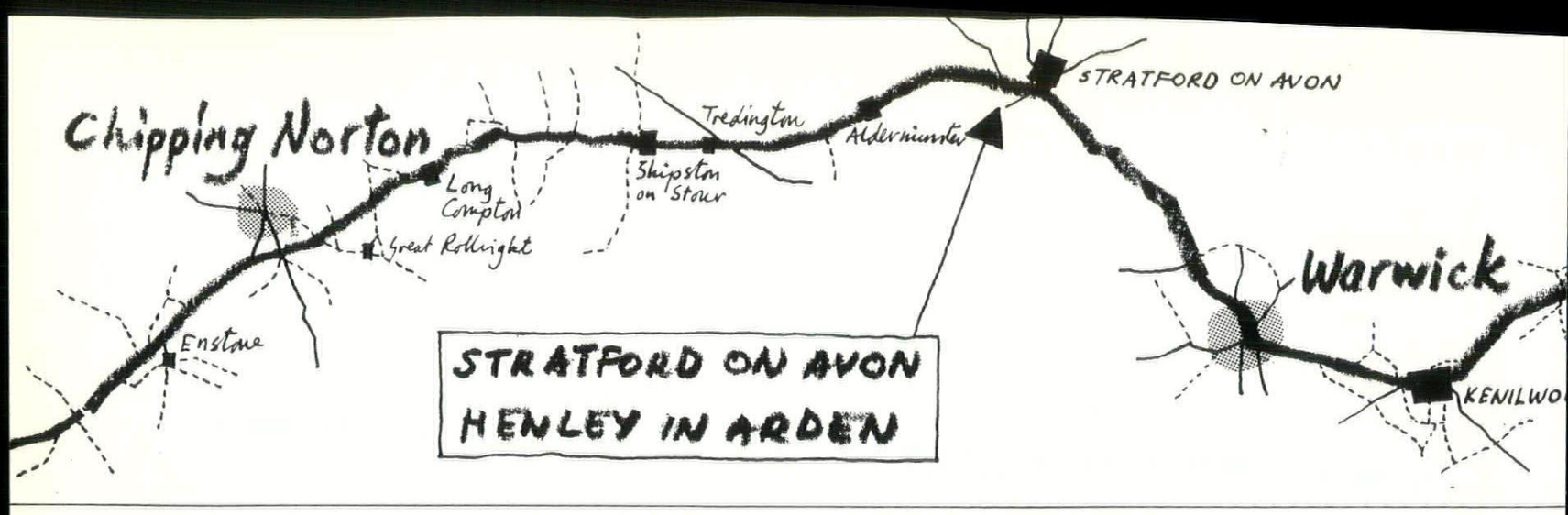

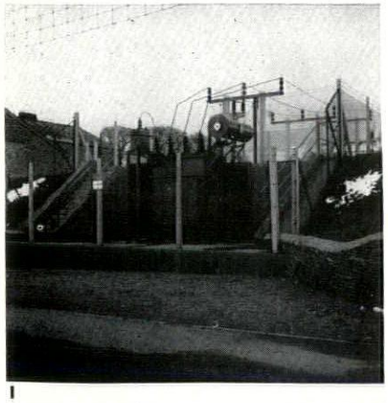

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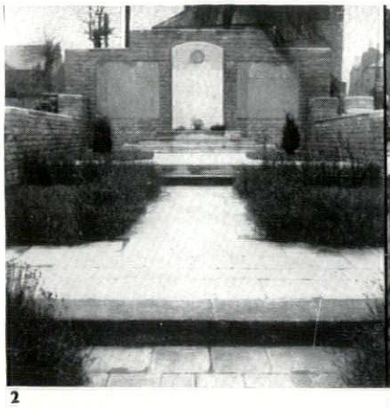

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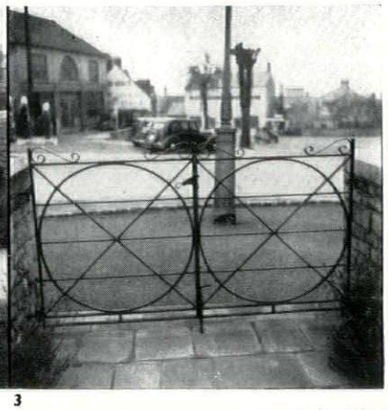

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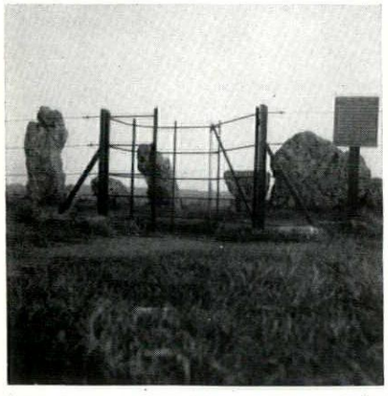

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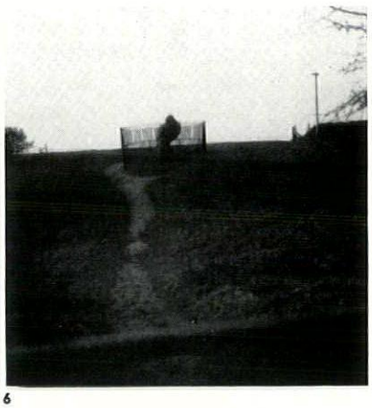

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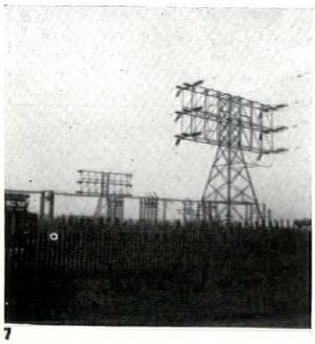

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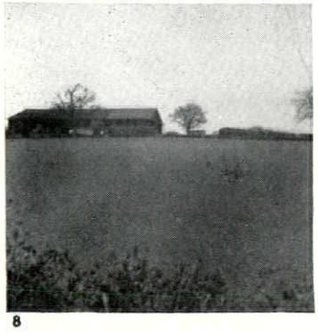

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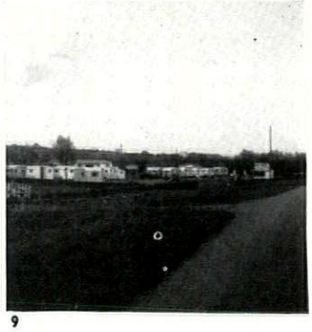

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CHIPPING NORTON – WARWICK

At Chipping Norton, the end of one of the main streets is no place for a transformer station, 1, while the 1939-45 war memorial is a perfect example of Adding the Art to a basically inoffensive design. One can see it growing visibly more 'artistic' as one starts close to the tablet and then walks backward, accumulating each plot and shrub, 2. Appallingly genteel gates complete the effect, 3. The Rollright Stones, 4-6, enjoy the unspoilt surroundings which are essential if pre-Roman monuments are to be significant evocations of history rather than a number in an archæological catalogue (the northward view, for instance, is a 400 ft. drop to 20 miles of South Warwickshire, rather than a military camp at twelve o'clock, eight hundred yards, as at Stonehenge). However, the MOW have tried hard to break the continuity: by attrition on the circle, 4, with railings and notices, and by brute force on the King's Stone, with the incredible result shown in 5 and 6, capped by an observer post right on the skyline. The result is complete disenchantment; the shock and the philosophical implication of yesterday-in-today have been guide-booked into an Historical Attraction, something to be looked at pedantically and individually and not seen whole as part of the landscape. Art has admittedly had the last laugh, for now the King's Stone has unconsciously reproduced the pattern of strain and confinement that modern sculptors have been trying to convey deliberately. It could be the Unknown Bureaucratic Prisoner: but the gain is less than the loss.

South Warwickshire really merits its reputation, the farthest north where you can see a landscape gay without any reservations. This makes its few blemishes all the more of a shock, such as this ruinously sited transformer station near Tredington, 7, on top of an isolated hill, breaking the back of views both towards and away from it. 8 is an aspect of Stratford the tourist posters don't mention: Stratford aerodrome, disused but not cleared up. Caravans for sale, 9—north of Stratford. Again, diagrams of progress which have arrived in the landscape without any question. Like charabancs in the Lakes, they are inevitable—though they don't leave at 6 p.m.—yet they can ruin any scene in which they are sited. 10 and 11 come near Wellesbourne—a pylon and hut that are rude to the landscape and a notice that is rude to the passer-by. As at Kidlington, the offence is against good manners as well as good taste, a sinister parallel.

STRATFORD & HENLEY-I

Two towns, included because they sho
of bogus historicism, a kind of retrospec
It is history made easy, or rather history r
bad drains or squalor), and it is what th
people look for, whether they are Briti
tourists. This attitude tends to concentrat
a very few national figures and places, an
one of them. Just as Salisbury Plain is cor
cause to the Army, so Stratford can be
hostage to Tourism; its existence is the g
Warwick or Alcester or Leamington shall
less spoiled. The external and internal man
the rows of motor-buses and mock half-tir
1 and 2: people come with olde worlde p
expecting to have them confirmed, so natur
sees to it that they are confirmed. It i
Subtopia; the quite legitimate urge to p
on show leads to faking on lines that wo
in Hollywood but in Stratford undern
genuine. That's the trouble with bogus m
even bogus Georgian—for people of any
they devalue the real thing.

The town is full of significant details
rustique huts for car-park attendant, 3,
attendants, 4, and the maze of rose-gard
river bank, 5.

The attitude can be seen spreading outsi
limits, first in Beautification by the Gas Bo
no attempt to design the huts beyond, only
ineffective screen of camouflage around t
then to Henley-in-Arden, five miles nort
mingham road. It can show most shades o
from the Birmingham suburb nailed-on of
more vicious arting-up of 8 and 9. With w
the Tudor features been encouraged to ma
genteel and false. How lovingly has Georgi
been made to sprout a bow window, coyly
bowels. As has been said, Stratford is only
guarantor of the peace of the surroundin
the leader of a Stratford School it is a me

Stratford and Henley-in-Arden



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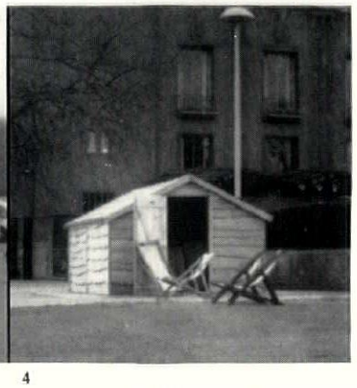

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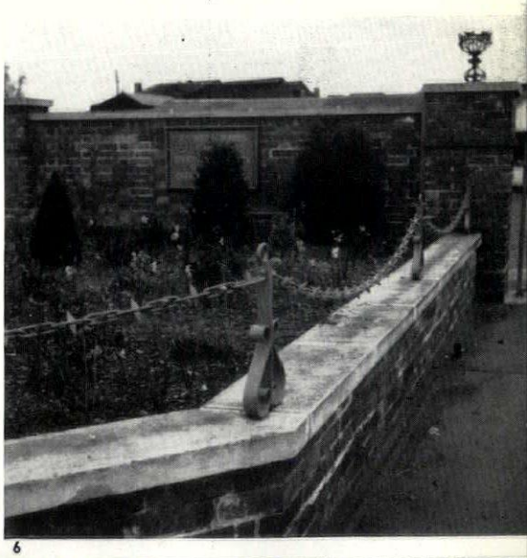

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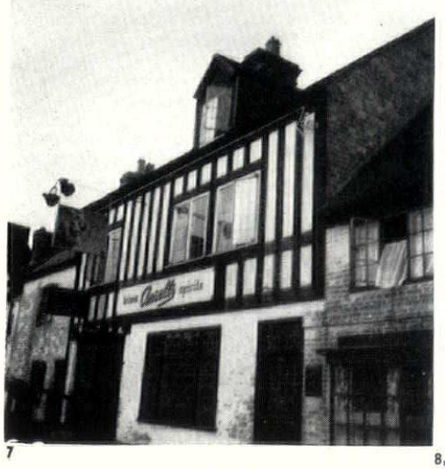

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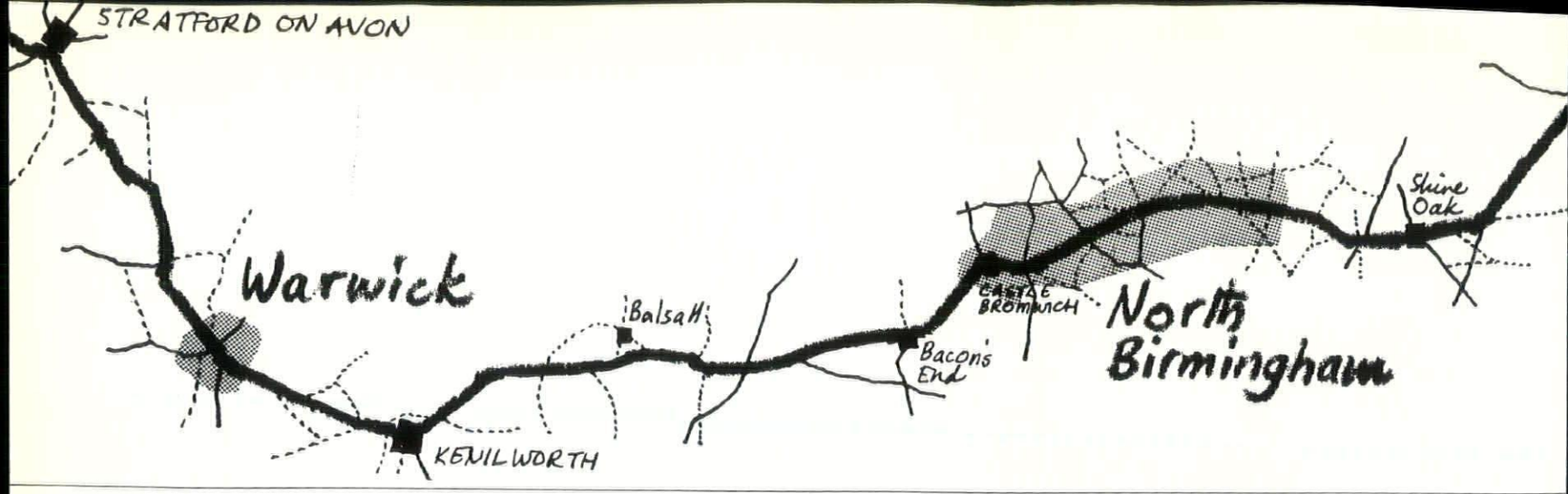

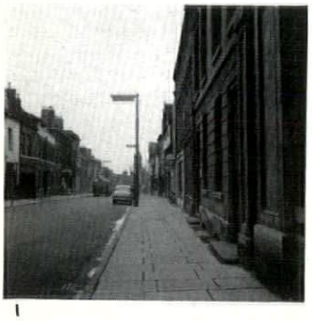
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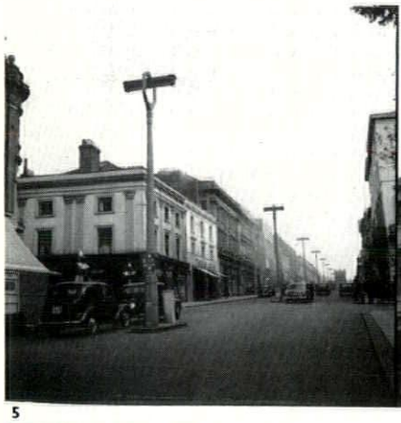
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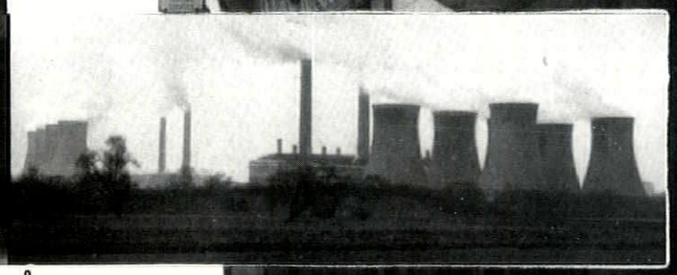
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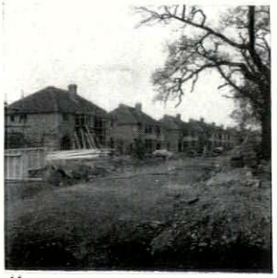
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Superimposed Patterns



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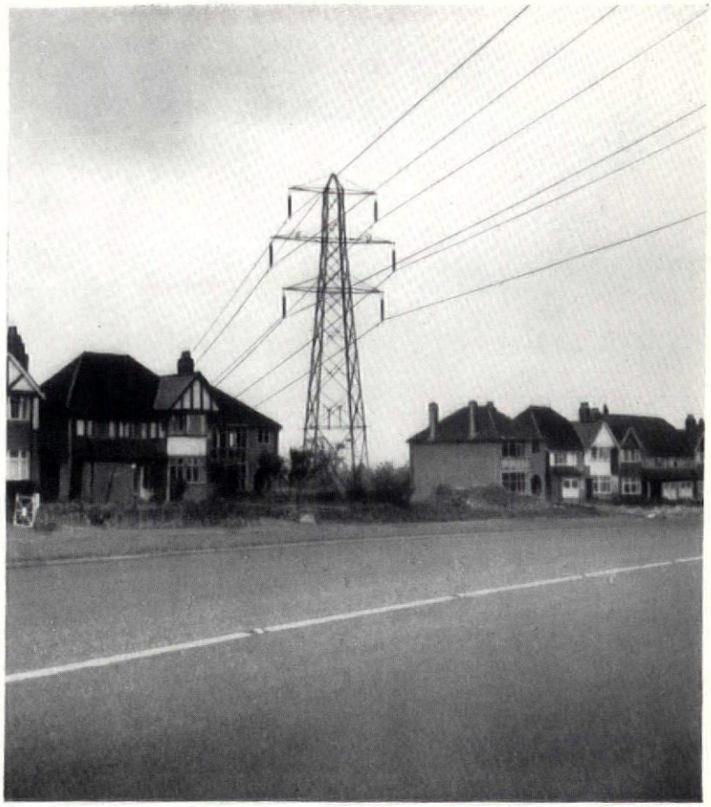

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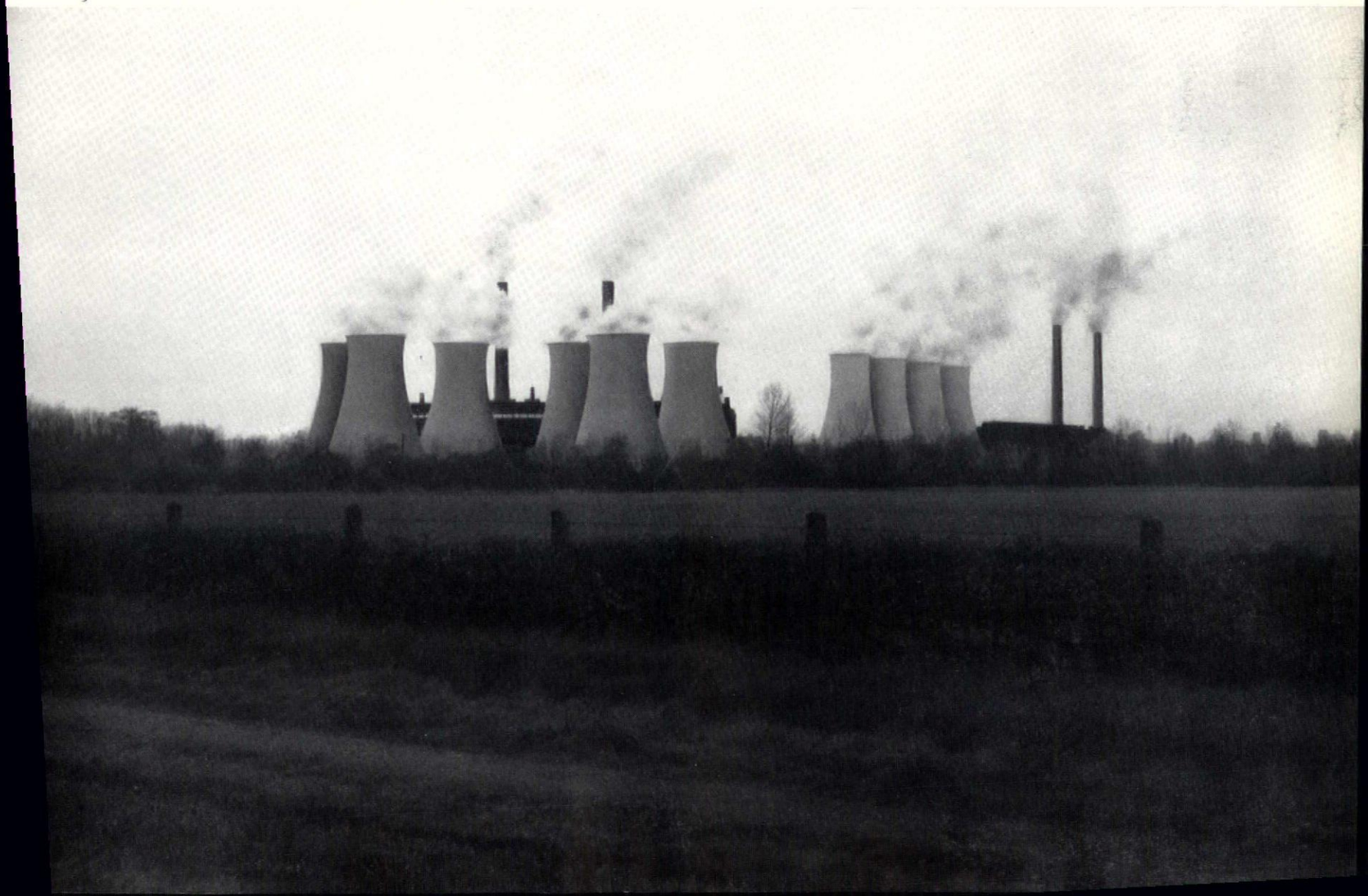

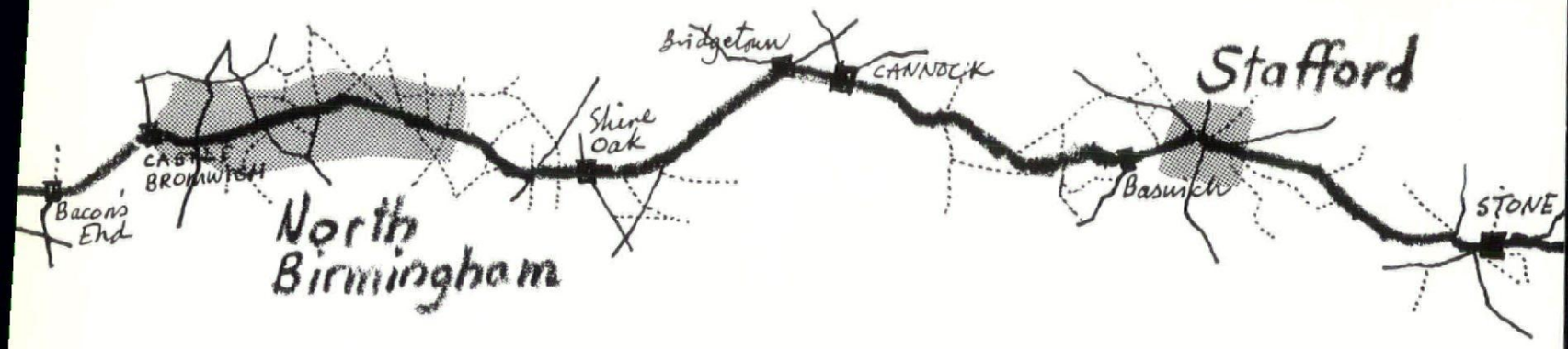

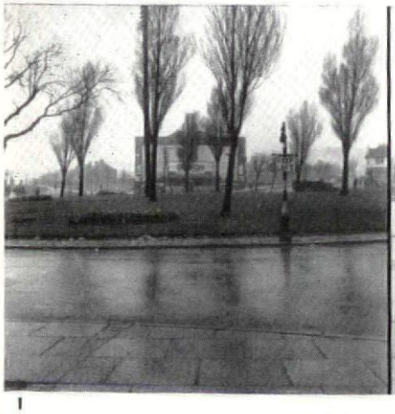
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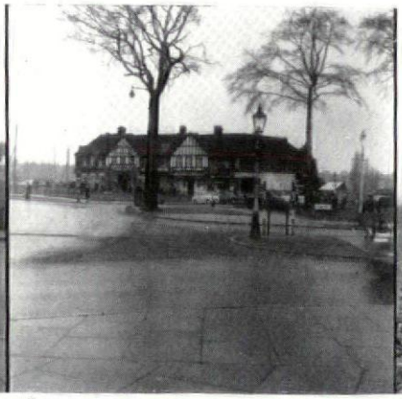
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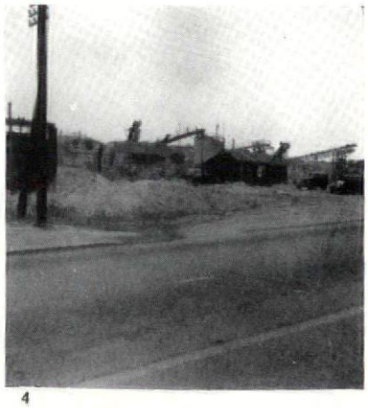
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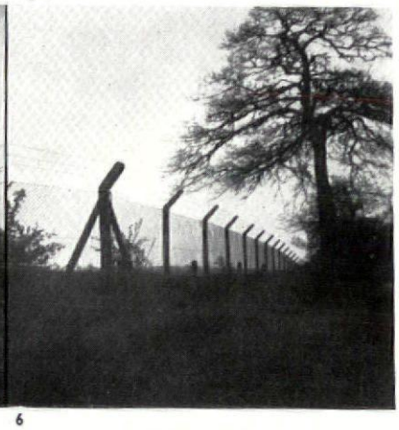
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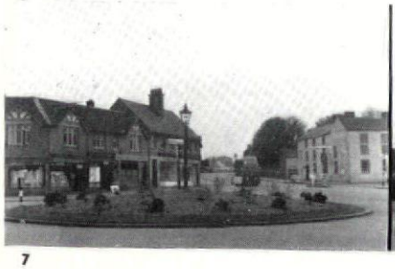
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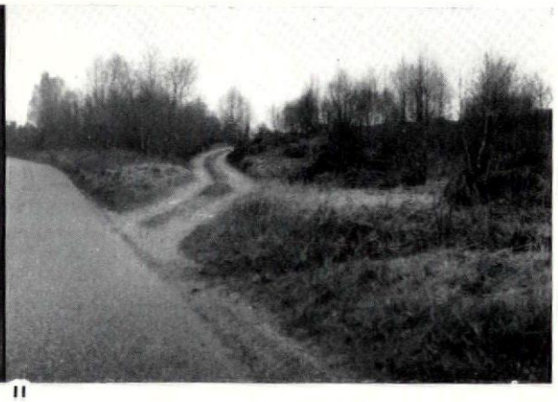
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N. BIRMINGHAM – STAFFORD

How can one blame the private builders, when the best that the Corporation could do in making a neighbourhood centre is shown at Kingstanding? An immense rond-point, 1, has wide avenues, 100ft. or more, galloping off into the distance, lined with semi-detached houses that cannot look anything else but dwarfed. The corner sites are accented with buildings like 2, making a timid site even more mousey—and the centre is a huge roundabout, with its quota of signs, flower-bedded and railed in. The middle of the 'town' is completely sterile—people can't get there, being cut off by traffic, and there is nowhere for them to go when they do. And here is the King's Standing itself, 3, the point where Charles I is supposed to have watched a minor Civil War engagement, in the middle of a sterilised—ploughed up, in fact—strip, one of the avenues of this compass rose, vigorously fenced. The effect rebounds straight back on to the mean-spirited surroundings, the idea that the environment can be parcelled up—that is a Historical Exhibit, this is a Recreation Area, there is a Beauty Spot—while the ground in between is just forgotten. Men are much more efficient machines when their activities *are* parcelled up like this, as productivity experts and dictators, Left or Right, have found out—they just stop being complete men, that's all.

4 is a roadside quarry near Brownhills: perfectly legitimate, but it should make some attempt to tidy up. 5 is the same thing in public terms north of Wolverhampton: little else can be said that hadn't been mentioned about the other installations—the point is just the cumulative effect. 6 comes from a Ministry of Supply depot at Featherstone—in the middle of the country, with no attempt made to clear up the wartime mess, except possibly to renew the wire; a little more ground eaten up both physically, from the farmers, and figuratively, from the eyes of the people in the overcrowded Black Country who have to fan out further to get away from 19th century industrialisation and—far more widespread—20th century Subtopia.

Penkridge, 7-9, was a large village west of Cannock until a few years ago. Now it is backcloth to a grotesque combination—floral dance that is Totentanz as well. The roundabout eases nobody's problem, 7, for the traffic coming down the side road from Cannock is negligible. Plant little shrubs ringed with asphalt, instead of an open space, and the corollaries of selling your village to The Road have already appeared—a hoarding to frame the church, 8, and a badly-sited filling station, 9. The ensemble depresses one more community which had a spirit of its own into an echo of the Coventry By-Pass.

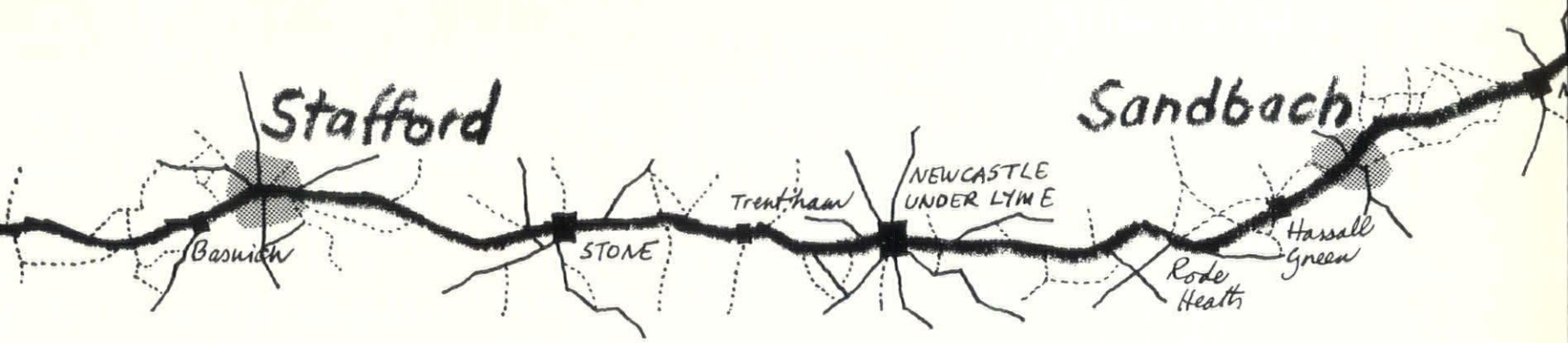
Cannock Chase is the first introduction that this route provides to the work of the Forestry Commission. Cannock Chase was an open space, and a much-needed one, just north of a crowded mining area: some of it still is, 11: comparison with 10, taken on the other side of the road, shows how ugly the transformation is. For the sake of a few less pit props, the site could have been landscaped properly and proper paths provided, not the Gothick Horror of 10.

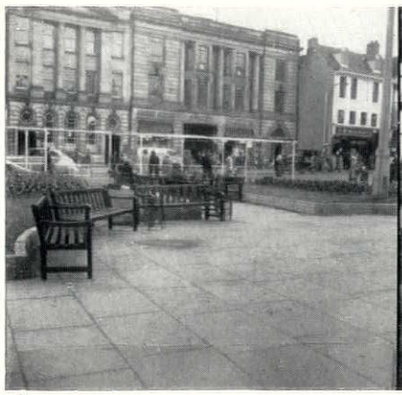
STAFFORD - SANDBACH

The main street of Stafford is crowded and narrow, but it had just one open space in front of the Town Hall; this has been destroyed by converting it into a garden. To halve the previous breathing area with flower beds is very silly—why not leave it open and let people stop instead of being harried between plot and bus queue, 1? The concrete pot is best described by that out of date but useful word 'debased', 3, and if you are possessed of an elegant 18th-century Town Hall, it is an odd thing to try to discredit it with fussy ironwork and window boxes of bark, 2 and 4—even if you do wish it were half timbered.

Meaford Power Station, 5, is far from being Neo-Technic, but that is not our present concern. What is germane is the entirely mid-twentieth century wire, sterilizing the land behind and winding its serpentine way right over the horizon. What is the point of that, apart from sheer callousness? If the plant must be protected it can surely be done closer than this. 6 is a mess near Eccleshall, 7 and 8 show a perversion of concrete that is more irritating than usual, with the lumpish arm rests and genteel quirk of the panel below them. From the inscription it was obviously put up with the best of intentions, such things always are, and there was probably nothing better to choose from, a fact which implies a lack of taste in the manufacturer as well as the buyer.

Cheshire is full of little towns, canals and small factories, and it digests them very well. One of the few areas on the whole of this route where industry and nature augment each other is near Middlewich, where the factories provide the punctuation that the landscape needs, and the fields set off the crisp industrial rhythms. Crisp is the operative word; the division is sharp: exhilarating, not enervating. However, there are still two sources of visual offence for Cheshire—municipal improvements in the towns and Government departments in the country. Here is an example of each: a dump of signs and symbols in the centre of Nantwich where there should have been a positive statement of urbanity, 9; and beyond it three studies of decay from Cheshire's own Les Baux, 10-12, Calveley airfield. As the notice points out, the Ministry of Works disclaims any responsibility for damage due to trespass on the derelict buildings—what a terrible example of ministerial couldn't care less. Whose fault is it that the buildings weren't pulled down and the land returned years ago? These derelict camps can be paralleled by the hundreds up and down the country, and when they have reached this stage it can't be pleaded that they might be required in a future war (and whoever got anywhere by living from war to war?) To make these usable again would cost as much as erecting new buildings—so why not remove them?

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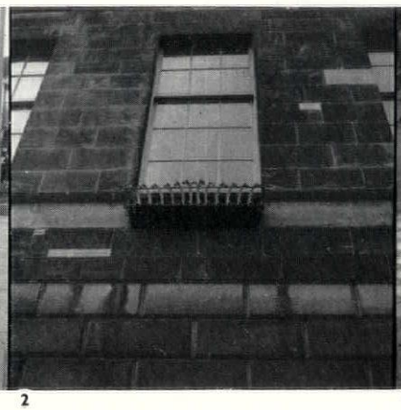
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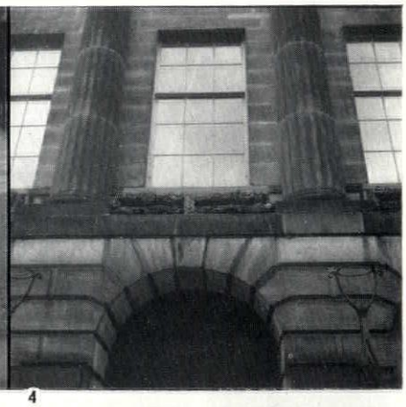
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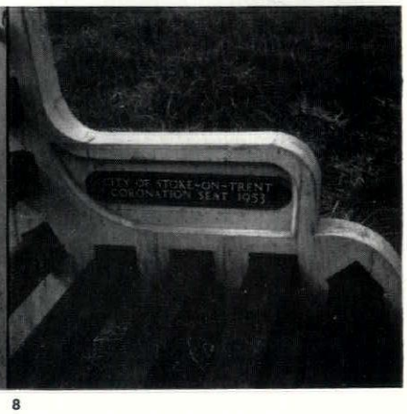

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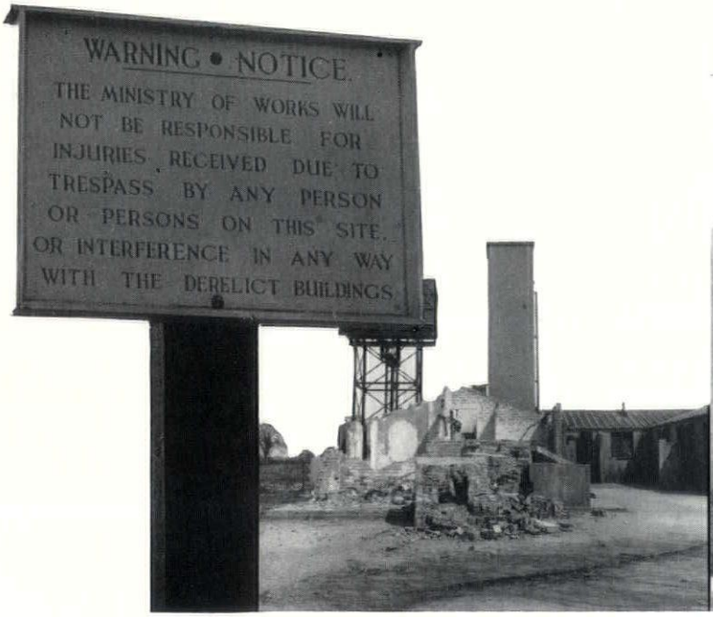

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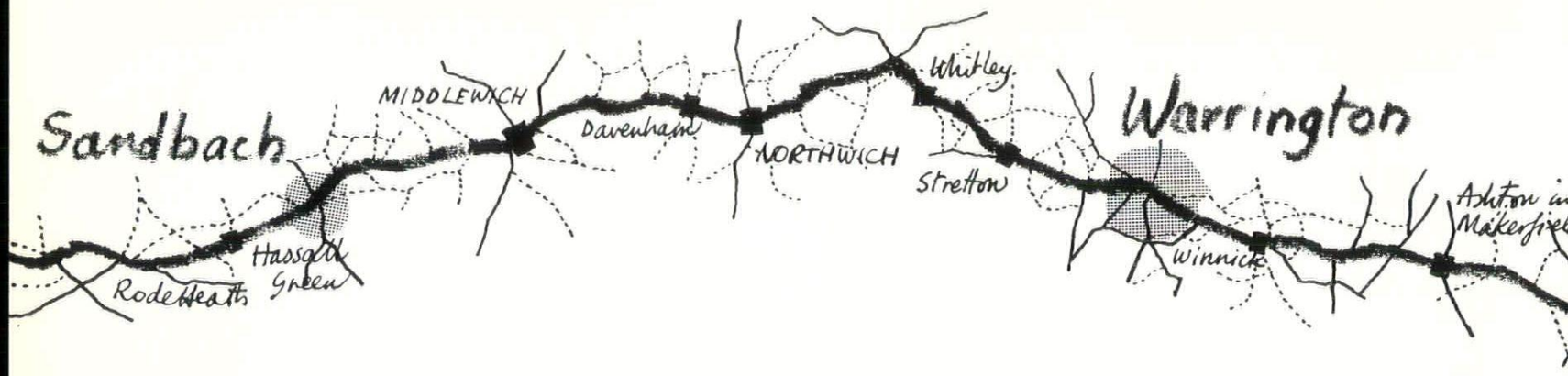

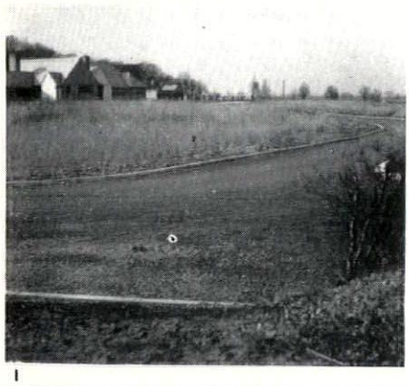
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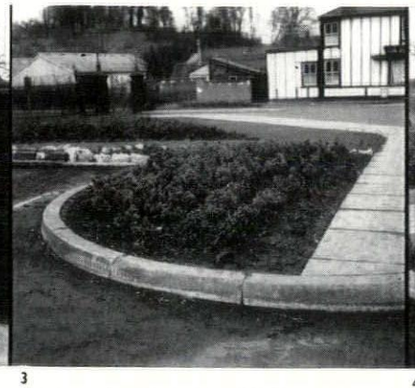
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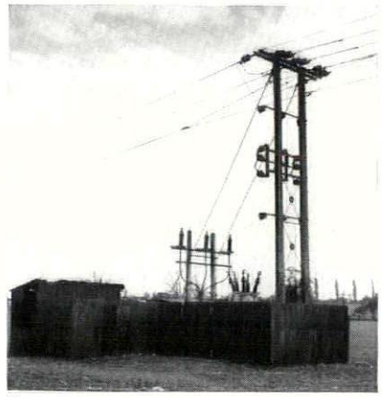
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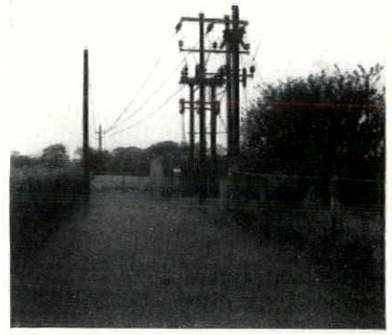
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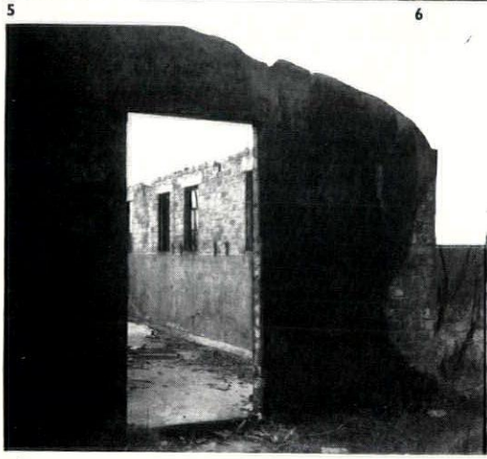
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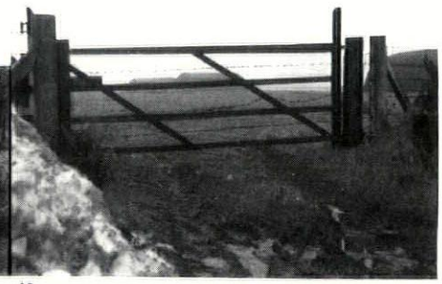
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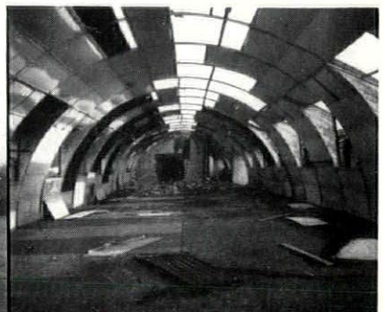


SANDBACH - WARRINGTON

The other half of Cheshire is unspoilt even though it is nibbled on the north by Lancashire overspill—for example this new private estate in embryo in the middle of the vital Green Belt between Knutsford and Manchester, 1 (which Manchester Corporation is also trying to demolish, with their proposals for a satellite at Mobberley). The rest of the county does manage the incredible fragile co-existence of industry and rurality —the eye takes in the factory on the skyline, but doesn't worry about it. It is partly clean edges, and partly the stark rectilinear pattern of Cheshire's fields and hedges, i.e., it is a special case, and it certainly doesn't happen anywhere else on the route. But it would be a worthwhile factor in planning, when so many industries are quite mobile, to find out on the site which landscapes can 'take it', why, and to what degree.

As was said on page 416, that leaves two main offenders —municipal improvements and government departments. Here they are again. The decorated park frontispiece at Northwich, 2, 3, 4, doesn't explode the town but it is a particularly gratuitous bit of Beautification. The park itself is an unspoilt ravine that didn't need tidying up, and the join between natural and stilted is painfully raw. If you want an entrance, keep it light, and if you want amenity, plant seats, not roadside plots with nowhere to stop and sit. Again, at Knutsford, don't plant roadside plots, 5, 6, the simply-designed seats would be far better by themselves. The wire in the background of 6 shows how extra outrages get into the photograph by accident, because there are so many; the whole thing is beginning to coalesce.

As for government departments, there is wire near Middlewich, 7, and wire at Witton, 8: how can so many different combinations all finish up as graceless tangles in one corner of a field? There is the part of RAF Cranage that isn't used, 9, and the whole of RNAS Stretton that is, 10. That takes us to the outskirts of Warrington, where Subtopia comes back with its most obvious manifestation, the dreary ribbon of private housing, 11. Halfway down it a sign says Buildings for Sale, 12. A housing estate? Then surely it wouldn't be 'buildings', but 'desirable modern residences'. Nor is it, for here are the 'buildings', 13 and 14: huts left over from a wartime camp, being sold to be dispersed and re-erected all over the countryside—like the replaced prefabs—instead of being conserved or demolished. What a reflection on whichever Ministry left the huts to rot—at this stage of dissolution it is difficult to be more precise. In south Cheshire they rot and you are warned that if they kill you it's your own fault; in north Cheshire they rot and you are invited to remove them at your own expense—but either way, they rot, and Authority couldn't care less.

WARRINGTON – PRESTON

North of Warrington there is thirty miles of England that the guidebooks prefer to talk around. Indefatigable country writers go from half-timbered house to grim fortified manor and usually ignore the fact that between them you have to go past six towns, ten miles of council housing, twenty-five cotton mills and an atom plant. It is not like the Black Country which has limits and visual accents: it *was* until thirty years ago, but since then urban sprawl has given the last push and created on this route the township of Warrington-Winwick-Ashton-Wigan-Standish-Coppull-Euxton-Bamber-Preston.

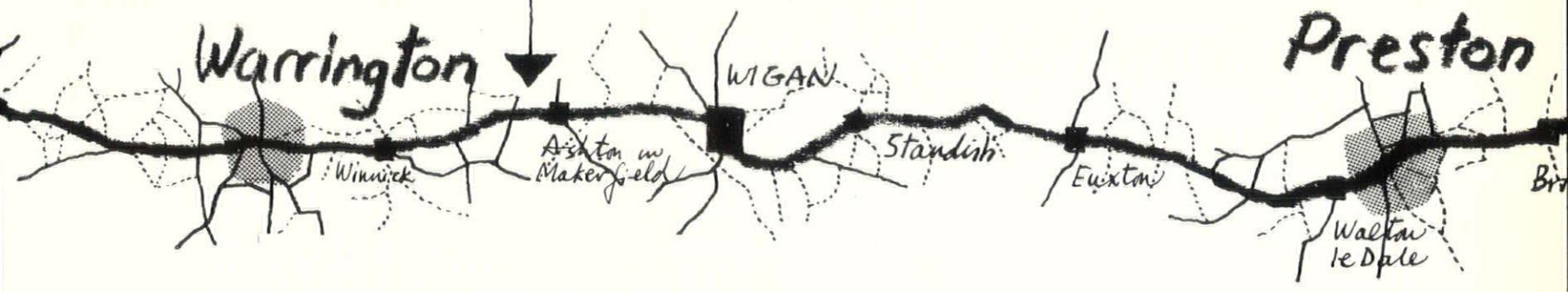
The grey uniform desolation, South Lancashire's symphony of wire and asphalt, comes out more clearly in the photographs than words can convey. 1, near Manchester, could be the visual representation of a chapter of Graham Greene ; it is an eyesore, but it is not Subtopian. The next pair are part of our substitute for the sky ; 2 at Barton and 3 at Leigh.

Lancashire had adopted the swan neck as its lamp-post, and this misshapen seat, 4 and 5, as the standard fitting in its parks. The silly break in its armrest (this has an obvious affinity with the Stoke-on-Trent school of concrete seats, page 417) peeps out of most villages on the route—these two come from Tarleton and Bolton-le-Sands, photographed in exasperation at the blind acceptance of a poor design off the peg.

The trim of the estate at Wigan is very much what could be expected from the distant view, 6, an arid amalgam of concrete and asphalt, hastily modified by rockwork at the main entrance, 7. The visual effect is just as squalid as that of the terraces it replaced in the centre of the town, even though the drains are better. Conversion or replacement on the old site could have improved the drains, lessened the cost, maintained the town centre and left these acres as much needed countryside.

Travelling north out of the industrial range outrages begin to appear in sharper relief—a straightforward brick box but what a surround of concrete and palings, 8: why, when the building itself looks childproof ? This is near Blackrod, and so are the swan-neck lamp-standards, 9, which impose Uniformity on the few stretches of open country that remain. The sight of these drooping monotonously along a road that is otherwise in the country is far more depressing than any number of industrial streets. Beyond Blackrod there are views to the east of a different landscape, 10, and there are pylons in front to rear up and stamp them with a waspish frame of reference. The photograph is a perfect illustration of the fact that one pylon can, badly sited, spoil a whole view. There is nothing like an atomic factory for a nice bit of wire, 11, at Euxton, which has sterilized a 50-yard strip of the roadside as well. And Industrial Lancashire ends with a mixed lot of wire, 12, near Blackburn—'a good general collection', as the stamp dealers say, 'mounted in grass-green album'.

LANCS CASEBOOK

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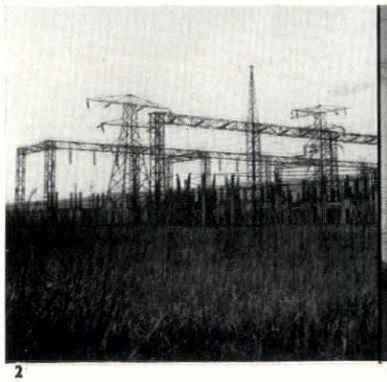
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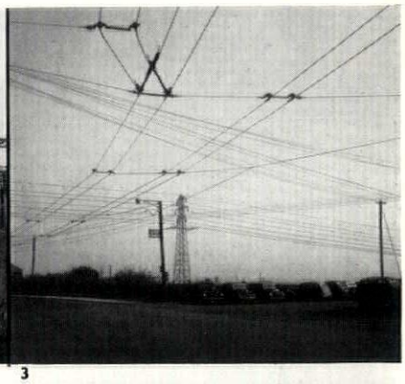
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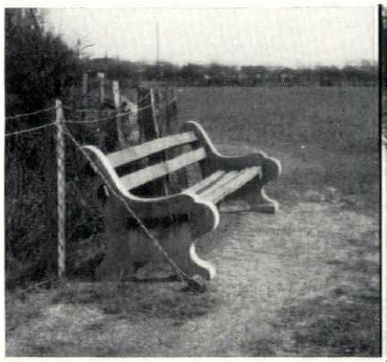
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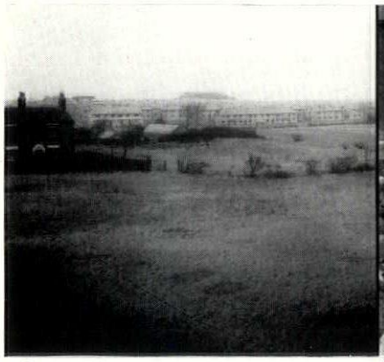
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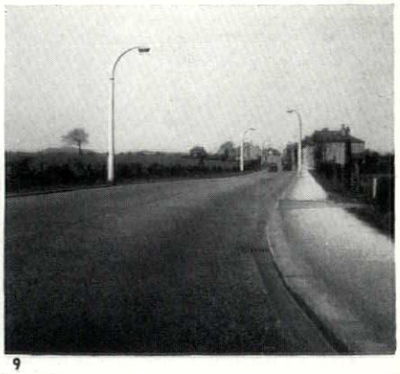
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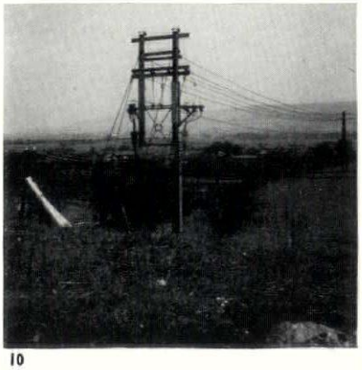
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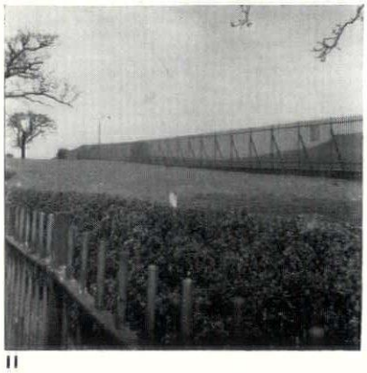
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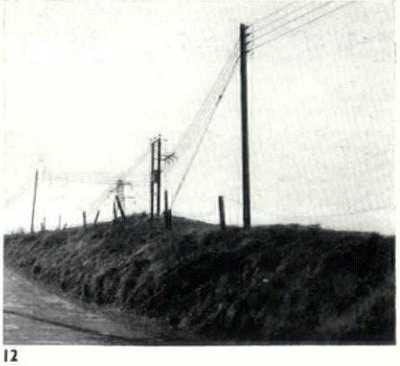
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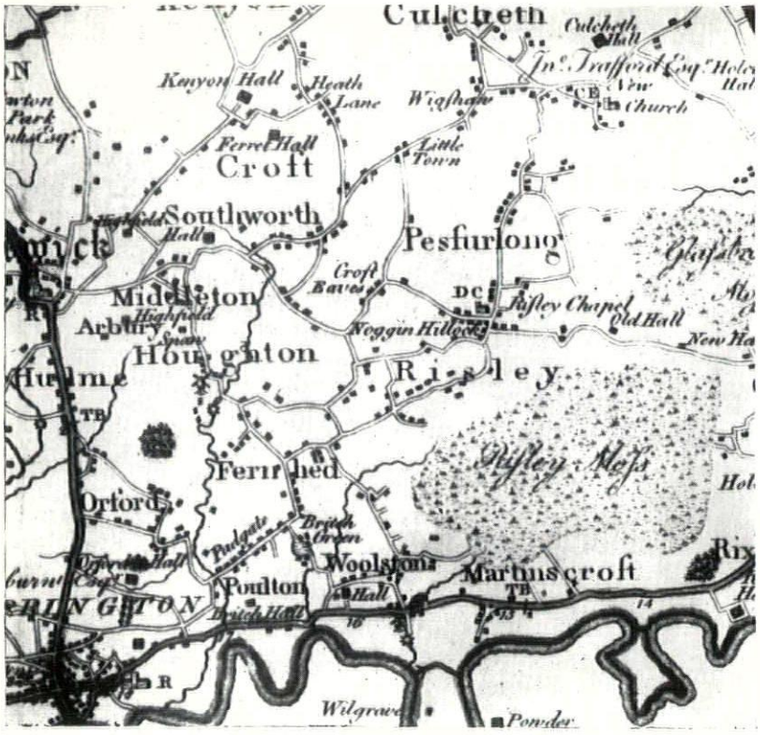
Lancs. Casebook

1786

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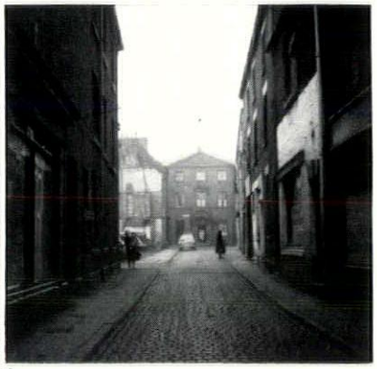
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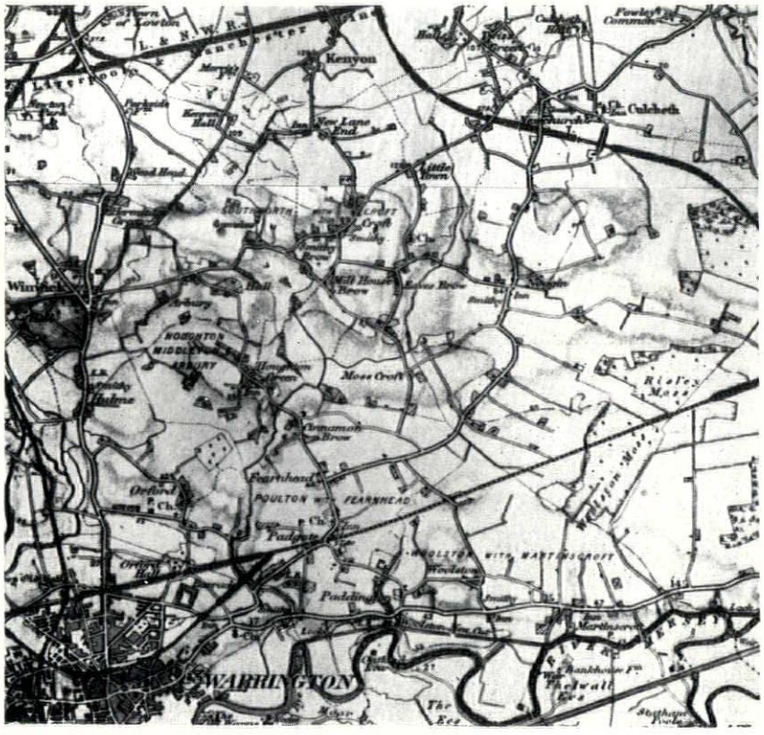

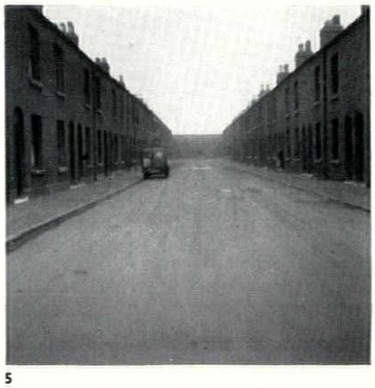
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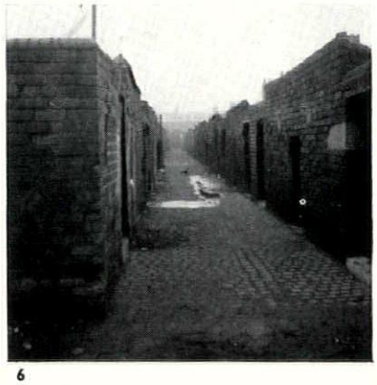
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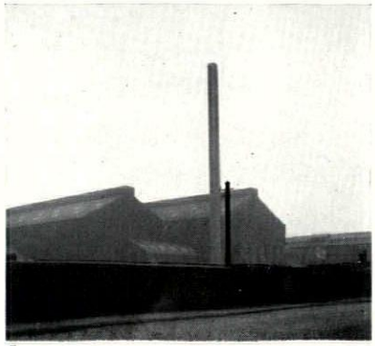
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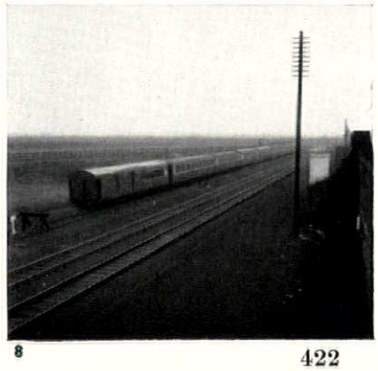
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LANCS. CASEBOOK

Up to now, the route has been a linear matter, and the offences have been seen without any historical perspective. Here is an area showing the development chronologically. This square (five by five miles north and east of Warrington) contains only one town, Warrington itself; the acreage built over would still be a small percentage (quite rural, a planner would say, looking at the figures)—yet it is Subtopia. Everything is sited so that it can just be seen from the next camp, or waterworks. The frightening thing is that this twenty-five square miles has been lost to Lancs. and England *since 1939*. Before then it was still a buffer; dreary, and with too much industry to be a real relief from St. Helens or Manchester, but recognizable country with rhythms of its own. Now Risley atom plant and the spatter of derelict camps north of it have eaten the heart out: Warrington and Leigh have formed fingers—sticky with the marshmallow—diagonally across the area. The series of maps proves it through conscientious revision and the maps themselves manage to reflect the disintegration, subtly. Cartography has become a branch of Subtopia; the environment is starting to get its own back.

1786 1 inch map, B. M. King's Maps, 18 65 1

The matrix. South Lancs developed with isolated farms, not villages, and here they all are. It is the last time that a map can show housing over-scale: to-day's map would be quite black if the area represented by houses were to be enlarged accordingly. The old rhythms can still be glimpsed occasionally to-day—country, field and windbreak, 1, like the Fylde, farmhouse and windbreak, 2, and the ghost of a better Warrington, 3, typically seen at the end of a street that the nineteenth century made slummy and the twentieth picked holes in. The lesser examples in 4 really will be ghosts—in about six months, by the look of things.

1896 1 inch Ordnance Survey, 2nd edition

The extent of nineteenth-century squalor is shown here, everything from which we reacted so violently and tragically into Town-Country. For 1896, this was industrialized country—we to-day would call it unspoilt. Warrington is still compact, though at the cost of dreary fronts, 5, and drearier backs, 6. This, notice, is a byelaw street. To-day, the bad Industrial Revolution slums have all gone, the gaps they have left are Warrington's canker. They were unconvertible—but these are neither hopeless nor a slum. Conversion could brighten the houses, townscape could transform the street. The way the inhabitants keep the insides—and the doorsteps—would guarantee the rest. Industry was built into the town's growth, together with the housing, 7. It seems a better compromise to have a small terrace house, a small garden, industry two minutes and the open country five minutes, than a semi-detached house on a huge estate, industry ¾ hour (by bus) and open country nowhere.

In the country there is the railway, 8, and hardly anything else. Nearly 1900, with all of Horrid Industrial Lancashire built (things have been improving steadily since, of course), and this plot is still a lung, within walking distance of the towns it serves.

LANCS. CASEBOOK cont.

1940 1 inch Ordnance Survey, 6th edition

The map begins to look much more familiar but though infections have multiplied the lung is not tubercular yet: and this is, remember, fif*teen* years ago, not fif*ty*. Warrington has spread out beyond the railway, engulfing Orford with estates like this, 1, and private building like this, 2. They replace slum areas in the town centre cleared and left as holes or at best car parks, 3. In the country separate institutions have arrived, all necessary, all hard to argue over—individually. But collectively, one can see from one waterworks, 4 (Houghton Green) to the next (Winwick) 5, and from there to Winwick lunatic asylum, 6.

The pylons have come too, from the approach to the power station, 7, where they are taut and in scale, to the middle of the country, 8, where they are looser and out of scale—and from where one can see both the waterworks and the lunatic asylum. That is the real point, the density of 'casual' installations in a patch of country with towns round the edge.

1952 1 inch Ordnance Survey, 7th edition

To-day's map or rather yesterday's; to-day is a little bit worse, a few more spec. houses and a few more huts, for Subtopia is never static. Warrington has come to explosive decay—a centrifuge at the main cross roads, 9, fragmentation in the open areas, 10, and still more open areas impending, 11. Meanwhile the estates dig further into the country, 12.

continued on page 427

Lancs. Casebook cont.

1940




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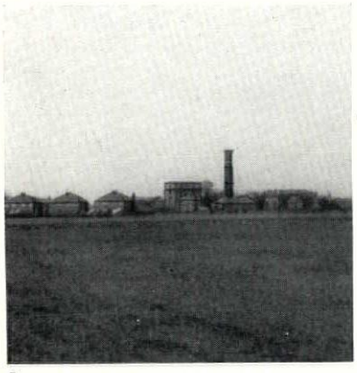
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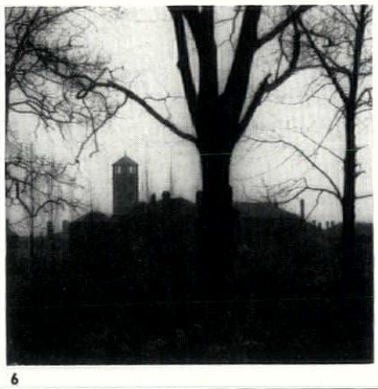
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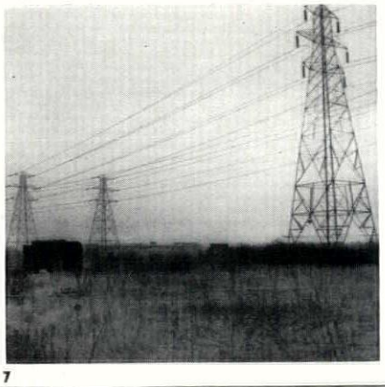
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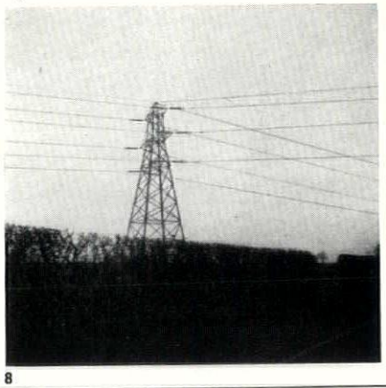
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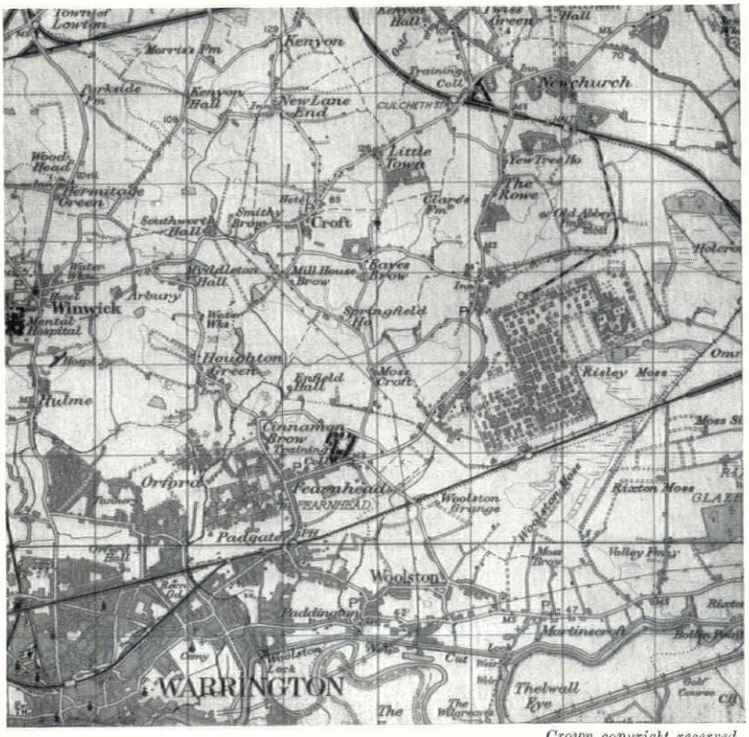

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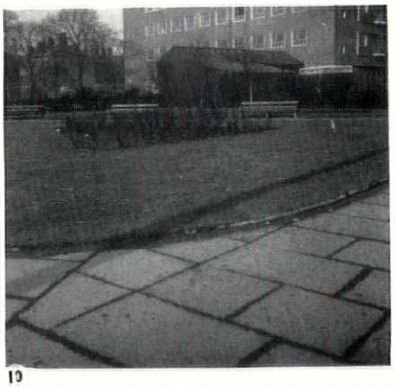
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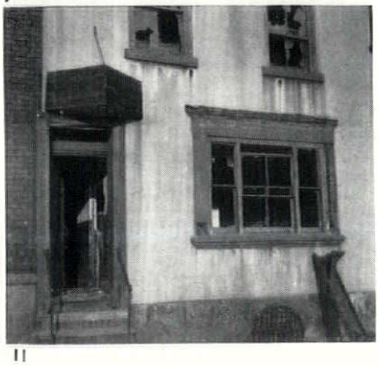
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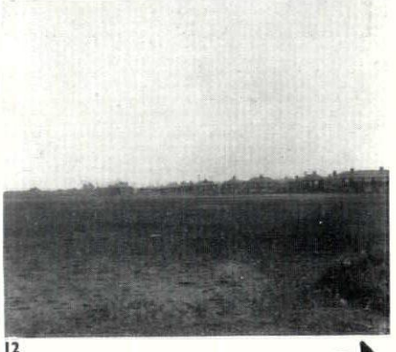
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1952

Lancs. Casebook cont.



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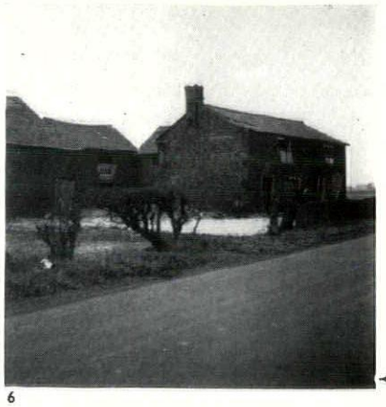

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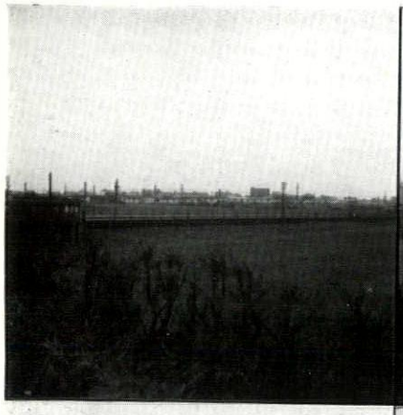

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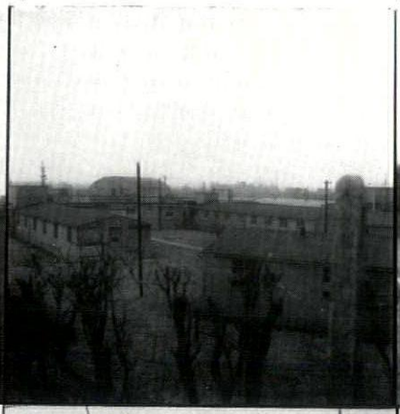

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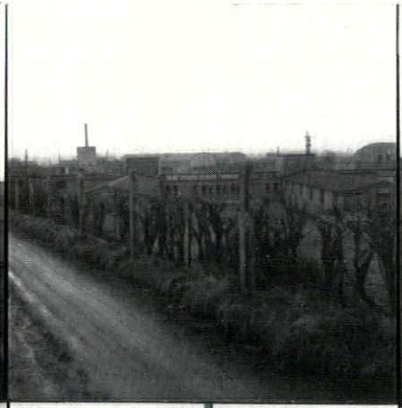

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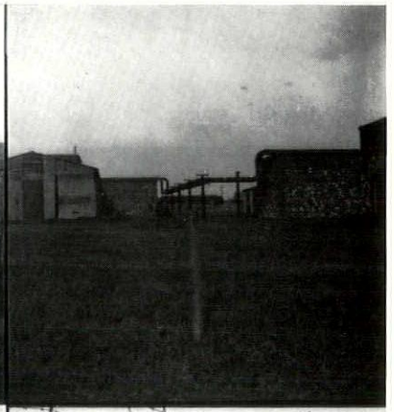

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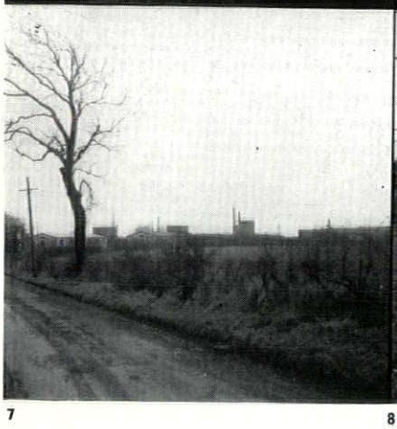

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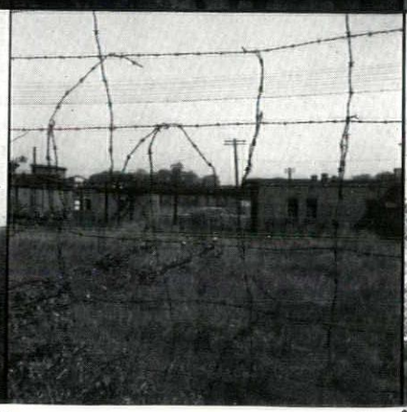

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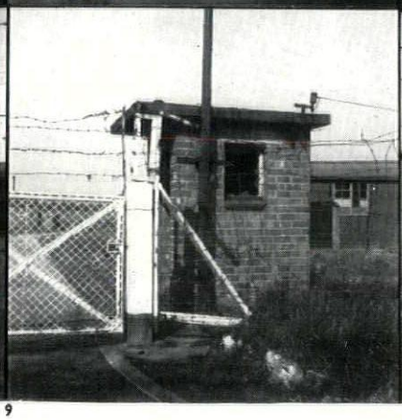

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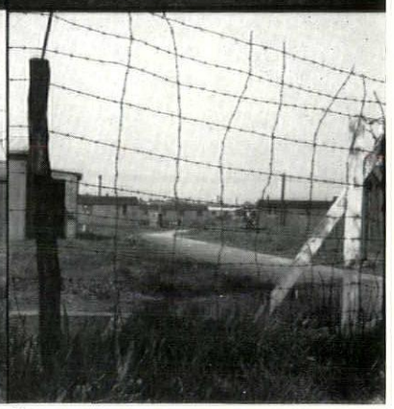

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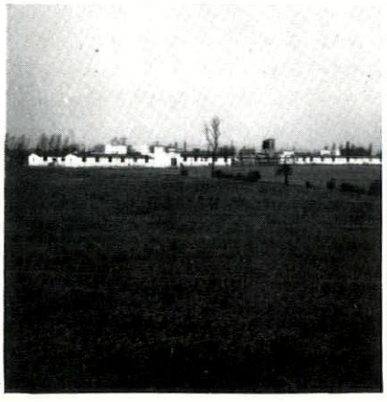

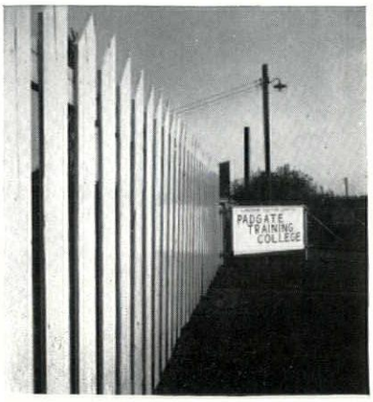

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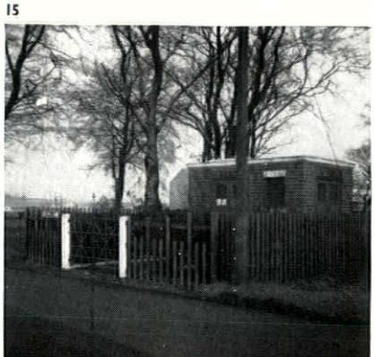

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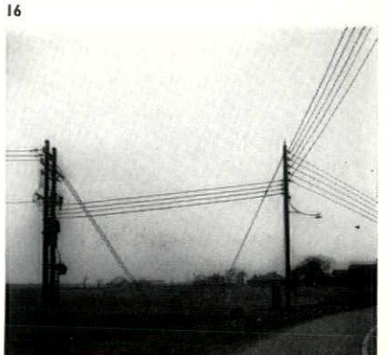


LANCS. CASEBOOK cont.

1952 From the edge of building one can now look across and see Winwick lunatic asylum, 1 (and turning the other way the two waterworks and the pylons). In what is left of the country, the old farms are decaying, 2, while the heart of the lung's tissue has been ripped out by the atomic factory at Risley. Security forbids photographs, but the area on the map tells its own story, appropriately coloured not black but grey. There are also other grey areas in the centre of what was countryside. Mining villages or industrial plant? No—derelict camps, 3-10, literal sores on the land surface, and not one but half a dozen. Black is now reserved for public buildings—the mental hospital at Winwick is very prominent —and there are two training colleges shown. They turn out to be—two more wartime camps, 11 and 12. Prefabs are re-erected in open country, 13, lamp-standards have come to the lanes at Croft, 14, little objects squat by the side of hamlets, 15, each field has its small change of technology, 16. The whole area is lost, forsaken, sold down the line: neither town, country nor suburb, but Subtopia.

And finally the map itself is decaying. That buildings have become represented by grey not black is just a coincidence; but north of Risley there is an old village centre called Culcheth, with a church. Or rather, there was: on our latest edition the name is neatly removed, replaced by the looser anonymous 'Newchurch'. (These old names are outmoded anyway.) And the church? Look back closely and compare with the 1939 map; you will see it marked here as △ —a triangulation point. How typical that the means of map making should be thought more important than the purpose of the map. 'Come and see our interesting old triangulation point.' Or, again, 'But the church, comrade, it doesn't exist, obviously, it isn't on the map.' A molehill? Certainly, but it will mutate to a mountain using the fatal patent expander of means-not-ends, if we don't look out.

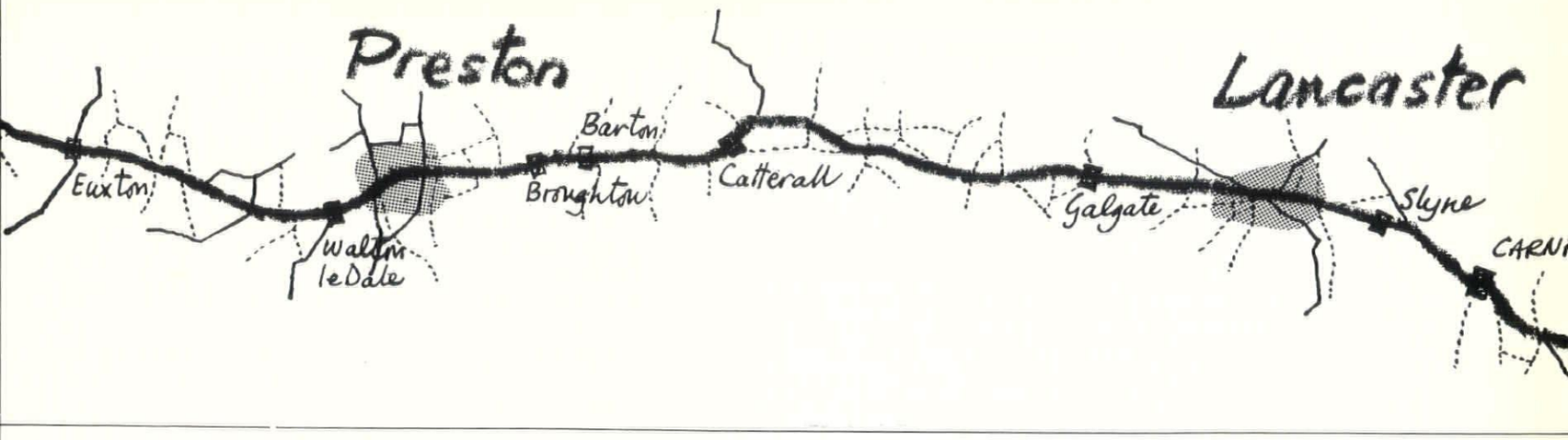
PRESTON - LANCASTER

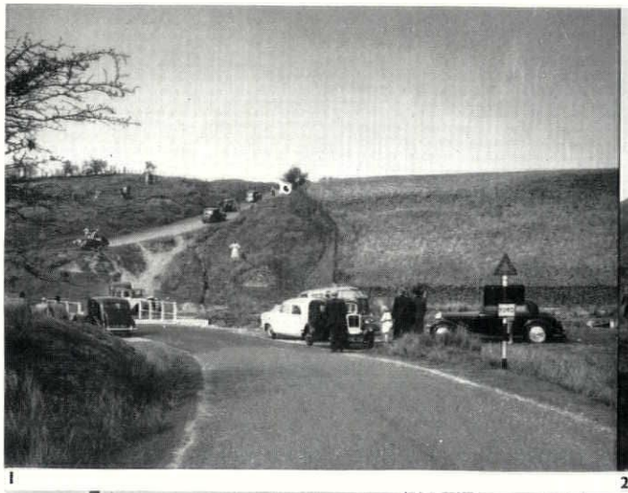
Beyond Preston there is open country at last, and on Sundays industrial south Lancashire becomes overcrowded north Lancashire—these are not main roads but lanes north-east of Garstang, 1, and over the Trough of Bowland, 2. It is an odd idea of relaxation that rushes to a well-known beauty spot and sits ten feet away from another glistening black box in the sun, but it is often the best that can be done, because so much land has been squandered nearer the towns in council estates and semi-detached boxes.

The rest of the photographs, 3-11, which epitomize the whole route, come from the Garstang By-Pass, chosen particularly because they are nobody's mess but our own. Garstang (between Lancaster and Preston) is not industrial, and the by-pass was only cut in the 1930s; neither overcrowding nor Ancient Blights can be accepted as an excuse. Broadly speaking, Lancashire is like this, or worse, for forty miles north of Warrington. Again, we can only say where will it all end?

This has a particular moral that was stated by John Piper in 1939: that the fringes of arterial roads should be sterilized, and filling stations and roadhouses gathered into nodes every five miles or so. Sixteen years and a war after that, and what have we got?—a planning system that lets worse than ever horrors get through the sieve.

Any one of this nonet could be put into the 'Standard Fringes' at the beginning of this issue, and vice versa: and that is the fundamental crime—removing the identity of a place, not by change, but by imposing uniformity. This is the antithesis of real planning. A Dada anti-town planner wanting to obliterate the identity of the world could achieve no more random scatter of elements than this, as though all the houses and fittings in England had been shaken up into a weak solution and then poured over the whole country. Æsthetics apart, it is just plainly anti-social: the people who live there are robbed of the chance of belonging anywhere. They may not wish to use it, but the opportunity should be there just as much as the opportunity for a full education should be available for anyone. To restate as another social analogy: nobody would put up the Gorbals tenements to-day, yet this environment is the spiritual equivalent—where the nineteenth-century slums stunted the body, this twentieth-century Subtopia stunts the mind.





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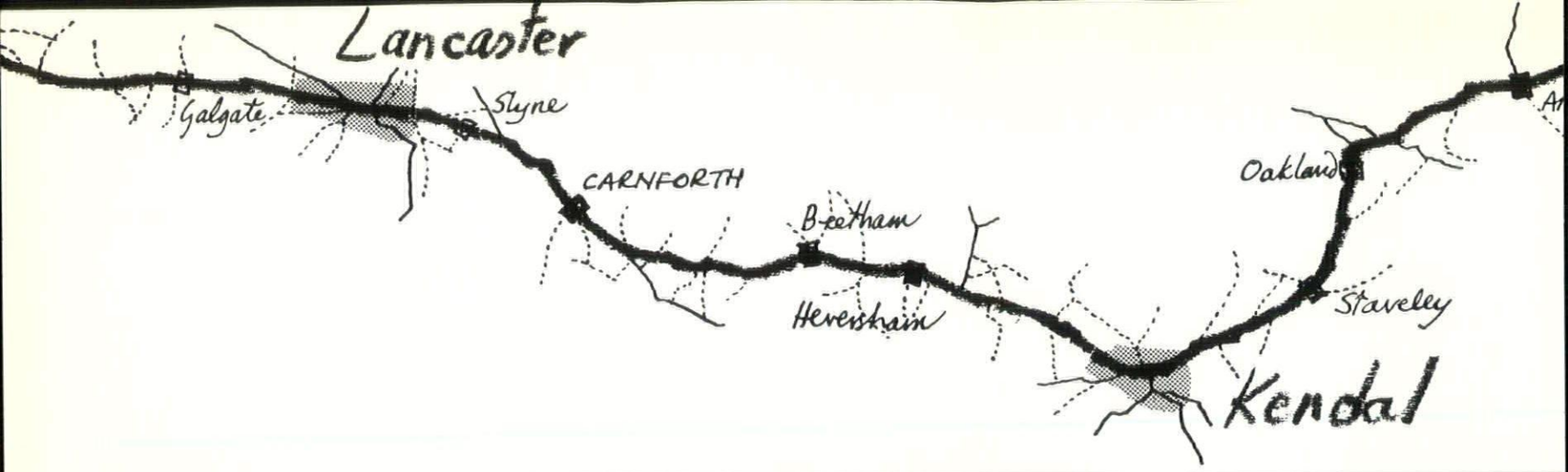
6, 7, 8







9, 10, 11


Lancaster
Galgate
Slyne
CARNFORTH
Beetham
Heversham
Oakland
Staveley
Kendal



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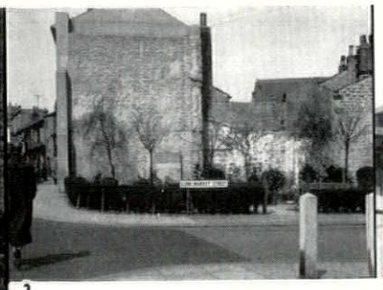

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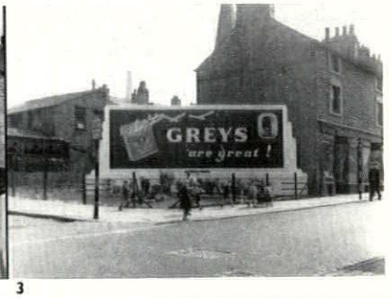
GREYS
are great !

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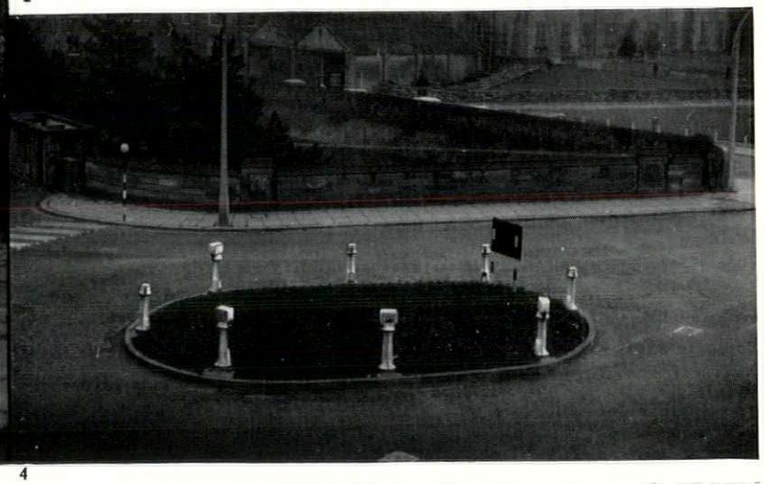

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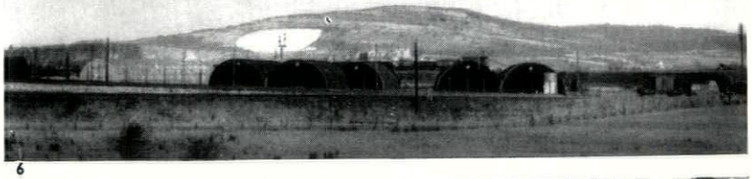

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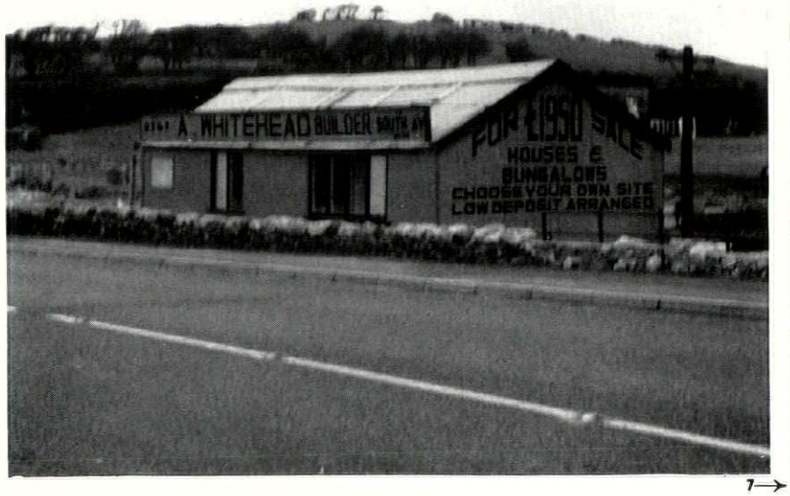

A. WHITEHEAD BUILDER
FOR SALE
HOUSES &
BUNGALOWS
CHOOSE YOUR OWN SITE
LOW DEPOSIT ARRANGED

7→



LANCASTER - KENDAL

Lancaster, which has some of the most urbane buildings in the North of England, gives a municipal welcome worthy of the least urbane suburban satellite. If it is Harrison of Chester's masterpiece, it is also the city of small rustic plots, 1-4. 1 is near the Castle, 2-4 are in the centre, four different ways of prostituting streets. That they are put up in good faith only makes the task of opposing them harder, because it seems impossible to make people see, before it is too late, that 'town' is not 'country'.

A6 north out of Lancaster is the overture to a different landscape, to the mountains which will now never be out of sight for as far north as the roads will take you: Cape Wrath or John o'Groats. The change to dour stone-built houses and clean air is like a cold shower: but the break is being eroded and smoothed down into sameness. Each year a little more goes—this is 1955's contribution, 5, north of Bolton-le-Sands. And here the fault is not the builder's: what is wrong is that he has apparently been allowed to 'choose *his* own site' as he invites the purchasers to choose theirs, when there were gaps to be filled in existing estates.

At Carnforth there is a view of half a hill quarried away, 6. 'Terrible', one could say, taking this issue in the wrong way, as a preserve-it-at-all-costs manifesto. But is it terrible? The scar is clean and sharp—it accentuates the wildness of the rest of the hill; what is wrong is the litter of dreary wartime huts in the foreground, flabby and set down without any adaptation to the site, they deflate the whole view into an echo of the Lancashire we have left behind.

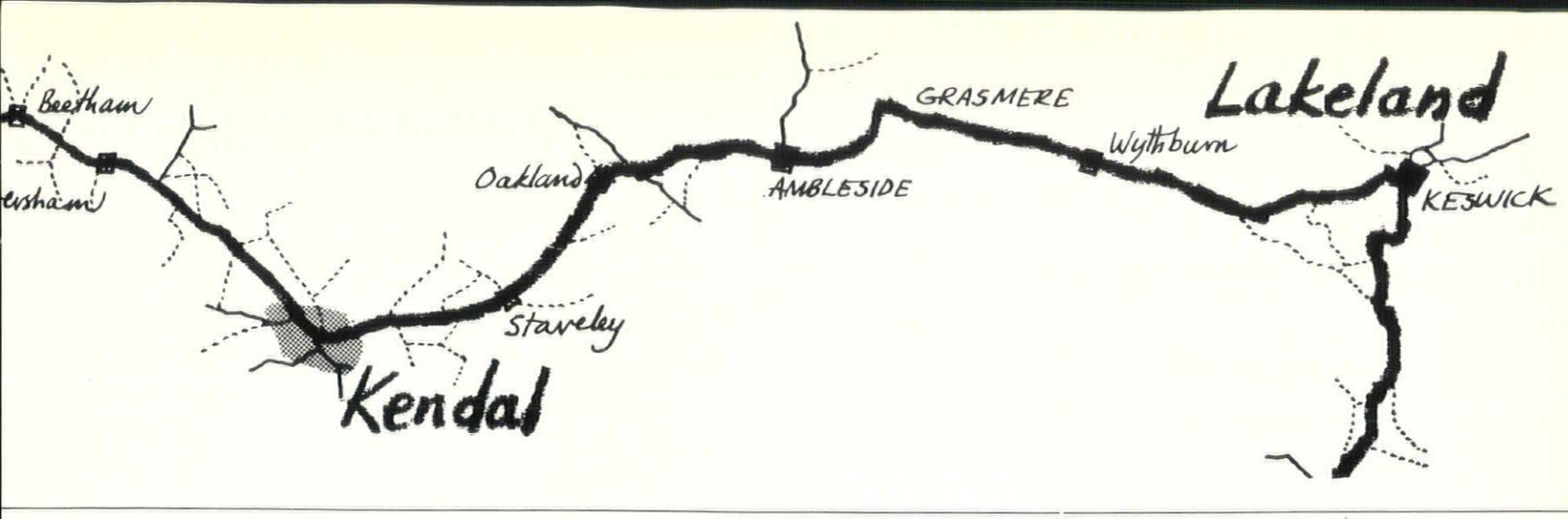
Just one lamp-post in Kendal market place, 7, but it is so overpowering, and blunders across the established dimensions so clumsily that it is impossible to look at the market place itself. Why was it put there?—there is no main road or traffic block to light; it is just callousness and the necessity to be uniform. There is no point in getting life to work smoothly if you find when you have finished that there is nothing to work for, and there is no point in making towns well lit, easy to park in and skelter through, if there is nothing left of the towns when you have finished.

KENDAL – LAKELAND

Here is Lakeland as a slight deviation from the route to show what might have been expected from the definition: that Subtopia doesn't change its forms, however beautiful the scenery. This is confirmed at Bowness, 1 and 2, with a ferocious display of Municipal gardening beside Lake Windermere. Lakesides, especially Lakeland lakesides, need a very light touch, not a barrel-organ-roll of symmetrical plots. The proper place for this horticultural display is inside a public park, which the visitor can see if he wants to, and doesn't have to endure, willy nilly, on his journey. Greenery in the town must always be a foil, not a focus, and in particular modern towns through their shortcomings may compel it because of the need for relief—relief from size, relief from squalor and ugly surroundings, and relief from traffic and crowds. Bowness is little more than a village, the surroundings speak for themselves, and—what is wrong with every piece of Municipal Rustic—all the flurry of traffic and crowds is reflected and intensified in the gardens, in small-scale elements and fussy detailing. The idea that they should be under the control of an UDC is a typically wrong-headed approach to Lakeland—it is a National Park, not an opportunity for municipal display.

Lakeland develops with a fine view up Langdale ruined by the squalid huts which expediency has found easier to leave than to move, 3 and 4. A similar effect of complete deflation is given by the petrol pumps just south of Ambleside, 5, and again at Grasmere, 6. Since the photograph was taken the Ambleside pumps have been set in their frame of reference by cleanly designed modern buildings, i.e., the blurred-edge part of Subtopia has been removed, but considering the site and the size of Lakeland, camouflage would have been better. Overcrowding has reached a point where it is impossible for all the features in our landscape to 'be themselves', however well they do it; a very sad thing. The notice at Ambleside, 7, underlines with its 'Lakes UDC', one of the points of this issue, the outward sign of the idea behind the Bowness gardens: that really the Lakes are an extension of Manchester and Newcastle projected there on asphalt fingers and in forty-foot metal containers, 8, at Ambleside and, 9, at Keswick. The charabancs are inevitable, but the country must not be charapoxed to take them. If the outskirts of Manchester and Newcastle hadn't been made so dreary, there would be less incentive to cram motor traffic into an area which can't absorb it and which is already full of walkers and mountain climbers (for whom, considering its small area and diversity, Lakeland is most suited).

Going up the Lakes 'arterial road'—Ambleside to Keswick—there is an unpleasant surprise at Thirlmere. The forestry planting at Cannock Chase was more of a social crime (in denying open spaces to an overpopulated area) than a visual one, but this attempt to turn Helvellyn into a foothill of the Carpathians, 10, is visual sadism at its worst. The Lake itself is owned by Manchester Corporation, and sports fencing and the favourite sign of Authority, 11. There are two things wrong: if it is essential that access to the reservoirs be forbidden then Lakeland is no place for reservoirs. And—so small, yet so symptomatic—there is a moral obligation on 'M.C.W.W.' to explain courteously and not prohibit with a verbal slap in the face.

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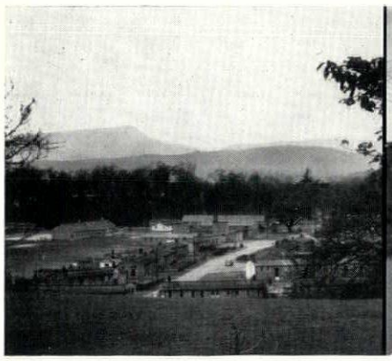
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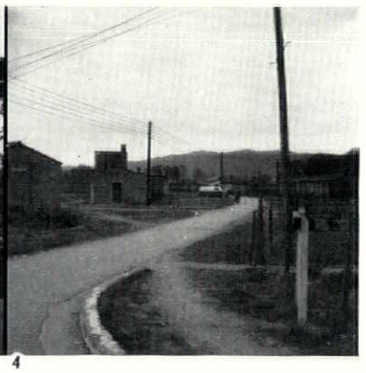
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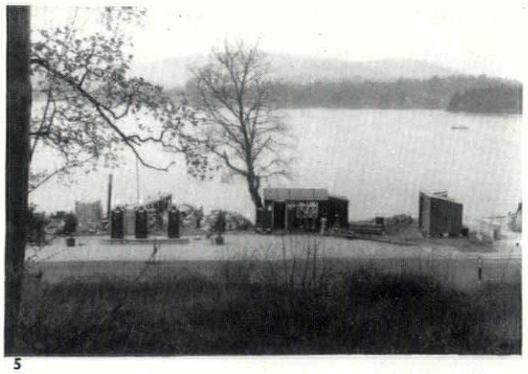
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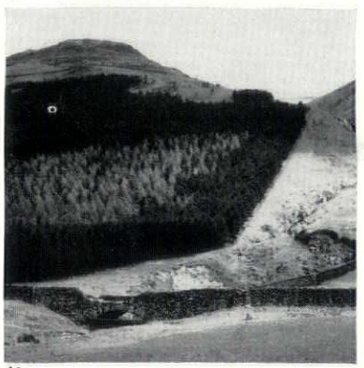
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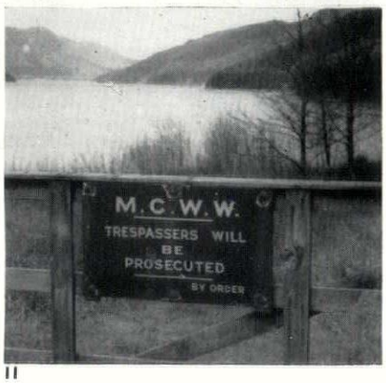

11

Multiple Use



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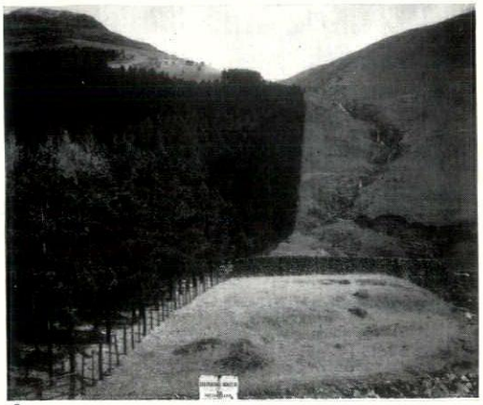


3



4

MULTIPLE USE

Here are three sterilized landscapes—open country at New Oscott destroyed between the wars by Birmingham sprawl, 1; limbo at Blackburn, a mixture of derelict ground, housing and industry, 2; and the side of Helvellyn prevented from being either landscape or climbing ground, 3. Subtopia on three different sites produced in three different ways. There is a way of reducing this to the misuse of one site, not three: superimpose them, put planting *and* dense housing into the limbo, releasing Green Belt for Birmingham, and a vital part of the Lake District for the whole country.

That is only the negative side. The drawing, 4, shows the sort of landscape that could result from imaginative treatment of multiple use, for it is a means to better towns in its own right as well as being one way of attacking Subtopia. Industry and housing, commercial traffic and pedestrian square, cranes and trees, pub and warehouse, all superimposed, not segregated into zoned areas—'residential', 'industrial', 'recreational', and so on. When put together they interact to give virility, not chaos: and when segregated they are amputated sections looking for a town to take part in—as can be seen in some of the New Towns, where zoning has been carried through thoroughly from the start. The sum of so many planned watertight areas is an area and not a place; its character is still that of the separate areas plus the concrete road-and-lamppost sticking-plaster that binds them together. And as all towns get the zoning treatment they will all come to look alike in the components and they will all cease to have any character as a whole —which is Subtopia redefined.

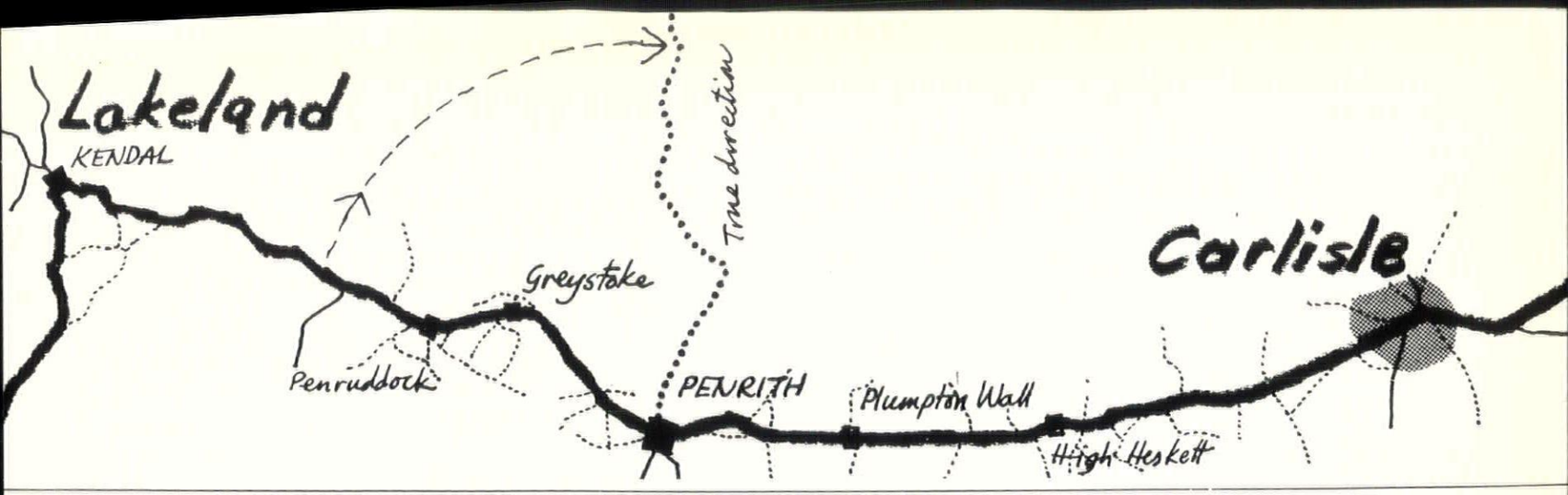
LAKELAND – CARLISLE

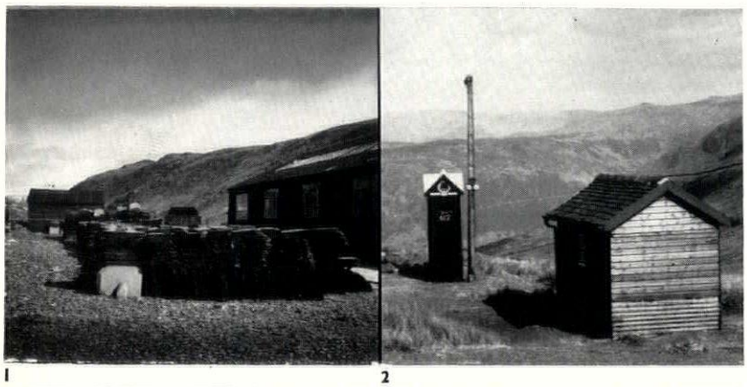
At the top of the Honister Pass, beyond Keswick, there is an extraordinary collection, 1 and 2, which is the quintessence of present-day Lakeland: a quarry doing a good job, but an eyesore nevertheless with its squalid huts, which won't come beautiful on their own; a youth hostel in cosy weatherboard for the walkers and, an AA hut for the use of vehicles which can't get up, or down, the 1-in-4 slopes each way. The result is disillusion, and the remedy—don't build where you will tame wildness, unless you have to: and if you do, build hard, not soft. Of the three the quarry is most of an eyesore, but it is built 'hard' and gives least offence to the site. The hostel is just like a dorm. at a farm camp, and the AA Hut standardized Subtopia. None would be worth making a fuss about *if England were big enough to lose them.*

Beyond Penrith, there are derelict huts at Plumpton Wall, 3, with a prohibition still stuck to the broken half-gate, 4. Certainly the decaying huts and rusting installations are no incentive to a closer look. But what sort of an idea of visual responsibility has the body which, ten years after the war, has done nothing about its eyesores but plaster them with curt notices?

The County Council has caught the disease, 5, and what seems at first sight to be justifiable indignation in a good cause (there is nothing like an English tourist for enjoying the country and then leaving so much litter that nobody else can do so) is seen as another command from Authority. Although there is good reason for it, when attached to an inelegant tub of wire and concrete it becomes more of a nuisance than the litter it was put there to prevent, since the litter would only be litter but the litter box, because of its overtones of public parks and the way in which it robs the landscape of spontaneity, destroys a whole atmosphere. In a well-known beauty-parking place or at a resort the proportion might well be reversed. It is the genius loci again, and the whole problem of Subtopia would never have existed if those who developed, improved, or only preserved places (the preservationists are as sinister as the exploiters) thought in terms of character as well as convenience.

Now the familiar outrages begin to make farewell appearances. England came in with a skein of wire at Southampton: here it goes out with one at Carlisle, 6. Roundabouts were beautified in Hampshire; here they are in Cumberland, 7; and if the centre of Oxford was full of cars, the centre of Carlisle has everything else, 8-10. It is as if all the hirelings of the road in this battle of Town v. Road has massed for one last attack—traffic, bus shelters, lamp standards and beacons, with a fifth column of public lavatories, 10. Who can walk in the centre of Carlisle and not feel that man has become a pawn in his own game?


Lakeland
KENDAL
True direction
Greystoke
Penruddock
PENRITH
Plumpton Wall
High Hesket
Carlisle



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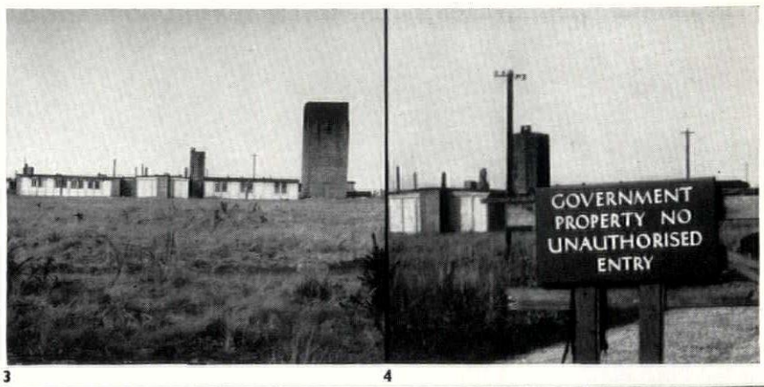
GOVERNMENT
PROPERTY NO
UNAUTHORISED
ENTRY

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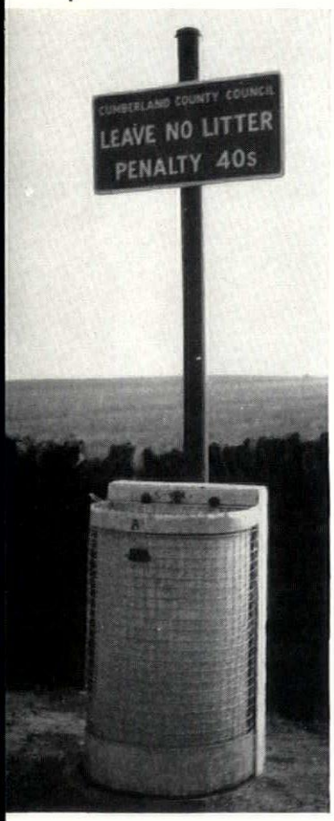
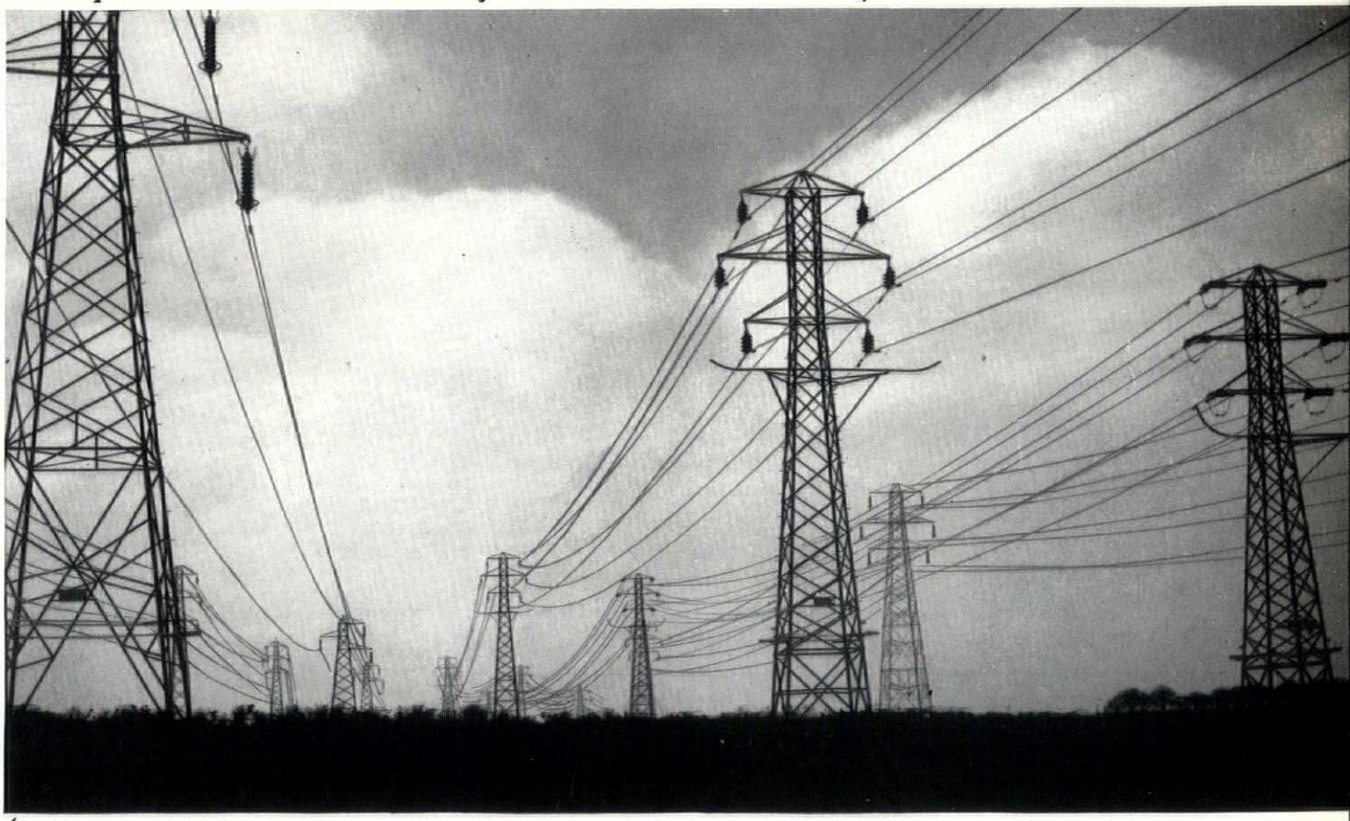

CUMBERLAND COUNTY COUNCIL
LEAVE NO LITTER
PENALTY 40s



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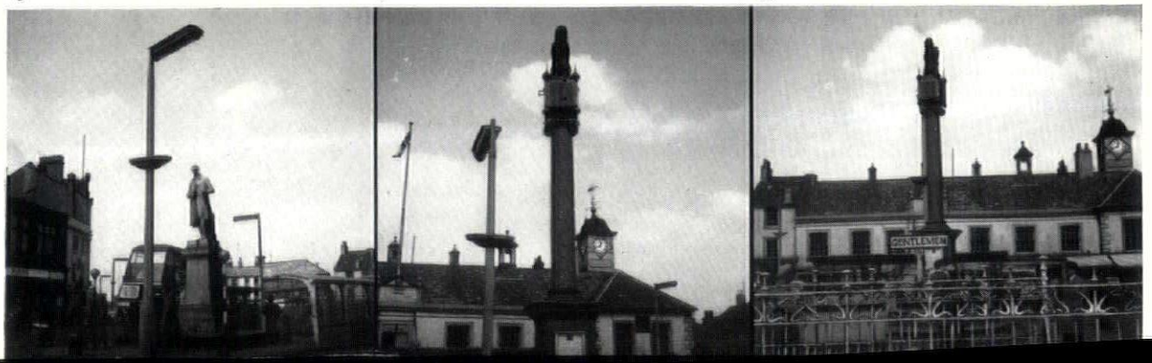
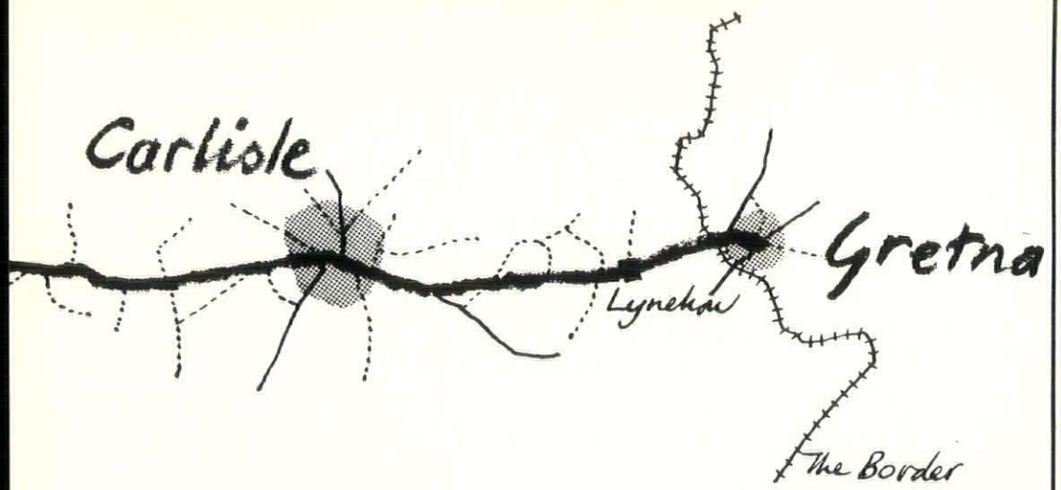
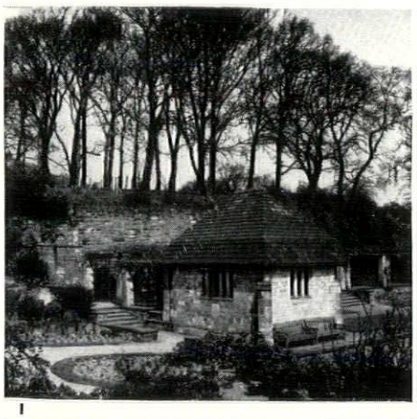

GENTLEMEN



THE HIGHLANDS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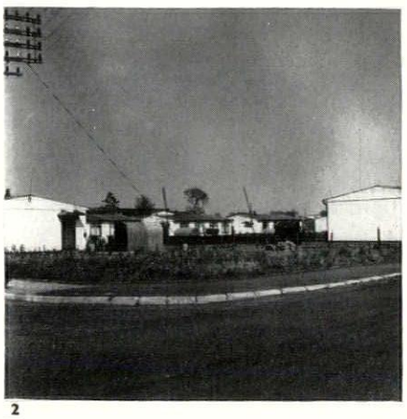
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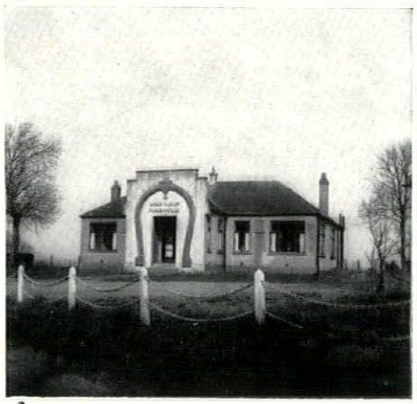
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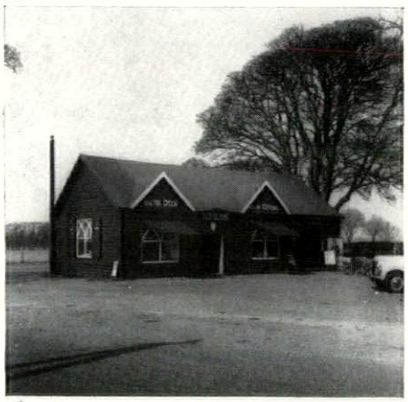

4

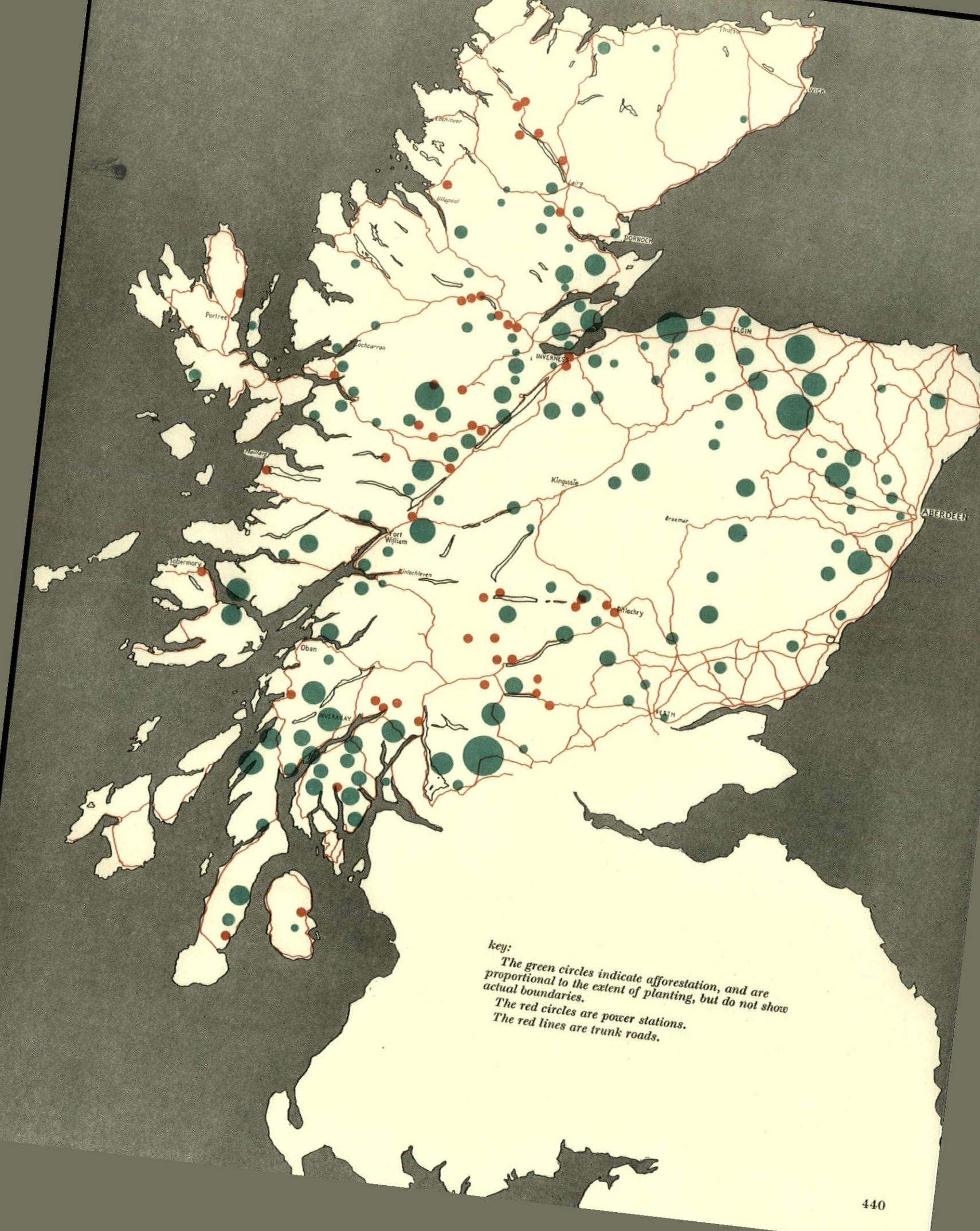
On this route to the Border, a bit of beautifying at Stanwix, 1, anticipates the horrible results that Scotsmen can devise when allowed to rhapsodize on the bonny and quaint, and Scotland itself greets the traveller at Gretna, 2-4. Take your choice, prefab. estate to an Ordnance factory, 2, or Auld Smiddy Road House, 3; callous eyesore or genteel blurring-of-edges. That could stand as a summing up of England—your England.

the gap: between Gretna and the Highlands there is a hundred miles of Lowland Scotland. It has been omitted in order to make the shock of meeting a relatively unspoilt wild landscape more complete, and not because it is free from Subtopia—the twenty miles stretch from Glasgow to Loch Lomond would fill a book in itself.



Opposite, above, heights of Trotternish, Skye, and below, the view south from the summit of Bidean nam Bian, Argyll.





key:

The green circles indicate afforestation, and are proportional to the extent of planting, but do not show actual boundaries.

The red circles are power stations.

The red lines are trunk roads.

The Highlands

On the map opposite is the only big area of Great Britain that is still wild. It is also the only big area in Great Britain with undeveloped agricultural and industrial resources. It is a part of Scotland that Lowland Scots feel they have a moral duty to develop and improve after the early nineteenth-century clearances and 150 years of neglect: it is also an area whose inhabitants, by and large, would welcome the improvement but not the development.

Which is the right course, in the light of the human and industrial refuse tip that England—and South Scotland—is becoming? The REVIEW *is emphatically on the side of the Highlander—improve but don't develop. The best use of the Highlands in an industrialized Britain is to provide a lung remote from industrial development and big enough to lose oneself in. A lung that is deliberately hard to get at and must be explored on foot, to provide a change of life and not merely a change of scene. In Norway, such an area—hundreds of square miles of it—is actually included, protected from development, inside the Oslo city boundaries; Glasgow could do the same if it wanted to. Even from the point of view of economics that is in the end far more important to a balanced Great Britain than a bit more electric power or a few more aluminium pots and pans. In return it is a cheap price to make life for the Highlander as comfortable—as cushioned even—as it can possibly be. Hydro in the Highlands for the Highlands, yes; to swell the National Grid, no.*

That, however, is just theorizing, to make it quite clear what the REVIEW'S *basic attitude is. In practice, as the map shows, there are already dozens of forestry sites, dozens of power stations. For these,* WHAT *and* WHERE *are decided for us, and the question is the visual one—the fundamental visual question—of* HOW. *Existing sites can tell us things about* WHAT *and* WHERE *(sadly, more often about* WHAT NOT *and* WHERE NOT*), and although the* REVIEW *is not setting up as a land planner, when it sees what it thinks is self-evident landscape wrecking it must say so.*

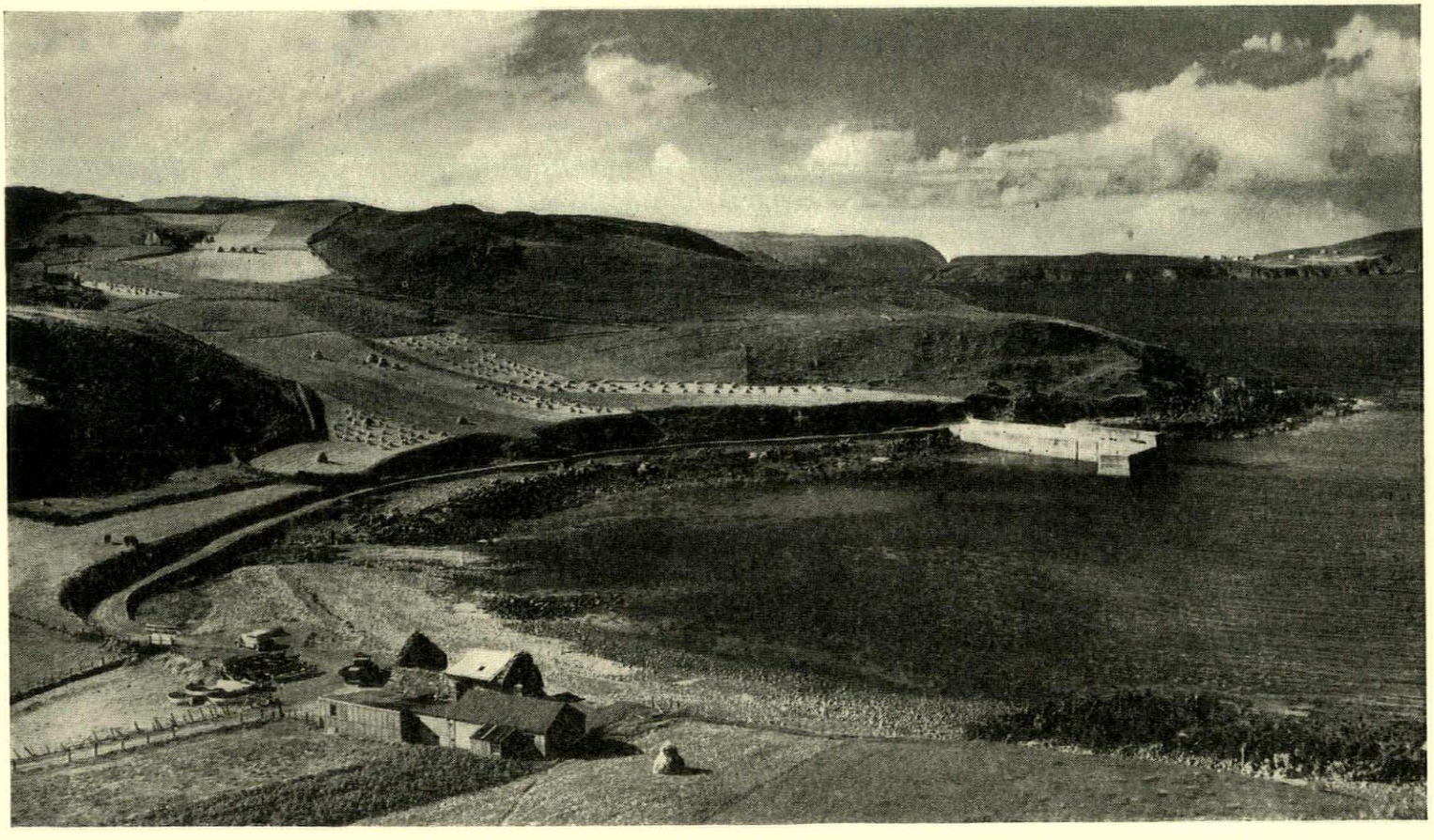
And when we look at HOW, *an odd thing happens. There is the pons asinorum of design, that of reconciling modern architecture and tradition, that comes out clearly enough in a sequence of housing or power stations; but far more important, in the total effect, is the trim. In England there are so many conflicting elements in any landscape, so many sets of trims or anti-trims, that one can rarely surprise a straightforward problem that is free from half a dozen other interlocking problems. In the Highlands, with abundant air and moorland surroundings, each fault in detailing becomes startlingly clear.*

So macrocosm comes back to microcosm and not only in the abstract (from

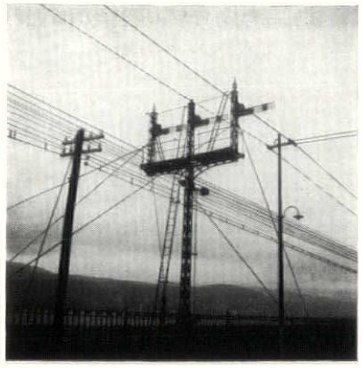
the hydro scheme to the handrail on the bridge) but in a personal way as well. For, per head, the Highlands has more litter left around with less care than anywhere else in the country. It is the social failure of the tourists: it surely must also be (as at Lochcarron on page 450) the couldn't-care-lessness of the natives. It doesn't matter which, except that the fact that both are to blame prevents the litter being pinned one side or the other of an inter-island squabble. What is important is that at last there is personal responsibility for some part of Subtopia, and at last the elements of the problem have thinned out so that the essentials are clear. In the 'shredded gumboots of the proud Gael', or the sauce carton on the heather, we have reached the well-spring of the urge to dump, indifferent to visual effect. Subtopia is the legalization of the urge to dump on a national scale.

Most people, publicly anyway, would express abhorrence of leaving litter (whatever they do privately in Inverness-shire when the dustman forgets to call, or in a more permanent way, in mid-Surrey when they build their home). The dislike of litter and the recognition of individual responsibility are common ground, and it only needs extension, not change, for this dislike of litter to become a public litter-conscience, reacting to litter in its widest sense, whoever or whatever dumps it (and august names some of the worst dumpers have, too). It is a basis for creating a climate of dissent that will turn out to be of the same family as the radical principle elucidated in Townscape, A.R., December, 1949.

Man and cultivated land in harmony with the wild: Skerray, North Sutherland. Notice that this is unequivocally twentieth century man—the car and lorry, the corrugated iron roofs, the cemented jetty. But it is a supreme example of instinctive feeling for landscape in the way the elements are used—the HOW—an innate tact that makes even the neatest piece of present day town planning look at the same time overdesigned and boorish.



First, a reminder that we have not finished with the components of Subtopia that are already so familiar because we have moved to the Highlands. They are just less dense, that's all. Here is a selection:



. . . multiple wire at Fort William.



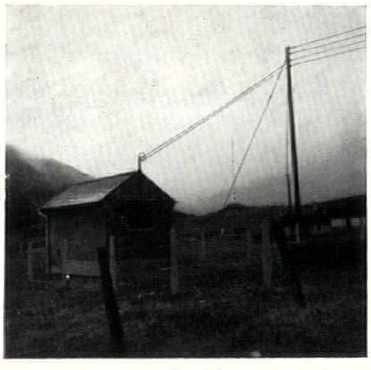
. . . fragmented market place at Beauly.



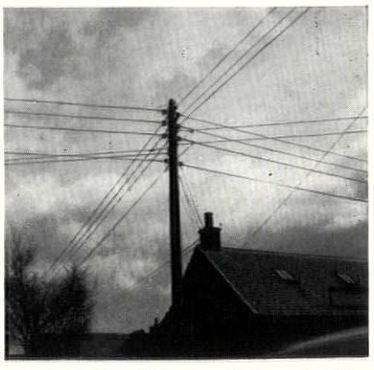
. . . anti-urbanism at Inverness.



. . . derelict camps at Evanton.



. . . Things in Fields at Tyndrum.



. . . wire in villages at Carrbridge.

Housing

The simplest interaction of man and the wild is when he builds dwellings on it. A short list of what can go wrong—the Roads to Ruin—may indicate the thought process likely to take place when any item has to be fitted into the landscape.

To start with, there is the harmony that everyone would like to reproduce, at Skerray, 1. *This contains in itself a greater step than any which perplex us: from primitive to civilized—black hut to Victorian shieling. Both are part of the landscape—one instinctively, almost in an animal way, the other consciously, but not self-consciously—i.e., it is the landscape that is being expressed, not the ego.*

With that example, how many ways can the design go wrong? There are in fact four main Roads to Ruin.



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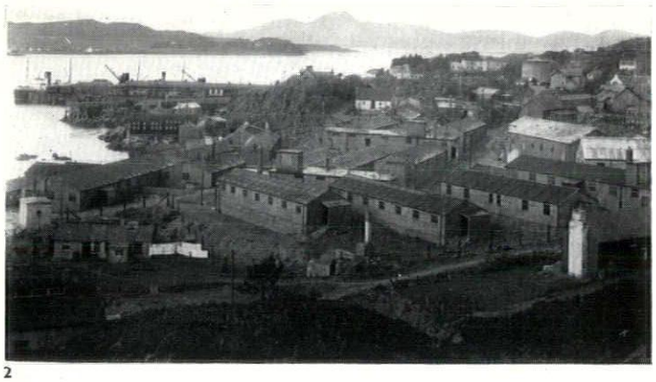

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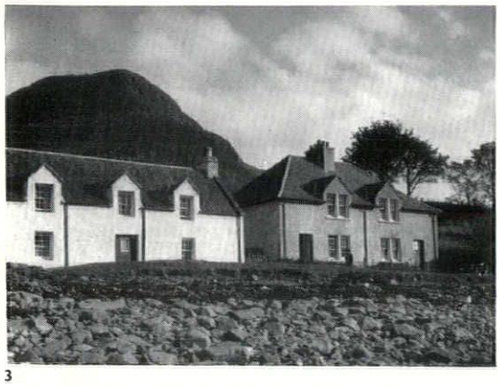
A. It can turn its back on visual problems altogether—back to the blind approach of the black hut without the instinctive fitness and feeling for materials that redeemed it. In other words a dump, and all the more of a shock for being on the West Coast of Scotland, 2.

B. It can go genteel: and how little it need go is emphasized by adjoining true-and-false cottages at Shieldaig, 3. *Just a matter of a few degrees of roof pitch, two fatal mullions in the dormers, six panes instead of one to the front door, little reminiscences of Outer Dundee: shieling into council house. Or it can take the inevitable next step and become the national suburban style fully grown: so far, only scattered, but insidiously spreading—Mair, Ross & Cromarty,* 4, *and Kinlochleven,* 5.



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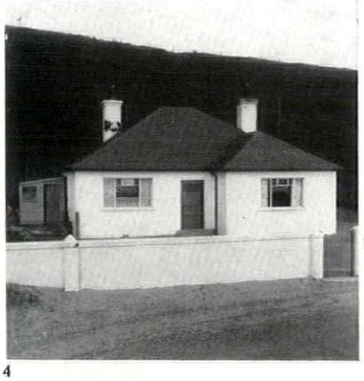

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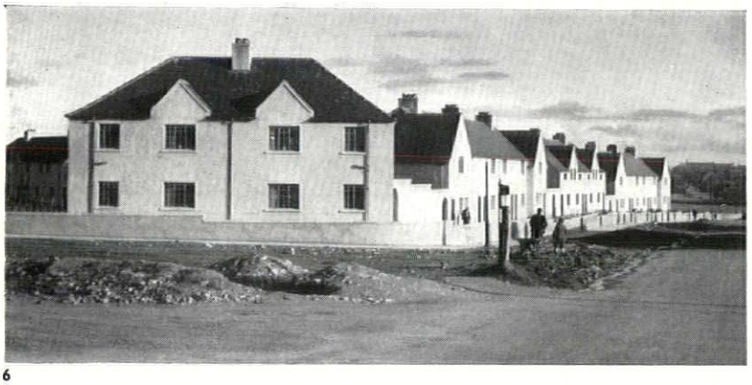

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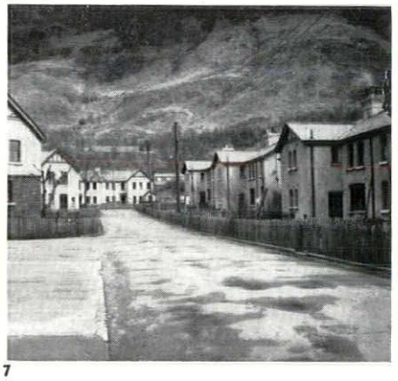

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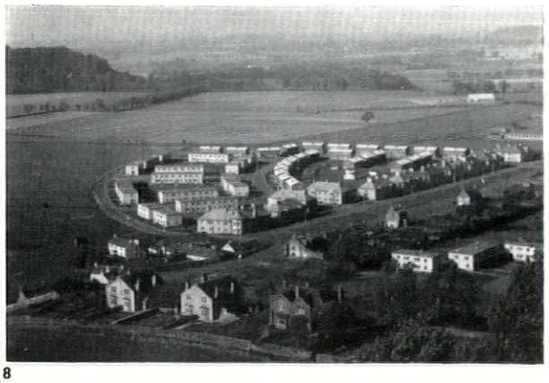

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C. It can remember that the houses need visual attention and forget that the trim needs just as much, as at Stornoway, 6. *If both houses and trim are unattended, the result is just one more standard housing estate, like Kinlochleven,* 7, *all the worse for its impressive backcloth.*

*D. It can litter the land —*8, *Stirling: flat roofs, striking layouts and prairie planning. You might as well be looking south from Mill Hill: genius loci, regional character and landscape patterns are all ignored.*

E. What happens if it goes modern, not modernistic? There are few enough examples—these Forestry Commission chalets near Tomdoun on Loch Garry come nearest to it, 9. *They are not ideal, but they do have the same fundamental characteristic as the houses at Skerray,* 1*—they are* in *the landscape, not on it.*



9

Roads

Here we have the clearest application of the advice: improve but don't develop. The old Highland roads were a hair-raising experience—some of them still are. They brought mountaineering within the reach of every robust car, but for the Highlander they made a difficult life intolerable. 'Improvement', as economy dictates anyway, means resisting the temptation to make autobahnen: metal instead the single-track roads and provide passing places. They can cope with local traffic, they daunt the tepid majority and to those who are prepared to meet the country half way they repay a bonus in Highland courtesy that transforms a day's drive: and from having to stop at passing places it is an easy step to getting out and walking from them.

'Development' means trying to imitate the trunk network of the rest of the country. How little is needed to change a road from component to dominant is shown in 1 *and* 2*: above, an unimproved road (Loch Tay—Glen Lyon), and below, a road that has just gone over the edge into dreariness (B.939, Tomintoul—Cock Bridge) by the thinnest of margins; just a straight road-line that got standardized fences parcelling it off from the landscape instead of the careful trim treatment it needed.*

From there it is an easy stage to 3*, beginning to look like something from an estate layout, and* 4*, part of A.82 north of Fort William. The final stages—badly sited multiple carriageways and their beautification—have not affected the Highlands—yet: and to show what can be done, here is a new road to Benevan Dam,* 5*, that far from destroying the appearance of wildness, enhances it by curling elegantly and free of knick-knacks (wire, fences, curbs) round the shelf between loch and rocks.*



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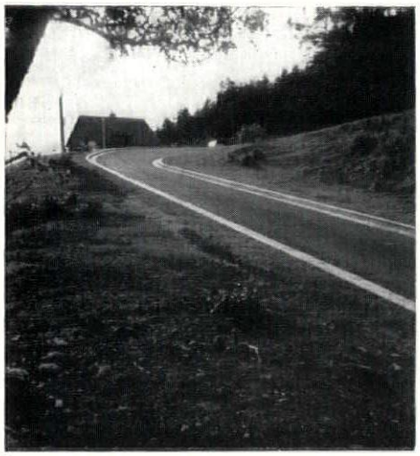
2



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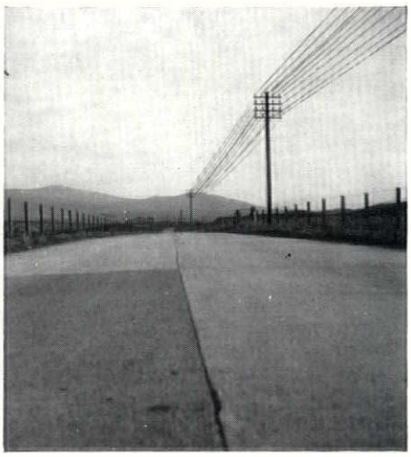

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5

Tourism

The adaptation of the idea of improvement but not development from roads to their users is quite clear. The Highlands are the only area left in Britain where one can return to wild nature without the Scylla and Charybdis of a municipal rubbish tip and a rustique sign saying 'footpath to Heather Dingle.' That is a far more important service than providing one more scenic drive, breathtaking though the scenery is. Nor must expansion of tourism degenerate into mass tourism: a hundred charas a day from Scourie to Lochinver, and a hundred garages and motels to serve them. If you want to come on the landscape's terms you are welcome: but if you want another mass holiday-behind-perspex with all mod. cons. you must find it elsewhere.

Of the inevitable effect on the landscape of indiscriminate opening out, here is one small but significant symptom, 1*, the asphalted path made down to the falls of Measach, near Ullapool, so that the tourists from the buses which stop at the top shan't get their feet muddy. The result is*



1

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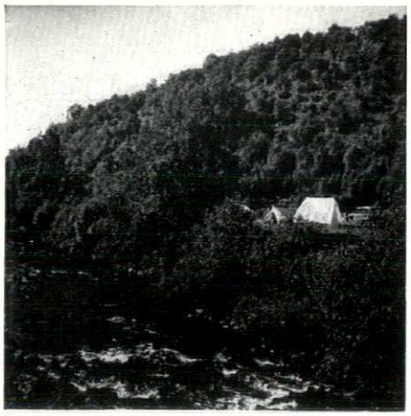

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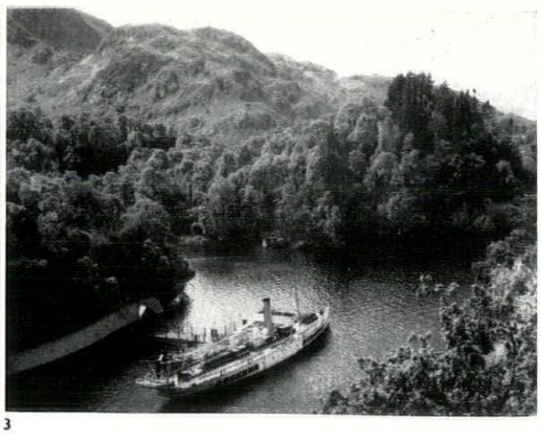

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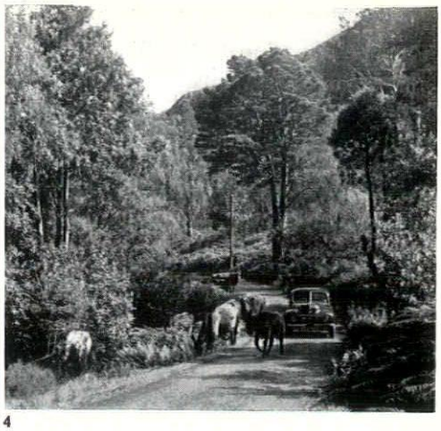


4

to convert a frightening 600 foot deep gash into an echo of one of the chines at Bournemouth—specialized but very vicious Subtopia.

Here are more aspects of the two sides: intelligent expansion, represented by the inconspicuous resting place, 2 *(Inverkirkaig, Sutherland), the small steamer,* 3 *(Loch Katrine), and the leisurely motorist,* 4 *(Loch Maree) and mass mechanized tourism in the rows of buses,* 5 *(Portree), the genteel cott and the genteel flower garden which serve them,* 6 *and* 7 *(both near Fort William).*



5



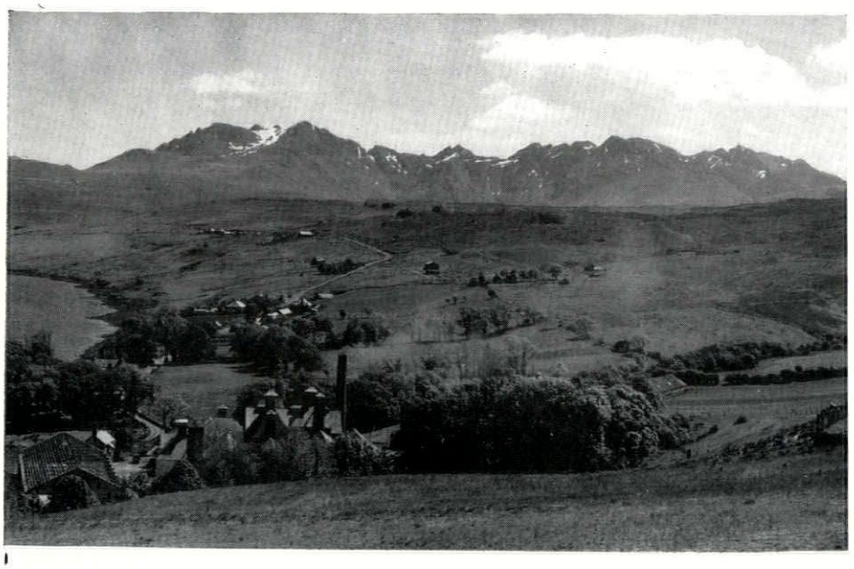
6



7

Afforestation

Again largely a matter of HOW, though remarks on WHERE cannot be repressed, wrung out by the sight of landscape massacre. There are numbers of spoiled South-Highland glens that would benefit from afforestation—but not the austere and once noble Glen Shiel on the road to Skye. There are miles of sodden moorland along the main roads that have lost their remoteness and never had grandeur, to which conifers would come as a welcome relief—for example almost all of A.9 from Blair Atholl to Inverness, 2*, with its accompaniment of railway-and-wire plus telegraph poles-and-wire plus pylons-and-wire—but not to blur the magical landscapes of the far north-west. Finally, there are dozens of scenes like this one in Skye—overgrown clachans—that need intelligent tying-up with small-scale planting,* 1.



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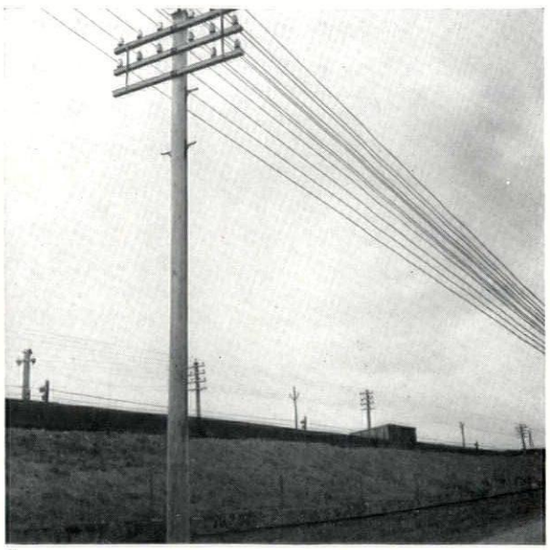

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And as for HOW, what is already there shows all the English mistakes seen in even sharper relief because of the settings: blanket forestry, 3, at Drumtochty—just no thought that the land surface might have any other significance but to give a quick yield. Repudiation of contours, 4 beside Loch Long; the only contour that has been acknowledged is the line above which trees won't grow economically. If you don't think that there could ever be forestry as brutal as Thirlmere (on page 433), look at this in Glen Shiel, 5: it is almost a mirror image. Coming back to the trim, which always contains the faults in a nutshell, look at this fence—also in Glen Shiel, 6. What an awful piece of muddled thinking, or bone headed indifference; any garage mechanic would soon tell you what he thought of it as a job neatly done.



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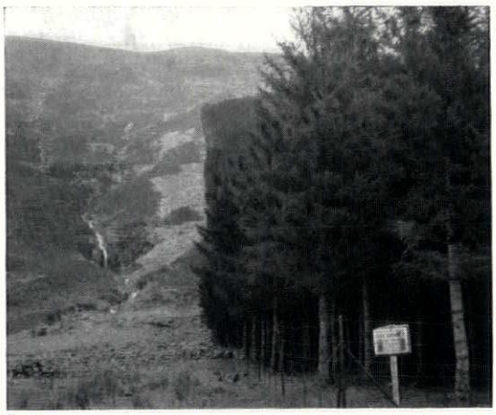

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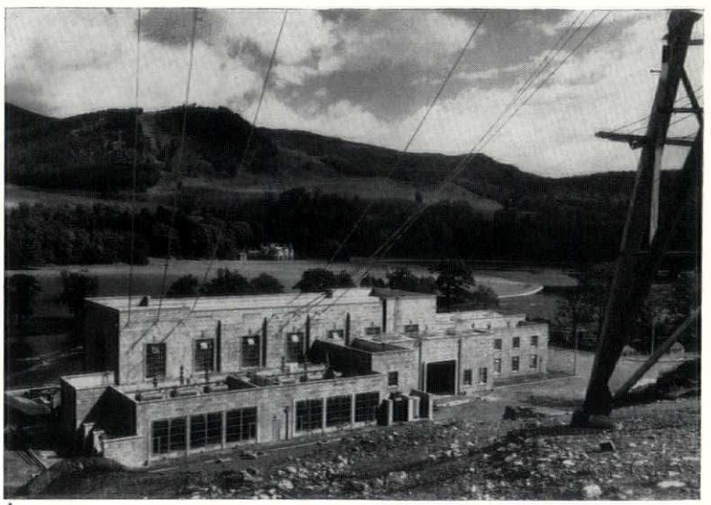
6

Hydro-electricity

If hydro-electricity and the Highlands are to come together, one or the other must capitulate: the issue is as bald as that. In the circumstances, it must obviously be hydro-electricity that capitulates, for there is too much at stake. This does not mean proscribing it altogether—though the REVIEW *thinks it bad long-term economics to endanger our only remaining big open space for a little extra power—but it does mean extreme care in siting and detailing so that the effect of exploitation is reduced to a minimum. This can be done in two ways, well designed buildings and well camouflaged buildings. Well-designed, unhappily, is not enough by itself. It would be if the country was as big as Siberia, but it can't be said too often that this isn't just another bit of wild country, it is the last available bit of wild country. Camouflage means siting the buildings in the least conspicuous places, with inconspicuous entrances and exits, and planting for concealment. The ramshackle appearance of* 1 *is all the more pointed by comparison with the assimilated Scots Baronial*



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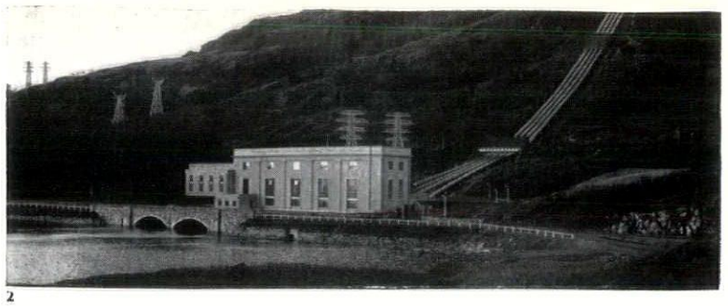
house in the background, and the neo-Classical trim of 2 all the more inappropriate for being patently a junction-box for wires and pipes.

The pipes themselves should go underground, or appear to go underground, and ditto for wires and pylons, 3-6. In their present form they act like concrete lampstandards, and by association reduce to sameness with the Subtopian scene the one landscape that still has a personality of its own. Even when they are handsome in themselves, as pylons often are, elements that are standard to many landscapes reduce visibility, so to speak, to nil. Variety vanishes; only the samenesses remain.



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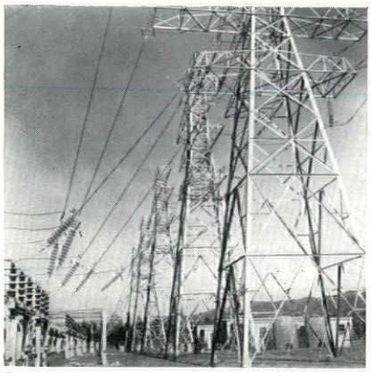

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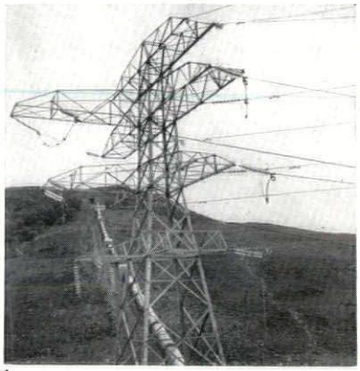

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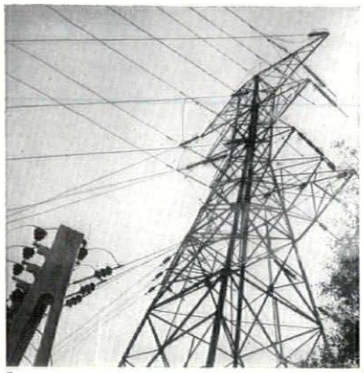

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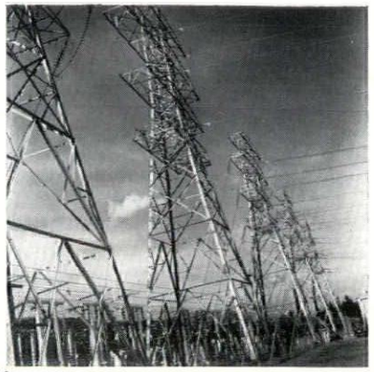

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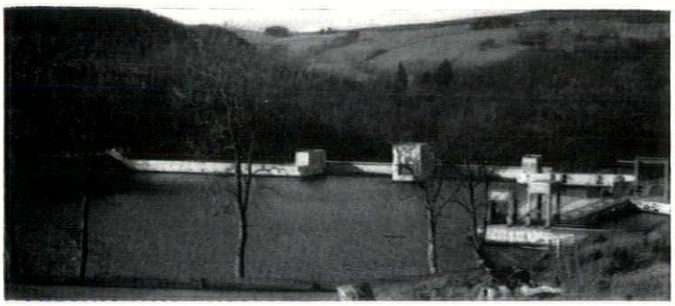
Trim

The architectural standard of most of the hydro-electric power stations is not high: however, some of the detailing is good—for instance, the dam on Loch Tummel, 1. The contrasting photographs point the moral. There is detail which looks frighteningly Fascist, 6, at Loch Sloy, or pompously Classic, 7, but there is also a cadre of light handrails, 2, and unaffected concrete construction, 3. There are dowdy seats and steps, 8: there are also crisp seats, 4, and simple clean-limbed steps and rails, 5. There are standard Midland-gasworks entrances, 10, and Midland lamp-standards, 9, ... and that is the crux. The landscape in 9 could be in the Midlands; the mountain background has become devalued, one ceases to take it into account. This, in fact, is Subtopia, expressed in terms of one ugly concrete pole and a great big pipe. Why? —and why does it happen only to the bad examples—why isn't the scene blurred with thought of Waterloo Bridge in 2 and any English canal in 5? There are two reasons for the superiority of 1-5: first because the trim is content to be a component, and second because the solution looks functionally right, and fitness carries its own passport wherever it turns up. The difference is between the standardization that makes all places look alike and the standardization that looks right for all places: the difference between Subtopia and the Functional Tradition.



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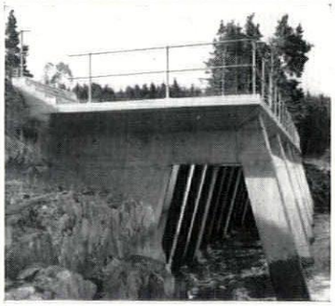

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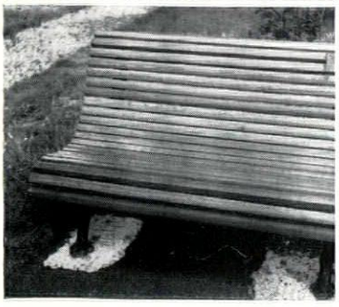

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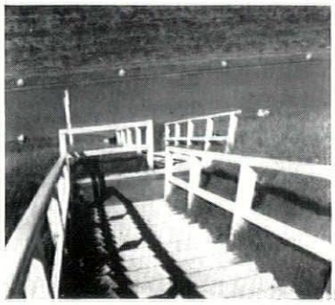

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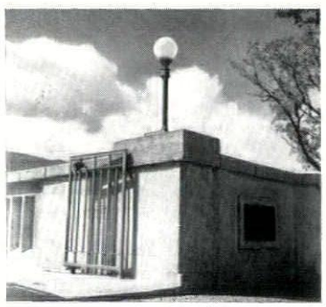

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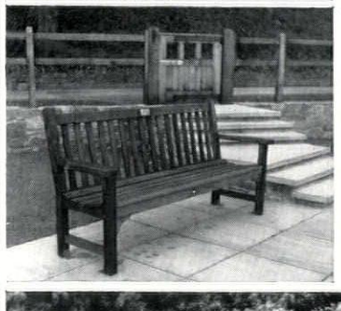

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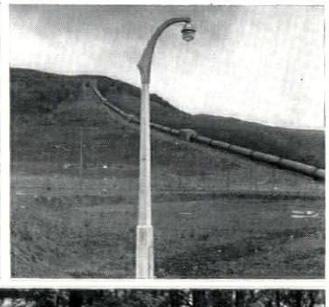

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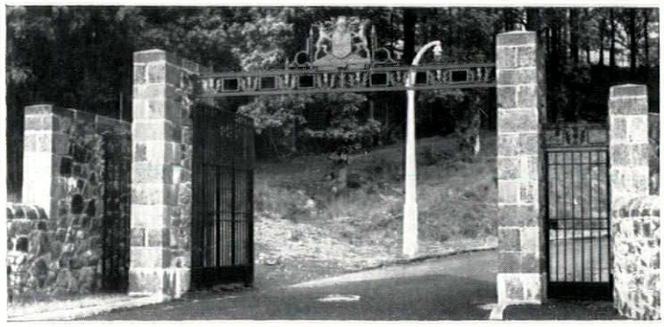

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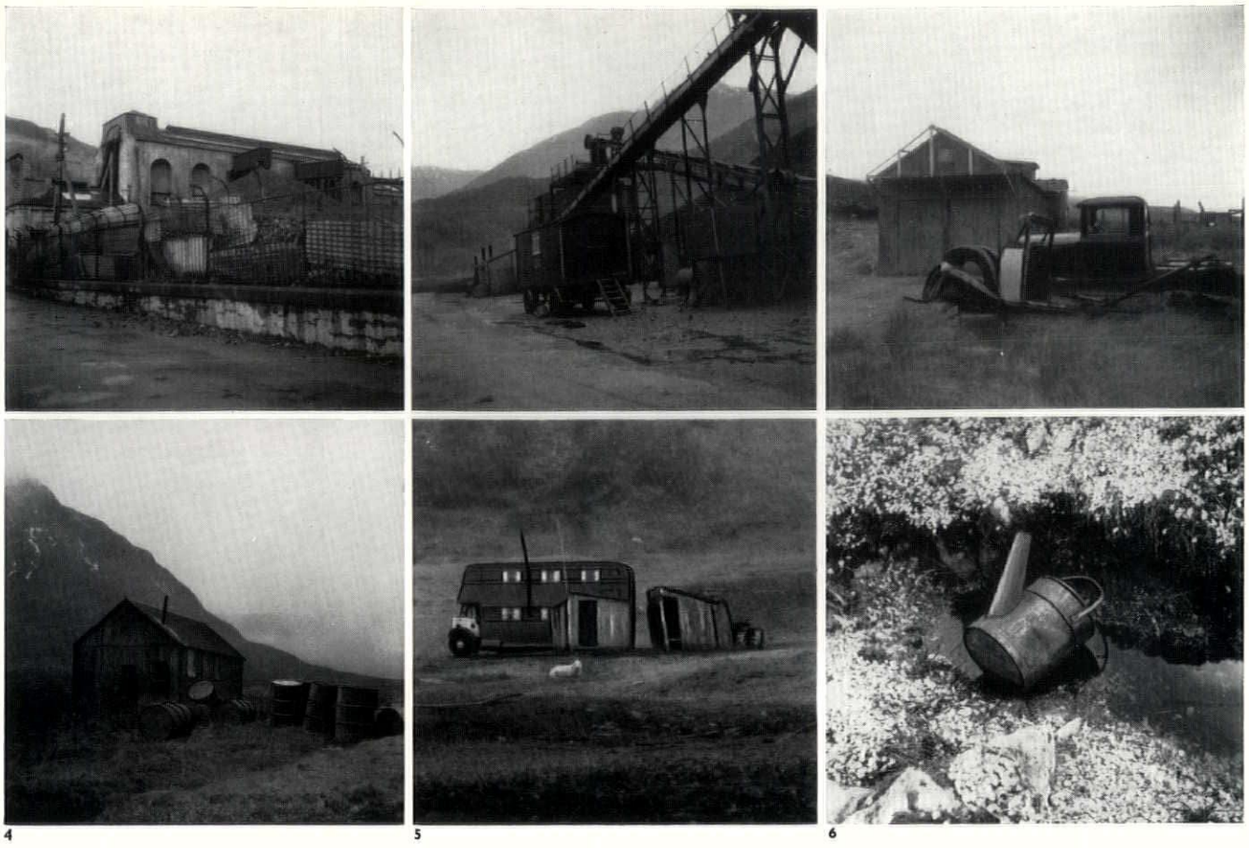


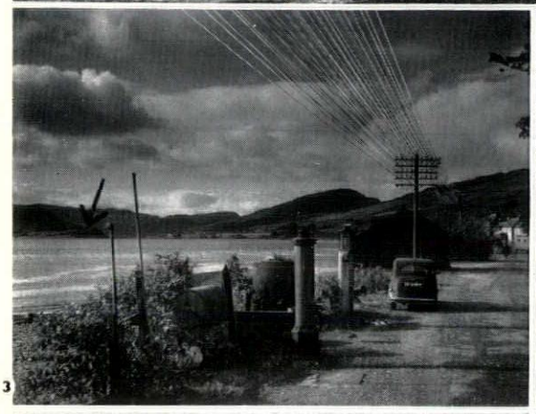
The alternative of good trim is bad trim, and this in its crudest form is what jars most in a Highland tour. The land surface is just used as dump—for aluminium plant, 1, *quarries,* 2, *disused cars,* 3, *sheds and oil drums,* 4, *re-used buses,* 5, *right down to one single (and in its context, at the top of Glencoe, one sickening) watering can,* 6. *The first example was put up by a national company: the last was thrown down by some single 'person unknown.' Because of the background, and the lack of those traditional English tips, ditches and copses, the offences are much more obvious, and it becomes possible to sort out individual contributions. Here, as a quintessence, is an even more personal example,* 7 *and* 8. . . . .

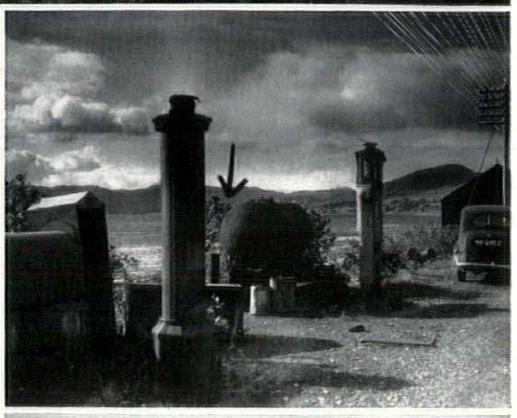


. . . . . *so the whole problem of Subtopia in all the square miles of Great Britain comes down to this: one traveller's private defacation on the old military road south of Inverness. Here at last is visual couldn't-care-less-ness isolated, a matter of individual responsibility, after all the pages of boards and offices and departments. It is almost a relief: it is also the starting point for the slow climb back to sanity. The first steps are obvious, the elementary visual hygiene needed to make us house-trained in our outdoor room. But after that, when it comes to judging the way in which our surroundings are changed for us? We may have no opportunity to plan them directly, but we can at least create an atmosphere of intelligent dissent to Subtopia; and some of the means are indicated on pp.* 451-454.



1





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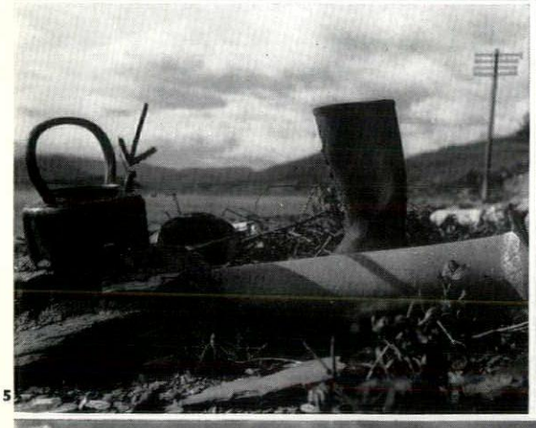

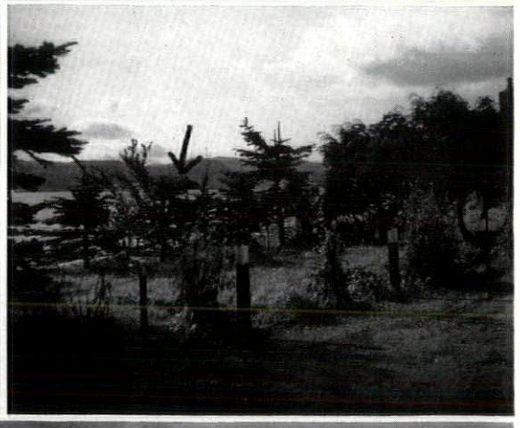

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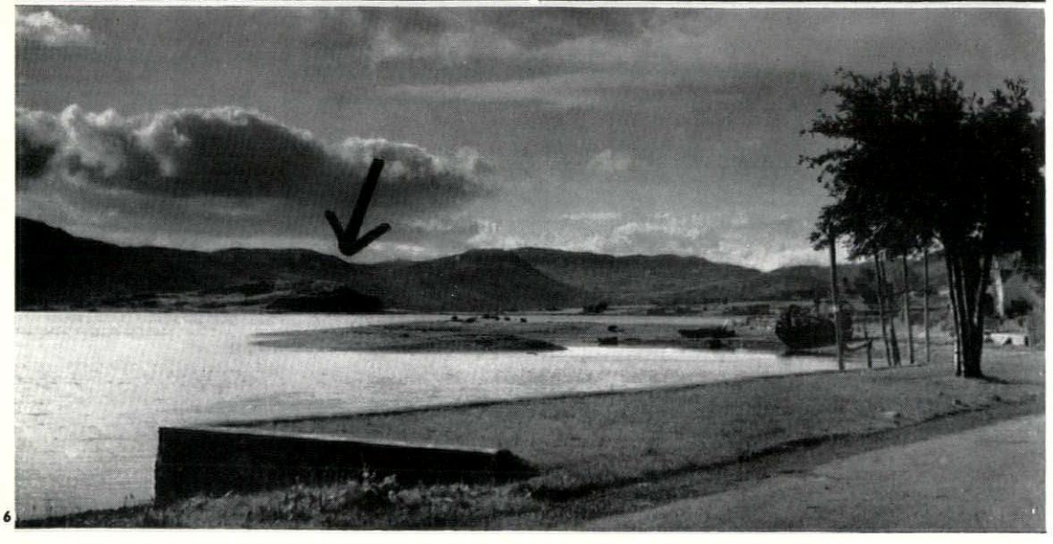

6

Microcosm

Finally, part of a journey which seems to have been deliberately designed as a Morality play for the Highlands—the view across Loch Carron, Ross and Cromarty, seen on the way south from Achnasheen to Strome Ferry. In each case the background stays the same (indicated by the arrowed island)—and across the foreground parade the standard elements of Subtopia: first the view uncompromised, 1, *then obsolete petrol pumps as a jarring component,* 2, *and as the obscuring dominant,* 3. *Then an individual mess,* 4, *and idiotic planting,* 5*: and finally the foreground treated as it should be treated by its owner (each plot is the frontage to a house across the road)—treated that is as a base for the view instead of a way of fouling it. If you have the special luck to live on the waterfront of Loch Carron why not in mere self-interest enjoy it?*

SUMMING-UP follows on page 451

continued from page 450

SUMMING UP

This section is intended for the man-in-the-street, rather than for architects and planners, to whom the points it makes may seem over simplified, or over obvious. One reason for Subtopia is that nobody has bothered to indicate its effects in terms that the man-in-the-street can see as relevant, and the recommendations below are therefore phrased in terms an architect would use if he were trying to sum up the argument to a layman.

manifesto

Places are different: Subtopia is the annihilation of the difference by attempting to make one type of scenery standard for town, suburb, countryside and wild.

So what has to be done is to maintain and intensify the difference between places. This is the basic principle of visual planning.

It is also the end to which all the other branches of planning—sociology, traffic circulation, industry, housing hygiene—are means.

They all attempt to make life more rewarding, more healthy, less pointlessly arduous. But if they at the same time destroy our environment they are denying us the end to which they were designed to be the means. We get the by-products, lose the end-product.

This happens because everyone is a specialist whose aim is not primarily to achieve the end-product. The planning department which tries to co-ordinate them is using rules which apply nominally to the end-product but these, because they have been divorced from the visual imagination which conceived them, have become ciphers.

What is lacking is someone who stands outside all the specialization and does the visual thinking, someone with sufficient powers to carry out his visual integration: responsible nationally, not locally, and responsible for topographical entities, not administrative ones.

That is the inside job, a hope for the future.

But the future will be too late. The action is needed *NOW*.

So the attack must come from outside. That is a job for all of us, and the only qualification we need is to have eyes to see.

You *have* eyes to see if you have been exasperated by the lunacies exposed in these pages; if you think they represent a universal levelling down and greying out; if you think that they should be fought, not accepted.

Your armoury is your ability to see and reason; your target is the stuff shown here.

To help your aim, below is a list of *precepts*, tempering counsels to interpose between indignation and action.

And to make the target clearer, a *checklist of malpractices* for you to correlate in your own home area.

Don't be afraid that you will be just one individual registering dissent. It is *your* country that is being defaced, it belongs to *you*, and as an individual amongst fifty million individuals, not a 'set of income groups' or an 'electorate'.

So use your double birthright—as a free-thinking human being and as a Briton lucky enough to be born into a country where the individual voice can still get a hearing.

Planning decisions and changes in the land surface surround you every day. In each of them a site may be imploring your aid.

The first thing is to be able to see and feel. If you have come with us this far, you can; that is the premise we make in our call to arms.

Then to know your local area inside out, whether it is a Surrey suburb, the middle of Swansea or the Yorkshire Wolds.

Then to reach your decision on a change or projected change. Your *own* decision, not ours; not blurred by sentiment or social pressure or economic pressure. A matter that is purely between you and the site, without any pressure.

Then to act, and to know how to act; whether singly or in concert, to the newspapers or the Ministry; to know what outrage the planning authority can stop and what outrage it is submitting to from lack of support; to know when preservationists will help and when they will be unable to see your point; to know which points from your argument should be put to the borough engineer, and which to the chairman of the council.

Each success makes the next one easier; each failure may by its repercussions prevent a repetition.

But act, if only to write a letter. In trying to keep intact the identity of your environment you will maintain your own as well.

precepts

1 This is 1955. You can't put the clock back. More than that, today's complexity is to be welcomed, not endured. It is not the technology that is wrong, but the false applications of it.

2 Three things have got to be accepted about Britain—it is industrial, overcrowded and small. These all suggest one conclusion, that all our development must be high-density and small-area. High-density industrial belts, with buffers of true country in between. High-density towns, with their population neither spreading outwards nor decanted evenly, but put back into the centre. Consequently, there will be high-density countryside, i.e., really rural or wild, not eroded by splinter towns or industry. And this conclusion, which is sociological common sense, is part of the visual solution too. If towns are towns and country is country, they have gone a long way towards being allowed to be themselves.

3 The alternative is blurred edges. Blurred edges may come from standardization. It is not the standardization which is wrong—look at canals—but how it is standardized. Standard fittings are like the nuts and bolts of a Meccano set: the model is put together with them, but they don't dominate the finished product because they are unobtrusive, subordinate and impersonal.

4 Forget preconceptions. The site's the thing, not a set of rules, and your eye's the thing, not the textbook. Look first, then decide, and only then find a rule to fit your decision.

checklist of malpractices

town

—does traffic which has nothing to do with your town steamroller through it?

—has the town surrendered to it, by driving a boulevard through, or inserting a roundabout in, the old centre. Does the traffic as a result get heavier and faster, and the pedestrian life of the town more and more islanded?

continued on page 453

continued from page 452

—or has the town lost its centre to the car park? or the open square to a wired-in public garden?

—what is the municipal solution to a gap in the main street: rebuilding, or conversion into a small garden or 'temporary' car park?

—how many of your town's traffic roundabouts have rustic planting? Why?

—is your town in decay? Is the area behind its main streets a waste of cleared old housing, made into car parks or kept as vacant lots; and are there at the same time sprawling estates on the outskirts?

—could you walk to work if there was a transport strike? Can you walk to the country in an evening, if you want to? Or are you unable to do *either*?

—how about historic buildings? Are they allowed to look old, or are they given a 'quaint' face-lift under the excuse of preservation?

—and are the best eighteenth-century buildings preserved? or only those which reflect a travel-poster Merrie England of beams and tracery.

—are the natural trees respected, or ruthlessly lopped when there is no need for it? Or are they grubbed up altogether, and ornamental trees and flowering shrubs planted instead? The suburb, not the town, is the place for ornamental trees.

—do wires take a back seat in the view or a front one?

suburb

—is it still *rus-in-urbe*? Has the traffic engineer respected the scale, or driven across it and made a mockery of the illusion?

—has it ever been *rus-in-urbe*? Are you living in a true suburb or just a bit of spec. builders' quick profit making?

—is the country farther away than it was in 1939? How far? At that rate when will it disappear and your suburb run into the next one?

—does your local planning office obey the letter or the spirit of amenity control? Has it allowed further encroachment on the countryside, on the grounds that it is next to 'existing development'. And has it rejected designs for modern houses because they wouldn't be in conformity with 'existing development'.

—can you take a country walk?

—can your wife pop down to the shops or is it a fag without a car?

—can you walk round to the local or do you drive there?

—do the pram-pushers have a bad time when it's raining; do the streets seem too long and too wide?

—this is the home of ornamental trees and shrubs. Are there so many that it seems like fairyland? There ought to be.

—are they urbanizing the scene with giant lighting standards?

country

—how many Things in Fields are there in your parish?

—are they indispensable? Have you any idea why they are there at all? Has any attempt been made to camouflage them?

—have you an airfield or military camp? Is it disused, or has it disused sub-sites, and, if so, are they likely to be cleared up?

—is your village affected by urban sprawl—are there speculative estates built to serve the nearest town?

—if there is an arterial road, has it brought a trail of cafés and garages strung out from one parish boundary to the other?

—and has it got careless siting and inappropriate planting to try to cover it up, or was it landscaped from the start?

—how about afforestation? Have you a conifer forest, was it the right type of site for conifers, and has the planting been done well? Or is it the familiar pattern of blanket and swath? Did it eat up open ground you used to walk on? Can you even get into it now?

—how many types of wire are there in the parish? Standing on the green, how many wires can you see clearly? Could any be put underground, or sited less obtrusively?

—how many cottages have fallen down in the last ten years? How many are decaying now? Has the council tried to convert them? And is it building new houses on the site, or away on the edge of the village?

—if it *is* building new houses on the outskirts is there any difference between them and the estate in the next village, or the suburbs of your nearest town? Why isn't there, when the villages and the town are markedly different?

—what does your visual profit-and-loss schedule since 1939 look like?

wild

—how wild is it, how far from a town? Is the official policy to preserve it entirely, or have a nibble of industry here and a nibble of housing there?

—does the W.D. own any of it? What for, and must it be done here? Has it brought a trail of camps and roads and made it a little Aldershot? Should it have been evacuated after the war, but has been kept instead by a breach of faith?

—when you stand and listen how many unnatural sounds do you hear? A train? a car? a plane? distant target practice? a rifle range? the odd bomb?

—is the open heath or down being rapidly enclosed by wire fences?

—are there notice boards and red flags to warn you off?

—are the rights of way kept open?

—do you ever feel civilization is a long way off?

—is it being 'opened up' for the tourists or are they coming on the landscape's own terms? Is everything made easy for the tepid majority—motels, cafés, motorways—or are the facilities kept simple for those prepared to walk their way around?

to conclude, there is a short anthology of the philosophical background to Subtopia stated in its widest terms, from the nineteenth-century prophecy to its fulfilment today, and the extension—mankind's reaction to its self-made mess



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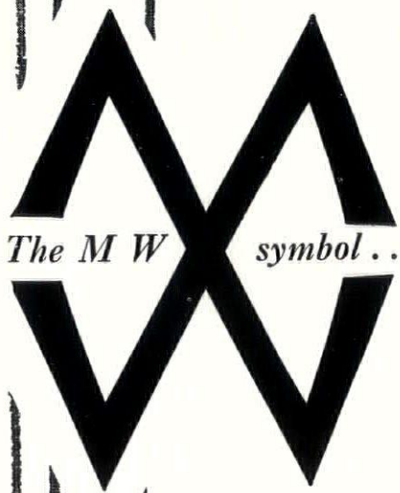

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ANTHOLOGY

'It is the main factory of the Elmdown Aircraft Company Limited, which is known to be doing quite a good job. It is tucked away into a misty hollow in the South Midlands, with a long flat space behind for the airfield. It's all okay. Rather out of the way, of course, ten miles from the nearest town, but that was what was wanted. . . . One of our grandfathers, suddenly arriving here, would have thought somebody had gone mad. From the old-fashioned standpoint, there's a kind of lunacy about the place. The very road outside the factory does not seem to belong to that country at all, and might have been hastily unrolled there like a vast gritty carpet. The factory itself, when it stops being a toy village with painted trees and meadows, looks as if it had not been built there but brought from some distant city and dropped by the roadside, as if a giant child, using the whole country as its sand-pit, had picked the thing up and then idly poked it into position with an immense forefinger. Half a dozen liners, jammed together between those low green hills, would hardly look more out of place.'

J. B. Priestley: *Daylight on Saturday, Reprint Society.*

1. THE THEME

'The culture of a nation by general consent would, I suppose, be regarded as its greatest heritage, but a heritage perhaps equally worthy of being cherished is the land surface which a nation occupies. The culture to a large extent must have been influenced by the character of the land surface, and in any event culture and land surface are interwoven, and interreact in countless directions difficult to unravel. For better or for worse a nation may endeavour to mould and to develop its culture along definite and preconceived lines. In whatsoever direction the national character and the nation's activities move, the land surface and the use to which it has been, and is being, put will be the mirror which reflects the devious paths which a people have trodden in search of self expression.'

Sir George Stapledon: *The Land Now and Tomorrow, Faber and Faber.*

2. THE PARABLE

'October 16th. Towards the end of the day, a grey bird circled round us for a long time trying to settle. At nightfall, in obvious distress, it perched on the rudder head—a singularly uncomfortable position. I picked it up and put it down on the deck, out of the wind, between the shorelegs and the pram. Farge offered it some biscuit, some fresh water and even a little fish that had been washed into the scuppers. But the bird would accept nothing. It merely wanted to go to sleep, which it did, very peacefully. . . . With the dawn, the bird was still on the deck, and apparently feeling better, for it swallowed the fish Farge tendered it once more in one gulp. During the morning, it rose and flew away, having fouled the deck in no uncertain manner. Its ingratitude seemed almost human.'

Le Toumelin: *Kurun, Rupert Hart-Davis.*

3. THE PREDICTION

'The world is about to come to an end. . . . Typical victims of the inexorable moral laws, we shall perish by the thing by which we thought to live. Machinery will have so much Americanized us, progress will have so much atrophied our spiritual element, that nothing in the sanguinary, blasphemous of unnatural dreams of the Utopians can be compared to what will actually happen. . . . Those times are perhaps quite close at hand. Who knows whether they are not here already; whether it is not simply the coarsening of our nature that prevents us from perceiving the atmosphere that we already breathe?'

Charles Baudelaire: *Fusées*, 1862. *trans. Weidenfeld and Nicholson.*

4. THE FULFILMENT

'The horror can be very big. But it can also be very small. . . . it is, mark you, a thing of opposite extremes. Litter—litter for its own sake—plays a large part in it; but so also does a certain terrifying kind of soulless cleanliness I think inanity, futility, and a certain ghastly "gimcrackism" are elements in it too . . . What are called the "Residential Sections" of the big cities reek and stink of this terrifying Presence. But you can find it too, as I have hinted, on any amusement beach, or in any amusement park. It has a wraith-like quality, it has a death-like quality, it has about it some queer ultimate desolation of emptiness, but with all this, and here lies the paradox of its shuddering horribleness, it is brand-new, spick-and-span, and strident. . . . Take all this and add to it the most vividly realised spiritual desolation of T. S. Eliot's Wasteland and then add to that the tough, callous and brutal veneer, shiny surfaces over stale perspiration, of a rich "Summer Resort" and you will get some idea of the atmosphere I am trying to indicate,

[continued on page 458



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continued from page 456]

The Fulfilment cont.

wherein all that is standardized and dispiriting groans with a rocker, flaps with an awning, sways with rusty-dusty evergreens, and gapes with a million empty garages.'

John Cowper Powys: *Autobiography, John Lane, the Bodley Head.*

* * *

'Between Abingdon and Wantage, the first four thousand, the second fifteen hundred years old, I passed the village of Drayton. All that remained of Drayton's ego was a secretive grouping of buildings down a side-street, a fine isolated barn standing alone in the middle of a field and a pair of cottages about two hundred yards away. Their incongruity with Drayton's new being was grotesque. On the left of the road stood a row of gigantic elm-tree butts and behind these a line of bungalunguses, on whose behalf the ancient elms had been beheaded. Between the butts and the rash of makeshift buildings, the ground was scarified of every blade of grass; it was nothing but a scab. The houses had no view, no structural motive, no positional relation to anything about them. They just stood there in a kind of horrible vacancy and stared at the corpses of the trees they had destroyed. Some would have called the act pitiable, others philistine, others downright wicked. The thought that came to me was its rank stupidity.'

H. J. Massingham: *Through the Wilderness, Cobden-Sanderson.*

'The things I saw did not compass the hundredth part of a devastation flung far and wide over England. Even the little towns help to spread it. They throw out their feelers just as the big towns throw out their suburbs. First, the arterial road; next the houses along its rims clinging like green fly to a stem; then tributary roads boring into the adjacent country with their "desirable frontages." '

Ibid.

* * *

'The phrase commonly used to describe the process I had witnessed over a small area of the square mileage it covers in all parts of the country is the "cult of ugliness." It is an unwise expression because nobody cultivates ugliness which comes, frequently enough, of the cult of prettiness. One of the terrors of our times is that ugliness comes unsought, unconscious and unsuspected. A more correct definition, I think, would be the cult of sameness, nor is it an exaggeration to term that cult a scourge of pestilence that, like the locust, devours the country naked. That is what a country so built over becomes, naked, because that which clothed it in a presence of its own, which gave it individual form and so reality, has been stripped away from it. Henceforward, it is neuter; it has no selfhood.'

Ibid.

* * *

'It might be said that the country of my journey was naturally dull. But the dullest country possesses its own rights and seal of particularity to distinguish it from other regions. But this particularity, which I might call the soul of place. . . had been smoothed out as some projection in the road is crunched level by the steam-roller. The country I traversed might have been anywhere: it was adrift from landmarks, set in the void, an expressionless mask. It was not the garages and petrol stations, the villas and bungalows, the road arteries, all those winged words of the machine, which appalled me. It was, I repeat, the disappearance of identity, and it reminded me of that form of sleepy sickness which strikes all animation, every difference, all emotion and light out of the human face and leaves it only a plaster cast. I got lost four times in this country, but I was travelling on and on without getting anywhere, without passing anything or leaving anything behind.'

Ibid.

* * *

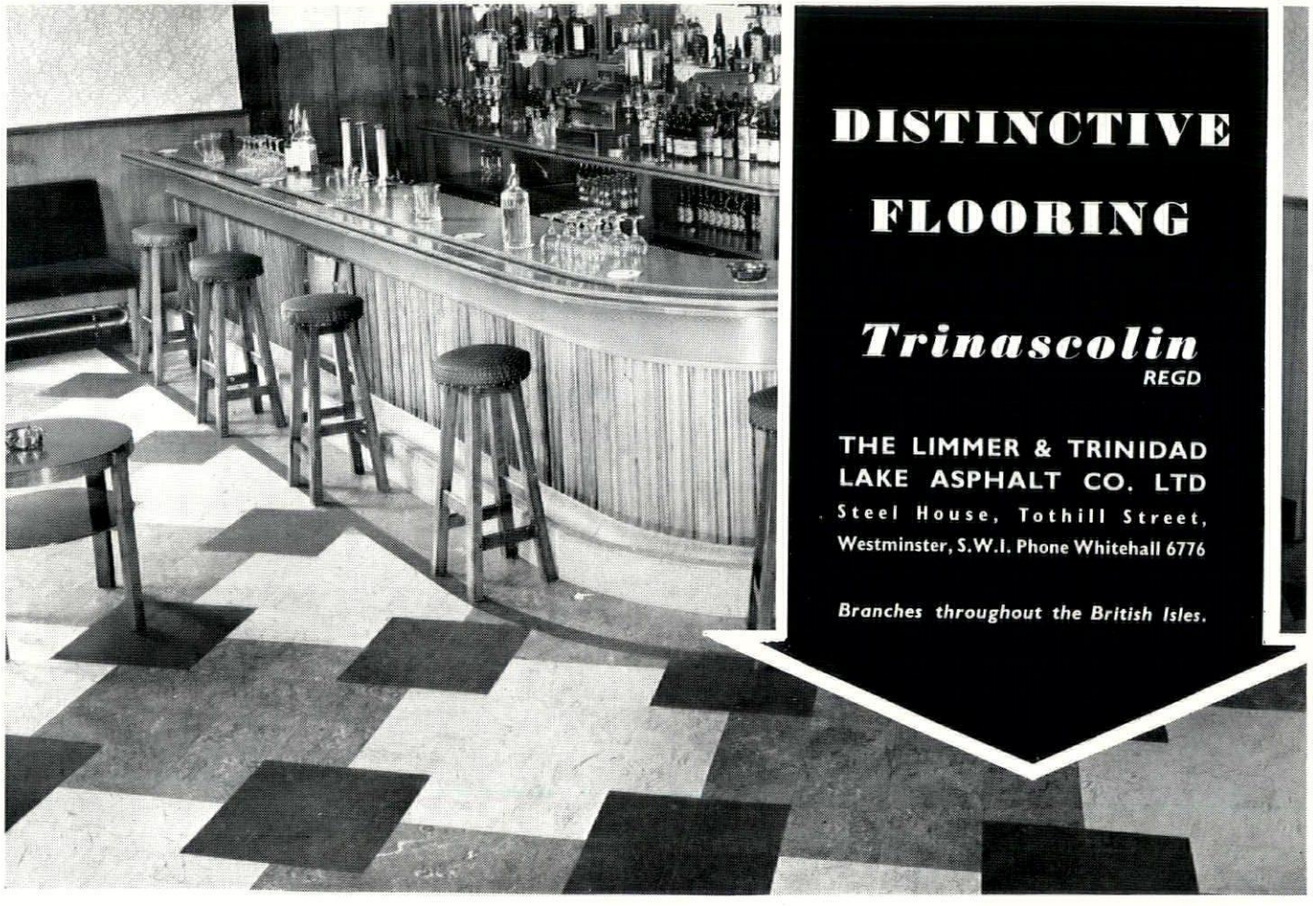
'How indeed should the traveller recognize the difference between one town or village and another along a complex system of roads, when new houses throw an almost continuous chain between them, and all of them stamped with the neutralizing anonymity and uniformity of mass-production? Fragments only were left of the marks of distinction both in position and character which used to separate one place from another, Twyford from Wokingham and Wokingham from Bracknell. Their unique identities had been filched away from them and they had become practically as alike as a row of peas in a pod. But even peas in a pod are independent of an umbilical cord attaching each to each and one to all. These towns, deprived of that separateness which gave unto each its name, were chained together like one of the old convict gangs by the ribbon development of the main roads. The stringing of beads on a string had not only levelled down the identity of town and village, but had pressed out and filled in the features of the country that lay between them. This country had become nothing but a line of distance, curved or straight, long or short, from one place without a name to another.'

Ibid.

* * *

'The people who built our cathedrals and parish churches, our barns, cottages and manor-houses had far less feeling for the face of the land they made more beautiful than our latter-day migrants who deface it with the pimples in which they live. A devil has entered in upon them which we call to-day vulgarity and blindness to values of truth and beauty (though not, I think, to goodness), and the industrial system has destroyed their resistance to its passage. But the

[continued on page 460





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One- and two-day courses are frequently arranged by the C.U.C., covering installation of modern appliances and correct flue construction. The two-day courses take place at the C.U.C. Training Centre in London, and the one-day courses at Technical Colleges in the Provinces. Details of enrolment and dates can be obtained from the C.U.C., 3 Upper Belgrave Street, London, S.W.1, or at any of the C.U.C. Information Centres listed on the left.

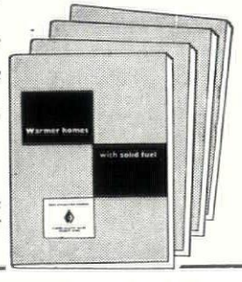
List of Appliances Recommended by the C.U.C.

All appliances on this list have been tested to ensure a high standard of efficiency, durability and economy. In the interest of your clients and your firm, it pays to consult this list when recommending domestic solid-fuel appliances for any purpose.

Technical Books and Pamphlets

The following are recommended for those concerned with domestic heating problems :—

"*List of Recommended Domestic Solid-Fuel Appliances*"
"*Warmer Homes with Solid Fuel*"
"*Make your House Cosier in Winter*" (INSULATION BOOKLET)
"*Fuel Stores for Houses and Flats*"
"*Architectural Design Data*" (FUEL HANDLING AND STORAGE FOR LARGER BUILDINGS)



For complimentary copies of the above, apply to the C.U.C., 3 Upper Belgrave Street, London, S.W.1.

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continued from page 458]

The Fulfilment cont.

love is there, it is a reality, a love of beauty and the nature which bore them, but which they have been deprived of the power to cherish and understand. Their omnipresent gardens bear witness both to this love and their weakness in making something of it.'

Ibid.

* * *

'The camp-followers brought up the rear of the older type of barbarian invaders. To-day, they go before the van of the country-loving host. They are the speculative builders, and their share in the paradox is to destroy the country, the craving for which has set the multitude upon the march. *E pur si muove.* Onward, Christian soldiers! That there is no country left where the migrants settle, makes no difference neither to the quest itself nor to the satisfaction which attends it goal. . . . The vast majority of the new settlers are totally unaware of the fact that their notion of living in the country is an illusion. That which they sought, which moved them out into a novel environment and for whose sake they taxed their purses and broke their habits, has dissolved like the fabric of a dream. What most of them have got is a bad imitation of their urban setting, houses to the left of them, houses to the right of them, all the spit of their own, rows of shops, perhaps Woolworth's and a cinema, fenced back-yards, and a view over to the next suitable building plot. But everything is all right: they are living in the country.'

Ibid.

5. THE MAN

'The estate where I had first built my own house was by now rapidly becoming built up and the house was almost surrounded. My wife and I had talked this over and, if we could find a spot more suitable, we decided to make a move as we had been in that house now about ten years. We went around the district at week-ends to see if we could find a less-crowded spot in the country and eventually found a suitable site at Wolvey.'

The Illustrated Carpenter and Builder, April 15, 1955: *Recollections of a Life in the Building Trade.*

6. THE MASSES

'An enormous part of the energy and ingenuity of industrial activity (I will not call it either life or civilization) goes into making it possible for more human beings to be alive at one time. This is entirely disadvantageous, and promises in time to become catastrophic. One might think that two thousand five hundred million brains would serve the cause of consciousness better than a few hundred million. But this is not true; small populations put out as many flowers of imaginative or intellectual genius as do large, and often very many more. How wonderful if it were otherwise, and the New Elizabethan Age in Britain with its fifty-five million brains could give us ten times as much poetry, drama, philosophy, song as the five million of the old Elizabethans.'

Jacquetta Hawkes: *Man on Earth*, *Cresset Press.*

* * *

'Great numbers are a positive evil in the morality of consciousness. The need to put roofs over their heads ruins natural beauty, and makes towns so huge as to become in large part destructive of civilized living instead of its very heart and essence. History has by now had time to prove that moderately sized, non-industrial cities, where writers, poets, painters, philosophers, statesmen, foreign visitors, and wealthy dilettanti habitually meet and mingle, dropping in on one another, meeting casually in public and in eating and drinking places, make the finest of all hotbeds for producing the prize blooms of consciousness. With modern cities, where millions live in utter social incoherence, it is quite otherwise. The longing to escape from them, coupled with the ridiculous separation of man from his work, leads to slaughter, stench, further corruption of natural beauty and a most hideous waste of a great part of the spare time which industry claims to have won for us.'

Ibid.

7. THE MASS PSYCHOLOGY

'This urge to mingle with the universe and with life as a whole and not merely with the human species is latent in every urban dweller and shows itself in many ways. It shows itself in the desire to keep pets, to associate with species other than *homo sapiens*. The number of dogs (as estimated by those that are licensed) has increased in recent years out of all proportion to the population. . . . The dog, the cat, the pigeons, the window box, or the minute little garden patch all afford some measure of escape from the baneful influences of an exaggerated mass psychology—an escape from the everlasting mental contact with other human beings.'

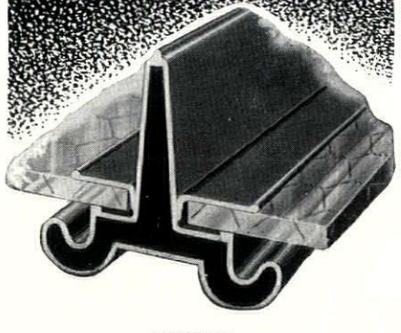
Sir George Stapledon: *The Land Now and Tomorrow*, *Faber and Faber.*

8. THE MORAL

'We can now, perhaps, express his foreboding more precisely in psychological terms. Mankind, we can say, are committed to the process of expression, of differentiation. They cannot, for the sake of immediate power or comfort, reverse the process and try to be a herd or an army, without suffering quick spiritual and then material disaster through the suppression of desires which have become part of themselves and the very reasons why they wish to live.'

A. Clutton Brook: *The Necessity of Art*, *S.C.M. Press.*

PARAGON
GLAZING



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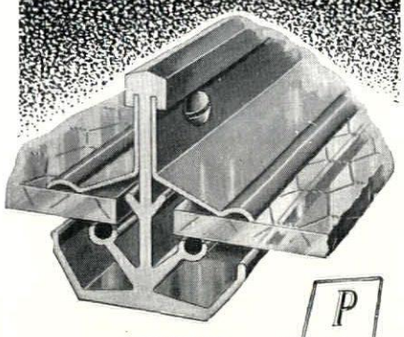

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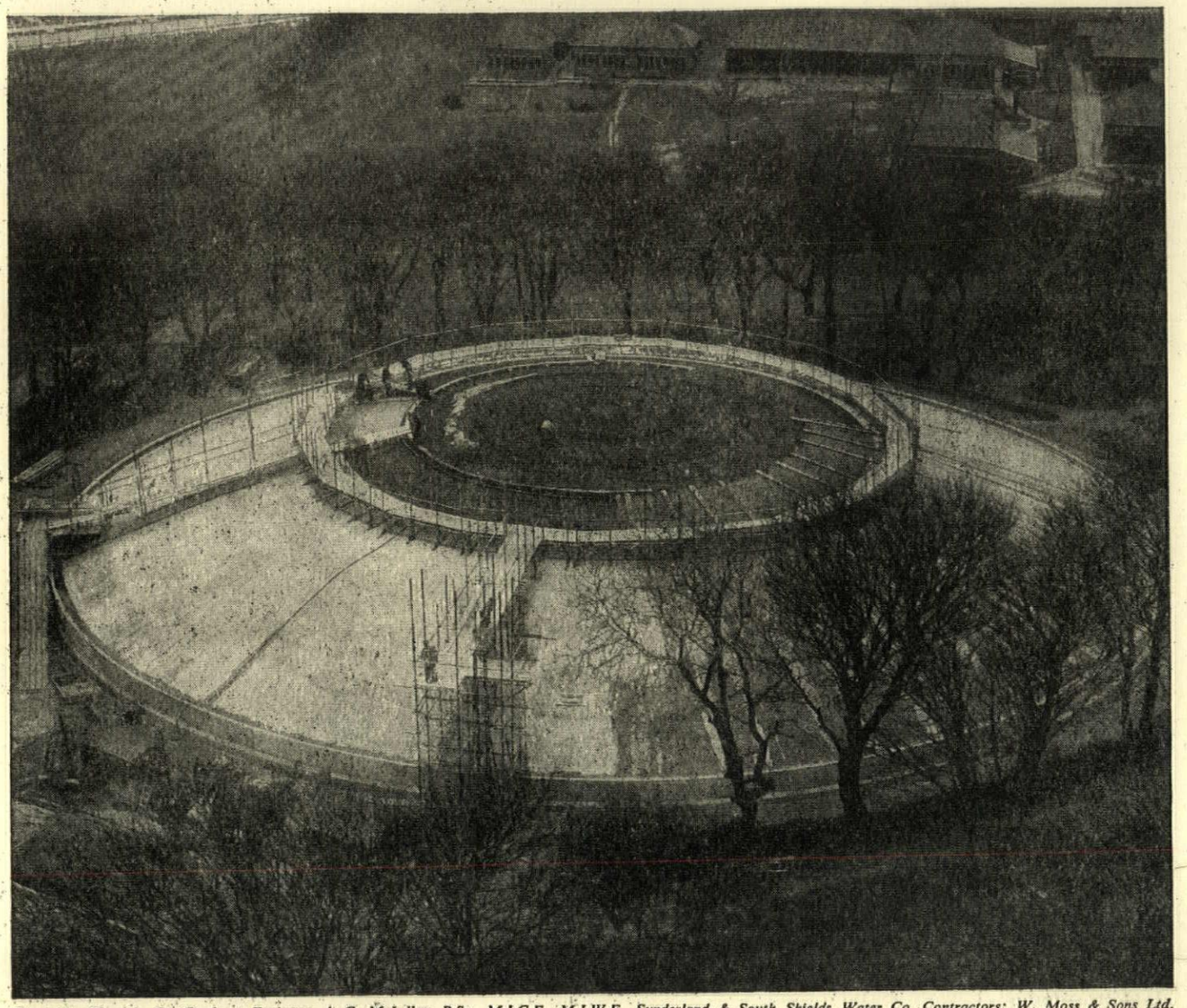

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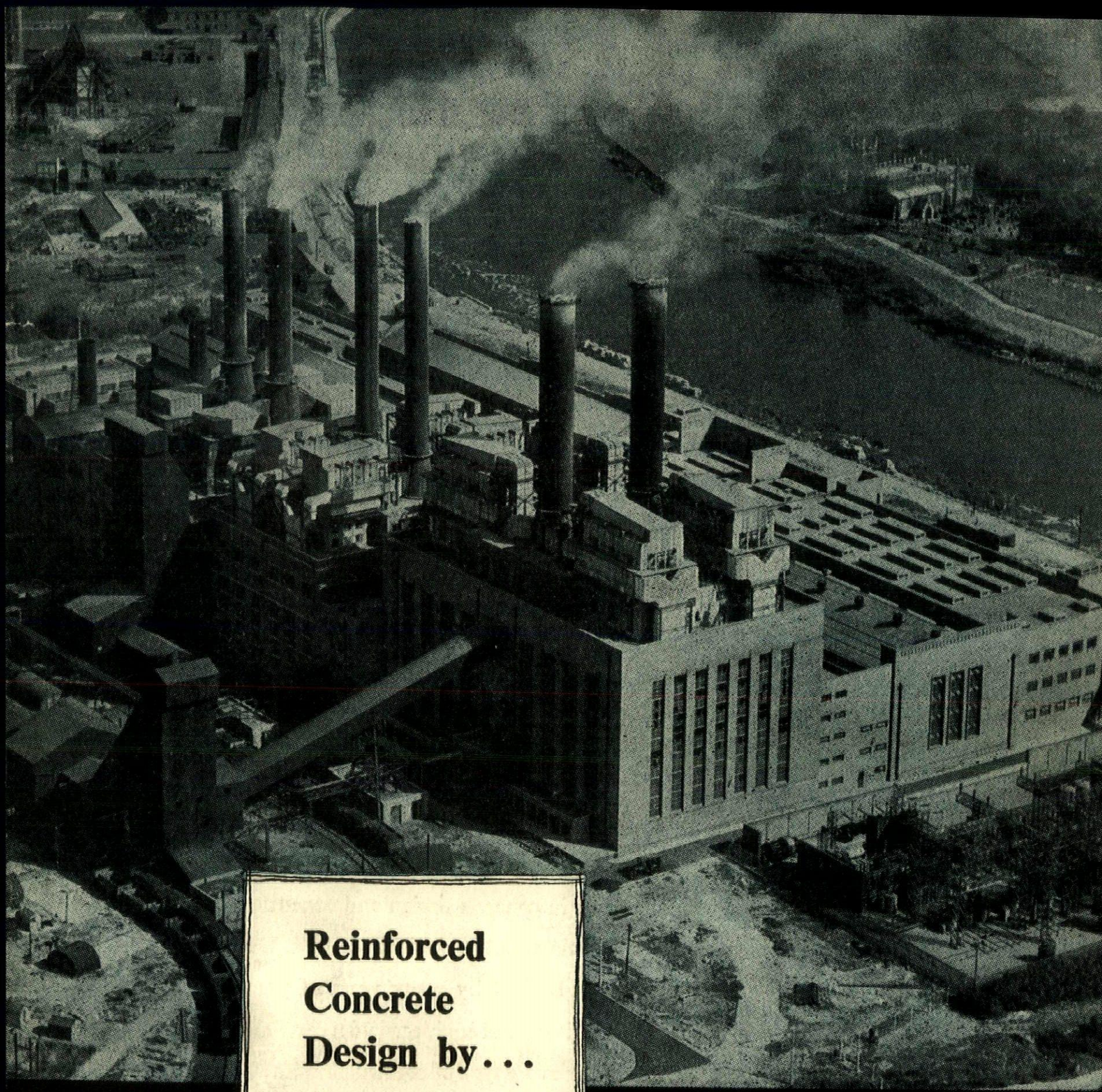

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