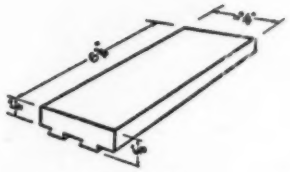


# 1954 PREVIEW



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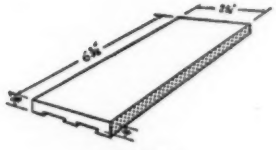

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# MARGINALIA

### Versailles

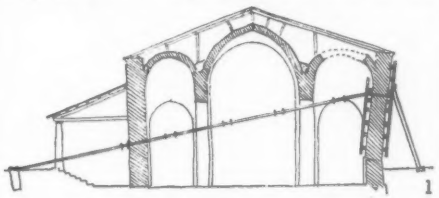
Though much of the exhibition *Versailles: the Chateau and its History in Books and Pictures* at the National Book League headquarters, consists of material whose connection with the great palace is only sentimental or anecdotal, it does provide an excellent opportunity to see some fine architectural drawings of the eighteenth and earlier centuries, many of considerable interest. Jules Hardouin Mansart (or, more probably, his office) is represented by some elevations and sections, and there is a plan of the chateau and gardens before the megalomania of absolute monarchy began to inflate it to its present dimensions. A seating plan of the Royal Chapel brings one face to face with the sort of functional problems that beset a Baroque designer, while Cochin and Slodtz's design for a theatre is not only a charming example of full Rococo draughtsmanship, but also an instructive and thought-provoking one, for this temporary structure, built for a Royal Marriage in 1745, was taken down and re-erected as a ballroom, on a different site, in sixteen hours. A number of drawings deal with the gardens and the machinery for the fountains, while the entrance hall to the exhibition, which will remain open at least until the middle of January, contains several screens of photographs illustrating recent restoration and renovation of these waterworks.

### Royal Society of Arts

1954 will mark the bicentenary of official public alarm about the state of British industrial design, for it was in 1754 that the Royal Society for the Encouragement of Arts, Manufactures and Commerce was founded. To celebrate its two-hundredth anniversary the RSA has announced a competition which calls (in spite of the mockery which time always makes of such flights of the imagination) for original forecasts of life on this planet in the year 2000. While one must congratulate the society on two centuries of useful existence, one cannot congratulate it on the resurrection of a theme which has been worn to a shadow by optimistic futurists and pessimistic moralists. However, an earnest of the Society's conviction that the theme is proper to the occasion is to be seen in the offer of £500 in prizes, and entry forms may be obtained from the Secretary, RSA, John Adam Street, WC2.

### Unesco Museums and Monuments Series

The report of the joint Unesco/Yugoslav team of experts which has been inspecting the Byzantine Church of St. Sophia at Ochrid in Macedonia, and its recommendations for necessary restoration work, has been issued as the fourth volume in Unesco's multilingual series of publications *Museums and Monuments*. The report is very thorough and detailed, both in its examination and its recommendations (the technique which is to be employed for straightening the wall of the



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south aisle is shown in 1) and may be obtained in England through the Stationery Office for five shillings. Previous volumes dealt with current problems facing ancient monuments (vol. I, now in its second edition), the care of paintings (vol. II, also second edition), and the reconstruction of the city of Cuzco, and the restoration of its monuments (vol. III).

### The Tate Gallery

The issue of a volume in the *Art et Style* series (No. 27)* devoted to the Tate Gallery is an event of note, since it marks the attainment, by what was originally a very provincial institution, of an international esteem equal to that of the great museums of Europe—other volumes have dealt, for instance, with the Uffizi and the Alte Pinakothek. The current exhibition of the Gallery's acquisitions since 1946 shows how well this esteem is deserved, but the compliment might have been more graceful if the colour reproductions had been as good as the excellent plates in black-and-white.

*Art et Style (Vol. 27) *La Tate Gallery*, published by Art et Style for the Tate Gallery, 20/-

## CORRESPONDENCE



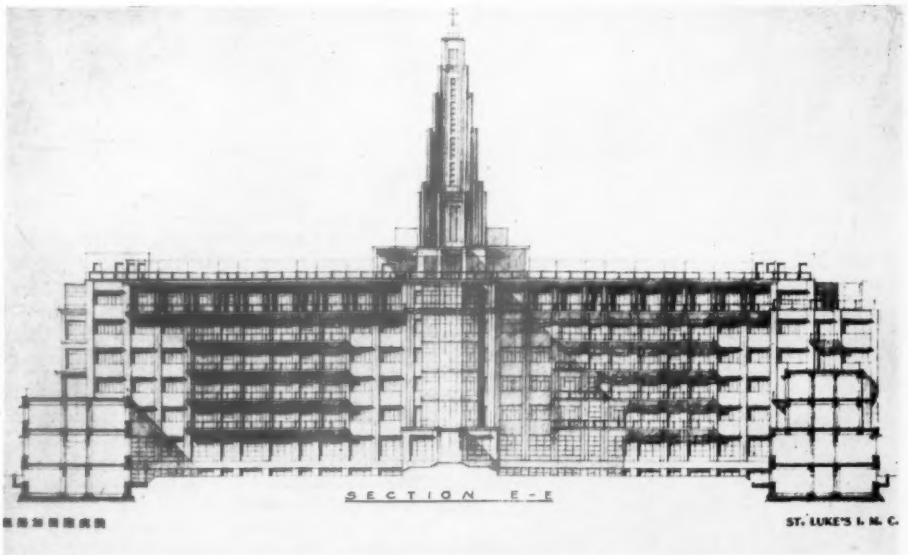
### The Doctrine of Auguste Perret

*To the Editors,*
THE ARCHITECTURAL REVIEW

SIRS,—Although I am not in the habit of writing letters to editors I am compelled to congratulate you upon the excellence of the article dealing with the design philosophy of Auguste Perret. I had felt ever since my school days at the turn of the century a subconscious admiration for his work, but I did not realize the clarity of purpose and the philosophical background behind it until I had the good fortune to have in my office Perret's very understanding and talented pupil Bedrich Feurstein, a young Czech architect. He came fresh from Perret's office to my office in Tokyo, and it was through him that I began to understand the solid basis of Perret's design. The result of Feurstein's two years' stay with me had a far-reaching and definite influence on my design, resulting in the St. Luke's International Medical Center in Tokyo early in my career, which I believe has the earmarks of his influence, and some degree of understanding of Perret and of the principles which he fought for. Unfortunately we encountered the same resistance as he did and after finishing the main construction of the building according to our design, we had to resign. Some other 'architects' covered it with stucco and silly ornament, etc., destroying in that way the purity of the work. It was a tragedy that Bedrich Feurstein died very young as I am sure he would have followed the footsteps of his master in a very successful way.

The chapel of the Women's Christian College that you mention in your article, although very close to the church in Rainey had some creative aspects, solidly based on Perret's principles.

The St. Luke's hospital was designed between the years of 1923 and 1927 and the Women's Christian College's Chapel shortly afterwards. As the result of experience and a profound study of Japanese architecture, I became more and more aware of the fact that the philosophy of design of Auguste Perret or as he calls it 'La theorie de L'Architecture' and the ancient and traditional




*Section through St. Luke's Hospital, Tokyo, designed by Antonin Raymond to which his letter above refers.*

philosophy of the Japanese architecture are practically identical.

A typical aspect of Japanese arts in general is the desire to arrive at the very essence of the subject, by almost endless simplification and elimination as clearly demonstrated in painting and in poetry. The same is true in architecture. The masterpieces are always an understatement rather than emphasis or 'tour de force.' Simplicity, directness, naturalness, economy of means, perfect material and spiritual function in the creation as a whole and in all its details is the aim.

The artist aiming at an objective truth seeks to eliminate himself from his work. This is the opposite from the Western idea of 'expressing one's personality.' As a matter of fact one who seeks to eliminate himself from his work in his pursuit of the truth is in the nature of things forceful, and inevitably finds expression.

Through the centuries Japanese architecture developed naturally in the direction of sophistication. But the need to startle, to astonish by originality, to sacrifice real principles and values for the sake of novelty did not exist as a basis for design in Japan before the country came under Occidental influence.

The most important statement in your article seems to me to be the following sentence:

'Auguste Perret has always fought against the conception of architecture as a deliberate expression of the artist's personality or originality.'

In this he differs fundamentally from Le Corbusier, Wright, Gropius, Mies van der Rohe, etc. He differs from practically all his contemporaries and also perhaps from your editorial policy, as expressed by articles dealing with the above-mentioned celebrities.

It is my opinion that Perret's work of all that of the modern architects contains more of the absolute values, the values that are not dated and will survive. 'The beauty of the ruins,' as he says.

I am, etc.,

Tokyo. ANTONIN RAYMOND.

*To the Editors,*
THE ARCHITECTURAL REVIEW

SIRS,—Further to Peter Collins's article on Auguste Perret in the August REVIEW, I am

enclosing photographs of the First Church of Christ Scientist at Tunbridge Wells.

This Church was erected in 1931 to the designs of Cecil Burns, and as Mr. Collins stated that 'Perret's work has attracted little attention in

England. . .' perhaps he is unaware of the existence of this building which Perret has obviously influenced in many ways,

Yours, etc.,

Tunbridge Wells. BRIAN G. W. BLACKWOOD.

### The Failure of the New Towns

*To the Editors,*
THE ARCHITECTURAL REVIEW

SIRS,—Your recent article on the New Towns and the reply from the architect-planner of Hatfield leads one to question the whole idea behind their conception. It is not generally realized how entirely new is the very conception of a New Town. A city designed from centre to residential outskirts as an architectural whole, a town of fixed population and productive capacity expected to be perpetually stable, a town intended to be almost entirely self-contained; all this is quite alien to the tradition and practise of town growth in the past. A town is an organism, not a monument, and though some towns were designed as monuments, the most famous, such as Athens and Rome, Paris and London (these names are sufficient) are organic growths. They changed and adapted themselves to meet the needs, the conditions and the artistic trends of each successive age, never quite discarding the past, never putting themselves into such unchangeable forms that future ages were unable to adapt them to meet unforeseeable needs. All English towns are of this kind (even Bath has a medieval core and Victorian outskirts, and Cheltenham has been growing for the last 150 years). A town built to a blueprint, unchanging and unchangeable, is incapable of adapting itself to meet the needs of future generations.

Hitherto it has been the natural desire of self-respecting towns to increase in wealth and population and (in enlightened ages) architectural beauty. With an expanding economy and population this has been relatively easy to achieve, though some towns, as is only too evident, have grown too fast in unfortunate periods, while others have been left behind in the race for prosperity. The most agreeable towns to live in are those which have maintained a slow growth and steady prosperity over several centuries—towns such as Exeter, Shrewsbury, Bristol, Norwich, Cambridge or on a smaller scale Hitchin, St. Albans or Guildford. They belong to every age, and not to one in particular, as the New Towns always will.

The idea of a town as a wholly self-contained unit is one conceived before the Age of Transport. It is doubtful if even in the Middle Ages with its great fairs and markets, its pilgrimages and petty strifes, a city was ever so self-contained as its walls would lead one to believe. Today people travel miles to work, to shopping or for pleasure, and not always of necessity. There is a complex relationship between town and city, town and town, and town and village which has been built up through the ages, which is continually, but slowly changing. Take the region round Harlow as an example. People travel through Harlow to London from at least as far as Saffron Walden, from Harlow to Bishops Stortford and other shopping centres. Is a new town in such a setting likely to become a self-contained entity? In one respect it will fit into the existing pattern, in that people from it will inevitably travel to London; in another it will profoundly modify the pattern, since it will draw trade away from old-established market towns in the surrounding area. In a third respect it will create a new situation; many people employed in Harlow, tired with the synthetic surroundings of a new town, will go and live in dreamy Essex villages. The pattern of the relationship of settlements changes constantly but subtly; is there really any need to upset it so drastically and so suddenly in one area?

To my mind the concentration of effort and expenditure, of energy and resources into a few New Towns has diverted attention from areas where such assets are so sorely needed. Old towns are rotting away, city centres are choking, small centres in remote areas are crying for new livelihood and population. That is our problem in Britain, and we should leave the creation of New Towns to the dominions and undeveloped countries.

I make no apology for stressing the economic, social and historical aspects; a town is so much more than an architectural conception or even a product of technical ingenuity.

Yours, etc.,

Dartford, Kent. D. W. LLOYD.

Mr. Richards replies: *The need for replanning and rebuilding the decayed centres of our old towns is undisputed, but this does not invalidate the idea of new towns, which can help to rescue the old towns by putting a stop to the endless suburban sprawl that has cut off the people in the centre from all contact with the country. It is true enough that there is not much historical precedent for the creation of a complete town at one operation, but in this age of complex public services, of land shortage and of the welfare state, many things have to be done as a planned operation that could previously be left to the processes of slow organic growth, and are none the worse for it.*

*To the Editors,*
THE ARCHITECTURAL REVIEW

SIRS,—Re your article 'Failure of the New Towns' (AR, July 1953). Surely, I am one of those who prefer the 'small cathedral towns' to the sprawling building agglomerates of Hatfield or say Levittown, Penna. Yet I fail to see how Mr. Richards will succeed in re-creating the atmosphere of a 'real' town to-day, and if so, how will he cope with the traffic problem when each family requires a motor vehicle, as is the case in the USA already? Unfortunately, the automobile has become a prime factor in our so-called modern town planning, and it would be futile to overlook this unpleasant but real fact.

Yours, etc.,

New Jersey, USA. MICHAEL KRAUS.

### Intelligence

The York & East Yorkshire Architectural Society is appealing for funds to commemorate the late Dudley Harbron. Contributions should be sent to the President of the Society, 4, Bond Street, Hull.

Paul Schweikher of Chicago has been appointed Professor of Architecture and Chairman of the Department of Architecture at Yale University, in succession to George Howe, who is retiring.


## ACKNOWLEDGMENTS

COVER: Browne, Arphot. MARGINALIA: page 2: S. K. Lazell. PREVIEW: pages 14, 64, 66–68, 72, Galwey, Arphot; pages 16, 19 (top), 28, 46, 59, 61, 62, 73, 74, Sydney W. Newbery; page 17, Philipson; page 18, Read, Arphot; page 19 (bottom), Central Photographic Service; page 20, Wainwright; pages 21, 22, 23, 30, 31, Alfred Cracknell; page 29, D. Dewar Mills; pages 33, 34 (top), Barlow; page 34 (bottom) Bernard Cox; pages 35, 36, *Edinburgh Evening News;* pages 38–40, John R. Pantlin; page 42, British Broadcasting Corporation; page 51, Peter Pitt; pages 56, 57 (top), S. Simons; page 71, *The Times.*

# THE ARCHITECTURAL REVIEW

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## SPECIAL PREVIEW ISSUE







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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS

***PROGRESS*** The projects illustrated in this issue are not mere architects' fancies but the designs for buildings now under construction or shortly to begin. This is the London Airport site (see pages 20-24), photographed from the top of the partly completed control building.

# FOREWORD

In publishing an issue devoted entirely to projects still on, or just off, the drawing board, THE ARCHITECTURAL REVIEW breaks its usual rule of devoting the major part of its space to illustrating completed buildings. But the beginning of a New Year is a traditional occasion for self-scrutiny, an occasion for retrospection and assessment of achievement, an occasion for prophecy such as can only rise from an estimate of the current state of architectural opinion. That climate of opinion is not represented by the buildings completed in December 1953—which are the offspring of decisions taken years ago, and would still be so, even without the administrative delays and material shortages which have bedevilled many of the hopes and ideals with which we set out after the war.

To assess the state of an architect's opinions on the first day of January 1954, one would need the last sheet from his sketching pad, the marginal illustrations on the menu of the table where he lunched, the diagrams drawn on his blotter while he conferred with a client. Such ephemera could be highly instructive—without them we should never know the architectural opinions of Leonardo da Vinci—but they would be too slight and too private to survive publication. A fairly advanced project, however, is meant to be legible to contractors and surveyors, shows the real and practical problems with which the architect is at grips at a given instant of time, and is still sufficiently fluid to be affected by the changing weather of opinion. A project

in this state takes us as near to the opinion of a particular moment as we can hope to get.

For this issue is intended to do more than provide a trailer of the big features of forthcoming architectural programmes. Unlike the individual preview of a single project, the piling of preview upon preview and project upon project should begin, by the very weight of material accumulated, to squeeze out the essence of the state of architectural opinion. And the current climate of opinion deserves close attention, since the range of problems which may confront a designer is at last beginning to widen. For the first time since the war the building market offers the architect a breadth of experience which was not available in the cloister-prison which has constrained and sheltered him in recent years, and he may find that, though bottled energies are at last released, he may have slipped into rule-of-thumb habits which will no longer serve. Crutches and fetters are, though not perhaps as fast as some would like, being swept away together. This is the sudden season of decision, and the pages which follow show how the more enterprising and forward-looking British offices are proposing to stand on their own feet in changeable weather. All but the smallest types of building are represented, so that a fair picture may be given, and well-based inferences may be drawn about the tendencies of thought which are now beginning to appear. From the positions now being taken up we may look back and see how far we have fulfilled or forgotten the ideals with which we began reconstruction after the war, how much we have deviated from them, how far they have proved unreal, and how much farther we may be expected to diverge from them in the years immediately to come. These questions are asked more specifically in the article which acts as an introduction to the projects. Its aim is to distil coherent principles from the solutions of disparate problems, to extract the general from the particular, in pursuance of the search for a moving spirit which will ultimately reveal itself in buildings completed in two, four or ten years' time.

J. M. Richards

# PREVIEW

To say that the trouble about modern buildings is that they are too big may sound ridiculous as a practical criticism because they are presumably no bigger than they have to be, but if the aim is to define the handicaps modern architecture still has to overcome if it is to remain one of the civilized arts, such a statement probably singles out the most important of them. Since it is the purpose of this issue to discuss the problems architects are facing now, and will have to face in 1954, rather than those they have already disposed of, we can usefully begin with this problem of size.

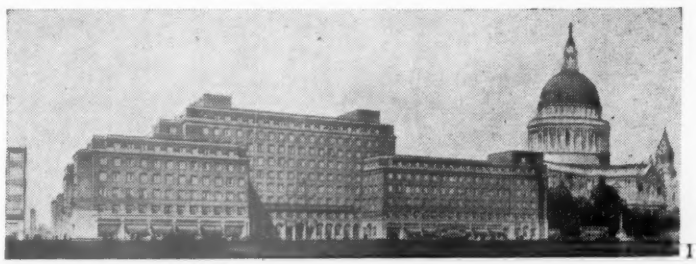
Size is important for the very reason that it has come to stay, as we can see by simply looking around us: at the monster office blocks rising in the City, at the flats that dominate the skyline of many large towns and at other kinds of building, too—for example at the vast spread of the new London Airport and the BBC Television Centre illustrated in this issue. In addition, still mostly in the project stage, there is the new pattern of comprehensive school, potentially the most frightening of the lot from the point of view of possible conflict of scale between the structure and its occupants. The problem presented is not only of æsthetics but of the human individual's relationship to his own artifacts. Failure to solve it threatens the whole position of architecture as a refining, rather than a brutalizing, influence on our environment.

Size, too, is not unconnected with adjustments contemporary architecture still has to make in other ways. It is a product of the same forces that have brought about a revolution in building technique, driving architecture further away from its traditional human scale and thus from its ability to evoke natural human responses; without this technical revolution, moreover, large modern buildings would in any case be impossible. But the impact of industrialized building on architecture as an art must be discussed separately. First let us consider in more detail what is happening to architecture because of the fact that, for functional reasons, buildings are becoming larger every day.

**the beehive building**

The new, enhanced scale is not the same as the monumental scale traditionally associated with large public buildings, which maintained the classical rules of proportion, though multiplying the size of certain elements as a means of creating the required impres-

*The inflated size of buildings without civic or religious importance presents unprecedented problems to the modern architect.* **1,** *proposed offices in the City of London.* **2,** *LCC flats, Poplar, built* **1946-48.**



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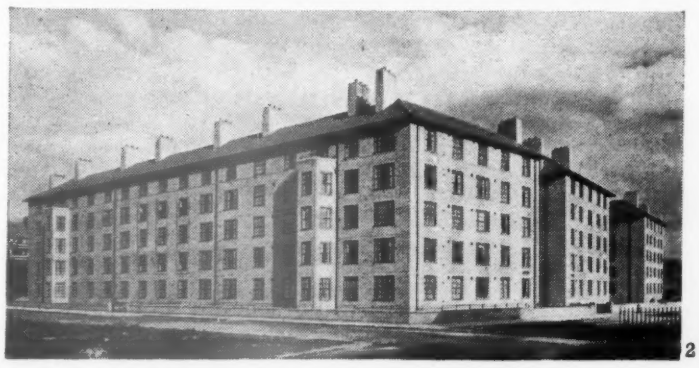

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sive effect. Our new large buildings arise from the multiplication of identical, relatively small, elements. It is the beehive technique, in which the human scale is lost in an infinity of repetition. Their very bulk, moreover, has a destructive effect on the townscape, all the more disturbing because their purpose—housing; finance; administration—does not entitle them to dominate over their surroundings as though they were cathedrals or courts of justice. But leaving aside the problems of townscape and observing the individual building, how do we find that architects, since the war, have reacted to the problem posed by the inhuman scale of their beehive agglomerations?

One course is to ignore it, as central London office blocks have done, 1, and the worst of the municipal housing, including that of the LCC, 2, before responsibility for design was restored to the Council's architect in 1950; to ignore it and let it wreak its destructive effect unhindered. But looking back over the last few years we can see that, consciously or unconsciously, architects have at least begun to face up to the problem, and that their search

3, *Lever House, New York, completed* 1952, *where the simplicity of the superstructure is well set off by the busily detailed, openly planned ground-floor area.*

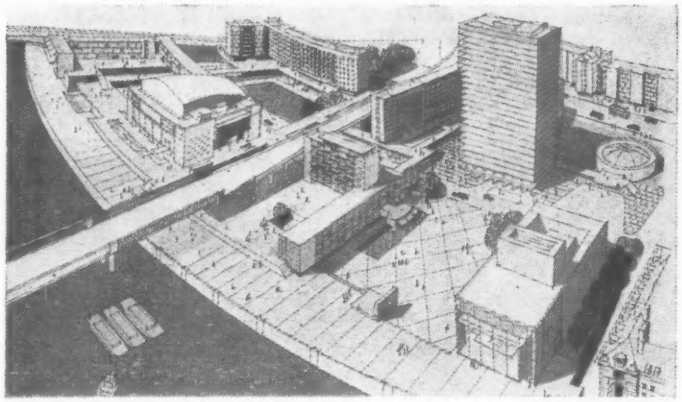
for a solution seems at the moment to be leading them in three alternative directions.

The first is, instead of ignoring the threat to the human scale, simply to accept it, which may sound much the same thing but is in fact very different if it is a positive acceptance. This implies accepting at the same time a radical change in the nature of architecture itself, deferring to the argument that large buildings, when they are no longer the products of the individual craftsman and no longer designed to serve purposes in which the single individual is the significant unit, need not regard preservation of a human scale as a desirable or relevant attribute. The buildings can be allowed to form themselves, as it were, into a new kind of landscape which the power of machine production and the mechanization of urban life have lifted right out of the individual's grasp, organically independent of the life lived in and around it.

To perform this role successfully, and remain an acceptable visual element in the townscape, such buildings demand a rare delicacy of modulation and detailing. Even more do they depend on the human scale being reaffirmed in the foreground activities for which they provide an abstract, diagrammatic backcloth: on planting, on floor textures, on sculptural enrichments of all kinds, on the design of street furniture, on variety of pavement levels and on the sympathetic treatment of architectural features like doorways and porches which may appropriately be designed as a foil to the superhuman structure rising behind them.

A recent example of this treatment, which has deservedly been given high praise, is Skidmore, Owings and Merrill's Lever building in New York, 3, where a busily detailed ground floor area, thrown almost wholly open to the public, provides an effective foil to the plain, schematic superstructure. If there have been no experiments as bold as this in England, several notable post-war enterprises have made no bones about accepting the diagrammatic superhuman

4, *flats in Pimlico* (1951). *Changes of scale and texture in the pump-house buildings act as a foil to the plain rectilinear architecture of the flats themselves.*



*5, proposed layout of the South Bank of the Thames, showing the complex system of pedestrian terraces and piazzas from which the groups of buildings rise.*

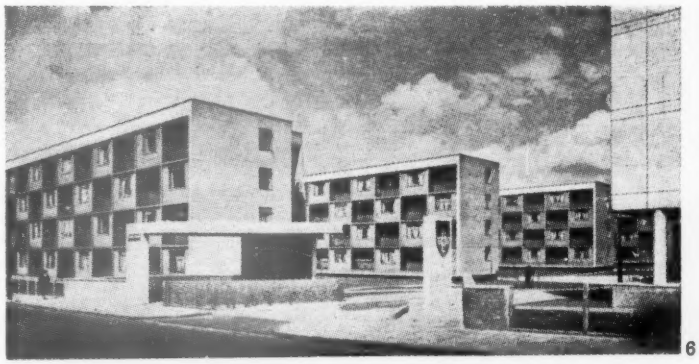
role of the large modern building. Take the Powell and Moya housing scheme at Pimlico. It may truly be regarded not as a feature in the landscape but as the landscape itself, in which the figures of people moving about the balconies or climbing the glass-enclosed staircases have the same relation to their background as people resting on a ledge on a mountainside or toiling up a mountain path. The detail is trim and workmanlike, being derived from the nature of the techniques and materials employed, not from any formal precedents, and if the foreground in this instance has not got very far in re-establishing a human scale at the pedestrian level, this is partly due to lack of money for enrichment and to the (no doubt temporary) barrenness of the site. The careful detailing and use of differently textured materials in the pump-house at the foot of the accumulator-tower, 4, shows an awareness of the need for intricacy and variety in the design of auxiliary buildings and equipment to ameliorate the overpowering effect of a repetitive bee-hive structure. The same awareness can be discerned in a project of similar character illustrated in this issue (page 51), the Golden Lane housing scheme in the City by Powell, Chamberlin and Bon.

An example of a somewhat different kind, which also, at present, exists only in project form, is the LCC's layout for the South Bank, 5, illustrated in the REVIEW last month. Here the separation of beehive-scale architecture from busy human activities in the foreground is very clear; in fact it is the whole basis of the design. The buildings are conceived as standing aloof from a hum of activity which occurs at the lower levels, on and around the series of overlapping garden terraces and pedestrian piazzas which form the basis of the layout. It is thus unnecessary to compromise the clean structural form of the buildings themselves; and both they and the undergrowth, as it were, from which they spring, gain immeasurably by the contrast.

The converse of this conception, it is worth pointing out in passing, is exemplified in the new towns and in local authority housing estates, where the individual buildings conscientiously *preserve* the human scale, even to the extent of a sentimental attachment to handicraft tradition, but it is the landscape that has been allowed to expand, both in actual size and in the degree to which busy incidental detail has been replaced by a flat expanse of paths and grass and roadway, the result being that it loses all relationship in scale with the domestic activities it is meant to accommodate.

**the superimposed pattern**

So much for the first of the three attempted solutions to the problem posed by the loss of human scale in large contemporary buildings. The second is to accept the necessity for their size, but by pictorial means, as it were, to break down the overpowering effect of their multi-cellular façades; for example, by imposing a pattern by arbitrarily grouping certain elements together, and thereby creating something on which the eye can more easily rest. This is what the architects are clearly trying to do in the Finsbury housing schemes by Tecton (now Skinner, Bailey and Lubetkin), 6, and in the still unfinished scheme at Paddington by Drake and Lasdun, 7, begun when they were members of the Tecton partnership. This solution to the problem has its obvious limitations and even its perils; it can, for example, easily degenerate into pattern-making for its own sake or into a cult of visual refinement only comprehensible to the initiated. Yet such experiments are to be valued, if for no other reason than that they introduce an artistic sophistication into a department of design constantly inhibited by the architect's fear of being unfunctional. They constitute a declaration of the architect's right to do things for his own reasons as an artist, perverse though they may seem to the doctrinaire schoolmen. They contribute to the modern idiom something, perhaps, of the same nature as Mannerism contributed to the development of the Renaissance.



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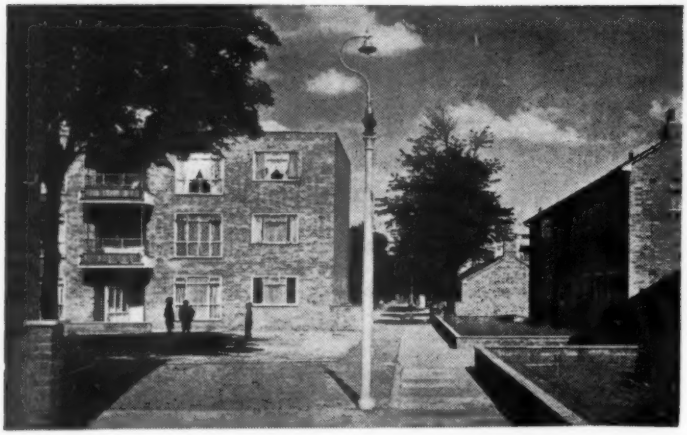
*The monotonous repetition of windows in large blocks of flats broken down by balcony patterns: 6, at Finsbury (1952); 7, at Paddington (1953).*

**contrast of scale**

Finally, the third solution. This is to withstand the dehumanizing tendency produced by sheer size by refusing to accept size except on the architect-planner's own terms. It means asserting the right to call a halt to the aggrandisement of structure in the name of expediency, and admitting the beehive build-



8, *flats at Hackney* (1949), *showing domestic scale preserved by admixture of terrace houses and bungalows.*

ing only when it can be deliberately used as but one element in a more complex picture, and the large building disposed among buildings that preserve the more traditional human scale. More specifically, taking an example from post-war housing practice, it means mixing tall blocks of flats with low blocks, cottages and terrace housing, as Frederick Gibberd was the first to do effectively in his Hackney housing, 8. The LCC is now doing the same thing in the Roehampton and Portsmouth Road housing schemes, illustrated on pages 52–57.

This is a principle easily applied in housing because the social programme also favours such a mixture of building types. Its application to other kinds of building—for example to office blocks—is more complicated, depending on the development at one and the same time of much larger central sites (compare the Lever building, New York, already referred to), so that instead of the whole site being occupied by one solid mass of office accommodation, vertical beehive blocks of smaller area can be spaced among shops and restaurants surrounding pedestrian enclosures, giving scale and humanity to the whole as in the case of the housing schemes. Pending the time when the vision of our city fathers and the less restrictive operation of our planning legislation makes this possible, the overwhelming scale of office buildings can still at least be minimized by more strictly architectural means, the upper storeys of the otherwise unbearably massive blocks being broken up into wings and towers, incidentally providing more daylight for the occupants. As in the case of high density flats, the ground-floor area can be planned independently with proper regard for the human scale, and create a busy foreground scene from which the superstructure will rise, detached, diagrammatic and aloof. In close-packed city streets, in any case, the lower floors of the buildings are all the passer-by is conscious of, so his eye does not require to have its interest aroused by modelling and detailing on these remote upper structures, nor will it be affronted by their superhuman scale.

Treatment of this kind would greatly improve the

*Freedom of planning is possible when a large city site is treated as a whole; the building masses can then be better broken up.* 9, *project for the Bellevue Medical Centre, New York City, by Skidmore, Owings and Merrill.*

design of London's impending example of the vast, centrally sited, office block: Bucklersbury House in the City (page 71). While admitting that its

10, *high density building on a small site involves a departure from the domestic scale of the collegiate tradition: Cambridge engineering laboratories, by Easton and Robertson.*

bulk is too great on town-planning grounds, it can yet be said that the sculptural form in which its bulk has been cast and the light schematic architectural treatment proposed will minimize its destructive effect on its surroundings and mark a step forward from the heavy monumentality of the conventional City office block. But its bulk could with advantage be broken up still further and its ground floor area, instead of being bounded by a solid perimeter wall, could be opened up to create a greater variety of building masses at the lower level and, in accordance with the principle described earlier, to furnish the pedestrian level with a richness of detail which would set off the plain architecture above. A project on lines resembling this, showing the freedom given to architects when a really large city site can be planned as a whole, is illustrated in 9.

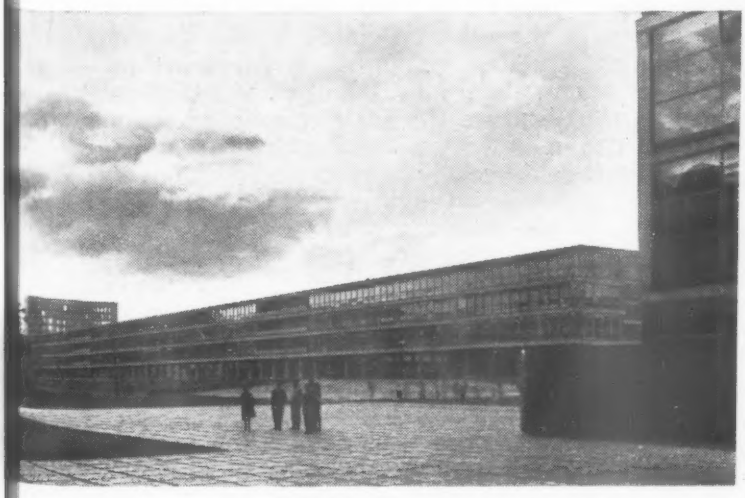
One other category of building in which architectural quality is similarly threatened by the dehumanizing effect of sheer bulk is schools, where it is especially important to retain a sympathetic scale because of the psychological influence of the building on the child. It is one of the merits of the best post-war primary schools, like those of Hertfordshire, Middlesex and (more recently) the LCC, that regard has been paid for the child's-eye view, and bewildering spaces and towering structures avoided. But plans are now being laid down for so-called 'comprehensive' schools of immense size, some accommodating as many as 2,000 children. Whatever the educational merits of such establishments, they provide architects with a problem of scale not easily solved. In this case the right answer is probably to eschew the beehive in any shape or form, and instead to break up the structure into small units, as Richard Sheppard has done in his West Bromwich school (page 33), substituting a domestic scale for the overpowering scale of the multi-cellular structure.

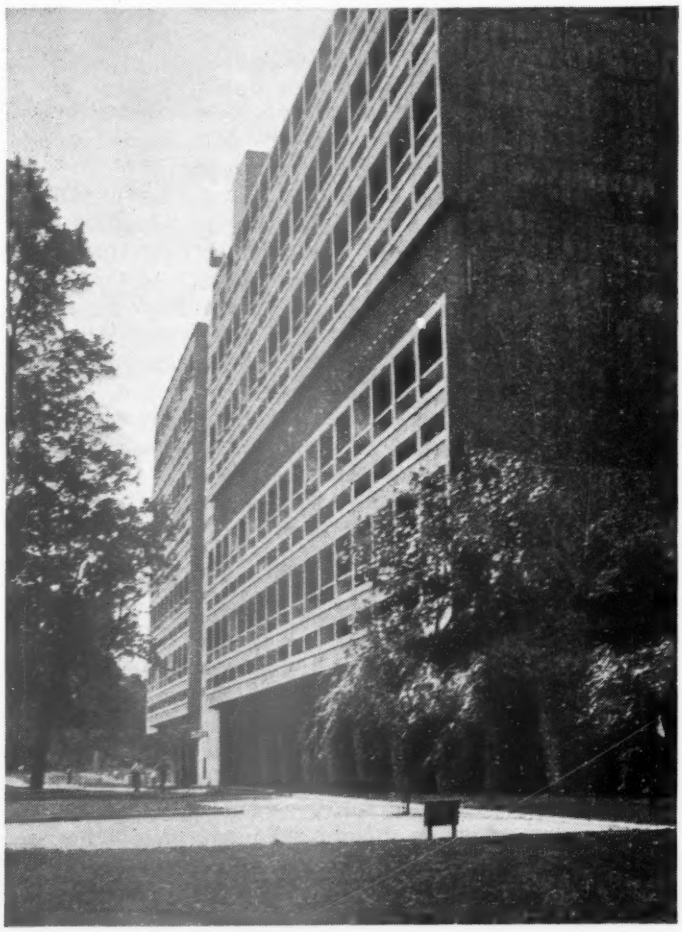
**the larger layout**

Since the war it has been in town-planning rather than in architecture that this country has shown the most consistent advance. On the town-planning scale another project relevant to the problem we are discussing here is Sir Hugh Casson's and Neville Conder's Cambridge University development scheme (page 38). The buildings have not yet been designed in detail but the layout has been conceived in relation to the human scale of the collegiate tradition, the area being broken up, as in the case of the South Bank, into a sequence of partially enclosed courts, allowing its total extent to be suggested by views from one to the other but not to be taken in at a glance. Contrast this with even the best of the executed post-war University buildings, for example the new engineering laboratories at Cambridge, 10. This somewhat overpowering block, though admirable as a building, is industrial rather than collegiate in character, not through the fault of the architects, but because so much accommodation had to be piled on a small site, which was treated in isolation.

Contrast Casson's Cambridge scheme also with another, in this case brand new, university, that in Mexico which was illustrated in the REVIEW in November. In parts of this vast enterprise the tendency for modern methods of planning and construction to produce buildings of inflated size has been allowed to get completely out of hand. The Humanities Buildings, 11, has an unbroken façade 1,000 feet long, reducing the human animal to insignificance, a result sadly out of accord with its purpose. Other of the buildings are not so frightening, and it may be that when the scheme is completed a sympathetic treatment of landscaping and detail will do more than

11, *another contrast with the collegiate tradition: the vast scale of the new university buildings in Mexico*





12, *Le Corbusier's Marseilles flats, human in scale in spite of their great size.*

seems likely at the moment to reduce the overpowering effect of this city of 30,000 students.

It is unwise indeed to judge too soon, as many have found who visited the Le Corbusier *Unité d'Habitation* at Marseilles, 12, with their minds already made up, prepared to condemn it as a monstrous affront to the human individual which regiments his domestic existence into another architectural beehive. They will have found to their surprise that in spite of its size the building's outstanding attribute is its human quality and scale, which the architect has magically achieved without appearing to resort to any of the devices described above for minimizing the undesirable effects of bulk. Its isolated situation—inseparable of course from the planning conception of which it is but a first instalment—reduces to some extent in this case the perils of size, but it remains a triumph only to be explained by the fact that it was designed by a genius; certainly not to be regarded as a precedent or as proof that the problem of the massive building is not so serious after all. If it is allowed to become a precedent it will not be the first time that Le Corbusier's ideas, employed by people without his genius, lead away from, instead of towards, the direction in which architecture as a whole has to go.

**the idiom of the prefab**

The problem of adjusting architectural character to bulk is only one aspect of the problem posed by the industrialization of building technique. Traditional design standards, we have long known, have got to change, and for many years we have been looking out for evidence that a new style of architecture was emerging from our theoretical acceptance of this fact. It is a sign of our uneasy conscience that we have greeted every prefabricated swallow as though summer had finally arrived; for example, the attempt at prefabricating houses launched after the war, a disappointing bird which stayed but a short time with us and for whom England is now but the starting-point for a steady migration to tropical colonial territories.

A more solid and lasting achievement, of which we are rightly proud, is represented by our prefabricated school buildings, an eminently successful venture in the application of rational means to ends which architects and educators have had the initiative to think out afresh. Such schools as those of the Hertfordshire County Council have been justly praised, and it is encouraging how, year by year, the idea and the technique have spread from county to county, while the architectural quality of the pioneer specimens has been admirably maintained. Yet the question still needs to be asked (and it is no disparagement to these school buildings, which their authors would hardly claim are more than experimental, to ask it): to what extent have they introduced us to a new machine-age architecture? Or have they done no more than clear the decks so that the battle for a new architecture can take place unimpeded by the debris of previous struggles?

Many of the virtues which we admire in these schools, and which are being assiduously fostered by the architects of the Ministry of Education, authors of two experimental school buildings illustrated on pages 25 and 27, are by no means

*The Hertfordshire schools are the best English example of an architectural idiom that emerges from the industrialization of technique.* 13, *a school at Welwyn, also shows their careful adaptation to the particular site conditions.*

peculiar to their *kind* of architecture: for example the sympathetic exploitation of the potentialities of the site in the case of the best of the Hertfordshire schools, 13, the imaginative use of colour in the case of these and the recent LCC schools, and so on. On the other hand, they possess certain qualities that unmistakably belong to our own day and no other: their lightness of structure and flexible use of space; the consistent scale (in spite of the absence of conventional architectural features) that they derive from modular planning and design. The question is: where do we go from there? There are plenty more technical avenues that can usefully be explored, involving new materials and types of structure and all offering practical and economic advantages. But this only widens the horizon without necessarily marking a path in a definite direction.

However, we must not criticize any absence of quality and warmth that we may discern in these school buildings as though they represented a final architectural statement. Their range of expression is restricted by the circumstance that inspired them: the need to build quickly and cheaply. Although architectural vitality often emerges from an insistence on the utmost economy of means, neither speed of construction nor cheapness are themselves architectural attributes, and we are suffering just now from so great an emphasis on saving cost that the architect's imagination is altogether inhibited by it. To strive after quality (whether residing in lavishness of conception or standards of finish) is often regarded with suspicion, the result of which is a series of temporary economic triumphs, but an architecture that may be looked at rather differently by posterity.

**architecture and engineering**

The architectural achievements of buildings like the new schools do not lie in their economy but in the fact that they have discarded some of the prejudices that prevented a positively conceived modern architecture from developing; not only prejudices in favour of certain effects of mass and weight and symmetry and formality; more significantly, prejudices concerned with the personal role of the architect. Their special achievement is that they have reached the point they

have done by architects taking the industry into partnership, and it is evident that the cure for the aridity of style that is still complained of in modern design, the means of amplifying its limited range of expression, is not that architects should be given more freedom (or more money) to hang on to the framework that has been created a more generous selection of their idiosyncratic stock-in-trade of architectural effects, but that a policy based on the largely negative requirements of economics should be transformed into a positive policy by completely integrating the efforts of architect, builder and engineer. Only thus can the dynamism of new techniques become the mainspring of a movement that both affirms architecture's mastery over the machine and evokes a human response from the effective exploitation of it, such as other departments of design—for example, the aircraft industry—have effectively done already.

**looking towards the future**

I have suggested three objectives that the contemporary architect, concerned with the progress of his art, might usefully set himself: the re-establishment of a human scale either in the building itself or in the foreground setting to which the building becomes a foil; the reintegration of design and technique and, as a concomitant to the latter, the reintegration of the work of the architect and the engineer. But they are only suggestions, and, even if the priority I have given these objectives is accepted, the direction architecture takes in attempting to achieve them can as yet be only a matter of speculation, for we are still at a transitional stage where we must ask questions rather than try to answer them. Looking ahead, as do the following pages of this issue, at the designs architects are now working on, what further questions are prompted by the buildings depicted on them?

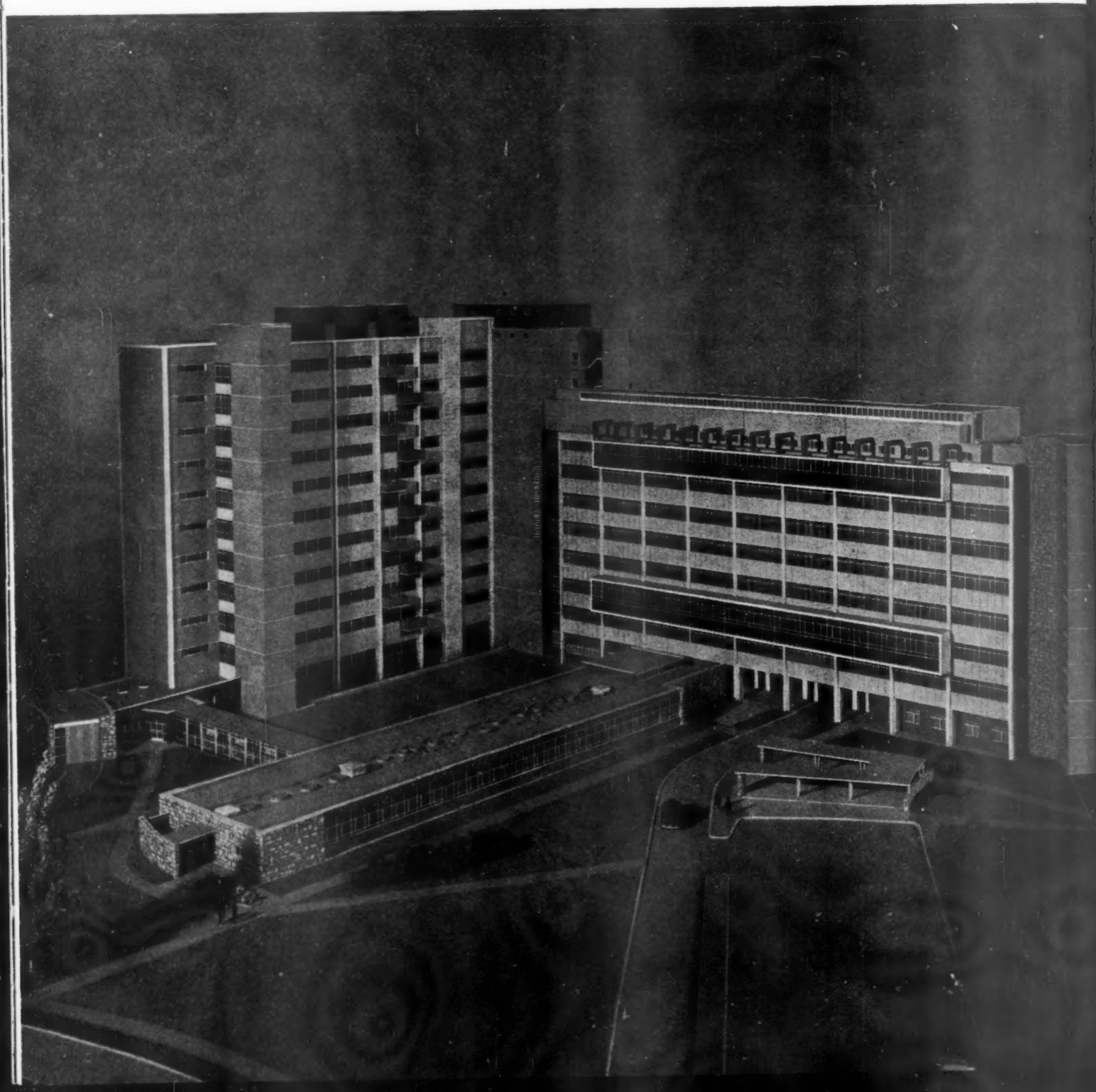
Here are a few. Are we at last beginning to see, in the designs produced by the Ministry of Works under its new chief architect, Eric Bedford, an unassuming workmanlike style of official architecture for purposes like post offices and telephone exchanges that makes no attempt to borrow pompous plumes from the past, nor feels it necessary to give the everyday activities that take place inside them a false air of Georgian gentility? If so, the Ministry's influence on official and municipal architecture elsewhere will be as beneficial as the influence of the London County Council suddenly became after Robert Matthew took charge of it some years ago. The results of the revolution he effected, which transformed the dreary conservatism of LCC architecture into the liveliness we know today, is well represented by the Roehampton housing scheme shown on the following pages. Under today's leadership public housing is on the whole in better hands than it has ever been before. But now private speculative housing is coming back. Will it take up again the life of crime against human dignity, architecture and the landscape which it used to follow until the war brought its ugly activities to a stop? Or, as G. A. Jellicoe's Guildford scheme (page 63) leads one to hope, has there grown up a new race of more responsible speculators, to whom architectural taste is something other than an eyecatcher, to be vulgarized as necessary by the requirements of effective salesmanship?

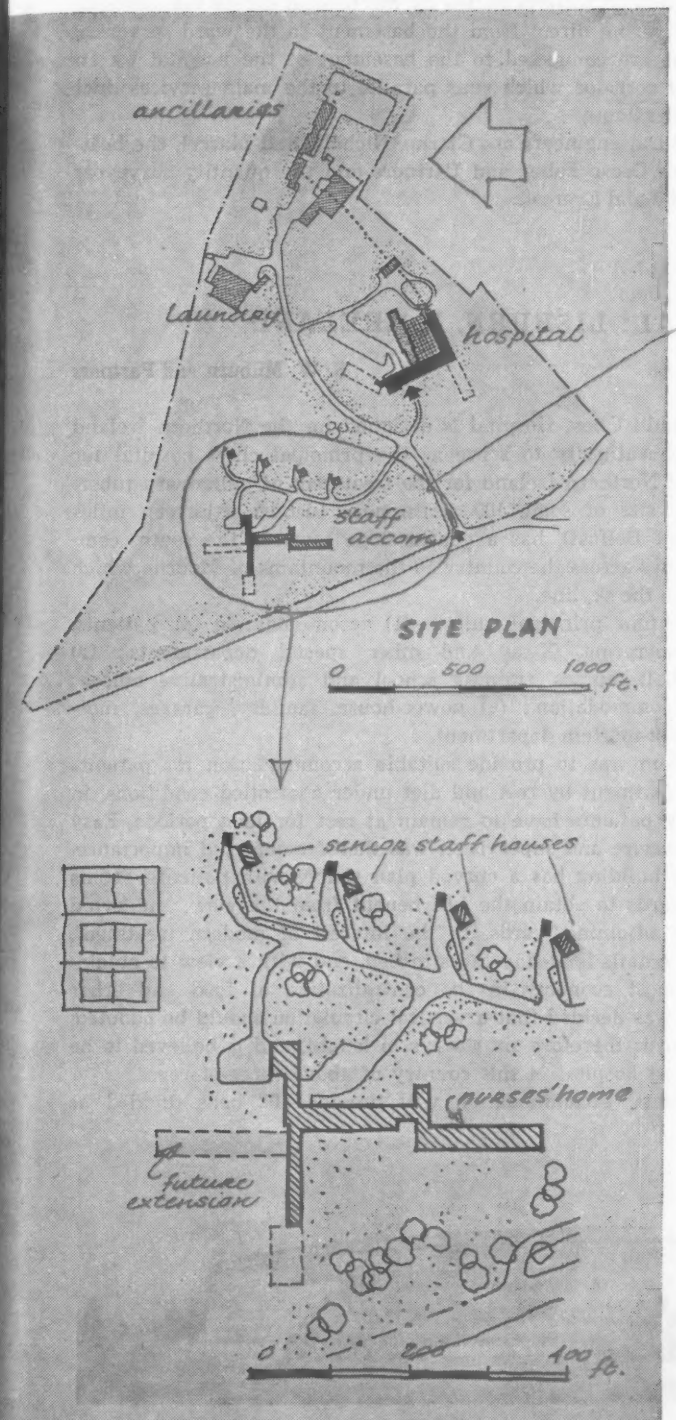
Any number of other questions arise. Does not the very large building (for example, the new London Airport or the BBC Television Centre—pages 20 and 41) require to be different in *conception* from the normal-size building done big? Is that last citadel of industrial conservatism, the mining industry, learning at last, if only in Scotland, that the role of the architect is not to add to whatever the engineer has provided only when some sort of public show has to be made, but an essential technician able to introduce efficiency as well as dignity into an important public enterprise, as Egon Riss's work for the Scottish Coal Board (page 75) seems at last to indicate?—here, it seems, the pioneer work done many years ago by the architects of the Miner's Welfare Commission may at last be bearing fruit—and are architecture and engineering at last setting up in productive partnership in the modern power station, such as those of Farmer and Dark, which suggest that this class of building may at last be stepping forward out of the barbaric age of the brick cathedral.

Finally, is it yet possible, in the present stage of the development of modern architecture in this country, to build a satisfactory place of worship (page 65)? This is a class of building that must please the mind by the associations its architecture arouses and the atmosphere it creates as much as the eye by strictly æsthetic means. That question is not a bad one to conclude with, because it leads to deeper problems which modern architecture has hardly yet begun to tackle, though in saying this allowance must be made for the difficult conditions, economic and otherwise, in which the post-war architect has had to operate. The problem is how he can satisfy not only practical human requirements but the human need for buildings to provide an outlet for the shared emotion and the sense of symbolism; how to achieve, if it is not now an out-dated conception, the lasting monument. As it is now, modern architecture can make interesting private conversation but not public speeches. We know that it is not enough to substitute for the latter reminiscences of the set pieces—largely abstracted from the classics—that we learnt at school, yet attempts to achieve the monumental in architecture still, as often as not, take the form of attempts to revive the language in which these set pieces were written. Are they being too bold at Coventry—or in their use of space and their employment of new techniques are they not being bold enough—as they strive to substitute for the outward fancies and conceits of the old oratorical styles a live language capable of arousing people's emotions afresh because it rings true in their ears? The task is not an easy one, for the world has almost forgotten, and can only re-learn from the example of modern buildings themselves, the range of vital ideas and emotions that it is part of architecture's historic function to convey.

# 1 SCIENTIFIC AND MEDICAL

*Londonderry hospital from the north-east. The ward wing is on the left and the treatment wing on the right.*






layout of STAFF ACCOMODATION (circled above)

## HOSPITAL: LONDONDERRY

**Yorke, Rosenberg and Mardall**

This is a general hospital of 300 beds and comprises two wings, the ward wing of 11 storeys, and the treatment wing of 8 storeys. In the grounds of the hospital, which are extensive, are situated a laundry to serve several other hospitals, and a boiler-house, kitchens, mortuary, garages, stores and workshops. There is also a nurses' home for 220 nursing staff and four houses for doctors or other senior staff.

The ward wing faces S.S.E. with all the ward ancillaries at the back. The treatment wing is at right angles to this and has east-west lighting with rooms on either side of a central corridor. The main entrance is primarily for visitors. The circulation has been planned to segregate visitors from hospital staff and patients. The ground floor of the treatment wing includes the main entrance hall, a crèche for visitors' and out-patients' children, and an out-patients' entrance leading to the out-patients' waiting hall and department.

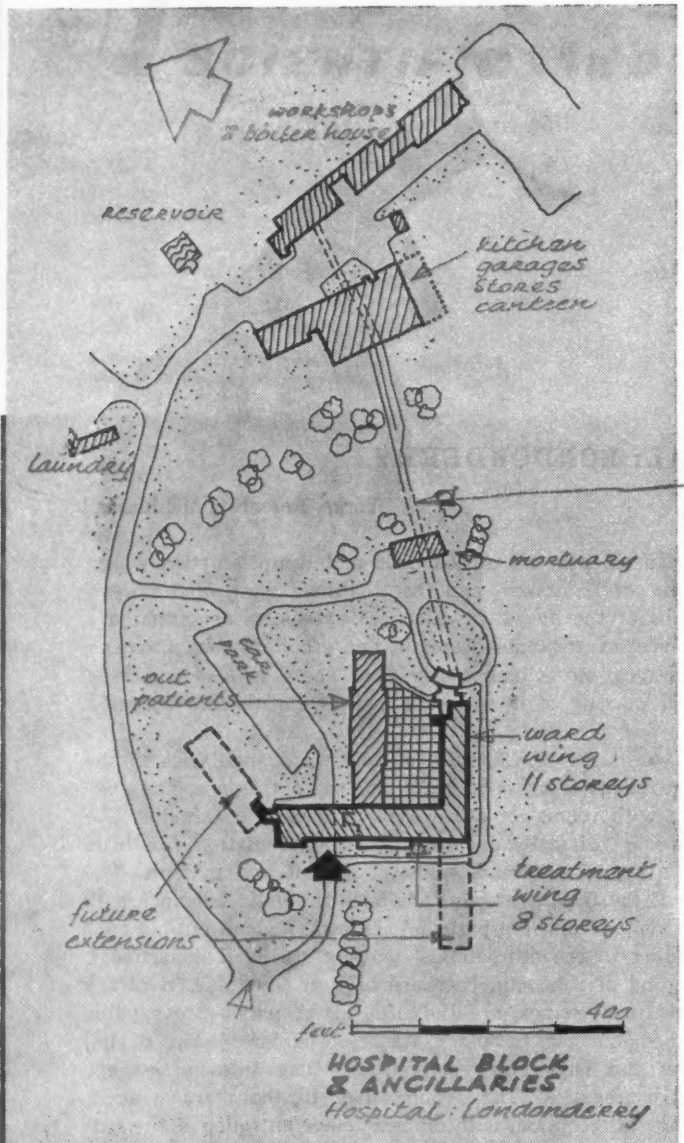
At the far end of the main entrance hall, at the junction of the ward and treatment wings, are the lifts, all of which are capable of taking a bed, but two of which are reserved for visitors during visiting hours and have entry arranged on two sides to achieve the required segregation. The ground floor of the ward wing is devoted mainly to reception, with an ambulance entrance at the east end.

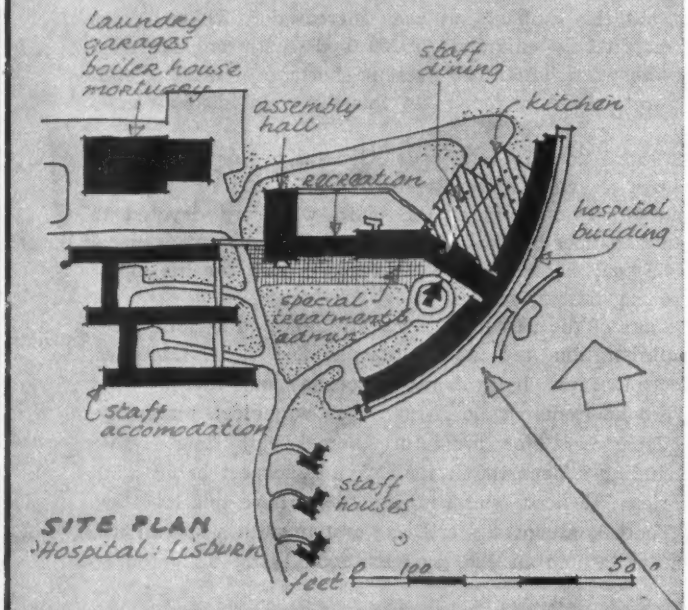
The ward wing is planned on ten upper floors, each of which contains a nursing unit. Under ideal circumstances this would comprise 25 beds, but this number has been increased to 30 until such time as the hospital is enlarged to 500 beds with an extension westwards of the ward wing. The present shortage of nursing staff and economy were deciding factors in this far from ideal arrangement.

The largest ward contains six beds. Generally four bed wards have been aimed at, with sufficient single bed wards to meet the needs of isolation. Two floors of the ward wing are devoted to maternity and one floor to pædiatrics. The remainder are general medical and surgical wards. On the roof are situated the lift motor rooms, plant rooms and tank houses.

The upper floors of the treatment wing are allocated as follows:—1st floor, administration and staff canteens; 2nd floor, therapies, including electrotherapy, hydrotherapy, occupational therapy and gymnasium; 3rd floor, diagnostic X-ray; 4th floor, clean maternity, including a department for premature babies; 5th floor, septic maternity, including a department for sick and suspect babies; 6th floor, laboratories; 7th floor, operating theatres. Above this level are plant rooms. There is a central sterilizing system with a special lift.

The kitchen is located in the grounds, food being delivered to




wards by insulated trolleys pulled by mechanical horses via a special food lift delivering direct from the basement to the ward serveries. The kitchens are connected to the basement of the hospital by an underground corridor which runs parallel to the main services duct from the boiler house.

The structural engineers are Clarke, Nicholls and Marcel, the heating engineers Oscar Faber and Partners and the quantity surveyors Davis, Belfield and Everest.

## HOSPITAL: LISBURN, N. IRELAND

**S. W. Milburn and Partners**

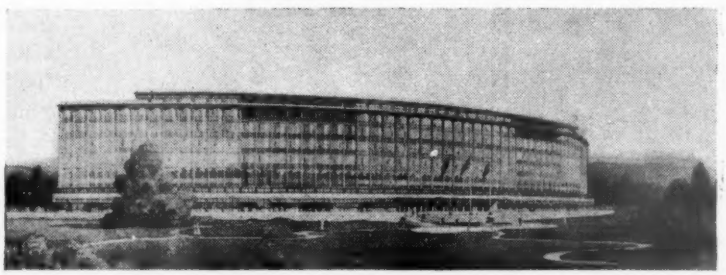
The Brookhill Chest Hospital is designed for the Northern Ireland Tuberculosis Authority to serve as the principal chest hospital for the whole of Northern Ireland for the treatment of pulmonary tuberculosis. The site of some 100 acres, near Lisburn (thirteen miles south-west of Belfast), has a gentle slope towards the south, commanding views across the country to the mountains of Mourne which are visible on the skyline.

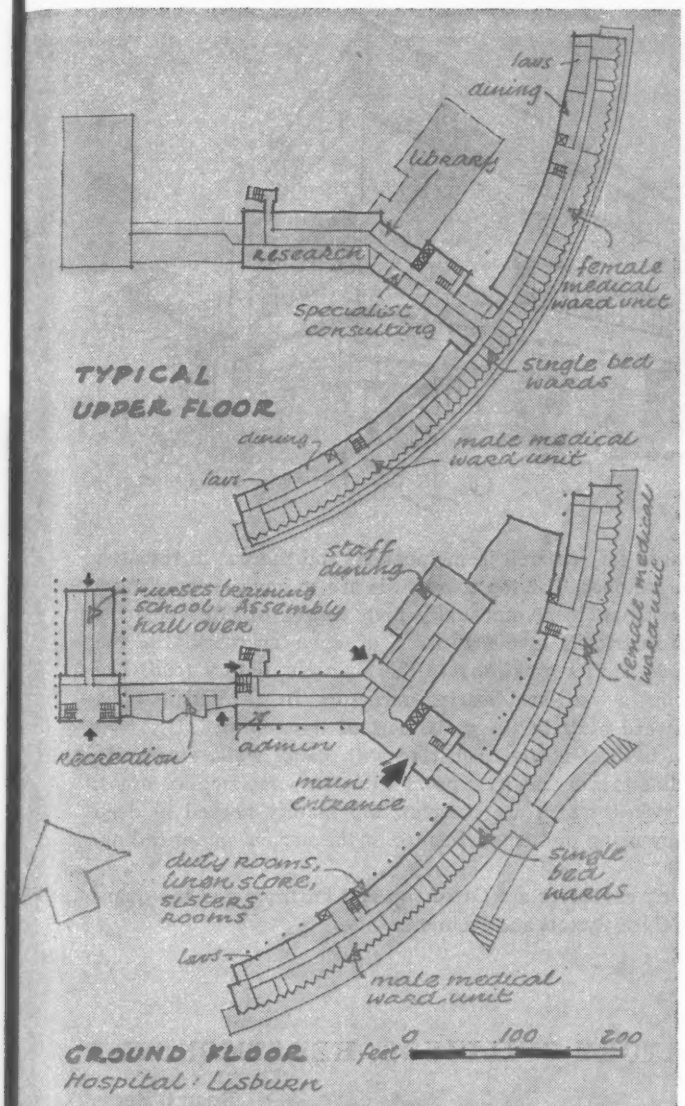
There are four principal units:—(1) accommodation for patients, including operating, X-ray and other special departments; (2) recreation hall, nurses' training school and administrative offices; (3) staff accommodation; (4) power-house, laundry, garages, mortuary and post-mortem department.

The problem was to provide suitable accommodation for patients to receive treatment by rest and diet under controlled conditions, in which many patients have to remain at rest for long periods. Easy and quick service and supervision was therefore of vital importance.

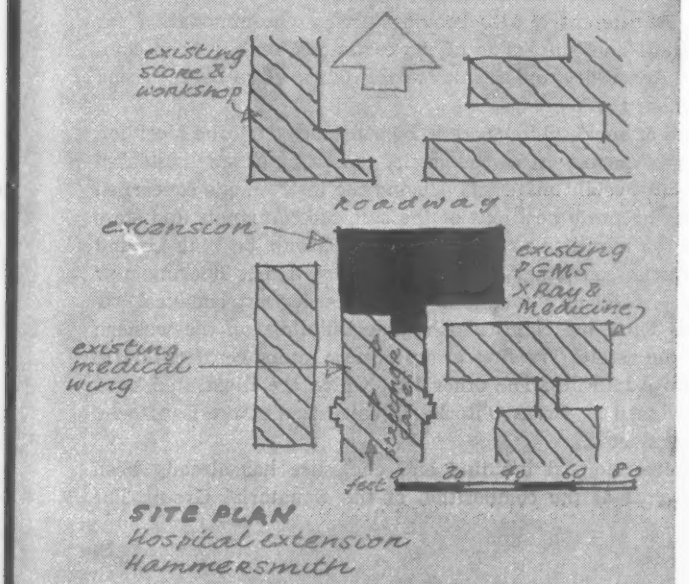
The main building has a curved plan shape, with patients' rooms facing outwards to obtain the full benefit from the view, and avoid overlooking adjoining wards. In the interest of modern treatment, which now entails long-stay cases in bed, and with a view to obtaining the utmost economy in the centralization of food and other supplies, it was decided that a vertical circulation should be adopted. The building is therefore six storeys in height, and is believed to be the first chest hospital in this country of above three storeys.

The patients' accommodation will provide 502 beds divided as






Hospital: Lisburn




SITE PLAN
Hospital extension
Hammersmith

follows: male TB medical, 200 beds; female TB medical, 200 beds; male TB surgical, 24 beds; female TB surgical, 24 beds; male and female non-TB surgical, 20 beds; research unit, 22 beds; staff sick, 12 beds.

Each main floor is divided into two ward units of 40 beds each, one for male and the other for female patients. At the central entrance to each unit clinical rooms and treatment suites are situated for dealing with daily examinations and treatments. The kitchen department on the lower ground floor is designed for a central trolley service, to distribute food along a subway to lifts centrally placed, delivering into the ward kitchen of each ward unit. On all floors are staff and visitors' changing and gown rooms.

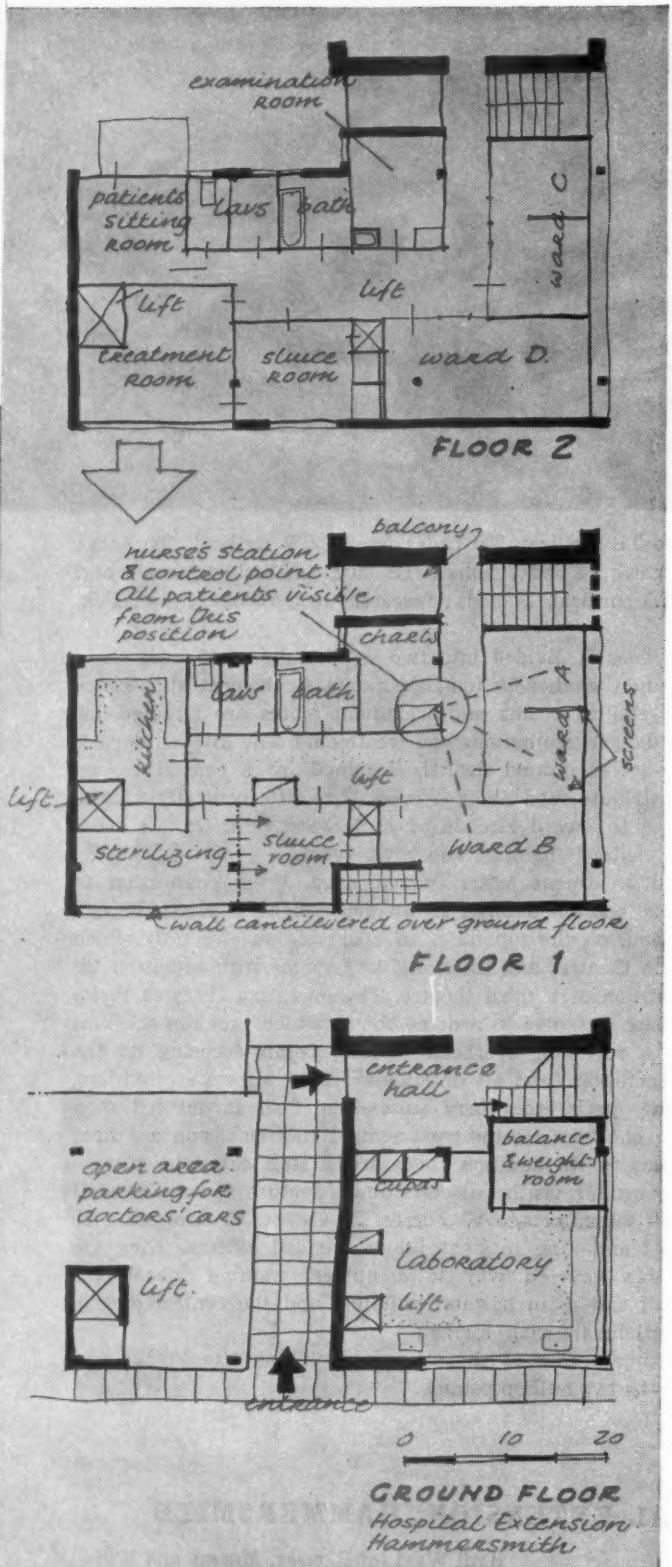
The special treatment suites, which have direct connection to all ward units, contain a large X-ray department, a physiotherapy department, and, on the top floor, an operating theatre unit which comprises twin theatres and their ancillary rooms with provision for a future extension of a third theatre. The operating theatres themselves have been designed in a dome shape, which provides the best facilities for a series of overhead lighting points focusing on the seat of the operation from all directions. In the six-storey building, containing the special treatment suites, one floor is devoted to a research unit, one floor for the treatment of staff sick, and one floor for the dispensary. In addition there are a staff cafeteria, private consulting rooms for visiting doctors and a lecture room. The staff buildings will accommodate 90 nurses, 25 sisters, 60 domestics, 25 male orderlies and nine resident junior medical officers. They are connected by a covered way to a nurses' training school, the recreation hall and main hospital building, and the central dining-room which adjoins the main kitchen.

The approximate cost of the scheme, including site layout and drainage, will be two million pounds.

## HOSPITAL EXTENSION: HAMMERSMITH

**Basil Ward (of Ramsey, Murray and White)**

The building, now under construction, is for a Metabolic Unit at Hammersmith Hospital, Ducane Road, for the Board of Governors of the Hammersmith, West London and St. Mark's Hospitals. It is to be used by the Postgraduate Medical School of the University of London. It is a self-contained unit comprising four special hospital wards, two on each of separate floors, and a laboratory on the ground floor. The wards have normal auxiliary rooms as well as those par-




ticularly required for research in metabolism and the use in research of radio-active isotopes. The top two wards are to have air-conditioning and refrigeration to an unusually high degree of efficiency.

The site is restricted owing to lack of open space within the hospital grounds and its proximity to the main circulatory road. The building adjoins a wall-load-bearing structure in the shape of a pavilion-type ward built in the early part of the century.

Construction is in reinforced concrete with panel walls externally in Uxbridge flint bricks and frost-proof tiling in some smaller areas. The utility services, which are complex, are mainly housed in deep ducts formed by using up-turned, instead of the normal under-ceiling, beams.

The consulting engineers are Ove Arup and Partners and the quantity surveyors Cyril Sweett and Partners.

## OBSERVATORY BUILDINGS: HERSTMONCEUX

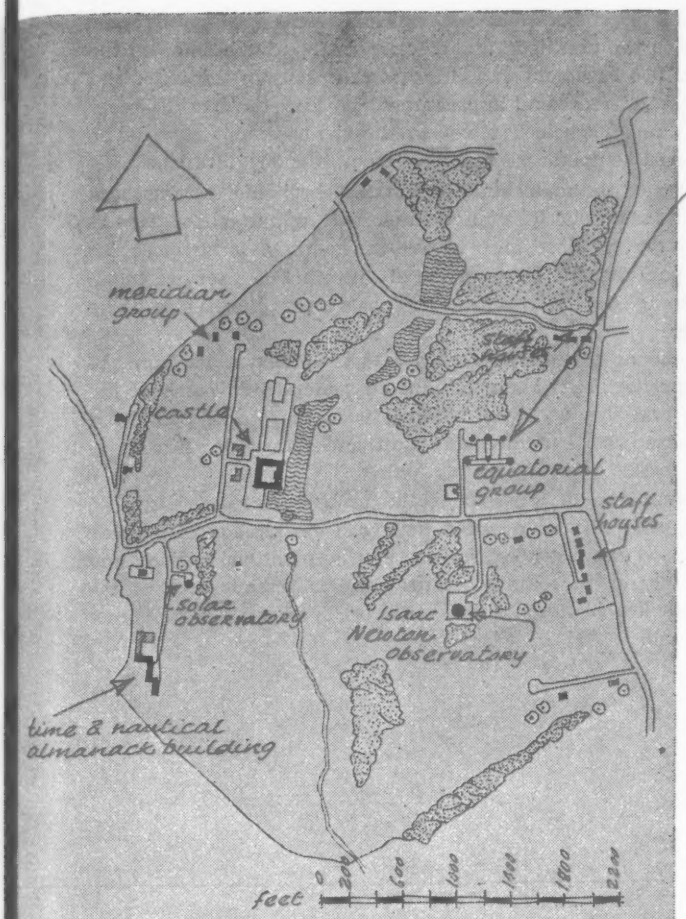
**Brian O'Rorke**

The transfer of the Observatory from Greenwich was made necessary by the interference with observations caused by industrial haze and glare in the night sky, and Herstmonceux was selected from many alternative sites as giving the best conditions.

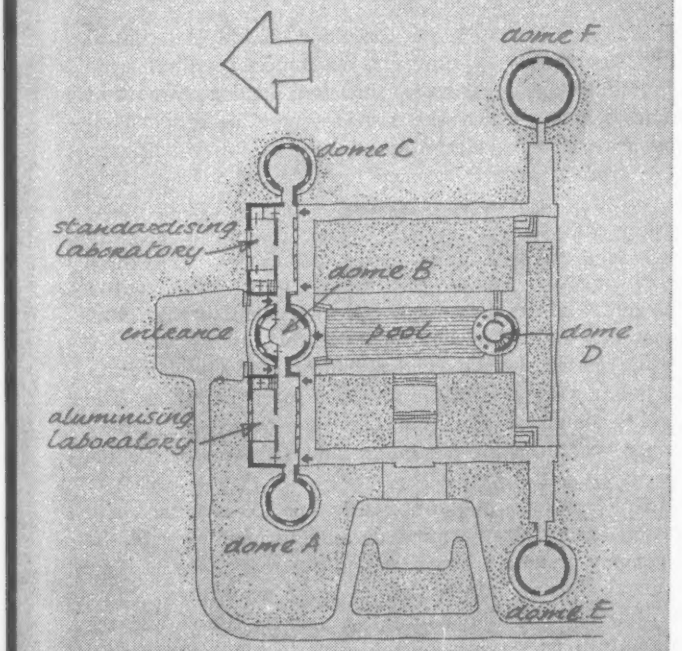
The old Herstmonceux Castle is being used for administrative staff, as a residence for the Astronomer Royal, and to house the Library and canteen. At present it also provides living accommodation for some of the staff. The conversion of the castle has already been completed by the Admiralty and repairs to the fabric have been carried out by the Ministry of Works.

Three groups of new buildings are to be constructed: 1, the Meridian Group, on a site north-west of the castle, consisting of small isolated structures of lightweight materials housing the instruments concerned in determining accurate positions of the sun, moon, planets and stars as they cross the meridian; 2, the Equatorial Group, on high ground east of the castle, consisting of six observatory domes housing new and existing equatorially mounted telescopes for astronomical research; 3, the Time and Nautical Almanac Building, on the western boundary of the estate. The first group is now under construction to designs by the Admiralty. The other two, which are illustrated here, have been designed by Brian O'Rorke. Construction of the Equatorial Group has just started.

A small meteorological building and enclosure has already been completed as part of the composition of the Equatorial Group. The




SITE PLAN




BLOCK PLAN Equatorial Group 0 20 100 feet

Solar Dome already completed on the site to Admiralty design does not form part of the group. At some future date it is proposed to build a very much larger dome to house the new 98-inch Isaac Newton telescope, the mirror for which (a gift from the U.S.A.) has now been finished. This will be sited some way south of the Equatorial Group.

*Equatorial Group.* The relative positioning of the domes is governed to some extent by observational requirements, and the three northernmost domes for the reflector instruments have to be connected to

*The Equatorial Group. At foot of page, the Time and Nautical Almanac office building from the south west.*

allow for resilvering or aluminizing of mirrors. The buildings between the domes contain the equipment for these processes together with dark rooms, laboratories, an observers' room and storage.

The buildings have been designed to have a low heat capacity to stop heat building up during the day, which would be given off at night and disturb observations, and for this reason also the buildings are unheated except for a minimum of electric heaters to keep them aired and dry.

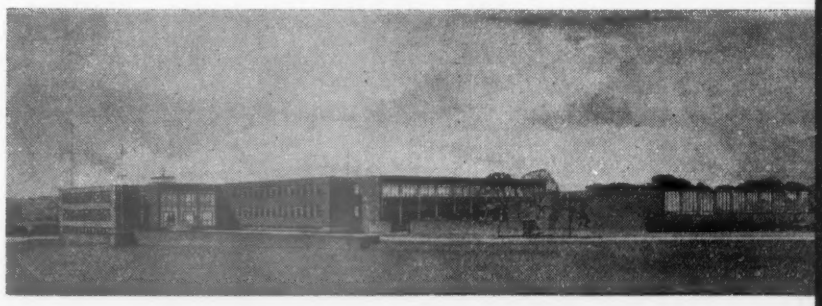
The telescopes are mounted on foundations independent of the buildings. The fixed drums to the lower part of the domes are designed in lightweight steelwork covered with boarding and copper sheet, again to reduce heat storage capacity and condensation. The revolving domes themselves are also of light steelwork covered with insulating board and copper sheet. The domes will be turned electrically and shutters will open and close by means of small power-operated rams.

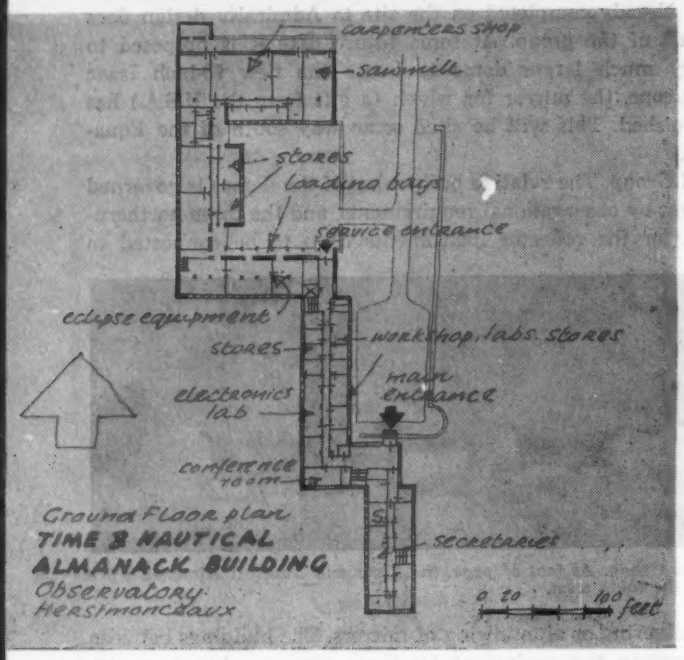
In order to enclose and connect the six domes and buildings, a raised garden is being formed on top of the hill and levels arranged so that there is a 7 ft. drop on the outside of the wall. It is being simply laid out with paving, steps, grass and a central pool.

*Time and Nautical Almanac Office Building.* This runs north and south, to avoid interference with observations from the new Solar Dome already built by the Admiralty. Its siting has also been influenced by the proposed position, to the south, of wireless masts for the reception of time signals.

The main entrance to the building divides the Time Department from the Nautical Almanac Office, the latter occupying the south wing. This provides offices for senior and computing staff, library, etc., and advantage has been taken of the fall in the ground to provide a lower ground floor with rooms for the rather noisy calculating machines with the necessary offices and card storage.

The block housing the Time Department runs northwards from the





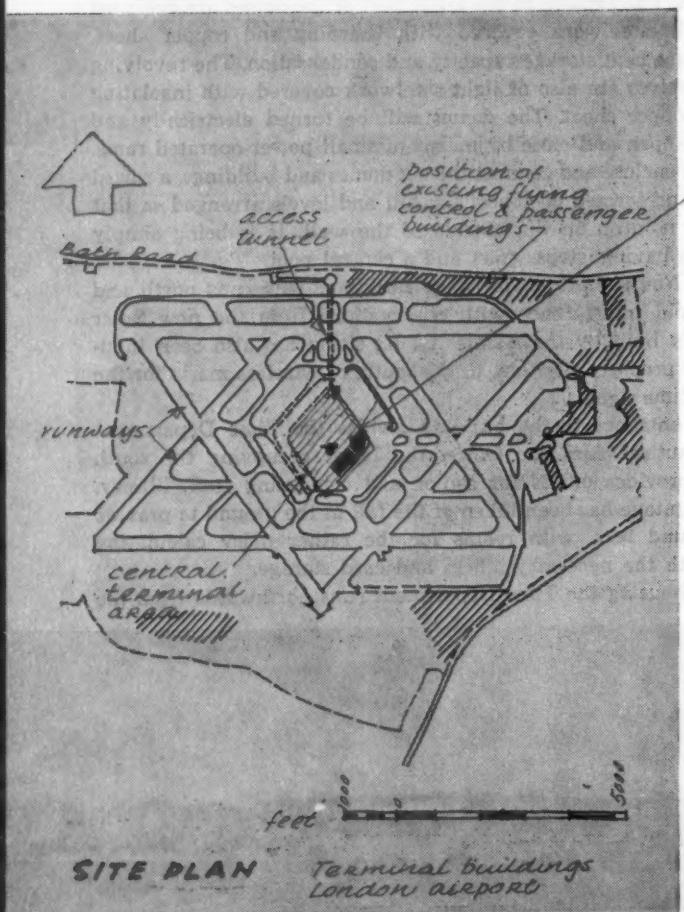

entrance hall and provides offices, computing rooms and photographic departments on the first floor, and electronic laboratories, etc., on the ground floor. The basement and sub-basement contain the clock and control rooms and recording apparatus which give the world Greenwich Mean Time. The clock rooms in the sub-basement have to be kept at an even temperature and free from outside vibrations.

A third wing of the main building has the chronometer workshops on the first floor, storage for equipment for fitting out eclipse expeditions on the ground floor and, in the basement, a large store for observatory publications. To the north of this block is a service courtyard with storage on the west and the observatory workshops along the north side.

In order to avoid smoke interference with the observations from the solar telescope the boiler-house is situated some 400 ft. north of the main group, and this will be combined with the works pound for the buildings and estate maintenance staff, and garages for Admiralty vehicles.

On the completion of the scheme the present temporary huts in front of the castle will disappear. A new road has already been made across the estate and a general scheme of tree planting, hedging and fencing is in hand, in some cases designed to screen some of the buildings with low planting, which will also minimize heat shimmer from the ground.

# 2 LONDON AIRPORT




## TERMINAL BUILDINGS: LONDON AIRPORT

**Frederick Gibberd**

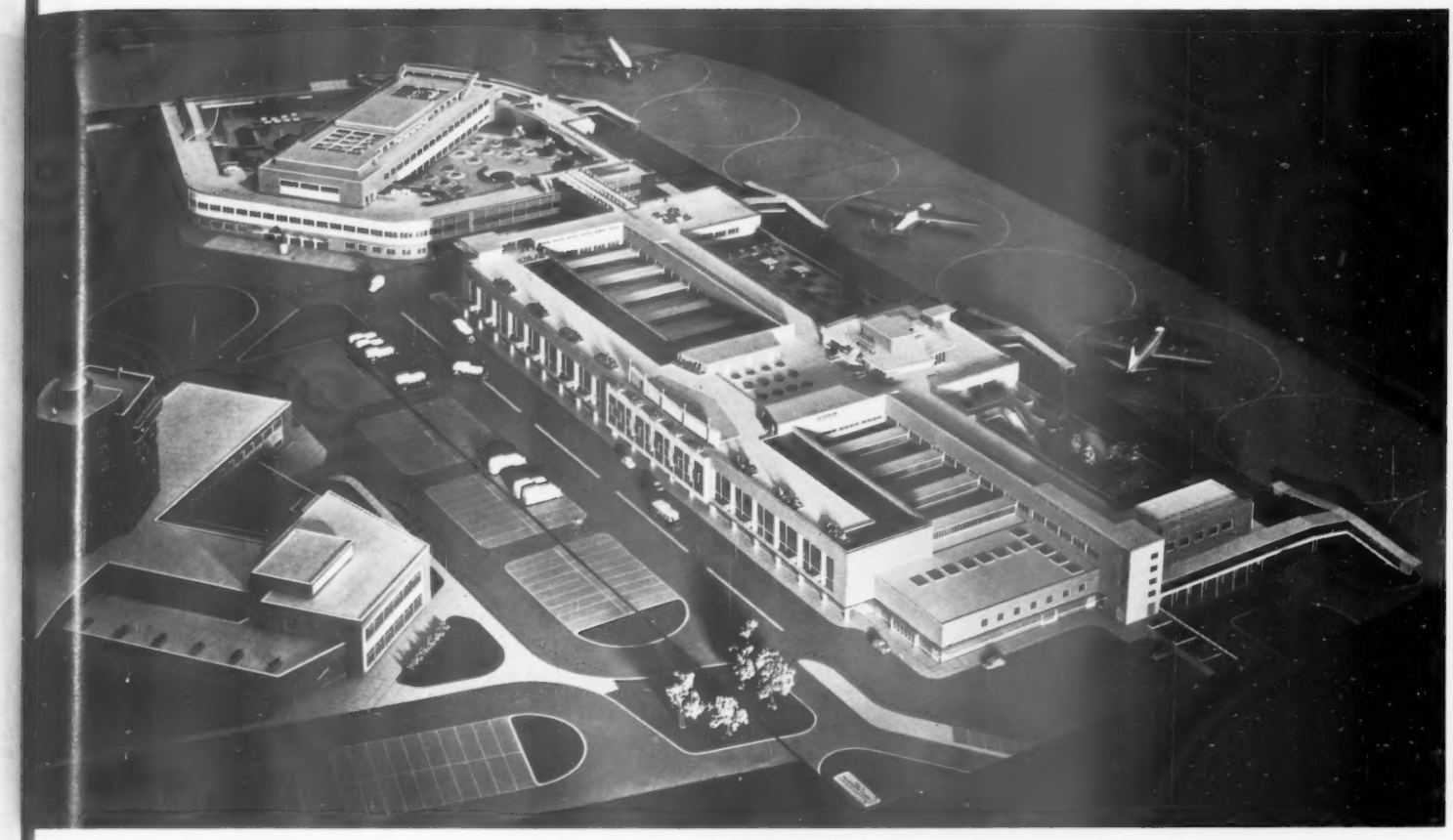
The three buildings illustrated are contained within the central diamond, totally surrounded by runways, which has been set aside for the terminal buildings of the reconstructed London Airport at Heathrow, Middlesex, to which the services now using Northolt Airport nearby are to be transferred as soon as the new buildings are ready. The terminal area is reached by a tunnel 2,000 ft. long and 86 ft. wide, containing two 20-ft. carriageways, two cycle tracks and two pedestrian paths.

The area reserved for buildings covers 158 acres. The three buildings on which work has already begun consist of a control building in the centre of the diamond, a passenger-handling building on its south-east side and a building on its eastern apex containing operational rooms, crews' quarters and restaurants and viewing terraces for the public. There is room for four more buildings. The next on the programme is a second passenger-handling building (for long-distance traffic) on the north-east side. Others will provide for the handling of freight.

*The Control Building* faces the entrance to the access tunnel, and the upper portion of its tower commands an all-round view of the dual parallel runway system, approaches and outer taxi-way.

The tower stands at the intersection of three two-storey wings, containing respectively a staff restaurant, a medical centre and the main telecommunications services of the airport. Air-traffic control services occupy the upper floors of the tower (which is 122 ft. 6 in. high) and a glazed penthouse on the roof. A central service core rising to the full height contains lifts, ventilation trunking and pneumatic and cable ducts. Below the Aerodrome Control Room at the top is the Approach Control Room, 15 ft. high to accommodate

[*continued on page* 23



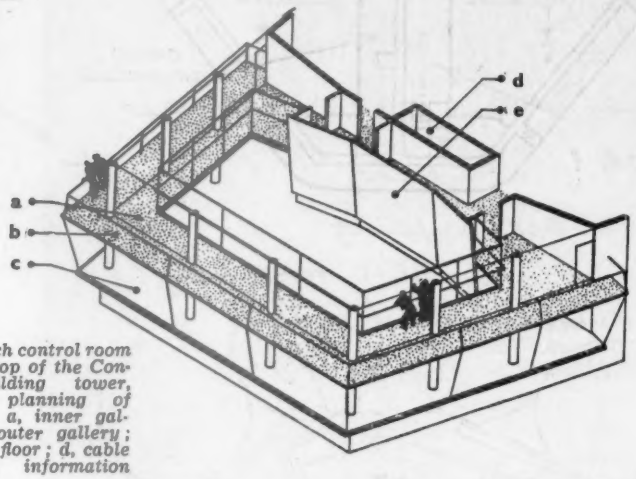
*Above, the three terminal buildings now under construction at London Airport. On the right is the passenger-handling building seen from the entrance side. Below, the control building from the south-east, with its tower and observation balconies. The wing on the left houses staff restaurants.*

## 2. LONDON AIRPORT

*Right, the eastern apex building (containing crews' and operating accommodation and facilities for the general public) with the passenger-handling building beyond it. The roofs of both buildings are laid out as gardens and viewing terraces and are connected by bridges. Below, the passenger-handling building from the aircraft stands, showing the ramps that terminate the ten passenger channels.*

*continued from page 201*

a control information panel against the back wall. At mezzanine level is a gallery looking down on the control panel and extended outside the building to form a balcony overlooking the airport. Below the Approach Control Room is the Ground Movement Control Room, from which all aircraft and motor vehicles on the movement area will be controlled. Control room windows are sloped to avoid reflections.

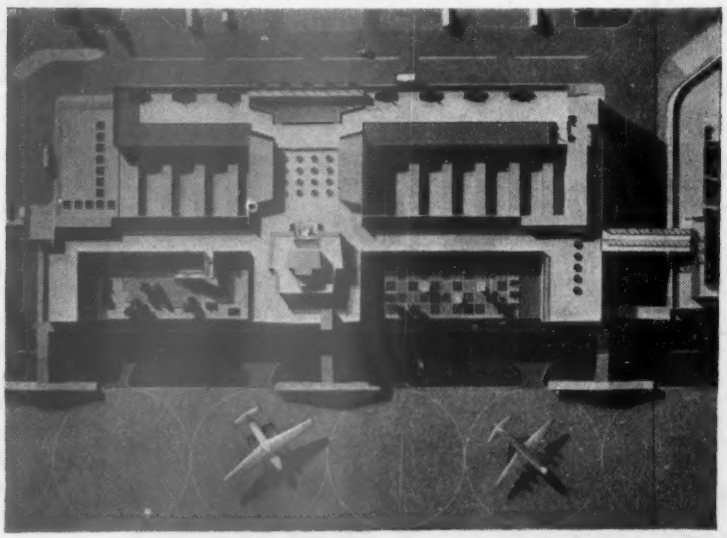


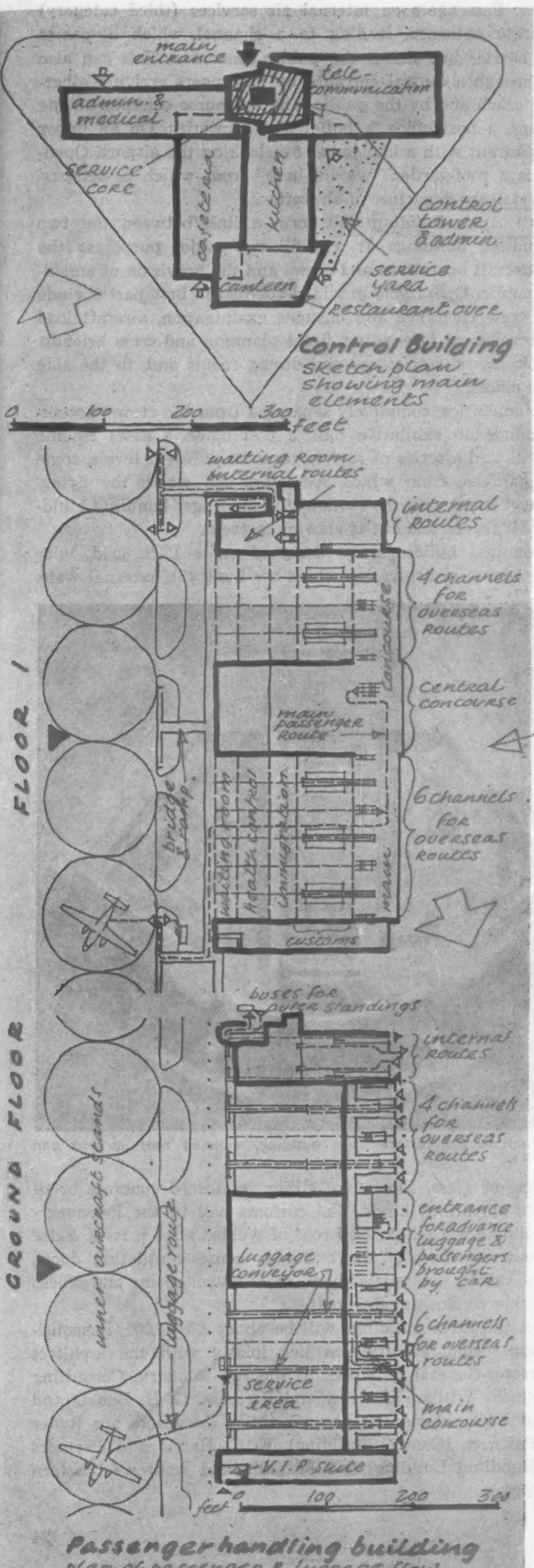

*Approach control room near the top of the Control Building tower, showing planning of balconies. a, inner gallery; b, outer gallery; c, control floor; d, cable duct; e, information panel.*

*The Passenger-Handling Building* has separate circulation systems for three categories of passenger: those travelling overseas and subject to clearance through customs, health and immigration formalities; those only using the airport in transit, who do not officially enter this country and therefore do not need to pass through customs, etc.; and those using internal airlines, to whom the same applies. The first category is provided for by ten separate channels running across the building at first floor level, along which parties of passengers travel, passing successively through a public concourse (reached by escalator from the coach delivery points), customs, immigration, health and waiting rooms, emerging down covered ramps to the aircraft stands. Their baggage is carried along a conveyor belt on the floor below, rising to meet them in the customs hall and descending again to be carried direct to the aircraft. For incoming traffic the process is reversed, and the ten channels will be able to cope with 1,200 passengers an hour in both directions.

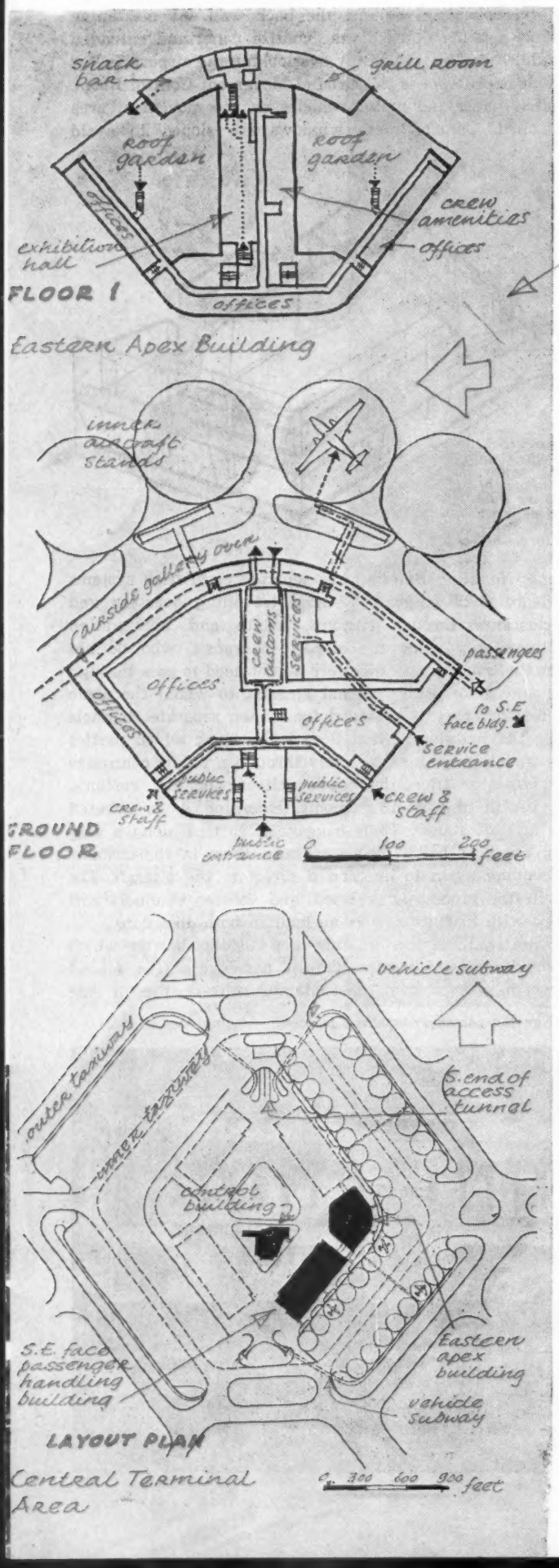
Stretching the length of the building is a customs barrier which the general public may not pass. Transit passengers (the second category above) have their own self-contained suite on the air side

*Looking down on the passenger-handling building, showing roof terraces.*






**Passenger handling building**
plan of passenger & luggage flow.

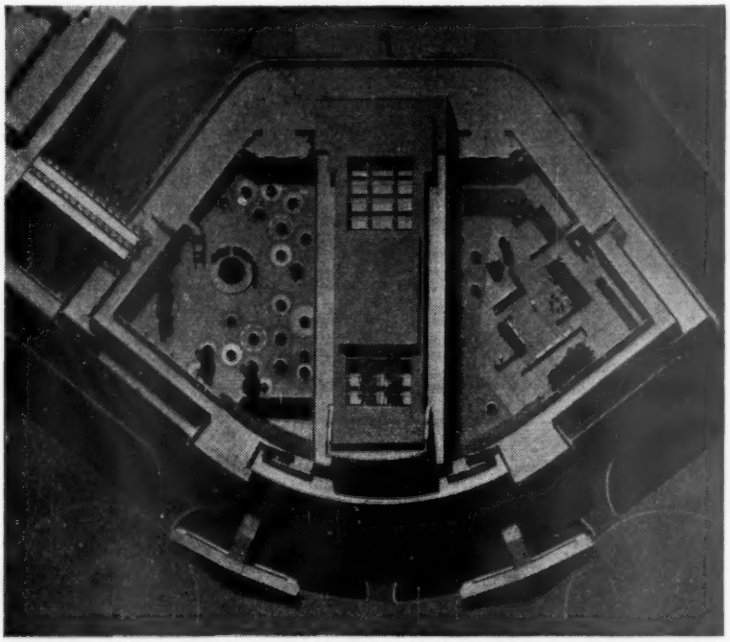



of the barrier. Passengers on internal air services (third category) have a separate entrance, leading to a channel which by-passes the customs barrier but shares the public concourse. This can also be reached through a central entrance by passengers arriving otherwise than by coach and by the public. The concourse contains airline counters, shops, a post office, a buffet and lavatories. On an upper level is a restaurant with a lounge-bar overlooking the airport. Opening off this is a roof-garden 'waving-base' from which passengers' friends can watch the departure of aircraft.

*The Eastern Apex Building* will form a link between the two passenger-handling buildings. It will fill two major purposes: the handling of aircraft operations and crews and the provision of amenities for the public. Operations provided for in the first part include aircraft and crew clearance and customs examination, aircraft load control, meteorological forecasting, flight planning and crew briefing. There are also crews' rest rooms and dining rooms and, in the side wings, airline offices.

The public amenities, completely separated from the crews' accommodation, include an exhibition hall, a post office, a news cinema and restaurants and a series of roof terraces on different levels, some laid out as gardens, from which spectators can watch the flying. Bridges connect these with the roofs of the passenger-handling buildings, which will also be laid out as viewing terraces.

All the terminal buildings are designed on a 12-ft. grid, with a steel-framed main structure, on which are hung the external walls

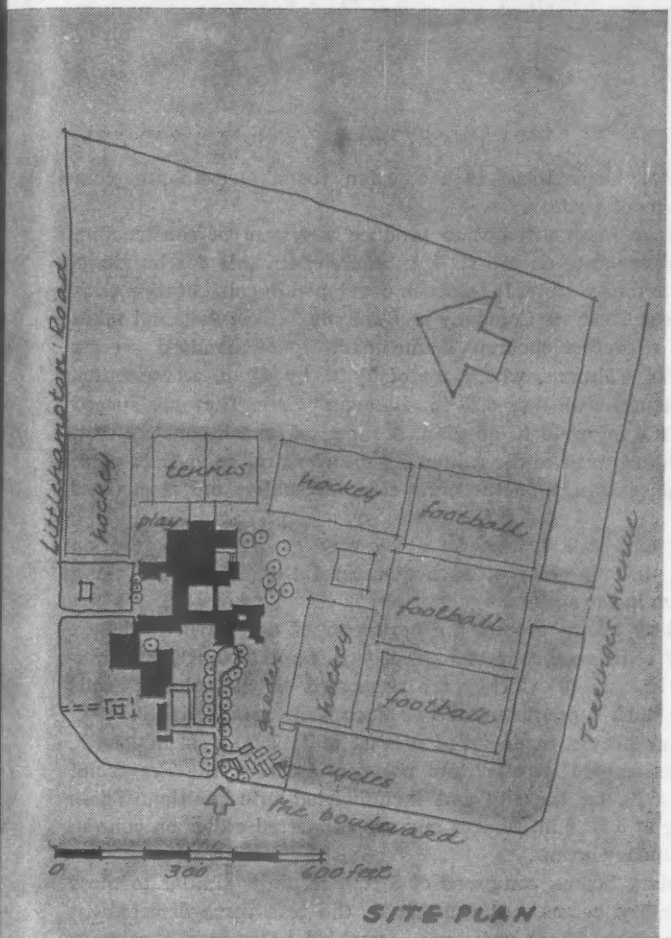


*Looking down on the eastern apex building, showing roof gardens and viewing terraces.*

of brick, stone or glass. Floors are either reinforced concrete or of pre-cast units of various kinds. The customs hall in the Passenger-Handling Building has an exposed roof of welded steel trusses. False ceilings throughout most of the buildings house ventilating ducts, service pipes, cables, pneumatic tubes, etc. Control rooms and offices will have double windows against noise.

The cost of the three buildings will be about £3,500,000. Responsibility for supervising construction lies jointly with the architect and the Director-General of Works at the Air Ministry. Consulting engineers are Sir William Halcrow and Partners, G. H. Buckle and Partners and Ewbank and Partners. Quantity Surveyors are Ryder Hunt and Partners (Control Building), E. C. Harris and Partners (Passenger-Handling Building) and Franklin and Andrews (Eastern Apex Building).

# 3 EDUCATIONAL



SITE PLAN

## TECHNICAL SCHOOL: WORTHING

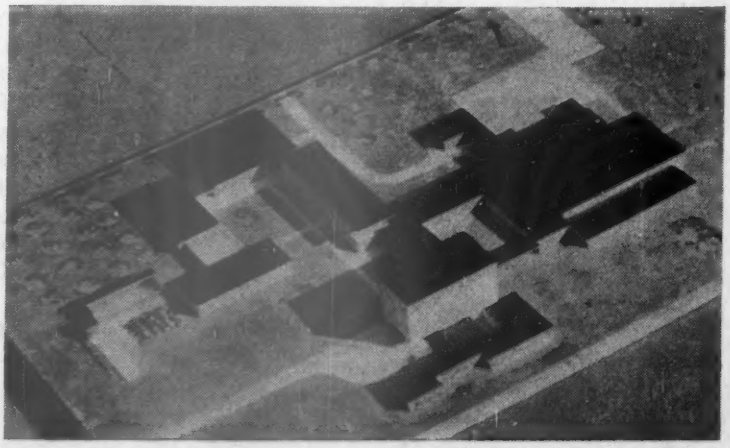
**Ministry of Education**

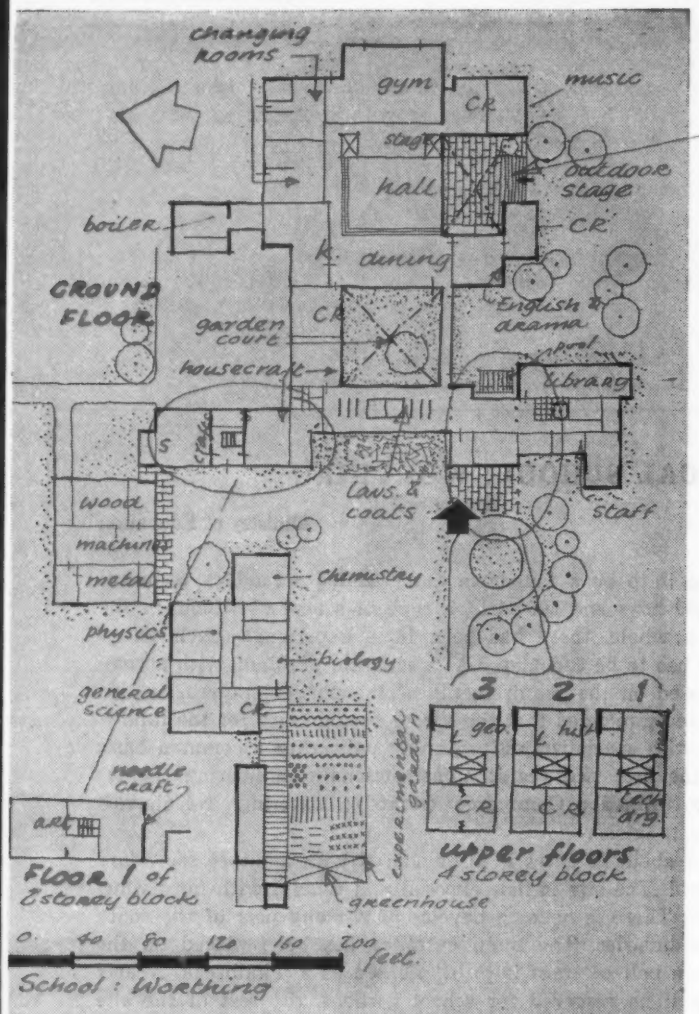
The school is to be a four-form entry mixed secondary technical school for 300 boys and 300 girls, a type of school of which, in the country as a whole, there has been little experience. Each school of this type has to be considered as a separate problem, with accommodation based on the requirements of the particular area. In this case it was recommended that the school should cater for the following courses with specialization beginning only after a common basic course for the first two years: Constructional Engineering (boys); Horticulture (mixed); Commerce (mixed); Catering, Needlecraft Arts and Crafts (girls).

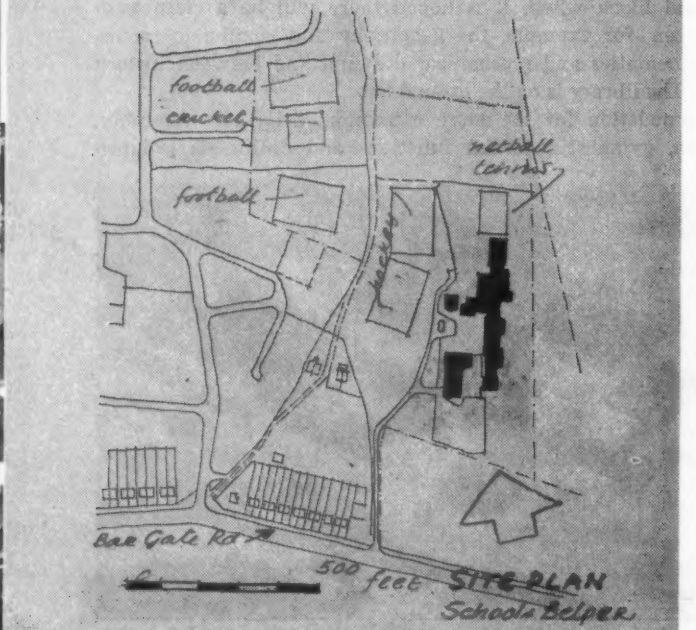
An area of about 33 acres is to be shared with a future secondary modern school. The site is flat, exposed and windy, with no distinctive features. There is housing development along part of the south and west boundaries. The main entrance has been placed on the west, where a belt of trees is to be planted as a windbreak. Nearly two acres will be reserved for school gardens, the rest of the site being laid out in playing areas and gardens.

The buildings have been planned in a series of semi-enclosed courts to give shelter and 'self-contained' interest in an attempt to counteract the exposure and flatness of the site. The school is entered, however, through a four-floor block from which very wide views will be possible. Most of the general teaching rooms are planned in this central block where it is hoped there will be a close association between, for example, the geography and commerce rooms, between mathematics and mechanical drawing and between history and English. The library is on the ground floor.

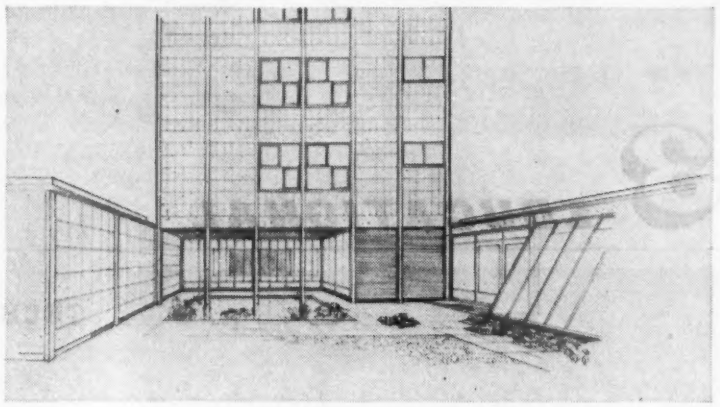
The accommodation for the more communal activities—assembly, music, drama, gymnastics, social functions and dining—is grouped






round two garden courts, one of which is an extension of the hall and can be used as a small outdoor theatre. The accommodation for most of the more specialized courses is again grouped round a court, in this case a 'work' court which can be used as an outdoor extension of the workshops, science laboratories and craft rooms. Linked



to the science block there is a 'garden room,' greenhouse, cold frames and school gardens.

The structure is an attempt to produce a system of construction in reinforced concrete on a 3 ft. 4 in. module, suitable for buildings of from one to four storeys. It has been developed in collaboration with the Prestressed Concrete Company and Messrs. Gilbert-Ash, and takes the form of a precast concrete frame made up of standard precast concrete units. Columns, which are of 6½ in. by 4½ in. cross-section, are pre-tensioned with four 0.20 in. diameter wires. They are spaced at either 6 ft. 8 in. or 10 ft. on plan. A range of 'mushroom' column heads, which are fixed to the columns with a central spine bolt, cater for all fixing conditions on the perimeter, internally, and at changes of level.

The floor and roof system is a two-way grillage supported on columns at all four sides of each structural bay. There are three types of beam in the system.

(a) Boundary beams around the perimeter of each structural bay. These are of reinforced concrete and of two standard lengths, nominally 6 ft. 8 in. and 10 ft. They are supported on the column heads and in their turn support one or two floor beams respectively.

(b) Primary beams, made up of precast units 3 ft. 4 in. in length, which are assembled, jointed, and post-tensioned by the Freyssinet method in a jig on the site and then hoisted into position. These beams occur at 3 ft. 4 in. centres and are supported either on column heads or boundary beams.

(c) Secondary beams, composed of 3 ft. 4 in. units similar to those used in primary beams, but running in the transverse direction at 3 ft. 4 in. centres. These units are assembled between the primary beams already erected, and jointed and post-tensioned *in situ*. Floor and roof slabs, nominally 3 ft. 4 in. square, are then placed within the top flanges of the beam grillage to form a horizontal slab.

External cladding is of precast concrete slabs faced with Derbyshire spar or Menheniot granite. They are 1 ft. 8 in. or 10 in. high and span between columns, to which they are attached by a rigid grouted joint.

The school has been designed for the West Sussex and Worthing Education Committees by the Development Group of the Architects and Building Branch, Ministry of Education, in consultation with the County Architect, West Sussex, and the Borough Architect of Worthing. The Ministry of Education architects responsible (working under S. Johnson-Marshall) are: Mary Crowley, Maurice Lee, John Kitchin, G. B. Oddie, C. E. D. Wooster and J. M. Price.

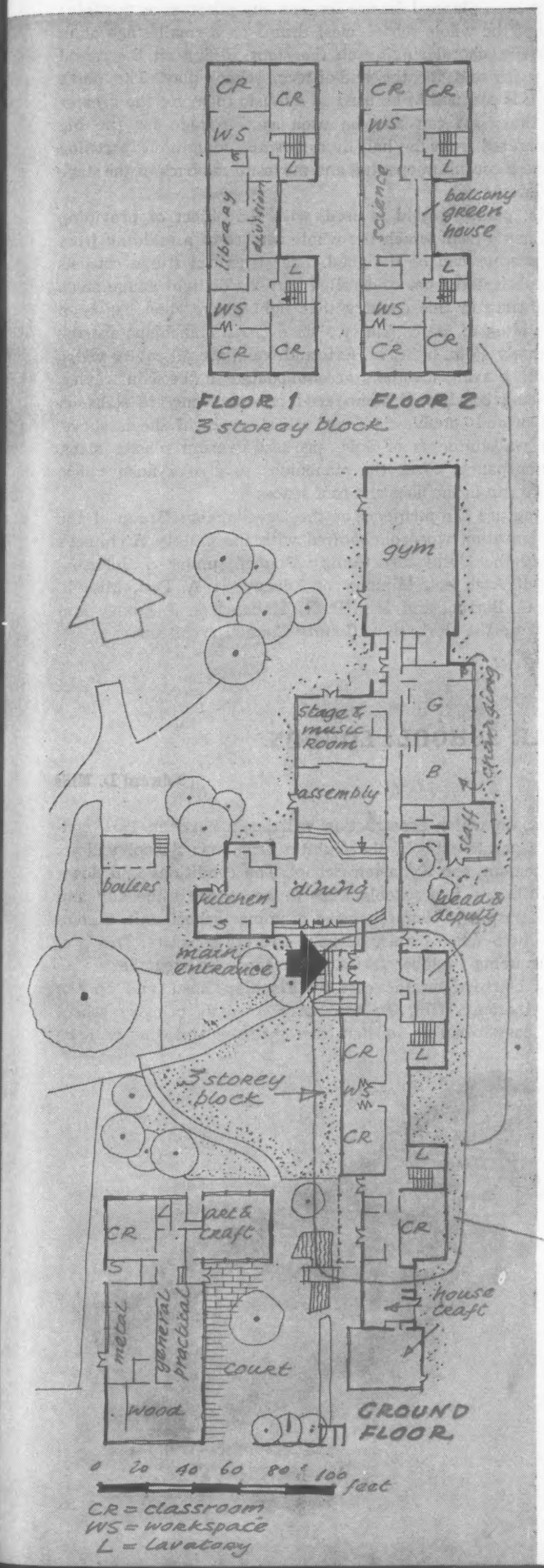
# SECONDARY SCHOOL: BELPER

**F. Hamer Crossley (Derbyshire County Architect) and Ministry of Education**

This is a three-form entry mixed school for 450 pupils and has been designed to explore the possibility of planning an educationally good school at 70 sq. ft. a place. At the time it was designed the average for Secondary Modern Schools was 76 sq. ft. a place, the cost of building was rising and it was clear that architects could not decrease size indefinitely. Before setting them a 70 sq. ft. minimum (by holding cost at £240 a place) it was felt necessary to test theoretical opinion by practical experiment. The target of 70 sq. ft. per place has been achieved by reducing circulation space to a minimum and by planning for certain spaces to be used for a variety of activities. The result shows that 70 sq. ft. is the reasonable minimum for a school of this type.

Belper is a small industrial town in the Derwent Valley, six miles north of Derby. The school site of 13½ acres lies on the east slopes of the valley above the town, next to a new housing estate. The building is on the more sloping part, with a very fine view of the Pennine Hills to the west and north.

The school is planned to give a choice to the headmaster to organize either on a house system (five houses of ninety pupils each) or on a form basis (fifteen forms of thirty pupils each). The accommodation provides for a general secondary modern curriculum without any particular bias. The main industries in Belper are foundry work, cotton spinning, and the manufacture of stockings. There may be a tendency later, therefore, to develop chemistry and metalwork.




In order to break down the rigid separation between academic and practical work, academic rooms have been introduced into the practical areas. The houses are grouped in the three-storey block where a pair of classrooms with its adjoining workroom space and cloakroom space may be used as the base for 90 pupils; a centre to gather in, quiet rooms for their clubs and, in the larger area formed when the sliding folding doors are opened, a place for house meetings. On the other hand, these ten classrooms together with five other rooms may be used for the 15 form bases.

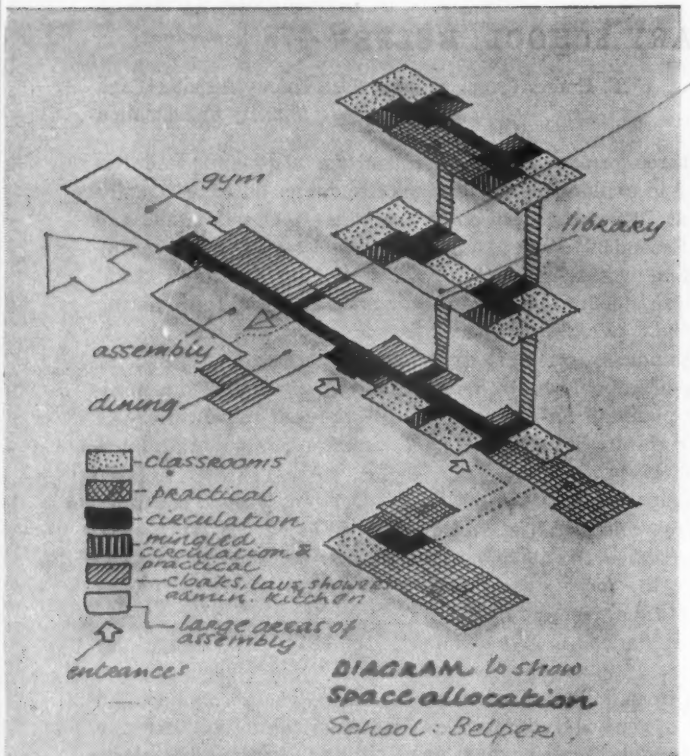
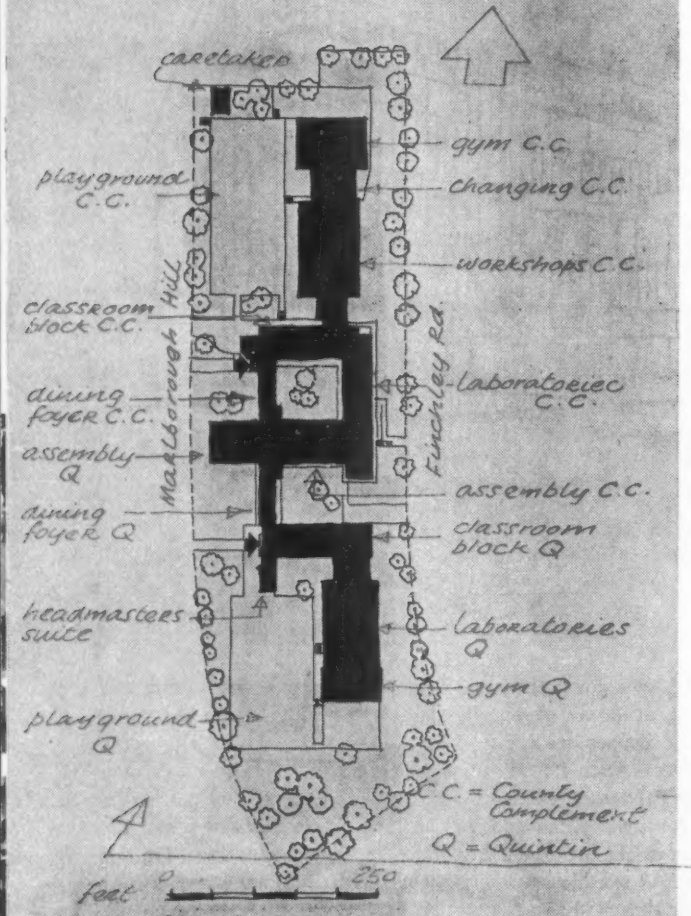



DIAGRAM to show space allocation
School: Belper

The hall has been planned for use for as many purposes as possible; the assembly of the whole school, class drama on a small stage or in the central arena, choral singing on the steps, dining on the raised area facing south and for the end-of-term school play. The north end of the hall is planned to be used as a music room for the greater part of the time, but can also be used as the stage for the big play. It is separated from the hall by a movable soundproof partition which seals the proscenium opening and moves to the back of the stage to form a cyclorama.

A 3 ft. 4 in. planning grid is used, with the object of providing sets of components from which the whole carcase of a building from one to three storeys can be designed. The structural frame consists of members fabricated from cold rolled sections of light gauge steel. It is the first time in this country that light gauge steel has been used for a building of more than two storeys. All stanchions are the same size, namely 4½ in. by 4½ in. External walls are all cavity walls, with the frame bracing members accommodated in the 3 in. cavity. The outer facing consists of stone-faced pre-cast concrete slabs on the ground floor and 'double-cladding' asbestos cement sheets above. The internal wall-lining is of 3 in. pre-cast gypsum plaster slabs. Fibrous plaster panels cover the stanchions to give a flush finish. All services are run in the floor and roof spaces.

The following are the members of the Development Group of the Ministry of Education who collaborated with the County Architect's Department of the Derbyshire County Council, under S. Johnson-Marshall, Chief Architect, Ministry of Education: A. Pott, Miss B. M. Price, D. G. Barron, and Miss P. R. Tindale; G. J. Foxley and J. T. Tayler were the Derbyshire County Council architects.



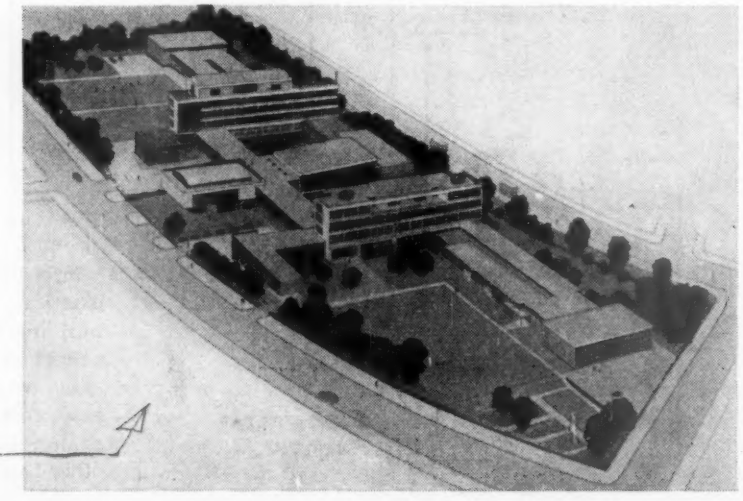

SITE PLAN School: London

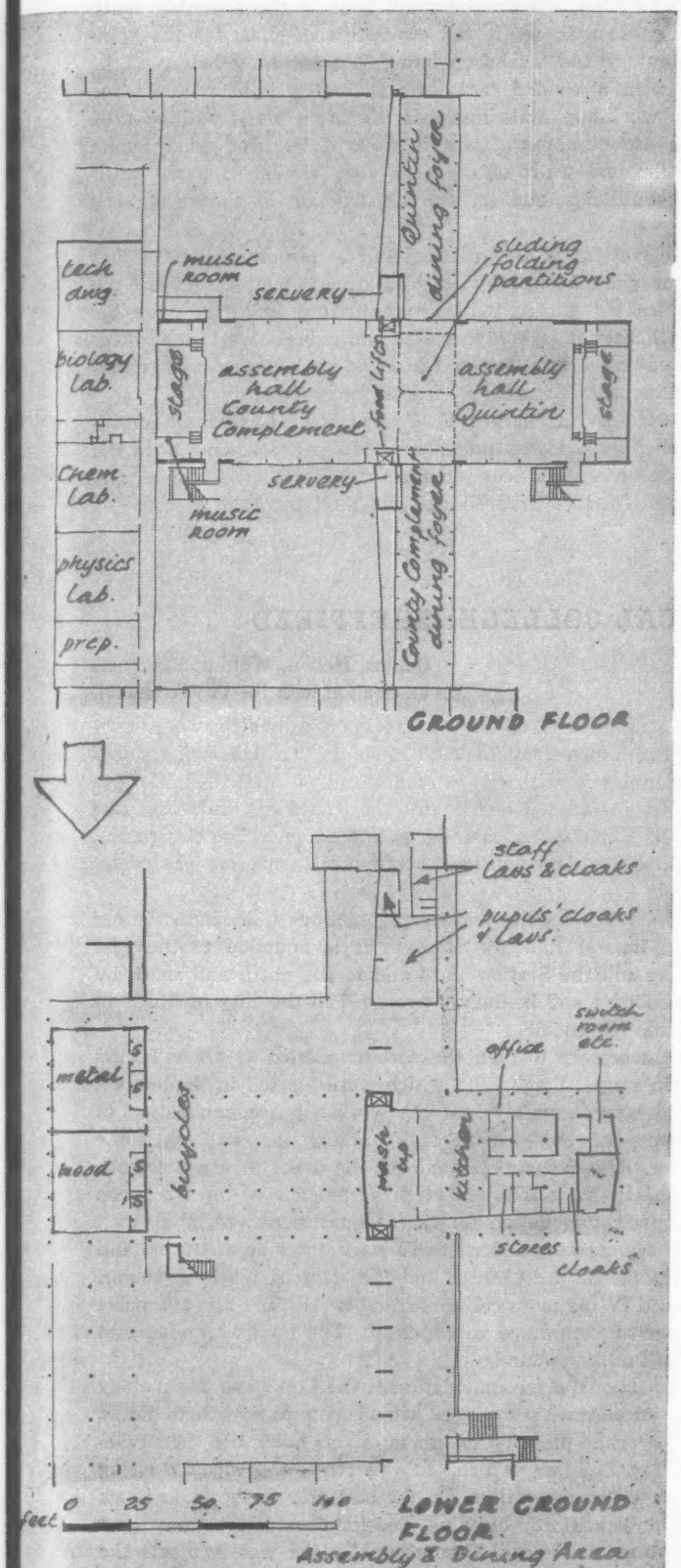
## GRAMMAR SCHOOL: LONDON

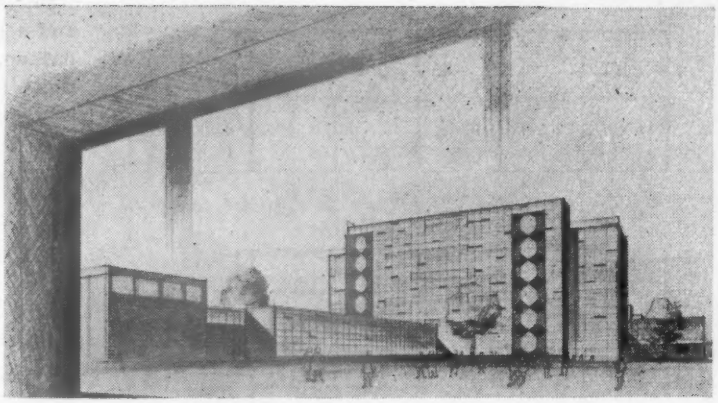
**Edward D. Mills**

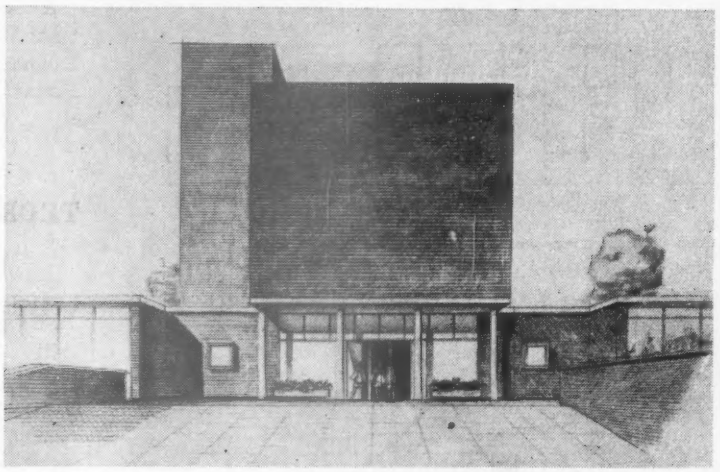
This project, on which construction will begin early in 1954, consists of two separate schools, the Quintin Grammar School and its county complement, the Kynaston School. The conditions laid down were that while the two schools were to be on the same site and were to form part of a comprehensive grammar school unit, accommodation for both schools must be kept entirely separate. This precluded the grouping of laboratories, workshops, etc., together.

The site is bounded on the east by Finchley Road, and on the west by Marlborough Hill. To the north a small primary school has already been erected, so that the entire island site will be





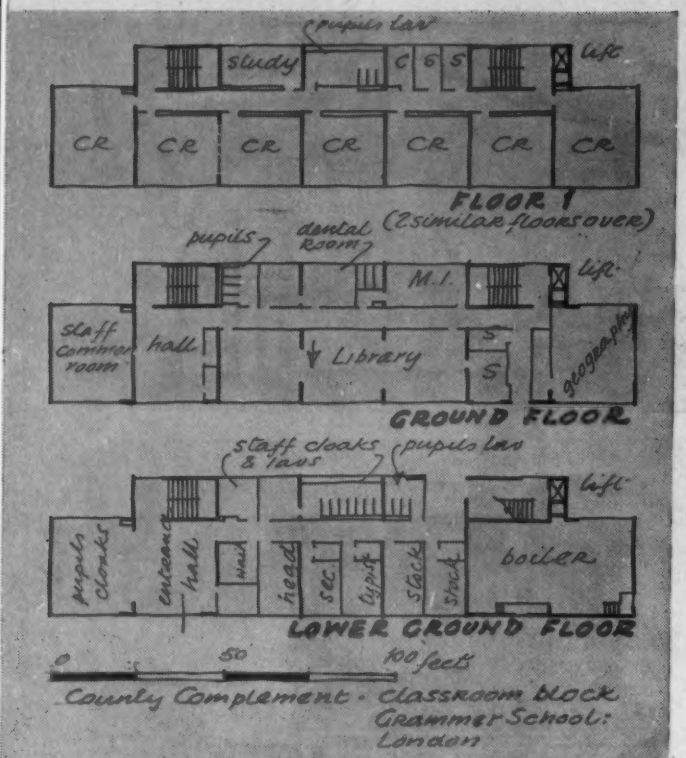


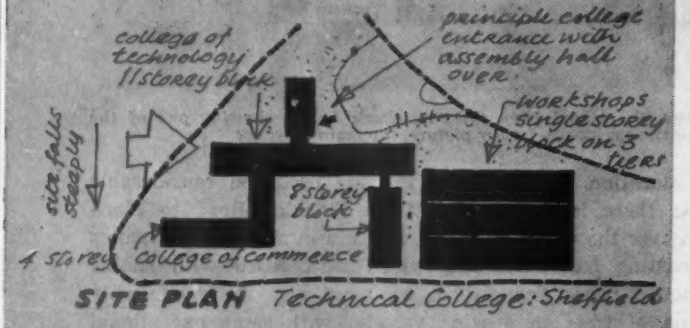
*Upper picture, the school from the caretaker's house, showing one of the two parallel classroom blocks. Lower picture, the main entrance.*

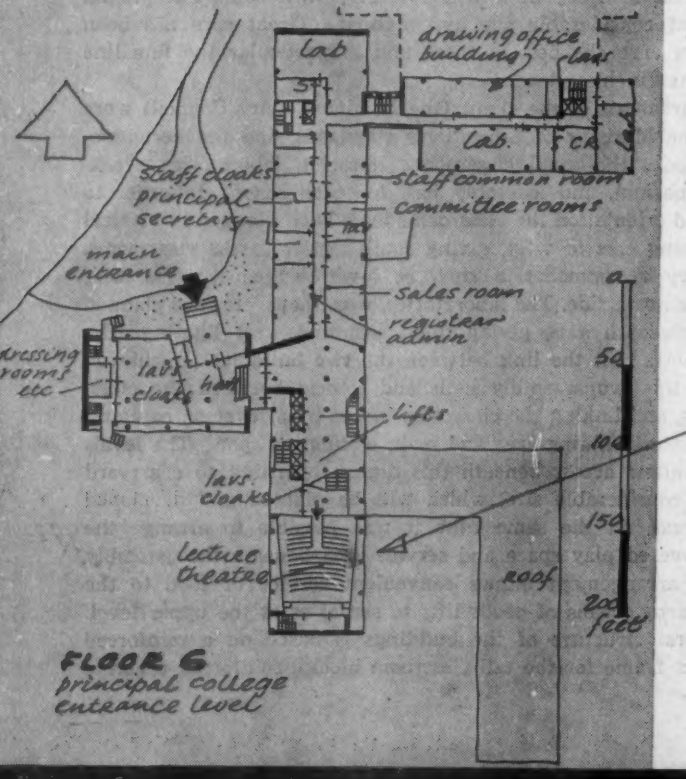
devoted to education. The levels of the site produced considerable difficulties as there is a steep fall from Finchley Road to Marlborough Hill over the majority of the site, and in addition the houses originally existing had basements which were filled with rubble when the houses were demolished. An asset was the remarkably fine collection of trees in a wide variety, with some exceptional specimens of considerable age and maturity. Great care has been taken to preserve the best of these and in particular the fine line of trees along Finchley Road.

The requirements of the client (the London County Council) were based on the Ministry of Education's standards, and the accommodation includes the usual classrooms, libraries, laboratories, workshops, gymnasium, and assembly hall for each school. In order to achieve good orientation the classrooms have been planned in vertical blocks running east to west, giving south aspect to the classrooms, the ancillary accommodation such as lavatories, cloakrooms, etc., being on the north side. The laboratories, workshops, etc., are planned on the north-south axis, giving them east and west lighting. The site plan shows that the link between the two buildings is achieved by placing the two assembly halls end to end between the classroom blocks, and linking the classroom blocks by a foyer on columns, which serves as a dining area and main circulation space. The levels of the site allow access beneath this dining-foyer-link to courtyard gardens of considerable size, which will be planted and developed as quiet areas. At the same time it was possible to arrange the kitchens, covered play space and service area beneath the assembly halls. This arrangement allows convenient service of food to the dining foyer by means of goods lifts to serveries at the upper level.

The general structure of the buildings is based on a reinforced concrete box frame for the tall classroom blocks, reinforced concrete




frame for the dining foyer and ground floor of the assembly halls, and a steel frame with reinforced concrete roof slabs for the gymnasium, laboratory and workshop units. The assembly halls will be constructed with a welded portal frame and a light roof. In the single-storey workshop units load bearing brick walls will be used where these are economical, and brick will be used as a facing material to the end walls of the classroom blocks, as panel walls to the other buildings, and for the construction of the caretaker's house.

The main elevations of all buildings will be largely of glass, either as window or glass backed by an insulating material to form the spandril wall. This glazing will be continuous and run over the framework whether it is box frame or individual steel frame. This is done for reasons of economy and to avoid problems of connections between glazing and a variety of framing members.

Assistant architect in charge: G. C. Bodgener. Landscape consultant: Peter Shepheard. Consulting structural engineers: Ove Arup and Partners. Consulting services engineers: J. Roger Preston and Partners. Quantity surveyors: Widnell and Trollope.

## TECHNICAL COLLEGE: SHEFFIELD

**Gollins, Melvin, Ward and Partners**
**(in association with the City Architect)**

The scheme comprises a College of Technology, which, when complete, will have a peak roll of 2,200 students and 145 staff; and a College of Commerce with 900 students and 60 staff. The College of Technology includes Departments of Building, Catering and Women's Work, Engineering, Metallurgy and Science. The classrooms, together with the student and staff communal rooms, are shared by both colleges.

The site, which is triangular and steeply contoured, lies immediately opposite the Midland Railway Station; it is bounded to the east by Pond Street and the Station Yard and to the north and south by the new Civic Circle and boulevard proposed in the City of Sheffield draft town-planning scheme.

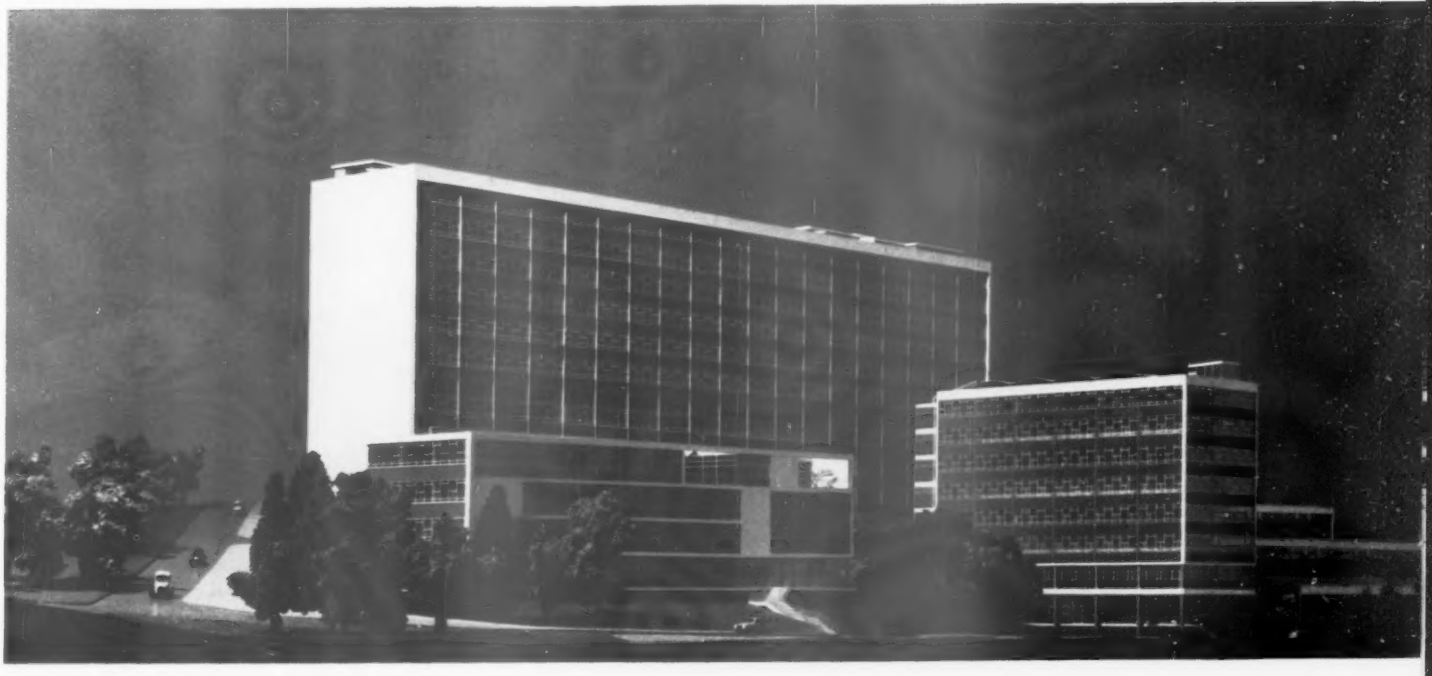
It has been necessary to plan the accommodation to allow for its construction in stages. Stage I, on which work started in September, 1953, comprises approximately half the workshop accommodation of the departments of engineering and building as well as some laboratories for these departments and for the departments of science and metallurgy. In stage II is included the balance of the workshop and laboratory accommodation for these departments, together with the department of catering and women's work, the administration and communal sections of the College and the general teaching rooms. In stages III and IV the main college assembly hall, the two gymnasia and the College of Commerce will be built. The total estimated cost is one-and-a-half million pounds.

The greater part of the accommodation of the College of Technology is planned in an eleven-storey block which, running north to south, forms the spine of the plan. To the north of this block lies the single-storey workshop building which, to overcome the steeply rising ground, is planned on three tiers. On the east side of the main block are planned the eight-storey building, due for construction in stage I and the four-storey College of Commerce. To the west projects the College assembly hall with the principal college entrance immediately below, which will be directly approached from the Civic Circle and the centre of the City.

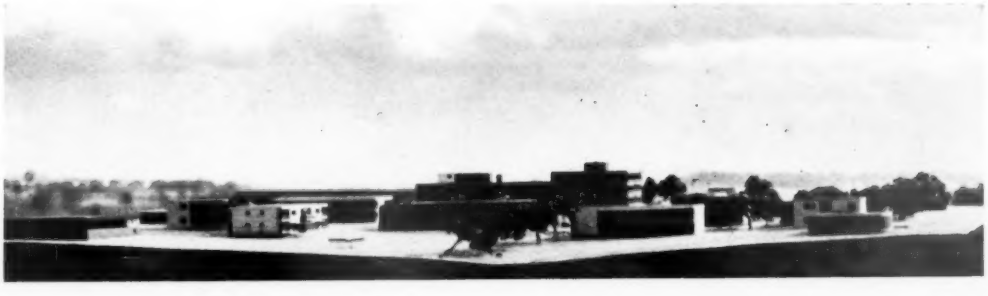
Owing to the great variation in level between the east and west boundaries of the site, the entrances to the various blocks are at different floor levels. The eight-storey first stage block is entered at Pond Street on floor I level and the principal entrance to the College

[continued on page 33

*Colleges of Technology and Commerce, Sheffield. Above, from the north-east; below, from the south-east. The technology departments occupy the eleven-storey block and the eight-storey block containing science laboratories, etc., of which construction has begun. The College of Commerce occupies the four-storey block on the left above and in the foreground below.*



*Sheffield College of Technology and Commerce, from the south. The four-storey College of Commerce is in the foreground, and in the left background, behind the main eleven-storey block, is the assembly hall.*



*West Bromwich Grammar School, showing the plan broken up into independent but related buildings.*

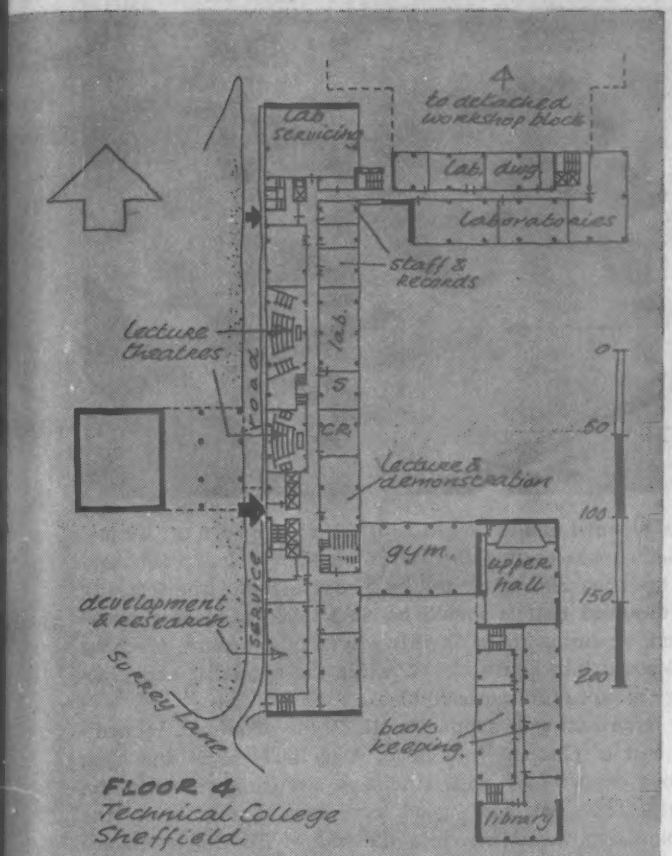
*continued from page 30*

in the multi-storey block at floor 6 level, which is approximately at the level of the Civic Circle. The planning of the administration and communal departments adjacent to the main entrance on floors 6 and 7 of the main block ensures they are within easy reach of the teaching departments, which lie immediately above and below them.

To reduce to the greatest extent possible noise interference between different types of teaching rooms and to simplify the provision of services and the delivery of materials and plant, the accommodation has been zoned according to the various activities. The workshops, where the greatest noise is expected, are detached from the College and are overlooked by the minimum of other rooms. The classrooms, where quiet is essential, have been confined to the south end and upper floors of the multi-storey block, and the laboratories to the north end and lower floors. Between lie the drawing offices and vertical circulation, which thus act as a sound barrier between the noisy and quiet departments.

The teaching accommodation on each floor of the multi-storey block lies on each side of a central corridor. The larger rooms, lecture theatre, library and restaurant take up the full width and are lit from both sides. Three staircases and seven lifts serve the higher block and two staircases and two lifts the lower. There are intercommunicating staircases and a goods hoist between the two tiers of the workshop block.

The brick terraces and retaining walls which, together with a few existing buildings, cover the majority of the site, are in too derelict a condition for re-use and the foundations of the new building, which are in mass concrete, have to be taken down to the shale strata at a depth of some 30 to 40 ft. below ground level. The structural frame is in reinforced concrete and the external wall covering is formed by a metal window unit supported at each floor level and extending from ground floor level to the roof. The horizontal bands at floor level between the window heads and cills will be glazed with coloured panels. The concrete frame at the corners of the building and the flank ends will be faced in reconstructed granite.




FLOOR 4
Technical College
Sheffield

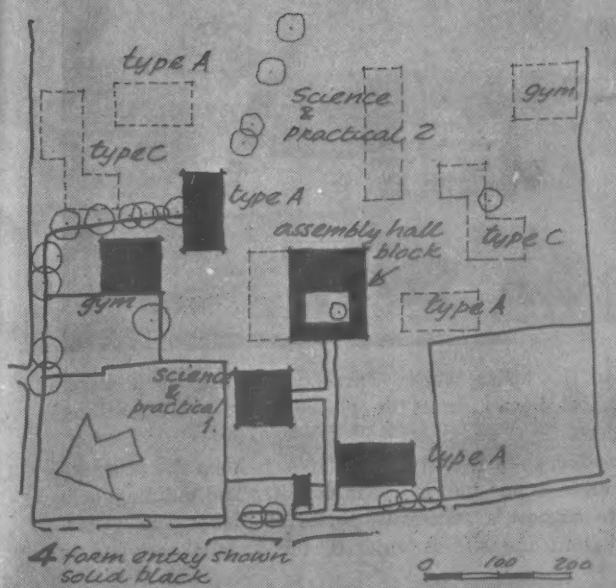
## GRAMMAR SCHOOL: W. BROMWICH

**Richard Sheppard and Partners**

The architects were asked by the West Bromwich Education Committee to design this school in such a way that, starting as a four-form entry grammar school, the scheme could be developed in stages into a twelve-form entry school. It was considered likely that the instalments would be in two-form entry units. In terms of numbers, this means a school of a final size of approximately 2,000 children, starting from one of about 720 and rising by increments of about 360. It was essential that the first stage should be capable of functioning efficiently as a self-contained unit, and that the additions should be capable of being built without dislocation either of the design or the use of the first stage.

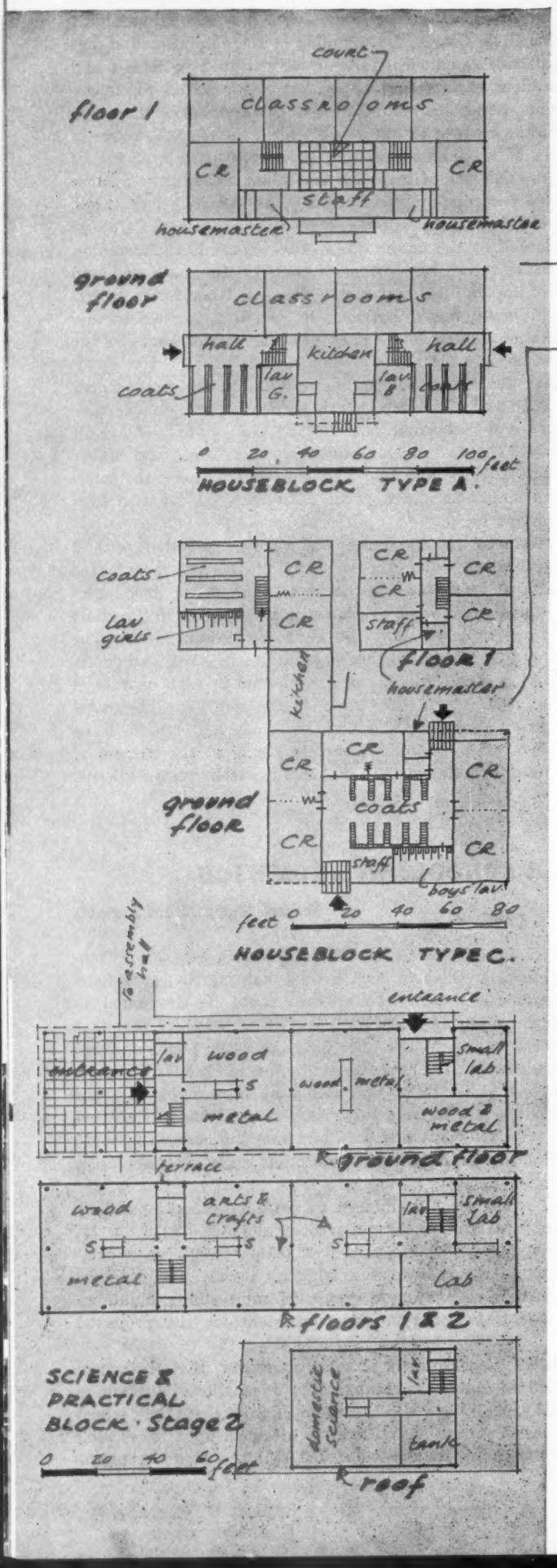
A secondary school for 720 children makes a very large building. The total floor area for teaching purposes alone is 32,120 sq. ft., while for twelve-form entry the area is 76,180 sq. ft. Where circumstances demand, in the central areas of large towns, such a school can be contained in one or more groups of multi-storey buildings, but this arrangement would not be convenient for the projected expansion.

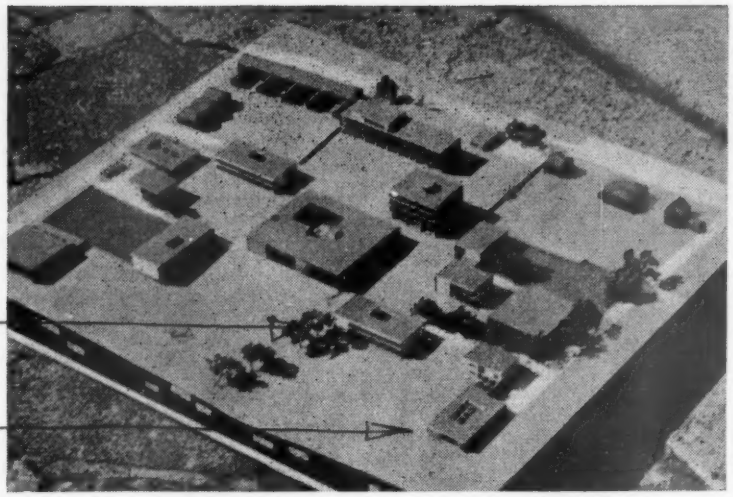
The committee was extremely anxious, moreover, that the school should be organized so that the children were in smaller groups where their individual capabilities could be developed throughout their school career. A 'house' system was therefore decided upon, according to which a group of a maximum of 180 children forms a house.




4 form entry shown solid black
12 form entry shown dotted.

SITE PLAN
School: W. Bromwich

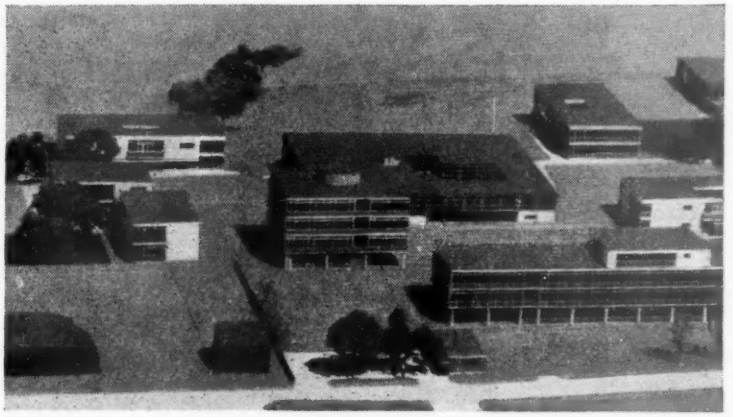


Each house is planned and arranged as a self-contained unit, formed from six teaching spaces, together with necessary cloakrooms and lavatories, a housemaster's room and staff room. One of the teaching spaces is so designed that it should be able to be used as a house assembly room, or dining room. In this way all the general teaching spaces are disposed into house blocks, while the specialist and practical rooms are grouped into separate blocks.

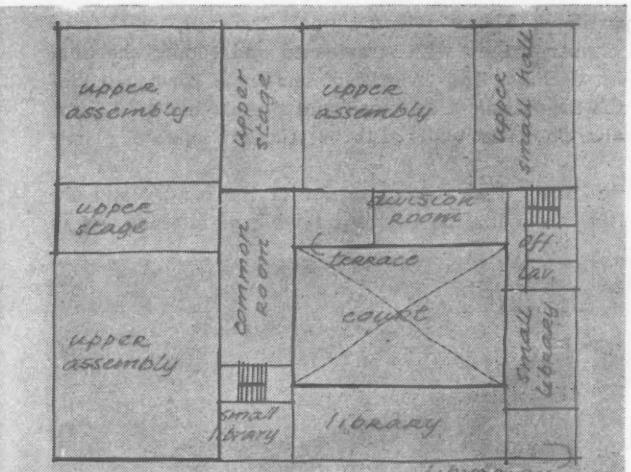
The site is large and well adapted to this type of school. Immediately to the east of Church Vale Road, it is fairly level and then falls away to a deep valley with extensive sweeping views to the east and south. There are some good trees immediately below the plateau, emphasising the sweep into the valley. To the north are existing playing fields. The character of the site suggests an open type of development; the levels allow the buildings to be placed so that the full prospect can be viewed from any point.

The sketch plan shows the essential relationship of the various units. The assembly halls (three large, one small in the future; one large, one small immediately) must be placed at the core of the site, visible from everywhere, accessible from all points and (important in relation to the function of the building) visible from the road. To this central block the rest of the school must be related. The special rooms—laboratories, workshops, domestic science rooms and so on—must be close to the administrative buildings and con-

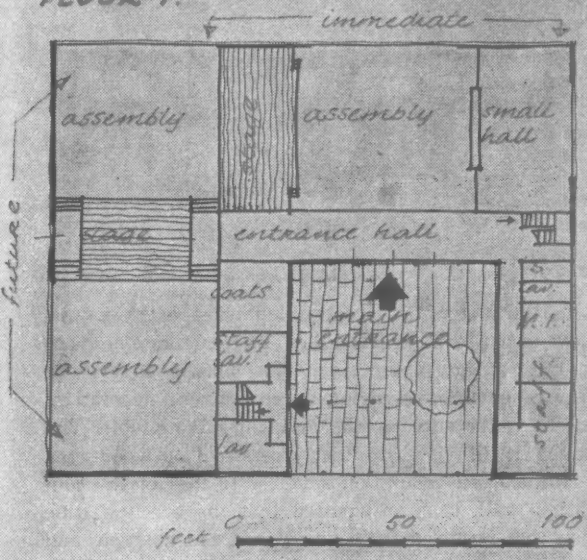


veniently close to the house blocks. These, which are, as it were, the children's school homes, must be placed to give all teaching spaces a good aspect.

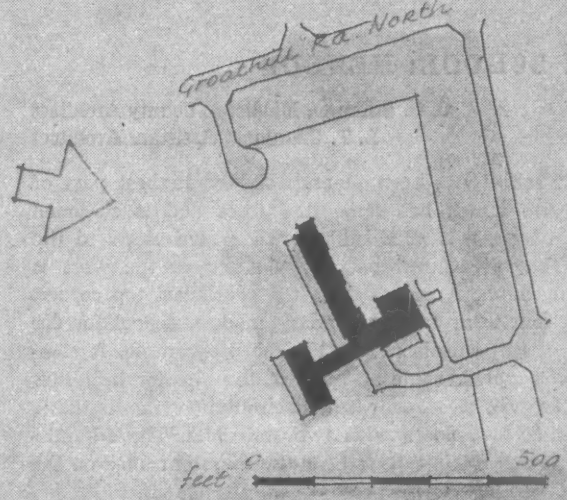
It is also impossible, even if it were desirable, to keep the prospect continuously in view as one moves about the site. The buildings are therefore used to suggest a successive series of planes and vistas. From whatever point the site is entered, the immediate vista is




FLOOR 1.




GROUND FLOOR · Assembly Hall Block.
School · W. Bromwich




SITE PLAN
School Edinburgh

stopped by a building whose rhythm and emphasis suggest the direction of the vista and the space enclosed. In some cases the void is framed through the building, but in most cases space opens from one prospect to another in succession. These spaces are controlled to give most variety both in length and breadth. Thus a point block (the four-storey science and practical room) emphasizes the turn of the principal campus and contrasts in its vertical shape with the emphatic horizontals of the assembly-hall block.

It is proposed to employ Hills' light steel-frame construction on a 3 ft. 4 in. module for the house blocks. These are not identical in design, some being of one, others of two storeys. Moreover the accommodation varies in each block and a diversity in appearance will be valuable in establishing an individual identity in each house. Building labour is scarce in this area and the emphasis must be on forms of construction which will reduce the amount of site work.

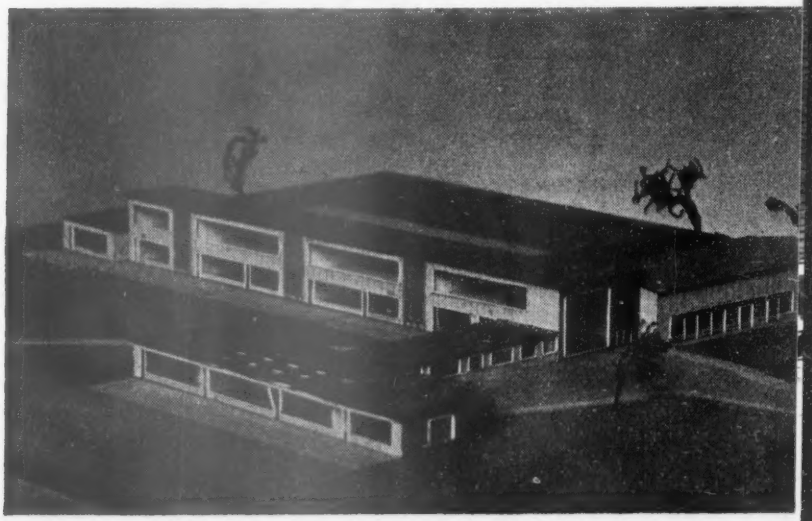
The four-storey science block is of reinforced concrete. The assembly halls and administrative sections are a combination of steel frame and reinforced concrete, while the gymnasium blocks are in light welded steel frame. These forms of construction are thought to be the most economical for the plan requirements. All are being planned on a 3 ft. 4 in. grid with stanchion centres at 13 ft. 4 in. In all cases the stanchions are to be placed within the external panel construction. This itself is to be standardized to the same panel dimensions. By establishing a basic panel pattern which will apply irrespective of the construction, it is hoped to secure unity of appearance and at the same time express the forms characteristic of the structural systems adopted.

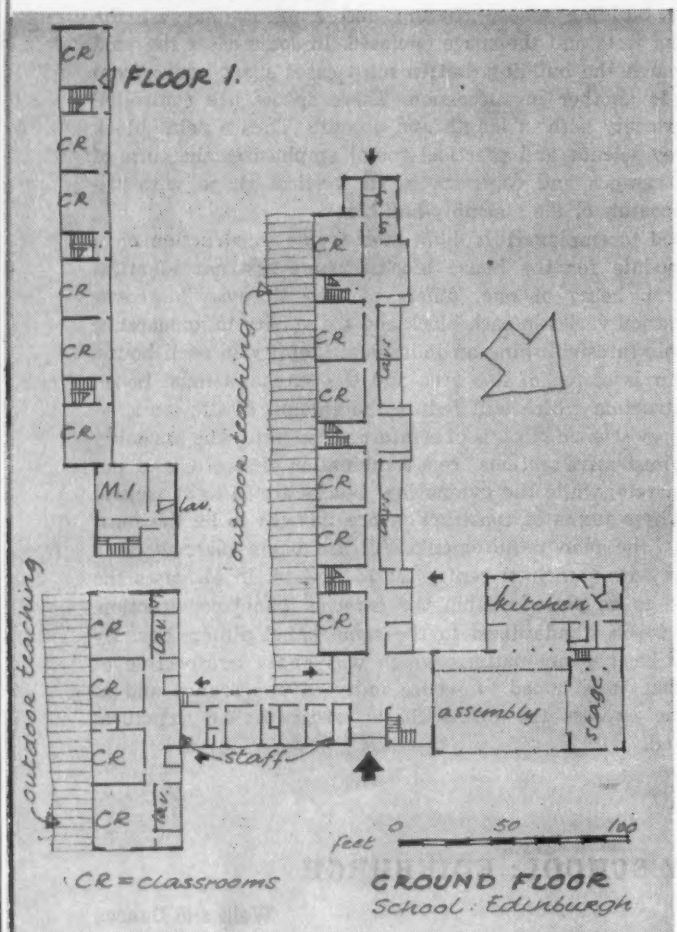
## PRIMARY SCHOOL: EDINBURGH

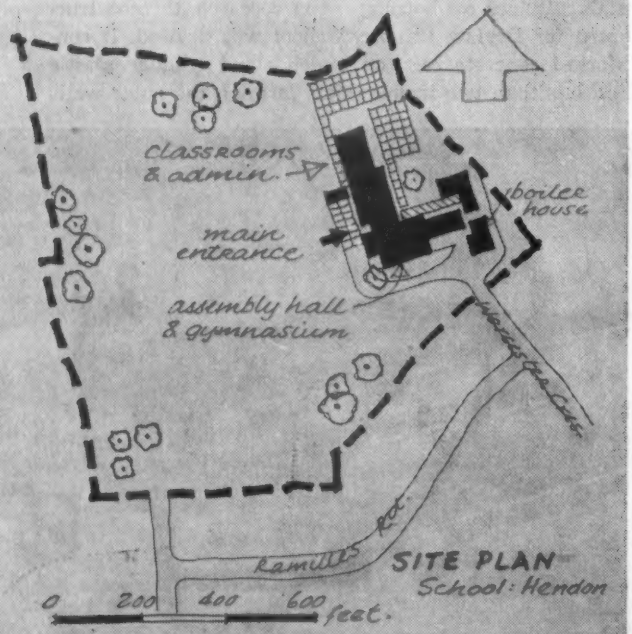
**Walls and Duncan**

The school is a full primary one, for 650 pupils, and contains sixteen classrooms, a general purposes room, assembly and dining hall, medical inspection suite, and the usual administrative and staff rooms ; the estimated cost is £100,000.

The Education Committee of the City of Edinburgh asked the architects to investigate the problem of designing a primary school which would not use in its construction appreciable quantities of building materials required for housing. After research, the construction to be adopted for Drylaw Primary School was devised. It consists of a reinforced concrete raft, on which stand cellular plastic panel assemblies, less than two inches thick, forming the outer walls

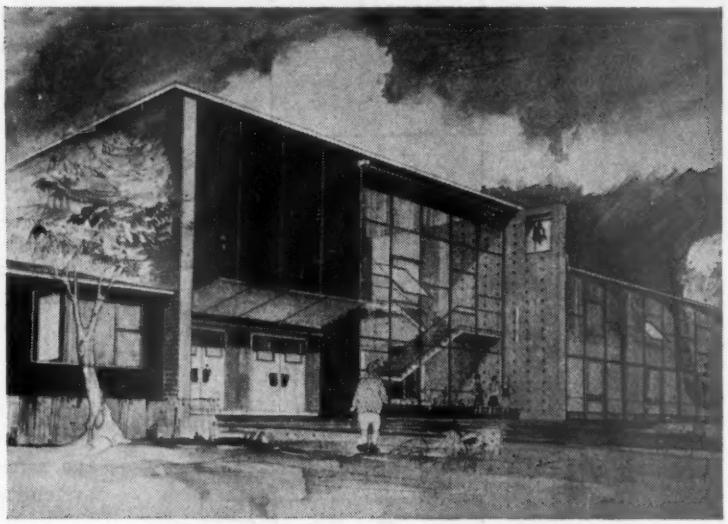





and internal partitions. These in turn support the roof, which consists either of timber trusses with strawboard and copper sheeting, or of aluminium decking. The two-storey section is constructed of brick cross walls supporting prestressed and precast concrete flooring and roof units. The outer walls of this section are again of plastic panelling.

All the plastic panels used are cut to size at the factory and are despatched to the site with the doors and windows already set in



position. At the site, the assemblies are coupled together by means of aluminium alloy extrusions which allow of rearrangement of internal planning, etc., at any later time. The plastic panels are finished in a variety of colours, requiring no subsequent decoration, and are impervious to water and vermin, and non-inflammable. The cavities in the panels are filled with either glass-wool or wood-wool and give thermal and acoustic insulation superior to that of the conventional cavity brick wall. It is anticipated that the erection time will be far less than that required for conventional construction, and that the maintenance costs will be materially lower.

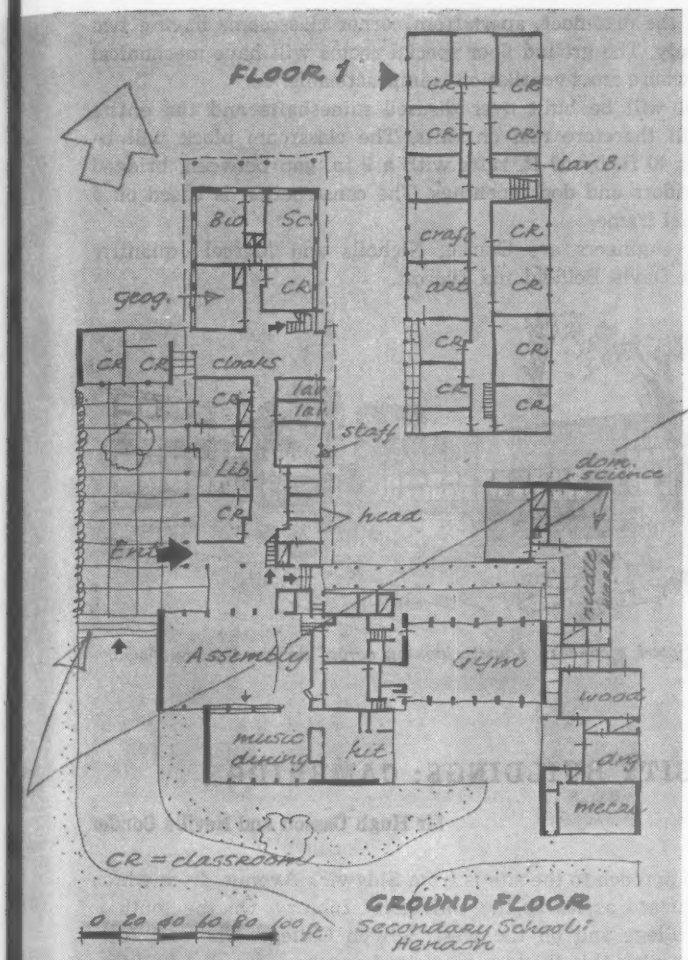
The heating of the school is by means of electrical elements embedded in the floors. Electricity is switched on automatically at 7.0 p.m. and, subject to thermostatic control, is switched off at 7.0 a.m. The entire structure acts as an accumulator for this heat which is dispersed during the day while the school is in use. It is this use of off-peak electricity that has made the system of heating acceptable economically.

## SECONDARY SCHOOL: HENDON

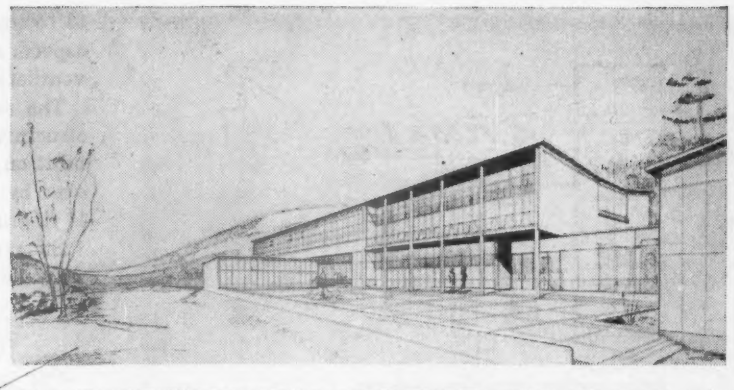
**C. G. Stillman, Middlesex County Architect**
**L. T. Channing, Assistant Architect**

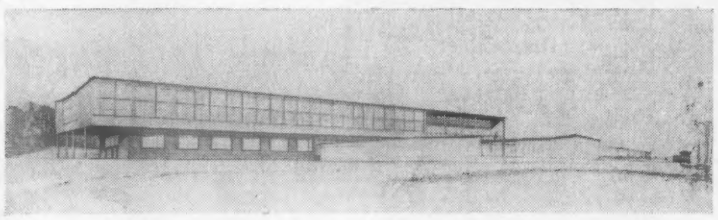
The Mote Mount school has been planned on the highest part of a 20-acre sloping site which has some fine trees and is screened on the eastern side by a belt of woodland. There are views to the north and west. The more level part of the site to the west is reserved for playing fields. Access is from the south-east top corner.

The project is a four-form entry secondary modern school for 600 pupils and is one of the schools of the 1954/55 programme. A compact plan has been adopted, using as little of the site for buildings and playgrounds as possible. For ease of circulation the building has been arranged on two floors with two staircases. The administration rooms are in a central position near the main entrance on the ground floor.




GROUND FLOOR
Secondary School: Henagh



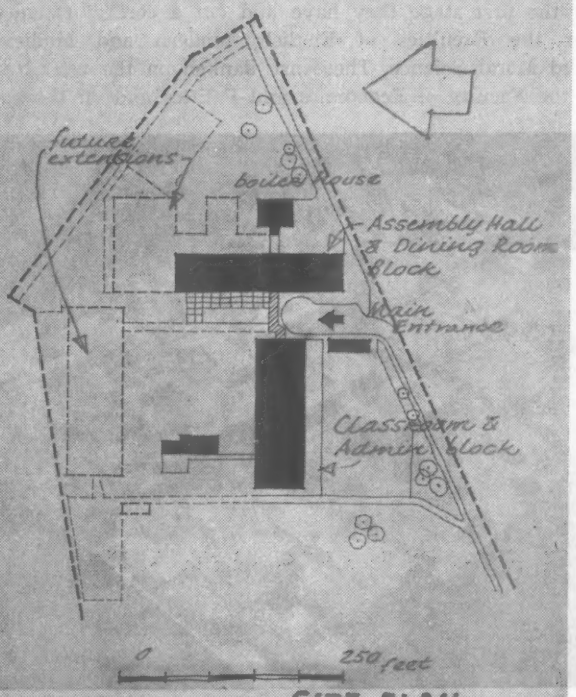


Teaching accommodation has been arranged in groups. The science, biology, preparation and geography rooms are together at the end of the teaching block on the ground floor. The library and two classrooms occupy a central position on the ground floor, open on to a terrace enclosed by two further classrooms on the north side. The art and craft rooms and two classrooms are grouped on the first floor with access to a balcony. The housecraft and needlework rooms are in a self-contained unit. The metalwork, woodwork and practical drawing departments, also in a separate self-contained unit, are linked with the main building by a covered way. The remaining classrooms are arranged in the double banked teaching accommodation on the first floor.

The entrance hall, assembly hall and music room are planned together as a group, and as the assembly hall is used as a second gymnasium the changing rooms are placed between it and the gymnasium to serve both. As the sloping site enables use to be made of different levels, the music room has been raised above the general level of the hall and can be used as an alternative stage. The music room and stage will also be used for dining. Cloaks and lavatories are near the access to playgrounds on the ground floor with additional lavatories on the first floor.

The building has been designed as a light steel framed structure (based on a 12 ft. grid), externally clad in brick with a rendered finish. Internal partitions will be of lightweight concrete blocks, suspended floors will be of pre-cast units and the roof covering of aluminium. Heating will be from a solid-fuel-fired low-pressure hot-water system.

The total floor area is approximately 74 sq. ft. per pupil. A schoolkeeper's house is planned adjoining the entrance.

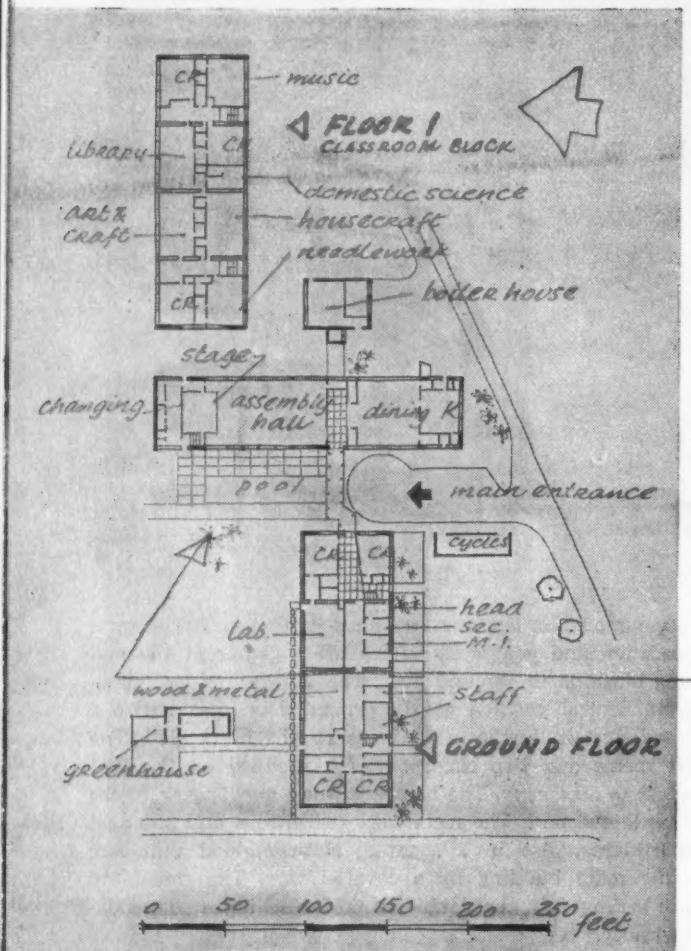



SITE PLAN
Secondary School Yorks.

## SECONDARY SCHOOL: YORKS

**Yorke, Rosenberg and Mardall**

The Stanley Outwood secondary school, in the West Riding of Yorkshire, planned in association with the West Riding County Architect, H. Bennett, is intended ultimately to be expanded from a two-form entry mixed school to a five-form entry school. The classroom block and the future classroom block have teaching rooms facing east and west. Clerestory roof lights will provide both aspects




Stanley Outwood secondary school

to rooms on the first floor, apart from corner classrooms having two aspects already. The ground floor special rooms will have mechanical ventilation, where cross ventilation is impracticable.

The school will be built over disused mineshafts and the entire structure will therefore rest on rafts. The classroom block will be built on four 40 ft. by 50 ft. rafts with a 9 in. gap between, bridged over by corridors and door openings. The construction is based on a 10 ft. grid steel frame.

Structural engineers are Clarke, Nicholls and Marcel; quantity surveyors are Davis, Belfield and Everest.

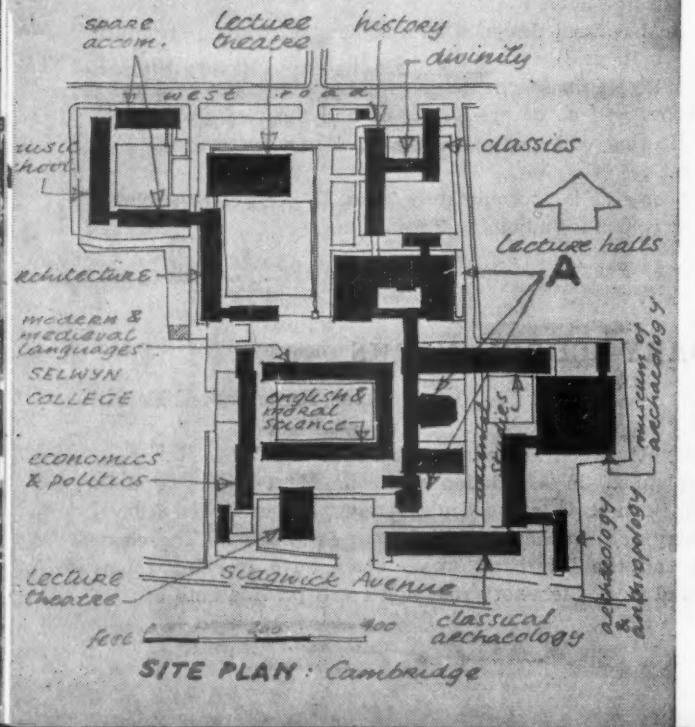
*Stanley Outwood secondary school: looking across the garden courtyard.*

## UNIVERSITY BUILDINGS: CAMBRIDGE

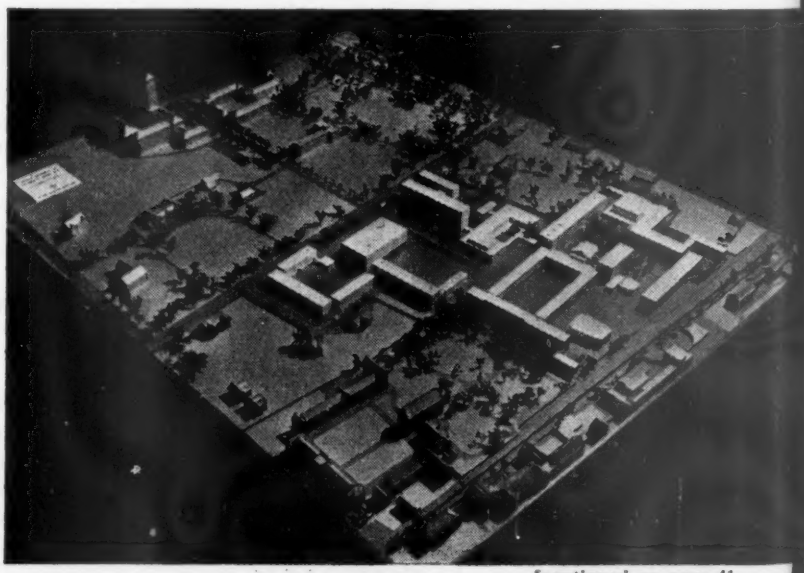
**Sir Hugh Casson and Neville Conder**

The main approach to the site is from Sidgwick Avenue, from which it runs northward as far as the University Library. On the south is Newnham College and on the west Selwyn College. The architects were asked to plan this thirteen-acre site in such a way that building could conveniently take place in stages, the first two stages being confined to the portion of the site already owned by the University, and the areas the University is acquiring from Gonville and Caius College being developed last. They were only asked to indicate the general shape of individual buildings, not to design them in detail.

As part of the first stage they have laid out a central range of buildings for the Faculties of English, Modern and Medieval Languages and Moral Science. These are flanked on the west by a building for the Faculty of Economics and Politics and on the east




SITE PLAN: Cambridge



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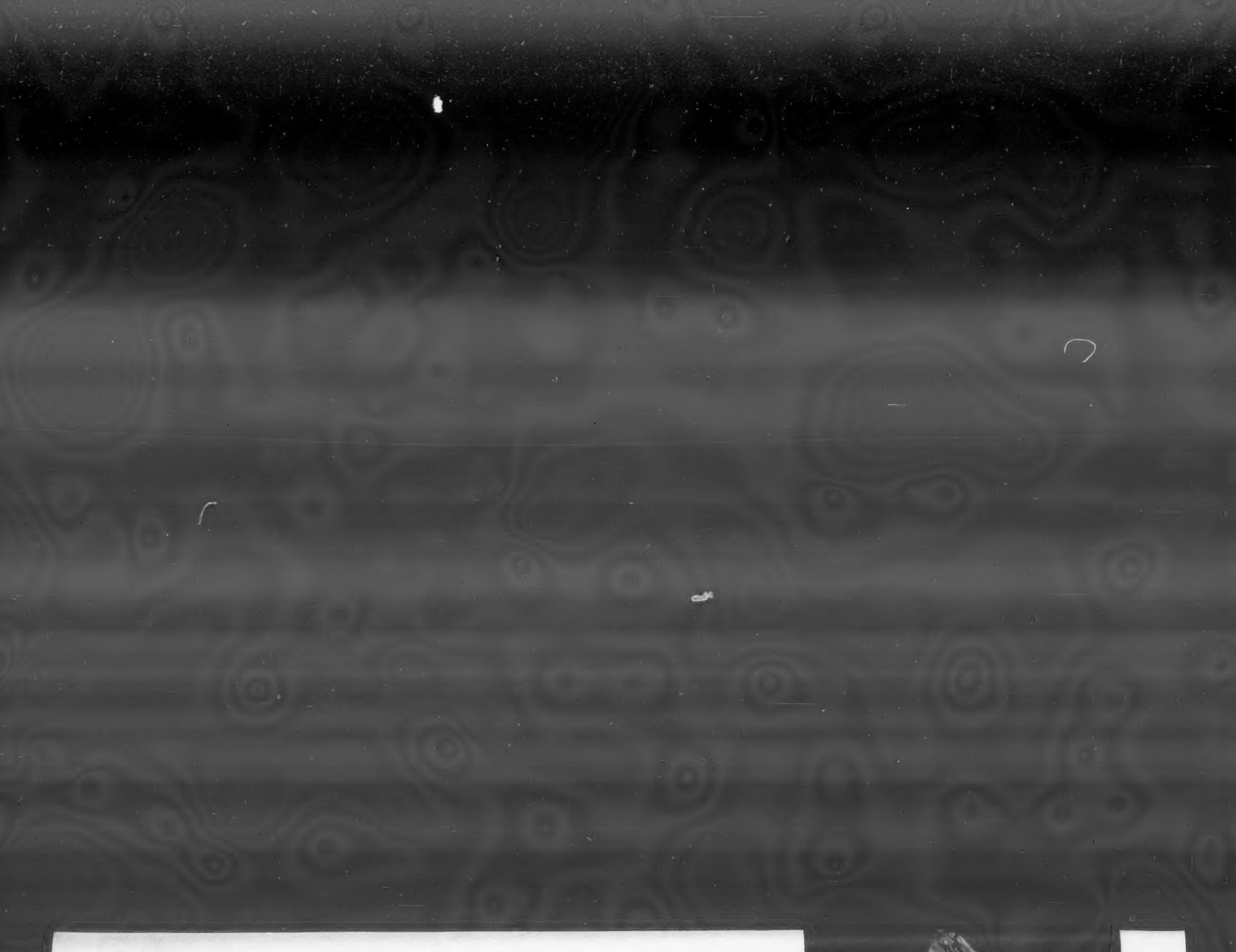
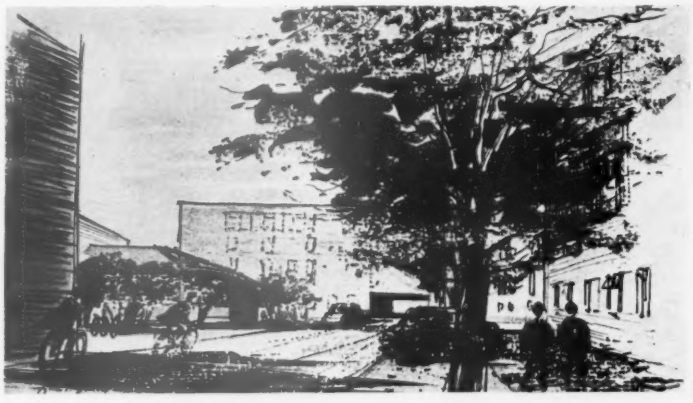


*Sketches illustrating the layout of new buildings for Cambridge University on the Sidgwick Avenue site.* a, *looking towards the archæology buildings across the small courtyard at the south-east corner.* b, *from the far side of the same group of buildings, looking along the pathways leading to the lecture rooms.* c, *the main approach from Sidgwick Avenue. At the far side of the courtyard is a paved platform with one of the faculty buildings raised on columns above it. On the left is a large lecture hall and on the right a group of smaller lecture halls.*

a



b

c

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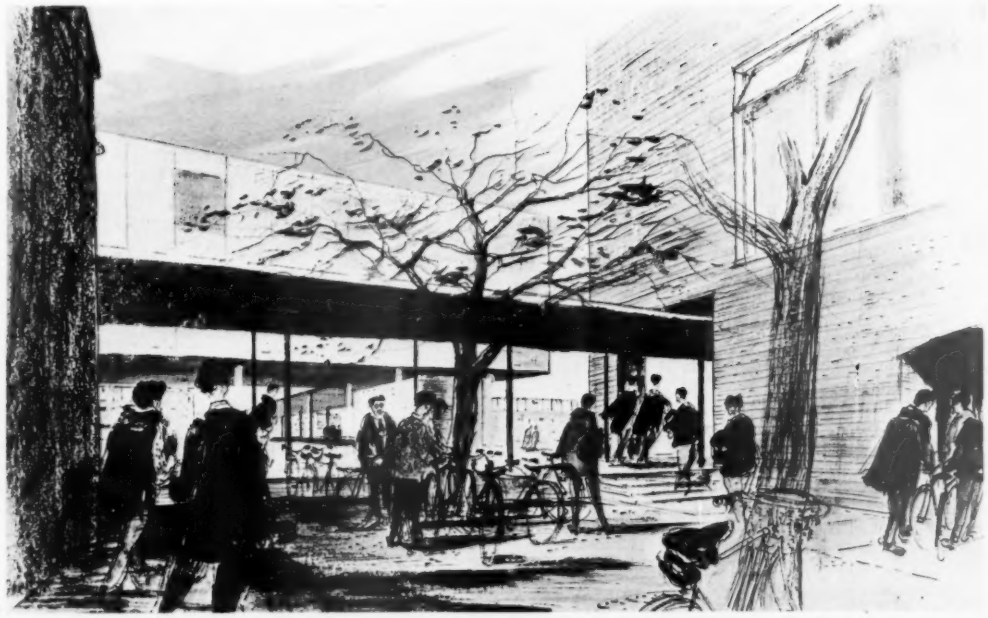
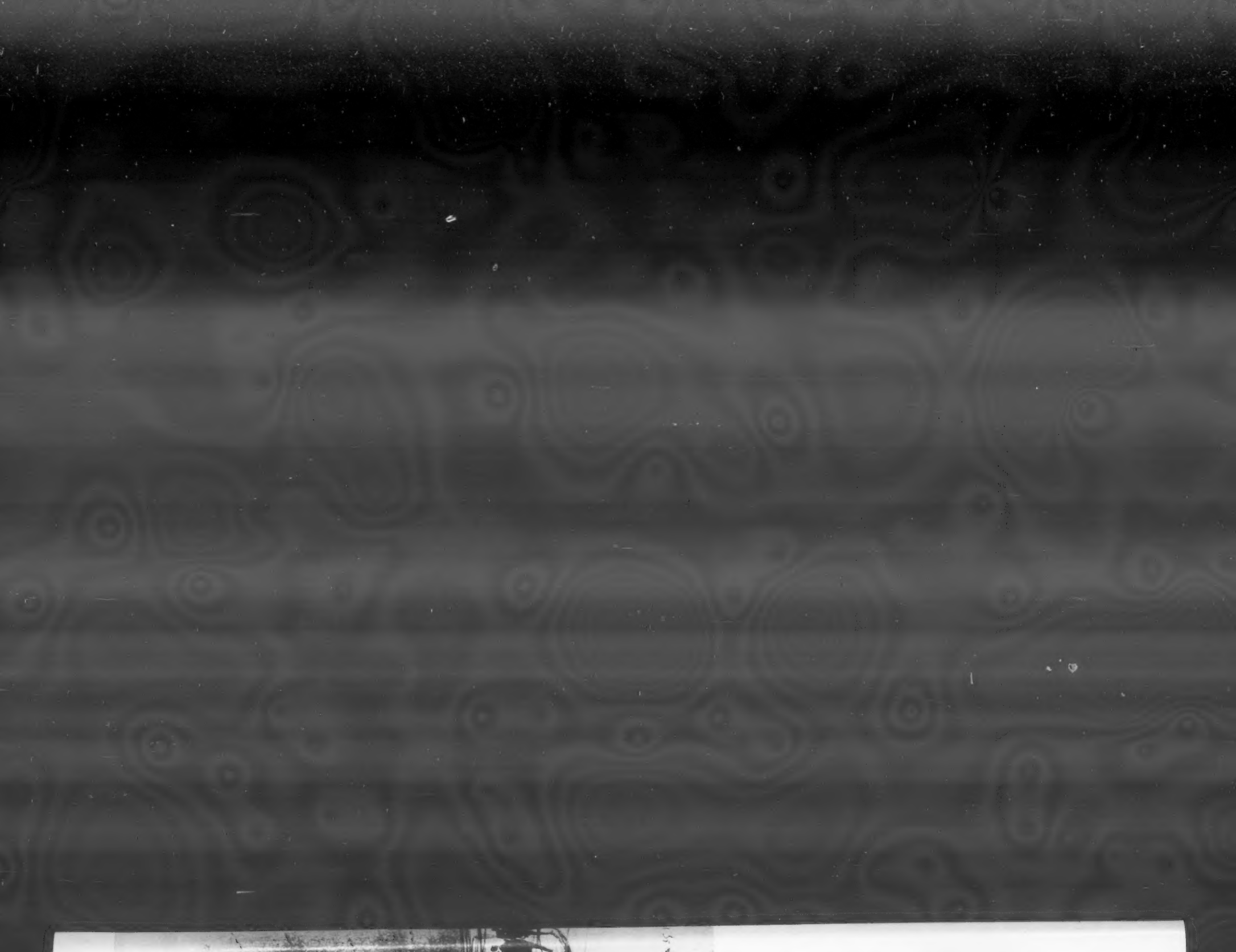
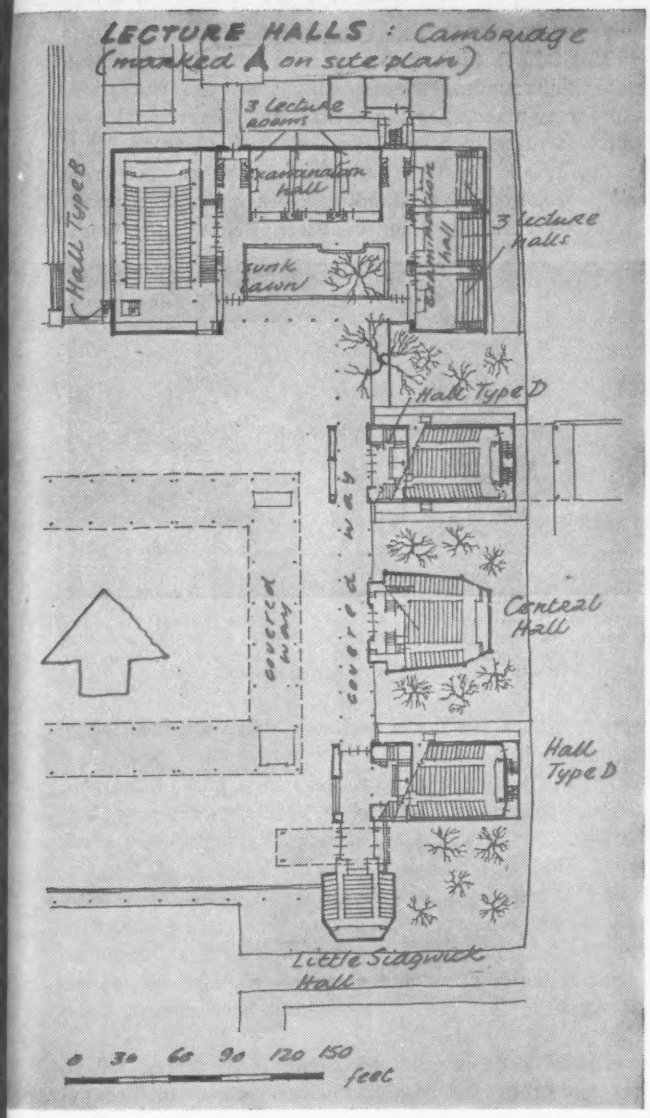


e

*More sketches of the Sidgwick Avenue site, Cambridge.* d, *looking back from the northern boundary of the site. The history building is on the left, and a large lecture hall on the right. In the distance is the water-square. The low building with windows overlooking the pool is a cafeteria.* e, *looking towards a group of lecture halls from the direction of the archæology buildings. The school of Oriental Studies is on the right.*



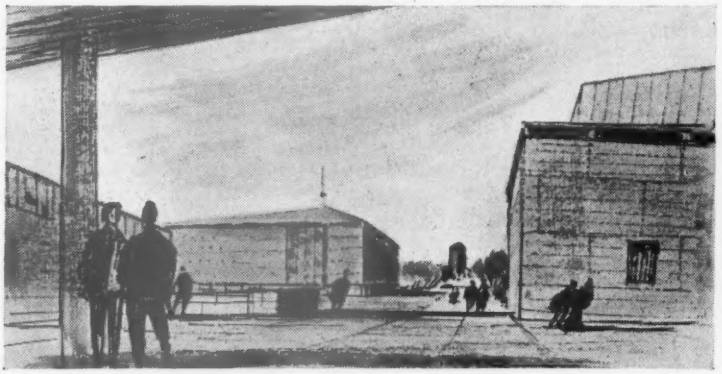



*continued from page 38*

by a group of lecture-rooms. The second stage provides buildings for the Faculties of Archæology and Anthropology and Oriental Languages, for museums of Classical Archæology and of Archæology and Ethnology, for the Committees of Aerial Photography and Colonial Studies and for further lecture rooms. The third and fourth stages, at present more tentatively planned, will provide for the Faculties of Classics, Divinity, History and Architecture and for a Music School. Several of the smaller lecture-rooms can be combined for use as examination halls.

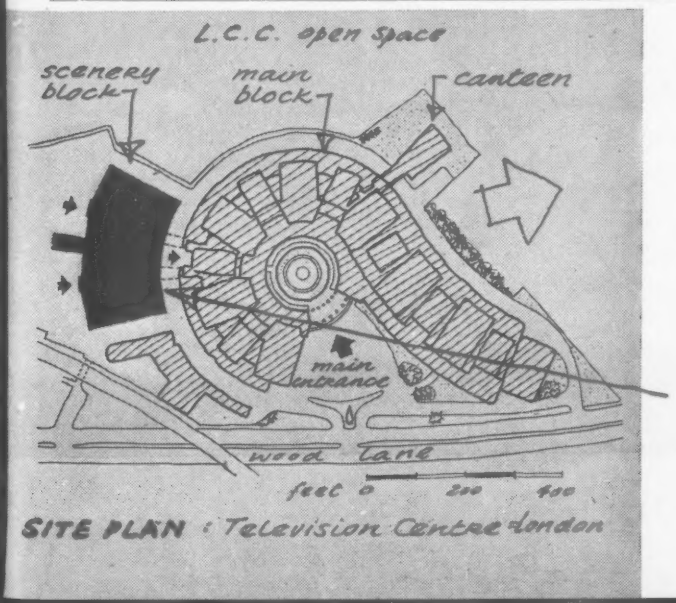
The layout takes the form of a sequence of courts, in accordance with University tradition. Few of them are entirely closed, so that views from each will be obtainable into neighbouring courts and the adjoining buildings and gardens. Within this framework the buildings are informally grouped, and the effect of informality will be further increased by the different heights of the buildings and by changes of level between one court and another. The largest of these, from which there will be views of the tower of the University Library, will have a pool in the centre.

The sketches on the facing page and on page 39 show how the groups of buildings will compose from various viewpoints. Below is another viewpoint: looking north from the paved platform into the



largest court with its central sunken pool. In the background is the West Hall, the largest of the lecture-theatres. The School of Architecture is on the left and in the distance is the tower of the University Library.

# 4 BROADCASTING



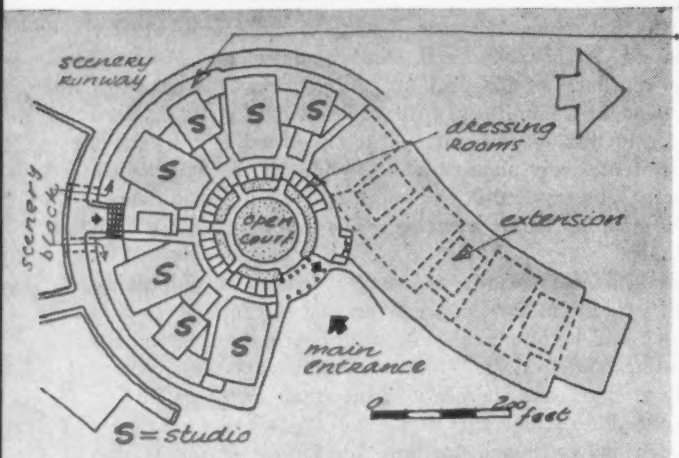

SITE PLAN : Television Centre London

## TELEVISION CENTRE: LONDON

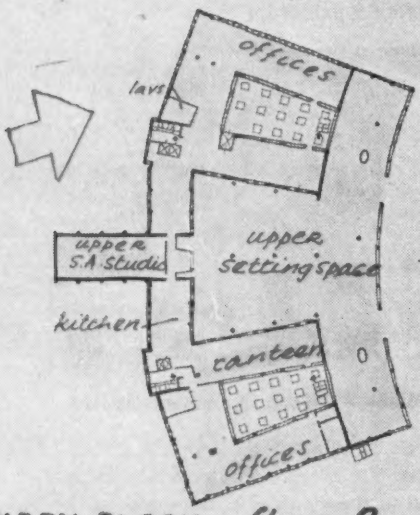
**Norman and Dawbarn**

The 13-acre site in Wood Lane was once part of the White City exhibition grounds. Approximately half has been planned (by the architects working in collaboration with Mr. M. T. Tudsbery, the BBC civil engineer) for television, leaving the remainder only planned in block form, as shown in the model. It will not be designed in detail until the BBC is in a position to judge how the accommodation should be shared between television and sound broadcasting.

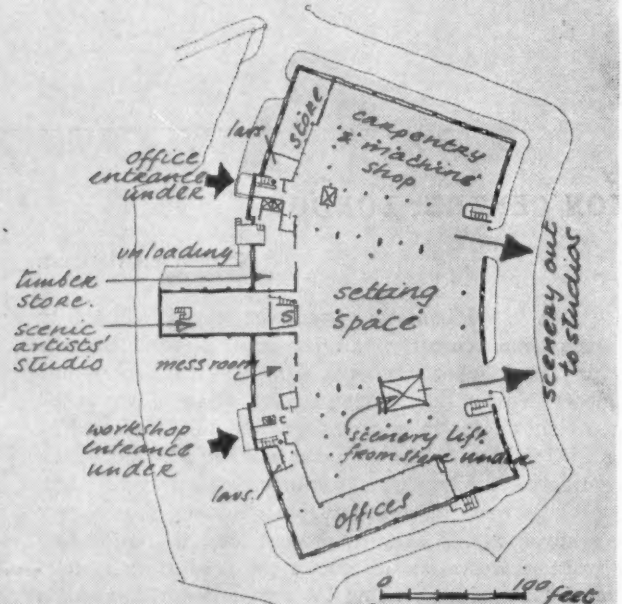
Building is going forward in stages, the first section, the scenery block, being already occupied. It is at present used in conjunction with the nearby Lime Grove studios where the production of television programmes takes place pending the completion of the studio




ground floor : MAIN BLOCK

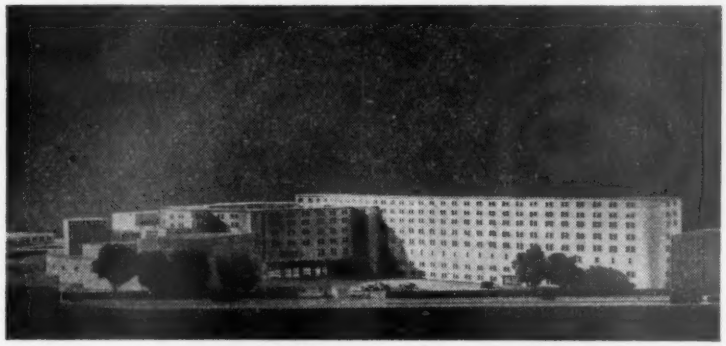



SCENERY BLOCK : FLOOR 2




SCENERY BLOCK : FLOOR 1

section of the new building. The scenery block is planned round a large assembly space from which scenery will move on floats through two openings, 25 ft. high, into a circular runway connecting the ring of studios. Surrounding the assembly space are workshops for carpenters, property-makers, scenic artists, etc. The central area is top-lit through apertures in a shell-concrete roof. Opening off it is a painting shop, a tall structure supported by precast concrete columns in which scene-painters, standing on a movable wooden platform, can work on vertically hung canvases. Beneath the work-

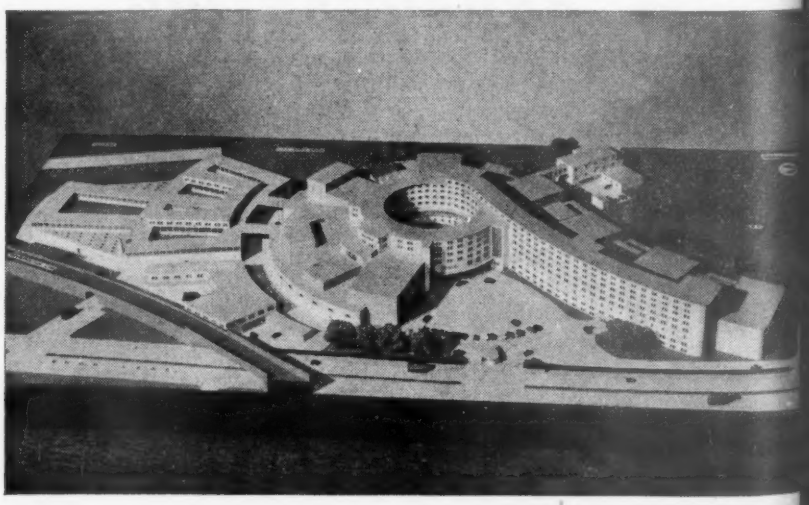


*Above, the Television Centre from ground level, showing the way into the circular central courtyard beneath the buildings. Below, from the air. The scenery block, already completed, is on the left. The next stage will be the construction of half the central block with its radiating studios.*

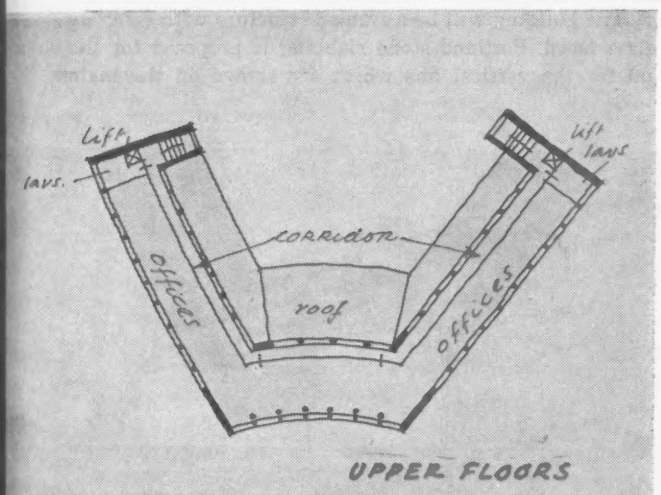
shops is a basement for the storage of scenery ; above are four wings containing designing studios and offices.

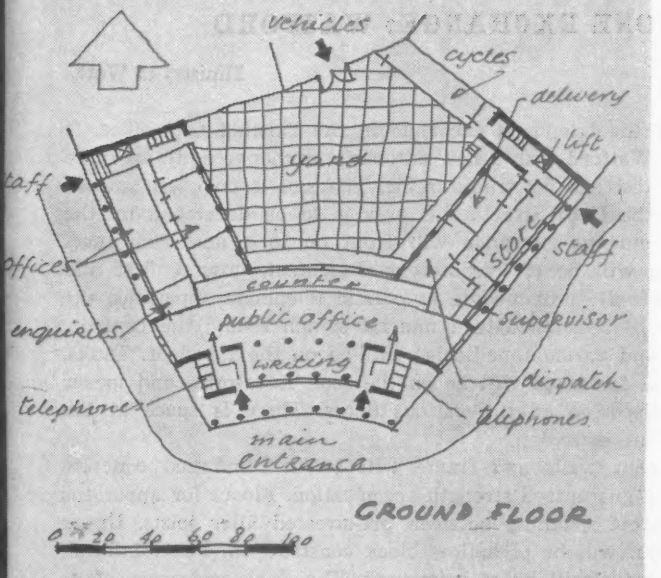
The next portion to be built will be the southern half of the ring of offices and studios forming the core of the scheme ; the next will be the other half of the same ring, together with the canteen block to the north-west. This will complete the development of the site for television as at present planned in detail. A later programme will include the curved wing extending into the north-east corner of the site and various ancillary buildings including maintenance workshops. A central boiler-house and electrical transformer station and switchroom to serve the whole undertaking have already been constructed as part of the first stage.

The circular central portion, planned round a courtyard 150 ft. in diameter, will have rehearsal rooms, dressing rooms, etc., occupying the lower floors, control and apparatus rooms above and offices in the top floors. Seven production studios will radiate outwards from the central core, in which an intermediate floor between the control rooms and the offices will provide a public ambulatory giving a view down into the studios. Construction generally is steel frame with external walls of brick in two colours.



# 5 PUBLIC SERVICES




## POST OFFICE: PLYMOUTH

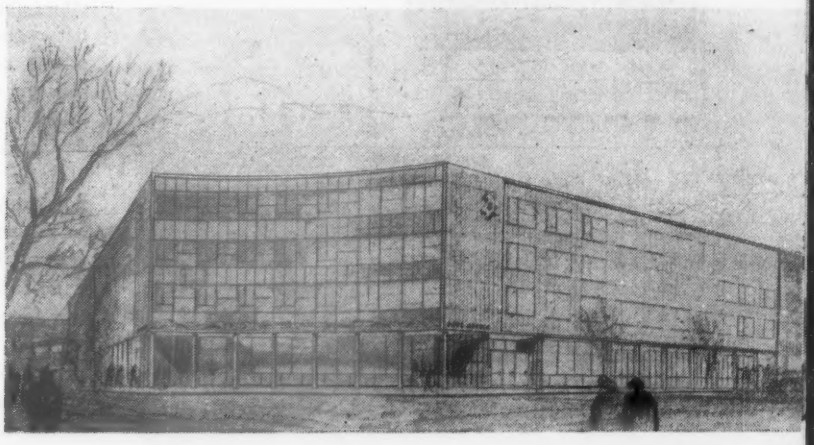
**Ministry of Works**

The site is in the heavily blitzed part of the town, and forms part of an area of redevelopment. It is situated at the junction of two major roads converging on to a new roundabout.

The planning has been largely determined by the peculiar shape of the site, and the most suitable disposition of the public office to meet operational requirements. The accommodation is arranged on four floors, the upper floors being 'single banked' only in order to meet the height requirements of the planning authority. Future expansion will be catered for by 'double banking' the side wings of the building. The public office has been kept back from the frontage to provide the requisite length of counter under full supervision and to permit of additional height. The writing room and entrance lobbies maintain the reduced height of the side wings which accommodate requirements directly related to the operation of the public office. The upper floors accommodate general offices, a large telegraph instrument room, dining and welfare rooms, lavatories and locker rooms.

The building will be of reinforced concrete frame construction, with hollow block floors and roof. The walls will be of cavity construction with brick outer skin and block inner skin between the frame. It is a condition of the local authority that the building should be faced in stone. This will be in the form of thin stone slabs in two colours, textural interest being gained by change in the pattern of joints. Polished black granite slabs will be used on the flank walls to the entrance lobbies, with thin sawn slate slabbing to the curtain wall below the cills on the ground floor. The columns will be faced with polished terrazzo.

In the public office certain of the wall surfaces will be in flush panelling, the counter being in hardwood. The floor finish will be

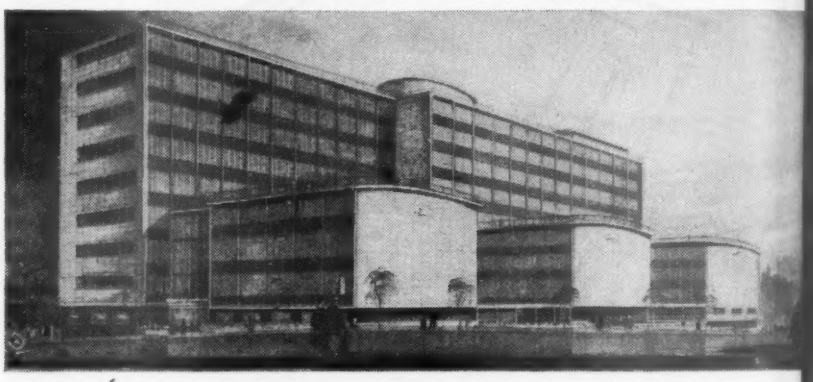


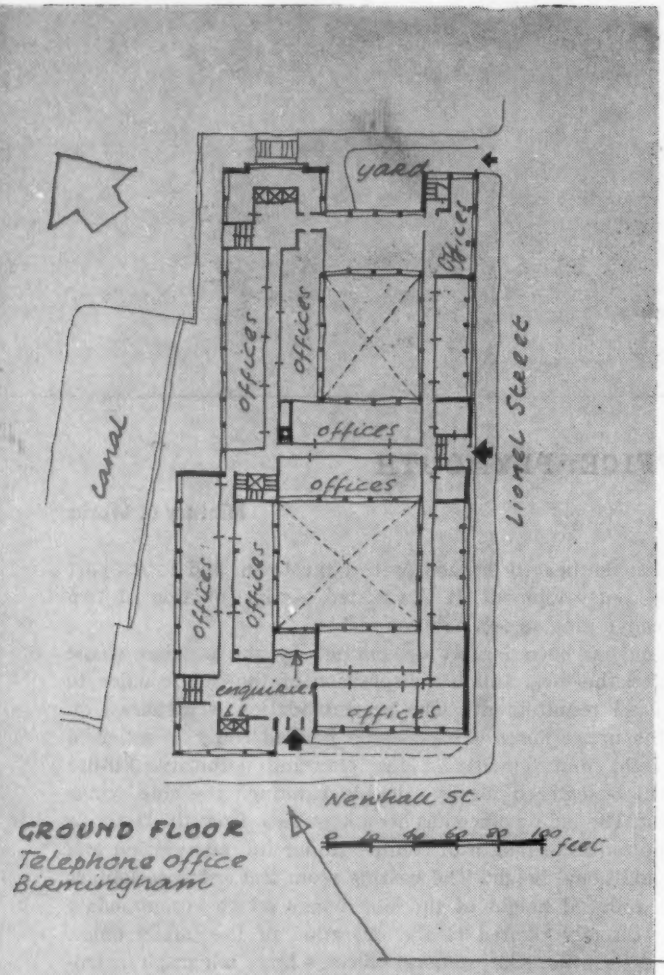
terrazzo. It will be top lighted, the laylight also housing the general artificial lighting required, lighting of a higher intensity being provided over the counter. Other internal finishes will be largely painted plaster walls. Heating generally will be by low pressure hot water; with panel heating in the public office.

## TELEPHONE OFFICE: BIRMINGHAM

**Ministry of Works**

On a vacant site at the junction of Newhall Street and Lionel Street, the project is to provide central accommodation for the Telephone Manager's staff. The building will be a framed structure with concrete panel walls, glass faced. Portland stone slabbing is proposed for the flank walls and for the vertical fins which are shown on the main frontages.



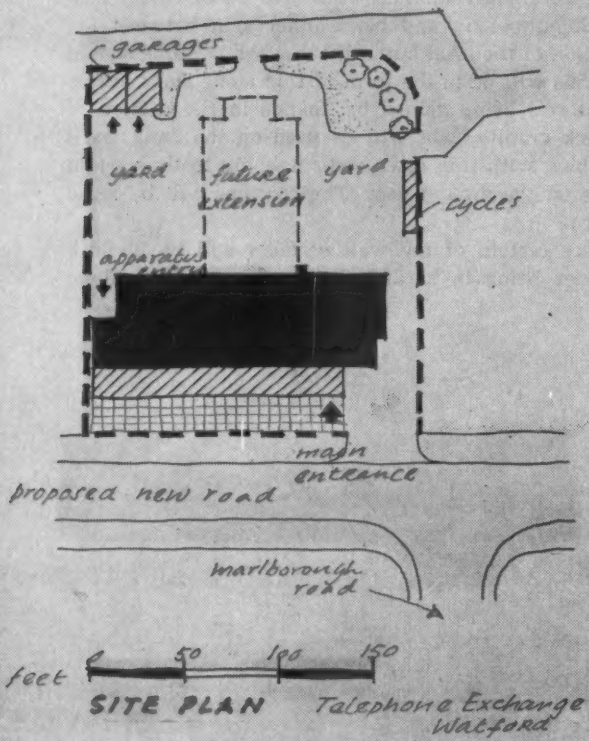


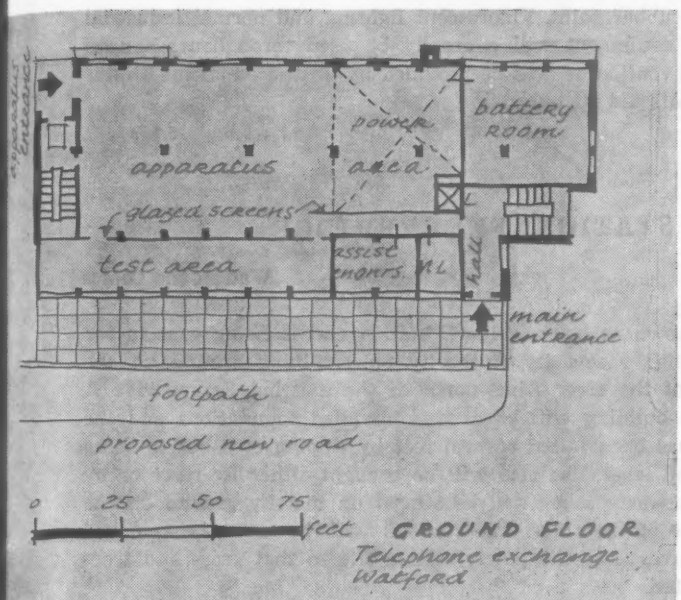

## TELEPHONE EXCHANGE: WATFORD

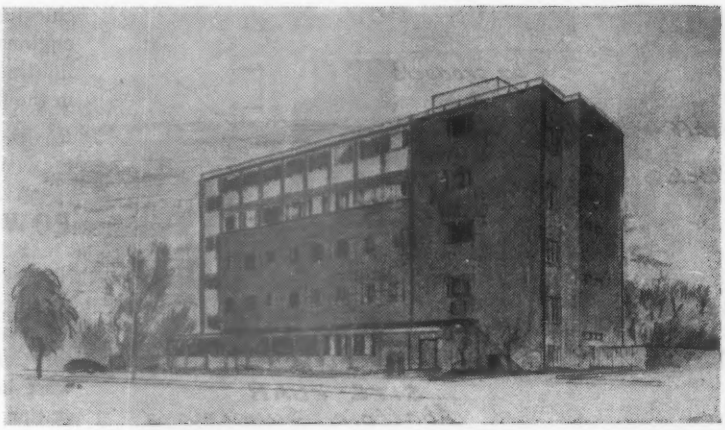
**Ministry of Works**

To replace the telephone exchange in the existing post office. It will provide Watford with a new automatic exchange and also serve surrounding districts for trunk traffic. The site is on open land at the rear of the High Street; this area is to be developed by the corporation and the exchange will front on to a new ring road. The building will be of five storeys. Basement, ground, first and second floors will accommodate automatic telephone apparatus, the third floor will accommodate a manual switch room; the canteen, office space and various ancillaries will be on the top floor. Tanks, lift room and fan room will be on the roof. Lavatories and locker rooms are dispersed on the various floors. There is space at the rear for a future extension.

The basement walls and frame will be in reinforced concrete designed to a guaranteed strength specification. Floors for apparatus will be concrete spanning between pre-stressed filler joists. Upper floors and roof will be of hollow block construction. Panel infilling to external walls will be of brickwork. The flank and main staircase walls will be in brown facing bricks. The two top floors will have continuous windows between exposed concrete columns finished fair face and treated in a light shade of concrete paint; the spandrils will be coloured stucco finish. The switch room windows have the upper panels glazed in glass bricks to reduce glare and provide adequate daylighting to the centre of the room. The first and second floors, which house apparatus, have small windows contained in a

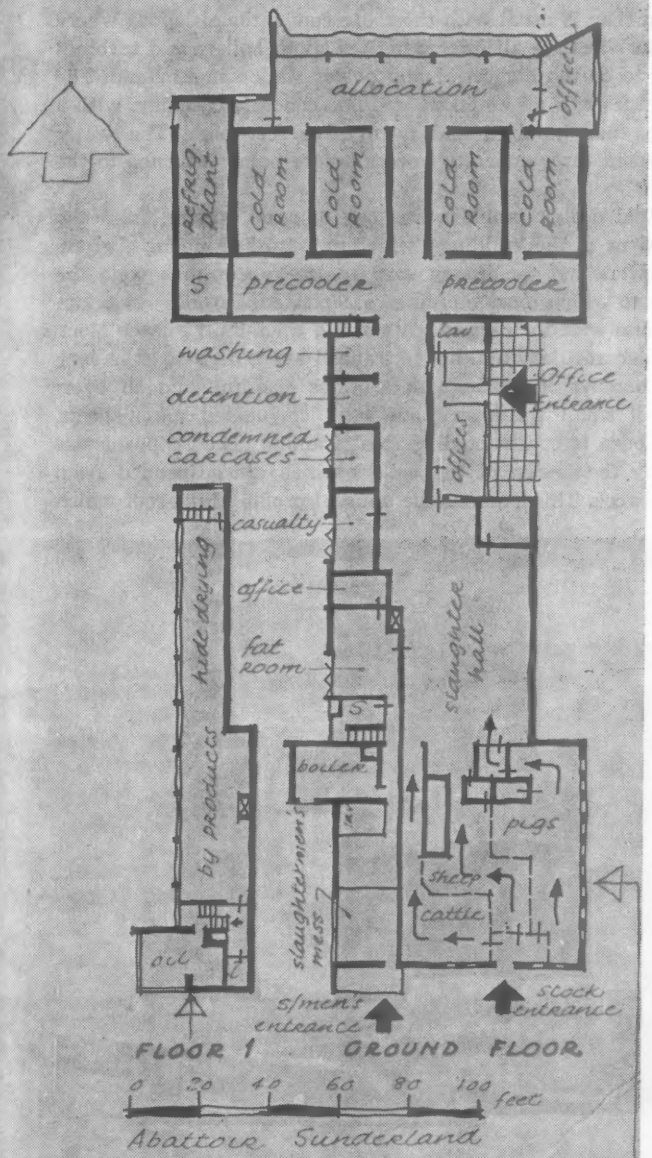




light coloured faience background. The projecting ground floor is part fully glazed to give good daylighting to the test area where constant reading of instruments is necessary. The front entrance will be framed in coloured glazed tiles. The staircase wall will be relieved by a sculptured group.

The building will be plenum ventilated from the fan room on the roof by ducts constructed in the ceilings. Heating will be by low pressure hot water.




## ABATTOIR: SUNDERLAND

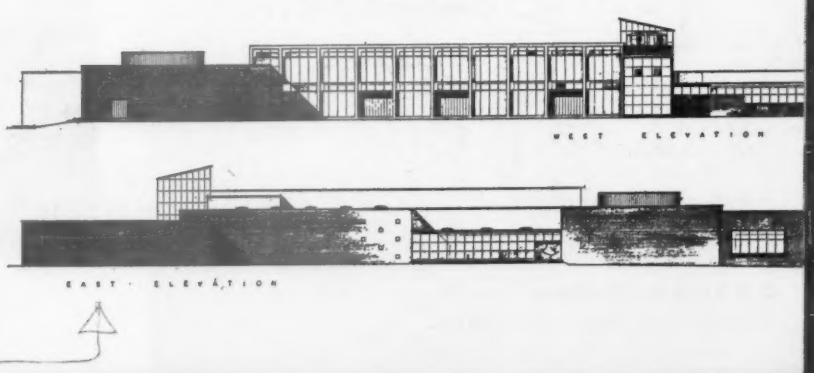
**Ministry of Works**

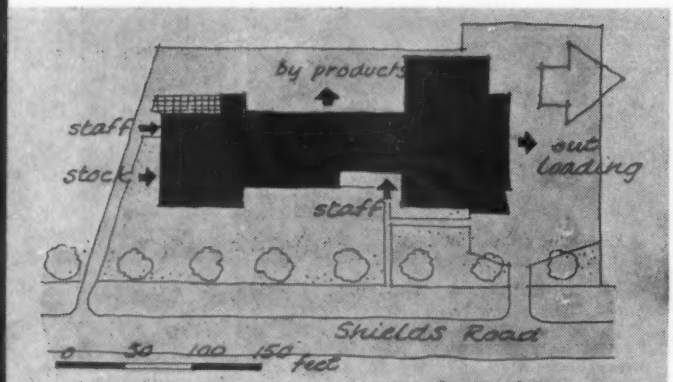
The site is situated in a live mining area, and design and structural precautions have been taken to counteract possible disturbance due to settlement.

The building is planned for the 'line dressing' system of slaughtering, with facilities for maintaining a high standard of hygiene, adequate meat inspection and for the humane treatment of animals through all stages. In the interests of hygiene the covered lairage has been isolated from the main building. No provision has been made in the plan for processing by-products; the aim being to arrange their despatch to processing plants in such condition as to avoid deterioration.

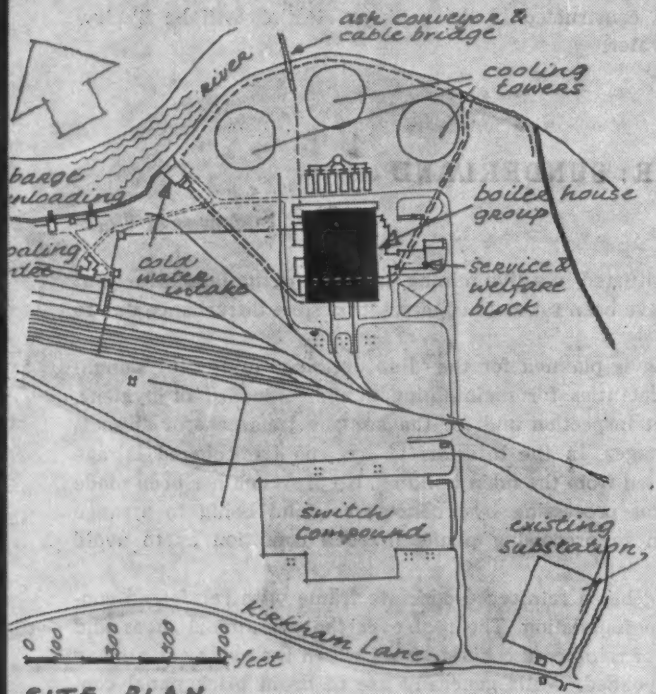
The building has a reinforced concrete frame with reinforced concrete tee-beam foundation. The roof over the operational areas and cold rooms is of reinforced concrete from which the overhead runway system is suspended. Walls generally are to be in brick panel construction. Floors to slaughter hall and by-products rooms are to be in non-slip grano, incorporating a hardener and finished with coarse carborundum. Floors to cold rooms, outloading area and precooler rooms are to be in a special mastic asphalt surfaced with coarse carborundum. The external walls will be finished in either facing bricks, faience or rendering with a Tyrolean finish.

The operational area throughout will be painted with a special

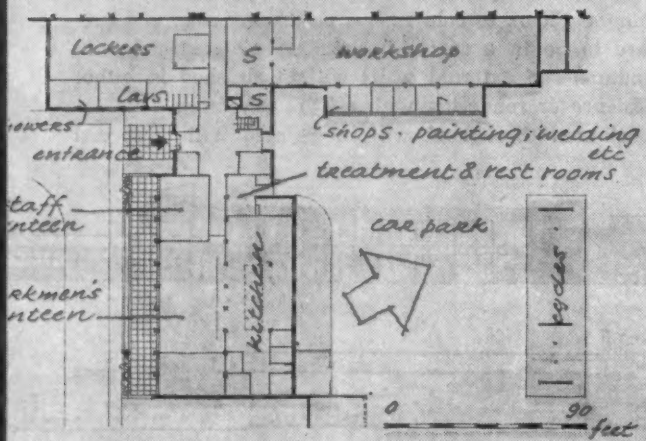





SITE PLAN
Abattoir: Sunderland




SITE PLAN
Power Station: Ferrybridge




GROUND FLOOR
Service & Welfare block

chlorinated rubber paint. Fluorescent lighting and normal industrial engineering equipment will generally be used throughout. Natural lighting and ventilation will be provided by ventilated 'dome' lights in the flat roofs and wall glazing.

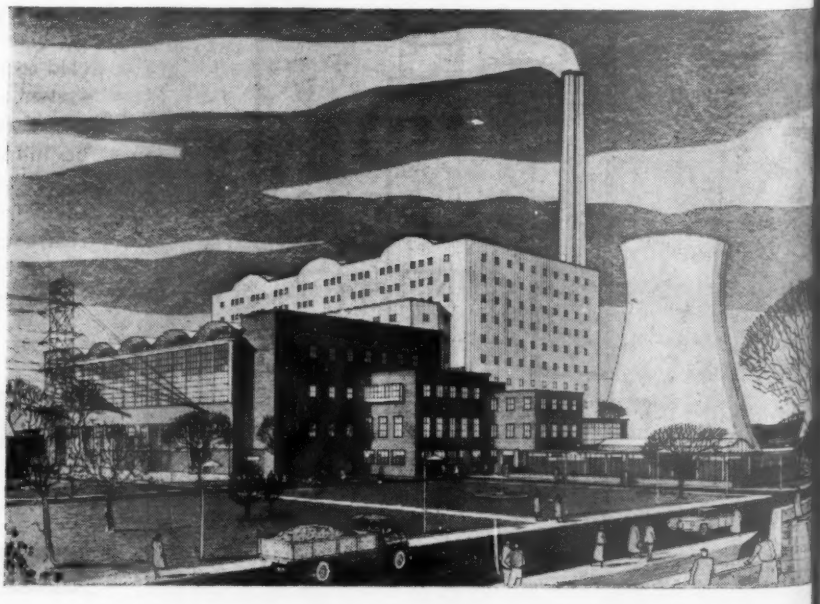
## POWER STATION: FERRYBRIDGE

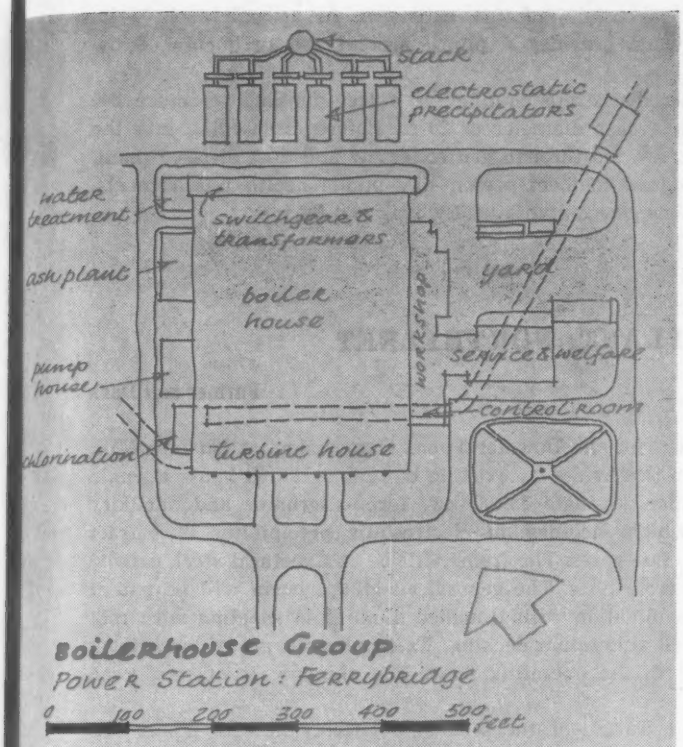
**Watson and Coates**

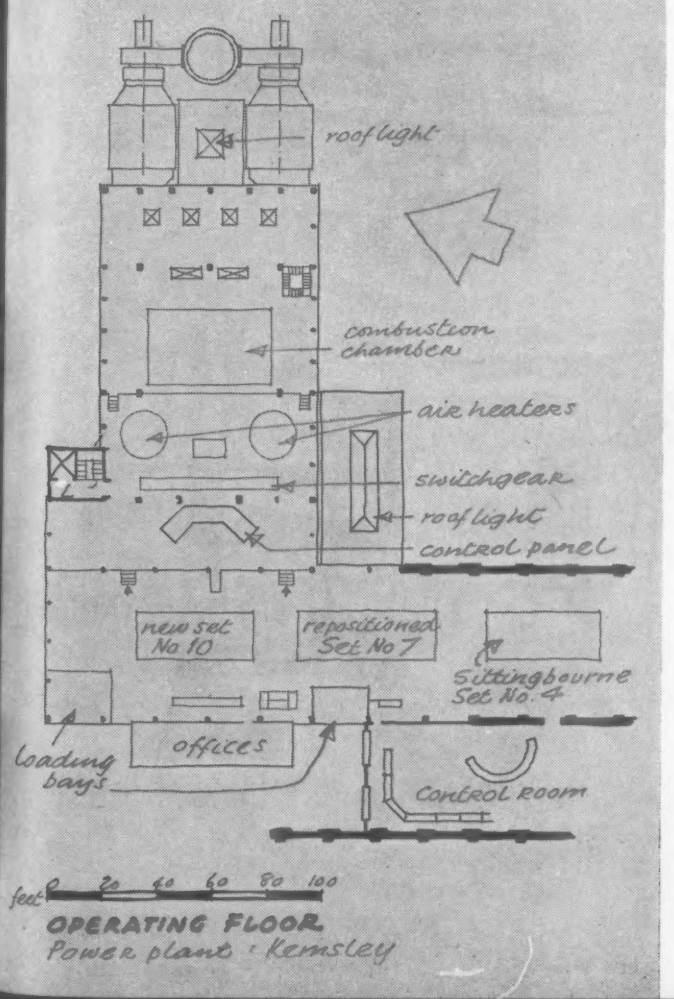
This is known as Ferrybridge B station and is being constructed for the British Electricity Authority on low-lying ground on the west bank of the river Aire, north of the existing Ferrybridge A station. The building will be carried on piled foundations and the whole site has been raised several feet by tipping of ashes to bring it above flood level. The coal will be brought either by river or by rail and the waste ashes will be spread on marshy ground on the opposite side of the river. The top soil will, however, be removed first and conveyed to the power station site so that grass and trees may be planted.

A new type of generating layout has been adopted. There are to be three separate sets each consisting of a boiler and a 100,000 kW turbine. This makes for simplicity and for a much more compact building than is usual with the more conventional layout where boilers and turbines are all interconnected. Both boilers and turbines are believed to be the biggest of any power station in England. The three boiler flues will all be taken into one concrete chimney, with a cast-iron top, four hundred and twenty-five feet high. The water will be cooled in three concrete towers before being returned to the river.

The principal design problem was one of scale, arising from the large dimensions of the buildings, which are situated among a group of cooling towers and a chimney vast in size and quite beyond the human scale to which most buildings are related. In order to relate the boiler house with the human scale of the brick-built service block and the smaller ancillary buildings arranged along its base, it is very simple and massive in shape with asbestos cladding and an overall pattern of small windows made with corrugated glass sheets. The boiler house is constructed of steel framing. The shape of this is dictated by the design of the boilers which are suspended from the roof steelwork. This explains the unusual profile of the roof which






covers a series of bow-string girders over each boiler. The design has been altered since the perspective was drawn and these girders will now be set back from the main wall face.

The turbine house has a span of 125 ft., which is much larger than usual, and a length of 250 ft. It is to be covered with a shell concrete roof and studies are now being made of the artificial lighting to ensure that the best effect is obtained inside this large room. The control room adjoins the turbine house, and is on the top storey of the service block. It will control the output from the existing Ferrybridge A station and will be directly linked to many other stations on the grid. This part of the scheme should be ready by July, 1954, but the generating plant will not be ready for some years. The engineers are Messrs. Mott, Hay and Anderson.

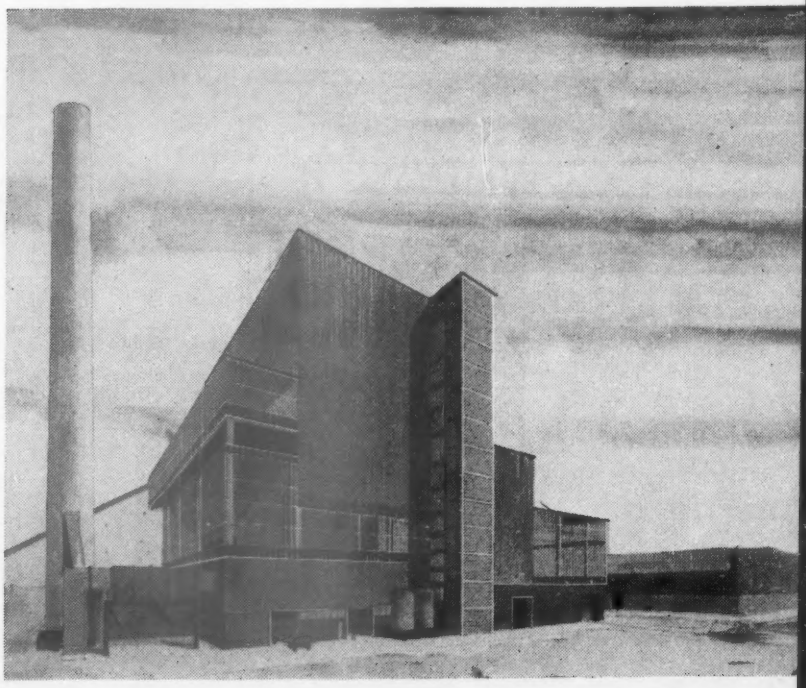
## POWER PLANT: KEMSLEY

**Farmer and Dark**

This is a power-plant for the Bowater Paper Corporation. The restricted nature of the site, coupled with the special requirements of a top-slung type of boiler, has resulted in a steel-framed structure 142 ft. high with a comparatively small plan area. The design of the steelwork has been influenced by the very high stanchion loading and wind forces to be dealt with.

A general cladding material was required which would combine strength, lightness, durability and good insulating qualities with ease of erection at a reasonable price. These requirements were satisfied by the use of 20-gauge troughed aluminium sheeting, fixed to sheeting rails by a patent bolt and clip system. The areas of patent glazing express the main operating levels in the boiler house and bunker bay, while in the turbine house, a fairly high level of illumination is provided by a system of monitors formed between the lattice trusses. The roofs are covered with aluminium decking incorporating insulation board and felt.

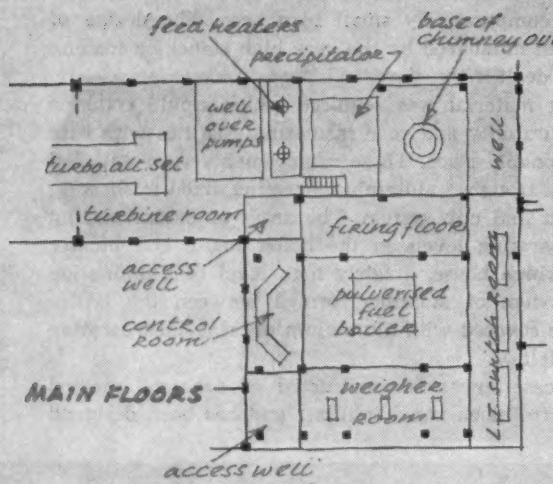
The lift and staircase tower is constructed of concrete encased steelwork with concrete block panel infilling, and has been designed

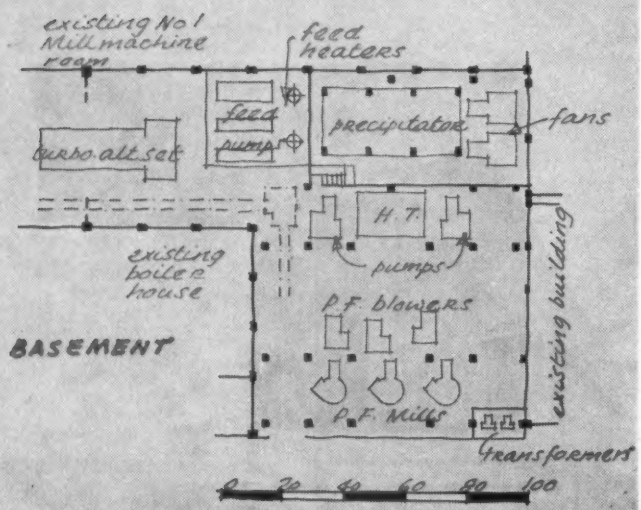


to provide for a possible future extension. At ground level, 11 in. cavity brickwork provides a plinth around the perimeter of the building.

The reinforced-concrete chimney is a free-standing structure 200 ft. high, with a base diameter of 20 ft. Before discharging into the flue the gases are fed through grit collecting and dust disposal plant, which is designed to meet present-day public health requirements.

The engineering consultants are Ewbank and Partners.



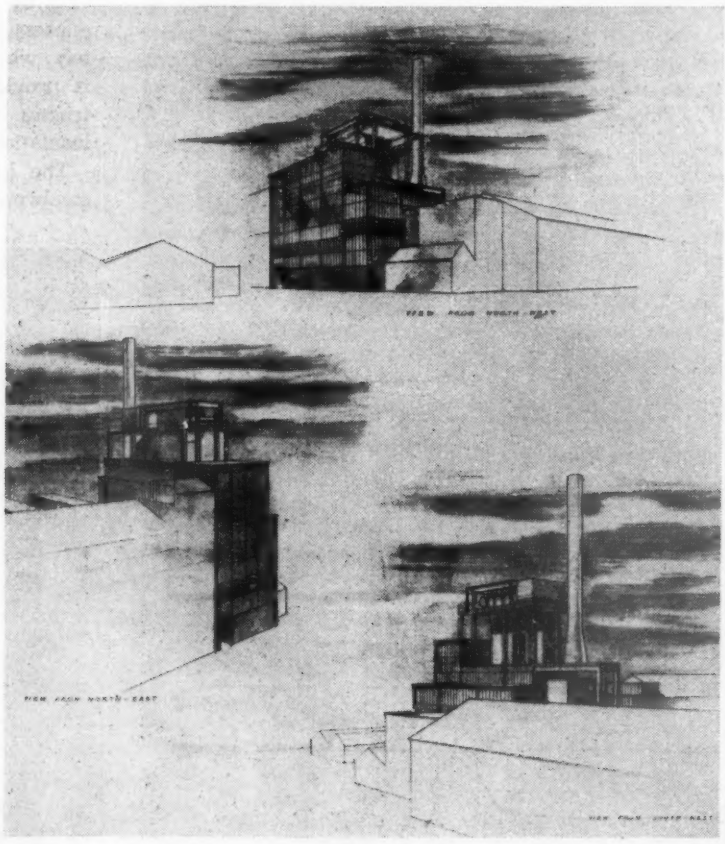

## POWER PLANT: NORTHFLEET

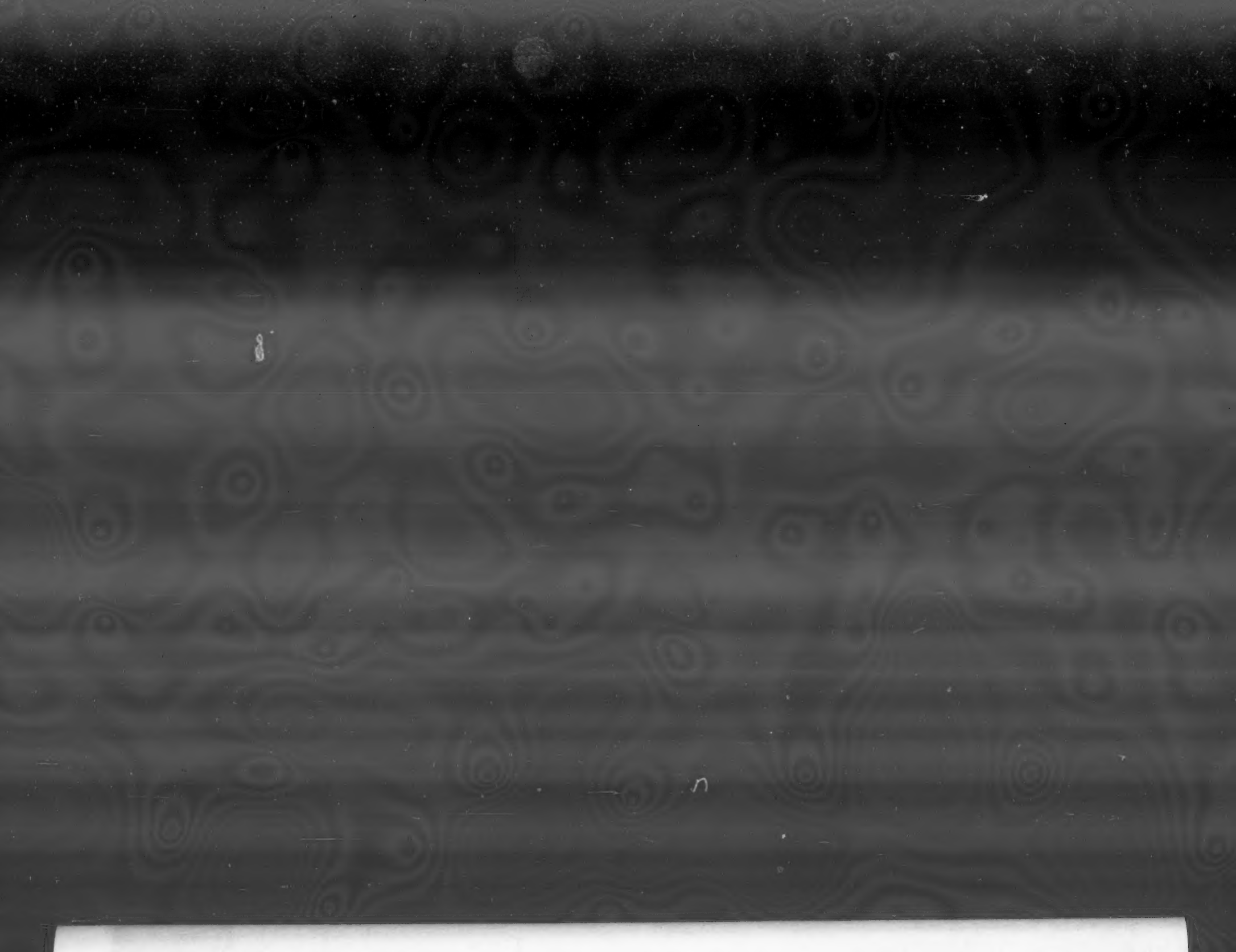
**Farmer and Dark**

The building, for the Bowater Paper Corporation, at Thames Mill, is enclosed on three sides by existing buildings. It will house a single top-slung boiler, a single 15,000 kw. turbo-alternator and ancillary equipment which includes an electrostatic precipitator to extract grit from the flue gases. The frame will be of structural steel, carried on bored concrete piles. The general cladding system will be patent glazing in combination with troughed aluminium sheeting with roof of bitumenized aluminium decking. External walls are of brick from ground level to the operating floor. The chimney is of reinforced concrete.

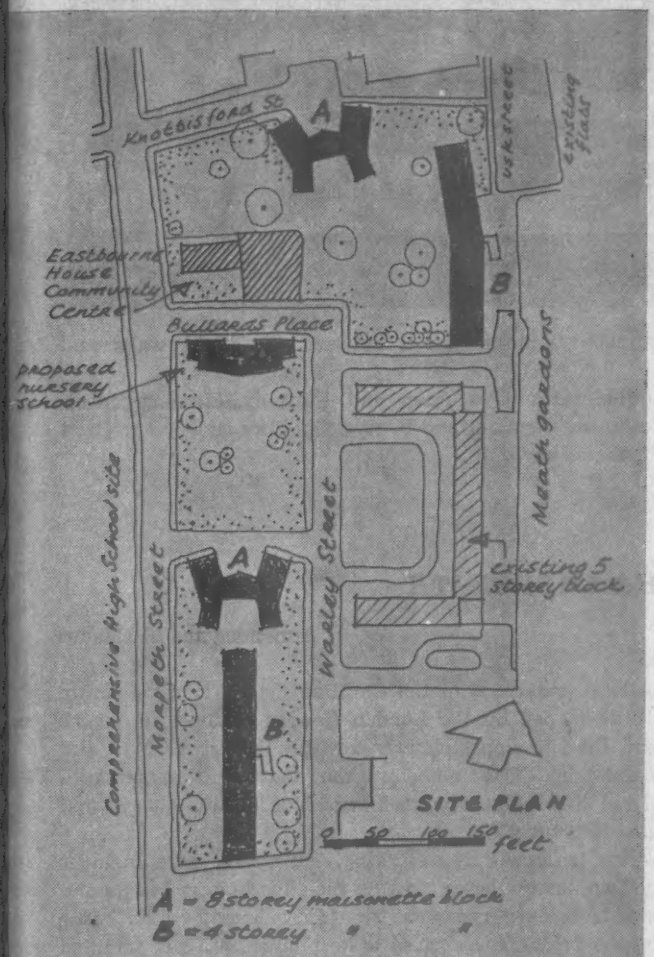
An unusual feature of the scheme, relatively new to power station design in this country, is that the boiler structure will be exposed from a height of 65 ft. to the roof, which is at approximately 120 ft.

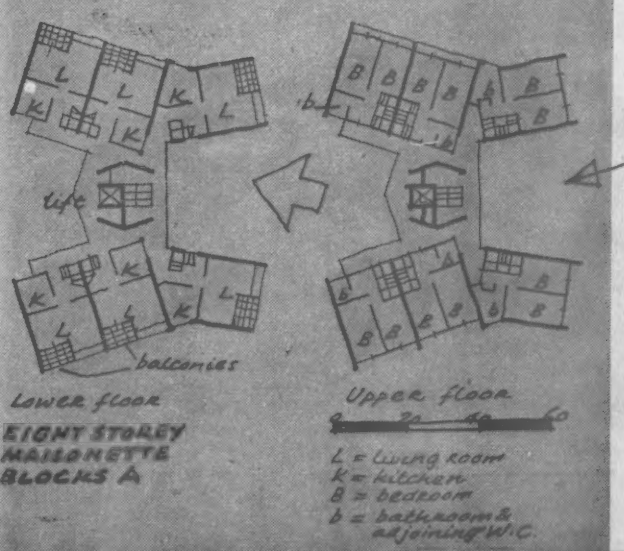
The engineering consultants are Ewbank and Partners.





# 6 HOUSING




## FLATS: BETHNAL GREEN

**Fry, Drew, Drake and Lasdun**

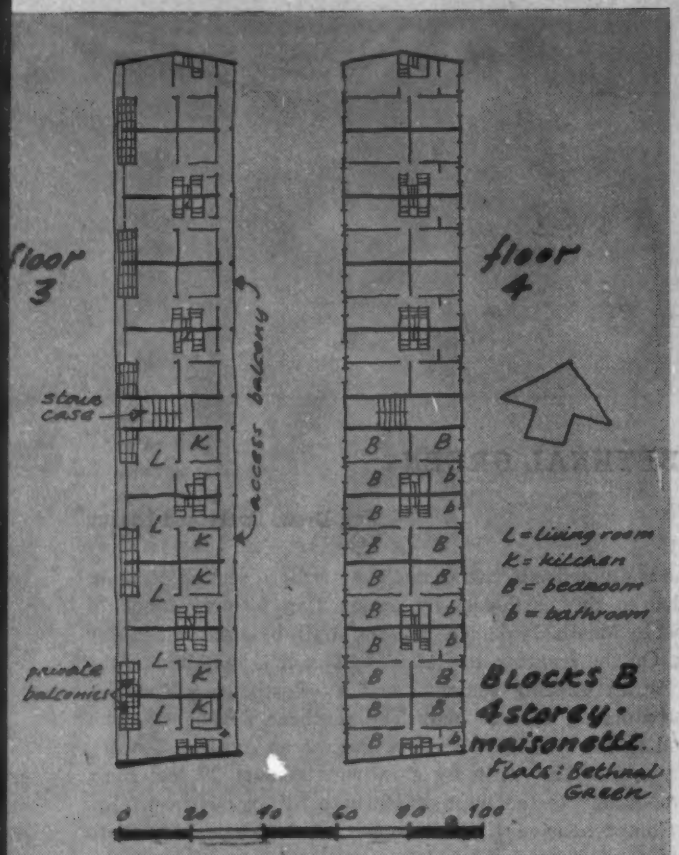
This scheme is divided into two parts. The northern section occupies a site bounded to the north-east by an existing 5-storey block of flats, to the east by Meath Gardens and to the south by another 5-storey block of flats. On the frontage to Bullards Place it is bounded in the west corner by an existing vicarage and by Eastbourne House, a building approximately 50 feet high. The southern section occupies a site bounded to the east by the gable ends of an existing 5-storey block of flats, and to the south by a railway viaduct 25 feet high. The area immediately to the west of Morpeth Street has been allocated for a Comprehensive High School. Generally speaking, both sites consist of derelict property which is treeless and with no architectural character. Their combined area is 2.56 acres.

The area adjoining this scheme to the north is being developed by Yorke, Rosenberg and Mardall (see page 57), and the layout and heights of both schemes have been designed in very close collaboration, in consultation with the LCC as town-planning authority. The Metropolitan Borough of Bethnal Green were anxious that no building should exceed 8 storeys in height in this area. The 8-storey A block in the northern section of the site will act as the focal point to a proposed market-place along Roman Road, and will dominate the other blocks in this area.

It is proposed to close Usk Street as shown on the plan, and relate the development in the northern section intimately with Meath Gardens. A replanting programme covers both sections of the site. There is a nursery school in the southern section, and a community centre in the northern section.

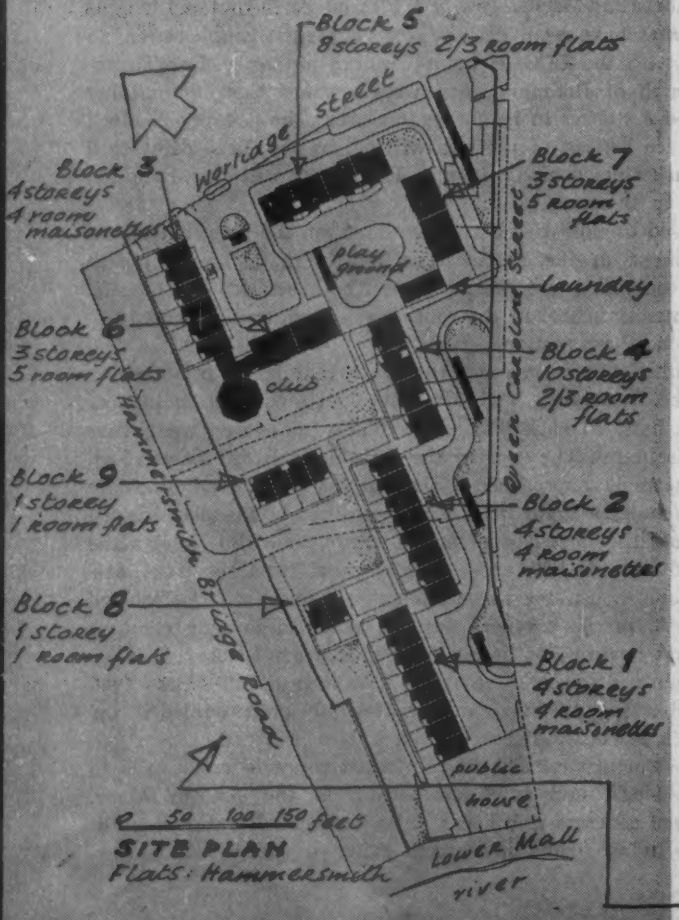
The accommodation is complementary to that being provided by Messrs. Yorke, Rosenberg and Mardall, which consists mainly of smaller type flats. In each 8-storey A block there are twenty-four 4-person maisonettes. The area of the maisonette is 698 square feet. Each maisonette is approached by an access gallery on alternate floors, and includes a pram store. The disposition of the plan is such as to eliminate the necessity of escape stairs, and also isolates the noise of public stairs, lifts and refuse disposal from the dwellings. A central boiler-house for the combined schemes will be located under block A, in the northern section, and will provide constant hot water and heating for both schemes. In each 4-storey B block there are twenty 6-person maisonettes. The area is 890 square feet. Pram stores for the upper floor maisonettes only are provided in the entrance halls. A refuse disposal chute is also provided.

The main structure consists of reinforced concrete cross-walls in the 8-storey block, and brick cross-walls in the 4-storey block, with reinforced concrete slab floors in both cases. All external infilling walls to living rooms and access galleries will be either par-




tially, or completely, prefabricated between structural walls and floors.

Consulting engineers: Ove Arup and Partners. Heating consultants: Donald Smith, Seymour and Rooley. Quantity surveyors: Cyril Sweett and Partners.

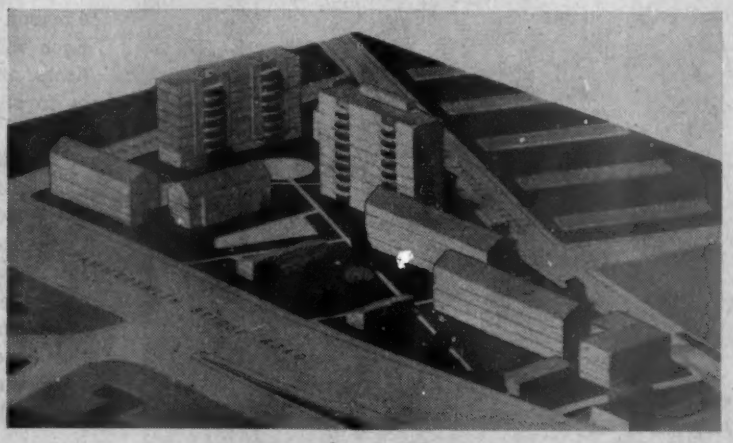


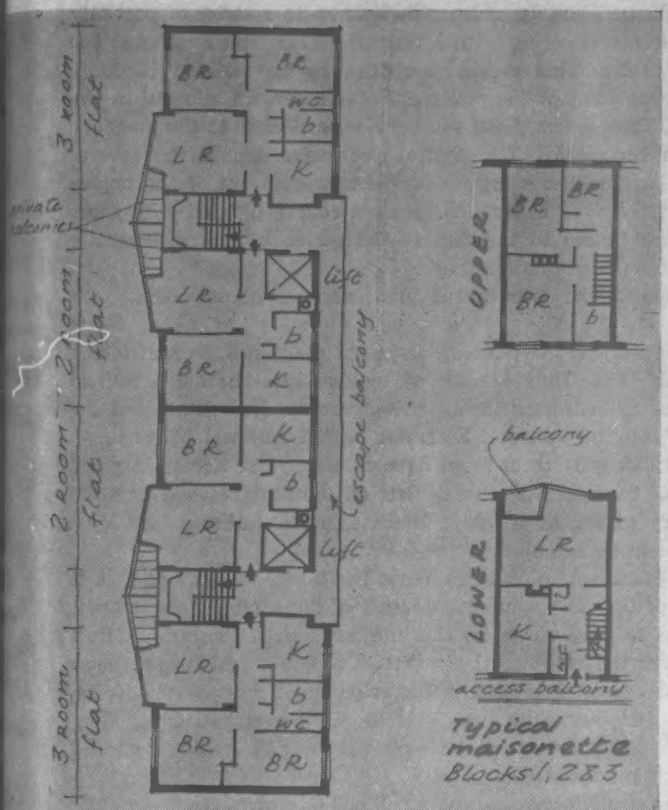

## FLATS: HAMMERSMITH

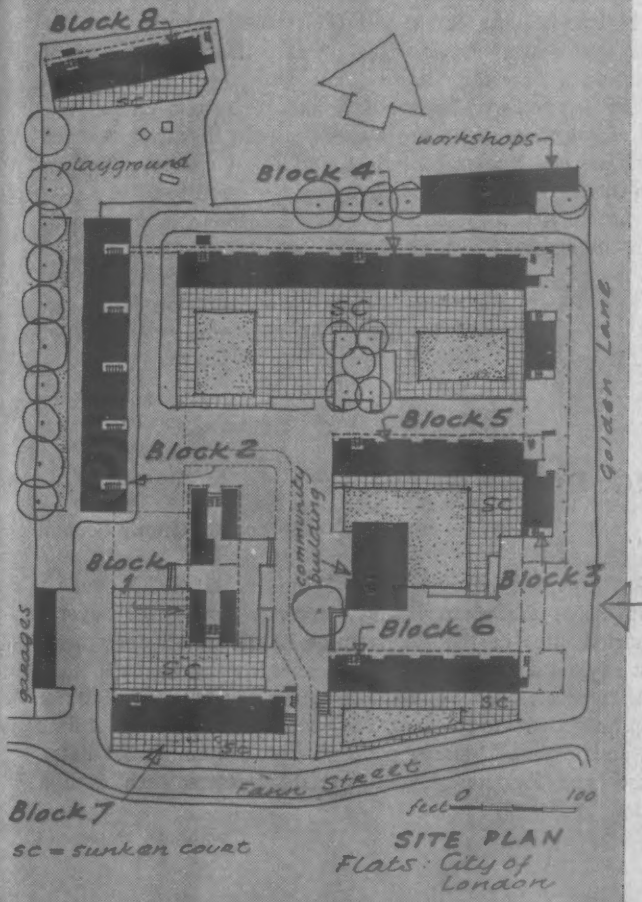
**Armstrong and MacManus**

The scheme is an extension of the Caroline Estate, Hammersmith, already partly developed by the London County Council. About 2.9 acres in extent, the site slopes slightly towards the Lower Mall and the river Thames, and is bounded on the west by Hammersmith Bridge Road and the bridge approach, which is a class 1 road and is to be widened to 100 feet.

There were no trees worth preserving, but the scheme includes new planting. Two narrow lanes crossing the site, derelict houses and other buildings have been removed. The 'City Arms' public house now adjoining the bridge approach is to be rebuilt on a site retained






for it on Lower Mall and overlooking the river. Access to Lower Mall from the new flats is by way of a terrace adjoining the new public house site.

The general aspect of the new buildings is south and west, with a view upstream above the suspension bridge. A view of Hammersmith parish church is preserved from the bridge. The extension scheme consists of 134 dwellings in nine buildings of varying heights. Types of accommodation are as follows:—

6 Bed-sitting room bungalows for elderly people.

72 Two and three-room flats in one eight-storey and one ten-storey block; each block has two lifts.

44 Four-room maisonettes in three four-storey terraces.

12 Five-room flats in two three-storey blocks.

The scheme includes a communal laundry and a tenants' club room. The bungalows and maisonettes have private gardens and there will be a children's playground and extensive lawns and planted areas.

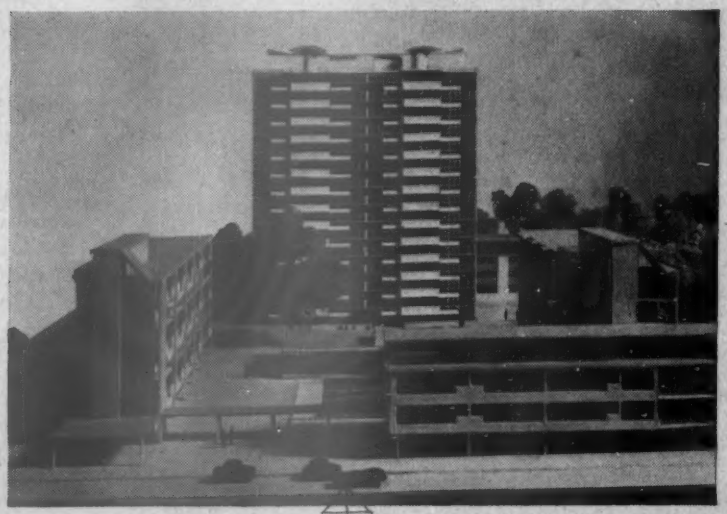
The eight and ten-storey blocks have reinforced concrete frames and floors with cavity brick and partition block external walls. Metal access balcony railings to the ten-storey block have glass-filled panels. All except the two tall blocks have tiled and pitched roofs. The club building has copper sheet roofing. Steel windows are used throughout, built direct into brickwork with precast external and internal terrazzo cills.

The structural engineers are Bylander and Waddell.

## FLATS: CITY OF LONDON

**Chamberlin, Powell and Bon**

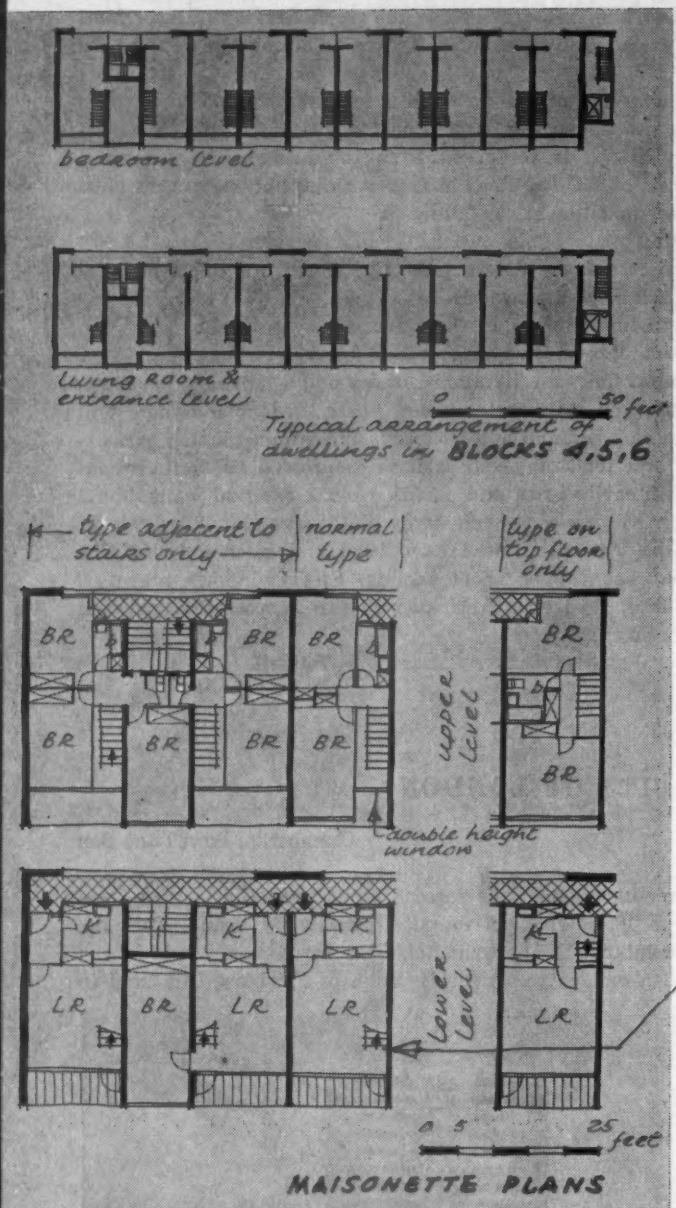
This is a modification of the scheme which won the Golden Lane competition in 1952. Work on the site has already begun. The site, cleared by bombing, is approximately five acres, partly within the City of London and partly in the Borough of Finsbury. The land to



the west and south is zoned for commercial use and to the north is a school.

The City Corporation required the site to be developed at the maximum density of 200 persons to the acre. This involved the provision of approximately 340 flats, together with a community centre, a boiler-house and estate workshops. An unusually large proportion of small flats was asked for, as follows: one-room flats, five per cent.; two-room flats, 35 per cent.; three-room flats, 45 per cent.; four-room flats, 15 per cent.

Owing to the drabness of the existing surroundings, the blocks




MAISONETTE PLANS

have been planned largely to look inwards on to a series of partially enclosed courts, connecting with a central piazza which contains the community centre. This piazza is backed by an isolated 14-storey block, the focal point of the scheme. No vehicles are allowed in the central area. They are confined to a service road close to the northern and western boundaries. The central pedestrian area is on several levels, creating an interesting landscape character out of the opportunities offered by old basements. Sunken courts, planted with grass and trees, are linked to the foot of each block but are generally accessible from the circulation space.

The various blocks (see layout plan) contain accommodation as follows:—

*Block* 1 (14 storeys): two-room flats, eight on each floor, half facing east and half west. They are served by two lifts sharing a central lobby. Access to bedrooms through living rooms has eliminated the need for an internal corridor. Each flat has an external balcony.

*Block* 2 (4 storeys): three-room flats with staircase access in pairs, plus a row of two-room penthouse flats on the roof reached from an access gallery served by a lift in Block 4, necessitating a high-level bridge between the two blocks.

*Block* 3 (4 storeys): this block faces the busy Golden Lane, so is unsuitable for flats at ground level. Most of the ground floor is open, giving access to (and views of) the internal courts. The ground-floor flats look over the court to the west. On the first and second floors (where there are one, three and four-room flats) most of the living-rooms face west but a few face east to avoid overshadowing. Two-room penthouse flats on the roof are reached by lifts in Blocks 4 and 5 and thence by an access gallery.

*Blocks* 4 *to* 8 (6 storeys, except for *Block* 7, which has 4 storeys): maisonettes, mostly three-room, but with a small proportion of four-room. An attempt has been made to create a spacious effect by taking a light staircase directly out of the living-room (see detailed plans). The volume of the stair running through two floors and the two-storey window associated with it become a visual part of the living room.

Block 1 is of reinforced concrete wall construction, Blocks 2 and 3 a mixture of load-bearing brick and reinforced concrete and the remainder of load-bearing brick with alternate floors and basement walls of reinforced concrete. Inaccessible external walls will have dark facing bricks, relieved by bright colour on panels under windows, backs of balconies and other places that can be easily reached for cleaning. The end walls of Block 1 will be of concrete finished with a rough-surfaced dark paint.

Special attention is being paid to the floor treatment of the courts, which will be given scale and interest by varying tones, colours and textures. A floor pattern in the central piazza is designed to read as a 'picture on the ground' from the upper storeys of the flats.

Engineers: Ove Arup and Partners. Quantity surveyors: Davis, Bellfield and Everest.

## HOUSING: ROEHAMPTON

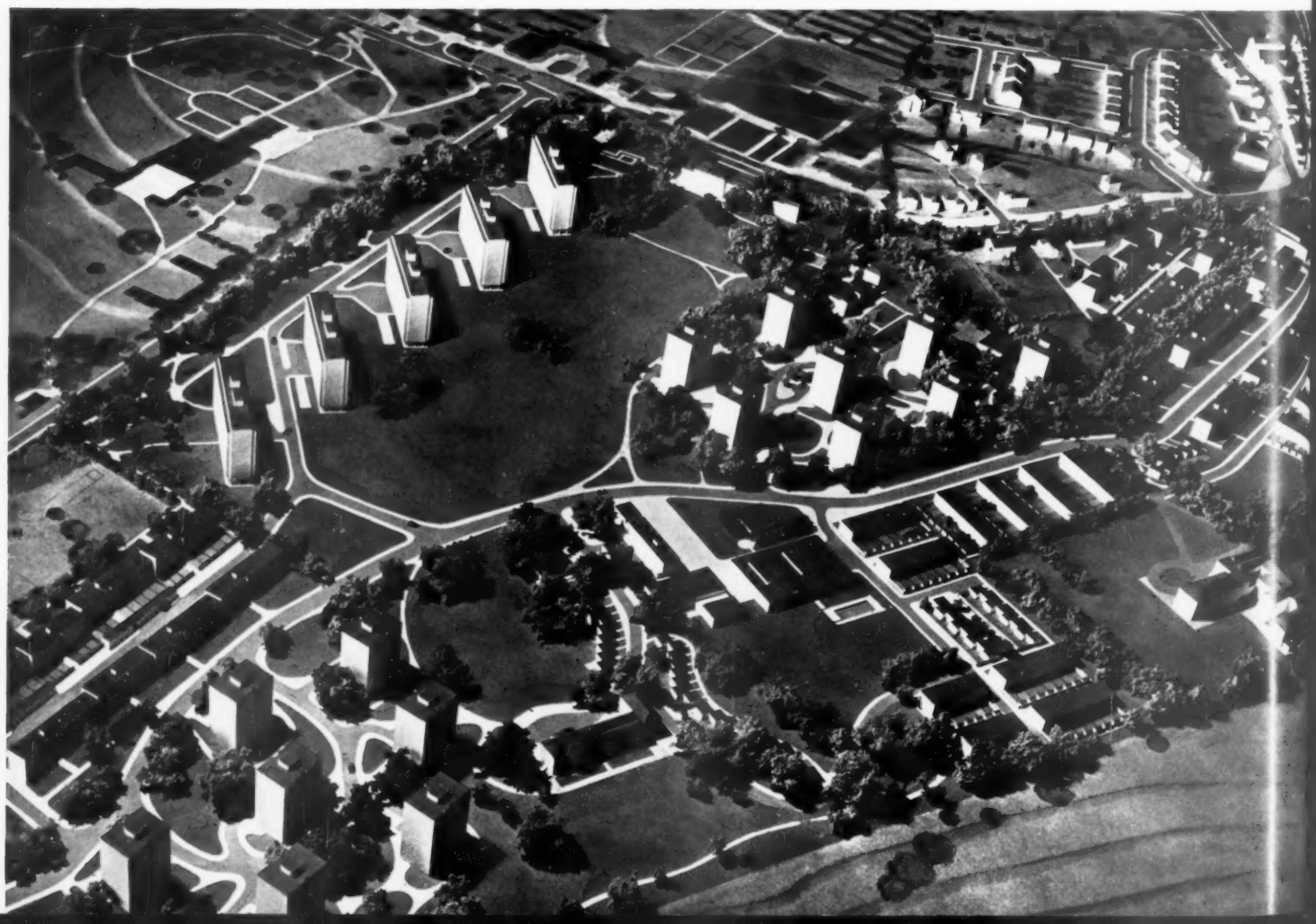
**London County Council**

The work illustrated here is part of the largest LCC housing development inside the county, which spreads itself over several partly connected sites in the Roehampton-Wimbledon-Putney area. On the most advanced of the Roehampton sites, the Portsmouth Road site of about 25 acres, 646 dwellings are under construction at a net density of 28.7 dwellings to the acre. They consist of a mixture of flats and houses, and include 11-storey point blocks (containing 381 flats), terrace houses and four-storey (two-tier) maisonettes, each with a private garden.

[*continued on page* 55

*Above and below, the Golden Lane housing scheme in the City of London, showing the subdivision of the site into partly enclosed pedestrian courtyards from the largest of which rises the main fourteen-storey block.*

*Above, corner of a model of the Portsmouth Road housing scheme, by the London County Council architects, showing one of the* 11*-storey points blocks, maisonettes and terrace houses. Below, model showing layout of the Rochampton Lane site by the same department.*



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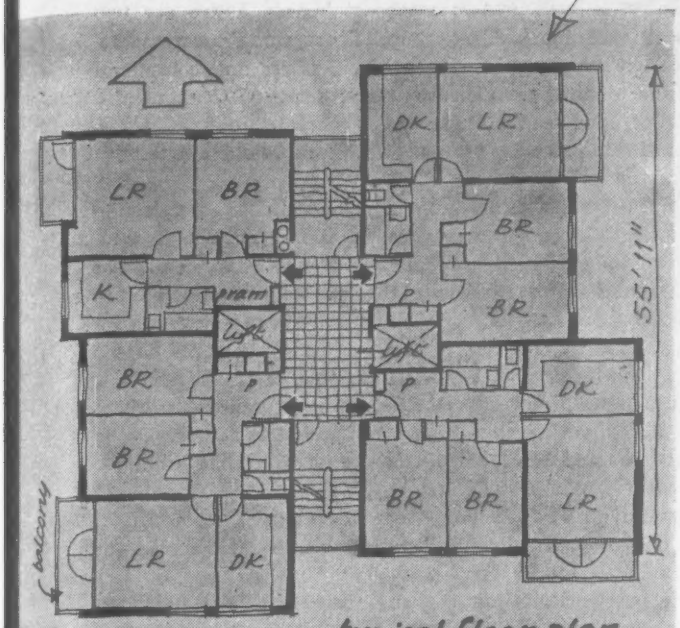
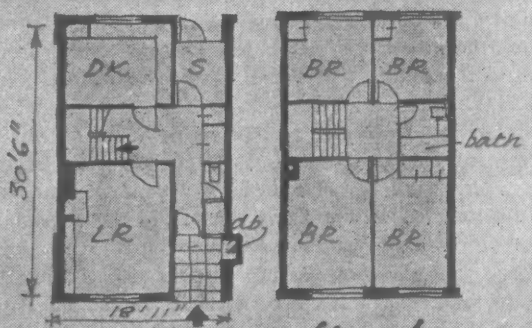
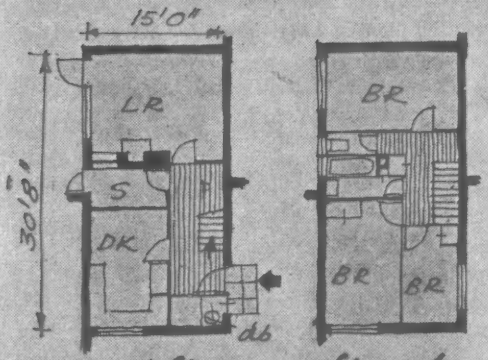



typical floor plan
POINT BLOCK
Portsmouth Rd. Site




ground floor
floor 1

TERRACE HOUSE
S & W. Entrance
Portsmouth Rd. Site



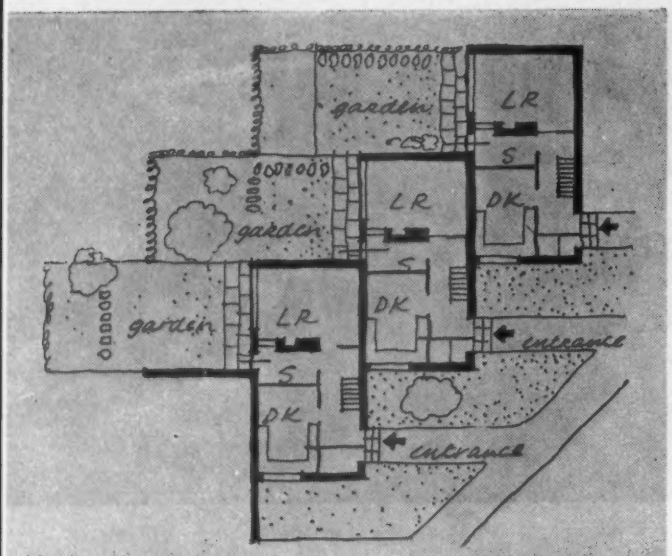

ground floor
floor 1

TERRACE HOUSE
Staggered
Portsmouth Rd. site

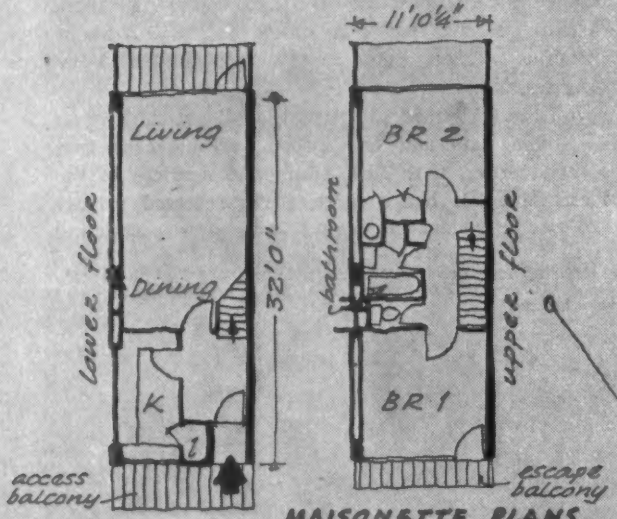
This site was previously the grounds of several large Victorian houses and contains numerous mature trees, most of which are being preserved. There is a steep fall from north-east to south-west, with views across Richmond Park and, from the tall flats, across Putney Heath. To preserve as much of the park-like character as possible, slab blocks have been avoided, the point blocks, square in plan, being more easily sited among the open spaces available without involving the destruction of trees, being more easily adapted to the contours and casting less massive shadows.

Each typical floor of these 11-storey flats (that is, all but the ground floors) has three 3-room flats and one 2-room, arranged so that one flat occupies each corner, with lifts, stairs and services in the centre of the block. Each flat has a large, partly-recessed private balcony. There are two lifts, large enough to take prams, stopping

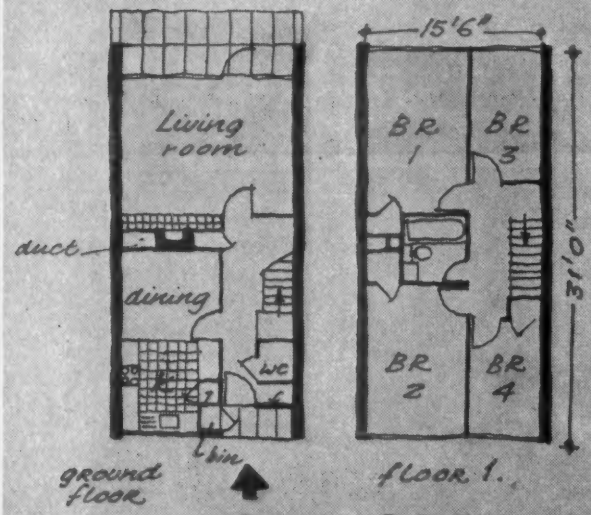
*Portsmouth Road housing scheme, Roehampton. Above, model of the whole site. Below, one of the 4-storey blocks composed of superimposed maisonettes and a group of terrace houses.*




KEY PLAN
Staggered Terrace Houses
Portsmouth Road Site




MAISONETTE PLANS
Roehampton Lane site




PLANS of 2 STOREY HOUSES Roehampton Lane Site.

at alternate floors, as well as two escape staircases. There are two refuse chutes to each block. The ground floors contain caretakers' flats, an estate workshop, and, in each block, stores and communal laundries for the tenants' use. The structure, designed to economise steel, consists of load-bearing reinforced concrete internal walls, external walls of reinforced concrete columns and beams with cavity brick filling and reinforced concrete floors.

The superimposed maisonettes have a dining-kitchen and living-room on the lower floor and three bedrooms above. They have load-bearing cross-walls in 9 in. calculated brickwork. Floors are reinforced concrete, with sound insulation where they separate two dwellings. The terrace houses (for the larger families) have three or four bedrooms. Frontages are narrow and an internal store-room provides a way through to the back. They are of traditional brick construction.

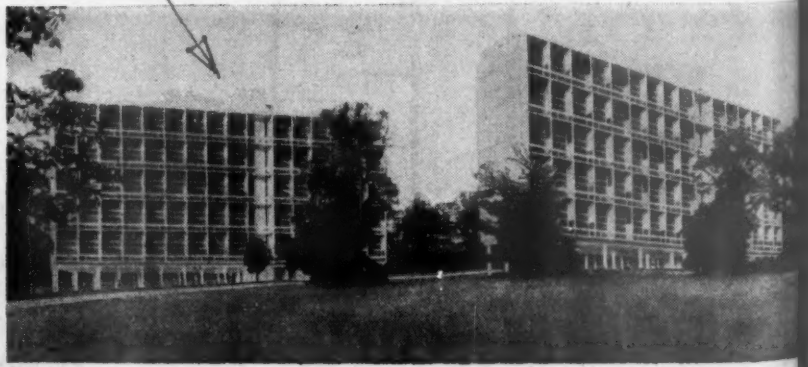
For the Portsmouth Road site, the assistant architects, working under Dr. J. L. Martin (architect to the Council in succession to Robert H. Matthew) and Whitfield Lewis, principal housing architect, are: R. Stjernstedt, A. W. C. Barr, O. J. Cox, A. R. Garrod, B. Adams, J. Partridge, H. Graverson and P. Nevill. The consulting engineers are Ove Arup and Partners and the heating and ventilating engineers Oscar Faber and Partners.

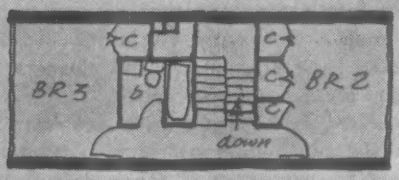
Work on the nearby Roehampton Lane site, also illustrated herewith, is at an earlier stage. This site covers nearly 100 acres and is bounded by Richmond Park on the south-west and Roehampton Lane and Clarence Lane on the north. Parts of it fall steeply. Like the other site, it is well wooded, being originally the grounds of large houses, some of which (such as Mount Clare) are of architectural interest and are to be preserved for social and other purposes.

The layout, a mixed development of flats, maisonettes and houses (1,875 dwellings altogether) has been designed to preserve the character of the site and the trees existing on it. The net density has been kept down to 28.3 dwellings per acre. Two areas, one adjoining Mount Clare and the other on steeply sloping land below Hartfield House, are suitable for point blocks, and fifteen of these, each of eleven storeys, are planned for these sites. A large open field below Downshire House, with a specially fine park-like character, has five eleven-storey maisonette blocks sited along the top of the slope but arranged so that they present the minimum effect of mass when seen from Richmond Park. The paddock at the western end of the site will be preserved to provide a green link between Richmond Park and Barnes Common. The remaining housing consists of four-storey maisonettes, two and three-storey houses, single-storey houses for old people and one eight-storey maisonette block sited at the head of the vista leading to the main shopping centre adjoining Roehampton village.

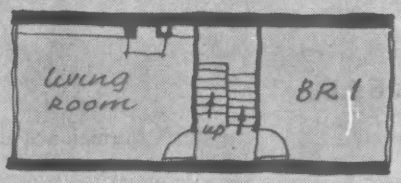
The eleven-storey point blocks have two 2-room and two 3-room flats on each floor. Some of the low maisonette blocks have shops on the ground floor. The three-storey houses have been specially designed

*Roehampton Lane housing scheme: two of the 11-storey maisonette blocks (see model of site on page 54).*

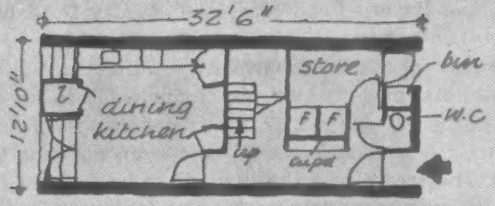





FLOOR 2

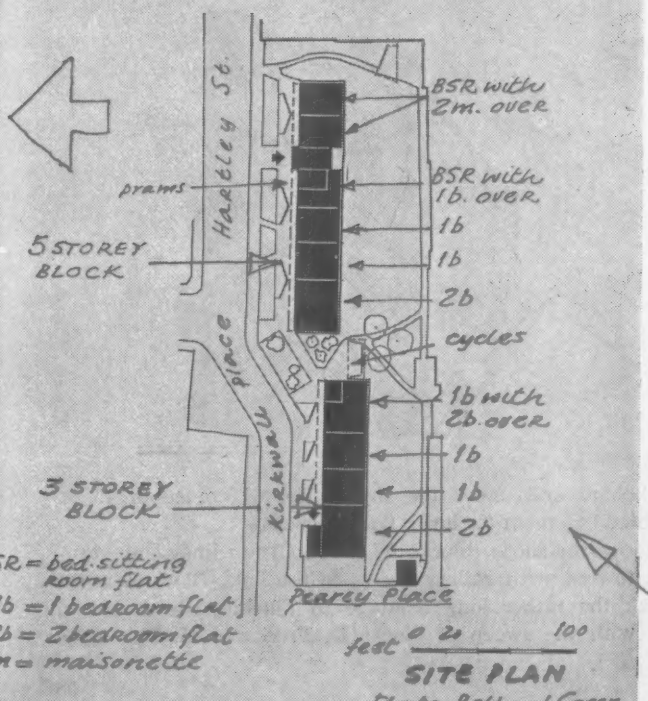



FLOOR 1




GROUND FLOOR

3 Storey houses
Flats: Roehampton
L.C.C.




to provide for families with children, but have a frontage of only 12 ft. allowing a fairly high density to be preserved. Central heating and domestic hot water will be supplied to the high maisonettes and the point blocks (a total of 1,035 dwellings) by a central oil-fired boiler plant. The same plant will also serve the two primary schools that are to be built on the site, the nursery school, the old people's club, the maintenance depot and two of the existing houses. Its flue will be incorporated in one of the eleven-storey blocks. Other buildings proposed on the site are a children's home, a secondary school, a church, a health centre, a community centre and main and subsidiary shopping centres.

The architects responsible for the work on this site, working under Dr. J. L. Martin (architect to the Council), Whitfield Lewis (principal housing architect) and Michael Powell (assistant housing architect) are: Colin Lucas (architect in charge), G. F. Bailey (assistant architect in charge), John Partridge, Stan Amis, Bill Howell and John Killick.

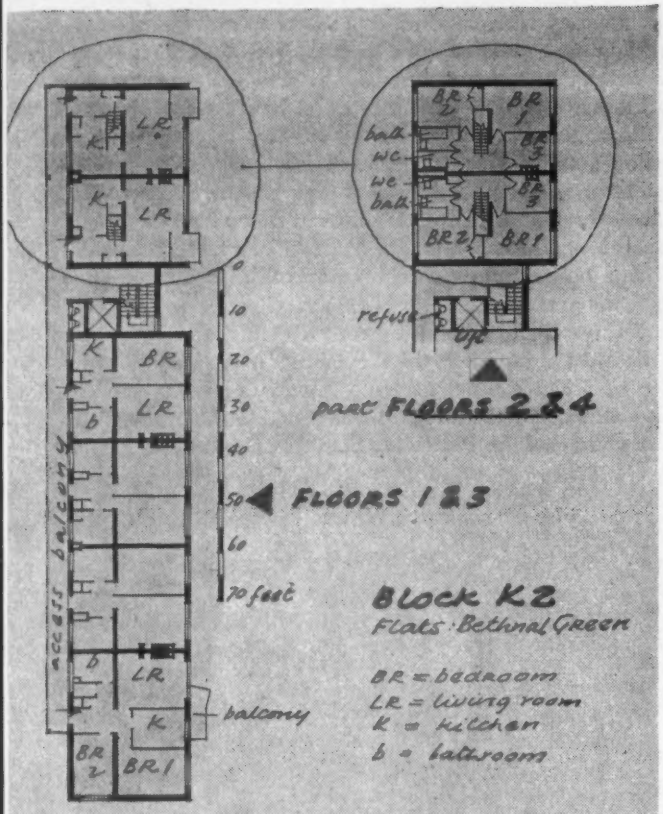
*Interior of typical living-room, showing private balcony, in one of the maisonette blocks shown opposite.*

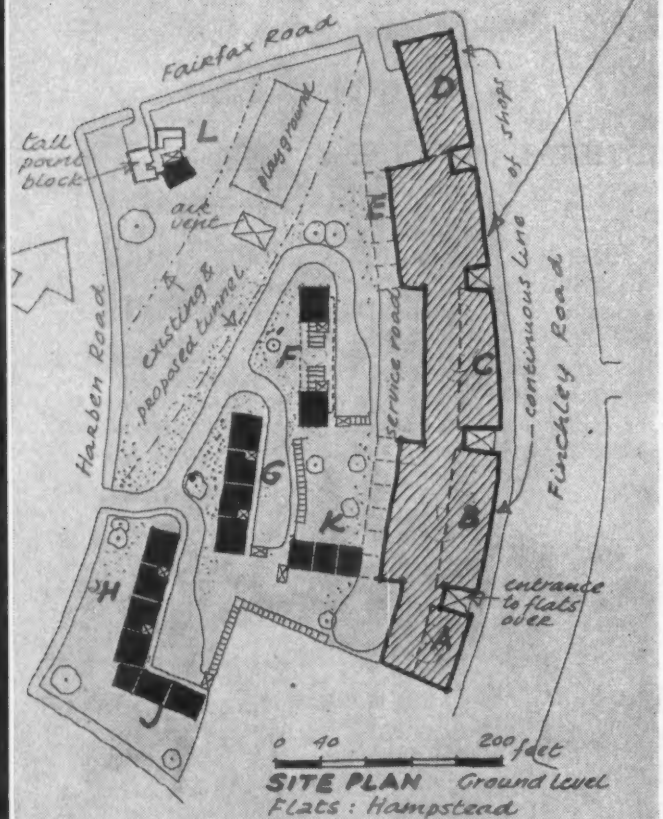
## FLATS: BETHNAL GREEN

**Yorke, Rosenberg and Mardall**

The housing, which is in Kirkwall Place and has been designed for the Metropolitan Borough of Bethnal Green, consists of two blocks of flats parallel to each other on a narrow site. One block is three storeys high, the other five. The disposition of the blocks and the relative storey heights were primarily determined by the client's need for advantage to be taken of the maximum permissible density, and the compliance with the LCC Daylight Factor codes.

The smaller block contains five two-bedroom flats and seven one-




bedroom flats. The five-storey block, which has a perambulator lift, has five two-bedroom flats, three bed-sitting room flats, 14 one-bedroom flats and four maisonettes—each with three bedrooms—a total of 38 flats. The blocks have pram stores and cleaners' accommodation, a cycle store and a children's play shelter.

Construction is of calculated load-bearing brickwork with *in situ* reinforced concrete floor slabs. A reinforced concrete frame carries the projecting portions of the maisonettes. Open fires with back boilers are provided in all flats, with immersion heaters for summer use.

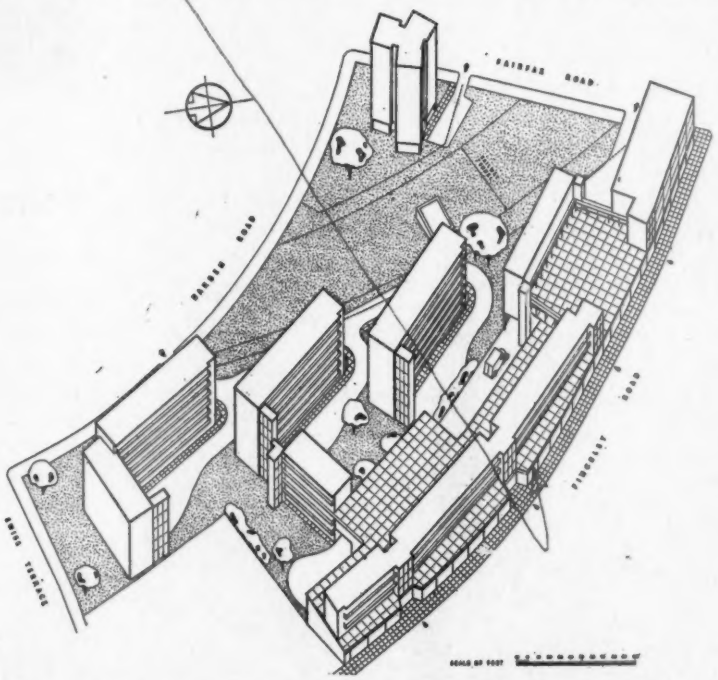
## FLATS: HAMPSTEAD

**Norman and Dawbarn**

The site lies immediately south-west of Finchley Road. It falls steeply from north-east to south-west, the difference of level between the Finchley Road and Harben Road corners of Fairfax Road being about 28 ft. over a distance of some 400 ft.

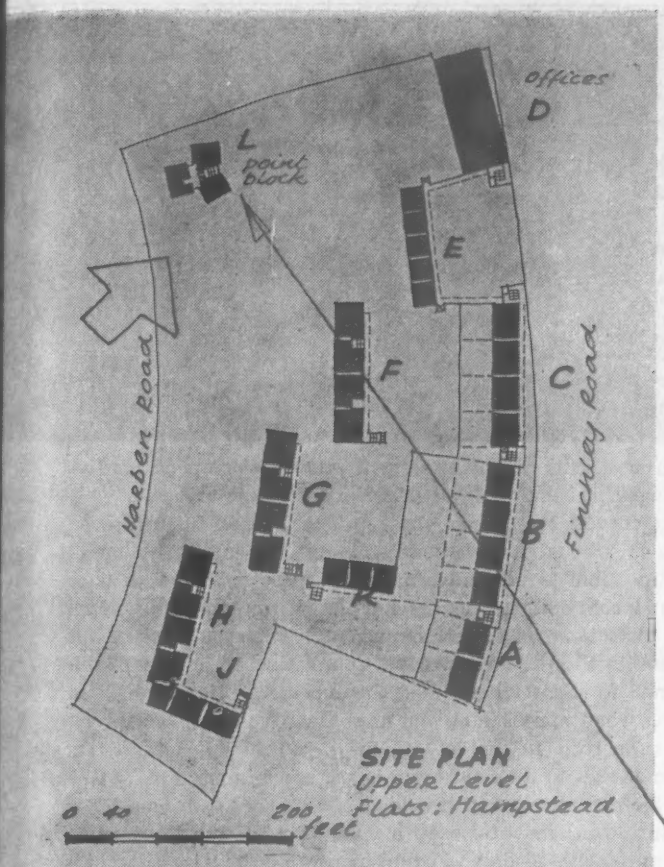
A considerable portion of the site is virtually sterilized for building purposes by existing and projected railway tunnels. These, in fact, together with the fall of the ground, go far in defining the form of development. Within the boundaries of the site is an air vent from one of the tunnels. The area of the site is likely to be reduced from the present 6.05 acres by about .086 acre by a widening of Finchley Road.

The scheme contains 179 dwellings, together with a continuous line of shops along Finchley Road, forming a continuous frontage to the street, broken only by entrances to the flats above. These are shown on the layout plan as blocks A, B, C, D and E. Loading facilities are provided by a service road taken at a lower level the



full length behind and under the shops. The difference of 15 ft. permits a lighted basement (or lower floor of shops).

The flats above the shops (blocks A, B and C) are linked by staircase and lift towers, with gallery access to the flats. Block E is set back to break the rather long frontage to Finchley Road and to form a link with the sweep of blocks D, F, G and H. The areas




of roof over the shops are to be laid out as gardens. The upper floors to block D are intended for use as offices.

Blocks D, E, F, G and H are set in a sweep on a broken curve facing open gardens between them and Harben Road, the change of angle being 7½ degrees in each case. The roof line is level for all these blocks to give unity and to prevent the scheme appearing to slide downhill to the south. Blocks F, G and H, all with gallery access, are served by a private road from Harben Road which is carried round the backs of the blocks in a series of spurs, serving both normal vehicular movement and also the requirements of fire fighting and escape. All the above blocks are east of the tunnel. To the west of it a 'point house,' block L, slightly higher than the remainder, acts as a foil to the long sweep.

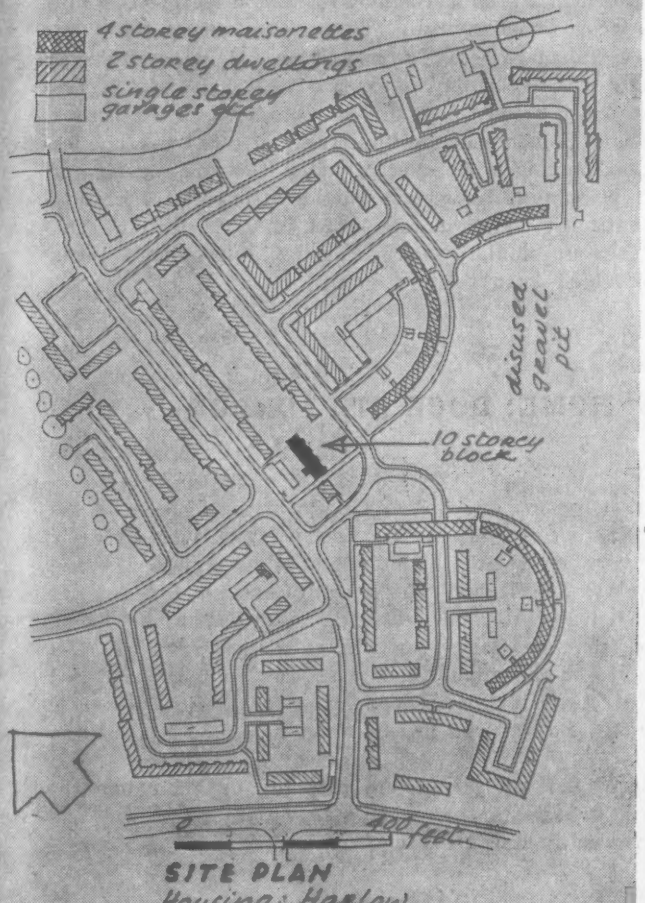
Accommodation in the various blocks is arranged as follows:—

| Block | Bed/Sit. | 2-room | 3-room | 4-room | Number of Dwellings |
|---|---|---|---|---|---|
| A, B, C | — | — | 30 | — | 30 |
| E | 5 | — | 5 | — | 10 |
| F | — | — | 12 | 14 | 26 |
| G | — | — | 14 | 14 | 28 |
| H | — | — | 21 | 7 | 28 |
| J | 6 | — | 12 | — | 18 |
| K | — | 15 | — | — | 15 |
| L | — | 24 | — | — | 24 |
| Total | 11 | 39 | 94 | 35 | 179 |

Block D is omitted from the above table because it is planned as offices not flats.

Most living rooms and bedrooms face between south and south-west over falling ground, and all are remote from access galleries. Each block has a lift, a refuse chute and dual staircase access, except block L, which has a cross-ventilated lobby to an enclosed single staircase.

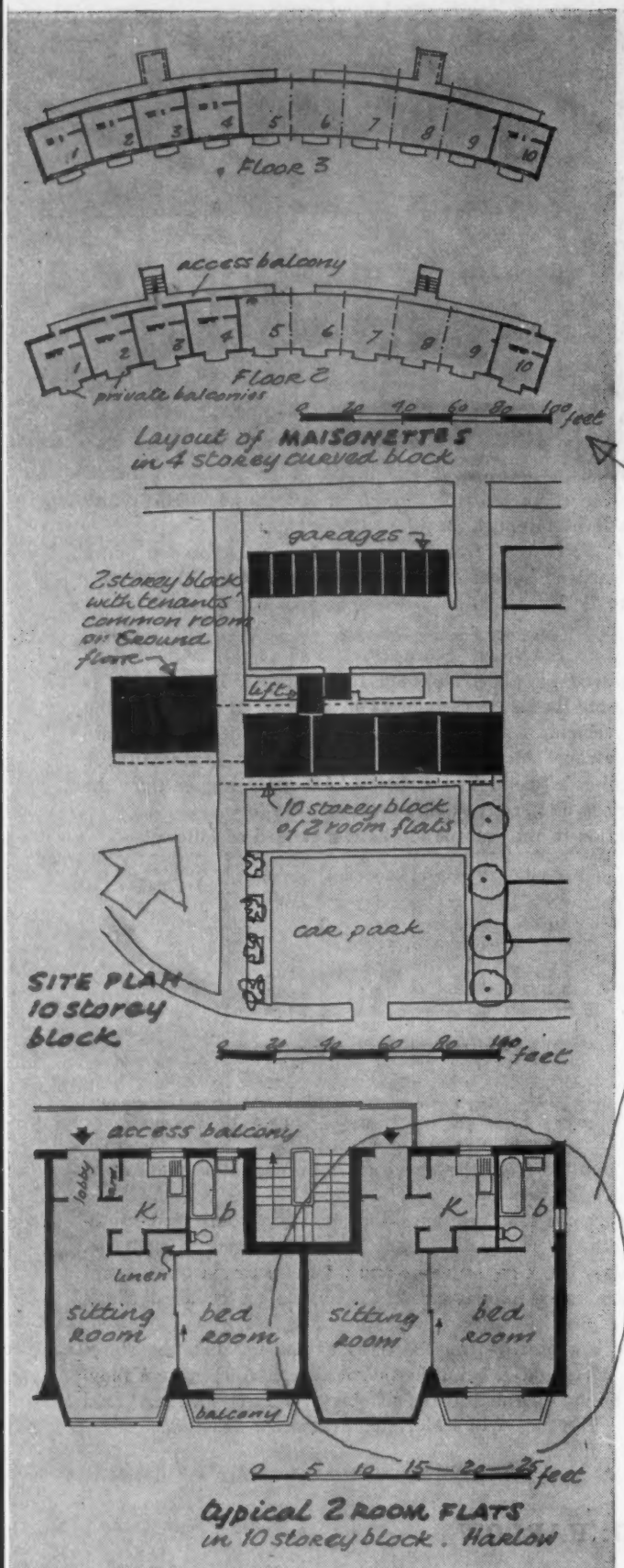
Pram stores are provided on the basis of one per flat, the stores for blocks A, B, C and E being in the basement. A children's playground is to be incorporated in the scheme over the 'sterilized' area of the tunnel. The flats will be of steel-frame construction.




## HOUSING: HARLOW

**Norman and Dawbarn**

This housing scheme forms part of the Mark Hall South neighbourhood of the new town. The gross area of the site is approximately 27




acres. The ground falls to the south with views over open country. A disused gravel pit is being developed as a recreation area.

Four-storey curved blocks consisting of maisonettes superimposed on maisonettes are grouped around this pit to enable as many dwellings as possible to take advantage of aspect and view, and to give scale and cohesion to the scheme. A future ten-storey block of two-room flats is an essential component of the composition but is not included in the present contract. Completion of the 441 dwellings is planned for September, 1954. The scheme will be seen from some distance when approaching the new town from the south-west along the major road to the left of the layout. Its general effect as one of the entries to the new town is therefore important.

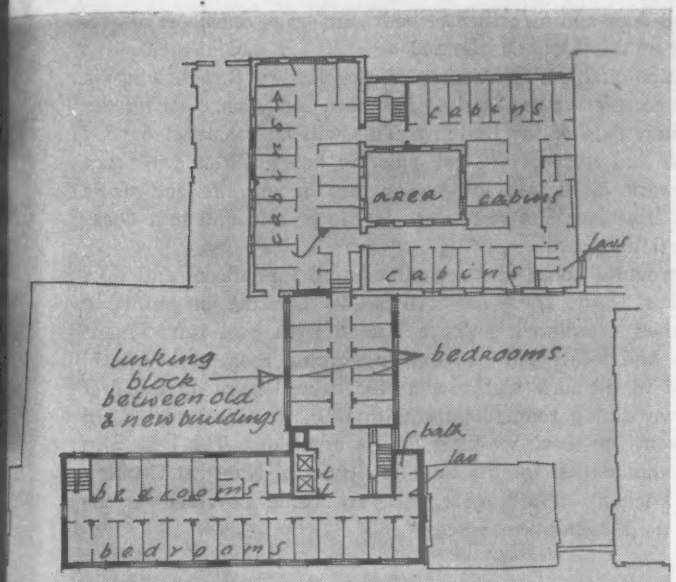
In detail, the accommodation provided is as follows: in one-storey blocks, 8 bungalows; in two-storey blocks, 12 flats and 301 houses; in three-storey blocks, 20 flats; in four-storey blocks, 92 maisonettes and 8 flats. There are also, though not in the present contract, to be two police houses and, in the high block, 36 more flats. Ancillary buildings will include a tenants' common room. Fourteen houses will have garages incorporated in them and there will eventually be a further 76 independent garages. The houses have 11 in. cavity brick walls, generally with facing bricks externally, though some blocks of houses are rendered and coloured. The roofs have timber trusses covered by double Roman concrete tiles. The four-storey maisonettes have 13½ in. load-bearing brick external walls, with spine and party walls of 9 in. brickwork. Their roofs have a 5° one-way pitch and are covered with felt and insulating board on timber rafters. The three-storey flats are similarly constructed but with pitched roofs covered with double Roman tiles.

## SAILORS' HOME: DOCK ST., LONDON

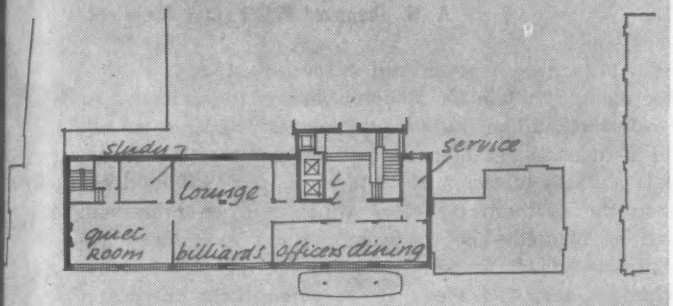
**Brian O'Rorke**

The Sailors' Home and Red Ensign Club at present consists of the Dock Street wing built in 1865 and the Ensign Street wing, formerly the Royal Brunswick Theatre, the interior of which collapsed during a rehearsal in 1829. The original exterior walls remain and the interior has been remodelled at various periods, the last reconstruction being in 1912. The front, or Dock Street wing, consists of offices and recreation rooms on the ground and first floors with an open well dormitory with four tiers of cabins, opening on to galleries. The whole of the partitions and galleries are in wood supported by cast-iron columns.

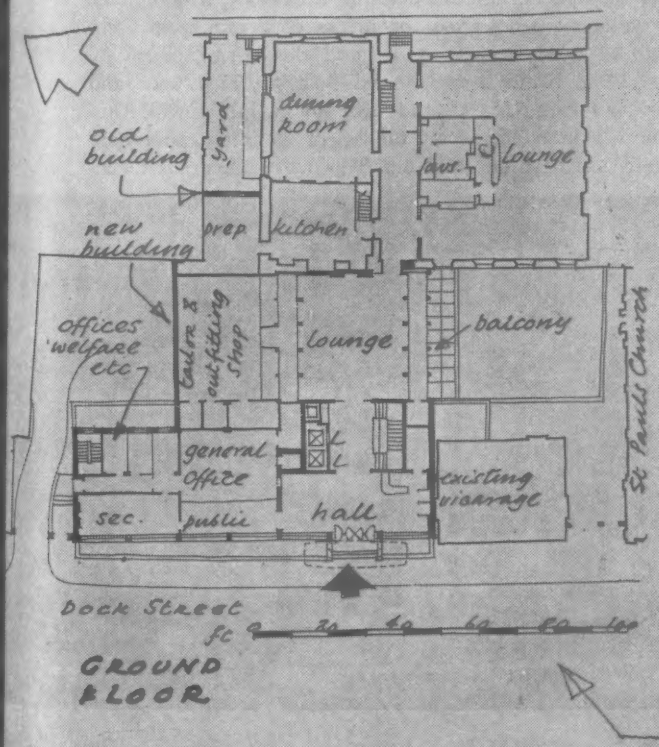
At the end of the war plans were prepared for rebuilding the whole club in two stages (the scheme shown in the model), but owing to increased building costs the front part only is being rebuilt




FLOORS 2, 3, 4, 5



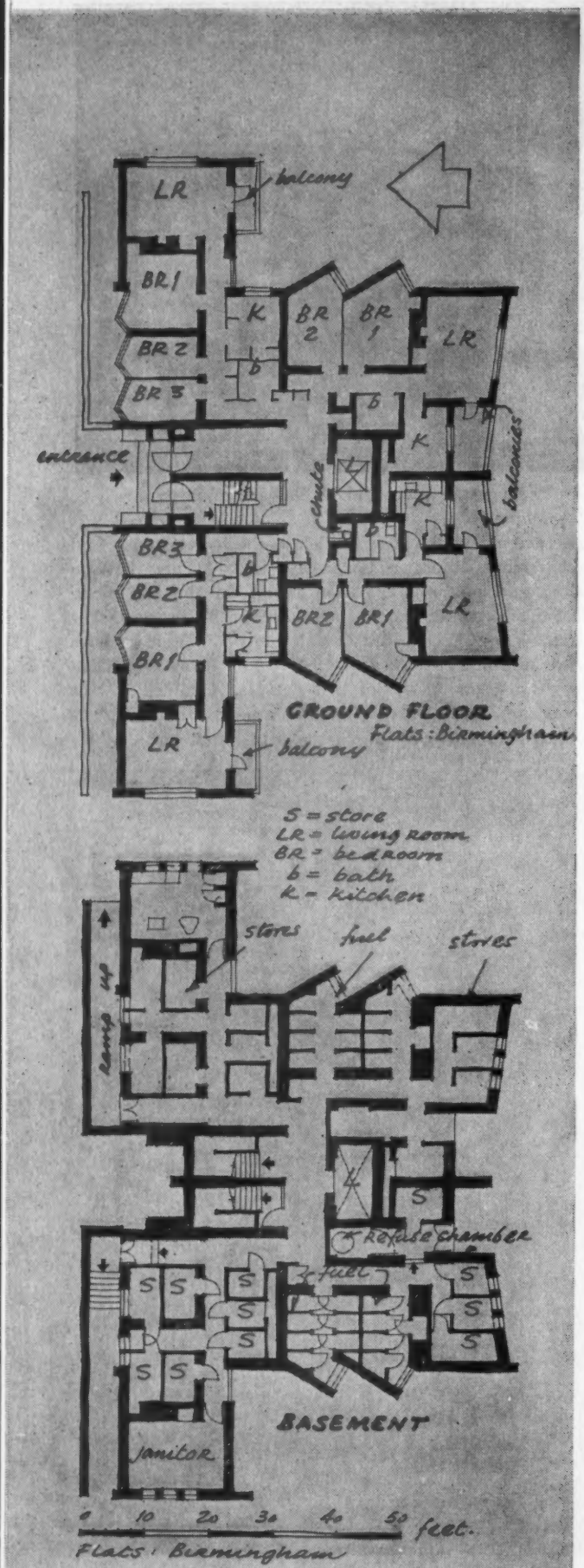

part FLOOR 1




GROUND FLOOR

for the present, with some further alteration and modernization of the Ensign Street wing.

The new portion of the building will contain boiler house and stores in the basement, administration offices and entrance hall on the ground floor and officers' recreation rooms on the first floor. Above are five floors containing 95 bedrooms with the necessary lavatory accommodation. Each bedroom or cabin is of 75 sq. ft. with wash basin and built-in cupboard fitment. Heating is by embedded ceiling panels. A new staircase and lifts are also included in this part of the work. Later it is proposed to build a linking block between the new and old sections containing an entrance lounge




on the ground floor and a further 74 bedrooms on seven floors above. The top floor of this block is planned as a library and chapel.

The alteration and reconstruction of the Ensign Street wing is now nearing completion and a start has been made on clearing the site for the new part of the building. This will be constructed with a steel frame and solid reinforced concrete floors. Outer walls are cavity brickwork faced with silver-grey bricks and the end walls in red brick. Dressings and stonework to the ground and first floors will be in Portland stone.

The club provides board and accommodation for officers and men of the Merchant Navy. There are facilities for banking, an outfitting shop and, when completed, a large lounge with bar, refreshment bar, billiards and television. The existing dining room is being remodelled and in the new section the officers will have on the first floor their own dining room, lounge with billiard table, quiet room and study room for those working for examinations. The club also provides accommodation for the London School of Nautical Cookery and a new kitchen, lecture room, etc., are being provided in the basement on the Ensign Street side.

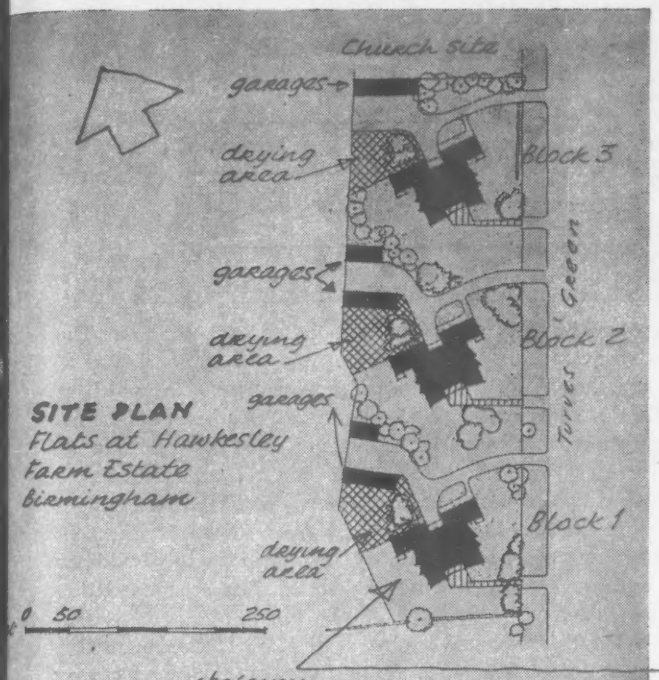
## FLATS: BIRMINGHAM

**A. G. Sheppard Fidler (City Architect)**

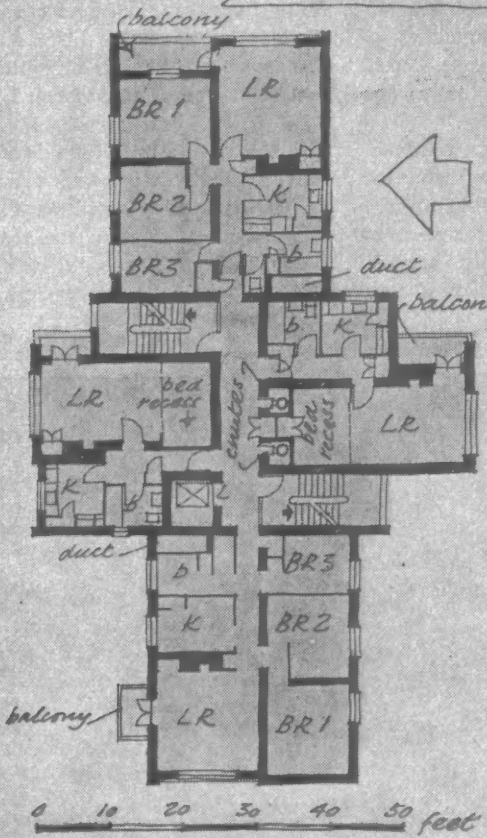
The site, of 2.14 acres, is seven miles south-west of the city, bounded on the north by a site for a church and on the south by an electricity transformer station. Surrounding development is mainly residential and includes some temporary prefabricated bungalows.

The site falls slightly to the north and west, and has no trees except those on the southern boundary which will be preserved. New trees will be planted. The roadways serving each block are designed as 'private' roads to be maintained by the city housing department. Garages, near each block, are provided in the proportion of one to every three dwellings. Drying areas are provided and are hidden from view by tree planting and by a zig-zag screen wall near the main entrance.

The method of construction is load-bearing brickwork to save steel. The structural walls were designed for bricks of a minimum compressive strength of 3,000 lb. per sq. in. and this permitted 18 in. basement walls, 14 in. walls from ground floor to third floor and 11 in. cavity walls for the fourth and fifth floors. Panel walls are introduced wherever possible, as on the south elevation, and here 11 in. cavity walls are used on all floors. The floors are precast con-




SITE PLAN
Flats at Hawkesley Farm Estate Birmingham




TYPICAL PLAN
Flats at Millpool Hill Estate Birmingham

crete units, insulated, screeded and with an asphalt tile finish. The splayed windows to the bedrooms on the north, east and west elevations are panelled with impregnated plywood, painted externally; those on the east and west elevations prevent overlooking from living-room windows. The balconies and one window to all living-rooms face south.

All-night burning fires are to be installed in each living-room and points for immersion heaters and electric fires will be provided. Refuse disposal is by two chutes on each landing which discharge

*Above and on the facing page, day and night views (showing balcony and entrance fronts respectively) of 6-storey flats in Birmingham. Below, a similar block on another site, slightly different in plan.*

into large bins with a 1½ cubic yard capacity. These can be removed from the basement on trolleys. One ten-person lift is being installed in each block. Basement and fuel stores are provided for each tenant.

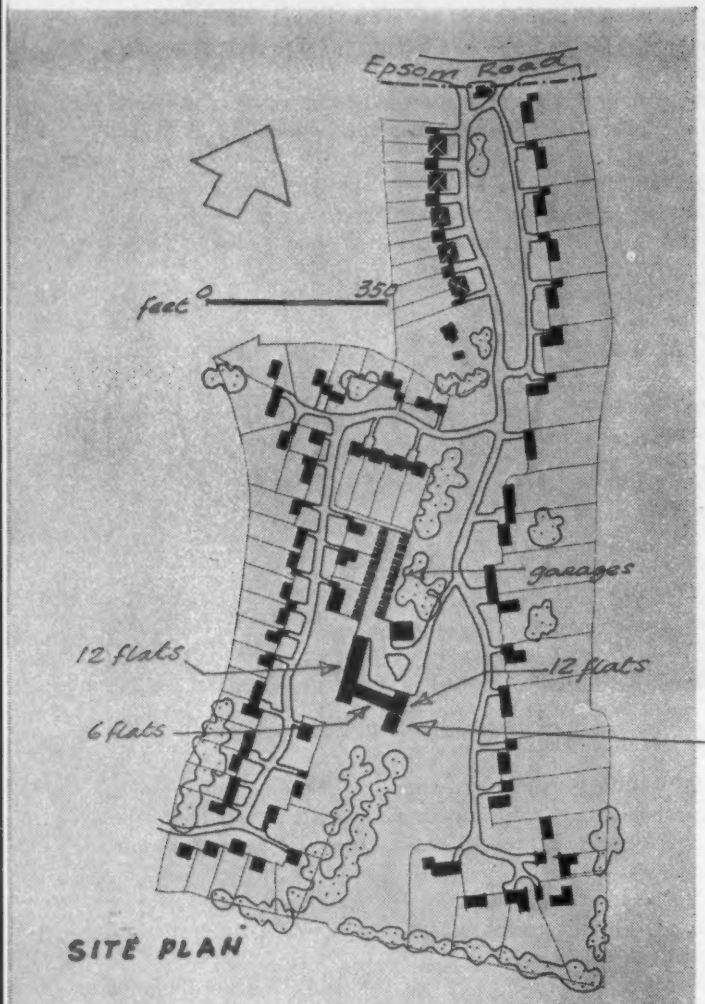
The facing bricks of the panel walls are to be in a contrasting colour to the structural walls, and by the continuation of the floor beams on the elevation, contrast is achieved between the structural and non-structural walls.

The bathroom and kitchen units are centred around three plumbing ducts; this has been possible by the acceptance of internal bathrooms which are ventilated through the ducts.

## HOUSES: GUILDFORD

**G. A. Jellicoe**

This is a private-enterprise housing scheme, to be known as the Levylsdene estate. The site is about three miles east of the centre of Guildford on the Leatherhead road. In the consultant's landscape plan for Guildford, made in 1945, it was shown adjoining the Merrow




SITE PLAN

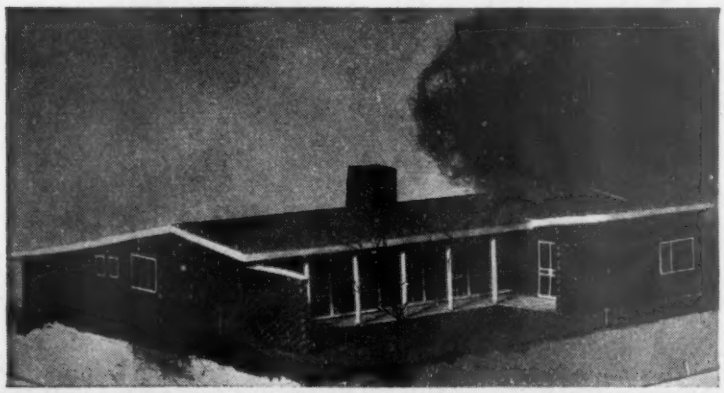
neighbourhood centre, and was zoned at four houses to the acre. The site itself is about 24 acres and comprises the old manor house of Levylsdene together with the beautifully treed park in which it stands. It fills a shallow valley that leads from the main road to the golf course on Merrow downs. The house is of some historic interest, and internally in particular contains some original architecture.

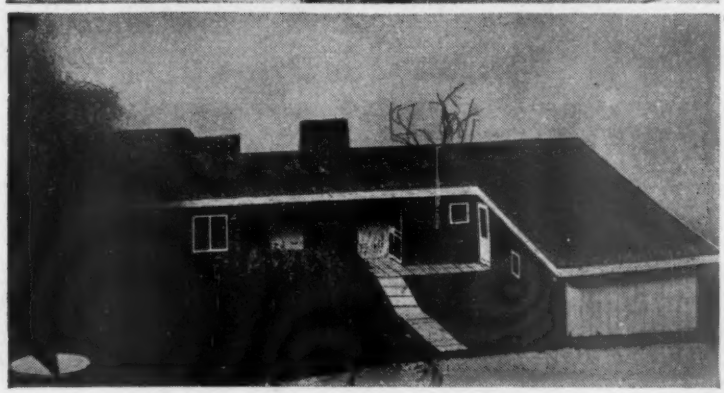
The first eleven houses will start in the new year, and development will continue in stages. The development plan shown is exact in regard to the plots, but not necessarily in regard to the buildings themselves, which will be according to demand. The accommodation is as follows:—

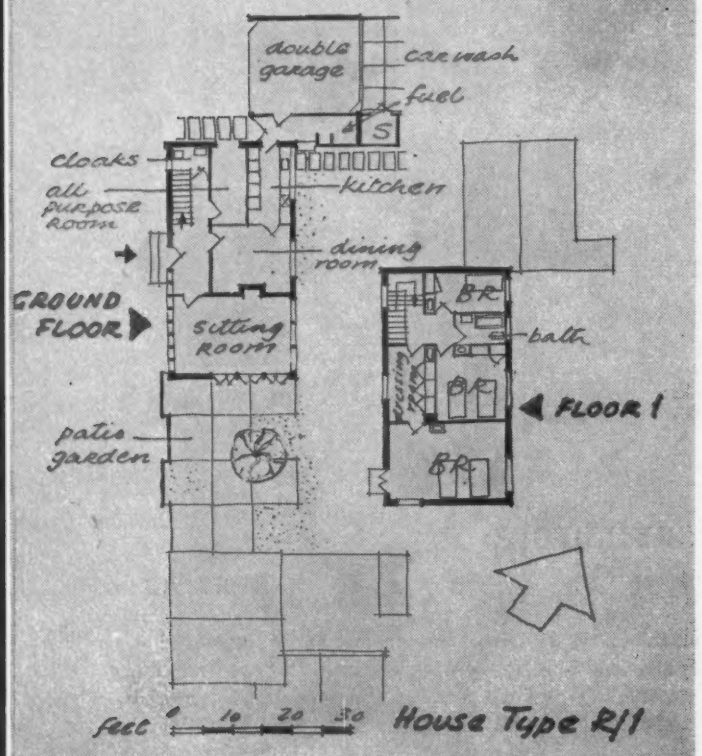
*First stage*: 3 four-bedroomed houses, 3 three-bedroomed houses, 5 three-bedroomed linked houses, to form a crescent. *Second stage*: 43 houses and 10 bungalows. *Final stage*: a block of thirty flats abutting on the old house. The historic part will be kept as a dwelling house, service rooms (bathrooms, kitchen, etc.) being incorporated in the new block.

The considerable open spaces left on the site form a lung to the downs. They will be maintained individually by the owners, who will also be responsible for their own gardens which will be kept unfenced. The houses have a patio garden screened from the road, and in most cases also a double garage. The materials will vary according to the kind of house. The R type will have pantiled roofs

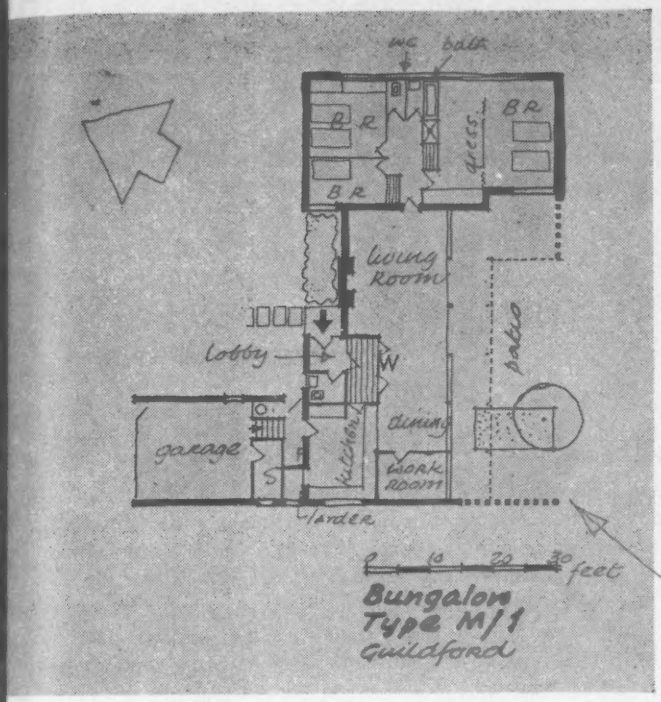
*Above: Guildford housing; elevation of house type R/1. Below, front and back views of model of bungalow type M/1. (Assistant, A. R. Ballantyne).*








House Type R/1




and brick walls of two kinds of brick. In the C type there will be slate roofs and colour-washed walls.

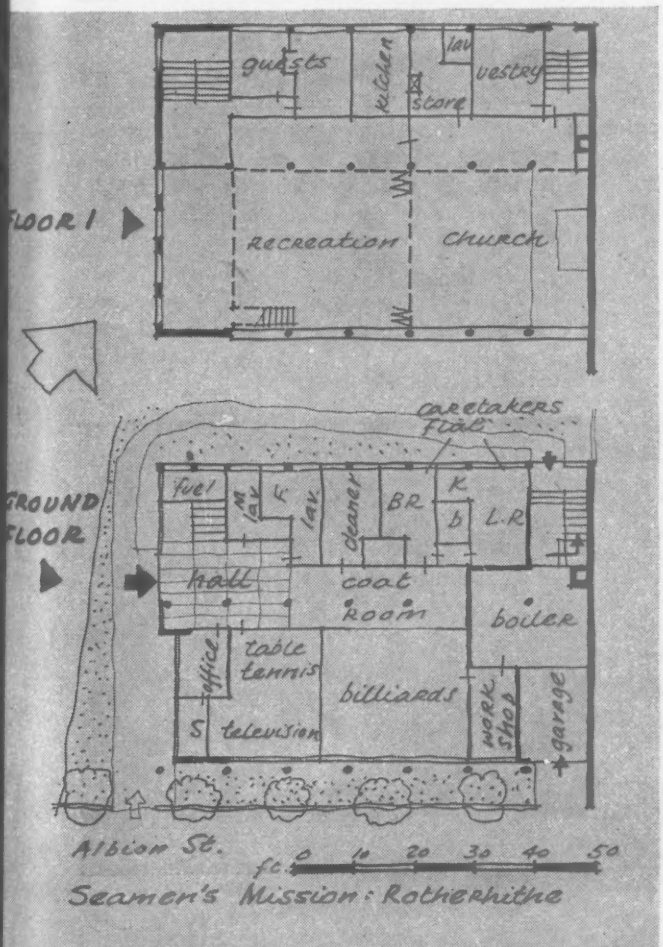
In all types the interior is centrally heated, with the sitting room fireplace for sentiment only. All are planned to be servantless, if necessary, and yet to retain a high standard of living. Three characteristic house plans are illustrated, indicating three separate ways of living.

*R/1 Type House.* Kitchen and dining room have been designed to be used either as separate rooms, or as one room, the kitchen being fully equipped with refrigerator, wash-boiler, etc. An all-purpose room of 70-80 square feet has been provided downstairs in a suitable all-purpose position. This room may be used for children's nursery, study, single bedroom, or anything similar. The normal passage space on the first floor has been adjusted to form a dressing-room adjoining the main bedroom. Since it was necessary to design the R/1 within the 1,500 square feet area, the spare bedroom has been reduced to the minimum and is now considered, with its equipment, in the nature of an hotel double bedroom. All bedrooms are fitted with built-in cupboards, fitments and basins.

*C/1 Type House.* This is classic in proportions, the sitting room being a double square and the height one-third of the length: an interpretation of an historic mathematical tradition.

*M/1 Type Bungalow* Type plan which could be used as a prototype if the demand should arise. The plan is free and is, in effect, a modern flat with its own garden.

# 7 RELIGIOUS

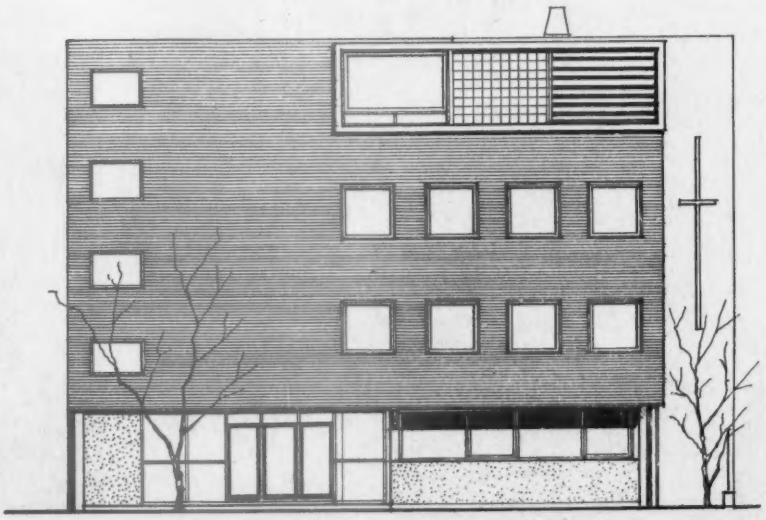


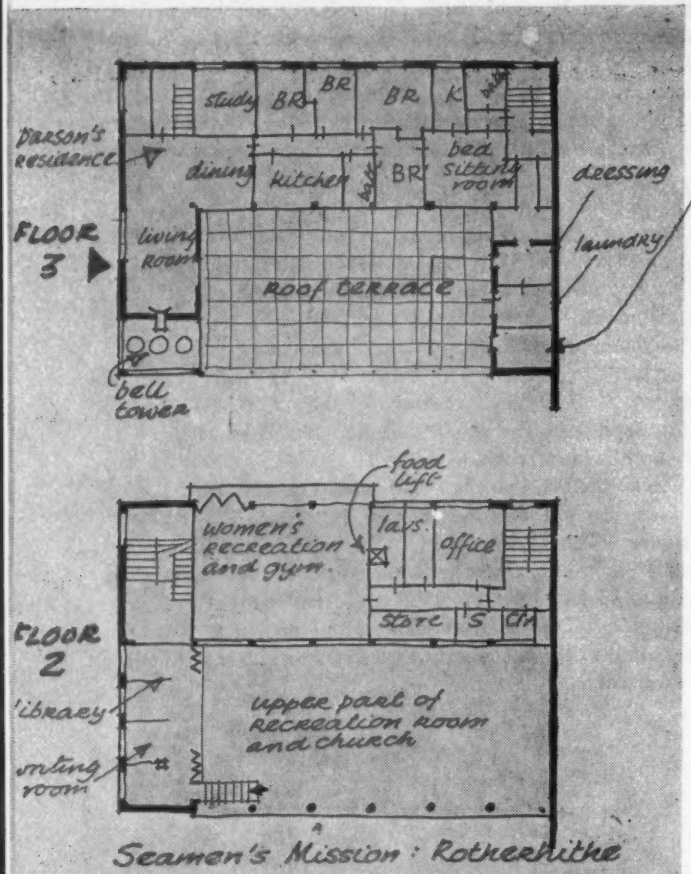

## SEAMEN'S MISSION: ROTHERHITHE

**Yorke, Rosenberg and Mardall**

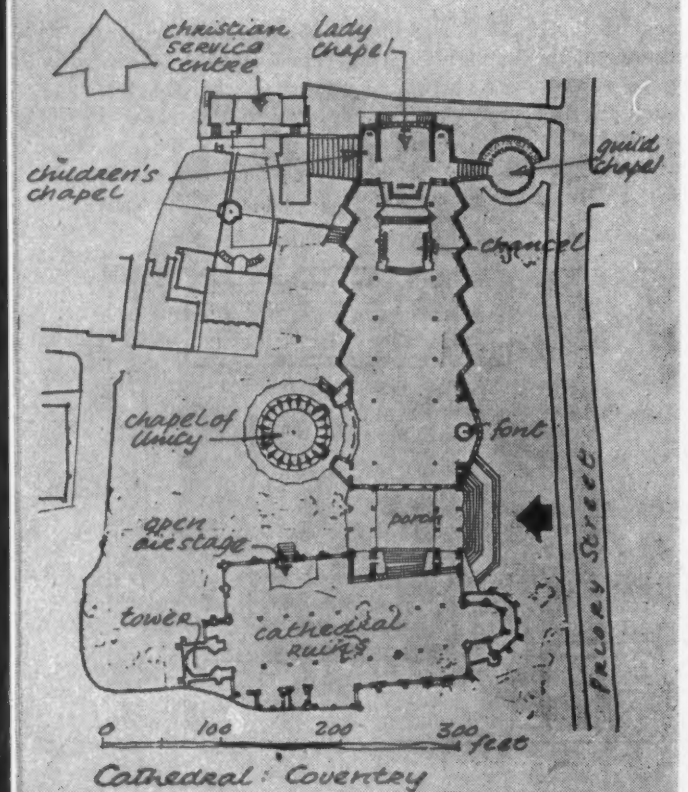
The site is next to the Norwegian Seamen's Mission and Church, close to the entrance of the Rotherhithe Tunnel on the south side of the river. At present there are shops and houses on the site, but these come within the LCC development area, and will be cleared shortly.

The problem was to provide a church and recreation rooms which can be thrown open for larger gatherings at Easter and Christmas






Seamen's Mission : Rotherhithe




Cathedral : Coventry

time, thus providing seating for anything up to 400 people, whereas a normal Sunday service might be attended by 60-80 people. The top floor is taken up by the private residence of the pastor and his assistant.

A Finnish steam bath has been incorporated in the plan on the top floor. The construction will be reinforced concrete frame on pile foundations with brick infilling panels.

## CATHEDRAL: COVENTRY

**Basil Spence and Partners**

These illustrations show the latest revisions to the design for the cathedral, which now differs in several important respects from the design with which the architect won the competition in 1951.

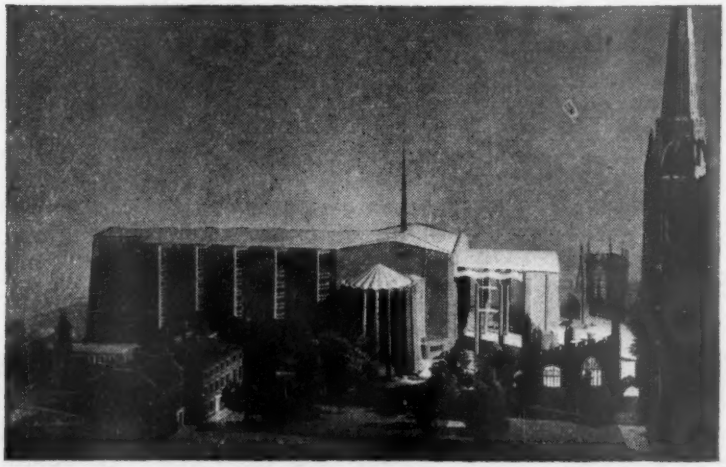
The downward curving roof to the cathedral has been abandoned. It now has a horizontal ridge-line, and the previously pitched roofs of the two flanking chapels and of the link to the Guild Chapel are now flat. The large porch at the (liturgical) west end has been completely redesigned, being taken up to the full height of the building and given an arched roof continuing the internal nave vault. Visually it will form an extension of the nave, being separated from it only by a glass screen.

Internally, the biggest change is that the wall immediately behind the altar, on which the Graham Sutherland tapestry was to have hung, has been omitted, opening the Lady Chapel to the body of the cathedral from which it will only be separated by a low wrought-iron screen. The tapestry will now hang 50 ft. back from the altar on the (liturgical) east wall of the building. This wall will now be blank on the outside, decorated by a raised surface pattern in the stonework. The tapestry will be lit by an arrangement of narrow windows, not directly visible from the nave, in the side walls of the Lady Chapel.

Nearly every element in the plan is now related to a vault grid based on a 17 ft. by 17 ft. module, derived from the ruins of the old cathedral, and the concrete vault of interlocking pyramids, resting on tapering prestressed columns, has been worked out in detail in conjunction with the consulting engineer. This combination of columns and vault is self-supporting, the stone flank walls of the cathedral being now structurally independent.

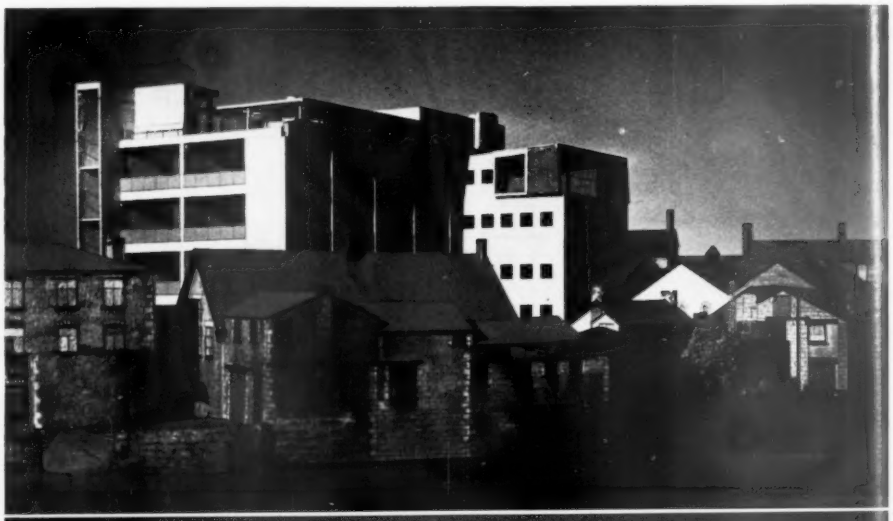
There have been other changes in the external treatment of the base and in the layout of steps and approaches. The plan reproduced here also shows the changed arrangement of the Christian Service Centre.

Consulting engineers: Ove Arup and Partners.

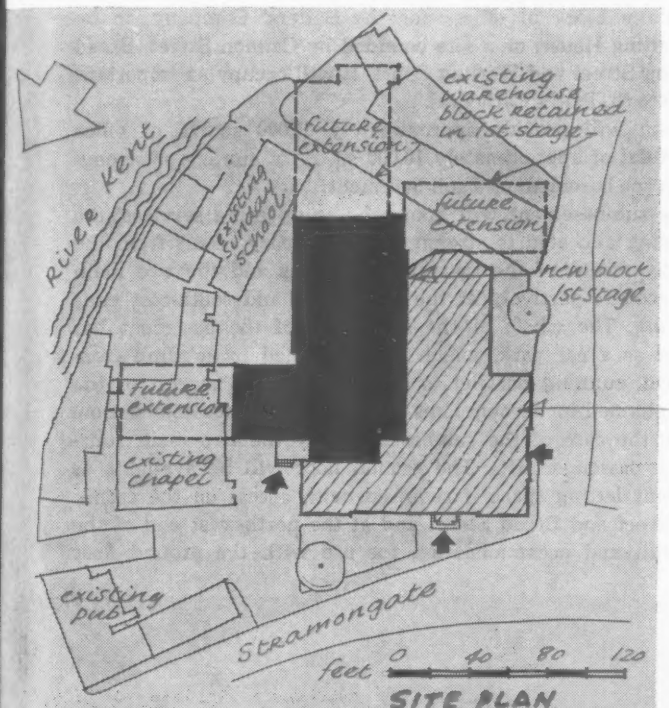


*Interior of Coventry cathedral, looking towards the altar, showing the new position of the Sutherland tapestry 50 ft. behind it and lit from the side.*

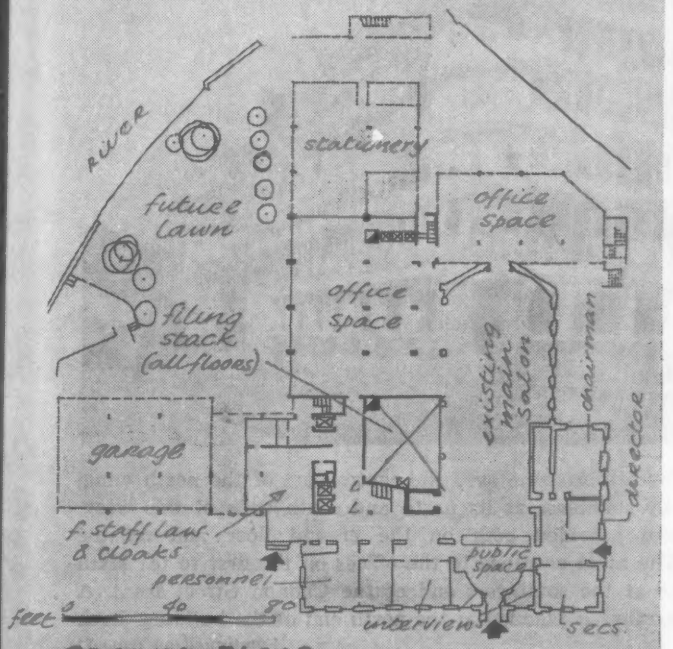
# 8 COMMERCIAL



*Offices at Kendal showing, right, the three stages in which construction is to take place, involving the eventual demolition of the buildings that stand between the existing offices and the river. Below, the complete scheme from above.*




SITE PLAN




GROUND FLOOR
(future work shown in broken line)

## OFFICES: KENDAL

**Basil Ward (of Ramsey, Murray and White)**

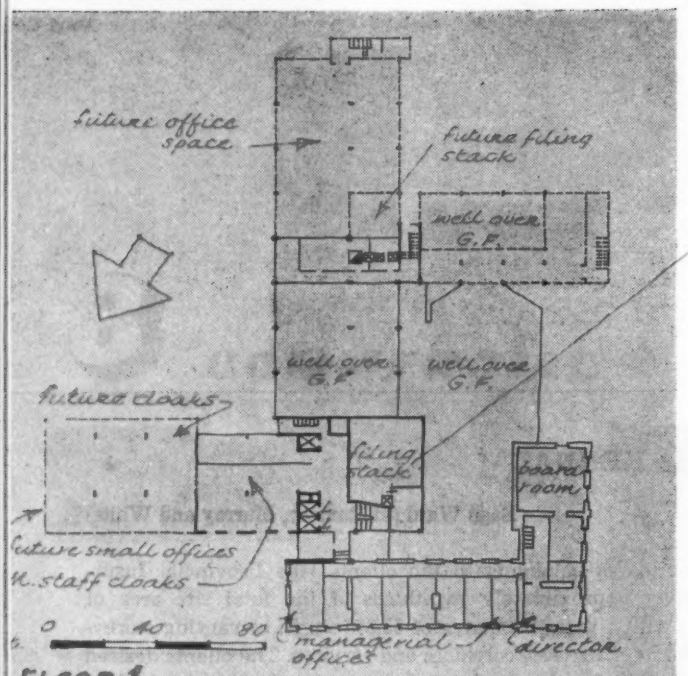
Existing buildings belonging to the clients (the Provincial Insurance Co.) cover approximately two-thirds of the total site area of 40,000 sq. ft., with a gross floor area of 33,350 sq. ft. in varying storey-heights including staircases, corridors and services. The clients desired a staged scheme of redevelopment to give an over-all gross floor area of 66,200 sq. ft. at the first stage and ultimately 91,550 sq. ft. The whole of this rebuilding work had to be arranged on the existing site with the small addition of some adjoining land on the river side.

The existing buildings sprang from a house which was purchased by the clients early in the present century and converted into an insurance office. As time went on various adjoining properties were purchased and eventually fairly large-scale improvements were put into effect during the 1930s to integrate the circulation and create a large general office. Existing buildings now on the site were later purchased, including old cottages and a warehouse block, which

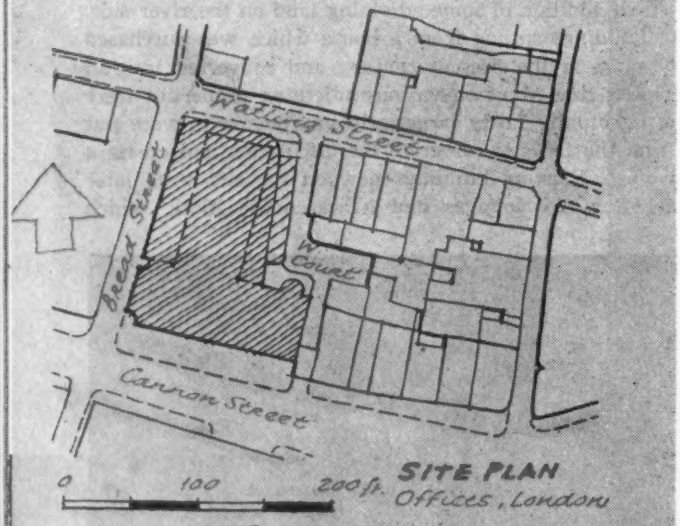
*The site as it is at present (compare with left-hand picture on facing page) showing the confused planning of existing buildings.*

has been converted for use as offices. The result is a very attenuated circulation on a variety of levels which mitigates against staff efficiency. The accommodation is badly overcrowded and much of it not well lit.

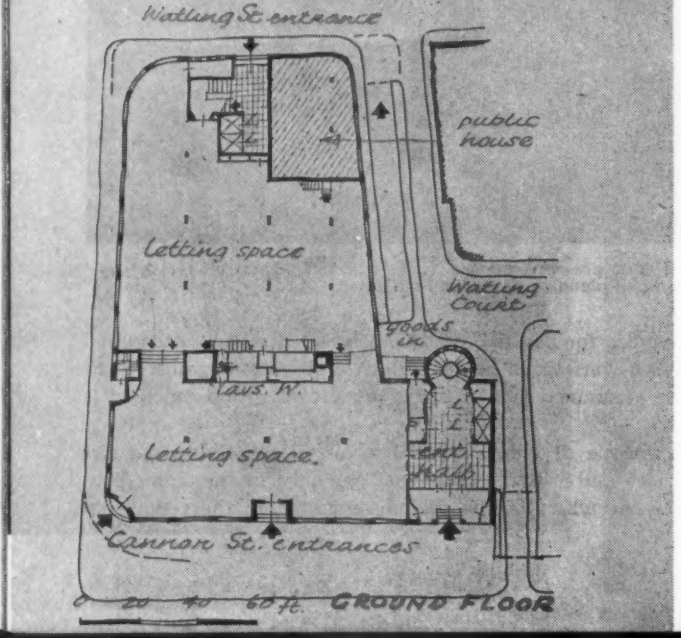
The initial scheme of redevelopment is aimed at solving the circulation, services and welfare problems, not only in the immediate future, but for the whole of the period envisaged in the redevelop-




FLOOR 1
Offices, Kendal




SITE PLAN
Offices, London




GROUND FLOOR

ment. To this end, the new main circulation and filing stack have been carefully integrated into the existing plans.

Materials traditional to the locality will be used in the contemporary idiom, including local stone in random walling for certain plinth walls, and polished Westmorland slates for window surrounds.

The consulting structural engineers are Ove Arup and Partners, and the quantity surveyors Cyril Sweett and Partners.

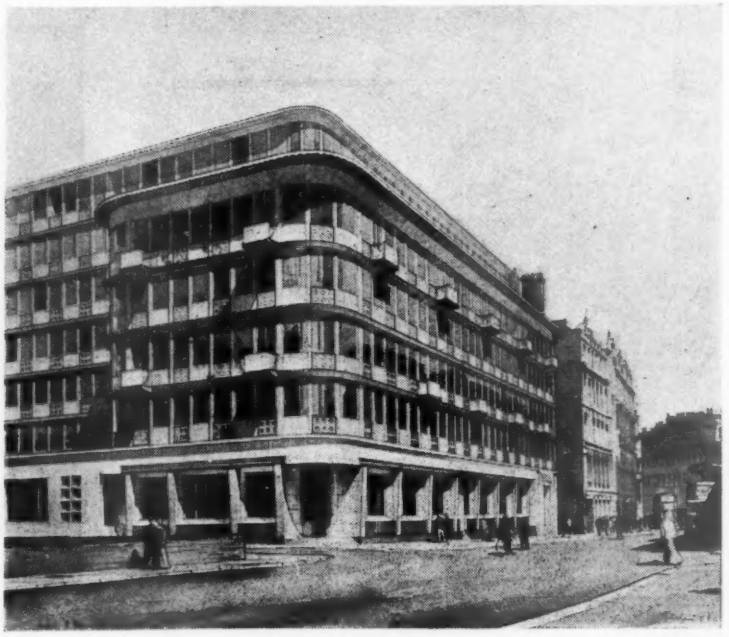
## OFFICES: CITY OF LONDON

**Easton and Robertson**

A seven-storey block of offices for the Salters' Company, to be known as Watling House, on a site bounded by Cannon Street, Bread Street, Watling Street and Watling Court. It will occupy an important position close to St. Paul's Cathedral.

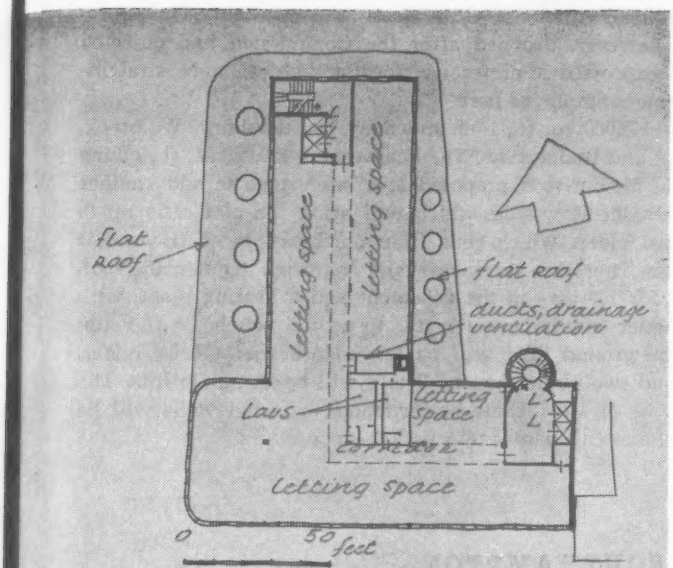
The building will provide approximately 65,000 sq. ft. of office space and a total of approximately 10,000 sq. ft. of storage or strongroom space in the basement and sub-basement.

Part of the sub-basement will house the engineering services, the remainder being allocated to strongrooms with easy access from the offices over by means of the two passenger lifts and the two main staircases placed respectively at the north-west and south-east ends of the building. The whole of the south end of the basement has been planned as a car park, which is approached by a ramp from Watling Street, running parallel to Watling Court. The rest of the basement is planned for strongrooms and other office accommodation, served, as in the case of the sub-basement, by the two main staircases and the passenger lifts. The ground floor will be available as an independent letting space if required, with access on the corner of Cannon Street and Bread Street and at the north-west end of the building. Additional accommodation for use with the ground floor

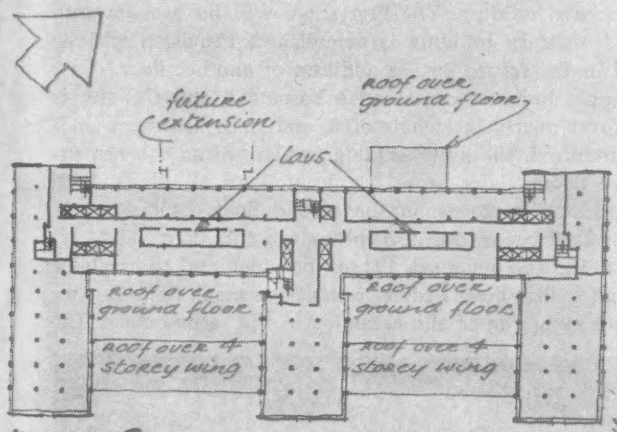


is provided by a mezzanine over the centre part of the north wing, approached by staircases at its north and south ends of this wing. Lavatories are provided both on the ground floor and on the mezzanine. The main entrance to the offices on the first to the sixth floors will be at the south-east end of the Cannon Street front. A secondary entrance is planned at the north end of the building. Each

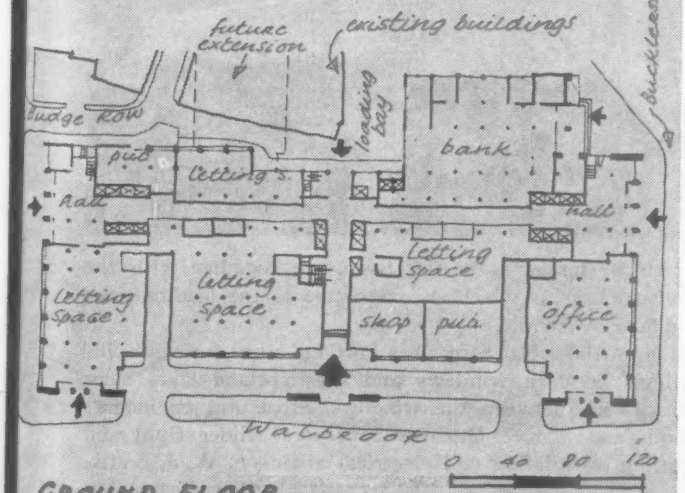
[continued on page 71




typical UPPER FLOOR PLAN
Offices; City of London
Watling House.




FLOOR 6




GROUND FLOOR
Offices City of London
Bucklersbury House.

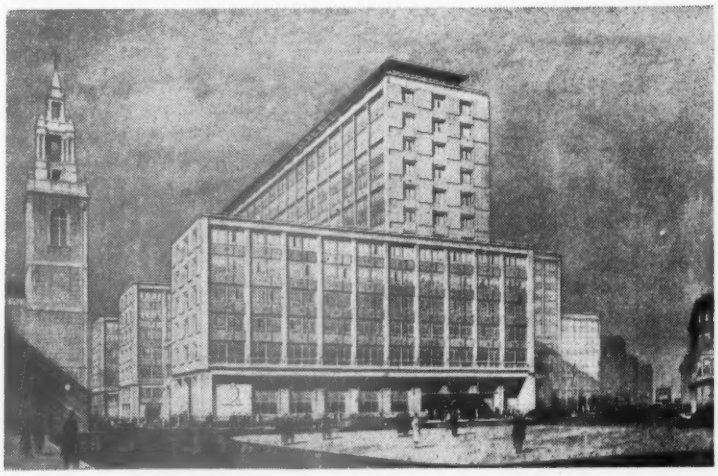
office floor has centrally placed lavatory accommodation.

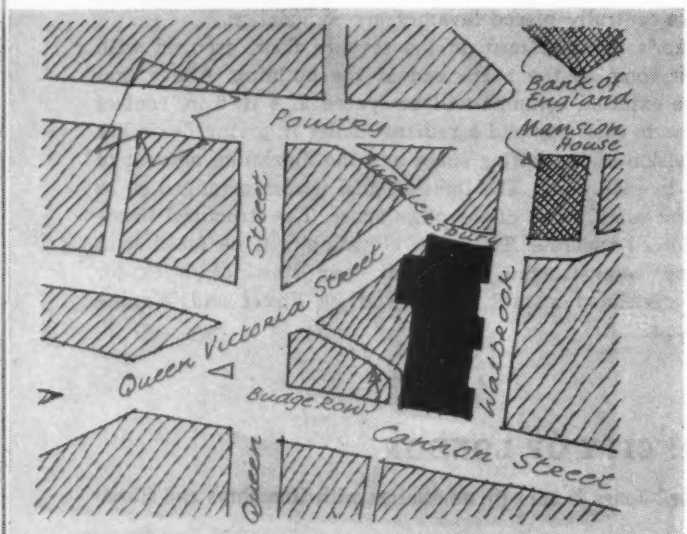
The caretaker's flat is placed on the seventh floor, grouped with the lift motor room at the north end of the building. Above first floor level the external columns will be spaced at 4 ft. 6 in. centres with a window to each bay and a radiator under it, giving flexibility in the sub-division of the letting space and the maximum amount of natural light to each office. The lighting grid is also arranged so as to facilitate the sub-division of the office space. The structural frame will be reinforced concrete. The main elevation will be faced with Portland stone, reconstructed stone and other dressings, brick for facing being restricted mainly to the Watling Street and Watling Court elevations.

## OFFICES: CITY OF LONDON

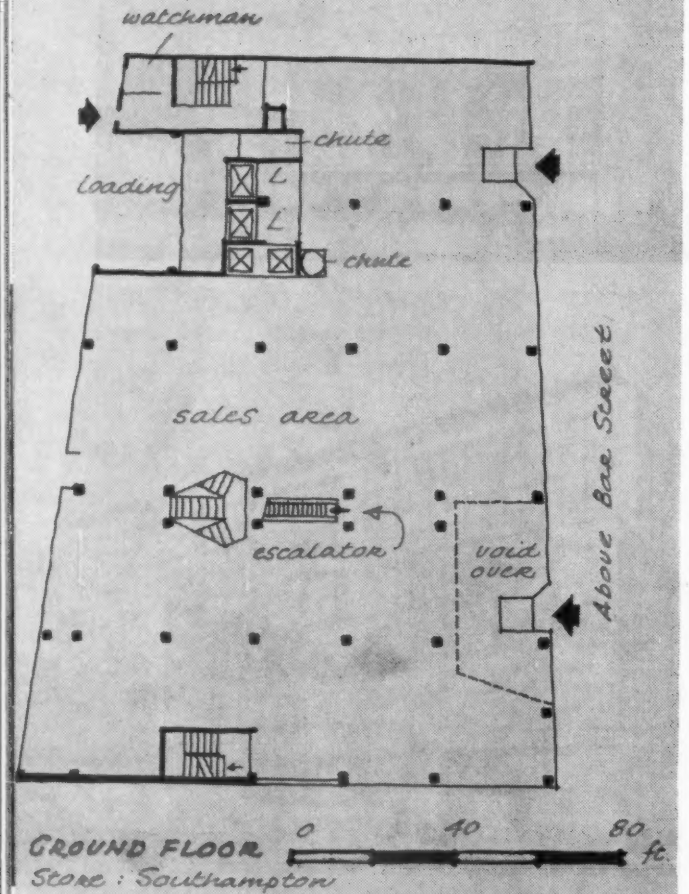
**Campbell-Jones & Sons (in association with Humphrys and Hurst)**

The design for this office block, known as Bucklersbury House, has reached its final stages after several years' delay while planning and other consents were obtained. During this time the Royal Fine Art Commission objected to its bulk but was overruled by the Minister of Housing and Local Government, and the client showed preferences for an academic style of design with neo-classical embellishments






SITE PLAN
Offices: City of London




Store: Southampton

and suggested calling in Sir Giles Scott as consultant. These proposals were, however, dropped after the Commission had objected to them and expressed a preference for the lighter, more straightforward treatment employed here.

The site, of 132,000 sq. ft., is bounded by Bucklersbury, Walbrook, Cannon Street and Budge Row. The floor area is 450,000 sq. ft., giving a plot ratio of 5½, but it is proposed at a later stage to add another wing on the Budge Row side, which will bring the plot ratio up to 5¾. The central block, which runs from north-east to south-west, is 14 storeys high. There are caretakers' and engineers' flats on the roof, garage space for 100 cars in the basement and a heating plant, with an oil-fired boiler supplying hot water to ceiling panels, in the sub-basement. The ground floor will be let to insurance offices, banks, restaurants and two public houses. There will be 20 public lifts. The building will be of steel-frame construction; external walls will be of Portland stone with panels of a darker stone.

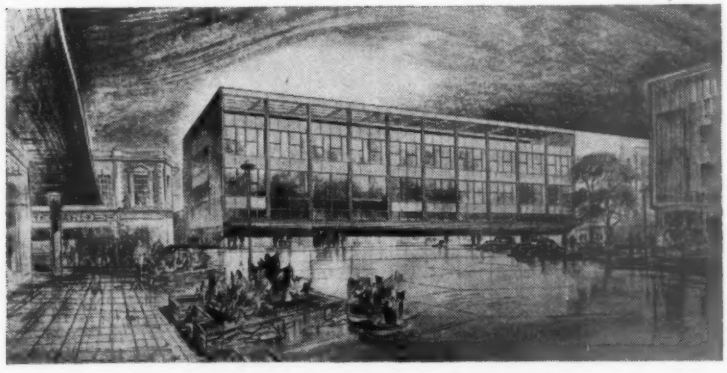
## STORE: SOUTHAMPTON

**Yorke, Rosenberg and Mardall**

The rebuilding of Messrs. Tyrrell & Green's store (John Lewis Partnership) destroyed during the war. The site, in Above Bar Street, with a frontage of about 175 ft., will form part of the east side of the new Guildhall Square to be created in front of the civic centre. It is intended to erect the building in two stages, beginning early this year: firstly on the part of the site not occupied by the temporary store and secondly, after demolishing the temporary store, to complete the new building. The first stage will be brought into use before the temporary building is demolished. Provision will be made to extend in the future by the addition of another floor.

Since the original building contained a basement, and the site is thus excavated over nearly the whole area, and since basement sales facilities were required, the new building is planned as a basement and three upper floors. Sales areas are located on all floors, with a restaurant and staff canteens on the second floor. Offices, workrooms and other staff rooms are also located on this floor.

Two passenger lifts and one goods lift are provided and an escalator runs from ground to first floor. Provision has been made for a further goods lift and an extension of the escalator to the second floor. The



bulk of the stock storage is in the basement, together with the receipt and dispatch areas which are connected to the loading dock on the ground floor by a chute.

The elevation to Above Bar Street has Portland stone facings to the vertical mullions between windows and Westmorland slate slabs applied to brickwork between the windows. Structural engineers: Clarke, Nicholls and Marcel. Quantity surveyors: Rider Hunt and Partners. Heating, ventilating and electrical engineer: A. J. Smith.

[continued on page 73

# 9 INDUSTRIAL

## PRINTING WORKS: DEBDEN

**Easton and Robertson**

This building, on which construction work commenced in June last year, is destined ultimately to replace the present Bank of England printing facilities of St. Luke's, and will provide enlarged accommodation and modernised plant.

The site adjoins the London Transport Station of Debden, and is on an area reserved by the London County Council for industrial developments. It is hoped that the actual building work will be completed in about 2½ years. Total floor space, inclusive of all offices and a canteen building, will total approximately 443,000 sq. ft. The accommodation includes administrative and general offices, works space for various types of printing, a chemist section, and ancillary works of various types, in addition to vaults and stores.

The planning is based mainly upon the productive flow for the printing processes, the main machinery hall providing an uninterrupted space of 800 ft by 125 ft., with smaller adjoining halls and sorting rooms. There is provision for possible expansion along the uninterrupted north flank of the building.

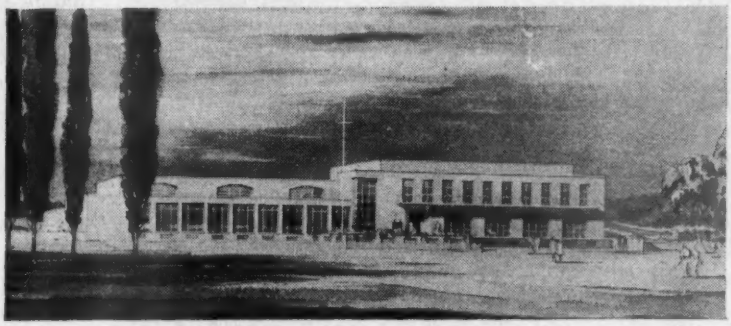
The clients' works requirements were for cleanliness, economical maintenance, concealment of services plus accessibility and good, even lighting, both natural and artificial, together with floor spaces for plant as far as possible uninterrupted by columns. A reinforced concrete structure was decided upon for its general suitability, and the

main novelty in the design is the asymmetrical form of the double concrete arches which span the main hall and which allow for ducting and service space between the dual trusses. The shape of the arches was decided upon as permitting the continuous shell tiers of north lights to be located beyond the centre line of the hall, giving natural light further into the interior than would be possible with a symmetrical arch.

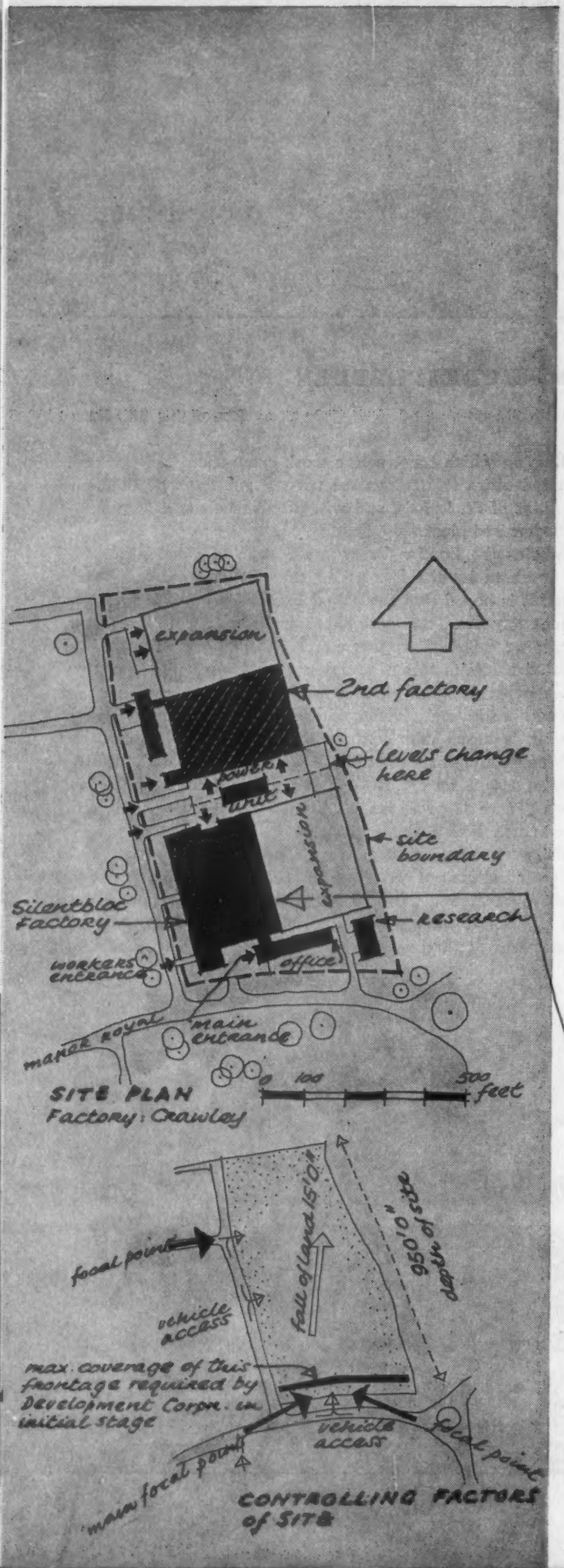
The building is mainly on two levels, to take advantage of a sloping site, with four upper floors of offices and three of general services on the south front. The main entrance, with the principal's offices above, lies between these two blocks.

The canteen is a separate adjoining building, comprising restaurant, recreation hall and committee rooms. It is likewise of reinforced concrete, with shell type roofing. The exteriors of both buildings are in facing brick with some of the basic structural elements in exposed concrete. The interior finish of both buildings will be on an austerity basis, with the majority of the structural elements left exposed, and 'wet processes' will be little employed.

Quantity Surveyors: Gardiner and Theobald. Consultants: Mechanical Services and Electrical Installations, Edward A. Pearce and Partners; Structural, Ove Arup and Partners; Drainage, Daniel Longden; Acoustics, Hope Bagenal.



*The canteen building, adjoining the main printing works.*




## FACTORY: CRAWLEY

**J. Austin-Smith and Partner**

Owing to a change of level in the centre of this deep narrow site it was advisable to divide it into two separate blocks each with its own office building, the rearmost block being approached from the road that runs up one side of the site. The two blocks are separated by a power unit.

The block nearest Manor Royal represents the first stage and is laid out with the machine shop and assembly area in the middle, flanked by subsidiary workshops and an inspection area on one side and stores on the other. Despatch of finished products is into a service yard at the back. The office block is on the road frontage but has been placed to one side, with a return wing linking it to the factory, so as to enable both buildings to play a part in the pictorial composition. This wing is four storeys high, the rest of the office block being two storeys.

The structural system used for the factory was determined by the need for a consistent over-all height, for the minimum number of supports and for economy in steel. These suggested a prismoidal steel sheet roof, with the upright members prestressed. The absence of cross-ties allows crane-jibs to project up into the roof space. Columns are confined to one row on either side of the central assembly space. Daylighting is provided by north lights between the main prestressed

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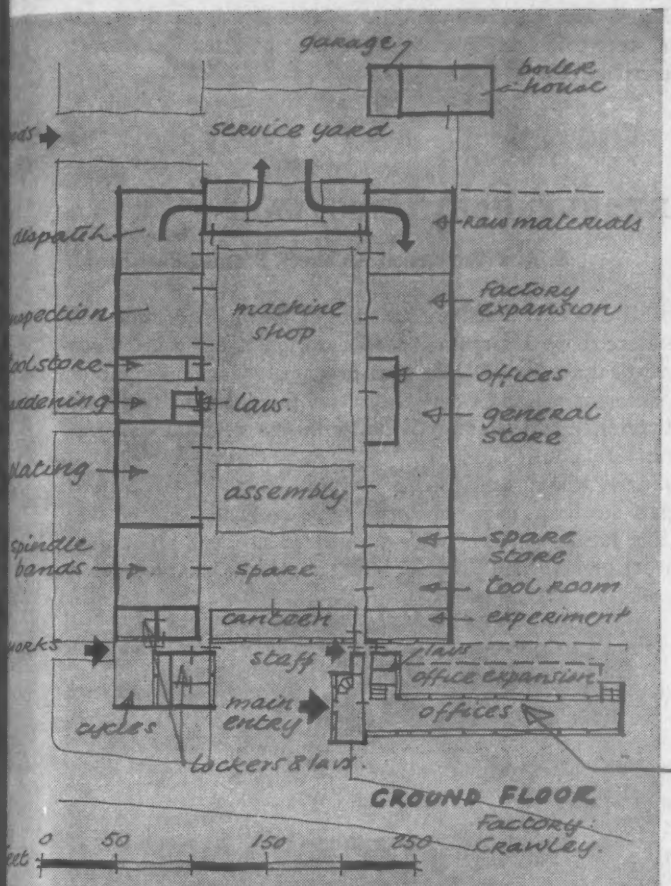
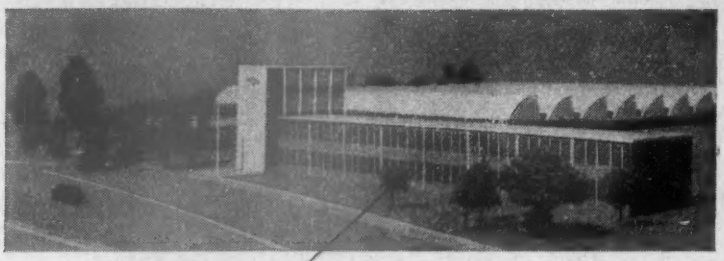
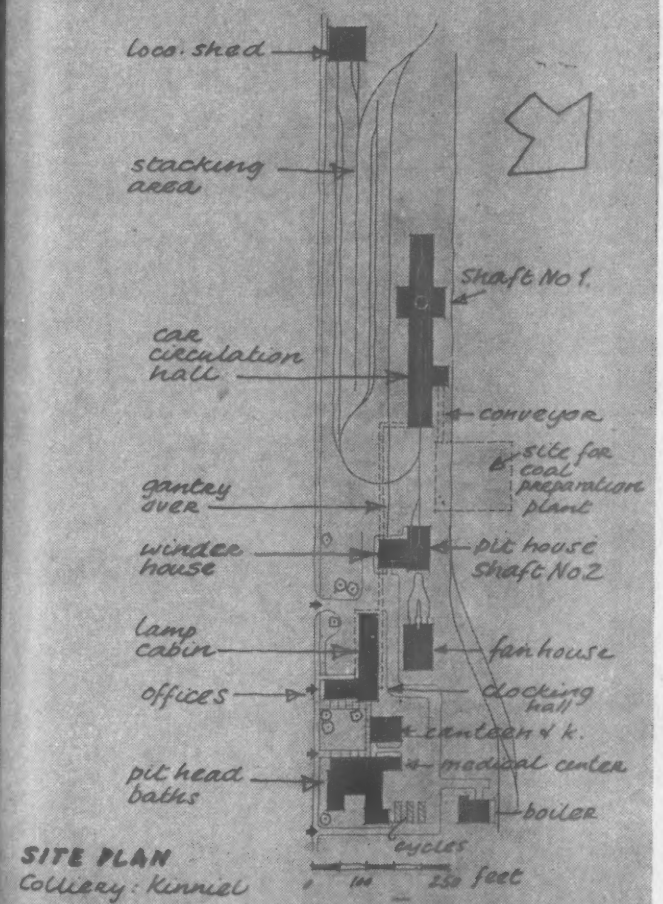


upright members, but additional glazing can be provided in the curved roof surface, which will otherwise be covered with asbestos sheeting. The walls of the factory will be of brick (non-structural) with continuous windows immediately beneath the springing of the roof.

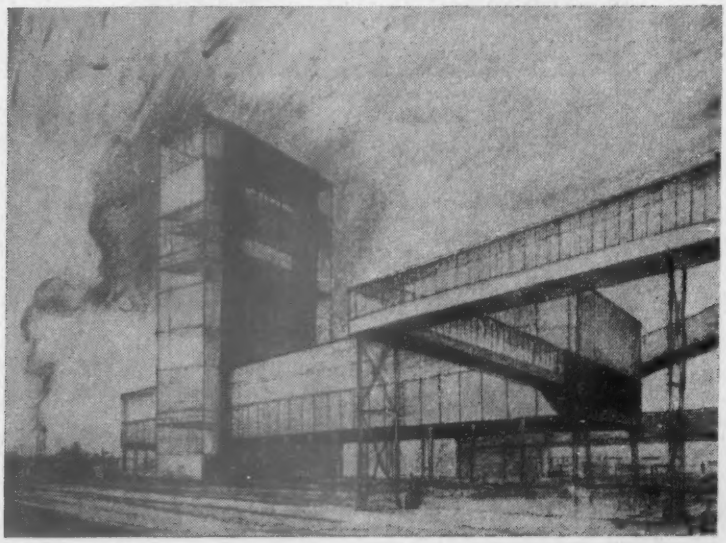
The office block, in order to permit flexible internal planning, has prestressed precast floor-slabs spanning between the two outside walls. They are supported on beams resting on brick piers. The shape of the slabs allows services to be run in spaces beneath the floor finishes. Infilling under the windows will be of stone or artificial stone panels.

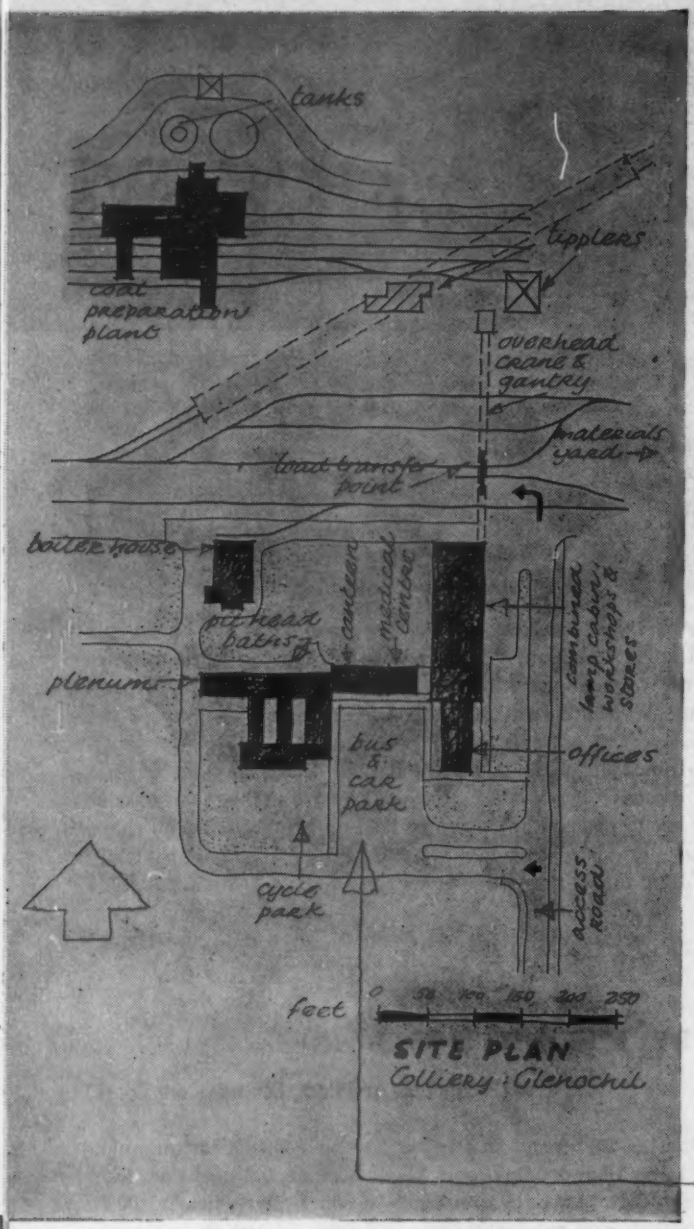



## COLLIERY: KINNEIL, SCOTLAND

**E. Riss (Production Architect, Scottish Coal Board)**

The dominating feature of this colliery, which is in Clackmannanshire, is the fairly high decking level. Men and material decks are kept approximately 30 ft. above the ground. A winding tower, nearly 200 ft. high, housing the winding machinery, is a form of structure new to





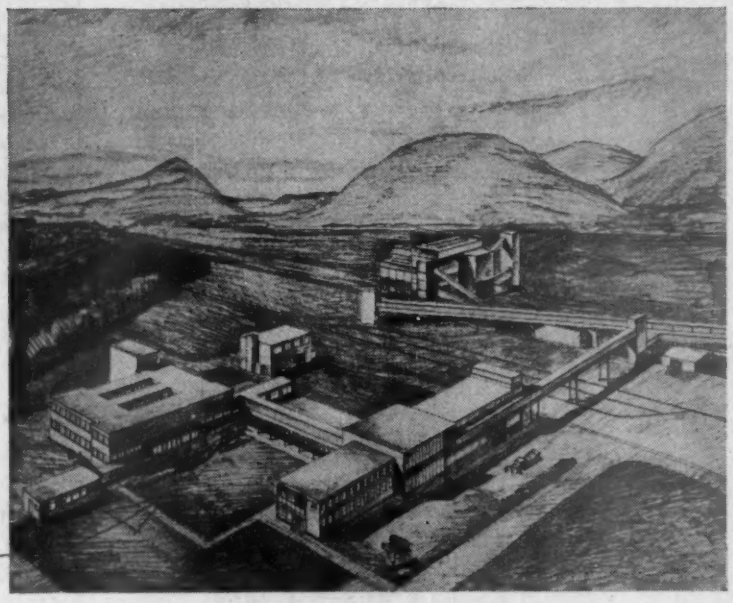

British collieries. The car hall and main circulation gantries are supported on steel columns. Otherwise the materials used are as at Glenochil, described below.

## COLLIERY: GLENOCHIL, SCOTLAND

**E. Riss (Production Architect, Scottish Coal Board)**

The Glenochil Colliery, Clackmannanshire, is an inclined mine and does not therefore show the familiar headgear seen at collieries which wind from vertical shafts. The site, not previously developed industrially, lies close against the Ochil Hills, and the problem therefore arose of satisfying mining requirements with the minimum disturbance of the natural scenery.

The buildings, which are to be started shortly, are framed structures, part steel and part reinforced concrete. The cladding will be brick (either facing bricks or with a rendered surface), aluminium sheeting, patent glazing and other sheeting materials not yet determined in detail.



## SOME BIOGRAPHICAL NOTES on the architects represented in this issue

**Edward Armstrong:** New Zealander, studied AA. **Frederick MacManus:** studied Dublin School. They have been in partnership for four years, engaged especially on local authority housing in London. Armstrong has recently retired owing to ill-health.

**J. M. Austin-Smith:** born 1918; studied AA; since 1949 in partnership with his wife, **Mrs. I. L. E. Austin-Smith** (born 1924, also studied AA). Other work: restaurant at Haverstock Hill, conversion of shops to self-service.

**Eric Bedford:** Chief Architect, Ministry of Works since 1951; responsible for official Coronation decorations and Abbey annexe.

**Owen Campbell-Jones:** born 1894; studied AA. Other work: branches for Westminster and Barclays Banks in London and the home counties; Isleden House, Islington.

**Hugh Casson:** born 1910; studied Cambridge; afterwards in partnership with the late Christopher Nicholson; Director of Architecture, 1951 Festival of Britain (for which he was knighted, 1952); co-ordinating designer, with Misha Black, of Time-Life building interior, Bond Street, 1952. Professor of Interior Design, Royal College of Art. President AA.

**Peter Chamberlin:** born 1919; studied Kingston School of Art. **Geoffrey Powell:** born 1920; studied AA. **Christopher Bon:** born 1921; studied Zurich and Milan. Partnership, formed 1952, has built London Shoe Co. shop in New Bond Street and a school in South Kensington.

**Frankland Dark:** born 1903; studied 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; studied Cambridge; specialist on airports; recent work of firm (Norman and Dawbarn) includes housing (St. Pancras and elsewhere), University College of the West Indies (*AR*, October, 1953).

**L. A. T. Drake:** born 1909; studied AA. **Denys Lasdun:** born 1914; studied AA. Both formerly partners in Tecton. Responsible for partly completed housing and school at Paddington, following dissolution of Tecton. **E. Maxwell Fry:** born 1899; studied Liverpool School; designed houses, flats, etc.; partner of Walter Gropius, 1934-1936. **Jane Drew** (his wife); born 1911; studied AA; worked in partnership with Fry on housing (Lewisham, Harlow), South Bank exhibition, West African schools and (under Le Corbusier) Chandigarh, India. Partnership of all four established 1951.

**J. M. Easton:** born 1889; studied Scotland and London. President AA 1939-40. **Howard Robertson:** born 1888; trained AA, London University and Paris; principal of AA throughout 1920s; president RIBA. Partnership established 1919 (at first with late Stanley Hall). Built Royal Horticultural Society hall, Gt. Ormond St. Children's hospital, Government exhibition pavilions, Hatfield Technical College, etc.

**A. G. Sheppard Fidler:** born 1909; studied Liverpool School; Chief Architect of Crawley New Town until appointment as Birmingham City Architect in 1952.

**Frank Gollins:** born 1910; studied Birmingham School; in practice before the war with R. A. Smeeton. **James Melvin:** born 1912; studied 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; has just won the University of Sheffield competition.

**Frederick Gibberd:** born 1908; studied Birmingham School; past Principal of AA School; principal works, Pulman Court, Streatham, Hackney Housing, Scunthorpe steelworks, market-place at Lansbury neighbourhood, etc.; architect-planner of Harlow new town; author of *The Architecture of England* and *Town Design*.

**G. A. Jellicoe:** born 1900; studied AA, of which he was later Principal. President of International Federation of Landscape Architects; recent works include housing at Hemel Hempstead; Hotel at Lusaka, Rhodesia.

**J. L. Martin:** born 1908; studied Manchester School; 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.

**S. W. Milburn:** born 1887; served articles with W. & T. R. Milburn; specialised in hospitals, schools and industrial buildings; has recently built an office block in Newcastle, nurses' home in the Channel Islands, schools in Scarborough, Sunderland and Darlington and a factory in Sunderland.

**Edward Mills:** born 1915; studied Regent Street Polytechnic; work includes South Bank 1951 administration block; author of *The Modern Factory*.

**Brian O'Rorke:** born 1907; studied AA; designer of interiors of several Orient Line ships; also Agricultural building, 1951 South Bank Exhibition; architect to projected National Theatre, South Bank.

**Egon Riss:** born 1901; studied in Vienna; in 1947 joined staff of Miners' Welfare Commission, remaining with National Coal Board after nationalization; since 1948 architect to the Production Department, Scottish Division. Has completed laboratories, office blocks, winder houses and a road bridge and is building offices, stores, workshops and collieries.

**Richard Sheppard:** born 1911; studied AA; partnership includes his wife (formerly Jean Shufflebotham); work includes

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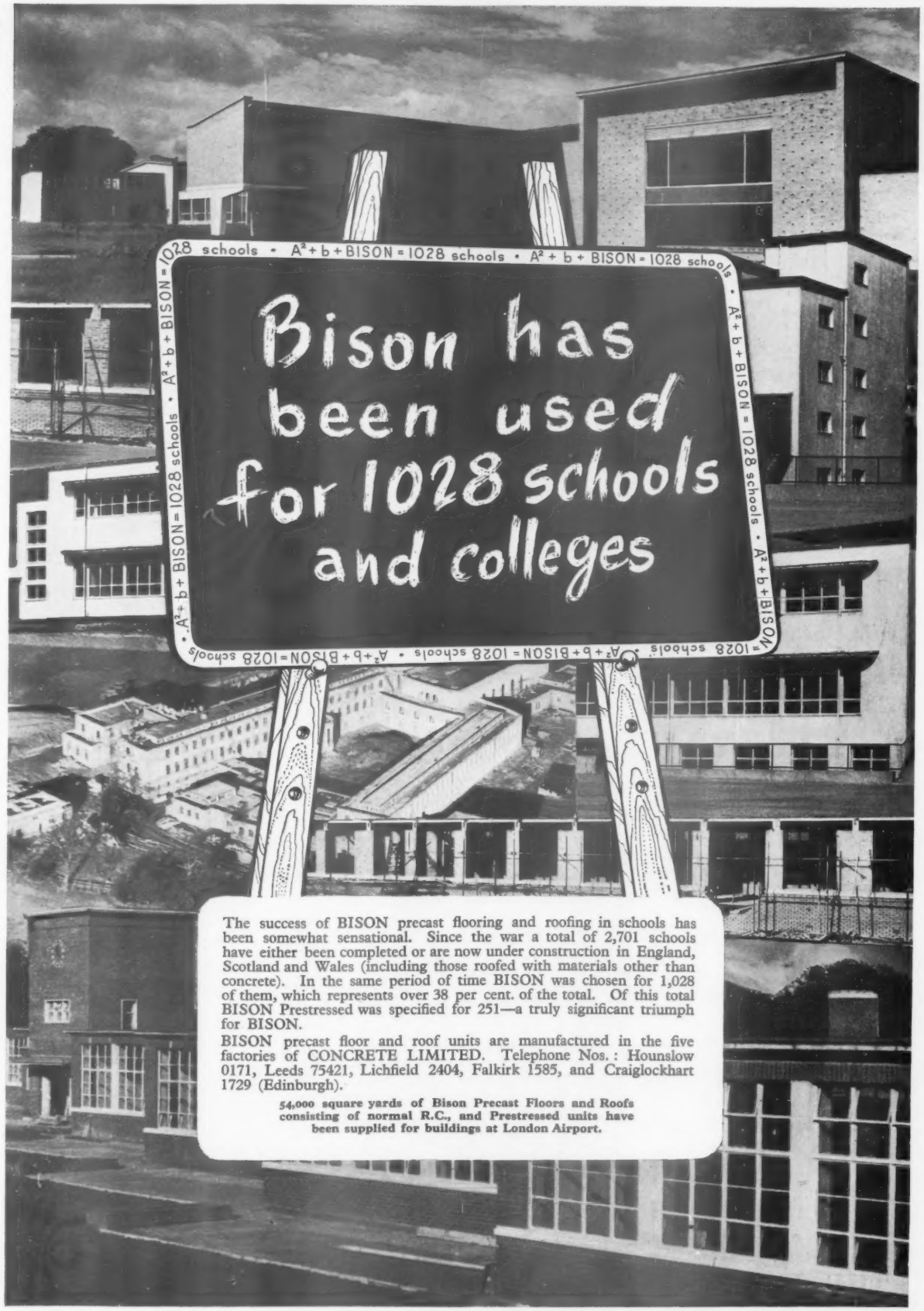


The success of BISON precast flooring and roofing in schools has been somewhat sensational. Since the war a total of 2,701 schools have either been completed or are now under construction in England, Scotland and Wales (including those roofed with materials other than concrete). In the same period of time BISON was chosen for 1,028 of them, which represents over 38 per cent. of the total. Of this total BISON Prestressed was specified for 251—a truly significant triumph for BISON.

BISON precast floor and roof units are manufactured in the five factories of CONCRETE LIMITED. Telephone Nos.: Hounslow 0171, Leeds 75421, Lichfield 2404, Falkirk 1585, and Craiglockhart 1729 (Edinburgh).

**54,000 square yards of Bison Precast Floors and Roofs consisting of normal R.C., and Prestressed units have been supplied for buildings at London Airport.**

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schools in Herts, Worcs, etc., hostel at Wye College, Kent, shipping offices at Newcastle, housing at Harlow.

**Basil Spence:** born 1907; studied in London (pupil of Lutyens) and Edinburgh. Recent work includes housing, many exhibitions (e.g. Sea and Ships building, South Bank, 1951). Winner of Coventry Cathedral competition, 1951.

**C. G. Stillman:** born 1894; 32 years service in local government; County architect of Middlesex since 1945. Past vice-president, RIBA.

**George L. Walls:** born 1902, studied Edinburgh College of Art; started private practice in 1935. **George P. Duncan:** born 1927; trained in Edinburgh as quantity surveyor and later as architect. The partnership has built schools and commercial and industrial buildings.

**Basil R. Ward:** New Zealander, born 1902; trained under J. A. Louis Hay; 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.

**I. K. Watson:** born 1906; studied Cambridge School and R.A. **H. J. Coates:** born 1901; trained under the late W. E. Watson and at Regent Street Polytechnic and R.A. Recent buildings include a factory at Twickenham, extension to the Royal Society of Medicine building, and defence work.

**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*. **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, housing in Harlow new town.

## CONTRACTORS etc

**Generating Station at Ferrybridge.** *Architects:* Watson & Coates. *General contractors:* George Wimpey & Co.

**Hospital at Londonderry.** *Architects:* Yorke, Rosenberg & Mardall. *Quantity surveyors:* Davis, Belfield & Everest. *Consulting engineers (structural):* Clarke, Nicholls & Marcel. *Consulting engineers (heating and ventilating):* Oscar Faber & Partners. *General contractors:* Robert Colhoun Ltd. *Sub-contractors: Asphalte:* John McGowan & Sons.

**Hospital Extension at Hammersmith.** *Architect:* Basil Ward, of Ramsey, Murray & White. *Consultants (reinforced concrete):* Ove Arup & Partners. *Quantity surveyors:* Cyril Sweett & Partners. *General contractors:* Hall, Beddall & Co. *Sub-contractors: Heating, ventilating and special services:* Troughton & Young (Heating) Ltd. *Asphalte:* Val de Travers Asphalte Paving Co. *Metal windows:* W. James & Co. *Lifts:* Bennie Lifts Ltd.

**Terminal Buildings, London Airport (South East Face Building).** *Architect:* F. Gibberd. *General contractors:* Taylor Woodrow & Co. *Sub-contractors: Asphalte:* Natural Rock Asphalte Ltd. *Built-up roofing felt:* MacArtney Ltd. *Roof paving:* Permanite Ltd. *Rubber flooring:* Runnymede Rubber Co. *Cork flooring:* E. J. Elgood Ltd. *Thermoplastic flooring:* Rowan & Boden Ltd. *Terrazzo tile paving:* Jaconello Ltd. *Limestone paving and marble:* Nine Elms Stone Masonry Work. *Wall panelling:* D. Burkle & Son. *Carda double windows:* Holcon (Engineers) Ltd. *Bronze skirting:* H. H. Martyn & Co. *Metal windows: main concourse:* Williams & Williams Ltd.; *general:* Aygee Ltd. *External ventilation louvres:* F. Braby & Co. *Fire doors:* Curfew Doors & Shutters Ltd. *Strong room doors:* Chatwood Safe & Eng. Co. *Entrance doors and screens:* D. Burkle & Son. *Collapsible gates:* Potter Rax Ltd. *Roller shutters:* Shutter Contractors Ltd. *Spiral staircase:* Fredk. Braby & Co. *Illuminated signs:* Acme Showcard & Sign Co. *Balustrading (general):* Light Steelwork (1925) Ltd. *Lifts:* Marryat & Scott Ltd. *Luggage conveyors:* Sovex Ltd. *Escalators:* Waygood-Otis Ltd. *Fibrous plaster:* David Esdaile & Co. *Pressed metal gutters:* G. Brady & Co. *Sanitary fittings:* J. S. & F. Folkard (Eng.) Ltd. *Rainwater, soil and waste plumbing:* Dent & Hellyer Sanitation Ltd. *Heating installation:* G. N. Haden & Son. *Fire fighting installation and mechanical ventilation:* G. N. Haden & Son. *Electrical installation:* London Electricity Board. *Telephone floor ducting:* Key Fibre Eng. Co. *Glass dome lights:* T. & W. Ide Ltd. *Patent glazing:* Faulkner Greene & Co. *Screen and hoppers for refuse bins:* W. & H. Earley Ltd. *Structural steel frame:* Redpath Brown & Co. *Precast floors:* Concrete Ltd. *Facing bricks:* J. H. Sankey & Son. London Airport (Central Building). *General contractors:* Taylor Woodrow & Co. *Sub-contractors: Aluminium roofing:* Fredk. Braby & Co. *Carda double windows:* Holcon (Engineers) Ltd. *Tea bar counter and fittings:* Eustace & Partners Ltd. *Roller shutters:* G. Brady & Co. *Metal windows:* Aygee Ltd. *External metal louvres:* Greenwoods & Airvac Ventilating Co. *Removable partitions:* Ayrshire Dockyard Co. *Entrance doors and screen:* H. H. Martyn & Co. *Fire resisting doors:* Durasteel Ltd. *Cable racking:* Johnson & Phillips Ltd. *Staircase balustrading:* Morris Singer Co. *Metal staircase:* Haywards Ltd. *Fibrous plaster:* David Esdaile & Co. *Rainwater, soil and waste plumbing:* Dent & Hellyer Sanitation Ltd. *Cold*

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*water services, domestic hot water services, high pressure hot water services, fire fighting installation:* Norris Warming Co. *Sanitary fittings:* B. Finch & Co. *Heating installation, air conditioning installation:* Norris Warming Co. *Lift installation:* Express Lift Co. *Electrical installation:* Electrical Installations Ltd. *Precast floors:* Trussed Concrete Steel Co. *Asphalte:* Natural Rock Asphalte Co. *Wood block flooring and cork flooring:* Horsley Smith & Co. (Hayes). *Thermoplastic flooring:* Rowan & Boden Ltd. *Limestone paving and marble:* Nine Elms Stone Masonry Works. *Fibreboard and acoustic false ceilings:* John Dale & Co. *Wall tiling:* Parkinson Wall Tiling Ltd. *Glass domes:* T. & W. Ide Ltd. *Scagliola imitation marble:* Bellman, Ivey & Carter Co. *Facing bricks:* J. H. Sankey & Son.

**Primary School at Edinburgh.** *Architects:* G. L. Walls & Duncan. *Excavator, brick work, etc.:* J. Smart. *Carpenter and joiner work:* Peter Nimmo & Son. *Plumber work:* Rutherford & McAlpine. *Roof plumber work:* Patrick Knox & Son. *Roof asphalte work:* William Briggs & Sons. *Plaster cement, etc., work:* Scott & Davie. *Plastic structural panels:* Holoplast Ltd.

**Television Centre in London.** *Architects:* Norman & Dawbarn. *General contractors:* Higgs & Hill Ltd. *Major sub-contractors and suppliers: Asphalt tanking, bitumen felt roofing:* Ragusa Asphalte Paving Co. *Boiler chimney stack:* Tileman & Co. *Facing bricks:* R. Y. Ames. *Flettons and hollow tile:* London Brick Co. *Glass and concrete roof lights:* J. A. King & Co. *Granolithic flooring:* E. J. Elgood Ltd. *Heating installation:* Rosser & Russell Ltd. *Lifts (passenger and goods electric lifts):* Waygood-Otis Ltd. *Lift ('Electroil,' hydraulic scenery lift):* Aldous & Campbell Ltd. *Metal windows:* C. E. Welstead Ltd. *Paints (oil):* Thomas Smith & Son. *Plumbing:* J. Martin (Brockley) Ltd. *Prestressed concrete:* Concrete Development Co. *Roller shutters and steel doors:* Dreadnought Fireproof Doors (1930) Ltd. *Scenic artists' studio equipment:* Knight Theatre Equipment Ltd. *Sprinkler installation:* Mather & Platt Ltd. *Structural steelwork:* T. C. Jones & Co. *Scaffolding and formwork for reinforced concrete:* Scaffolding (G.B.) Ltd. *Minor sub-contractors and suppliers: Cement glaze:* Robb's Cement Enamel Finishes Ltd. *Fire equipment:* Merryweather & Sons. *Entrance gates:* Bayliss Jones & Bayliss Ltd. *Ironmongery:* Taylor Pearse & Co. *Korkoid flooring:* Korkoid Decorative Floors Ltd. *Accotile floors:* Armstrong Cork Co. *Laid by:* Rowan & Boden Ltd. *Lettering and numerals:* The Lettering Centre. *Lightning conductors:* J. W. Gray & Son. *Paint: external concrete paint:* Chemical Building Products Ltd. *Paint: emulsion:* Silexine Paints Ltd. *Paint: cementone:* Joseph Freeman Sons & Co. *Sanitary fittings:* Dent & Hellyer Ltd. *W.C. partitions:* Venesta Ltd. *Pressed steel tanks:* Braithwaite & Co. (Structural). *Precast concrete eaves units:* Girlings' Ferro-Concrete Co. *Electrical contractors and suppliers: Electric wiring contractors:* Barlow & Young Ltd. *Low tension switch and fuse gear:* Cantie Ltd. *$CO_2$ equipment:* Walter Kidde & Co. *Light fittings (offices):* Benjamin Electric Ltd. *Light fittings (basement and ground floor):* Hailwood & Ackroyd Ltd.

**Power Plant at Kemsley.** *Architects:* Farmer & Dark. *General contractors:* Higgs & Hill Ltd. *Sub-contractors: Steelwork:* Redpath Brown & Co.

**Flats at Hammersmith.** *Architects:* Edward Armstrong and Frederick MacManus. *Structural engineers:* Bylander and Waddell. *General contractors:* Wilson Lovatt & Sons. *Sub-contractors nominated to date (6.11.53): Common bricks:* The London Brick Co. *Facing bricks:* R. Y. Ames, Ltd. *Steel windows:* Crittall Manufacturing Co. *Pressed steel door frames:* Joseph Sankey & Sons. *Electric lifts:* Bennie Lifts, Ltd. *Electrical installation:* Buchanan and Curwen, Ltd. *External electric mains:* London Electricity Board. *Gas installation:* North Thames Gas Board. *Plumbing (internal):* Building Engineering Contractors (London) Ltd. *Precast terrazzo window cills:* Malacarp Terrazzo Co. *Approved sub-contractors: Shuttering:* Scaffolding (Great Britain) Ltd. *External plumbing and drains:* R. A. Brinkworth, Ltd. *Painting and decorating:* South London Decorators Ltd.

**Housing at Harlow.** *Architects:* Norman & Dawbarn. *General contractors:* Rush & Tompkins Ltd. *Nominated sub-contractors and suppliers: Metal windows:* The Crittall Mfg. Co. *Ironmongery:* Lockerbie & Wilkinson (Birmingham) Ltd. *Sanitary fittings:* Ashley Brandon (Kensington) Ltd. *Fireplace surrounds:* John Knowles & Co. (London). *Electrical installation:* Evans & Shea Ltd. *Hollow pot floors and R.C. stairs:* The Kleine Co.

**Sailors' Home in Dock St., London.** *Architect:* Brian O'Rorke. *General contractor:* Charles R. Price.

**Flats at Birmingham.** *Architect:* City architect, A. G. Sheppard-Fidler. *Contract No.* 272: 72 six-storey flats, Hawkesley Farm Estate, West Heath. *General contractors:* F. Deeley Ltd. *Sub-contractors: Concrete glazed canopies:* J. A. King & Co. *Contract No.* 291: 72 six-storey flats, Hobmoor Road, Yardley. *General contractors:* Percy W. Cox Ltd. *Contract No.* 284: 24 six-storey flats, Aston Hall Road.

**Printing Works at Debden, Essex.** *Architects:* Easton & Robertson. *Quantity surveyors:* Gardiner & Theobald. *Consultants: (a) Mechanical services and electrical installations:* Edward A. Pearce & Partners. *(b) Structural:* Ove Arup & Partners. *(c) Drainage:* Daniel Longden. *(d) Acoustics:* Hope Bagenal. *Model:* R. A. Schofield. *General contractors:* Sir Robert McAlpine & Sons.