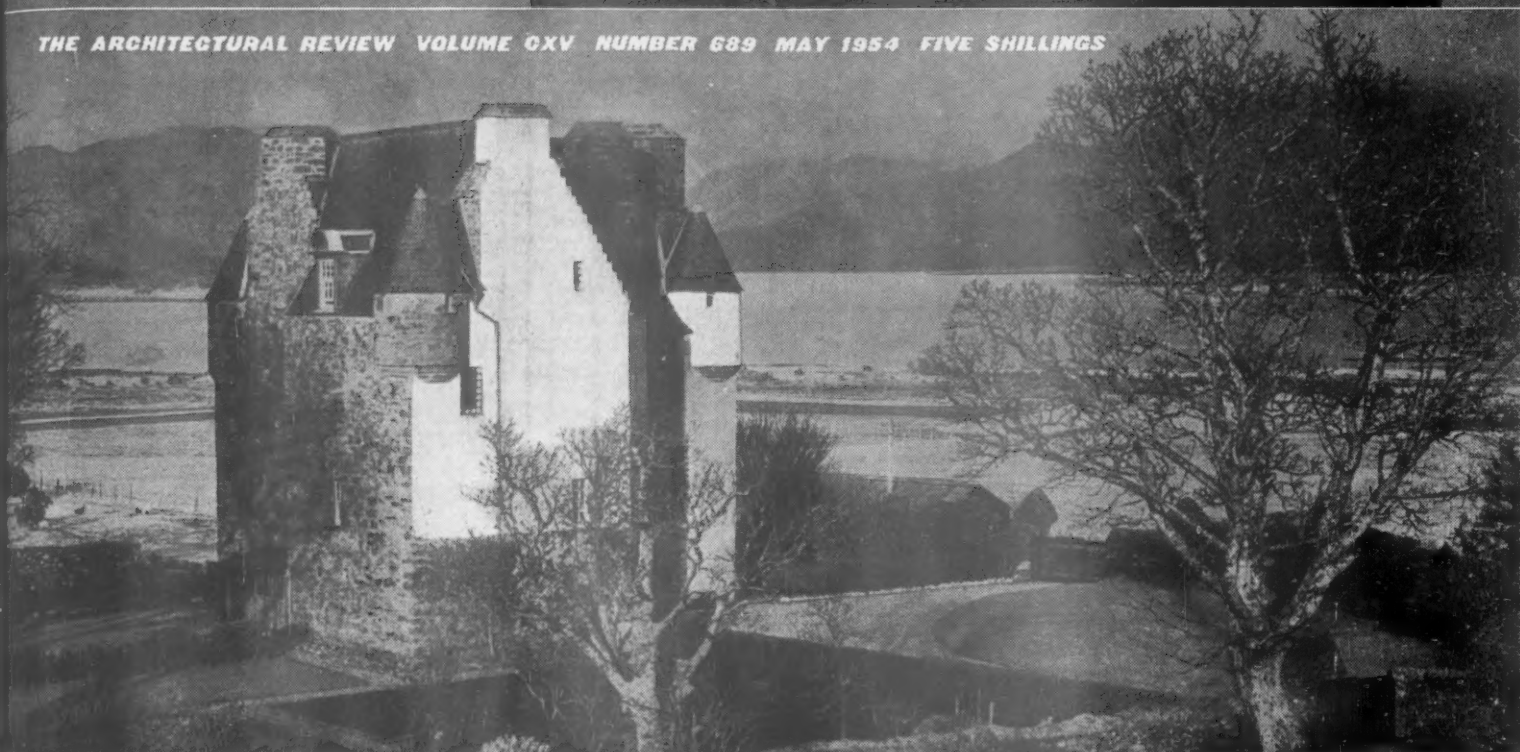


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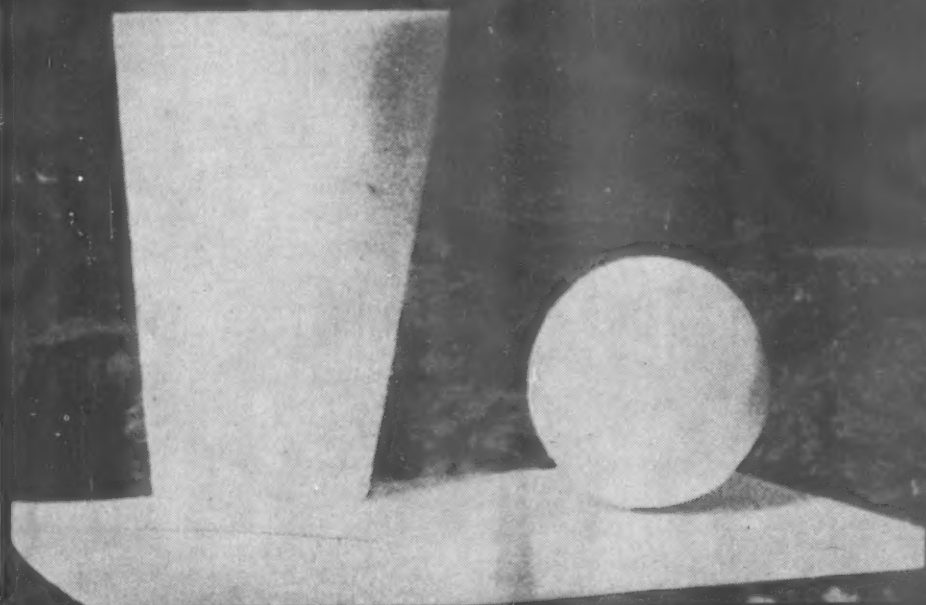
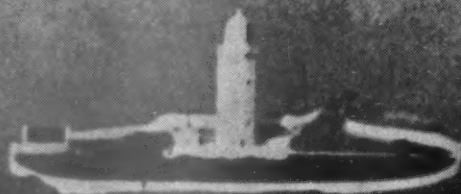
THE ARCHITECTURAL REVIEW VOLUME CXV NUMBER 689 MAY 1954 FIVE SHILLINGS



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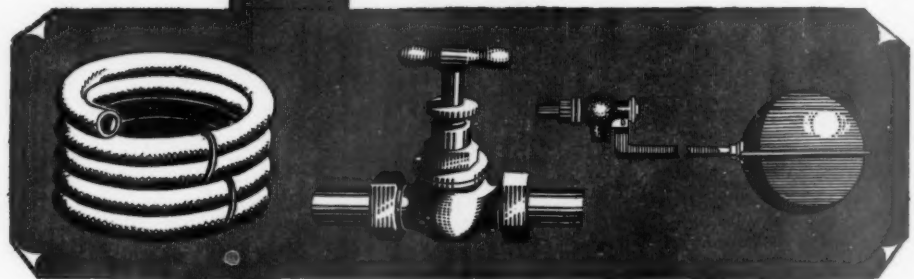
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MARGINALIA

Inside Westminster Cathedral

It is a pleasure to be able to report that Cardinal Griffin has taken prompt action to implement the promise he made to put the interior embellishment of Westminster Cathedral under more satisfactory guidance, following the complaints made in a letter to *The Times* published at the end of last year. An article in the REVIEW for March gave full details of the recent work in the cathedral by which the protest was occasioned and referred to the new advisory committee appointed by the Cardinal. This committee held its first meeting in the middle of February, and henceforward all designs for new work in the cathedral will be referred to it.

The matter chiefly complained of was the substitution of a steel girder for the marble column used by Bentley to support the double arch in the north transept, and the sale of the column to the trade in spite of the fact that it was one of the *verde antico* shafts dug out of the original quarry that supplied the marble for Sancta Sophia. The cathedral authorities have already arranged to buy back the column and reinstate it.

Village Architecture Surveys

While the major work of monument-surveying continues on a national scale, with Professor Pevsner's *Buildings of England*, the Royal Commission and the National Buildings Record all making their high level contributions, the need for field work of a more local and *ad hoc* nature still remains—the cultivation of detailed local knowledge of what to preserve and what to let go, and the study of the essential nature of the village scene.

Work of this kind is sometimes done by a single devoted local historian or artist (e.g., the *Silhouette of Malvern*, by Catherine Moody); but another method, which has been used lately is the survey conducted as an educational project, with the object of teaching the appreciation of architecture to adult students. A small group of students divides the subject between smaller sub-groups, each of which takes a particular building type, or period style, makes a complete register of all buildings within the category, and then selects the most interesting for more extended survey and illustration.

Courses of this kind have been held at Ongar, in Essex, where the local survey has preceded both Professor Pevsner and the Victoria County History, both of whom are using material from it, and Hampton,



in Middlesex, where the local knowledge of the class was able to bring to light a building which had been overlooked by the *Buildings of England*—the Orangery, at the back of Garrick's Villa, an ably planned, but coarsely detailed building which appears to come from the fringes of the Henry Holland-John Soane circle.

It will be interesting to see how the threat to the Garrick Orangery, from a local authority housing scheme, fares in face of the more wide-awake interest in village architecture that a survey like this fosters. Whatever the fate of the Orangery, there will be the satisfaction of knowing that the building was recorded in time.

Casabella Restituta

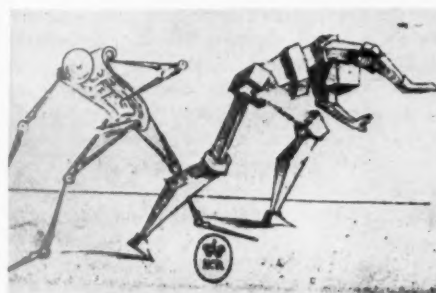
The re-appearance of the magazine *Casabella* has a symbolic and justificatory importance for the modern movement in Italy, for it was the organ of progressive opinion in architecture through the years of the 'political difficulties' which Signora Veronesi has chronicled in her recent book*. It was the organ of anti-academic opinion in the battle *Triennale contra Roma* in the thirties, and much of the post-war polemics between Rome and Milan have been exchanged over its dead body. In a very real way *Casabella* was the repository of the moral strength of the crusading attitude adopted by Pagano and Persico, which is still the ultimate moral strength of the modern movement in Italy, and the new director of the revived magazine, Ernesto Rogers, consciously adopts the mantle of Persico in his editorial leader to the first number of the new series. And just as the former editors made the magazine a fighting weapon against the Academies and Imperial bombast, so the new editors have clearly decided to make the revived *Casabella* a weapon against formalism. This is the theme of Rogers' editorial, which calls for an almost existentialist condition of doubt, open-mindedness, and rejection of ready-made solutions, and it is also the theme of an inside article by Giancarlo de Carlo, where academicism and formalism are equated, and again of a back-end article quoting, albeit cautiously, *In Defence of the Cliché* by J. M. Richards which appeared in the AR for August, 1953, together with Peter Collins' article on Auguste Perret which has been made the source of examples of cliché-borrowing in practice. The polemical orientation of all this against the 'Roman' position of Luigi Moretti and Bruno Zevi is perfectly clear, and the re-appearance of *Casabella*

* *Difficoltà Politiche dell'Architet. Tura in Italia 1920-1940.* By Giulia Veronesi. Milan, Tamburini L 1700.

means that Milan now has a big gun with which to reply to the salvoes of *Spazio*.

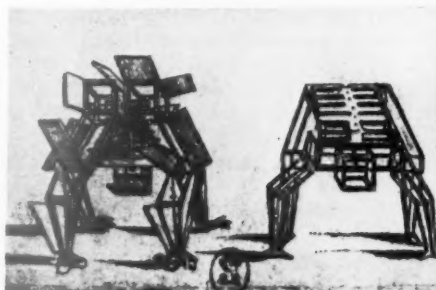
Civiltà delle Macchine

The peculiarity of the Italian attitude to the machine and all its works is one of the socio-historical mysteries of this century, and, as yet, an unchronicled and unsolved one. From the Futurist Manifesto of 1909 to the appearance of the bi-monthly review *Civiltà delle Macchine* in 1953, there has been a tone of excitement in Italian thought and writing about machinery and technology which may seem naïve to countries which had their Industrial Revolutions a century earlier, but which must be paying useful dividends to the Italian typewriter and motor car industries at the moment. *Civiltà delle Macchine*, which is a kind of *Fortune Magazine* but with a far closer tie to industry, and an alert eye on the arts which impinge most



Figures made from draughting instruments—a capriccio of the 16th century Genoese painter G. B. Bracelli.

directly on industrial problems, is published by Finmeccanica, the Italian Government finance corporation concerned with heavy industry, arsenals, shipyards and electronics. Its importance lies very much in the fact that it sees the world of technology as part of the general pattern of contemporary culture—a feat which has eluded practically all other bodies of thought except the Bauhaus. Though this occasionally leads it to publish pictures of kittens in space-helmets, and bathetic poems on the deaths of prominent racing motorists and test pilots, its attitude towards architecture and the visual arts is most enlightened, and its illustrations are excellent and farfetched in the best sense of the word—one recent issue contained a



Another conceit of Bracelli—manikins constructed of "space-frames" and boxes.

hitherto unpublished sculpture of Picasso (included because it incorporated industrial products such as nails as expressive elements), and these automata, which illustrated an historical article on the development of

robots from clockwork chess players to electronic computers. When it is appreciated that the same issue contained articles on the industrial housing projects of Neutra and Gropius, on the centenary of the Ansaldo concern, on the mechanical theories of Pascal, on Italian contributions to relativity mathematics, on psychopathic art and children's mechanical fantasies, and on the significance of the Point Four programme of aid to backward countries, the true originality and scope of this most remarkable of house magazines will also be appreciated.

The Critics' Prize

The Critics' Prize for 1954 has been awarded to Peter Lanyon, the Cornish painter of near-abstract landscapes. This is the second year in which the prize has been awarded—that for 1953 having gone to the sculptor Edouardo Paolozzi. The status of this prize is unusual, since it marks the determination of an organized body of working critics (the English section of AICA*) to express their belief in the talent or achievements of an established professional artist, rather than the usual pious wish to foster a beginner of promise in the hope of backing a winner. It is therefore a prestige award, since its money value is relatively small, and its value lies in its arising from the matured decision of a jury consisting, last year, of David Sylvester, Benedict Nicholson and Sir Philip Hendy; this year of Patrick Heron, Bernard Denvir and Michael Middleton. Though its prestige in the British art-world is therefore high, it would undoubtedly be higher if the English section of AICA disposed of bigger funds with which to back their judgment.

* Association Internationale des Critiques d'Art.

Preservation of Historic Churches

The grants for preservation and repair of historic churches for 1954 have been announced and reveal, as did last year's list, a commendable catholicity of taste which interprets the term 'historic' as extending down to the eighteen-hundreds. Among many notable churches which are to benefit are Shepton Mallet; Whitney Street Congregational in Bury St. Edmunds; St. Martin, Ludgate; All Hallows, London Wall; St. Alphege, Greenwich, and St. Katherine's Chapel, Ledbury. In all, this represents a distribution of over £50,000, but the Historic Churches Preservation Trust intends to allocate some £100,000 before the year ends 'as an act of faith that the money will be forthcoming from the public before it is actually needed for repairs.'

Intelligence

A model of the Westminster area, constructed for the Coronation, is now being used at the Ministry of Works to show how proposed new buildings would fit in with their surroundings.

The Minister of Housing and Local Government has decided to grant permission to build a television station at North Hessary Tor in the Dartmoor National Park, subject to certain conditions.

CORRESPONDENCE

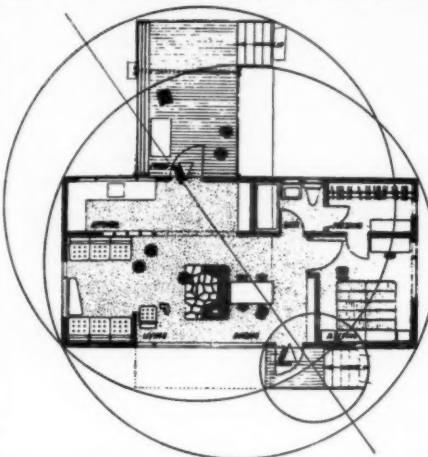
Geometry and Architecture

To the Editors,

THE ARCHITECTURAL REVIEW

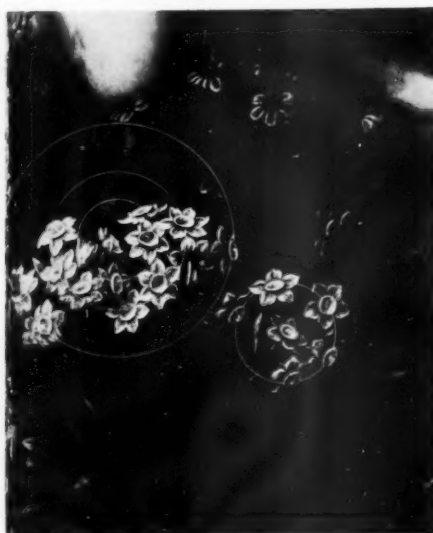
SIRS,—I wonder whether I may interest you in certain observations I have made of a geometrical nature. The geometry is of course architectural in character.

1. The plan of a house by Walter Gropius and Marcel Breuer at Weyland, Mass., USA,



built in 1941. This plan is resolved into three idea-frames, which are enclosed within circles. The centres of these circles form an axis of entry and movement through the structure. Thus an apparently asymmetrical visual form is resolved into a symmetrical abstract form—balancing about a mobile observer.

2. A detail from Leonardo da Vinci's 'Madonna



of the Rocks' with circles superimposed, which should be studied in conjunction with:

3. An extract from Canto XXXIII of Dante's 'Paradiso e Divina Commedia':

Stedfastly
I therefore pored upon the view. As one
Who versed in geometric lore, would fain
Measure the circle: and, though pondering long
And deeply, that beginning, which he needs
Find not; even such was I, intent to scan
The novel wonder, and trace out the form,
How to the circle fitted, and therein
How placed.'

I am, etc.,

DEREK I. ORBACH.

London.

Exhibition of Spanish Architecture

To the Editors,

THE ARCHITECTURAL REVIEW

SIRS,—Your commentary on the Exhibition of Spanish Architecture held lately in London,* though short and light, may be rather misleading.

Perhaps the exhibition didn't show rightly the trend of contemporary Spanish Architecture, and that was surely due to the fact that we never have been experts in propaganda matters.

In any case, this is my opinion; the aim of the young Spanish architects is quite the same as the one of their colleagues in your country. But you must take in mind that our character in life, manners and feelings, is very different, and the development of our work has its own peculiarities, which sometimes are very difficult to understand.

So, when you refer to 'deliberate political reaction and less deliberate cultural isolation,' I can assure you that you are mistaken.

In Spain, whether it is a good thing or not, architecture has nothing to do with politics. And in respect to the 'cultural isolation' (I suppose that you don't refer to the 'culture' that led to the atomic bomb), anybody who, coming from abroad, attends here to the University or to the manifold lectures, exhibitions, etc., or being an architect looks at the plans submitted to the competitions, well, this man hearing your remark will inevitably consider it with a smile.

In respect of the works not displayed at the exhibition, perhaps there were some others missing, besides those pointed out, and to check that you only need to look at our paper *Revista Nacional de Arquitectura*.

Yours, etc.

Madrid.

CARLOS DE MIGUEL.

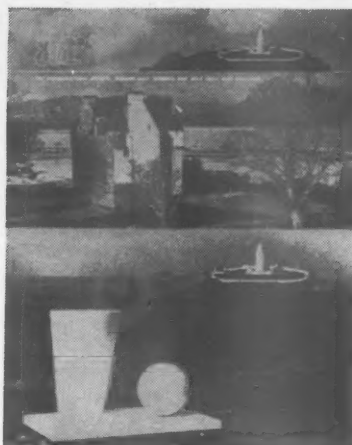
* AR, February, 1954.

ACKNOWLEDGMENTS

The first four drawings in the feature *Grass Roots* in the February issue should have been acknowledged to Olav Bork and not to Peter Prangnell.

COVER: Castle, R. M. Adam, Country Life; rest, from *Figures in a Landscape*, British Film Institute. MARGINALIA, pages 293-294: first, P. R. Banham; second, third, *Civiltà delle Macchine*. FRONTISPIECE: Country Life. PLASTIC BARONIAL, pages 297-301: All photos Country Life, 5, I. G. Lindsay, 9, Valentine & Sons. FLATS FOR SINGLE PEOPLE, pages 302-306: 1-8, Galwey, Arphot, 9, 10, Colin Westwood. GREEK THOMSON, pages 307-316: 12, Studio Swain. HOUSE AT SYDNEY, pages 317-321: H. Seidler. SHREWSBURY, pages 322-330: Drawings by Gordon Cullen. CURRENT ARCHITECTURE, pages 331-335: St. James' Park Hospital, Balham: John R. Pantlin; Technical College at Ealing: John R. Pantlin; MUSEUM OF MODERN ART, pages 336-340: Foto Jerry. MISCELLANY, pages 341-346: *High Flat Blocks*: 1, John R. Pantlin, 2, Logan; *Exhibitions*: 1, John Underwood, 3, Strickland Studios, 5, 6, Leslie Collier; *Interiors: two conversions for advertising*: John R. Pantlin. SKILL, pages 347-362: *Design Review*: page 347, Toomey, Arphot, 1, 3, 5, 8, 10, 12-15, 17-20, 25, 26, 29, Council of Industrial Design, 1, 8, 12, 15, 16, 19, 20, 28, P. Parkinson, 2, 22, 24, 25, Sidney Darby, 3, Ramsey & Muspratt, 5, Photo-Union Studio, 10, G. Hana, 13, J. Swain & Sons, 17, 21, 29, Associated Graphic Arts, 26, A. J. Seymour. *Equipment*: O. Nissen.

THE ARCHITECTURAL REVIEW



The cover makes what should be an elementary and commonplace comparison between a building and a piece of sculpture, in landscape settings. The distant lighthouse, something between sculpture and architecture, acts as a *tertium quid* between a work by Barbara Hepworth and a classic of Scottish castle-building, Barcaldine, emphasising and enhancing the purely plastic qualities of the latter, and underlining the lessons which may be learned from abstract sculpture about the siting of buildings, and the way in which a building can react with and upon its landscape surroundings. The sculptural aspects of Scottish castles are discussed in this issue by Sacheverell Sitwell in an article which begins on p. 297, and a recent film of Barbara Hepworth's sculpture in the Cornish landscape will be the subject of an article in June.

293 Marginalia

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297 Plastic Baronial by Sacheverell

Sitwell A recent publication by Oliver Hill, on the Scottish castles of the centuries on either side of the union with England, has drawn attention once more to this unique and romantic group of buildings. In this essay which is also a review of the book, Mr. Sitwell observes that their qualities as sculptured objects relate them to the *Kasbahs* of Morocco, to the tower cities of the Hadramaut, and to practically nothing else in the architecture of the world; they form a unique architectural type, different even from the French chateaux from which their design principles are ultimately derived. Boldly modelled in pure and uncluttered geometrical forms—a simple repertoire of square, cylindrical and conical shapes—they ride upon the Scottish landscape like the hulks of ships, or like giant chess men,

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Volume 115 Number 689 May 1954

possessing qualities as sculpture, and as romantic accents to a scene, which are not to be found in the great grey castles of the Welsh Marches.

302 Flats for Single People: Architects, Armstrong and MacManus

307 Greek Thomson by Graham Law

Alexander Thomson, who lived just long enough for his life to overlap that of C. R. Mackintosh, must be counted among those whose activities made the career of the master of the Glasgow School possible—in a direct sense, by the travelling scholarship founded in his memory, which the young Mackintosh won, and in a general sense by vital contributions to the unique architectural appearance of Glasgow in the middle of the last century, and to a particular intellectual climate which was specific to the city. Thomson's celebrated nickname was earned by his resolute adherence to his one chosen style, a neo-classicism tinged by a Romantic sense of grouping and siting. The foundations of this style were roughed out in a group of faintly Schinklesque villas designed around 1850—and some German influence, as Mr. Law observes, is certain, but how it reached Thomson is very difficult to say. But the style was to reach its most original and personal form in the churches, of which the most striking is that in St. Vincent Street, the only work of Thomson's which is at all widely known, though it is not the most personal and original of all. At the same time as these churches he was at work on warehouses, and on massive residential terraces which betray the hardly surprising influence of the architectural perspectives of John Martin, which Thomson is known to have admired. It is now fifty years exactly since the ARCHITECTURAL REVIEW devoted an article to this unconformable figure, who, in his own terms, was probably a genius, and Mr. Law's study is the first attempt at a full-scale critical biography of the man and his work.

317 House at Sydney: Architect, Harry Seidler

323 Midland Experiment: Shrewsbury

by Gordon Cullen A town of routes and a town of spaces, traffic routes and pedestrian spaces, Shrewsbury is both, a town of trade and communications whose shopping streets and thoroughfares force their way through the network of squares, churchyards and inner quadrangles which form the historic town, intimate in scale and withdrawn from the business town. But so great is the traffic pressure that vehicles force their way through every opening that will admit them, and are gradually breaking down the connections between the parts of the pedestrian town, so that there is a tendency toward a series of isolated pedestrian spaces, rather than a network of ways

by which to travel about the town on foot, away from vehicular traffic. The proposals set forth in Mr. Cullen's study of the town are directed, not so much toward a mere planning moratorium to prevent the disintegration of the pedestrian network from becoming worse than it is, as toward a set of planning principles which will enable the essential day-to-day rebuilding and replanning of the town to enhance and develop the essential character of both systems of circulation, so that each may be more fully itself, and by their intimate and intricate mingling and interlocking, each may add something to the character of the other.

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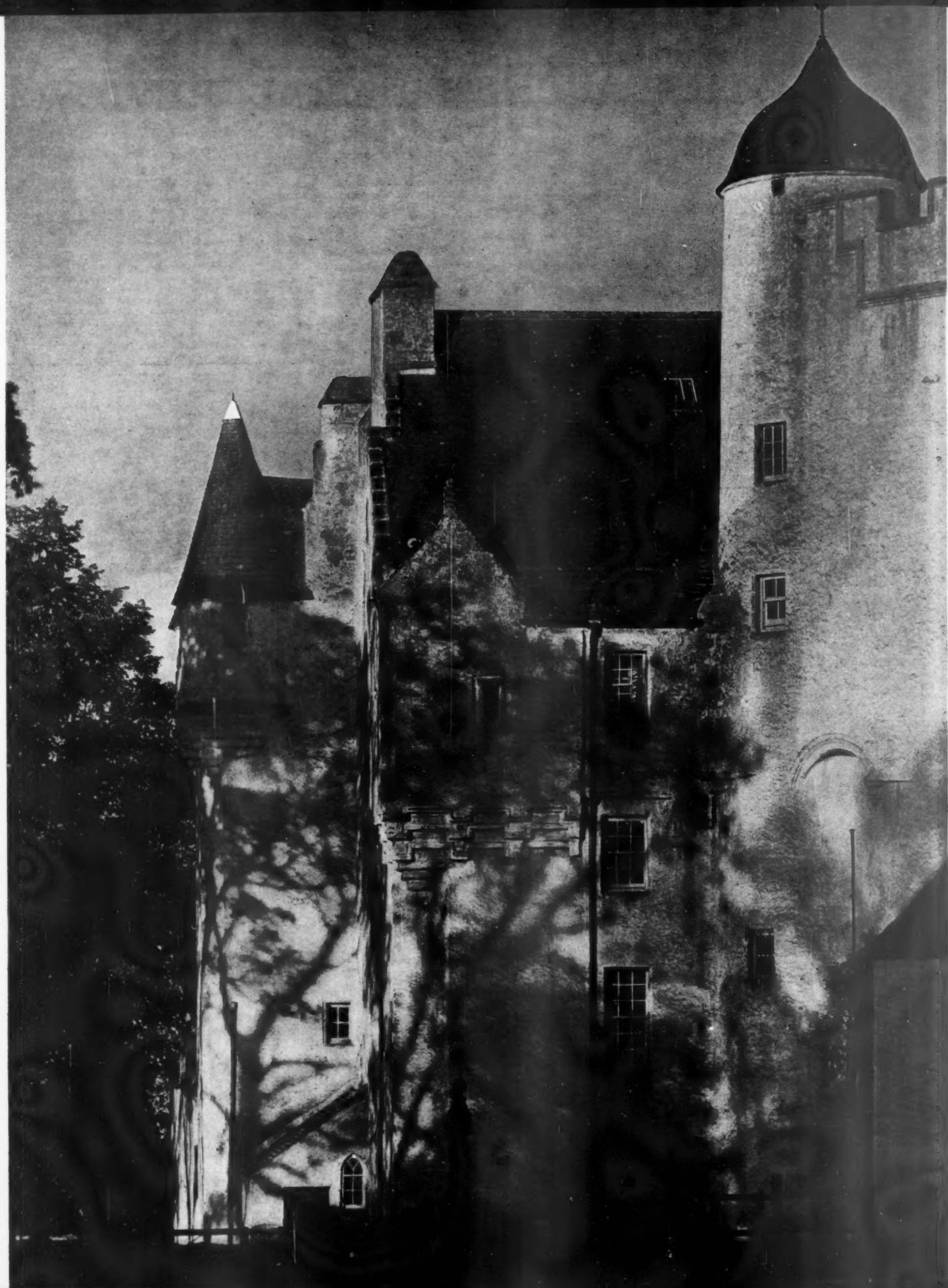
The Authors Sacheverell Sitwell, born 1897. Publications include: *Southern Baroque Art*, 1924; *The Gothick North*, 1929; *Conversation Pieces*, 1936; *Narrative Pictures*, 1937; *British Architects and Craftsmen*, 1945. Graham Law, architect, born 1923, at Bearsden, near Glasgow. Trained at Cambridge University School of Architecture, with an interruption of four years' war service with the Royal Engineers in India. Qualified in 1950, with Distinction in Thesis, and has since worked as assistant in London and Glasgow. Now plans to live with family and poodle in old and insecure house at the end of the Forth Bridge and work in Edinburgh. Would welcome further information from any source on Greek Thomson.

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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS



The romantic sternness and picturesque outline of Scottish castles have often been noted, but it has less rarely been observed that both derive from a unique historical situation in which castle-building, on the point of becoming an obsolete art, expressed itself not in the refinement of the interior plan, but in an elaboration and refinement of the exterior form, and developed plastic, sculptural qualities of the highest order in the handling and combining of elementary geometrical forms—cone and cylinder, triangle and rectangle, ridge-roof and cupola, all naked and unadorned as one sees them in Midmar Castle, opposite.



These qualities, which give them an affinity with simplicities of industrial architecture admired by the early masters of the Modern Movement, as well as with Barbara Hepworth's objects in landscape (shown on this month's cover), are among the aspects of Scottish castle architecture discussed by Sacheverell Sitwell in the article below.

Sacheverell Sitwell

PLASTIC BARONIAL

SCOTTISH CASTLES OF THE 16TH AND 17TH CENTURIES

*'Cent mille fois j'ai este envyeulx
Vous esloigner et fouyr en tous lyeulx
Cuyant ouster ma grande douleur mortelle
Mais je n'ai pu avoir puissance telle
Car je vous ai paint devant mes yeulx.'*

These lines of poetry, marked with a strong Scots accent and addressed to a young woman of sixteenth century France, are still to be seen scratched by a Scotsman-at-arms or Scottish archer on the wall of the colonnade or *galerie* of the Château of La Verrerie which belonged to the Stuarts, Seigneurs of Aubigny (Albany) from 1422 until 1672. They could as well be the plaint of every Scottish exile and emigrant from his native land, and it is difficult to read them and not feel the thrill of poetry in your veins. Beautiful and romantic to an Englishman are the Scottish castles now collected together into a splendid volume;* no less so than to a Scots archer of the sixteenth century in exile abroad, or at home and treading the battlement wall between the partisans.

The Scottish castles, indeed, have certain features that make them unique among all other buildings and that are not found in the French châteaux that are their pattern and their prototype. This is largely because of their absence of ornament. It is to be noticed that, whenever they have ornament, they are diminished in effect. The Scottish castles are at their most picturesque when they appear to be moulded all of a piece, and it is then that they are no longer like inhabited buildings but take on the quality of sculptural objects of warlike purpose set down to dominate the landscape. They

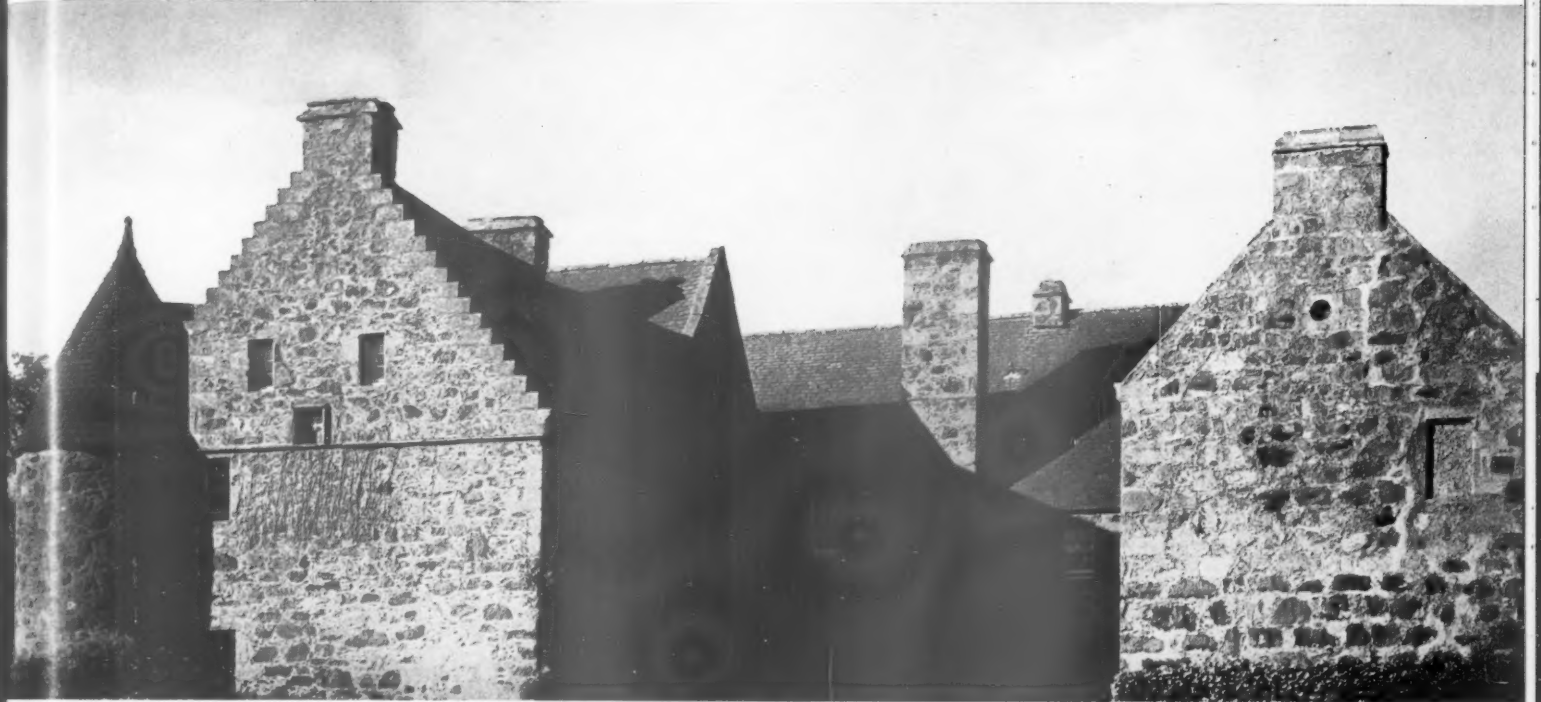
* *Scottish Castles of the Sixteenth and Seventeenth Centuries*. By Oliver Hill. Country Life, London, 1953. Price six guineas net.

have only become pacific in the course of ages, when gardens have grown round them or they are shaded by tall old trees. Often, they come up out of the landscape more like ships of stone than human buildings with intent of pleasure or comfort.

It is difficult to think of any other group of buildings of their curious quality. Perhaps the nearest equivalent to the Scottish castles are the Kasbahs of the Atlas Mountains in Morocco, and the rather similar 'skyscrapers' of the Arabian Hadhramaut, which are always so astonishing in photographs. The purpose of them all is defence, which gives them a similarity, not even so much to ancient high, pooped ships as to the most modern, stream-lined, pressure-resisting battleships or aircraft carriers. In order to appreciate the beauty of the Scottish castles a visit should also be made to the whale room in the Natural History Museum in Cromwell Road. There, in the lifesize models of whales hung from the ceiling, you see the exactly equivalent shapes to those cast and moulded castles. They are hulks or bodies more than buildings. The castles 'ride' the landscape; they appear to float up and down with the green declivities, and to have no foundation in them.

The Welsh castles, Caernarvon, Conway and the rest, built by Henry de Elreton, the military engineer of Edward I, are interesting in their difference from the Scots castles. These are the authentic 'toy forts,' built of grey stones (as is Windsor Castle) but lacking altogether in the quality of sculpture. They are stone agglomerations, put together piece by piece. If there be another ancestry for the Scottish castles, other than that which derives so obviously from the French châteaux, could it not be the Round Towers found, it is true, much more often in Ireland, but there are one or two examples, also, in Scotland? The Round Towers, too, are forts into which you retire for safety, pulling up the ladder after you and waiting in patience, like the tortoise in its shell. Then, in the end, the Danes retire to their ships; or the English forces despair of the siege and move away.

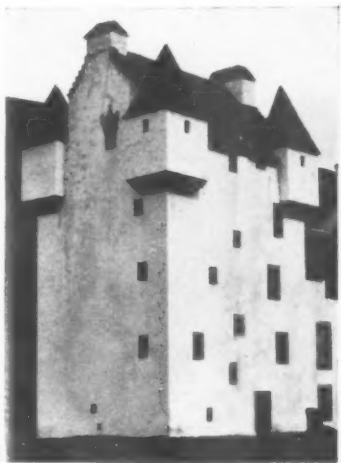
It is their simplicity that gives the Scottish castles poetry. Balmanno Castle, of milky whiteness, climbs out of its stony forecourt with no ornament at all, and needs none, unless it be a white hound and white palfrey at the door. Of instinct, an Englishman will turn to the castle of the Thane of Cawdor, and is not disappointed. How much more dramatic its plain, stern walls than were they carved with Renaissance badges and devices, with porcupines or salamanders! One of the most lovely of the old castles must be Traquair House, where Mary Queen of Scots and Darnley lived for a few weeks. Again there is no ornament. Glamis must be the most magnificent of all the castles. And indeed, in its Scottish way, Glamis is as individual as the church of St. Basil in the Red Square at Moscow. It is the Chambord of the Scots castles, with so much of legend attaching to it that it has passed out of architecture into music or ballads. Like the castle of Coca, near Segovia, the epitome of all 'castles in Spain,' Glamis is more of a legend than a building, just as the most factual thing in its long history is its legendary ghost. The northern clime, much of Scotland being on a parallel with Norway, makes it that spring comes later and daffodils and bluebells are delayed till early in our summer. Scotland is to be admired when it is too hot in other lands. It may be this that gives the last touch of unreality to castles that are set like sculptures, or like giant chessmen, in the cloud-flecked land.



1

2

glyptic Forms with the clarity of freshly sawed stone give many Scottish castles a precision rivalling that of machine-made objects. Barra with its rectangular chimney riding the axis of the forecourt between the flat-faced



3

gables of the wings, 1; Castle Stewart with its square corner towers set on the angle, and carried on precisely cut orbels, 2; and Meggernie, square, simple and exact, for all the random play of windows in its flat white facades, 3; all these show a characteristic mastery in translating a rectangular plan upwards into a three-dimensional solid.





4

plastic The true genius of Scottish Castle builders is most clearly revealed in the manner in which they combined and married rounded and angular forms. Le Corbusier's celebrated tribute to 'magnificent, cunning and correct plays of forms' would be almost as true here as on the Acropolis, and the elements of this slightly less correct play are set out in the tower of Castle Leod, 4. There one sees the basic combination—a cylindrical turret mated to the sharp edge of a square tower; beneath it, corbelling on a circular plan to carry the turret; beyond it, a run of corbels to carry a walkway; above it, a stepped gable and a primly rectangular chimney. The very essence of this castle architecture seems to lie in the manipulation of these elements, plus the cones and ridges of the roofs. At Barcaldine, 5, one sees conical turrets responding across the projecting edge of a squared chimney-stack, which in turn responds to another chimney over the head of one of the turrets—play of plastic and rounded forms against sharp and rectangular ones. Balmano Castle, 6, reverses the emphasis and introduces one single important cylindrical element into a subtly managed recession of flat planes, but accents that element by the unexpected form of its cap-house cupola, bell-like and organic among so much flat-faced and rectilinear rectitude. Castle Fraser, 7, develops the basic



5

6



themes in richness and complexity, and employs a feature characteristic of other castles as well—a corbel course under a parapet, turned down and mated into the corbelling under the turrets to make a continuous band of moulding which separates clearly the trimness of the base below from the freedom and expansiveness above. The same device is used at Craigievar, 8, boldly cut into the smooth-plastered surfaces, and the turrets here shoulder not only cones and cupolas but a square lookout platform as well. Such a square-over-round arrangement is unusual, but not unique, since it appears in the



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remarkable Claypots Castle, 9, where it is round, not square, towers which rise sheer from the ground, and square, not cylindrical, structures which corbel out from the tops of them, giving an air of informality, as well as a rich plastic effect.



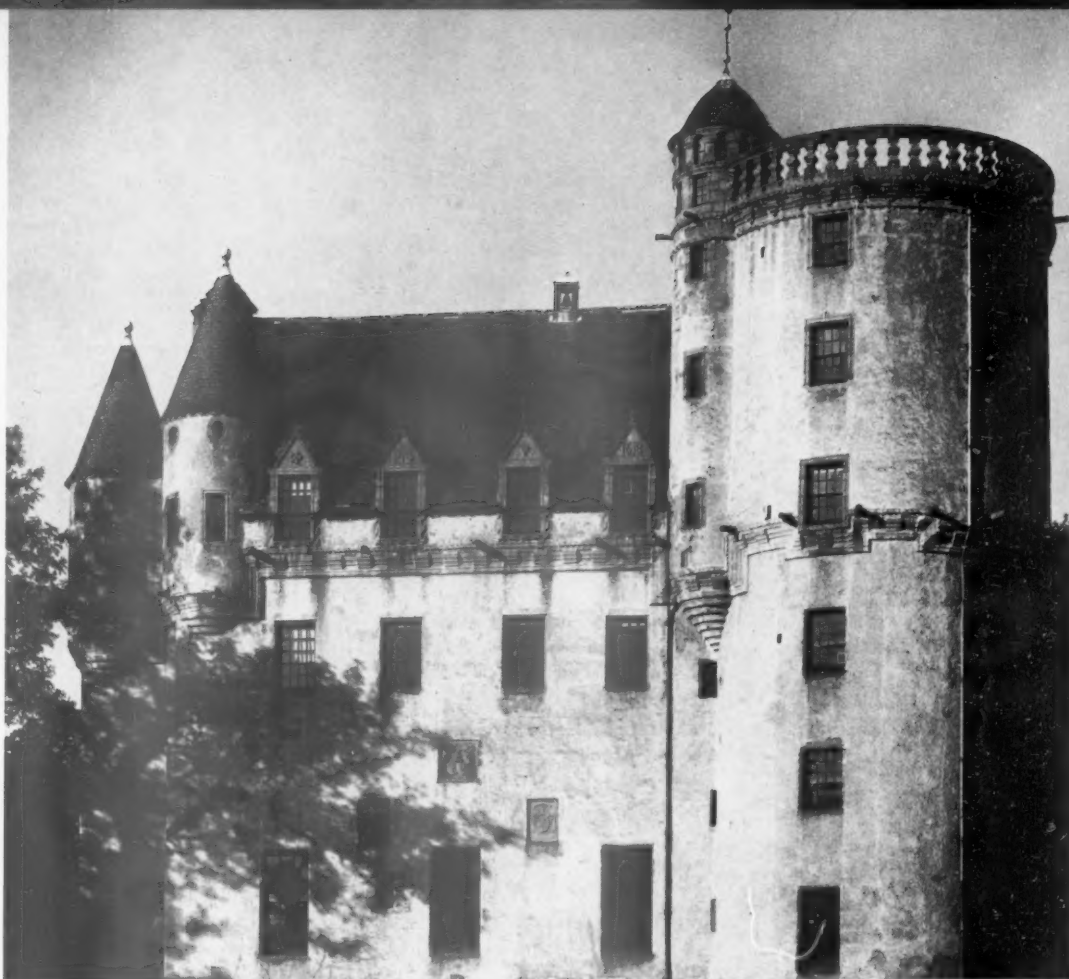
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Midmar Castle, 10, sums up the classic theme, round and square towers combined, round turrets like epaulettes on square towers, 11,



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combined in a single composition, which, though diverse in its elements, is nevertheless united in sculptural and plastic whole.



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FLATS FOR SINGLE PEOPLE

ARCHITECTS

ARMSTRONG AND MACMANUS

This scheme for the Guinness Trust at Loughborough Road, Brixton, provides dwellings for working women, more particularly for those getting on in years, whose daily occupation allows them little time for housework. Male applicants in similar circumstances will not necessarily be excluded. The majority of the flats are of the single-room type with a small number of two-room flats for friends who live together.

There is a seven-storey main block containing 161 flats, a separate single-storey self-service restaurant and a three-storey annexe providing accommodation for supervisory staff and visitors. On the ground floor of the main block is a small hairdressing salon, a laundry office and a coffee lounge which leads to the restaurant. In the basement is a locker-room, laundry, fuel store and boiler-room for central heating and hot-water plant. The roof contains ventilation equipment and tanks. Access to all floors is by a main and two secondary staircases and two lifts. Small lobbies to the refuse chutes are on the half landings of the escape staircase. Each single-room flat has its own bathroom and in the living-room is a cabinet kitchen in the form of a special fitment containing a larder (ventilated through the external wall), sink, storage cupboards, shelving and drawers, a pull-out work top and a minimum cooker. This fitment can be enclosed when not in use by a roller shutter (which automatically turns off the cooker when closed). Wardrobe, brooms and meter cupboards are planned in the entrance hall. The two-room flats, which occur over the main entrance on the first to fifth floors, have private balconies. In the three-storey annexe there are three three-room flats for the resident superintendent and two porters and nine single bedrooms for visiting friends or relatives of the tenants.

The seven-storey block is of r.c. frame construction with cavity panel walls. Floors are 5 in. solid reinforced concrete and walls between flats are two leaves of 3 in. hollow tile with 3 in. cavity between. Partitions between flats and the central corridor are of 3 in. solid clinker concrete. An expansion joint on either side of the section containing the main circular staircase extends

from the top of the foundations to eaves level. The timber roof trusses are at 6 ft. centres with channel reinforced wood-wool slabs spanning between: the finish is three-ply grey-green mineral roofing felt on $\frac{1}{2}$ in. cement screed. A copper capped fascia board and asbestos-cement eaves are fixed to tie members of trusses and alternate rafters taken through the wall to support a 15 in. x 15 in. asbestos-cement gutter. The central staircase and cantilevered canopy over the main entrance are of reinforced concrete cast *in situ*. The annexe is of load-bearing brick with r.c. floor and roof slabs.

Recessed panel walls of the seven-storey block are of straight-jointed deep-brown facing bricks. On the ground floor they are set-back behind concrete flower boxes and the flatton external skin is faced with $8\frac{1}{4}$ in. square dark-blue eggshell glazed tiling with $\frac{1}{4}$ in. white joints. At sixth-floor level the facing is light-buff brick, and the parapet wall is capped with white precast concrete coping. The return ends of the building as far as the projecting balconies which terminate the central corridor are faced with concrete slabs in which the aggregate is exposed. The remainder of the end walls is of chestnut facings in stretcher bond.

Internal finishes in the flats are to normal housing standards with plastered walls and ceilings and plastic tile floors. Walls, ceilings and timberwork are painted cream except in bathrooms, where walls and ceilings are duck-egg blue. Fittings are white, bath panels are black-painted asbestos. Skirtings throughout the flats are grey. Corridor walls are plastered and painted dove-grey, ceilings are off-white. Floors have red-marble linoleum: doors are grey, frames white. The north wall of the restaurant is painted dark blue, the opposite wall light grey: skirtings, margins and nosings to steps are terrazzo, and the free standing central column is glossy yellow. Panelling in the coffee lounge and surrounding ground-floor lift halls is natural finish dry polished Douglas fir: the lounge wall facing the window has a red paper with a white line motif. Restaurant walls are finished with grey and dark blue emulsion paint: circular columns and ceilings are white.



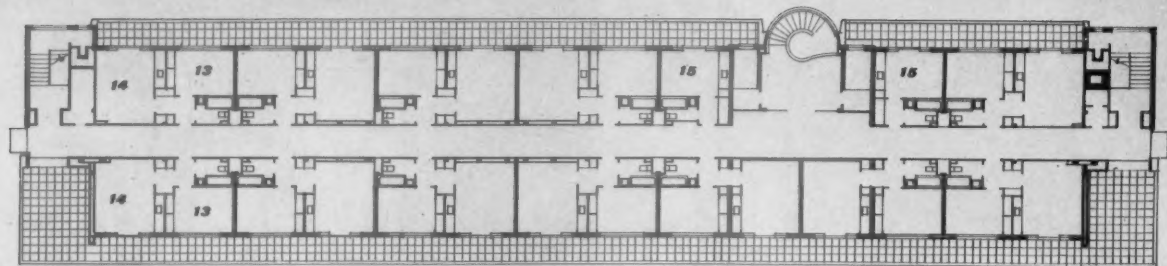
1, the west elevation of Iveagh House.



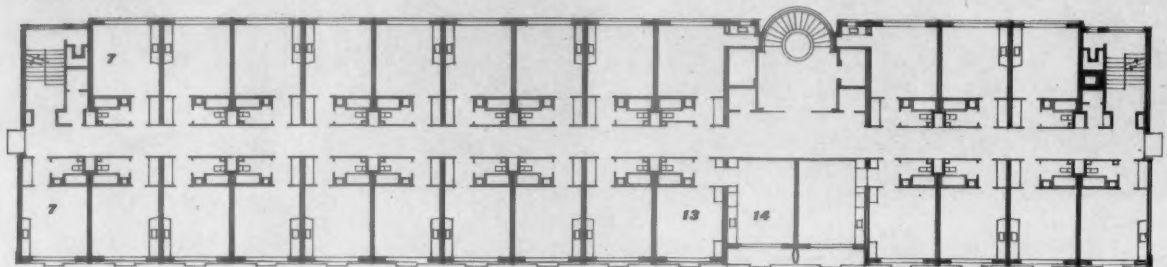
FLATS FOR SINGLE PEOPLE

2, the lift hall and main staircase seen from the lower level entrance lobby. To the right at the top of the steps is a small waiting lobby with table and chairs (see 6, page 306). The right wall of this lobby is dark blue, the opposite wall pale grey and the column is painted yellow. The nosings to steps and the upstand to their right are faced with terrazzo. Beyond the lobby are the entrance doors to the coffee-lounge. 3, the main entrance with cantilevered reinforced concrete canopy. Each private balcony is screened by a facing slab of terrazzo. On the right is part of the single storey self-service restaurant which is approached through the coffee lounge. 4, inset on the facing page, a general view of the main elevation.

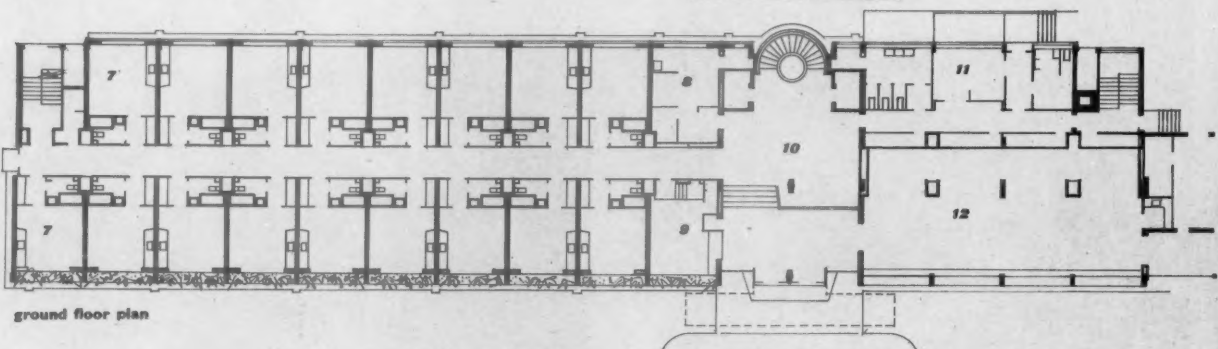




sixth floor plan



typical floor plan

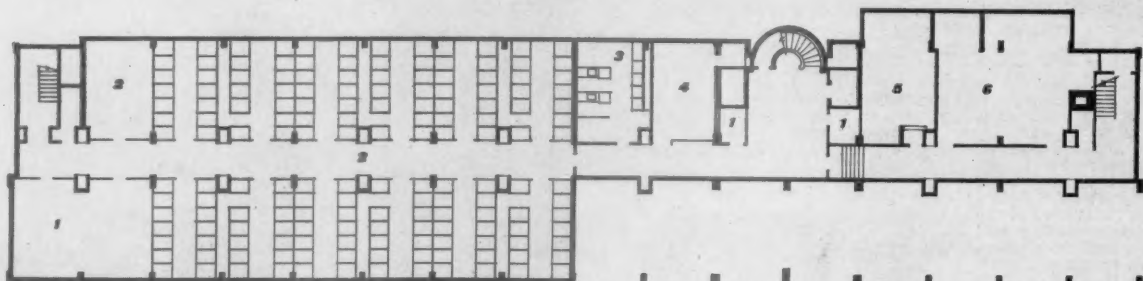


ground floor plan

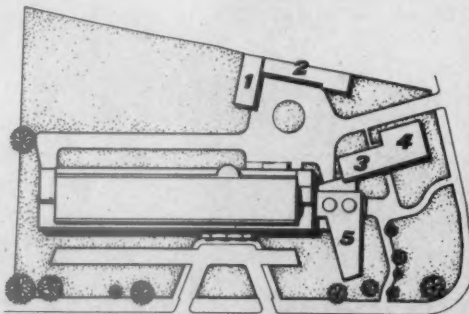
key

- 1, store.
- 2, locker room.
- 3, laundry.
- 4, ironing.
- 5, fuel store.
- 6, boiler room.
- 7, typical single-room flat.
- 8, hairdresser.
- 9, office.
- 10, lobby.
- 11, laundry office.
- 12, coffee lounge.
- 13, bedroom of two-room flat.
- 14, living room of two-room flat.
- 15, living bedroom.

scale: 1/32 in. = 1 ft.



basement plan



site plan

key: 1, workshop. 2, cycles. 3, visitors. 4, staff. 5, restaurant.



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5, the coffee-lounge looking towards the entrance to the self-service restaurant. The left wall has a red wallpaper with a white motif, the curtains are grey with a yellow check and the end wall is pale grey. 6, the waiting space in the entrance lobby. The wall is dark blue, the carpet off-white. 7 and 8, two views of the main staircase. 9 and 10, the cabinet kitchen, shown open and closed which is fitted in each flat. In addition to the cupboards and shelving there is a larder, a sink, a minimum cooker and a pull-out work top. The cooker is automatically turned off when the roller shutter is closed.



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FLATS FOR SINGLE PEOPLE

GREEK THOMSON

Graham Law



It is exactly fifty years since THE ARCHITECTURAL REVIEW last published a study of the architecture of Alexander Thomson, the Glasgow Greek-Revivalist who pursued his chosen style far into the High Victorian period. In fifty years we have begun to make our peace with other Glasgow geniuses, and we have realized that men like Mackintosh must be seen, not only against the international scene, but also against a tradition of provincial originality of which Thomson's work was characteristic.

Alexander Thomson was born at Balfour on April 9, 1817. We know sufficient about his family to be able to form a picture of his early life and upbringing. His great-grandfather, John Thomson, was a Covenanter, and was out at the Battle of Bothwell Brig, for which he was imprisoned in Stirling Castle. He escaped, and retired to his farm at Denny Green where, late in life and to the surprise of his friends, he married a widow, who bore him one son, also called John. The second John Thomson seems to have been as religious as the first. He also was a farmer, and died early, leaving only one son, again called John. The third John Thomson, father of Alexander, continued the family tradition of piety. Probably he too was a farmer in a small way, but he held the post of book-keeper at the Carron Iron works. He left this job eventually, as the partners were in the habit of coming from Glasgow on Sundays to inspect the books: this was Sabbath-breaking, and the family had consequently to move to Balfour where Thomson got a similar position with Kirkman Findlay's Cotton Spinning Mills. Even here his conscience interfered with his promotion as, when he was later offered the post of manager, he had to refuse, for exactly the same reasons that had caused him to leave the Carron Company. Neither would he accept the alternative reward of a transfer to the head office in Glasgow, as this would have exposed his many children to the dangers and temptations of life in the City.

He married twice, and by his first wife he had three sons and five daughters. His second wife, Elizabeth Cooper, was the daughter of the Burgher Minister, and came from Aberdeen. They had twelve more children, of which nine were boys; this brought the total to twenty, of which Alexander was the seventeenth born. They lived in a cottage on the banks of the Endrick, on the Killearn-Balfour road, and seem, judging by the furniture they left, to have been fairly prosperous.

John Thomson died in 1824, and the rest of the family moved to Glasgow, where, before 1830, Alexander's mother, eldest sister, and three brothers also died. Not much is known about these years in Glasgow. The family joined the St. Vincent Street Church, which was then in Gordon Street (or what is now Gordon Street) and were very active

in church affairs. Alexander was employed in a writer's office, and it was here that the opportunity to take up architecture came.

The story is that Robert Foote, a Glasgow architect, was passing through the room in which Alexander worked, when he saw some drawings which he had done. Foote was impressed, and offered to take him as an apprentice. We do not know when all this took place, and we know very little about Foote. Gildard¹ describes him as '... travelled, and of refined taste' and mentions two buildings by him, one a warehouse, and the other his own house in Blythswood Square. He also had a house at Busby, called The Peel, and, in the basement of one of these houses, a collection of plaster casts, which Alexander used to draw by the light of a tallow candle.

It is not possible to tell what influence Foote had on his apprentice: we do not know what books he had in his library, what countries he had visited on his travels, or what the plaster cast collection in his basement was like. His warehouse, at the corner of Buchanan Street and Royal Exchange Place, is still in existence. It is a plain, severe building, Greek as much as anything else, with just a hint of Thomson in the windows to the top floor. I have been unable to identify the house in Blythswood Square. Possibly Foote was only responsible for the interior, said to contain fine plaster work. To own this, and the house at Busby, he must have been rich, and, as he built very little, presumably had private means. The impression is of a well-to-do, cultured man, almost a dilettante compared to the other Glasgow architects of the time.

Foote had a disease of the spine, and ill health forced him to retire in 1836, and Thomson went as assistant to the office of John Baird Senior, who was an eclectic revivalist and one of the most prominent architects in Glasgow. Baird built, among other things, the Argyle Arcade, some warehouses to the north of it in Buchanan Street, and at least two United Presbyterian Churches, one in North Albion Street and the other in Wellington Street. The former church is Roman Doric, the latter was Greek, from the Temple on the Ilissus, and no longer exists. He also

¹ Thomas Gildard: Proceedings of the Royal Philosophical Society of Glasgow: Vol. xxviii, p. 112. Gildard was Glasgow correspondent of the 'British Architect' and an admirer of Thomson.

submitted a set of designs for new buildings for Glasgow University. These were in the Jacobean style and were approved but never executed.

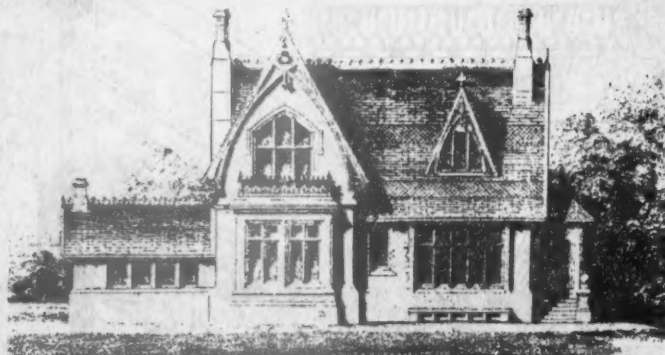
There was another John Baird, also an architect, and known as John Baird Junior, though probably no relation to John Baird Senior. He had worked in the office of David Hamilton² for two years and then practised on his own. On September 21, 1847, Thomson and this John Baird Junior married Jane and Jessie Nicholson respectively at a double wedding in Castlemilk Place. Jane and Jessie Nicholson were the daughters of Michael Angelo Nicholson, architect, of London, and the grand-daughters of Peter Nicholson, who built several buildings in Glasgow and around Carlisle, drew up the plan for the town of Ardrossan, and was the author of the 'Carpenter's Guide' and a 'Dictionary of Architecture.' Then, in 1849, Thomson left his job as an assistant to set up a partnership with his brother-in-law, and the firm of Baird & Thomson began to practise. The preliminaries were over, and he was launched on his long and prosperous career as an architect.

The beginnings were not spectacular. We know of two buildings which he designed in 1850, both of them cottages in the Kilcraggan area, and both fully illustrated in Blackie's 'Villa and Cottage Architecture.' They are Seymour Lodge, Cove, 2,

² A Glasgow architect with a large number of City buildings and big country houses to his credit; not to be confused with Thomas Hamilton of Edinburgh who designed the Royal High School.

and Craig Ailey, Kilcraggan, 3. These early villas of Thomson look like a return to the 'cottage orné' idea. Seymour Lodge is the more ornate of the two: a tiny stone box, dressed up with decorated barge boards, iron spikes and fancy slates. Craig Ailey, romantically situated on the side of the hills overlooking Loch Long, bears a striking resemblance to the cottage at Edensor, in Derbyshire, remodelled by John Robertson in 1838. However, once away from London, with its sudden changes of architectural fashion, a 'time-lag' of twelve years was nothing, and Craig Ailey was probably less of a conscious return to something discarded than a belated provincial adoption of an English, or German, fashion. Probably many other little houses like these were built at this time by Thomson along the Clyde Coast, in the 'resorts' of the new middle class. But there was work of another type in his office too. In the collection of drawings presented by Thomson's grand-daughter to the Mitchell Library are two elevations of a fairly large warehouse. One of these drawings is titled 'Elevation to Dixon Street,' and was done between 1840 and 1853. The building, if it was ever erected, no longer exists, but there is a site of approximately the right size at a corner of Dixon Street.

In 1856 Alexander took his brother George as a business partner, and 'Baird & Thomson' became A. & G. Thomson, with George looking after the business end. In the same year, Jane and Alexander moved to the new residential suburbs south of the



2, west elevation, Seymour Lodge, Cove, Loch Long, 1850.



8, perspective view, Craig Ailey Villa, near Kilcraggan, Firth of Clyde.

city, and it was here, on April 29, that the foundation stone of Thomson's first big church was laid.

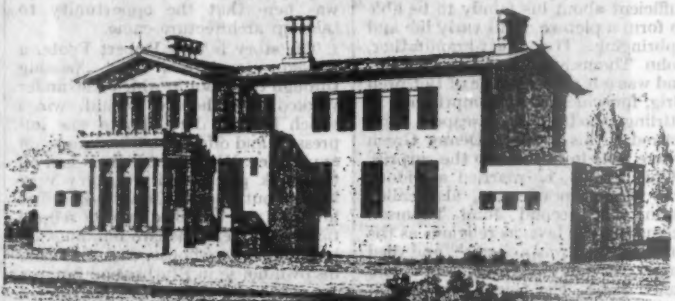
However, before considering the church, we shall look at two important villas built at this time which illustrate the change which was taking place in Thomson's style. These are Holmwood Villa, Cathcart, 1, and the Double Villa, Langside, 5, also fully illustrated and described in 'Villa and Cottage Architecture.' Holmwood is the more remarkable. It is said to have been built for a newly married couple, and the architect was given a very free hand, both outside and with the interior, which is still very nearly in its original state. The site is about three miles south of Glasgow in a bend of the River Cart, and because of the fall of the land and the view the main rooms face north. The treatment is as picturesque as any of the earlier work on the Clyde Coast, but the medieval romanticism has given place to a sort of picturesque Greek, lavishly adorned with the detailing and ornament, 4, that was to be associated with Thomson from then

until the end of his career. Internally, this is the best surviving example of his work as a decorator: even the excellent illustrations of Blackie's book give little idea of the full effect, as everything is coloured—blue ceilings with gold stars, Flaxman's illustrations to the Iliad with the figures brown, 2 feet 6 inches high, on a blue ground, 9, gilt surface ornaments on the mirrors, a black marble surround to the drawing room fire, and a white marble side-board in the dining room, cunningly lit like a Baroque altar by a concealed glazed opening in the roof. Externally, perhaps the most striking feature is the strong horizontal emphasis of the deep overhanging eaves and the long retaining wall linking the house to the stable block. This use of low spreading roofs at different levels and on intersecting axes oddly recalls the early villas of Frank Lloyd Wright. I have not seen the Double Villa, but, judging from the illustrations, it was in similar vein.

Thomson built many more villas than these four: there are two in

Helensburgh and no doubt many more on the shores of the Firth of Clyde, a number in the suburbs of Glasgow, a manse at Balfron, and so on. The early villas, Seymour Lodge, and, more particularly Craig Ailey, are like German work of about the same period. There are houses by Persius of a similar character, and one small house, by von Armin, which is almost identical with Craig Ailey and must have been built about the same time. Holmwood and the later villas are more individual, and testify to Thomson's interest in picturesque theory and practice. There is an interesting footnote by Sir Thomas Dick Lauder in the 1842 edition of Price's 'Picturesque.' Lauder, writing of the difficulty of adapting Grecian architecture to modern requirements, suggests a free, asymmetrical grouping for rural dwellings, and gives a delightful description of an imaginary 'Grecian' house based on the paintings of Poussin, and arranged in this way. Very probably Thomson had read this note, but whether he had or not, he was obviously greatly attracted by the possibility of combining informal planning with

approached by flights of steps flanked by tall iron lamp standards, which occupies the centre of the communion table end. The roof is open, the spaces between the timber trusses being occupied by painted wood panels. The colour scheme of pale blue, dark blue and pink bears some relation to that at Holmwood, and so possibly to the original. Access from the entrance hall is by doors under the gallery, and by two doors on either side of the platform at the 'east' end. This church reveals some of Thomson's chief characteristics as a designer. The site is on flat ground at the junction of a number of roads, and is slightly wedge shaped, with the entrance and portico at the thinner end of the wedge. The body of the church runs along the building line of the road on the right of 10, called Hospital Street, and the space between the church proper and the inclined boundary on the other side is filled by the single storied church hall, also wedge shaped to fit the site, 6. The composition separates very easily into its constituent parts. There is the entrance hall, which forms the solid looking base to the portico, and which is



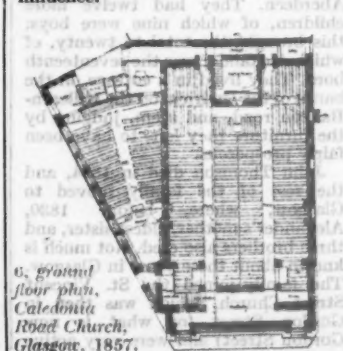
5, perspective view of the double villa at Langside, near Glasgow, 1856.

his own peculiar version of Greek architecture.

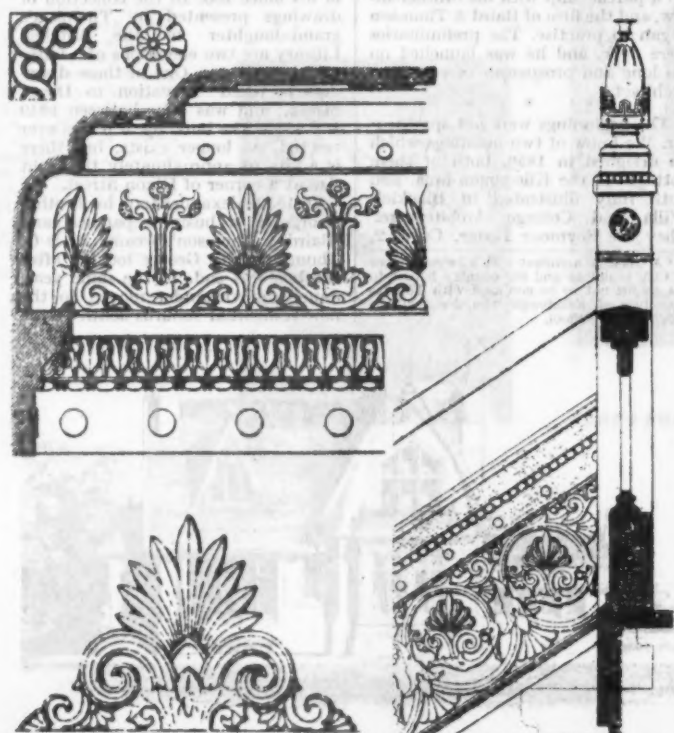
While Holmwood was still being built, work was begun on the designs for the Caledonia Road United Presbyterian Church. Thomson built three of his four United Presbyterian Churches between 1855 and 1860. The others were the St. Vincent Street Church, and a small one, for the Chalmers Memorial Congregation in Ballater Street, Gorbals. This last, 11, finished in 1859, resembles the villas more than it does the other churches: it has the same low pitched, spreading roof. It is now a manufactory of 'bottle closures,' and one end has been demolished to make way for a railway bridge.

Thomson probably got the commission for the Caledonia Road Church, 10, through his close connection with the congregation, for we know that he was, or became, a friend of the first minister, and his name appears on the original list of elders. The foundation stone was laid on April 20, 1856, and the church was opened in the following year. It was designed to seat just over one thousand worshippers and the total cost came to something like eight thousand pounds.⁸ It has no aisles, but is lit by a clerestory on both sides, and by windows at ground floor level in the Hospital Street elevation. There is a large gallery, occupying about one-third of the total length, the front of which is supported on two slender cast iron columns with foliated capitals. It has no pulpit, but a large platform,

marked off from the main part of the church behind it by a break in the wall surface and a change in the level of the string course. Above the entrance, the portico appears almost as a detached unit, and the tower as another. The whole building is in grey sandstone and stands on a curious, delicately patterned rubble base. The way in which the various units of the composition are grouped together, but are nevertheless allowed to keep their own distinct forms, is characteristic of all Thomson's work. This and his deliberate asymmetry testify to his fondness for picturesque massing, and distinguish him from the earlier Scottish Greek-revivalists such as Playfair and Hamilton. One of the most remarkable features of the Caledonia Road Church is the magnificent tower, 24. It seems to have no close parallel or precedent, and shows extraordinary freedom from both medieval and classical influence.



⁸ Allman: Historical Notices of the United 4 Presbyterian Congregations in Glasgow.



4, interior decorative details, Holmwood.

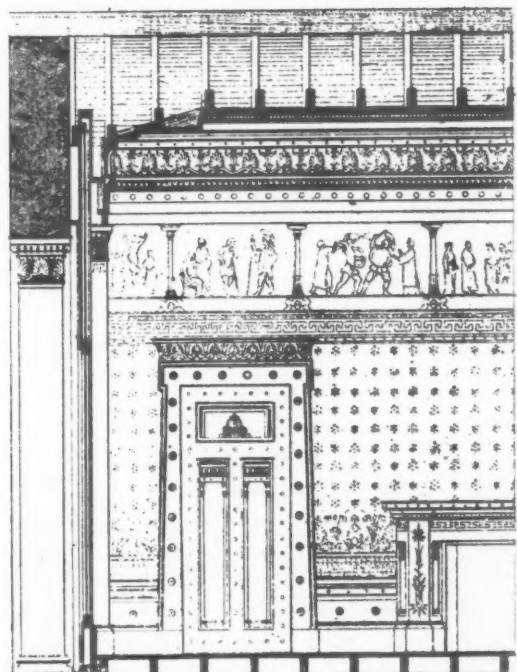
HOUSES



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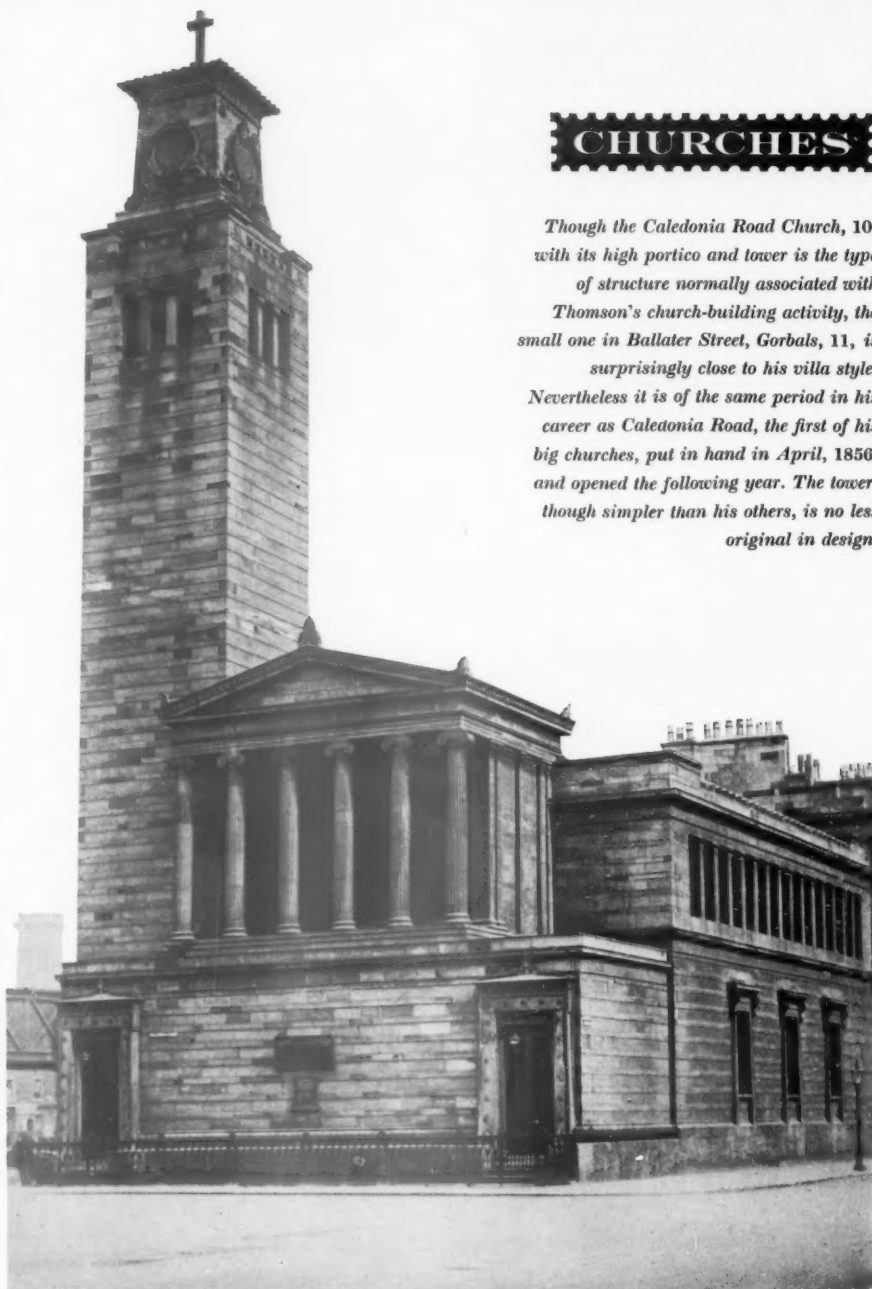


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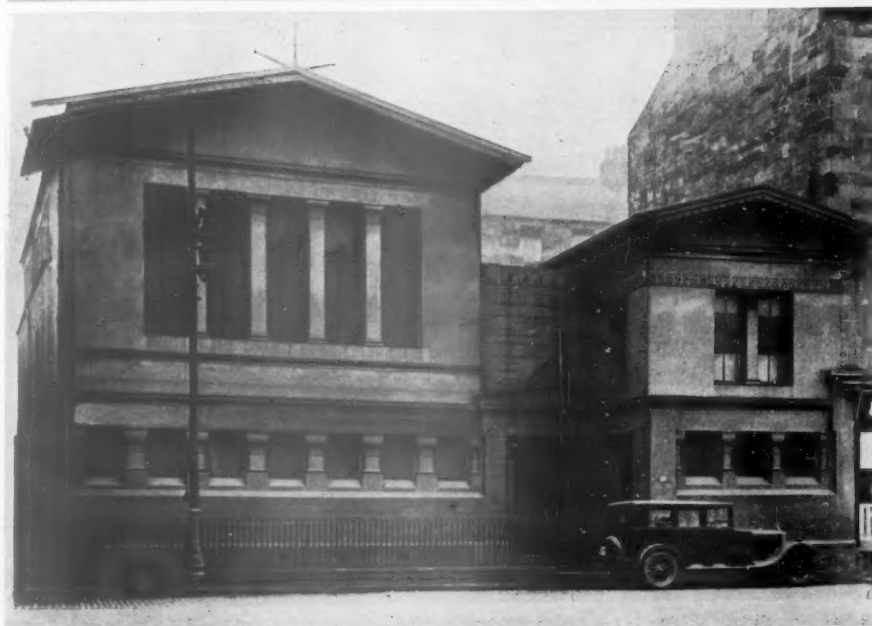
Knockderry Castle, 7, of 1855, a careful study of Scottish Baronial and of picturesque massing. Although the baronial pretensions have been replaced by Grecian in Busby House, 8, the picturesque arrangement persists. The stylistic change-over was complete, however, and consistent, as the interior from Holmwood, 9, makes clear.

CHURCHES

Though the Caledonia Road Church, 10, with its high portico and tower is the type of structure normally associated with Thomson's church-building activity, the small one in Ballater Street, Gorbals, 11, is surprisingly close to his villa style. Nevertheless it is of the same period in his career as Caledonia Road, the first of his big churches, put in hand in April, 1856, and opened the following year. The tower, though simpler than his others, is no less original in design.



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11

CHURCHES

GREEK THOMSON

The best known of 'Greek' Thomson's buildings, the church in St. Vincent Street, 12, is also one of his most characteristic designs, and probably the most successful. Though its detailing is inventive, and its manner of superimposing structures is both original and highly personal, it has not yet achieved the eccentricity of Queen's Park Church, 13, opened in 1869. For all its eccentricities this design has unmistakable quality, and the two-deck interior, with clerestorey, 14, is a remarkable conception.



12



13



14

15



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17



18



Thomson's designs for terraces and crescents exhibit, at their best, a fine late-Regency control of picturesque arrangement in depth. Though this quality can hardly be seen in Walmer Crescent, 15, an early essay in row-house design, it is fully exhibited, by contrast, in Great Western Terrace, 16, designed late in his career, in 1870. Undoubtedly a masterpiece of its kind, it is not rivalled by Eglington Street, 17, nor Oakfield Avenue, 18, but only by Moray Place, 19, a work of the 'sixties.

19

TERRACES



20



21



22

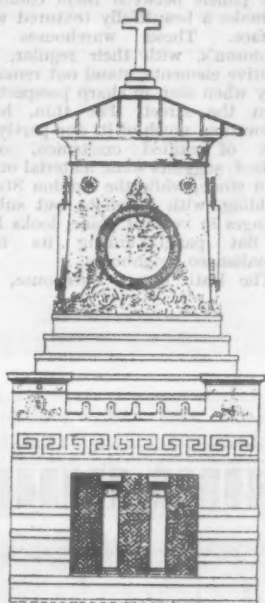


23

WAREHOUSES

A proportion of Glasgow's formidable construction of warehouses in the middle of the last century must be credited to Alexander Thomson. The Buck's Head Building, though an early work, already establishes some of his basic principles of warehouse design, with its attic storey over three main floors, 20; a formula which is truncated in the terrace-like Grecian Building, 21, returns in the Gordon Street Building, 22, with its curious half-concealed giant order, and in the Egyptian Halls, 23, develops a strip of continuous fenestration behind the attic colonnade.





24, detail of the tower, Caledonia Road Church.

Church towers in the middle of the Nineteenth Century were usually frankly Gothic, or consisted of superimposed classical elements, built up into a medieval form. For a Greek temple front, where symmetry was thought desirable, the precedent of St. Martin-in-the-Fields was followed, and something bearing a strong likeness to the Tower of the Winds, or the Lysicrates Monument would be placed over the pediment. Thomson's tower resembles, in sitting and general outline, an Italian campanile more than anything else; at least they are both large, square and fairly plain, but there is no attempt to carry the similarity any further than this. The form of the top, or something a little like it, does occur in the work of Percier and Fontaine, but in a totally different context.

The Caledonia Road Church was opened in 1857 and was immediately followed by the St. Vincent Street Church, the plans for which were approved in the same year. Work began on the building on March 16, 1857, and it was formally opened on February 16, 1859.⁴ It seems to have been incomplete, and it is possible that some other architect was responsible for the interior.⁵ The tenements on the east side of the tower were not built till later, but are probably by Thomson.

Unlike the Caledonia Road Church, it has a magnificent site lying on the south side of St. Vincent Street, where the ground slopes steeply down to Bothwell Street, an important road leading into the middle of the city. The photograph, 12, is taken from Bothwell Street: the entrance is at the north end, facing on to St. Vincent Street. Diagrammatically, the plan and section are almost medieval, 23, with an open gallery returned along the two sides of the building taking the place of triforium. Thus, the range of windows in the side of the 'temple' is a sort of clerestory, with the gallery contained in the supporting masses alongside and below; while the rest of the church occupies the 'base' on which the whole erection seems to stand,

and is lit by the windows in the side. Under this again, at the south end, is a large undercroft, now used by the Post Office. It is as if a Gothic Church had been Grecianized by building the clerestory and nave roof as a Greek temple, with porticoes on the gable ends and the rest of the church as a base, with the triforium expressed as a subordinate mass along the side. The slope of the ground is used to the utmost, and the south portico soars above the mean clutter of sheds at the foot of its great cliff of masonry. Everything possible has been done to increase the effect of height, even to the extent of creating a rather uncomfortable internal proportion. In other respects, the layout is similar to that in the Caledonia Road example. The colouring is much the same; the roof is again of open timber work; and although the preacher's rostrum is smaller and slightly different, it must be remembered that both churches have had organs inserted at a later date. As in the other church, the entrance hall is under the portico, and is lit by a 'skylight' in the portico floor.

Again many of Thomson's characteristics are revealed in the exterior, and as they reappear in his warehouses, terraces and in his other great church, may be briefly mentioned. Prominent among these is his treatment of windows. In his lectures and addresses, delivered towards the end of his life, he makes explicit his dislike of arches, which, he claims, have strewn the continent of Europe with ruins, and of window and door openings, which he considers cannot be treated with such subtlety as solids, such as columns.⁶ This horror of openings may explain some of the most puzzling features of his designs. Admitting the necessity for large window areas, he uses a plain rectangular opening only where it is unavoidable. In other cases he attempts to combine the openings into a continuous pattern of some sort, or to distract attention from the opening by placing it in an elaborate aedicule, thus focusing attention on the frame rather than on the window within it. Where the window openings are sufficiently close together, as they are, for instance, on the ground floor of the little church in Ballater Street, the intervening wall is modelled and decorated in such a way that interest is directed to it: it becomes, in fact a column, however short, and the series of windows becomes a glazed colonnade. Where the windows are too far apart for this treatment, he tries to work them into the masonry pattern of the wall, as in the lowest range of windows in the St. Vincent Street church, where they are linked together within a recess by a kind of fret pattern moulding. In other cases, only the top of the window is treated, and then in such a way as to create a little formal pattern which is repeated, with variations, in one building after another. A rather elaborate example can be seen in the St. Vincent Street Church in the door to the basement at the side: a more typical specimen occurs in the top story windows of the tenements by the Caledonia Road Church. Usually it takes this form: between the windows, and about two-thirds of the height from the sill, the wall is recessed in a panel, leaving a small strip up the edge of each opening, which is then treated as a dwarf column growing without a break from the wall. The recessed

panel is sometimes carried on to the next window, as in the Caledonia Road tenements, and may or may not contain carved ornament. The pattern formed is often in the shape of the letter 'T' and a supremely elaborate example is the window below the clock in the tower of the St. Vincent Street Church, where caryatids have been substituted for the dwarf columns, but which retains the characteristic 'T' shape; while the same motif, used in the basement door, gives the impression of having been cut out of solid rock.

The tower itself almost defies analysis. Situated at the eastern end of the portico on St. Vincent Street, it fails to establish any relationship with the church, and, seen from the south-east, has the unfortunate effect of competing with the 'temple' superstructure in volume and dramatic importance. The pointed 'dome,' a shape of which Thomson was particularly fond, seems to have neither ancestors nor, except for a few Glasgow imitations, descendants. The example at St. Vincent Street is said to be built up in horizontal courses, and so the shape may be partly dictated by Thomson's dislike of arched and vaulted construction, coupled with recollections of Oriental, particularly Near Eastern, architecture and his own aesthetic preferences. It is a recurrent motif, which he uses on several occasions.

While these two churches were being built, Thomson also designed his first terraces. These were Walmer Crescent, on the Paisley Road, which was opened in 1858-9,⁷ and the terrace in Eglinton Street, formerly known as Queens Park Terrace, which was also completed about 1859.⁸ The former, 15, is rather bald and clumsy. The top floor windows form a continuous colonnade of stone posts, reminiscent of Schinkel and the Greek Revival in Germany—a type of fenestration which had already been used in the Caledonia

Road Church and elsewhere. The block in Eglinton Street is rather different, 17. It is a large tenement block, similar to many others in Glasgow except in the treatment of the windows, which are very characteristic. Those on the top floor have the recessed panel detail already referred to, those on the second floor represent a type which Thomson frequently uses, with an elaborate window-head growing out of a string course. The first floor windows are in aedicules, whose ornamental hoods are supported on thin columns—elongated members which look as though they had been derived from Pompeian wall paintings, and usually reserved by Thomson for this position.

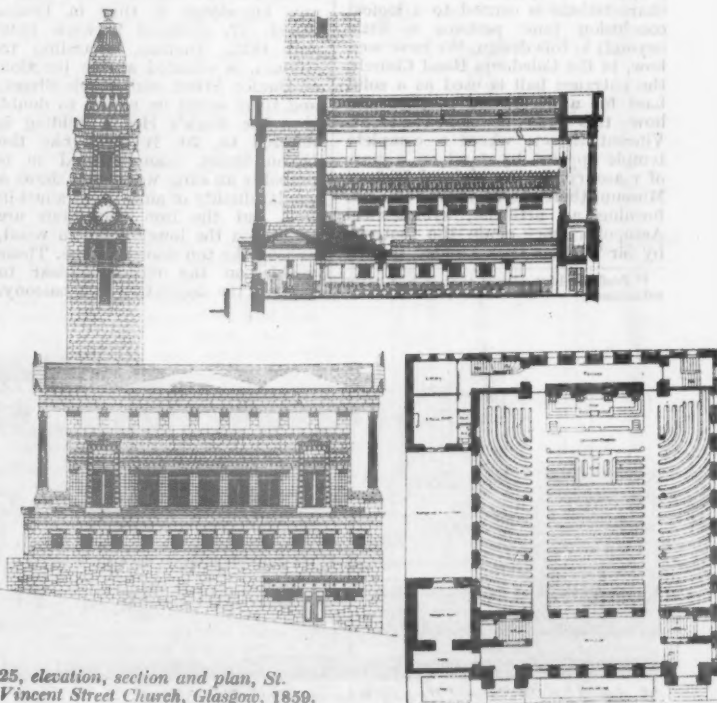
Two years later, in 1861, we have the first mention of Moray Place.⁹ This seems to have been a speculative venture, in which Thomson had as his partners two friends of his, Andrew MacIntyre and a man called Stevenson. MacIntyre was a brick-maker and builder, Stevenson was probably a connection of Baird & Stevenson, quarry masters. Stevenson moved into Number 13, and another friend of Thomson's, Shields, the 'measurer,' took one of the other houses. The best house of all, Number 1, was reserved for the architect and his family, and they moved to it early in the '60s. Alexander designed the dining room furniture and that for his own bedroom, and the house must have been something of an architectural show-piece inside. They entertained (Jane, we gather, was proud of keeping a good table) and one of the most frequent visitors was the minister of the Caledonia Road Church.

Moray Place, 19, is an outstanding success. It is small, having only two stories, and is entirely regular and simple. The end pavilions are glazed porticoes, the square stone shafts running straight through from the

⁷ P.O. Street Directory. Prof. Budden puts the date of this building much later—about 1870 ('Builder,' Vol. xcix, Dec. 31, 1910, p. 815 'The Work of Alexander Thomson').

⁸ P.O. Street Directory.

⁹ P.O. Street Directory for 1861: Thomson's address appears as 'House, 1 Moray Place, Regent's Park, Pollokshaws Rd.' The terrace itself appears in the street index for 1864-5. Prof. Budden (op. cit.) again puts the date about 1870.



25, elevation, section and plan, St. Vincent Street Church, Glasgow, 1859.

⁴ Atkman: op. cit.

⁵ Gildard: Royal Phil. Soc., Vol. xxvi, p. 191. 'Greek Thomson.'

⁶ Haldane Lectures: No. IV (pp. 8-10 in reprint by John Hardman of Manchester from the 'British Architect').

base to the entablature, while between them stretches the rest of the terrace, the upper windows an unbroken colonnade of square stone posts. The lower windows come almost to ground level, and in the reveals are thin stone pilasters. The surface decoration, most of which is simply incised in the stone, is unusually slight and restrained. Only the chimneys, with their great, bell-shaped pots, like the capitals of Egyptian columns, testify to the other side of Thomson's character. The appearance is much more purely 'Greek' than elsewhere in Thomson's work of this period, and much more like early German or English examples.

In addition to these terraces, Thomson got out designs for the Albert Memorial Competition and for the Natural History Museum, South Kensington, 26. Both design and drawing for the Albert Memorial suggest the sands of some romantic desert rather than Victorian Kensington Gore and it cannot have appealed to the jury¹⁰ any more than the design for the Natural History Museum, which was hopelessly out of fashion, and can hardly have been considered seriously. The Museum design is interesting, all the same, apart from showing how completely detached a leading provincial architect could be from current London taste. It illustrates particularly clearly one remarkable point. If the smallest of the 'temples' is examined, it will be seen that the entablature, which butts against the ante wall of the next 'temple,' reappears behind the columns of the portico, and is continued beyond it to form the long colonnade. In fact, one building 'penetrates' another. It is a significant feature of Thomson's work, and can be seen again in the pylon-like gallery windows of the St. Vincent Street Church, where the ornamental architrave cuts through the entablature, and yet the entablature is continued within the opening. It is difficult to assess the full meaning of this and it is sufficient to note it as a preoccupation with form and pattern which led Thomson to make original and sometimes prophetic experiments. Another characteristic is carried to a logical conclusion (and perhaps a little beyond) in this design. We have seen how, in the Caledonia Road Church, the entrance hall is used as a solid base for a decorative portico, and how this was developed at St. Vincent Street, where a complete temple appears to stand on a mass of masonry. In the Natural History Museum there are no fewer than six, forming an artificial, symmetrical Acropolis. Once again the footnote by Sir Thomas Dick Lauder, quoted

¹⁰ Prof. Budden claims that it was never submitted.

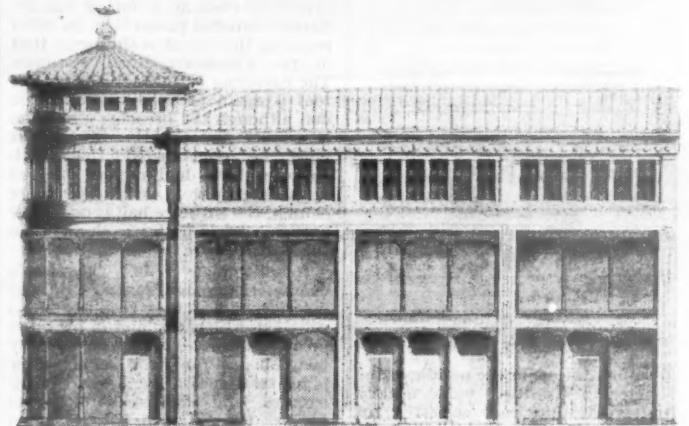
above, is interesting. 'There is much difficulty in applying Grecian architecture to modern purposes,' he says, '... But Mr. Hamilton, in his High School upon the Calton Hill at Edinburgh, has shown that if this cannot easily be made out by building one temple, it may be accomplished by erecting a group of temples in one mass, and the effect is altogether very pleasing.' It is not so pleasing here as in the Royal High School, which Thomson admired, together with St. George's Hall, Liverpool, more than any other modern building; but the combination of distinct masses had a peculiar attraction for Thomson, as we have seen in the Caledonia Road Church, and he speaks of the Erechtheion as '... so many distinct and comparatively complete objects, brought into juxtaposition so as to form a group, rather than as members of a single organised body.' This appreciation of the picturesque in Greek architecture is found in Germany more than in England. Thomson must have known that Elmes went to Germany at the time of the design of St. George's Hall, and this may have aroused his interest. We have already seen the similarity of his villas to the work of von Arnim, and Persius; in more monumental buildings he must have found Schinkel's designs and Klenze's 'Valhalla at Regensburg' sympathetic. Germany certainly seems to have exerted a more profound influence than France, despite a superficial similarity between the interior decorations of Thomson's churches and villas and the work of Percier and Fontaine. One other influence is clearly apparent in the Museum design: what Thomson calls '... the magnificent architectural compositions of the late John Martin ...' and here the illustrations can speak for themselves.

To return to Thomson's Glasgow activities, no mention has yet been made of the warehouses which he built in the City as it has proved impossible to find out the dates of most of them, and I should hesitate to attempt to trace a consistent course of development from style alone. The first one of which we have any knowledge is that in Dixon Street, 27, designed between 1849 and 1853. Another, according to Gildard, is situated at the junction of Dunlop Street and Argyle Street, and there seems no reason to doubt that the Buck's Head Building is referred to, 20. It looks like the Dixon Street example (and so is probably an early work) and shows a similar duality of aim. It is framed in iron, but the iron stanchions are cased—on the lower floors in wood, and on the top floor in stone. Those visible on the façade appear to support the decorative iron balcony.

Thomson seems to hesitate between a frank expression of the iron structure, and his own preference for treated stone construction. The use of iron, expressed externally was unusual,¹¹ but as a romantic, picturesque architect it would not occur to Thomson to found a modern aesthetic on the use of new materials and methods of building, although he does not hesitate to make the boldest use of these discoveries to express his own vision. Because architecture was to him like sculpture, a means of expression in three-dimensional form, none of his works can be considered

tive panels between them combine to make a beautifully textured wall surface. These warehouses of Thomson's, with their regular, repetitive elements, stand out remarkably when seen in sharp perspective from the street. The thin, hard decoration, much of it, due partly to lack of skilled craftsmen, only incised, suggests some material other than stone, while the Gordon Street building, with its slight but subtle changes in vertical plane, looks like a flat panel among its neo-Renaissance neighbours.

The Bath Street warehouse, 28,



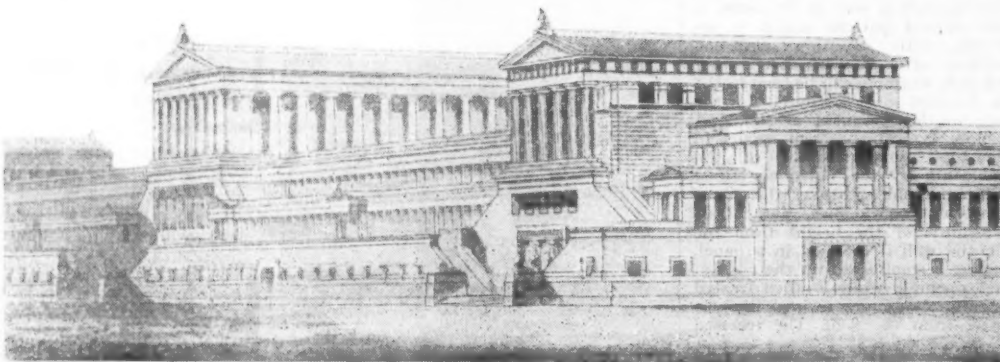
27, design for a warehouse, Dixon Street, Glasgow, 1849-1853.

as pioneer examples of structural innovation. In fact, this is the last time that iron appears on the outside of one of his buildings.

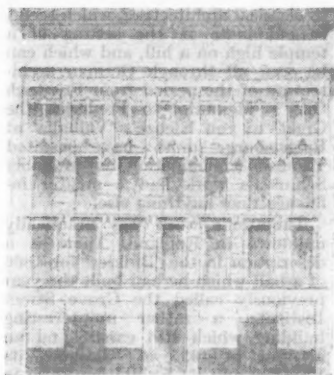
In 1859 Thomson built a warehouse in Gordon Street, immediately opposite the entrance to the Central Station, 22. Although it has been gutted by fire at least once and probably twice, it is comparatively unchanged on the first, second and third floors, but the shops have been remodelled, and an absurd neo-Renaissance superstructure put on top. The first-floor windows are like those already noticed in the Eglinton Street tenements, with their wiry pilasters supporting a richly ornamented hood. The windows on the second floor, treated as a colonnade, grow out of those on the first, the wall spaces between the 'aedicules' becoming columns without any break; while in the third floor the columns have taken the form of consoles. In this building the windows are so close together that their entablatures form a continuous line across the façade, and the pilasters and decora-

¹¹ A few years later a much more logical building, composed entirely of iron and glass, was built in Jamaica Street. (ARCHITECTURAL REVIEW, Vol. CLX, No. 650, Feb. 1951.)

must have been built about the same time. It has now been pulled down to make way for the unattractive offices of the Corporation Transport. Doubtless there were reasons for this, but Glasgow is not so rich in good buildings that it could afford to lose one of this calibre. Certainly it was one of Thomson's finest works and had none of the slightly experimental look of many of his other designs. We have already met most of the elements elsewhere—the horizontally coursed masonry, the first and second floor windows, and the idea of a colonnade to support the cornice. But something new has happened to the top two floors. As in the Gordon Street warehouse, the columns on the third floor 'grow' from between the windows of the floor below, but the spaces between them are not glazed, and the columns are entirely free-standing: behind them, on the inner edge of the opening, a continuous window runs from one end of the building to the other, while above the cornice a continuous sloping skylight gives light to the rooms on the top floor. This use of a continuous strip window in the 1860's is remarkable, but is foreshadowed in many of Thomson's earlier designs. From the beginning, as shown in Walmer Crescent, he was fond of a colonnaded top floor: from this it was a short step to the idea of giving greater depth to the colonnade by moving the window glass back, free of the columns. The windows need not then be interrupted by any supports, and as the maximum glass area was clearly required, it was quite natural to run them continuously from one end to the other, the weight of the superstructure being taken on the pillars in front of them. What made it more natural still was Thomson's dislike of openings, and his predisposition to think in terms of posts and lintols. This attitude, with his love of strong horizontals, tends to produce fenestration of a decidedly twentieth-century appearance.



26, design for the Natural History Museum, South Kensington.



28, a student's measured drawing of a warehouse, Bath Street, Glasgow, c. 1859.

To appreciate the ease and completeness of the Bath Street warehouse, it is only necessary to compare it with two others, called, for reasons not altogether clear, the Grecian Buildings, in Sauchiehall Street, 21, and the Egyptian Halls, in Union Street, 23. The Sauchiehall Street building looks like a trial run for the Egyptian Halls, the biggest and grandest of them all, and so, although it is in some ways a more successful design, it need not detain us.

The Egyptian Halls are most remarkable. The building has a load-bearing front wall, but internally the floors are supported by iron stanchions, and this framework is expressed in the rectangular pattern of the facade. Indeed, the first and second floor windows look as though they were constructed of iron rather than stone, an impression given by the thinness of the projecting pilasters to the first floor windows, and the deep, shadowed groove running up the middle of the columns on the second floor, splitting them into two very slender members instead of one thick one. Even the capitals on the first floor columns are an iron form translated into stone—a form, moreover, which Thomson had already used in iron, as reference to the Dixon Street warehouse and the Buck's Head Building will show. After the calculated lightness of the lower floors, the ponderous detailing of the top story comes as something of a shock. The sense of weight is given by the round columns as well as by the massive cornice. They seem to be designed to give an effect exactly opposite to that in the Bath Street warehouse: not content with being a different shape from the vertical members below them, they are separated from them by a strong horizontal line, and even stand on little square bases, as if to emphasise their self sufficiency. Once again, as in the Bath Street warehouse, the window behind the columns is a continuous strip, running, in this case, without a break throughout the eighteen bays of the building, while the cornice, acting as a parapet, hides another continuous window on the top floor. It would be most interesting to know the dates of these warehouses to see how this treatment developed. It might be expected that the tendency would be towards greater integration of the facades, rather than a sub-division into horizontal compartments, but this is not confirmed by such dates as we know. There are many points of similarity between the Gordon Street warehouse and that in Bath Street, and there is little doubt that the Gordon Street building was put

up in 1859,¹³ and thus almost certainly before the Union Street block.

At the end of the '60s Thomson designed his last big United Presbyterian Church—Queen's Park East, 13, 14. This church was burned down by an incendiary bomb during the war, but fortunately it had been measured and photographed, and some idea of the interior can still be got from the illustrations. The church was opened in November, 1869. It was built to seat 1,200 people and the cost was about £7,000. It had no advantages of site—it stood on flat ground surrounded by tenements, and all the interest is concentrated on the front, which is the most astonishing of all Thomson's fronts. It is difficult to consider it as a building at all: it seems rather an embodiment of all his struggles to reach some new form of expression, struggles resulting in magnificent and inspired ugliness. Certainly it was strong meat to serve up to a provincial Presbyterian congregation, and it was hard for Thomson's eulogists to apply the usual phrases about 'taking all that was noblest from both Greek and Egyptian architecture' here.

The plan, setting aside the ancillary halls, is simple enough: like St. Vincent Square Church it is a rectangular box, with a raised clerestory ending in a pediment, and with the gallery contained in what would be the triforium of a medieval church. There the similarity ceases. Instead of a tower set on one side, there is a heavy cupola on a massive stone base placed squarely over the pediment. Beneath the pediment, instead of a correctly proportioned Ionic portico, there is a slit like that of a money box, containing four hideously squat Egyptian columns, similar to those on the Egyptian Halls. Running across the front is a low screen of windows, and cutting through this screen is the magnificent and elaborate entrance door. Perhaps the screen and the door are the most interesting features of the whole facade. We have noticed already how Thomson would allow one building to 'penetrate' another (as in the South Kensington Museum design) or one member to 'run through' another (as in the upper windows at the side of the St. Vincent Street Church). Here the same thing is done, and in the most important part of the building. The door and screen are conceived as a two-dimensional pattern applied to the front wall of the church, and the entablature of the screen is allowed to run through the door surround and the two columns it contains. Used so clearly and deliberately, there can be no doubt of Thomson's preoccupation with this type of formal combination.

The treatment of the columns, the pediment and the cupola, which make up the rest of this part of the facade, is perverse, grotesque and exciting. The roundness of the columns divorces them from the wall, the outline of the opening, and the window behind them. Besides, they are obviously much more squat and massive than they need be, and they consequently become like objects in a show case, to be considered on their own merits. The pediment, instead of being the crowning silhouette of the front, is lost, in perspective, among the other

horizontal and diagonal lines of the square and octagonal bases of the cupola, and its contribution is to increase the complexity of this part. The cupola is not unlike the top of the St. Vincent Street tower brought down to a lower level, but everything seems to have been done to strengthen the impression of crushing weight by building the base up solid above the pediment.

The interior must have been most magnificent.¹⁴ It was entirely lined with wood, possibly due to a strike of plasterers at this time. There was no carving, but every inch of the woodwork was stencilled in brilliant colours to designs by Thomson and Daniel Cottier.¹⁵ This profusion of colour is interesting, considering the reputed dourness of the Presbyterian faith, but of greater interest still are the layout and construction of the church internally. Mercifully free from any strong tradition of church architecture as well as from the interference of a local Ecclesiastical Society, Thomson could start with a clean slate and consider the problem of providing a preaching hall which would at the same time be a symbol of the strong religious feelings which he and his clients shared.

The galleries, particularly the upper gallery, provide an example of Thomson's use of subordinate spaces, separate, yet flowing into the main internal volume. The way in which the bases of the thin iron shafts supporting the superstructure are allowed to disappear behind the gallery fronts, or among the pews, prevents the various units from being too strictly marked off from one another, and gives the galleries a light, hovering look. Most remarkable of all, in the upper gallery, all the feeling of weight which might have been expected considering the mass of stone above has been skilfully dissipated. This has been achieved, partly through the treatment of the columns, which are robbed of most of their apparent structural significance by the way in which they vanish mysteriously at the foot, and partly by the window at the back. This is treated in the same way as those in the upper stories of the Bath Street and Union Street warehouses: the weight is taken on the columns outside, while from the interior all that can be seen is an unbroken strip of glass. Thus, the whole ponderous erection of cupola and base can either be forgotten or, better still, supposed to float mysteriously on air. We find nothing unusual in this to-day, for something similar occurs on every shop front we see, but it is an extraordinary piece of architectural sleight-of-hand for 1869. As we have seen, structural innovation for its own sake did not interest Thomson, nor did functional requirements serve him as a basis for any theory of aesthetics. He used stone and iron—great masses of stone, and the slenderest of iron supports—with little regard for anything but the appearance of the finished building, and his structural illogicality may arouse as much hostile criticism to-day as his 'licentious' treatment of classical elements has done with critics in the past.

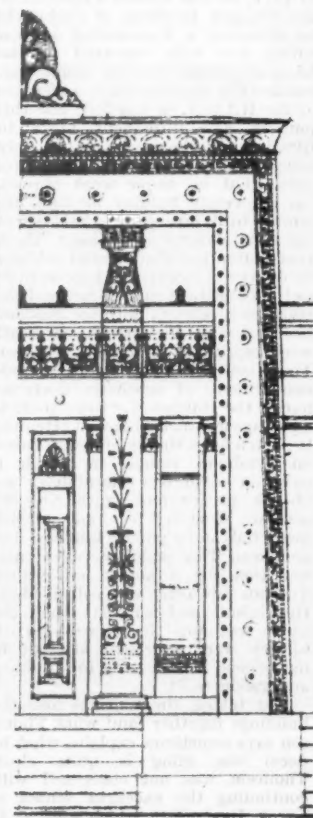
Queen's Park Church was Thomson's last revolutionary work, and

¹³ It has been altered twice, once when an organ was installed by Alexander Skirving, a pupil of Thomson's, and again in 1924, when John Thomson, his son, replaced the old organ, built the screen and renewed the colouring.

¹⁴ Daniel Cottier was a 'glass stainer, house and church decorator' who worked in close connection with Thomson, not only here but probably in the other churches and at Holmwood. He eventually emigrated to New York.

the remaining five years of his life were architecturally sober. They contain, however, one last great building—Great Western Terrace—almost the only design by Thomson to win more or less unqualified praise from past critics. Great Western Terrace, 16, was built about 1870¹⁶ and is situated on a rise in Great Western Road, the main route leading out of Glasgow, through the West-end residential areas then being developed, to Dumbarton and the Clyde Coast. That is to say, it is an expensive, upper-middle-class district. There is some reason to believe that it was another speculative venture, but this is not conclusive. The terrace is set well back from the road, raised on a sort of platform. Although the greater part consists of only two stories and a basement, the scale is very grand. The deep ornamental eaves give a strong horizontal line, unbroken except by the two higher blocks, which are set in some distance from the ends. The building is plain to the point of severity, the front being relieved only by the Ionic porticoes of the doors. The whole atmosphere could hardly be more different from that of Queen's Park Church, the Bath Street warehouse or even the other terraces. This is especially true of the windows: for once they are treated as holes in the wall, without architraves or carving, depending for their effect entirely on the crisp, hard edge of the opening and the dark shadow of the reveal. In fact, the characteristics we have so far met in Thomson show themselves only in the projecting window on the end wall and the great flight of steps leading up to the gravel carriage-way which runs the whole length of the terrace. It is little wonder that

¹⁶ Also probably Westbourne Terrace, close to it.



29, detail of front elevation of Queen's Park Church, Glasgow, 1869.

critics have considered this Thomson's finest work, for in a sense it is: the naughty boy has repented, and see what he can do when he really tries. Unfortunately we do not know of anything he built at the very end of his life, and so it is impossible to say whether Great Western Terrace marks a permanent change in outlook. Perhaps the restless search for new forms had burned itself out with Queen's Park Church, and if he had lived another fifteen years he would have produced a series of academic masterpieces of the type of Great Western Terrace.

In the later '60s Thomson was recognized as a leading Glasgow architect, and so he could afford to publish a violent attack on Scott's designs for the new University buildings on Gilmorehill. He was obviously bitterly disappointed at being passed over and it is worth speculating on what he would have done with that superb site if he had been given the opportunity. Instead of Scott's 'illustration of sixteenth century Scotch architecture clothed in fourteenth century French detail' the city might have had a black and sooty Acropolis with, one likes to think, lecture rooms and administration blocks freely grouped round the crest of the hill, connected by long colonnades and wide flights of steps, the whole composition dominated by the great mass of the Library and the Museum. It might have been magnificent, and it would certainly have been more practical than Scott's rigidly symmetrical quadrangular plan, as Thomson is quick to point out.

This essay in criticism seems to have suggested to Thomson that it might be advisable to record his views on his art more fully. When, in 1871, he was elected President of the Glasgow Institute of Architects he delivered a Presidential address which was fully reported in the *Glasgow Herald*. In the same year incidentally he attended a conference of the R.I.B.A. in London, and this journey and infrequent visits to friends in Yorkshire were the only times he left Scotland: authorities agree that he never went abroad. On his yearly holiday he took his family to Whiting Bay, and spent the time walking and fishing. Three years after the Presidential address he delivered a course of four lectures to the Glasgow School of Art and the Haldane Academy. Both the Haldane Lectures and the attack on Scott were reprinted in pamphlet form. They contain no very clear pronouncement of aesthetic doctrine, but in the Haldane Lectures there is a passage in which Thomson attempts to sketch out a theory of design based on symbolic values, in which a pyramid expresses durability, an obelisk justice and truth (he did several designs for an obelisk memorial) and a portico kindness and goodness. This makes excellent ammunition for a hostile critic (Mr. Trystan Edwards), who calls it 'sheer Ruskinism' and suggests that the squat columns in Queen's Park Church were a belated attempt to make good a deficiency in 'kindness and goodness'.¹⁸

But taking the writings and the buildings together (and what Thomson says sometimes explains what he does) one thing is quite clear. Thomson was not concerned with continuing the excellent school of Greek Revivalists which existed in

Scotland at the end of the eighteenth and the beginning of the nineteenth century.¹⁷ Although he cites seven buildings in Glasgow which influenced him, all of them Greek Revival buildings aiming at academic correctness, his own ideas were infinitely more ambitious. Like several other thinking Victorian architects, he was ashamed of being thought a mere copyist, and was acutely conscious that there was no nineteenth century style of architecture to set beside the great styles of the past. And so he set himself to discover what these styles—Central American, Indian, Syrian, Egyptian and Greek—had in common that made them great.

Since Thomson only left Scotland on occasional visits to friends in Yorkshire, and once or twice to go to London, he must have been influenced exclusively by what he saw in Scotland, and by what he read in books and periodicals. These must have been of two types: first, and less important, those books in which he studied what he considered to be the 'great styles' of the past, and second, accounts and illustrations of nineteenth century work in England and on the Continent.

In the first category, the only authors he mentions are J. G. Wilkinson and James Fergusson. Interest in Egyptian architecture dated from the 'Description de l'Égypte', published by direction of the French Government in 1809, and Wilkinson had written three other books on Egypt and the Egyptians before the publication of the 'Architecture of Egypt' in 1850—a large folio volume of meticulous drawings which would supply Thomson with all necessary information. More stimulating was David Robert's 'Egypt and Nubia', published 1842-50 with superb coloured illustrations—surely one of the most splendid picture books of its kind.

Fergusson also dealt with Egypt—in fact he dealt with the architecture of '... all ages and countries' in his Illustrated Handbook, the first edition of which was published in 1855. It was an ideal book for the amateur of art history and criticism, who could find, collected in one volume, sections on 'Buddhist and Jaina', 'Hindu', and 'China and America.' It was well and profusely illustrated, and the section on Greek Architecture is headed by a view of 'The Acropolis Restored,' from Wordsworth's 'Athens.'

Wordsworth's 'Athens,' published in 1836, was one of a great many 'journals' which appeared in the first half of the century—in fact, as early as 1835, when the Rev. Burgess brought out his two tiny volumes, he was forced to begin his Preface despairingly 'A Tour of Greece and the Levant has now but little chance of awakening any general interest...' 'Athens' is illustrated by C. R. Cockerell, and what is interesting is the picturesque way in which such a subject as the 'Acropolis from the Academy' is treated, showing all the surrounding town and country, the remains of Turkish fortifications, the mountains in the background and goatherds in the foreground. It is as though Edinburgh Castle were endowed with all the prestige and authority of Greek architecture, an aspect which must have appealed to Thomson enormously, as his lyrical description of

the Acropolis at the end of the third Haldane Lecture shows.

The Greek Revival in England seems to have had practically no influence on Thomson—much less certainly than Thomas Hamilton's Scottish work—and the only English building which he mentions is St. George's Hall, Liverpool, which, with the Royal High School, he admired more than any other building in the country. French illustrations were fairly plentiful, in particular there were collections of drawings of houses in and around Paris, such as the 'Parallele des maisons de Paris' edited by Victor Calliat and published between 1850 and 1864, 'Paris Moderne,' by L. M. Normand, published in the 'forties. But French examples seem totally different in spirit. Even the 'cottage ornées,' of which there are several delightful specimens in 'Paris Moderne,' are either rigidly symmetrical, thatch and rustic half timber notwithstanding, or are so extravagant that it is difficult to believe that they were ever built. There were also of course the published works of Percier and Fontaine and there is a design for a bed, for 'M. O.' in the 'Recueil des Décorations Intérieures' which may have (oddly enough) furnished some ideas for the Glasgow Church interiors, but, here again, the spirit underlying the use of exotic ornament is quite different. This also applies to such examples of Neo-Egyptian architecture in France as the Egyptian portico of the German Embassy (Hôtel Beauharnais). Thomson may have gathered precedents for eclecticism from France, but it is more likely that he got his ideas direct from Germany.

Although German architecture, including Greek architecture, was greatly influenced by French examples, it is more picturesquely treated, and many features seem to have been adopted almost unaltered by Thomson. The similarity between his early cottages and those built about the same time in Germany has already been stressed. Illustrations of the German buildings would be fairly easily obtained. There were folio volumes of the works of individual architects—not, as far as I know, Persius or Arnim, but a collection of designs by Hitzig was published in 1850, and some of the houses illustrated could have served almost equally well as models. Both Persius and Arnim were illustrated in the *Architektonisches Skizzen-Buch*, Vol. I of which was published in 1852. This is rather late to have influenced Thomson's first villas but he may have seen the pictures earlier elsewhere. Albums of designs were also published by the Institute of Architects in Berlin (1838-42) and a folio of designs by Munich architects was edited by Gärtner and appeared in 1846, but how widely these were known is uncertain. In addition, there were the works of Schinkel (*Sammlung Architektonischer Entwürfe*, Berlin 1829-35) and L. von Klenze, a collection of whose designs was published in 1847-50. Schinkel's work undoubtedly had a profound influence, not only in such details as fenestration, where Thomson adopted the same ribbon of rectangular stone posts as Schinkel used in his Theatre in Berlin, but in such designs as the Monument to Frederick the Great, in the Platz der alten Hofapotheke, Berlin, where a 'temple' rides above a colonnade, and the sprawling Villa of Charlottenhof, with its horizontal, spreading roofs and loose asymmetry—Holmwood Villa seems to have retained more than a hint of this picturesque classicism. This approach

to classical architecture, which seems to culminate in the setting of a temple high on a hill, and which can be seen all through German architecture of the period from Friedrich Gilly's 'Memorial to Frederick the Great' to von Klenze's 'Valhalla' at Regensburg, must have excited Thomson's imagination, but probably Schinkel's work had a greater influence than anything else.

Thomson's work was practically unknown in England. There is a description in the 'Builder' for 1866 of a hall which he had built the year previously called the Grove Street Institute, a rather uninteresting building which still exists, and an account in 1855 of 'Glasgow, its Progress and its Exhibition,' also in the 'Builder,' describes the Greek Room which Thomson designed. William Burges recommended his pupils to '... devote some time to the drawings by Mr. Thomson of Glasgow: they represent buildings in Greek architecture, but certainly the best modern Greek architecture it has ever been my lot to see.' Ford Madox Brown visited Queen's Park Church in December, 1888, and after asking, in pardonable bewilderment, for what religion it was intended, stated that he put '... this Thomson-Cottier church above everything I have seen in Europe'—kind words which caused some excitement in the local press.

Thomson had few imitators even in Glasgow, although there are some buildings which are obviously indebted to him, usually only for their unsuitable decoration, although there is one charming warehouse in West Nile Street with fenestration like that at Moray Place in the top story, built, I believe, by John Gordon. Skirving was a pupil, and built Landside Church, which embodies some of Thomson's details, but fails to capture anything more. When Mackintosh appears on the Glasgow scene, he pays Thomson a passing tribute, but the break is complete.

The Haldane Lectures were delivered in 1874: on Monday, March 22, 1875. Thomson died at Number 1, Moray Place. The event was reported in the English journals—the 'British Architect' devoted a column and a half of its leader page to a black bordered obituary. He left a fortune sufficiently large for his widow to remain at Moray Place and to found the Alexander Thomson Travelling Studentship of sixty pounds, for a design in the Greek style to be competed for every three years, and won in 1890 by C. R. Mackintosh. A bust by his friend Mossman was put in the Corporation Art Galleries and that was that.



¹⁸ *Architects' Journal*, Vol. xxxix, May 13, 1914, p. 334, 'Modern Architects II—Alexander (Greek) Thomson,' by A. Trystan Edwards, M.A.

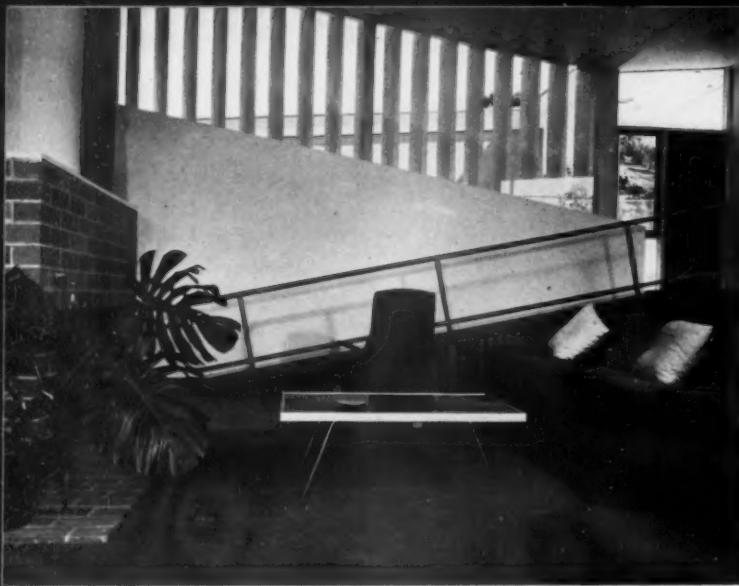
¹⁷ The chief exponents were David Hamilton (1768-1843), who built Glasgow Royal Exchange and did much work at Hamilton Palace; W. H. Playfair (1789-1857), architect of several fine Greek buildings in Edinburgh, including the Royal Scottish Academy and National Gallery buildings on the Mound; and Thomas Hamilton (1785-1855), chiefly remembered for the Royal High School.

HOUSE AT SYDNEY

HARRY SEIDLER: ARCHITECT



1, view of the house from the road. The end wall and movable louvers shading the approach ramp are painted white, and the garage wall in front is rendered blue-grey.



6

This house, built on an extremely difficult, rocky site, is an experiment in vertical space and interlocking levels. The site dictated three different floor levels, which have been connected by ramps. The kitchen, dining, living and study areas are all one, but can be subdivided: the balcony-like main bedroom increases

the spacial interplay. The entire east façade is glazed, giving the living room and terrace an extensive view across a harbour inlet. Windows are kept to a minimum on the approach side of the house for privacy. Vertical louvres protect the approach ramp against horizontal western sunlight.

The construction is of load-bearing brick walls with steel columns and beams culminating in a 13-foot canti-

2 | 3
4 | 5

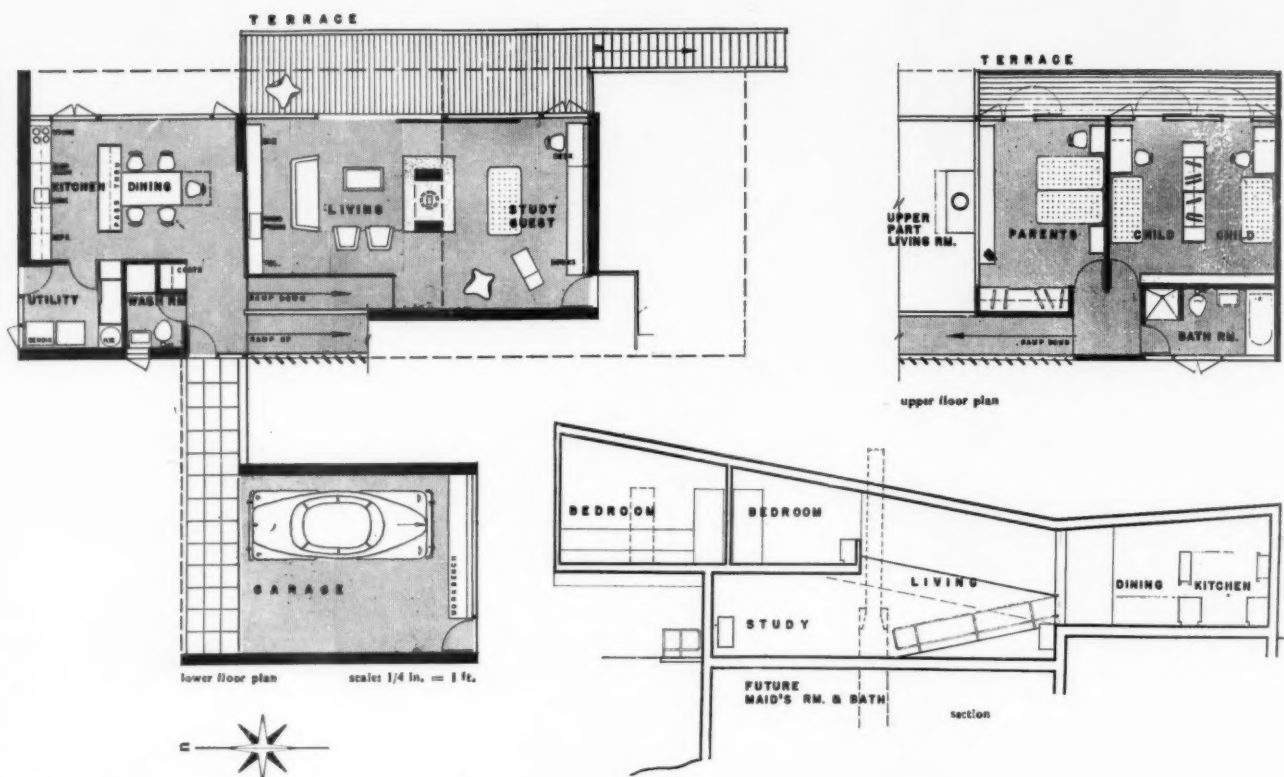


7

levered portion of the upper floor, projecting over a huge rock boulder which has been left. The space below the main living level will be used for a future maid's room with bath. Facing brick is painted light grey, the remainder of the house white, with undersides of balconies dark grey. The cement rendered garage is finished dark blue-grey. Doors, both inside and outside the house, are painted in bright colours.

2, 3, 4 and 5, on the facing page, day and night time views of the living room. The main entrance to the house is seen on the right in 2, and 4 is the view from the main entrance. The ramp in 3 and 4 leads to the dining space and kitchen and continues past the main entrance to the upper floor bedrooms. 6, the main entrance: the garage roof is extended and continued to form a porch over the entrance door. 7, the fully glazed east façade. The stairs leading down from the terrace extension of the living room are painted white. The undersides of the terrace and of the bedroom balcony above are both painted grey.

HOUSE AT SYDNEY



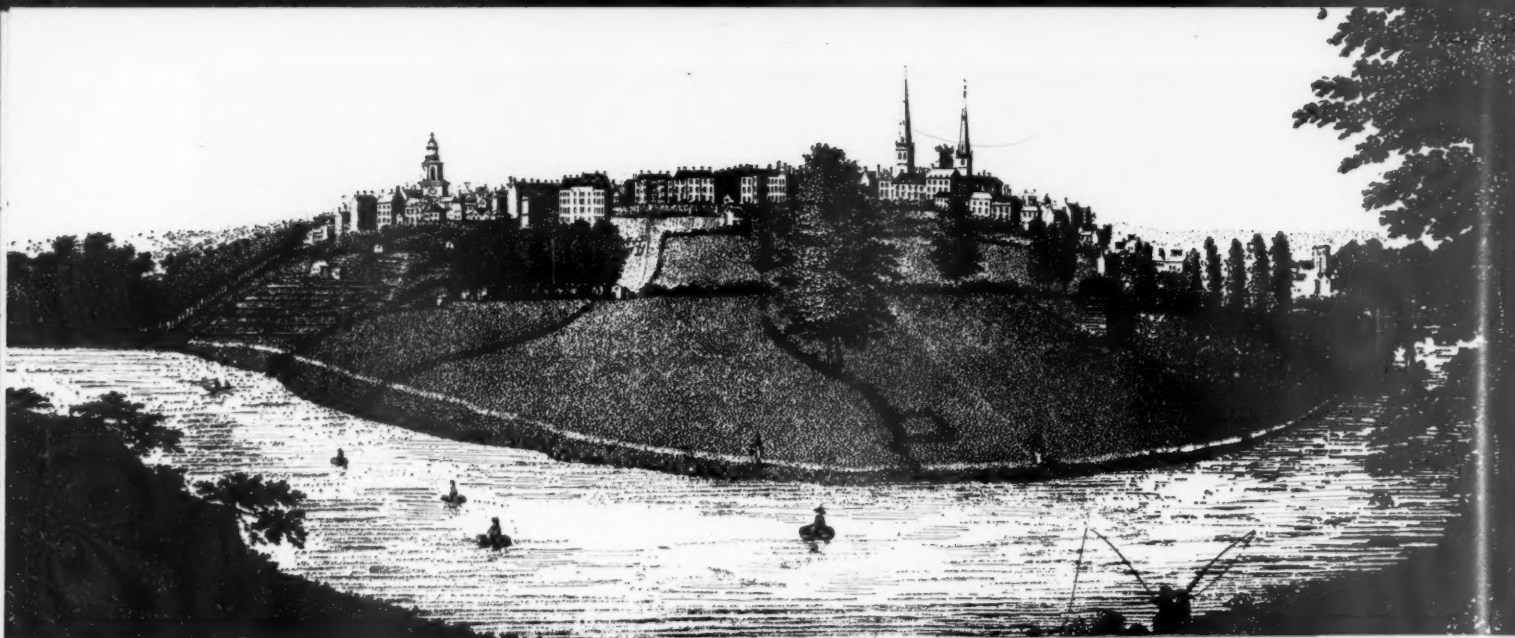
HOUSE AT SYDNEY



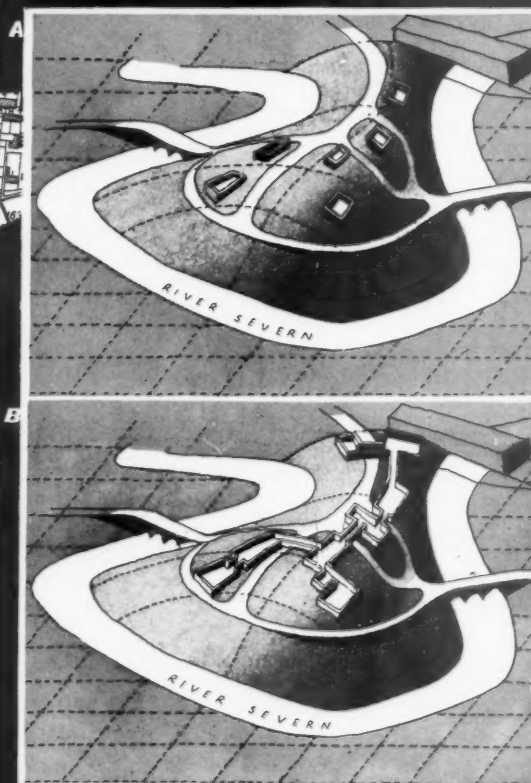
8, the kitchen, which is screened from the dining area by the storage unit seen on the right. 9, looking across the living room to the dining space.



10, the west façade looking towards the main entrance. Below the cantilevered bedroom block is a door to the guest room or study.



A town almost encircled by a river and built principally above the flood area, Shrewsbury had and still has great clarity. Inside the town the streets are crammed to bursting capacity with traffic. But the wanderer gradually becomes aware that this is only half the town; there is the withdrawn town of churchyards, squares and precincts which interweaves the commercial town. So the simplicity of the plan and view is deceptive. An intriguing game is being played out in the centre. The two diagrams explain more clearly. In **A** traffic routes straddle the town and in the interstices the rectangles represent the existing SPACES. But so that the withdrawn or secret town might exercise its proper authority in the drama it is essential that the separate parts be joined together, **B**, as they obviously once were and not allowed to remain fragmented by traffic. In the following pages the story is unfolded in greater detail as the reader is taken on a visual tour through the town.



LUDLOW

BEWDLEY

EVEHAM

SHREWSBURY



Gordon Cullen

The conclusion of an experimental series of townscape studies of four West Midland towns produced in collaboration with the Extra Mural Department of Birmingham University

Midland Experiment

SHREWSBURY

The West Indian climate is warm but tempered by the north-east trade winds. This joyful breeze refreshes the inhabitants as they sit chatting on the galleries of their houses. Without going into the history of West Indian architecture all I need say is that the larger houses are based on seventeenth century English practice with a concession to the climate—namely the louvred gallery or veranda built round it and in which the family relax, exposed to the prevailing breeze.

The curious thing about this arrangement is that whilst the gallery is small and the portion occupied by the family smaller still the house itself is large but empty. It is visible through the arches, a dim and tranquil interior, room arching into room and painted grey or lilac-grey with white woodwork. The contrast between the life on the gallery, concentrated and often gay, with the quiet and cavernous interior grows on the visitor. Indeed the first would be impossible without the second, which is the home, the retreat, and thus gives ease and spaciousness to the gallery.

Floriat Salopia—to the point.

Here in Shrewsbury are two towns intricately mingled. There is the first town of trade winds (or, more bluntly, petrol fumes), the town of shops and bus queues, the town in which most people spend the most time. And then there is the secret town, the quiet collegiate system of quads and squares accessible but aloof, grave and intricate.

Here then are the two elements; difficult perhaps to visualize. The one a network of traffic routes clamped on the hump of the town, the other an intercommunicating system of mainly pedestrian spaces. The two interweave.

The proposition here is that the contrast between the two extends ordinary town scenery

by an extra dimension. What do I mean by this? I am in a busy street dodging people and sprayed by diesel fumes. Looking up a turning I see a classical façade facing obliquely on to what one cannot see but by the tracery of branches must be a quiet square. I don't want to go there because I'm shopping. But to see it at all produces a slight emotional jolt (the intrusion of another language) which is pleasurable. Or perhaps I am strolling through a square to call on a friend and my path carries me by a bridge over a busy, main traffic road. Again I am afforded this contrast which makes my position doubly enjoyable. Two simple examples of the extra dimension.

The essence of the game is to ensure that both halves of the town achieve their own character to the full and are then introduced to each other in such a way that the maximum of drama is extracted from the situation. When we come to look at Shrewsbury it is clear that although the raw materials are there three things are missing. First, the town is out of balance: the traffic routes are far too dominant. Not only are the roads choked with traffic but the traffic pushes and squeezes its way through any opening large enough to take it. This has the effect of disrupting and fragmenting the inner pedestrian town, which brings us to the second point.

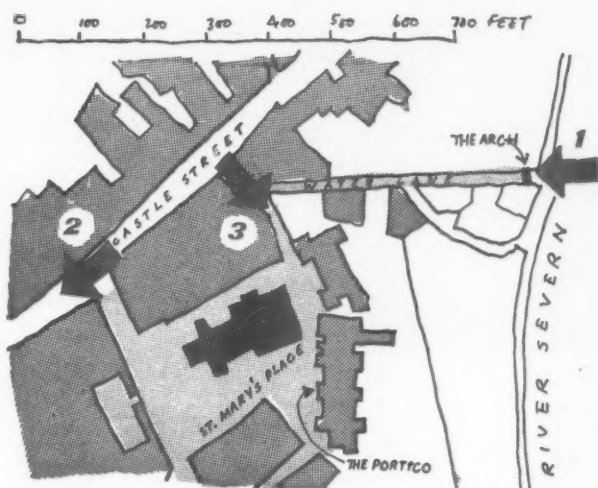
If Evesham, the subject of a previous article in this series, can be described as a town in which the pedestrian network has been preserved by an historical accident then Shrewsbury can best be understood as a town in which the collegiate or precinctual pattern has been almost obliterated by force of traffic. If the inner town is cut up in this way it becomes harder and harder to grasp its significance since it disintegrates into isolated quads and churchyards—very pleasant in themselves no doubt but lacking the authority of a single, unified network that can easily be understood and used as a major item in the town's fabric. It is essential therefore that the pieces be joined together so that they flow into each other and the system become lucid.

Even as it stands this network contains great vitality; functions vary, the scale fluctuates, architectural styles mingle and change of level produces drama and intricacy. By itself it would be an asset to any town but left as it is in separate pieces it could easily be picked off bit by bit by any development sniper. And is.

Two things therefore are essential: a by-pass to reduce traffic in the centre of the town (where and how this takes place is beyond the scope of this article) coupled with the joining together of the inner town. Were this achieved then the many opportunities provided by time, alteration and rebuilding could be used to develop the inherent drama, what we have called the extra dimension. It may seem strange that one should take pains to make a quad more of a quad and to accentuate the busy parts and then to mix them up again. No more strange than 'mixing up' the air and the harmony in music. For that is our third point, the art of juxtaposition. The aim is not to insulate one from the other but to let the one inform the other to produce a town of vitality, interest and drama.

Welcoming all the vital and practical day-to-day planning that is essential to the life and development of the town (such things as the problem of flood land, the possibility of a cultural centre, the provision of office space and so on) the REVIEW suggests this conception of the town believing that it is the typical pattern—the *genius loci*—and likely to remain so for many a year. It is not a proposal for any specific action but a proposal for action that could inform specific action. Were Salop a person it would not be a proposal that he should walk to a particular place but a proposal on how he should walk—his deportment.

SEQUENCE: a tour through Shrewsbury
In which for the sake of convenience the
traffic town is called S.1. and the secret
town, S.2.



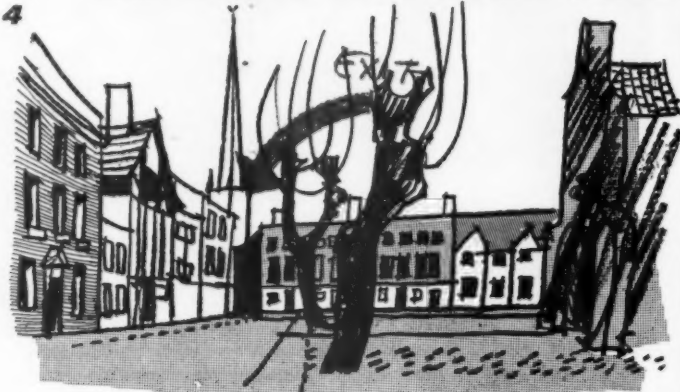
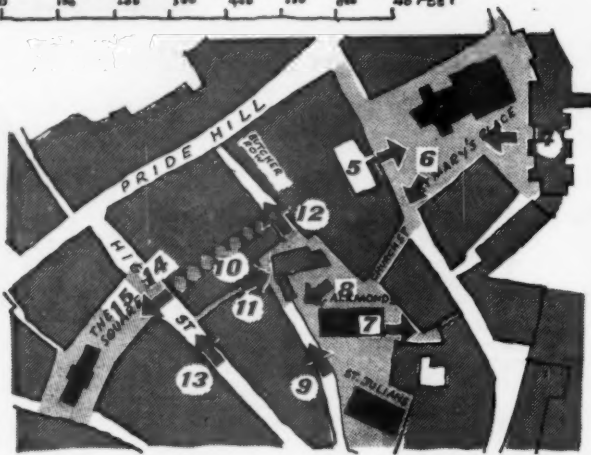
Choosing at random one of the many entrances to the town the journey starts on the river bank. The arch, 1, pinpoints the transition from riverside to town, but it does much more than that. It introduces us to the inner secret Shrewsbury, the pedestrian network so clearly visible still though stamped upon and kicked to pieces by the newer arterial S.1.



The path leads up to the typical Shrewsbury scene, S.1, crowded streets bursting with traffic and alive with concentrated shoppers, 2. Let us take it as typical of the road network of Shrewsbury. Nothing wrong with S.1, indeed everything right with it, unless and until it tries to torpedo S.2. To start with glance left, 3, below, and see the first great statement made by the secret town. The obliquely disposed classical facade faces out to a hidden SPACE. Function, scale and mood have all changed, let us follow and explore.



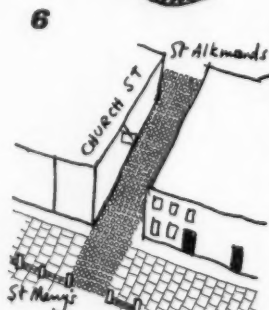
0 100 200 300 400 500 600 700 800 FEET



This, 4, is what the portico faces, St. Mary's Place, a churchyard surrounded by private houses. The red arrow indicates the way through to the next bead on the chain but before moving on note that one side of the square is a busy street. The divided drawing, 5, shows what it is now, in red, and what it might be, to the left. No one is asking for the abolition of traffic here but since it is a quiet square then the traffic should not bring its furniture and tarmac carpet with it.



Let the square (S.2.) dictate the pattern and let the by-pass-reduced traffic roll delicately, politely circumventing the pedestrians. Role of hunter and rabbit reversed. In order to link St. Mary's Place with the next square, St. Almonds, it is suggested that Church Street be distinctively surfaced and that this surface be carried across to the centre of St. Mary's Place. Any convention would do as long as the eye can read it as a link, 6.

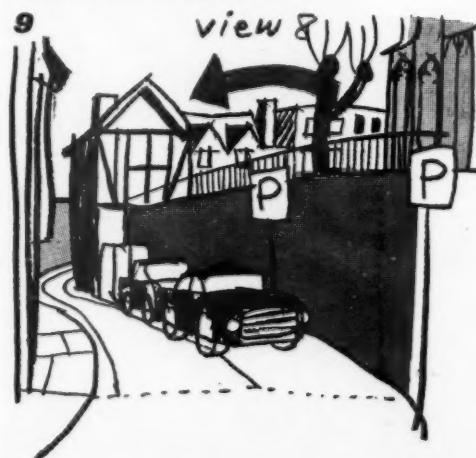


Inside St. Almonds Square the character is much more compact, intimate and intricate. The view, 7, gives the scale. Already one can sense the growing drama and complexity of the inner secret town.



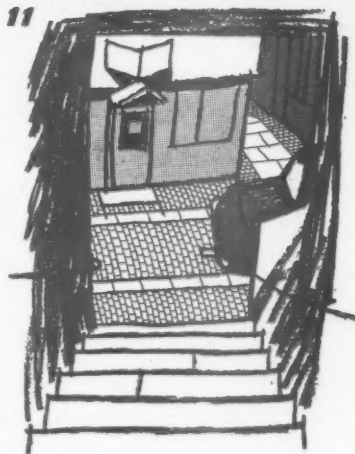
Another aspect of the square, 8; this shows an ideal solution for the interweaving of traffic with pedestrian circulation. For while the unity, enclosure and even serenity of the SPACE is assured, change of level ensures that the sunken traffic road (red dotted line) while being invisible is also uninhibited. The two tempos are separated in the most tactful way and to the benefit of both.

This, 9, is the explanation.



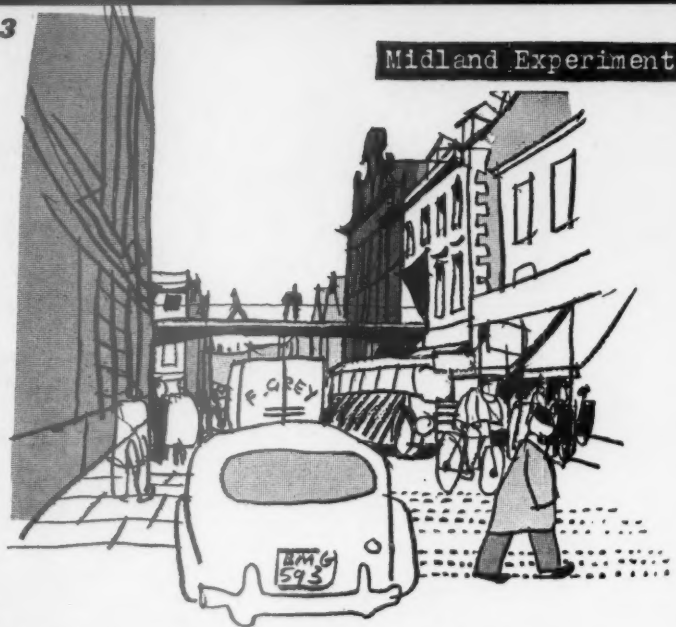


10 There are numerous exits from the square, two are chosen for illustration. First Bear Steps, these lead down to the sunken road. Squalid now of course because no one cares: but as townscape a gift from heaven. If you are lucky enough to have a town with these contours, then this is the way to exploit them. A view looking back up to the square, 10. Do not be misled by the picturesqueness of the scene. Point 1. Even the smallest link is sufficient to give unity to the SPACE sequence. It need not be a terrifying structural undertaking. Point 2. The opening is a doorway having a definite inside and outside. The view looking down, 11, down onto traffic after the stillness of the square. (This is the sort of road surface which might well be adopted in St. Mary's Place to give it unity). The other exit, Butcher Row, 12, shows another variation of the principle of S.2. This time a shopping street almost wholly pedestrian. At the end is Pride Hill where the ceaseless tide of cars and buses of S.1. flows past. At this point it is proposed to push a path through to the Town Square.



13

Midland Experiment



Due to change of level the path from Butcher Row will pierce High Street at first floor level and reach the Square by means of a flyover. This is probably the most vitally needed link in the whole chain, 13, since the width and busyness of High Street would obliterate any feeling of continuity had one to cross it at pavement level. The overpass would also heighten and tauten the character of the sequence by reason of contrast and bring out the full drama of the town's magnificent siting.



14 Approaching the Square at high level, 14, the whole scene is read at a glance and although the market shown here has long since gone yet the Square is still the centre of the town. What it looks like today is shown in 15. The point here is that the square should be brought to life and not left an empty cadaver surrendered to car-parking, shrubs and seats.

15



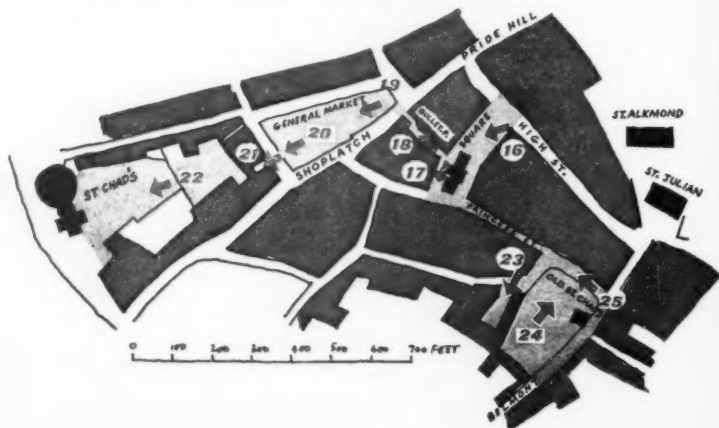
16



17



The Town Square at the beginning of the century, 16; were it used as fully today the scene would not be let down by the buildings. If a cultural centre is wanted for the town and region here is the proper place for it. The Concert Hall provides a nucleus. Here, 17, is the Market Hall and Concert Hall placed in a really urban and exciting way. This view shows the sense of scale accentuated by the crowded arrangement of buildings. You have a feeling you are in the centre of things. This should be the focus of crowd movements.

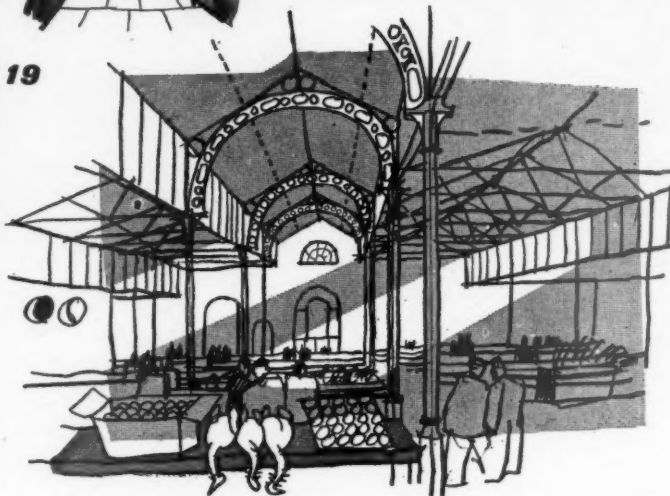


18



Turning to the right the pedestrian walks down Gullet Passage, 18, to reach the General Market. This admirable little pedestrian passage puts on exhibition, by means of a dogleg bend, a public house, which thus closes the vista; a simple device and very useful to the traveler. Crossing Shop Latch the General Market is reached — this is in effect a covered square differing in no way from any of the others except that it is completely en-

19



closed, 19. Why in that case shouldn't it be treated as a square by all Salopians. We recommend just that and that is why it has been incorporated into the chain of public SPACES. Once again the mood changes, steps echo and the air is filled with the scent of fruit and flowers.

Passing through to the far end of the market the road is seen below, 20. This view epitomizes the drama to be extracted from the play of two levels, the contrast of enclosure and exposure, and juxtaposition of S.1. and S.2.

20



Opposite this exit lies the courtyard leading to Morris Hall, 21, and here St. Chads Churchyard with its cosy avenue is so close that a way should be found to pierce through the obstruction.

21



For St. Chads churchyard, 22, leads us to the very perimeter of the town.

22



329

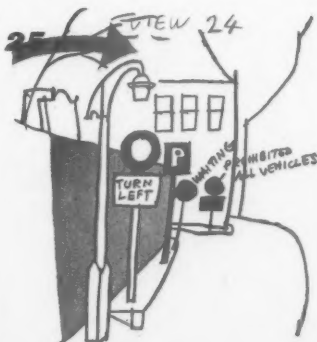
But before reaching the edge let us take an alternative route outwards from the Town Square. This takes us along Princess Hill to old St. Chads. Just off this square is a small domestic courtyard, a doctors precinct, 23, which though small is a further affirmation of the principle being traced through the town. S.2, again.

23



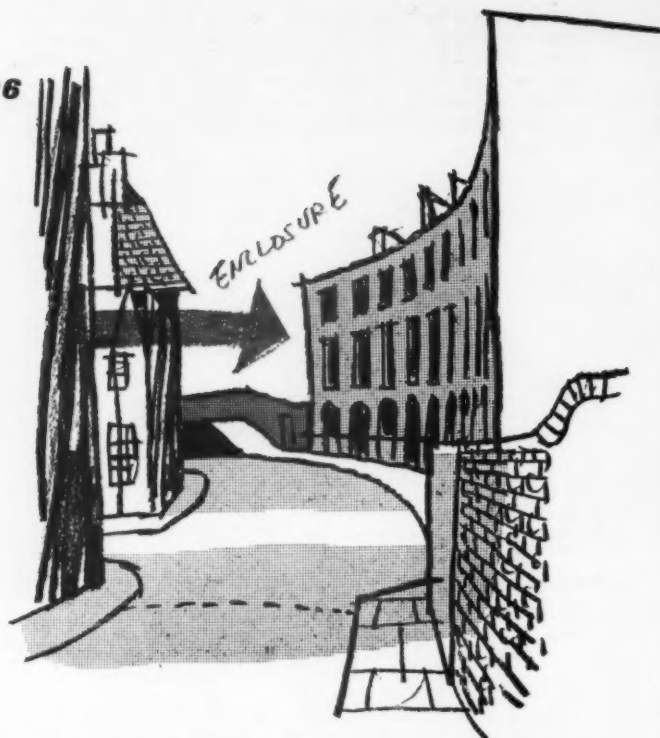
From old St. Chads, 24, one can see the towers of St. Mary's, St. Alkmonds and St. Julians which pinpoint S. 2. like asterisks. This square, like St. Alkmonds, agrees to differ with motor traffic for change of level ensures that from the middle one sees only what stands above the first floor.

24



And a good thing too. This, 25, is what one sees in the road below the churchyard. A scene that emphasizes the virtue of the traffic ditch.

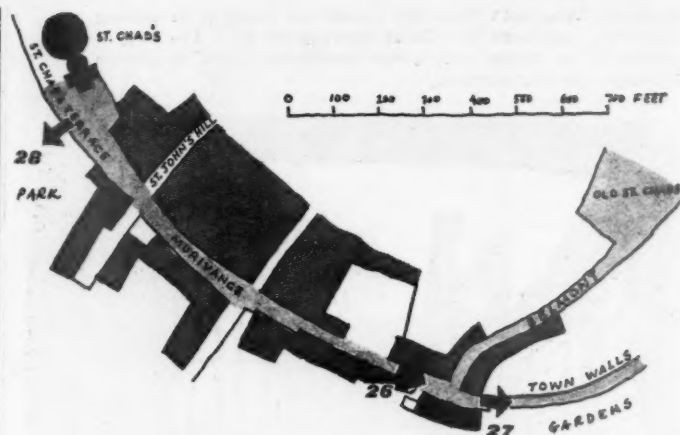
26



From old St. Chads Belmont leads to the perimeter, the edge. The red arrow in 26 indicates the debouchment onto the superbly sited crescent which not only turns the eye but provides a last feather-light gesture of enclosure before the wide airy views from the Town Walls.

The Town Walls, 27, is the perimeter, almost an esplanade. The effect is of a beach and a seawall, except that beyond the wall is not the sea but the river and beyond the river superb landscaped parklands, 28, rising to the school. The pedestrians viewing platform takes the form of a raised pavement, a differentiation from the traffic route which gives a psychological advantage.

28



27



1



1, the main visitors' lounge on the first floor.
2, part of the north facade on the left and the link between the two wings of the out-patients' extension which is T-shaped in plan.

HOSPITAL EXTENSION AT BALHAM, LONDON ARCHITECTS: DEVEREUX AND DAVIES

This extension to St. James's Hospital, Balham, is planned as a stage in the ultimate redevelopment of the whole hospital. When work on the site had begun a ban was enforced on the use of steel, which led to the use of prestressed concrete and brick piers and all but 25 tons of steel reinforcement were eliminated.

The extension is planned in the form of a T. The main floor of the out-patients' department was raised above the level of St. James's Drive to enable a connection to be

made to the original hospital block to the east by a bridge high enough to permit the passage of ambulances in the new main circulating roadway. The large lounge in the north block is not intended primarily for waiting patients, but for the use of those who may have to arrive early and visitors accompanying them. The link between the two new blocks forms, on each floor, a waiting space sufficient for 30 persons. It was felt that due to variations in the incidence of disease and ailments developments in surgical and medical techniques might, in a short space of time, alter the requirements of space and equipment in the department. Consequently it was decided to use light-weight flush partitions, which could be moved quickly, cleanly and economically,



2



3, part of the west facade and main entrance porch.

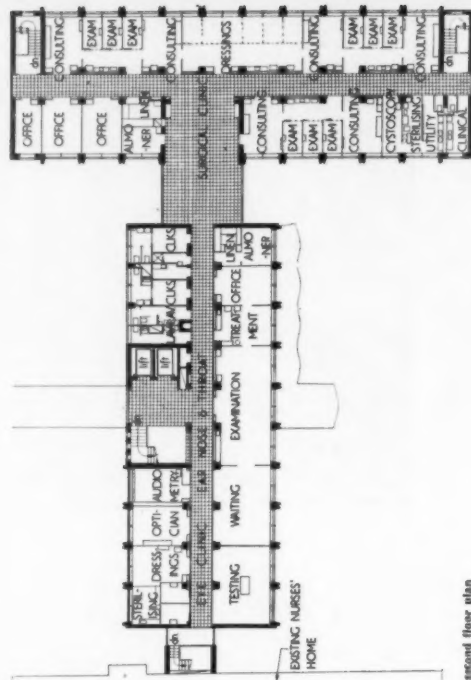
and be easily stored. Partitions of laminated cellular plastic were chosen as most suitable to fulfil these requirements. The planning module of 11 feet 6 inches was used because it is a suitable width for a consulting room and its moiety, 5 feet 9 inches, is just sufficient for an examination cubicle. The orthopaedic clinic required a long open space for the examination of patients walking and cubicles formed merely by curtains, so that the surgeon could pass rapidly from one to another. In contrast, the gynaecological clinic required cubicles for changing in.

Originally the superstructure was designed as a reinforced concrete frame, the centres of the columns at 11 feet 6 inches in the longitudinal direction and 16 feet, 8 feet and 16 feet across the blocks. Although the project was to be a three-storey building, all members were calculated so that an additional three storeys could be added later. Floors were to be normal hollow-tile type, 15 inches deep. It became impossible to obtain steel when all foundations for the extension had been laid. The design was revised, using the existing foundations, and brick piers of engineering bricks and a small quantity of steel reinforcement were designed in place of the reinforced concrete columns. Prestressed floors were sub-

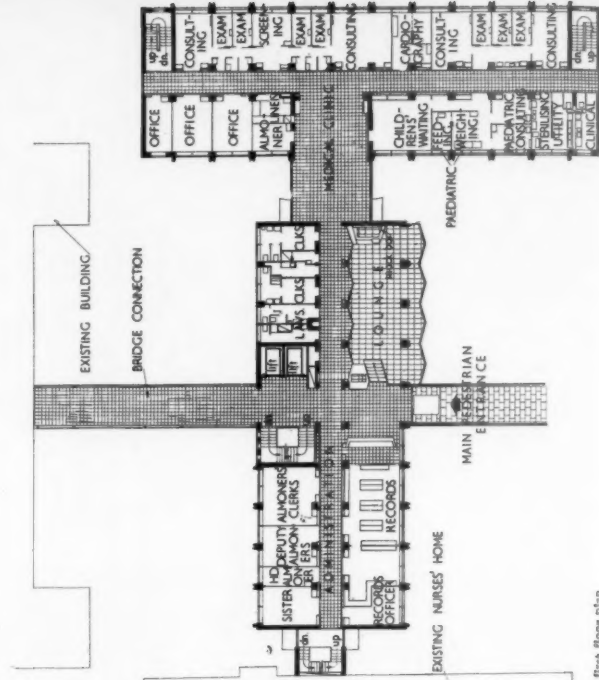
stituted for the original reinforced concrete floors on the wider spans, and hollow tiles were incorporated between the prestressed planks with in situ infilling, so that reinforcing from columns and lintels could be bent over and tied in. By this method uninterrupted flat ceilings were preserved. Prestressed floors were not used over corridors, but a saving in reinforcement was made by the use of high tensile, square, twisted reinforcing bars, having a working stress of 27,000 lb. per square inch, as against 18,000 lb. in ordinary mild steel bars. The extra girth and weight of the piers would have been impracticable had not the original foundations been designed for future extra loading. The possibility, however, of future extension upwards is now impracticable.

Almost the entire internal partitioning is in laminated plastic sheeting as are the doors in these walls. All partitions are white and only the doors are in the appropriate clinical shade. The colour code for the various parts of the building is as follows: administration, brown; surgical clinic, green; medical clinic, blue; orthopaedic and gynaecological clinics, yellow; eye and ENT clinics, grey-green; chest clinic, salmon. To relieve the large areas of plastic sheeting internally, there is wall panelling in places in abura and iron.

Hospital Extension at Balham, London



second floor plan



first floor plan

NEW EXTENSION TO REMAINING OF HOSPITAL IN OLD BUILDING

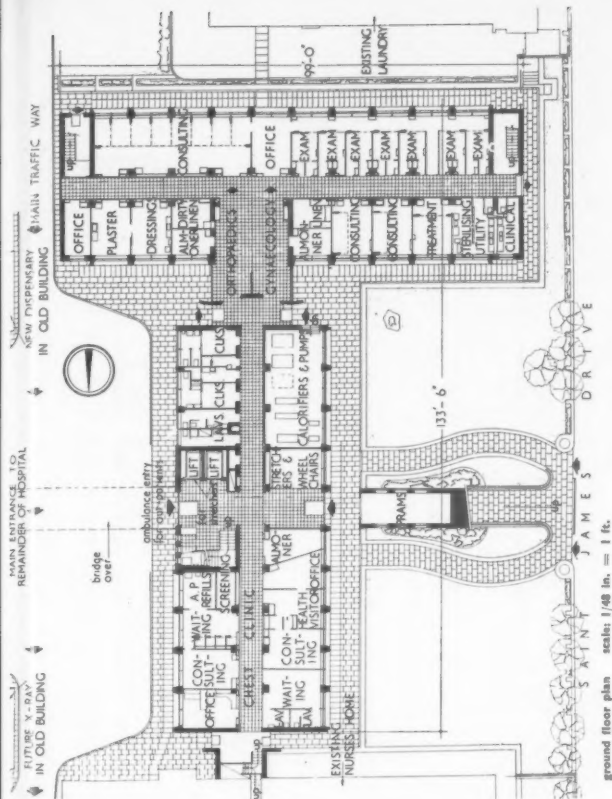
NEW EXTENSION TO REMAINING OF HOSPITAL IN OLD BUILDING

there is wall panelling in places in abura and irola.

concrete columns. Prestressed floors were sub-



Interior of the 60-foot bridge connection to the old building.



EALING TECHNICAL COLLEGE EXTENSION, MIDDLESEX

COUNTY ARCHITECT: C. G. STILLMAN

The site of the extension to the Ealing Technical College and School of Art is bounded by St. Mary's Road on the west and by Warwick Road on the south. To the north are the gardens of the vicarage and the original college buildings are to the north-east. Although Warwick Road is residential, it carries a considerable volume of traffic and both roads are scheduled for widening. The eastern end of the site has been left vacant for future development.

The foundations of an earlier scheme laid down before the last war incorporated a basement subsequently used as an air-raid shelter. After the



5, general view of the extension from the south-west, 6, the fourth floor art room.

Ealing Technical College Extension, Middlesex

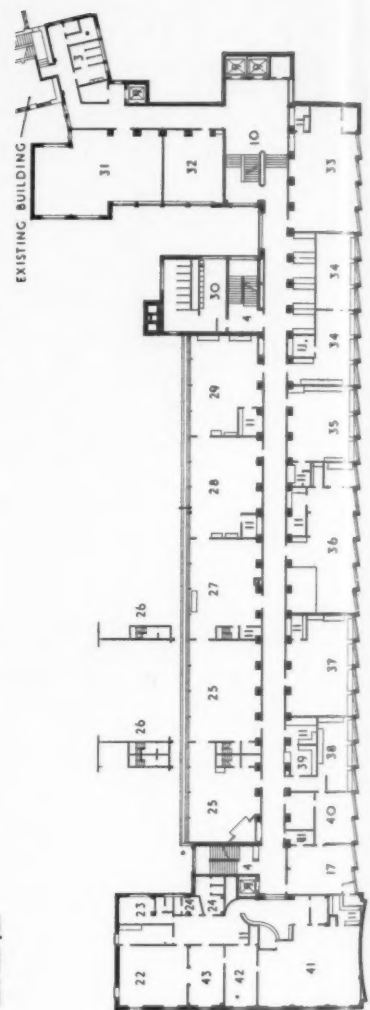
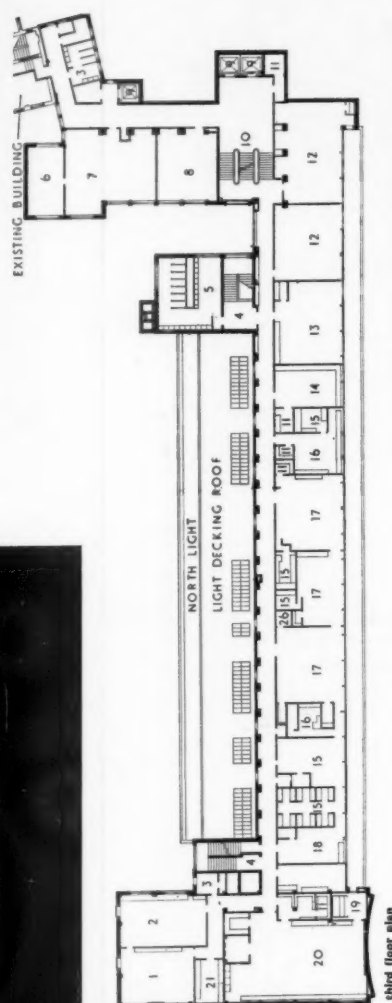


7, south facade of the main wing of the new extension.

war the schedule of accommodation was extended and modified but the buildings were made to conform to the existing foundations. To meet the additional requirements of the post-war scheme, an extra floor was added to the main block. The heating chamber and fuel store are situated under the car park, and the basement contains maintenance workshops, stores, switch and battery rooms and cycle stores.

The extension has a reinforced concrete frame with the exception of the top floor of the main block, which has a RSJ portal frame and a flat roof of asbestos cement decking. Walls are of cavity brick construction with a 4½-inch outer skin and a 9-inch inner skin. Main partitions are of 4½-inch brick.

The St. Mary's Road elevation is faced with 2½-inch hand-made, sand-faced, multi-coloured Buckinghamshire bricks. Copings are of Clipsham stone, window surrounds of travertine columns caused in precast terrazzo and steps are of artificial

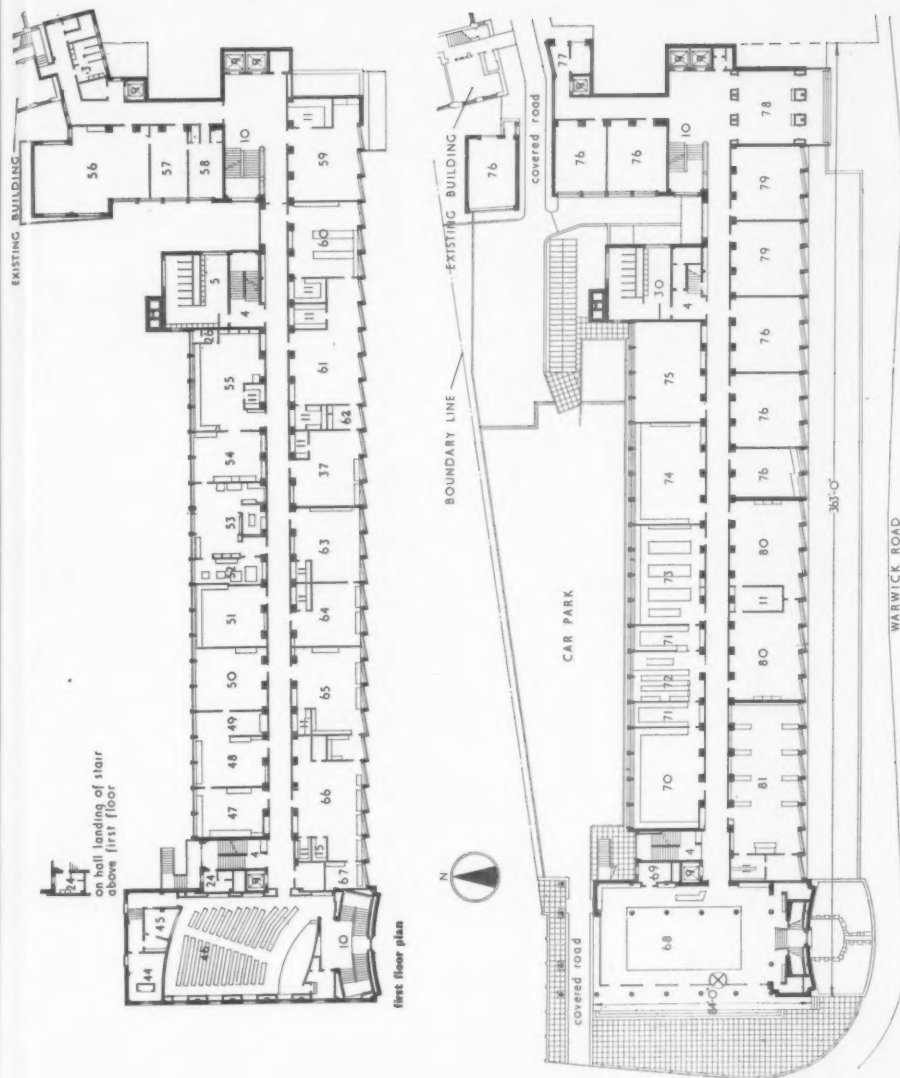


granite. Most of the south façade is finished with dark red rendering and 1-inch wide vertical travertine strips. (The serrated plan of this wall is designed to break up the very long façade and also the western sun is cut off earlier in this design.) The plinth is of artificial granite. Internally, walls are finished with plaster or fair-faced brick and floor finishes include wood blocks with wide granolithic margins in craft rooms, thermoplastic tiles in classrooms, and cork tiles with granolithic margins in corridors.

Heating is by low-pressure accelerated hot water from coke-burning mild-steel boilers. The lecture theatre and dark rooms are artificially ventilated. Generally, there is a duct over each corridor and vertical ducts form part of the casings to columns on either side of the corridor. There are four lifts, one being a goods-passenger lift available for the caretaker's flat.



8, staircase leading from the ground floor exhibition hall to the first floor lecture theatre.



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

- Key
- 1, art staff common room.
 - 2, art staff studio.
 - 3, staff lavatory.
 - 4, escape stair.
 - 5, escape stair.
 - 6, marking room.
 - 7, staff common room.
 - 8, classroom.
 - 10, staircase.
 - 11, store.
 - 12, typewriting.
 - 13, general drawing.
 - 14, silverprinting.
 - 15, dark room.
 - 16, photo processing.
 - 17, studio.
 - 18, photo finishing.
 - 19, spray booth.
 - 20, writing.
 - 21, frame room.
 - 22, rest room.
 - 23, rest room.
 - 24, lavatory.
 - 25, life studio.
 - 26, mural painting room.
 - 27, mural painting studio.
 - 28, drawing studio.
 - 29, still life studio.
 - 30, female students' lavatory.
 - 31, students' common room.
 - 32, staff dining room.
 - 33, general craft.
 - 34, bookbinding.
 - 35, bookbinding.
 - 36, model and cabinet making.
 - 37, model and cabinet making.
 - 38, sales.
 - 39, art work.
 - 40, art head.
 - 41, art head.
 - 42, secretary.
 - 43, principal.
 - 44, principal.
 - 45, lecture theatre.
 - 46, lecture theatre.
 - 47, etching.
 - 48, etching.
 - 49, printing.
 - 50, lithography.
 - 51, stone carving.
 - 52, stone carving.
 - 53, pottery.
 - 54, casting.
 - 55, modelling.
 - 56, office organization.
 - 57, commerce research.
 - 58, commerce head.
 - 59, commerce head.
 - 60, millinery.
 - 61, dressmaking.
 - 62, fitting room.
 - 63, needlework.
 - 64, machine embroidery.
 - 65, machine embroidery.
 - 66, printed textiles.
 - 67, research.
 - 68, exhibition hall.
 - 69, physics laboratory.
 - 70, physics laboratory.
 - 71, preparation.
 - 72, demonstration.
 - 73, biology.
 - 74, biology.
 - 75, transport demonstration.
 - 76, classroom.
 - 77, goods entry.
 - 78, entrance hall.
 - 79, entrance hall.
 - 80, geography.
 - 81, library.



9, general view of the ground floor library.



The new Museum of Modern Art in Rio de Janeiro, Brazil, as projected by Affonso Reidy, will be the first specially-designed building of the 'live museum' type in the world, and its site, between the Avenida Perimetral and the waters of the Bay of Rio, will throw its low spreading forms into sharp contrast with the characteristic tall narrow buildings of the Rio waterfront, as the lower photomontage of the model shows, opposite, while the view in the other direction, from the windows of those tall narrow blocks, will set its precise and angular geometry against the swelling contours of the famous Sugar-loaf Mountain.

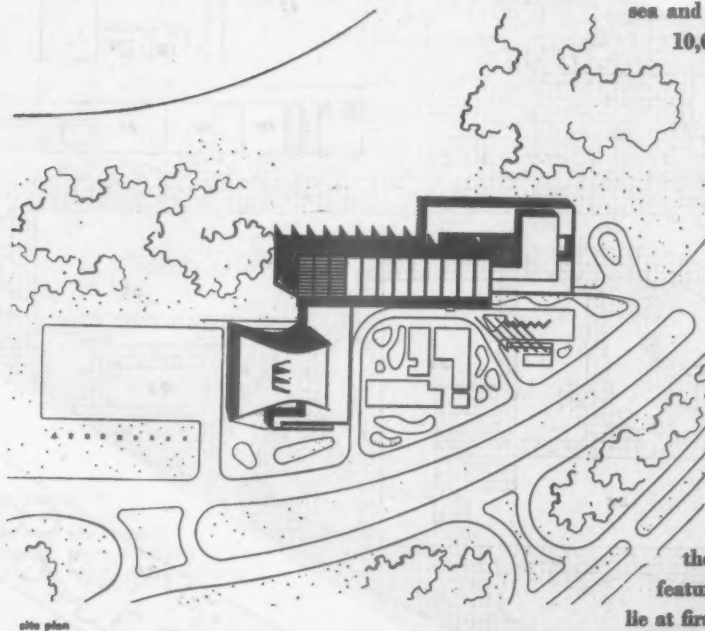
RIO DE JANEIRO

MUSEUM OF MODERN ART

AFFONSO EDUARDO REIDY: ARCHITECT

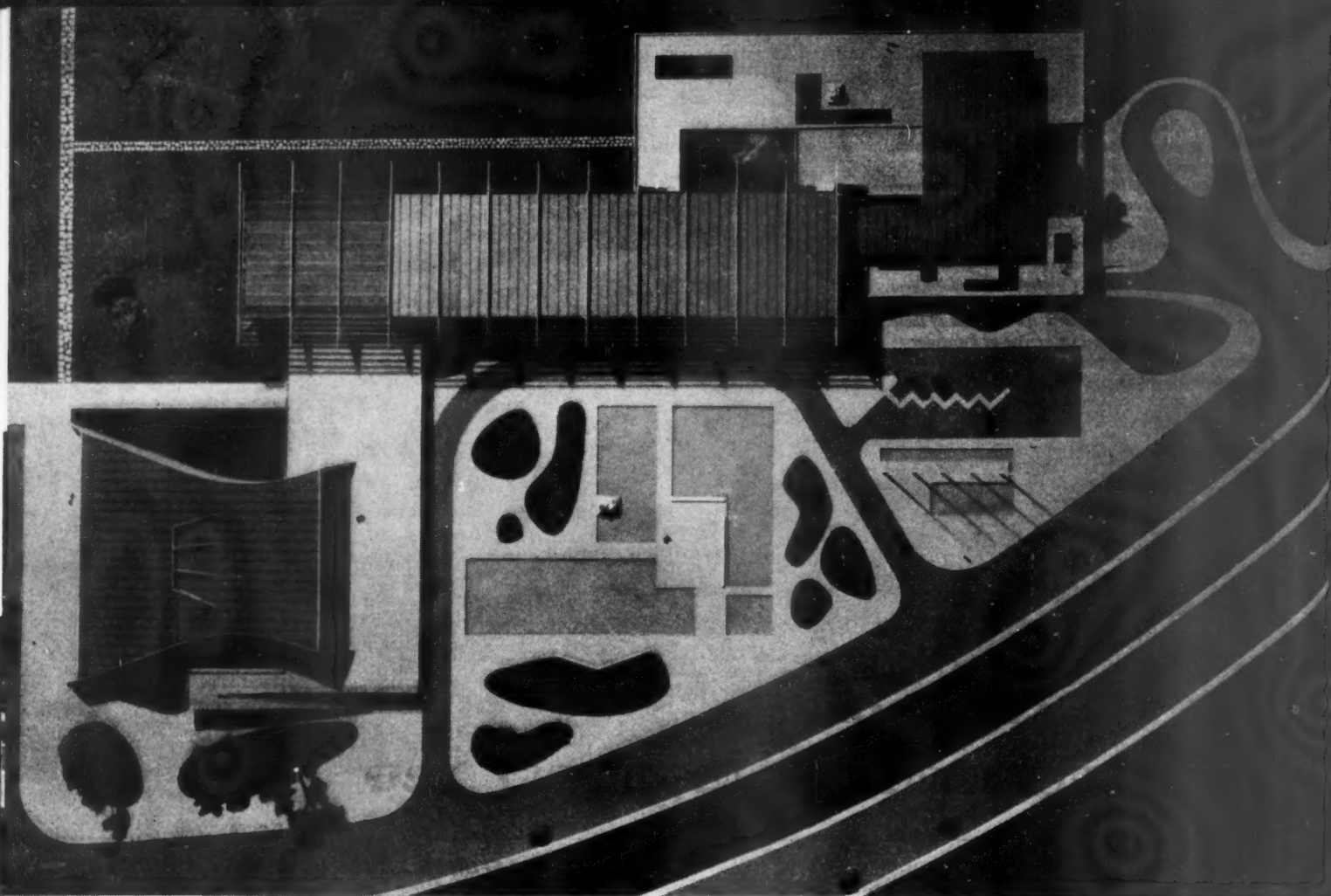
As is often the case, a combination of circumstances had created all the activities which constitute the Museum of Modern Art in Rio, but had left them unhoused. The nucleus of a substantial collection of modern painting existed, loan exhibitions and touring shows had been presented, ancillary activities were proceeding on so large a scale that they have had an important influence on the design of the new buildings, and a considerable public interest could be appreciated by the large attendances at all these functions.

The Museum's new seat was established by a Presidential decree which recognized that such an institution was a necessary public utility, the municipality of Rio made a donation of land—a fine site between the sea and the Avenida Perimetral—and funds of about Crs. 10,000,000 were placed at the disposal of the director, Niomar Sodré.

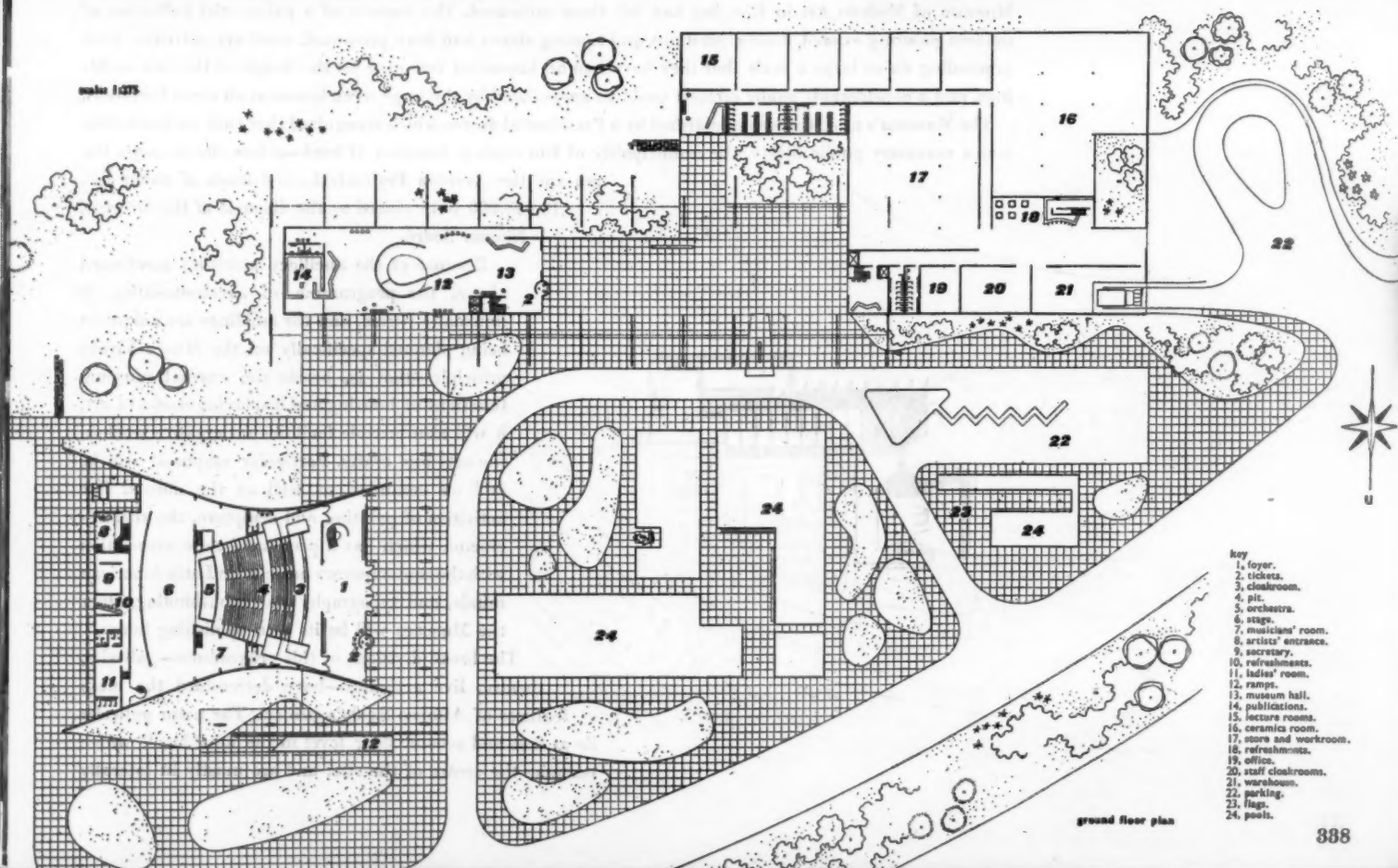


Because of the ancillary activities mentioned above, the programme of accommodation is unusually varied, and the buildings are unique in being planned specifically on the Musée Vivant principle—that is, beside the normal museum functions of housing and displaying works of art, it will also provide facilities for creative work in the arts and crafts. Particular emphasis will be laid on ceramics, as well as the normal live activities of painting and sculpture, the theatre-cinema which has a peculiarly close association with the contemporary museum in Latin American minds, and typography and book-binding, since the Museum will be its own publishing house.

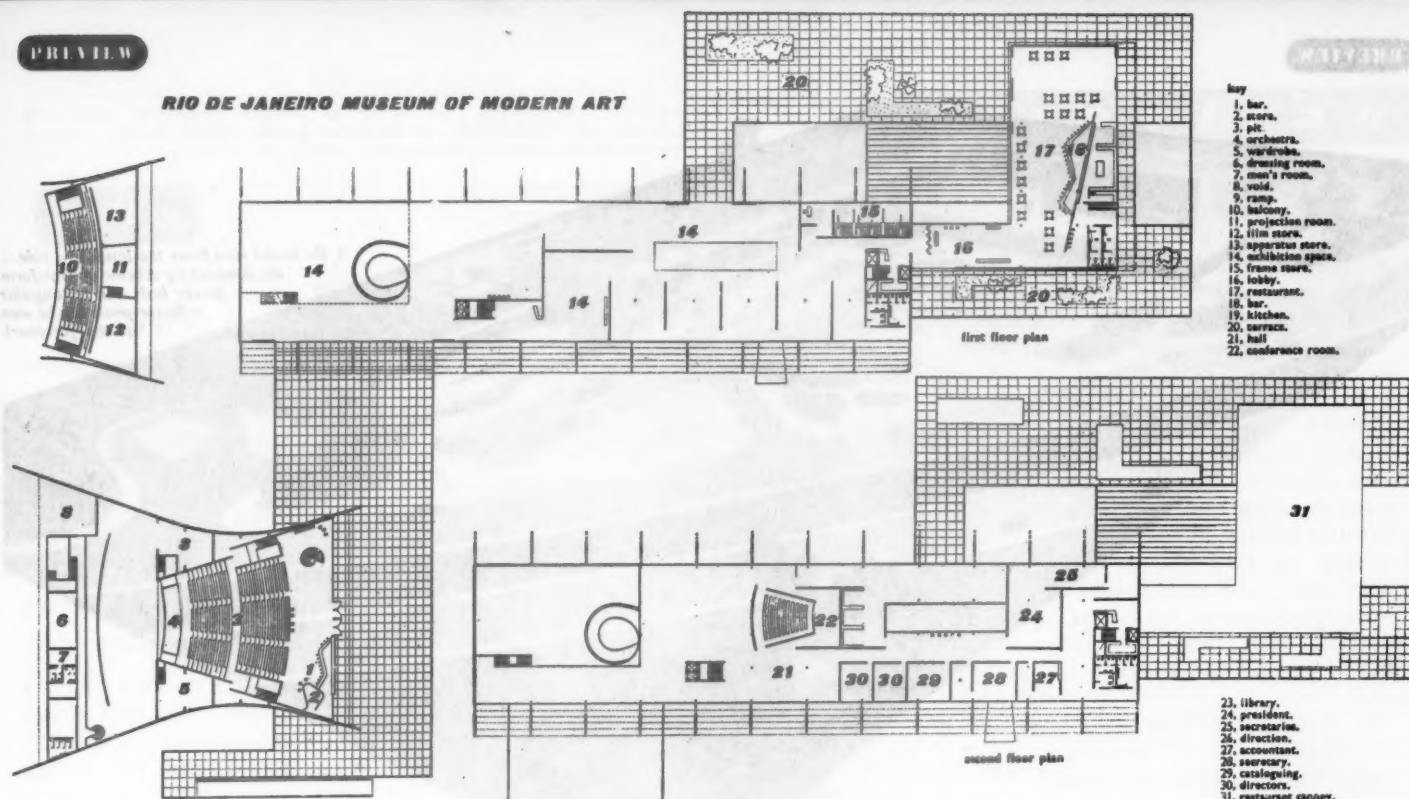
The broad divisions of this programme—galleries, theatre, live activities—have determined the main features of Affonso Reidy's project. The main galleries lie at first and second floor level in the long block which occupies the centre of the site, and are mostly lit laterally



1, photograph of the model, to the same scale as the plan below.

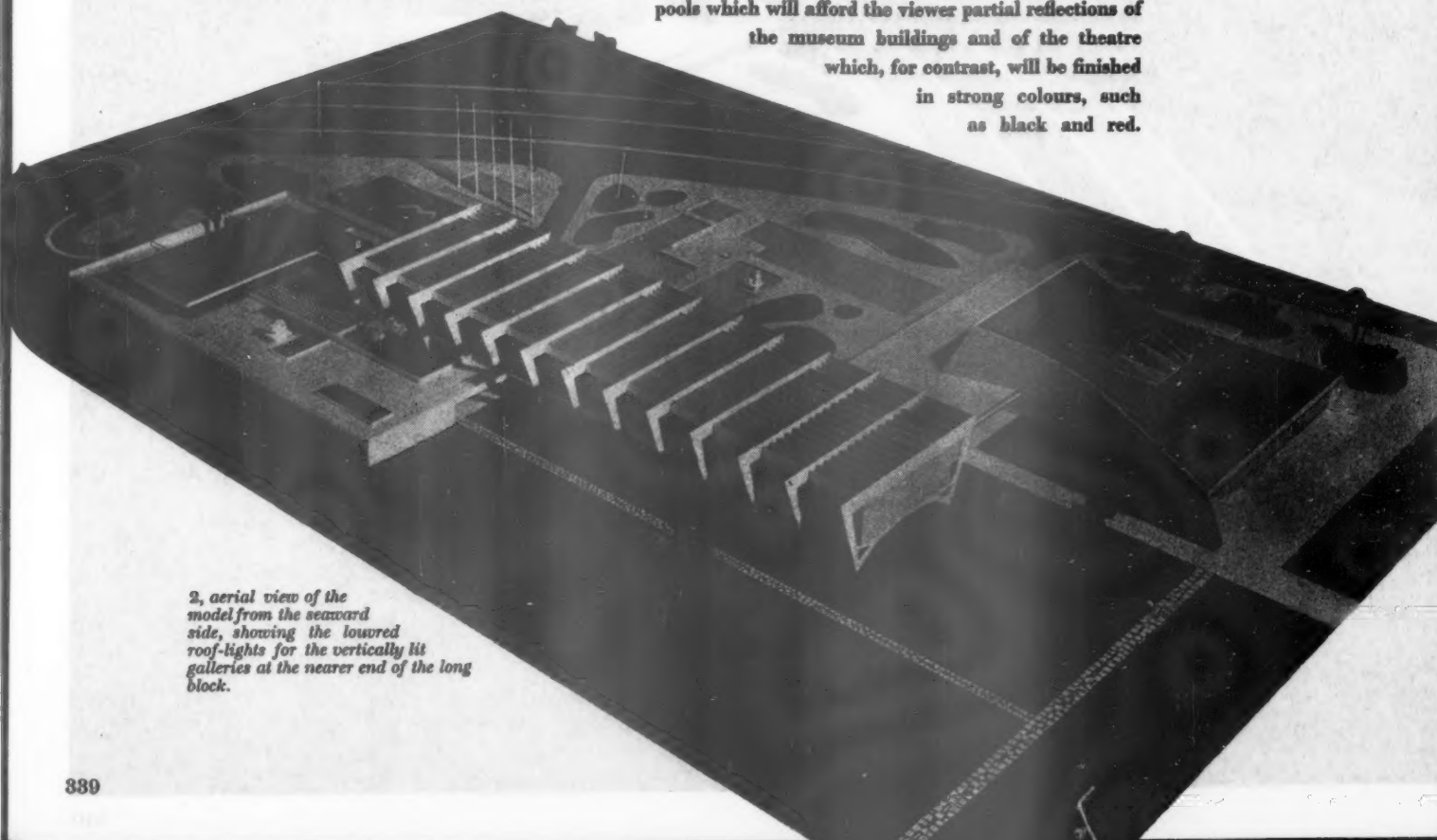


RIO DE JANEIRO MUSEUM OF MODERN ART



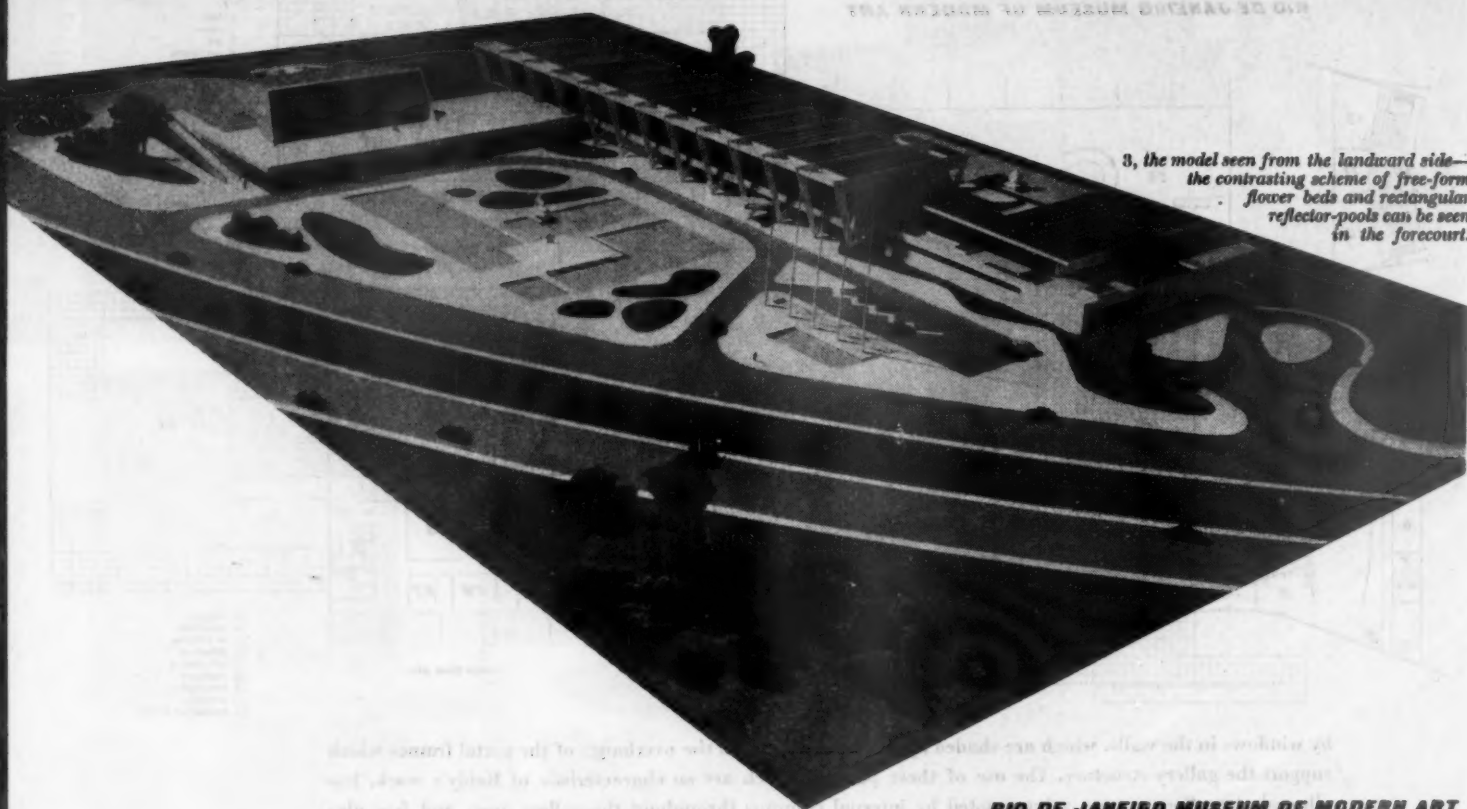
by windows in the walls, which are shaded by the sun-breakers in the overhangs of the portal frames which support the gallery structure. The use of these portals, which are so characteristic of Reidy's work, has allowed clear floor spaces uninterrupted by internal columns throughout the gallery area, and has also simplified the arrangement of the baffles and top-lights for the very high gallery with vertical day-lighting at the end of the block. Near this end of the gallery block is the theatre-cinema, connected to the main structure only by walk-ways, while under the other end, at ground level, are the ancillary accommodation, the facilities for live activities, and a restaurant.

The facing material for most of the museum structure will probably be a rich local marble, and the garden on the south side, which is to be the work of Roberto Burle Marx, will include a series of rectangular pools which will afford the viewer partial reflections of the museum buildings and of the theatre which, for contrast, will be finished in strong colours, such as black and red.



2, aerial view of the model from the seaward side, showing the loured roof-lights for the vertically lit galleries at the nearer end of the long block.

THE MUSEUM OF MODERN ART, RIO DE JANEIRO



3, the model seen from the landward side—the contrasting scheme of free-form flower beds and rectangular reflector-pools can be seen in the forecourt.

RIO DE JANEIRO MUSEUM OF MODERN ART

4, view from south-west showing green courts and light wells in the work-room and teaching block.



MEMOIR

AUGUSTE PERRET

Auguste Perret, the veteran French architect, died in February at the age of 80. An estimate of his great contribution to the development of modern architecture was recently published in the REVIEW. To supplement this, the following personal memoir is contributed by Ernő Goldfinger, who was a pupil in his atelier thirty years ago. It was in 1923, when French architecture, as represented by the Academy and the Beaux Arts, had reached its lowest ebb, that about a dozen pupils from various ateliers used to meet and bemoan the sad state of affairs. Le Corbusier had just collated his articles from *L'Esprit Nouveau* in the book entitled *Vers une Architecture*, and had just about built his first villa at the Parque Montsouris. There were some magazines showing Frank Lloyd Wright's buildings, Oud had built workers' settlements in Holland, and there were some illustrations of the Gropius factory at the 1914 Cologne Exhibition. Josef Hoffman was teaching in Austria.*

At the Beaux Arts everything was dead. All this stirring of modern architecture was ridiculed. The pompous projects for subjects like 'a Governor's Palace in Annam' or 'a French Embassy in Central America,' were just so many exercises in the application of the orders. In the country of the *Galerie des Machines* and of Labrousse, steel or reinforced concrete structures were simply ignored. We felt that something had to be done, and went to see Le Corbusier in the rue d'Astorg. It was he who sent us to see Auguste.

We also talked matters over with Adolf Loos, who held court every evening in the Café du Dome, and we weighed up whether we should ask Le Corbusier or Perret to teach us architecture. It was Adolf Loos who said: 'When you come to Paris you come to learn French, not Esperanto.' This was perhaps a bit unkind, but Le Corbusier was still very young and anyway he would not have us as pupils.

Although the Beaux Arts is a pompous and unwieldy body its ateliers are freely and democratically organized and run

entirely by the students, who are free to choose their teacher. In practice, however, the teachers or *chefs d'ateliers* are chosen from among the members of the Beaux Arts jury, and the pupils of other masters have only a very slender chance of success, since, although projects are sent in anonymously, the *chefs d'ateliers* automatically stand up for their own pupils' work.

Perret installed us in the Palais du Bois, that magnificent, now forgotten, exhibition building at the Porte Maillot, overlooking the Bois de Boulogne, and from here he led us in a heroic battle for modern architecture. Project after project was refused by the Beaux Arts jury, and project after project was sent in again with



crowds debating it, admiring it and ridiculing it at the exhibitions. Every Tuesday afternoon and every Friday afternoon the 'little man' with his white beard (he was in his early fifties then), his high-heeled shoes (Auguste Perret was short and always wore very high heels to add a few centimetres) and his dark blue and white boater came and corrected and discussed, month after month, year after year, talking about the Parthenon, the mosques of Constantinople, the cathedrals and always about 'tectonic truth.' Most of us worked in architects' offices, but every Tuesday and Friday we came religiously to lap up the *patron's* sayings.

He had just built his church of Notre Dame du Raincy, and was building his tower at Grenoble and, of course, his theatre at the international exhibition of 1925. His 'crits' were always extremely broad-minded and to the point; he never imposed his stylistic mannerisms. His famous saying *une belle architecture est une architecture qui fera une belle ruine* sums up his belief in the beauty of the concrete skeleton.

This first *Atelier Perret* at the Beaux Arts ceased to exist around 1930, and although Perret's reputation grew more and

more, the Academy continued to ignore him. It was only during the turmoils of the last war that he achieved national recognition. He was made an academician, a professor and a member of the jury of the Beaux Arts, and it was after the war that he received the Gold Medal of the RIBA, and a few years later the Gold Medal of the American Institute of Architects.

Auguste Perret was the son of a mason who took part in the Commune of Paris in 1871, was condemned to death, and took refuge in Brussels, where Auguste was born in 1874, and his brother Gustave in 1876. It was only after the general amnesty of 1880 that the family came back to Paris. At the age of sixteen Auguste was accepted at the Beaux Arts—twenty-second in the *concours* amongst 700 candidates.

In spite of a brilliant career at the Beaux Arts in the *atelier* of Guadet, he never obtained the diploma (DPLG), and thus from the point of view of official architecture simply was not an architect. He entered his father's business, who by now was a contractor, with his brothers Gustave and Claude. In this set-up Auguste was always the architect, Gustave the contractor and Claude the business man. Although the architectural side of the business was kept strictly apart from the contracting side, the Perret brothers prided themselves that if somebody came to them for a building, they could design and quote and carry out the work for a guaranteed price with no extras, and although Auguste Perret later (in the 1940's) became president of the newly created *ordre des Architectes*, which strictly forbids the collusion between contractor and architect, the Perret Frères carried on as before.

Ernő Goldfinger

CRITICISM

THE HIGH FLAT BLOCK

The problems posed by the increasingly bulky type of building which contemporary needs seem to demand were discussed in the introductory article to the Preview number of the REVIEW, published in January. There the distinction was drawn between the traditional large building—such as a public building or a cathedral—of which the parts are themselves large, and the modern, which is large only because the relatively small parts of which it is composed are multiplied almost indefinitely. The city office

* AR, August, 1953: *The Doctrine of Auguste Perret*, by Peter Collins.

block was given as an example of the latter. Another is the block of flats, and the point was made that each of these presents new problems of assimilation into the urban scene because they cannot claim the right to dominate it by virtue of their purpose.

They also present new visual problems. One of these is their skyline, their shape in silhouette, which is rendered specially important in the case of flats because they tend to be built, for example in new housing estates, where they rise high above surrounding development, so that their upper storeys are very conspicuous. Three recently completed housing schemes in London, Birmingham and Glasgow reveal this problem clearly. Put crudely, the question they illustrate is this: when a building that is composed of identical units—window-openings, balconies and so on—repeated one above the other, reaches the top, should it simply stop or should it be finished off with some treatment designed better to satisfy the eye? If the answer is the latter, a new problem arises: when the architectural character of a modern building depends on the frank acceptance of a repeated pattern, some more appropriate way of finishing it at the top must be found than changing the pattern in order to conform to some humanistic idea of a balanced composition, which would deny the whole aesthetic basis of the design.

In Joseph Emberton's Finsbury flats, 1, the building just stops. It must be said



frankly that the effect is crude, though possibly it would appear less so if the detailing was not so crude and meagre as well. For in other places a satisfactory effect has been achieved without adding a new element to the rhythmic repetition of such a pattern—for example in recent American buildings like the Mies van der

Rohe Lake Shore Drive apartments in Chicago. Perhaps it is simply a matter of proportion and refinement of detail.

This note only poses the question. It does not pretend to answer it. But the other two flat blocks illustrated at least show that there are alternative treatments. The Birmingham flats (by S. N. Cooke and Partners), 2, take the sculptural approach, giving a sense of modelling to the top of the building by varying the height of different sections and bringing the staircase towers up above roof-level. The detail of this block, too, is a little heavy, but a vigorous



silhouette is achieved. This answer, however, is only possible when the building has some complexity of shape in plan.

In the Glasgow flats (by A. G. Jury, the city architect), 3, we have a plain slab block and the problem at its most difficult. Yet here the answer seems to be the most satisfactory of the three. The high parapet gives a fairly solid termination to the wall surface and is agreeably related to the solid



walling at either end of the block (I repeat—the problem seems to a great extent to be one of proportion); more important, the tiers of balconies are echoed but not imitated by the hoods over the stairheads on the roof. This is an uncompromising solution, but not an inelegant one.

None of these examples is based, as are many American ones, on the structural (as distinct from the fenestration) pattern, and it is possible that only by allowing the former to dominate (compare again Mies van der Rohe) can a multi-cellular building achieve an external rhythm acceptable to the eye as a pattern complete in itself.

But as an argument against so frank an expression of the structural framework it may be mentioned that the buildings illustrated, unsatisfactory in varying degrees though their skylines may be, have at least avoided the unsightly display of water-tanks, lift-motor housing and other excrescences that at one time invariably caused tall buildings to look much less attractive than their architects' perspectives.

This is a negative achievement. A more positive one would be, instead of hiding these excrescences, to make something out of them—perhaps even to make them solve the very problem of silhouette posed here, as in the UN building, where the all-over pattern slightly changes its rhythm at the top to take the form of a cage in which the roof structures are enclosed, or in the Le Corbusier flats at Marseilles where the whole building is given an exciting silhouette by the carefully sculptured forms of the concrete roof structures.

J. M. Richards

EXHIBITIONS

PAINTING

Raymond Mason, an English sculptor who lives and works in Paris, is more sensitive to architecture than to the human figure, and if his plaster and terracotta reliefs of buildings and street scenes at the Beaux Arts Gallery remain disconcertingly ugly even after one has discovered that they are subtle and mysterious studies in recession, it is because he persistently clutters his foregrounds with banal figures and inert objects. The living areas of his work usually begin in the middle distance, at the approaches to buildings, and they draw one without warning into a moment of past time in a place unknown, where a future which has already occurred is masked by a blind door. The terracotta on the facing page, 1, has been spared the heavy-handed foreground of figures and objects, and is vibrant with ennui and trepidation. Mason has cut into the slab to a depth of about one inch, and the series of actual set-downs lends an amazing palpability to the illusion of deep space. The shadow which John Underwood has cast into this work to obtain his remarkable photograph falls between and around the coarsely conceived figures, stirring them into life, and it reveals the depths within depths more effectively than the work itself can do under ordinary gallery lighting.

James Cant's paintings, recently at the Mayor Gallery, show London street scenes



that would be unendurably grim and depressing if the soot-grimed houses and bridges, 2, were denied their rich, dark, mitigating shadows. Some day, a little book will have to be written on the romantic uses of the cast shadow: in Cant's paintings it transforms bleak social documents into poetic dirges for the passing of the Railway Age.

I cannot say much about Pierre Dumont after reading the anonymous preface in the very handsome catalogue of the exhibition of his paintings at the Redfern Gallery. Everything is said there to induce



us to receive him as a master: the desperate wrestlings with his art, the poverty, the leadership of new groups, the violence and passion, the physical and mental illnesses—nothing has been forgotten, not even the right kind of funeral ('only a small handful of mourners followed the funeral procession'). Until now, he was for me simply a name in a confused and ridiculous list of cubist painters compiled by Apollinaire. Now I know that he was never a cubist, that he died in 1986, and that he is having his brief posthumous day. The picture illustrated, 3, is one of the paint-

ings of Cathedrals which 'won him the adulation of Monet and the praise of Flaubert.'

Ruszkowski has been holding his third exhibition at Roland, Browse and



Delbanco. He is a quietly exultant painter, not much concerned with originality but so intent upon registering his response to light that he produces unexpected and original juxtapositions of colours almost as a matter of course. The most successful of his recent pictures—*Nude in Bath*, *Anna in the Swimming Pool* and *Interior in Cyprus*, 4, reflect his admiration of Bonnard, but they do not put him heavily in debt.

The anthology of Recent British Drawings at the ICA, chosen by David Sylvester, was catholic and idiosyncratic. Mr. Sylvester tried out yet another of the competent Slade students over whom he keeps so watchful an eye, and he found room for demonstrations of a new academic

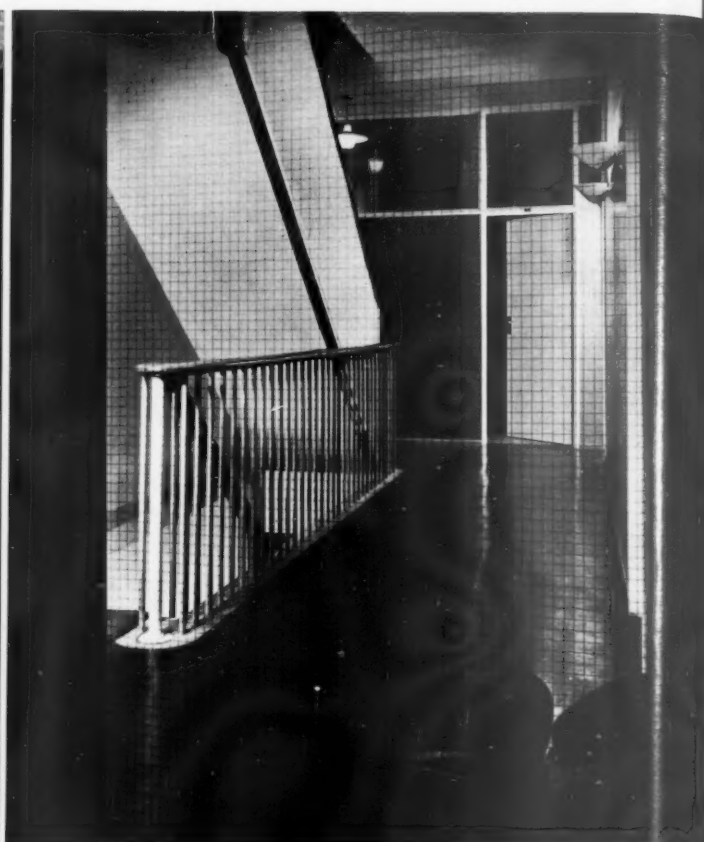


system and for a curious attempt to extract a drawing style from the paintings of Bacon. He also included fine still life drawings by Matthew Smith, some difficult little sketches of a child by Henry Moore, two blazing watercolour studies for Sutherland's large painting of 'Men Walking,' and excellent groups of drawings by Edouardo Paolozzi and Kenneth Armitage. I understand that Paolozzi, in common with some young architects, now calls himself a 'brutalist,' but his drawing of a man with a raised arm, 5, was not only the most inventive, but the most exquisite and refined work in the show. The Armitage drawing of a seated woman, 6, is typical of his recent researches. These square torsos have not yet appeared in any sculpture he has exhibited, and his next show of bronzes should be a very interesting event.

Robert Melville



5, 6

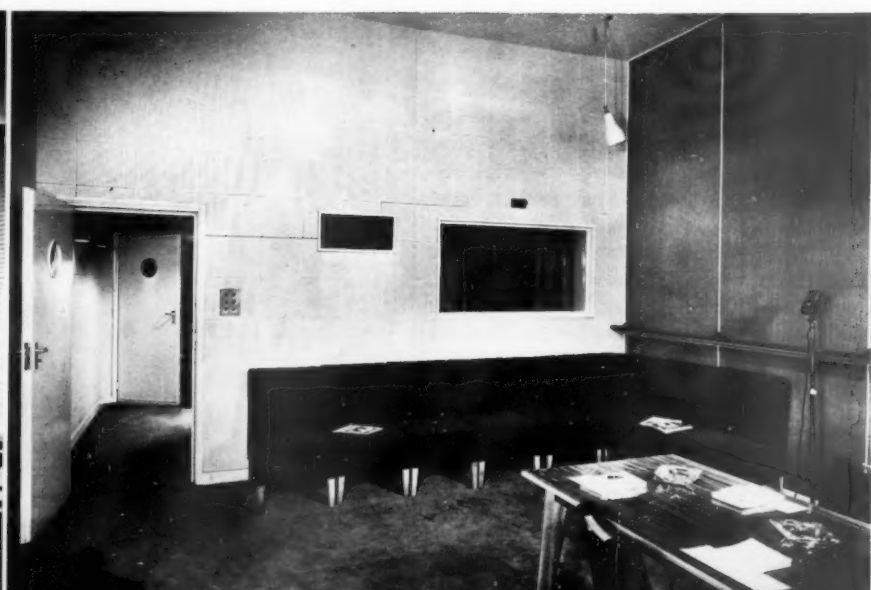


1, entrance lobby to the offices and studio for an advertising agency in High Holborn, London, a conversion of an existing building by Max Lock and Associates. 2, the good floor reception area and 3, the first floor directors' corridor.

interiors: two conversions for advertising



4, view through the sound-proof observation window of the control room to the studio which has been planned in the existing premises of an advertising agency in St. Martin's Lane, London. 5, general view of the studio.



INTERIORS

TWO CONVERSIONS FOR ADVERTISING

Both these interiors, by Max Lock and Associates,* are for advertising agencies. The first was a conversion of an existing building into offices and a studio; the second the conversion of offices into a recording and projection studio. The requirements in the first case were: a boiler room and storage space (basement); telephonists' and porters' rooms, and reception and delivery areas (ground floor); offices (first, second and third floors); and a studio (fourth floor). The reception area had to allow for an entrance lobby, receptionist's room and waiting area. As it was not possible to move the existing lift from the rear to the front of the building a wide strip of grey rubber flooring has been carried through from entrance to lift lobbies with only plate doors and screen between, 1. The existing straight flight staircase was replaced by a new one with a quarter landing to increase the size of the entrance lobby. Entrance hall and reception area walls are plastered and painted blue-grey and pale yellow; the side wall is papered, the motif consisting of black and white intersecting lines on a grey ground, 2. The ceiling is white and the floor covered with grey rubber tiles: the reception area carpet is red. Radiator casings have white painted hardwood framing with inset panels of reeded asbestos painted yellow. Curtains are grey with a white, red and black pattern. The chair upholstery is black with white flecks.

The offices on three floors are arranged around the external walls with circulation passages and stairs on the inside of the building. Each floor has its distinctive colour scheme but circulation areas, 3, have the same greys, yellows and spots of red. All lino is dark green.

In the second conversion a multi-purpose studio was required for making and playing back voice recordings and showing films, which could also be used for conferences, small exhibitions and meeting clients. One existing office and part of another on the ground floor were chosen because of their partial isolation from the main building. A studio, playback and control room, and an entrance corridor were provided, the latter serving to increase the effectiveness of the insulation. Two leaves of 3 in. clinker block walls with 2 in. cavity, seated on cork insulation and having one internal face cement rendered, isolate the rooms from

each other and the rest of the building. All openings were packed round with 6 inches of cork, and the observation window between control room and studio, 5, is double glazed with $\frac{1}{4}$ inch plate and 32 oz. sheet glass. The door to the control room slides and is sound-proofed with rubber and felt seals. The rear wall and right-hand side wall of the studio, 6, are of $\frac{1}{8}$ inch acoustic tile on screed, and the ceiling is lined and painted to act as a reflecting surface. The left-hand wall is plastered and finished with a heavy red purple fabric, allowing display boards to be pinned to it. The acoustic tiles and ceiling are painted with pale yellow emulsion paint. The plaster either side of the screen panel, seen through the observation window in 5, is painted blue-grey; timber strips and framing are white. The studio carpet is blue-grey; the upholstering of the chairs deep red with a white spot.

S.E.D.

BOOKS

AMERICA STILL BUILDING

BUILT IN USA: POST-WAR ARCHITECTURE. By H. R. Hitchcock and A. Drexler. Museum for Museum of Modern Art, New York. \$4.50.

Knowing the course of twentieth-century architecture is hardly necessary for the recognition of the theme implicit in this book, which derives from a recent exhibition at the Museum of Modern Art, New York. The quality of contemporary American architecture—in individual buildings—is established by those to which the exhibition gave greatest prominence: Wright's Johnson Wax Tower and V. C. Morris Store, Mies' 860 Lake Shore Drive Apartments, the Saarinen's General Motors Technical Center, Lever House, and the United Nations Secretariat.

The initial impression of quality is affirmed on comparison with the previous book *Built in USA: 1932-1944*, which was also based on an exhibition. Then, the emphasis was on liberation from the geometry of the early, purist phase of the International Style. An effort was made to include buildings of diverse types, from diverse regions. Now, the sole criteria for inclusion in the exhibition, according to Henry-Russell Hitchcock's catalogue introduction, are 'quality and significance of the moment.' Sociological considerations have been largely cast aside in favour of the dictates of taste and structural ingenuity. The revolution is assumed to have been won.

One is inclined to believe that this assumption is correct. A few buildings (mentioned above) are perhaps truly distinguished. A few (mentioned below) are experimental. The rest, not very exciting, represent solid achievement. At least for the moment, American architecture has established its norms, though general practice will lag (not too far) behind.

Several factors contribute to the impression that exhibition and book represent a summing up rather than a statement in transition. For one, the previous exaggerations have been eliminated. West Coast architecture seems not as prominent as it once was, particularly in the residential field, though John Yeon's Portland Information Center of 1949 exemplifies the pavilion quality which has characterized so much wooden architecture from that region. The Gropius-Breuer school of the North-east has solidified its influence, and is well represented not only by the hands of its founders, but in a splendid small house by John Johansen, built for himself in 1949.

A second factor centres in the work of Mies van der Rohe. The Farnsworth house of 1950 is so sophisticated an exponent of spatial and structural clarity as to force all criticism to the level of fundamental design theory. I am reminded of Mies' early experiments with axial planning. The extension of those axes, in this case to infinity, creates a static space. The same principle underlies two buildings by Philip Johnson, his own house, of 1949, and a house for Richard Hodgson, of 1951. Particularly in the latter, one experiences an inversion of Quattrocento theory. Though the entrance is punched into the centre of an impassive brick façade, and a courtyard forms a focus of the plan, its glass walls deny the impervious, mural clarity of a Florentine palazzo.

To turn from the Farnsworth house or the IIT Powerhouse to the Lake Shore Drive Apartments is to turn from the Renaissance to the twentieth-century world of Gerhard Kallmann, whose *Review* article of December, 1950, discussed the esthetic of 'buildings which resemble endlessly-linked chains rather than individual entities.' Though the Lake Shore slabs are vertical, not horizontal, and are adjusted to the Chicago skyline and to each other, the wide eye of the camera implies a humanistic scale which the buildings in no way have.

Assuming that major segments in the vanguard of American architecture are levelling off on this high plateau, we might well wonder what will come next. This book seems to offer a broad hint by making Frank Lloyd Wright's Johnson Wax Laboratory its visual focus. The choice cannot be accounted to American chauvinism in the face of a distinguished group of foreign-born architects. The detailing of brick and glass tubing, the alternation of circular and square cantilevered platforms, satisfy the criteria of quality and ingenuity. Moreover, the double-story integration of the Laboratory argues well for the significance of the moment: a new trend in American architecture concerns vertical integration.

The origins of the trend lie, of course, in Wright's project for the Museum of Non-Objective Art. The same organization of space is represented in this exhibition by his V. C. Morris Store (San Francisco, 1949), in which a spiral ramp defines a two-story core of space. The elements of such planning need not be generated in three dimensions, as Wright's house for Herbert Jacob, of 1948, demonstrates. In that two-story hemicycle,

* Architect in charge: Laurence Perlstun.

the bedrooms overlooking the garden 'are on a mezzanine floor set back from the glass doors, so that from within the volume of the house registers as one large room with minor subdivisions.' That these examples of vertical spatial integration are not unique gives some cause for postulating a new theme in American architecture. The book includes schemes which range from the more conservative fusion of one- and two-story layers of space, as in Mario Corbett's Thomsen house, in Vina, California, of 1952; to the frankly experimental and radical designs of Buckminster Fuller's Geodesic Dome, or Soleri and Mills' Desert House (1951), in which the domed living area opens through a half-story to the kitchen and dining area below.

Robert Duemling

THE GRAMMAR OF TOWNSCAPE

TOWN DESIGN. By F. Gibberd. *The Architectural Press*. £3 13s. 6d.

In a book so clearly designed to occupy the empty niche alongside Sitte's *Der Städtebau* and Unwin's *Town Planning in Practice* one looks first of all, inevitably, for contrasts and comparisons. Contrasts are obvious: the paper and typography of Unwin and Gibberd alone are period pieces, the former refined, folksy, with archaistic chapter headings ('of formal and informal beauty'); the latter austere and shiny, typeface and illustrations carefully co-ordinated. Unwin is still writing for the well-informed amateur, for the man of wide general culture; Gibberd's is a handbook for the specialist. While both are mainly about appearances, Gibberd has to glance more often over his shoulder at function, at economy, at sociology. Gibberd's book is infinitely better illustrated, the snapshot having come into its own in the interval and line drawing grown less inhibited. And there is an obvious difference between them as personalities, in that Unwin struggled to practise what he preached, whereas Gibberd, as he says, preaches what he has practised.

But these differences are superficial. The influence of Camillo Sitte, with his nice mixture of romanticism with what Repton called 'a just sense of general utility' (which has never caught on in France) is paramount with Gibberd as it was with Unwin. It is most interesting to find this sensitive designer, who has fully absorbed the lessons of the *Ville Radieuse*, reverting so affectionately to Sitte's cosy scale and to many of his actual examples. This has been made possible, of course, by a characteristically English idea—the precinct—which has in theory restored to the pedestrian the whole of the original centre of our old towns and the 'civic spaces' of our new ones.

But the trick is done by accepting a duality of scale which, if it is appreciated at all, is carefully concealed in this book, where the miniature church square of a Pyrenean village and the windy spaces of a middle-western State capital are illustrated on succeeding pages as parallel examples. I believe this is a case where a difference of degree becomes a difference of kind. The town designer these days has two scales to manipulate. One is the contemporary scale imposed by the automo-

bile, the helicopter, the steel frame, with its terribly wide curves, repetitive patterns and buildings standing as monumental forms in space. The other is the timeless scale of the pedestrian, with his one pair of eyes, limited are of vision and other senses demanding satisfaction. The two, though they may be ultimately subject to the same first principles, don't mix visually, and I hope that in his next book Mr. Gibberd will turn his attention to this perhaps basic dichotomy in our civilization.

But then this book is characteristic of the conservatism of our generation in Europe, in which it is so unlike the previous post-war generation. It is a mood, perhaps, of convalescence, in which the beauty of the world is suddenly restored to us. Mr. Gibberd is no iconoclast, but an English 'improver.' 'All great designers,' he believes, 'have a sense of tradition, an historical sense which involves "a perception not only of the pastness of the past, but of its presence" (T. S. Eliot).' Though we all have the greatest emotional sympathy for this statement, I am not sure it is true.

With this conservatism goes a certain parochialism. In contrast to the propagandists of the twenties, whose books were generally published in three mistranslated languages, Mr. Gibberd is presumably addressing British readers only. This is surely a pity, and could easily be remedied in a later edition by a little editing and the removal of references which assume knowledge of British official bodies and regulations. One of the finest things about the book is the splendid series of comparative analyses of town plans and townscapes old and new (probably the completest picture yet available of contemporary work in this field) and these show a familiarity with foreign examples and a cosmopolitan outlook which one misses in the text.

It would be quite unfair to search in this book for qualities to which it does not aspire. Mr. Gibberd does his thinking in three dimensions, and his writing is consequently devoted to applied and not to pure aesthetics. What one does find in this invaluable handbook is an extraordinarily balanced summary of the best English practice in this huge field. As in his architecture, he rarely puts a foot wrong, and one has the disconcerting experience, for a reviewer, of agreeing with every word he says.

Lionel Brett

NORMAN CARVINGS

LATER ENGLISH ROMANESQUE SCULPTURE, 1140-1210. By George Zarnecki. *Tiranti*. 15s.

The most recent volume—a double volume—in the remarkable series of art books published by Messrs. Tiranti in a small format but with plenty of well printed illustrations is the second part of Dr. Zarnecki's history of Norman sculpture in England. The subject had never before been treated separately, and Dr. Zarnecki's treatment in these two volumes is only an abridged version of the results of a much larger thesis which perhaps one day will come out as a book. Meanwhile these

two volumes, of which the first was announced here in July 1952, are the most considerable contribution so far made by anyone to our knowledge and understanding of Norman sculpture. Part one dealt with 1066-1140, this new part deals with 1140-1210.

It is a difficult subject to research into and to present. Much has been destroyed by fanatics and corrosion. Much that remains is bafflingly barbarous, if compared with most run-of-the-mill work in French twelfth century churches. On the other hand certain works not so far acknowledged as art of a high order are recovered, first by the search of the scholar and then by the skill of the photographer. There are for instance so many bad Norman fonts all over the country that the exquisite spiritual grace of the figures on the Coleshill font in Warwickshire comes as a surprise.

Dr. Zarnecki's greatest contribution is to have traced the connections of these sculptures with book illustrations on the one side, and on the other, with even more startling results, with sculpture on the Continent. To be told that Kilpeck depends on the Puerta de las Platerias at Santiago de Compostela will not be palatable to everyone, yet there are good arguments used by Dr. Zarnecki, both stylistic and historical. Again for the tympana of Stretton Sugwas and Brinsop influence from Parthenay-le-Vieux is not what one had expected; yet it seems undeniable now. Even more remarkable are the parallels drawn between details of the west front of Lincoln and St. Denis. They also seem at least to me irrefutable.

Where I cannot agree with Dr. Zarnecki is on the date of the figures carved for a portal of St. Mary at York, the best Romanesque portal figures in England and indeed the only ones that need not be afraid of comparison with France. Dr. Zarnecki dates them c. 1210 and pleads for their dependence on the sculpture of the transept fronts of Chartres. But on the one hand this was only just begun about 1206 which does not give one much time, and on the other the proportions of the York figures, their broad, strong bodies, and the peculiar whorl and fan shapes of the drapery folds are more closely matched at the Portico de la Gloria at Santiago, that is in 1188, and at Senlis, that is c. 1190. However, as this is a difference of only ten or fifteen years, it need perhaps not have been mentioned at all in so short a review of so excellent a book.

N. Pevsner

Books Received

MODEL MAKING AS A CAREER. By T. W. Hendrick. Percival Marshall. 5s.
SPON'S ARCHITECTS' AND BUILDERS' PRICE BOOK 1952-3. E. and F. N. Spon. 21s.
SELECTIONS FROM THE NOTEBOOKS OF LEONARDO DA VINCI. Edited with commentaries by Irma A. Richter. Oxford University Press and Geoffrey Cumberlege. 5s.
A PROSPECT OF CITIES. By Cecil Stewart. Longmans, Green. 25s.
WORKS AND BUILDINGS. By C. M. Kohan. H.M. Stationery Office. 32s. 6d.
SPEAKING OF LITURGICAL ARCHITECTURE. H. A. Reinhold. PRINCIPLES AND PRACTICE OF TOWN AND COUNTRY PLANNING. By Lewis Keeble. The Estates Gazette. 47s. 6d.
THE ARCHITECT IN PRACTICE. By Arthur J. Willis and W. N. B. George. Crosby, Lockwood and Son. 18s.
THE INFLUENCE OF THE CINEMA ON CONTEMPORARY DESIGN. By Clifford Worthington. Pitman. 25s.
THE HEAT OF THE CITY. CIAM. Lund Humphries. 50s.

DESIGN REVIEW

Classroom Furniture

Neville Ward

'An effortless and unconscious educational influence of great value is exercised by refined and attractive surroundings. Consequently, elegance of form, coupled with harmonious and cheerful colouring in furniture and fittings, as well as in the buildings themselves, is an important factor.' This admirable sentiment is quoted from Post War Building Study No. 24 on School Furniture and Equipment. For centuries adults have been particularly adept in giving and ignoring sound advice about child welfare, but with a schools' programme which is the most notable building achievement in post-war Britain, one would expect school furniture to reflect some of the virtues of the new buildings. This is not the case. Excepting the products of a small number of manufacturers, and in spite of the existence of a School Furniture Manufacturers' Association, there is still a vast quantity of school furniture which, though firm and, to some degree, commodious, is quite devoid of delight.

The responsibility cannot be laid exclusively at the feet of manufacturers. Architects and, more particularly, administrators must most seriously concern themselves with school equipment and reveal an informed intelligence in placing their orders before any great change can be anticipated. Example is a most potent influence upon children. School furniture today shapes the demands which adults will express when equipping their homes and cities in the future.



A chalkboard of plywood on a rust-proofed and stove-enamelled tubular steel frame, designed in 1949 by Oliver Cox under the direction of the Herts County Architect, and made by Kingfisher. Cost £20 no purchase tax.

Though in recent years there have been many changes in methods of child education the class still spends a great deal of time seated at a desk facing a chalkboard. The Post War Building Study on School Furniture recommends that the desk-seat units familiar to children of a little while

ago be abandoned in favour of a separate desk and chair. Whilst the reasons quoted seem to be based on furniture as it existed at that time rather than on what furniture could be, there is no doubt that a much greater flexibility of room use is possible with separate seats. On the other hand,

the fact that 'Chairs . . . can be graded in height to fit the smallest nursery child or the pupil who has reached adult stature' means also that unless there is strict child/chair/desk administration the child of middle size could easily be seated on a small chair at a high desk, and this is, indeed, a factor which indicates that the suggestion of eight chair sizes for school use may well be academic only.

Since prices of school furniture frequently vary depending upon quantities ordered and delivery distances involved, the prices quoted in the notes below can generally be considered as approximate only. Where no information is given it is necessary to contact the manufacturer, stating the nature of the requirements, in order that a price can be quoted.

pupils' desks



pupils' desks

For some years the locker-type desk has been considered indispensable by many school authorities. 1, In Slavonian Beech, 2 feet long by 1 foot 8 inches wide by from 25 inches to 30 inches high, Model 1400 by the Educational Supply Association achieves a certain distinction by its essential simplicity and the logic of its structure. 2, Kingfisher's 8/49, 22 inches by 18 inches, by from 25 inches to 31 inches high, attempts to solve one of the most aggravating problems of the desks' arrangement in the classroom; that of getting access to the desk and chair, in conditions which are often cramped rather than ideal. Price £4 12s. 6d., no purchase tax. 3, Papworth Industries' 'Pendragon' timber desk, Model 1410, 18 inches by 22 inches by 30 inches high at back, though well finished and visually logical has the demerit of a rail under the locker which seriously restricts locker height. Price approximately £5 2s. 6d., no purchase tax. 4, the 'Oxford' timber desk by Hunt and Broadhurst, 17 inches long by 26 inches wide by 30 inches high is a stacking desk of ingenious design which prevents scratching of lids which are not restricted in width by the stacking requirement. Price varies with contract, but for a lot of 50, delivered within 100 miles of Oxford, £3 7s. 6d. each, no purchase tax. 5, W. & S. Williamson's 'Beta' desk, constructed of light alloy and beech, can be dismantled for transport and clearly has advantages for internal cleaning. Price approximately £6, no purchase tax. (Not at present available.) 6, Kingfisher's timber desk, Model 1/48, on tubular steel legs, which are fixed to the frame by continuous steel bolts, incorporates the extra deep locker form devised to accommodate the maximum number of text books compatible with being able to sit at the desk. Price £5 10s., no purchase tax. 7, ESA's version of the same form, No. 475, utilizes laminated timber legs. 8 and 9, ESA's pressure die cast light alloy framed structures X127 and X1200 are made as double and single desks with shelf, locker or locker with deep well under the hardwood top. 10, the timber and chromium plated steel tube desk by Crown Products, 17 inches by 20 inches by 26½ inches,



lockers



achieves an elegance unusual in school furniture. A childlike instinct, however, suggests the reason may be that the diagonal stays and readily removable supports are dangerously inviting to youthful enthusiasms for change. (Not at present available.) 11, nesting open shelf desk, No. 451, by ESA, is an item from a new range of laminated wood structure units, styled 'Lamstak.' One of the most intractable problems in classroom accommodation is the storage of books. The locker is a facile solution, but it frequently results in an unfortunate desk-chair height relationship. For a full-grown child who uses an 18 inch seat height the most suitable writing surface height is probably about 27½ inches (not 30 inches—a conventional table height dimension which all designers would do well to discredit even for adult use). The minimum comfortable distance between seat and underside of writing surface is about 6 inches. This suggests a 3½ inch deep locker, including material thicknesses, which is absurd. Similar dimensional problems exist for all chair heights. The solution to the problem, with, however, attendant annoyances for the teacher, would seem to be to discontinue the locker-top table in favour of locker units separate from desks as wall fittings in classrooms, corridors or locker rooms. The Post-War Building Study makes this recommendation for the quite different, but equally substantial reason that locker-top tables are liable to be too heavy and cumbersome to move when the classroom floor has to be cleared. 12, a tubular nesting table desk, by ESA, Model T.102, sizes 20 inches by 17 inches by from 22 inches to 24 inches high, and 22 inches by 18 inches by 26 inches to 30 inches high allows for much more comfortable classroom conditions than is possible with desk locker combinations. 13, a nesting desk by James D. Bennet, Model TN2, free from locker, is surprisingly made only sized 22 inches by 18 inches by 30 inches high, but incorporates two excellent features in the book trough, and the 4½ inches by 9 inches extended armrest. Price £2 17s. 6d., including delivery for orders of approximately 20 desks or more. No purchase tax. 14, Papworth Industries 'Pendragon' folding desk, Model 2675, is, like 11 above, made only in 30 inches height, but though crude in form is an ingenious solution to the 'stow-away' problem. Approximate price £3 15s., plus £1 5s. purchase tax.

lockers

Though there are a number of non-locker type desks available there are, at this time, few elegant solutions to the problem of independent wall storage units. Two only are shown, both made by ESA, which indicate the possibility of satisfactory aesthetic solutions to the problem. 15, a unit of 12 lockers, Model 224, overall size 3 feet 5½ inches high by 4 feet 3½ inches long by 13 inches deep, is suitable for general classroom use, whereas 16, a 20-drawer unit, Model F.10, 48 inches by 27½ inches by 14 inches deep is more suited to nursery classes.

teachers' desks



chairs



teachers' desks

That fearful vertical symbol of authority 'teacher's desk' is now largely replaced by the more humane table type unit. Desks in general commercial use are frequently suitable for school use. The four illustrated, 15-18, are appropriate in that they are logical and uncomplicated in both form and structure. Though tricks are in any case suspect it seems particularly important that furniture which children will observe daily for some years should be free from the merely ingenious or fashionable form which is an unhappy commonplace in an age when stunt structures are often applauded as an aesthetic achievement rather than being enjoyed as a momentary distraction. 17, a pedestal desk by George M. Hammer & Co., 2 feet 5 inches high by 5 feet long by 2 feet 3 inches wide, made in walnut or mahogany, price £31 12s. 6d., plus £3 7s. 6d. purchase tax, for single pedestal as shown. 18, a particularly handsome teak desk by L. M. Furniture, Model A/11, 2 feet 5 inches high by 2 feet 6 inches by 5 feet, consists of a standard table frame to which can be fitted one or two of five different drawer units to give different storage arrangements. It retails in beech or mahogany at £14 3s. 4d., plus 8s. 4d. purchase tax for table, £9 2s. 6d., plus 11s. 9d. purchase tax for a 7½ inch drawer unit, £10 9s. 6d., plus 9s. 3d. for a 12½ inch drawer unit. A similar table, A.9, sized 4 feet by 2 feet and suitable to support one drawer unit only, costs £12 8s., plus 16s. 6d. purchase tax. 19, the ESA hardwood desk, Model 801, 2 feet 6 inches high by 4 feet by 2 feet 3 inches is cellulosed in natural or other colours. 20, a desk by ESA, Model X308, with a light alloy framework and mahogany top and drawers, is 2 feet 6 inches high by 5 feet by 2 feet 3 inches.

chairs

The Building Study mentioned above reports that they saw many chairs currently used in classrooms, none of which could be considered wholly satisfactory. There is little change in eight years. There are many problems, of course, to be solved. No chair could receive more exacting treatment than is common in a classroom; it needs to be virtually indestructible; it will normally be required to stack or nest, and the influence which the chairs will have upon the posture of the child using it for several hours each school day cannot be ignored. This seems to be a field in which those who have to buy school furniture have been badly served by their appointed manufacturers. Three exceptions to this generalization are: 21, Hammer's new timber 'Stackeasy' chair, seat height 11 inches to 18 inches. Price from £1 13s. to £2 15s., no purchase tax. 22, Kingfisher's WN4 timber nesting chair, seat height 12 inches to 18 inches. Price 12 inches to 14 inches £1 16s., 15 inches to 18 inches £2 5s., no purchase tax. 23, ESA's light alloy nesting chair, seat heights X200, 16 inches to 18 inches, X204 10 inches to 12 inches, X205 13 inches to 15 inches.

Three exceptions are not enough. There are, of course, metal chairs of the PEL type with various seat forms, and there are a few innocuous chairs manufactured specifically for schools, but on the whole the adventurous local authority might well search for its school chairs in the more general market, a malicious suggestion which is even more applicable to storage cupboards and shelves.

tables

It may well be that in the fullness of time the horizontal surface table will entirely replace sloped desks for students' use as well as for teachers'. **24**, a unit (Model 6/50) manufactured by Kingfisher, reveals the advantages of this form where group teaching and other project work forms part of the activities of students who otherwise require independent desks. The tables, with hardwood structure and plywood tops, are 42 inches by 21 inches by 26 inches, 28 inches or 30 inches high and stack vertically. Price £5 12s. 6d., without shelf £5, no purchase tax.

For the very young, unlike elder students and teachers, the problem of book storage does not arise, and a considerable number of sensible nursery tables are available. **25**, stacking and grouping table by Kingfisher, Model 5/48, stove enamelled, rust-proofed tubular steel structure, plywood top, 36 inches by 18 inches by 24 inches high, legs interlock under tops in combination to form larger surfaces. Price £4 10s., no purchase tax. **26**, grouping and nesting tables by Mann, Egerton & Co., Model SF1117, hardwood frame, ply top, 3 feet, 3 feet 6 inches or 4 feet long by 18 inches, 21 inches or 24 inches wide by from 20 inches to 30 inches high, fitted with interlocking stops to hold them firm when grouped. Price £2 15s. 6d., no purchase tax. **27**, table designed for blind and near-blind children with smooth surfaces and rounded corners, by George M.

tables



Hammer & Co., timber structure, Waverite top, made to special order, 4 or 5 months delivery, price, approximately £16, including purchase tax. **28**, round table by ESA, Model F3, solid hardwood structure and top, 30 inches diameter by 17 inches to 22 inches high. **29**, trapezoidal table by George M. Hammer & Co., Model B2, birch structure, 44½ inches, tapering to 22½ inches by 18 inches by heights up to 24 inches, very simple stacking. Price £4, no purchase tax.

suppliers Educational Supply Association, Esav: n Works, Stevenage, Herts. Papworth Industries, Papworth Everard, Cambridge. Hunt and Broadhurst, Ideal Works, Botley Road, Oxford. W. and A. Williamson, 12, Greek Street, W.1. Kingfisher, Charles Street, West Bromwich, and 130 Knightsbridge, S.W.1. Crown Products, 6, High Street, Fulham, S.W.6. James D. Bennet, 121, Avenue Street, Bridgeton, Glasgow, S.E. George M. Hammer and Co., Crown Works, Hermitage Road, Harringay, London N.4. L. M. Furniture, St. Johns Road, Wallingford, Berks. Mann Egerton and Co., 5, Prince of Wales Road, Norwich.

Architect/Manufacturer Co-operation

For most of the architectural profession the old conception of the architect as the independent professional man, standing honourably midway between client and contractor, has been if not abandoned at least gravely compromised. But there is a new conception that a minority of architects have had to fulfil latterly; the conception of the architect as a collaborator with manufacturers and contractors on the development of components.

There are three main ways in which the architect is doing this. He may be actually in the firm of manufacturers—as for example Mr. Pagani, of Holoplast. He may be retained as a consultant — as are Richard Sheppard and Partners by the Bristol Aeroplane Company. Or he may represent one of the big clients—as do

Hertfordshire County Council or the LCC architects' departments in their dealings with Hills of West Bromwich.

The manufacturers differ widely in their organization. But one thing unites them: they exist to make a profit. This apparently simple fact has the most far-reaching effects—effects that theoretical writers

ARCHITECT & INDUSTRY

on prefabrication in the past have too frequently ignored. Promoters are most sure of their chances on ground that they know already. Thus it comes about that essays in prefabricated building have antecedents in closely allied industries: Hills in metal windows, Brockhouse in general light engineering. The exceptions, like the aircraft firms, who had no previous experience of the building industry, entered this sphere with the launching of the prefabricated bungalow immediately after the war.

the manufacturer's antecedents

The antecedents of the major prefabricators have inevitably conditioned their present outlook and potentialities.

They may, for instance, tend to think in terms of mass-producing a single identical article (e.g. a complete house) in the way a car is made; or to design round one main material. Thus Hills, with their metal window background, think chiefly in terms of light-gauged welded steel: BAC, with an aircraft background, in terms of aluminium: Brockhouse, with an automobile and light-engineering background, in terms of cold-formed steel.

The prefabricating industry, in fact, functions on inherited capital; and if a dividend is to be paid this capital—whether expressed as machines or as human skills—must be put to work in the best possible way. The intangible worth of a production team skilled in one range of techniques must not be ignored. Sitwell has told us that by the time Wren died a cadre of plaster, wood and iron craftsmen had been built up in England that was able to express the architectural language of the day; and BAC could not now be prefabricating schools were it not for the cadre of aluminium working skills that were imported from Filton to Weston-super-Mare during the war. No more would Elliotts be producing the light timber beams made up of little sticks of softwood, that are now to be seen in Hertfordshire, had not the shortage of standard lengths during the last ten years developed their interest (and that of the Timber Development Association) in timber connectors and nailing techniques for the efficient use of short and inferior-grade pieces. The forward-looking manufacturer can be relied upon to keep a weather eye open for new and more economical techniques, but the less flexible may easily develop an innate conservatism which comes to light whenever his present machines or labour skills are examined critically. Here lies a fruitful field for disagreement between architect and manufacturer. The latter, it must be remembered, has been brought up to regard the architect as little more than an expert in styling goods which have already been made to work; and if he comes up against an architect who is genuinely interested in production techniques, and in their effect on design, he may easily suspect that he is not a 'real' architect, and begin to distrust even his aesthetic judgment.

One of the most crippling limitations on the manufacturer's side springs from his having started (as often as not) by producing only one or two building com-

ponents. It is very difficult for him, with such a background, to see the whole scope of a building operation and its attendant problems: to realise, for instance, how much space services need in a building, or really to grasp the complexities of siting a building on the ground. He will quite naturally assume that all other components should be distorted to allow the greatest uniformity to his own. The only person who is in a position to preserve a balance between conflicting claims is the architect (so long as his feet are firmly held on the ground by his Quantity Surveyor) for it is only he who has an over-all view of the building operation.

the architect's standing

Yet architects too may have antecedents that are less than helpful: as for instance in the older architects a training in the Beaux Arts tradition, and an ingrained conception of a building as an individual never-to-be-repeated work of art; and in the younger architects a school training giving lip-service to mechanization, but retaining much of the formalism of the Beaux Arts dressed up in one of the several current aesthetic doctrines. In both, ignorance of the commonplaces of the industrial climate can lead to the lamentable faux pas when dealing with senior members of firms.

But deal with senior members the architect must. For, although British industry has not a great reputation for flexibility in its operations, it is still sufficiently sensitive to even small movements in the accounts to allow short-term financial motives constantly to disrupt technical advance, unless there is a firm sense of technical direction at high level: and this means the Board of Directors. There is no doubt that, if an architect is to collaborate with a manufacturing concern on a major development with any hope of success, this collaboration must be at director level. For there must be one among the directors with a highly developed technical sense. The most successful set-up, both financially and technically, is where the head of the firm is himself a designer. There are several examples of this in the aircraft industry; but all too few in building manufacturing.

It is necessary, perhaps, to stress what prefabrication should mean to the building industry. It cannot mean the mass-production of a single standard building, if it is to compete with traditional con-

struction. It must mean the production of a kit of parts, with a severely restricted range of types, but able to be put together in an infinite variety of combinations to suit the needs of each particular situation. This implies that one architect designs the kit of parts, and others use it: neither function is the more worthy. The success of the enterprise depends on the former having a very keen sense of what is needed, and the latter an ingrained tendency to use standards rather than specials.

Collaboration, of course, may sometimes be between an architect (or client) and a series of component manufacturers, who may function as little more than sub-contractors to a general contractor who has been selected to co-ordinate the job. In such a situation, the pre-eminence of the architect as the leader of the team is quite easily established, for none of the others have a big enough share in the whole to challenge his position. But he will be a rash architect who trades on this; for even sub-contractors can put in tender prices at a late stage that bear little resemblance to early estimates, or (fully as embarrassing) may quit with little hurt to themselves. Even with sub-contractors it still pays every time to retain the co-operation of the policy-makers, especially if (as is probable) the architect wants something not quite like the thing they make at the moment.

'Not wanting quite what they make at the moment' is always a jibe that manufacturers level at architects. And it is a subject on which it is most difficult for the architect, be he ever so responsible, to strike a balance. There is a tale told of the architect's department of a local authority, which had a large programme of prefabricated schools. As each school was executed, the architect concerned felt that the standard canopy did not quite fit his entrance: and so he designed a new 'standard,' which of course was never used more than once. This, however, is an extreme (and probably untrue) anecdote; and it must be remembered that in this matter the manufacturer also has his characteristic faults. Recently a large firm of component manufacturers stated to the architects with whom they were collaborating that the basis of the job must be the maximum use of existing designs so that there should be the minimum overheads for new machine tools. After the job was finished, however, they tacitly admitted that this policy had

actually cost them more than it had saved, because of the complications of adapting those designs to their new uses.

production factors

However, as has been said already, manufacturers may have good reasons for avoiding new designs which architects may not appreciate. A firm of ceiling manufacturers was approached by an architect collaborator to make a new profile of slab (a domical in place of a flat one). Now in this case, most of the normal reasons for refusing were not present: jig and tool costs would be low, the material was to be basically the same as for previous slabs, and if successful the product would show a clear saving in weight and cost. And yet the manufacturer refused; and his valid reason was that he had always found that any new profile raised a host of unsuspected teething troubles that would take time and brains to overcome—and at the moment he had neither time nor brains to spare.

Delivery dates for new machine tools may be as big a factor as their cost in persuading a manufacturer to make do with what he has got. Or—to quote an actual example—he may have a shopful of contented riveters, earning very good bonus rates making a certain component in a certain fashion. His works manager may tell him that to abolish that component would upset labour relations. Thus what may appear to the architect as a purely technical decision may be something quite different in the general manager's mind.

The manufacturer of a prefabricating system is constantly plagued by demands for 'specials'—special arrangements of panels, special profiles for cladding slabs. Once, recently, such a manufacturer, in refusing to make some specials, gave as his reason that if he went on increasing his range of specials, the numbering and 'calling up' technique of his storemen would get completely out of hand. In some of these firms the component numbering system, which must provide for all their past designs, gets fearsomely complicated, and the sorting out of the bits and pieces needed for any particular job may have to be handled by Powers-Samas machines.

One of the biggest criticisms that manufacturers level against advice that architects may give them is that there is no uniformity of opinion amongst architects. There was, for instance, the now nearly exhausted controversy over pitched versus

flat roofs in prefabricated systems. A story could be told where the architects concerned convinced the director of a large firm, much against his own judgment, of the technical and planning advantages of flat roofs; and then his very first client demanded pitched roofs. But it has to be said that, on purely technical matters, despite all the bulletins and technical literature available to the profession, there is no general agreement on what are acceptable standards—as for instance in standards of sound reduction for partitions, or sound absorption for ceilings; and it is of little consolation to the manufacturer to be informed of the latest BRS test or Ministry recommendation if he knows that 50 per cent of his clients will demand something quite different. It is certainly probable that in other professions, say accountancy, there is a greater uniformity of technical opinion than in architecture. A director may take an accountant's opinion on what is a reasonable amortization period for machine tool costs, and be fairly sure that the next accountant will give roughly the same answer; but he would not get the same unanimity if he were to ask two architects how much an average classroom floor finish should cost. And this maybe is one of the reasons why accountants are more often listened to by manufacturers than architects.

cost planning

This last illustration purposely imagines the architect having to give monetary advice to the manufacturer. If he is to be of any value at all, he must not contract out of this responsibility. Cost planning—as it has been called—must be the foundation of architect-manufacturer collaboration; and here the quantity surveyor is indispensable, for he knows better than anybody what are reasonable target costs for various building elements. It is slightly surprising to find that many manufacturing firms are no better at costing than the architects with whom they are collaborating. Of course, there is the natural disinclination of any manufacturer to commit himself on price at an early stage in front of an architect-collaborator if that gentleman is also the client's representative. Also, no doubt, the costs of complicated factory processes are difficult to assess until those processes have been running for several months. Nevertheless, one cannot help forming the impression that many manufacturers have no accurate

means of finding out what their products cost in detail, but have been satisfied to work back, as it were, to approximate costs from the year's trading account. This mode of costing is typical where the senior official of a firm is an accountant whose major concern is to balance the books at the end of each year; and it must result in a lack of purposeful technical experiment.

Cost is a dimension in design, and it is a well-known definition of a good designer that he can think in all dimensions simultaneously. It is appropriate to fix a target cost for a component before you start designing it. But this is of very little help if no further work is done on cost until six months later when the component has been designed in meticulous detail. Rough designs must be checked against rough costs, so that each becomes more exact as finality is approached.

The working out of this is more difficult than the enunciation of the principle. For the designer, at least where a major system of prefabrication is concerned, is not one person, but a team; and of the many things that will startle the architect members of the team, one will early become apparent. It is that the firm of manufacturers, unless it is a very unusual one, *is not set up for development work at all*. There are seldom senior personnel available who do not also have pressing departmental responsibilities. If collaboration is to be an intimate affair, as it should be, inside the factory drawing office, the architect may find himself queueing for time with the chief engineer—along with the chief draughtsman who has to see the engineer about the loading of a beam on some quite different job, one of the area managers who has a site query for him, and a lady tracer who needs a signature on a drawing.

conclusion

The architect will be impressed by the internal memorandum sheets, the weekly production meetings and the whole system of inter-departmental co-ordination that characterises a modern factory. But he will be surprised to find how unadaptable the system is. It only works because it is a routine, and directly something unusual, like development work, cuts across it co-ordination is apt to break down.

To offset this, the architect must understand the organization of the firm with whom he is working, and make sure that all sides are represented in the team.

It is quite extraordinary how design men will ignore production problems, and how everybody ignores transport and erection problems. In effect, only the head of the firm can really keep inter-departmental liaison straight, but it is the lucky development team that sees more than a little of him; and so the successful architect-collaborator may find that his native architectural skill is of little value to him, if unsupported by the other skills the situation requires.

Collaboration is in the end a matter of personalities; and if the personalities can work together then the team may become something more than groups of individuals

on different sides of fences, both spending more energy in watching their own interests than in mutual co-operation. Coherent records must be kept of development work. But if one side is found busily keeping minutes as a protective insurance against future trouble, then the essence of the group is split. Junior executives are perhaps the worst offenders: they have no real authority to commit their firm on major issues, and they have the constant worry of justifying their actions to their superiors. They are more unhelpful about costs than even the managing director.

The only satisfactory arrangement is for the kernel of the team to be the

director-designer (preferably with a production engineering background), the architect and the quantity surveyor. A group of this size can keep a sense of direction, deploying the team as the project moves forward. This sort of collaboration has had its trials and tribulations—but also its notable successes. It has already been responsible for a sizeable part of the post-war building programme, and has probably put some parts of the industry five years ahead of anything seen elsewhere. It is still in its infancy, and after another five years it may be recognised as the seed-bed of a rejuvenated building industry.

Robert Post

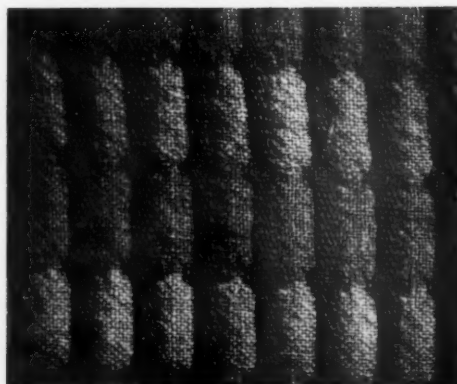
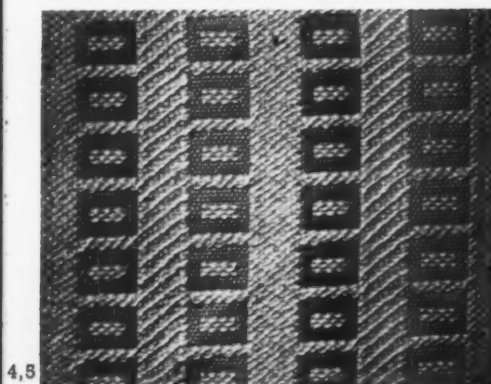
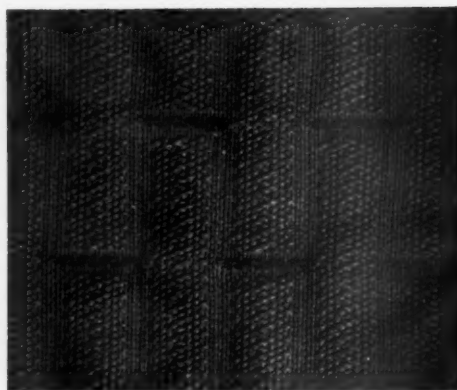
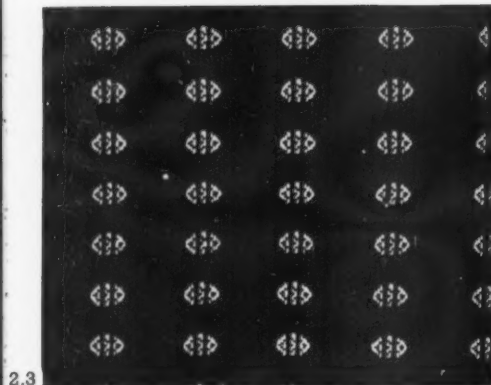
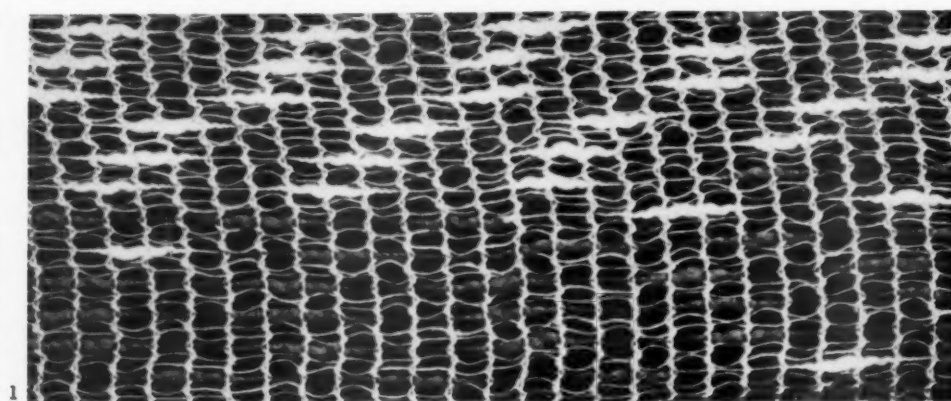
Some recent woven fabrics

DESIGN REVIEW

No market, one suspects, changes its wares more rapidly than that of textiles. It is seldom possible to claim that any manufacturers' activities in this direction constitute an event and the designer whose practice involves him in any regular use of fabrics is hard put to it to keep abreast of new additions or recent withdrawals. Donald Bros.' Old Glamis Range is soothing to the designer in this dilemma in that it includes a number of fabrics which are regularly produced and maintain their interest from season to season. Their new open weave No. 6057, 1, which is 50 inches wide and retails at about 8s. 9d. per yard undyed, or about 10s. per yard dyed, may well come into this category in that, though its uses are very limited, it is an inexpensive equivalent of a type of fabric hitherto produced almost entirely on the hand loom.

Heals' Wholesale and Export, who regularly ring the changes within limits geared to a known and rapidly growing consumer group, include four interesting woven fabrics in their 1954 range. They are a 50 inch wide Union cloth, 'Belgrave,' 2, designed by Colonel M. Stead and costing 21s. 6d. per yard, plus 6s. 9d. tax; a 50 inch wool and cotton weave costing 34s. 6d. plus 7s. 2d. tax, styled 'Grosvenor' and of anonymous design, 3, and two fabrics by Phyllis Hubbard, 'Sloane,' 4, 37s., plus 8s. 5d. tax, and 'Hanover,' 5, 39s. plus 9s. 5d. tax, both about 50 inches wide. All four fabrics are available in a wide range of colour combinations.

The harassed designer can be expected



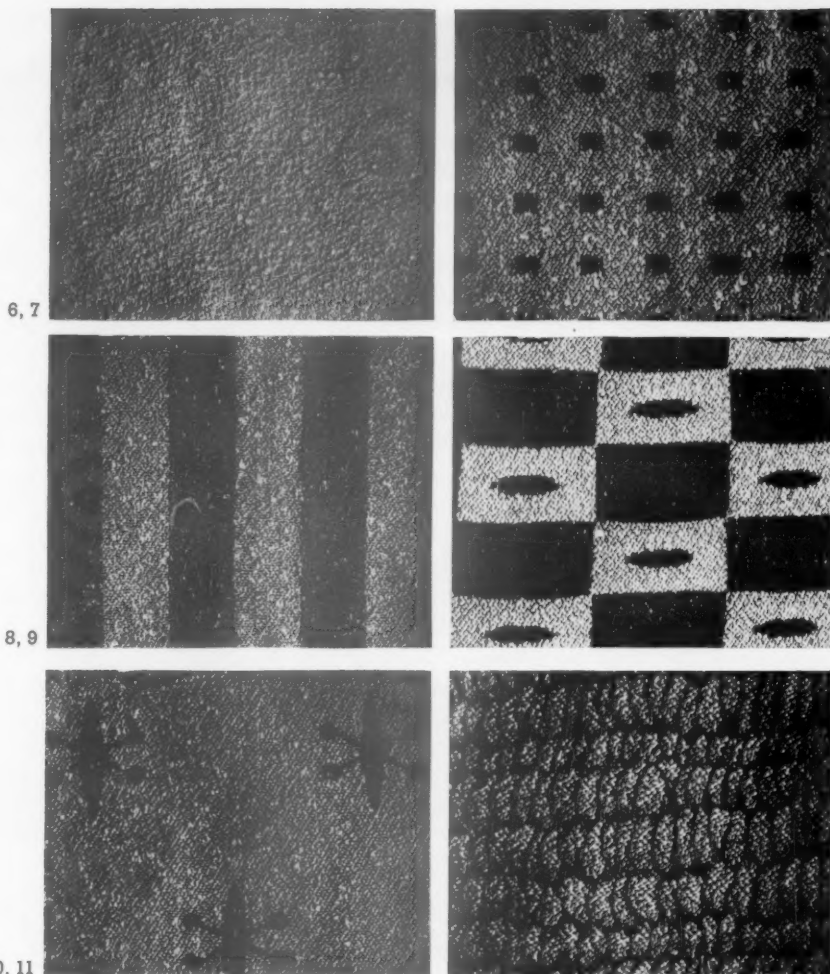
The illustrations here and on page 355 reproduce the fabrics half full size.

to do no more than gratefully record these fabrics as of possible interest on specific jobs. An event, and it does seem to warrant the word, of much greater interest is the new range of textiles produced by Tibor Reich, a firm from whom one has rapidly come to expect fine craftsmanship which, allied to a liveliness of design, results in fabrics of lasting satisfaction.

Some time ago Tibor produced a range of fabrics, styled 'deep textures' in which pattern was subsidiary, though complementary, to texture. At a time when the majority of furnishing textiles gave, at best, only momentary pleasure the range did much to vitalize an unpromising selection of available materials.

One of the frustrating aspects of the Tibor range was that, though attractive aesthetically, the composition and structure of the fabrics severely limited their possible applications. The Company have now evolved an extension of their range in a series of 'Texturedrapes' which are of medium weight and suitable for upholstery, and the curtaining of all but the shortest drop measurements. Of the first ten fabrics in the range one or two are surprisingly loose in form, but the series as a whole has considerable distinction. All the fabrics are designed by Tibor Reich and generally have a mercerized cotton warp and a textured cotton weft. A number are reversible. They are woven 47 inches to 50 inches wide, and the retail prices are between 24s. and 30s. per yard, including purchase tax.

The six illustrations reveal the excellent balance of the range. 'Sand,' 6, is a plain woven boucle texture cloth. There are a number of imaginative geometric repeats; 'Carre,' 7, incorporates a quarter inch square on about a five eighths inch repeat in the drop, and spaced at three quarter inch centres on the width; 'Candy,' 8, an equal three quarter inch stripe, involves



sufficient textural difference between alternating stripes for a single colour weaving to achieve an interesting and lively effect. 'Kiwi,' 9, is an overall repeat of three quarter by inch and a half rectangles. 'Helico,' 10, and 'Sweet Corn,' 11, are two less rigid patterns than those above; they are well ordered and their scale makes

them particularly well suited to the small contemporary interior.

The addresses of the three organizations whose fabrics are illustrated are: Heal's Export and Wholesale, Tottenham Court Road, London, W.1. Donald Bros., 287, Regent Street, London, W.1. Tibor Limited, Clifford Mill, Stratford-on-Avon. W. and A.

MATERIALS

A NEW MATERIAL

Messrs. Gliksten Building Materials announce that they are importing from Belgium a new hardboard which they are calling 'Glinex.' Trade Mark difficulties have apparently prevented them from using the material's original name 'Linex' which would have given a better clue to its nature, for they are manufactured from liquefied flax shives (i.e., flax from which both the linen fibres and the soluble constituents have been removed) amalgamated with synthetic resin.

Architects may come to suspect that *any* raw material, if suitably disguised, can ultimately be used in building. But the

virtue of flax, when treated by this process, is that the component particles lie in all directions, and that thus the finished material—in contradistinction to those others in which the particles orientate and thus tend to compact in layers—has an equal strength in all directions.

'Glinex' structural insulation panels are made in two densities (18 and 25 lb. per cubic foot), each in six thicknesses ranging from $\frac{3}{4}$ inch to $1\frac{1}{2}$ inch, while 'Glinex' joinery and cabinet panels are made in three densities (31, 37 and 44 lb. per cubic foot), each in six thicknesses ranging from about $\frac{1}{2}$ inch to 1 inch.

This wide range of alternatives should give the material a correspondingly wide range of uses—for it is claimed of Glinex

that it combines a finished surface with high insulating properties and sufficient strength for load bearing.

Since it has been in use for five years in the country of its origin it is to be hoped that the importers will give detailed examples of the uses which have so far been made of it by Belgian and other continental architects.

RUBBER PAINTS

Among the interesting set of handbooks recently published by the British Rubber Development Board is one on 'Paints incorporating natural rubber' which gives to the Architect his first full-dress account of this difficult subject.

Rubber has a long history in protection—against heat, chemicals, sea water, hard

knocks and loud noises—and the extension of its qualities to paint is no more than the translation into another medium of some or all of these familiar, well-tested properties. The breakdown of rubber paints is according to the chemical treatment undergone by the rubber, which may be oxidized, cyclized or chlorinated.

Oxidized rubber paints fall into two categories: on the one hand there is the material known in the Trade as 'Solution B' which is an undercoat for interior work much valued for ease of working and smooth finish and on the other is the very different product 'Rubbone' which is a stoving paint (thence for application in the factory) used for treating metal surfaces exposed to heat.

Cyclized (or isomerized) rubber is mostly used for paints which are required to withstand steam and condensation and is thus most commonly used in kitchens and bathrooms. But it also figures in primers which are designed for use on alkaline surfaces and in fire retarding paints. Nor does its range of uses cease here for it can be made to serve as an abrasion-resistant film for application to floor finishes.

Chlorinated rubber paints are the most familiar to architects. They are the ship-builders' paints, the protectors of the metal work on the pier, of the steel casements on the sea front. Against alkalis, corrosion and shock they present a tough, impermeable skin. It must not, however, be forgotten that they possess the defects of their qualities and that they should not be used for the external painting of wood-work for fear of trapping the moisture within.

EQUIPMENT

LIGHTING FITTINGS

The Diabolo—long-windedly known as 'the direct-and-indirect' lighting fitting—is now the established successor of the chromium mounted round globe of half a generation back and it has, in the course of nature, reached the stage of being stabilized, which is the same thing as 'vulgarized.' This is not to be regretted, for it is the destiny of successful forms, but it raises problems.

These have been confronted by Messrs. Troughton and Young in their new 'Lighting Centre' by standardizing the Diabolo itself, i.e., the double lamp-holder and its bracket, and by allowing

for a choice in the shades. In effect there are about 60 variations for the single bracket, each of which, when purchase tax has been paid, falls somewhere in the price range of £3-£4. It could be argued that the Diabolo form is in itself so strong that variations in the shades do not register, and that they all look much the same. But this is the old problem of individualism and mass production and this approach to it is at least as convincing as most.

The same Diabolo fittings figure again in the celebrated Ring and Radial Pendant series, to which there are several new additions. Here, however, consideration of geometry and number enter in to produce a more genuine variation.

In the end it is probably true to say that adjustability is the key to the problem of domestic lighting—even though so few of us are energetic enough to make full use of it in practice. Here it is interesting to see the old dodge of the pendant weight

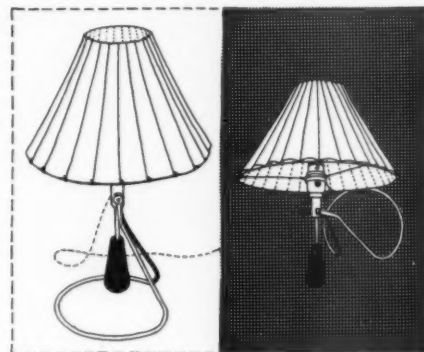


Table and Bracket Lamp (Troughton and Young).

being called back into service, both as a pivot balance to enable a table lamp to be hung as a bracket on the wall (£6 4s., including tax), and as a counterweight in an adjustable pendant lamp which is still in the prototype stage. One last mention must be given to the celebrated adjustable desk lamp, originally designed for the hotel in Lusaka, which is now marketed, including tax, at £5 18s. 9d.

COOKING BY ELECTRICITY

The mock warfare between the Gas and Electricity Authorities and the sterner combat between the manufacturers who supply equipment to each are contests which the Architect watches with interest but from a safe distance. On the question of the cooker—perhaps the most hotly contested field in the whole campaign—he has been more than ever watchfully aloof. Broadly speaking the strong cards



The English Electric Automatic Cooker. Model 2011.

in electricity's hand are first, the power to heat the oven without drying up the food and, second, a ready susceptibility to every form of timing control. Remembering that the first of these is necessarily a reticent virtue, it is the second which is most to the fore in the new 'English Electric' cooker 2011 model. 'Most to the fore' because this bears all the outward signs of a precision instrument. Rising at the back of the hob is a movable control panel with switches and dials which give it the cultural prestige of a radio transmitter. As though to spotlight this significant fact, this model is, we believe, the first in this country to have the convenience of a lighting fitting to illuminate the hob and the controls. Simmerstat control is given over the two hot plates and the grill boiler—thus eliminating the old electrical bugbear of the enforced choice between 'on,' 'medium' and 'off' with no power of adjustment between—and a thermostat controls the oven. But the most striking feature is an ingenious system of automatic timing which enables the housewife to arrange to have her cooking done for her while she is out of the house.

HEATING BY HOT AIR

The Radiation Whole-House Warming system can be installed either with a smokeless gas-burning chimney furnace or with a smoke consuming downdraught furnace which burns any household solid fuel. It is the former of these which has been used in the recently completed flats in Cardigan Road, Richmond (Architect, Eric Lyons) and which are likely to prove something of a 'test case' for Whole-House Heating for middle income groups. The system (as the makers point out) lends itself particularly for use with the open plan, but can serve equally the older, more compartmented arrangements. What it does require is a compact plan and it is this

[continued on page 358]

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which suits it for use in flats which must be compact in any case and where the under-floor ducts of one flat can be packed side by side with the ceiling ducts of the flat below. It goes without saying that this requires careful thought by the Architect from the first moment of planning, for the flat must, as it were, be wrapped round the ducting system. But this advancement of heating into a first place among planning considerations is in any case characteristic of our epoch (or ought to be) and it is hard to see that at Cardigan Road it has led to any inconvenience.

Those who fear condensation whenever gas is mentioned will be relieved to learn that the products of combustion do not find their way into the ducts—for it is not a flueless appliance. The furnace is rated at 40,000 B.Th. U./hr. and is claimed to have an overall operating efficiency of 75 per cent. The running cost is not easy to compute in advance since so much depends on how the inmates behave. But if in this case cost proves slightly less favourable than might be expected this may be because the flats were built under the old bye-laws which insisted on wall vents in every room in lieu of flues. This must result in an extravagant rate of air

change and—in view of recent legislation—tenants would certainly be justified in copying their social inferiors by religiously blocking these up.

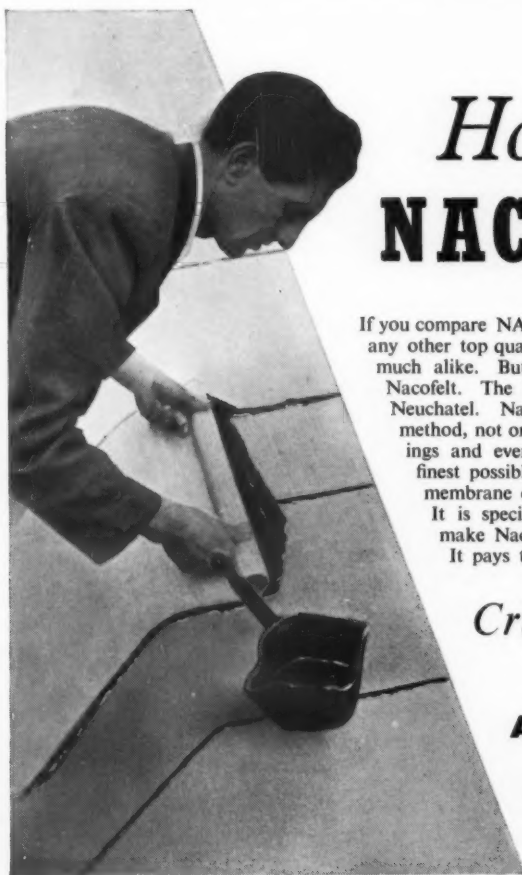
To those fresh to this type of heating intrusive features of the installation are the distinct 'click' when the thermostat turns on and the whirring of the fan which ensues. How long will it take before these background noises connote luxury and the lack of them, discomfort?

SANITATION WITHOUT DRAINS

No English townsman's account of his holiday in remote parts is complete without some reference to the difficulties of sanitation and for this reason the coming of a new type of chemical closet seems deserving of special notice. The 'Destrol' chemical closet depends for its effectiveness on the use of an antiseptic which is so potent that it can reduce sewage to a harmless effluent on the spot without there being any need either to ventilate the appliance or to carry the residue away by hand. Periodic emptying is by means of a short length of drainpipe leading to a soakaway which need only be a

few feet distant from the house. The closet uses water, but only 5 per cent. of that used by the ordinary W.C. and is made in two models: the 'Family,' in which the seat unit and the settlement tank are incorporated in one single container, and the 'de Luxe' which has a settlement tank under the floor, an ordinary standard fireclay pedestal seat and a flushing cistern above. To outward appearances therefore the latter is hardly distinguishable from the W.C., though in practice its working is very different. For the water operates on a closed circuit and after it has passed through the pan and into the settlement tank is pumped by an electric motor back into the flushing cistern. This is certainly unorthodox, but is a token of the confidence which the makers feel in the cleansing powers of their chemical.

It is interesting to speculate on the social fortunes of these two appliances which, though technically similar, are outwardly so diverse. For it seems likely that the holiday maker in his weekend bungalow is going to prefer the straightforward 'Family' model with its more romantic associations and that the farmer's wife with her respect for the amenities of the town is going to choose the 'de Luxe.'



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Flats for Single People. *Architects:* Edward Armstrong & Frederick MacManus. *General contractors:* Humphreys Ltd. *Sub-contractors:* Airbricks to separate kitchens: Stuart's Granolithic Co. Aluminium cover to internal expansion joints: Metal Mouldings Ltd. Asbestos cowls: Cellactite & British Uralite Ltd. Ash hoist: George Johnson Ltd. Booster pump: Broadwall Engineering Co. Bricks: R. Y. Ames. Boundary fencing: Boulton & Paul Ltd. Cast iron duct covers: Broads Manufacturing Co. Curtain track: John Garlick (1910) Ltd. Cycle blocks: Stelcon (Industrial Floors) Ltd. Dome roof lights: Pilkington Bros. Doors: Humphreys Ltd. Door mats: United London Workshops for the Blind (Sales) Ltd. *Electric incinerators:* Saniguard Appliances Ltd. *Electrical installation:* Berkeley Electrical Eng. Co. *External notice boards, framing:* Light Steelwork (1925) Ltd. *External notice boards, Permaply:* Venesta Ltd. *External tiling:* Carter & Co. (London). *Extract fan for drying cabinets:* Keith Blackman Ltd. *Flooring:* Accotile: Armstrong Cork Co. Linotile: Korkoid Decorative Floors Ltd. Windsor: Broads Manufacturing Co. Wood block: Horsley Smith & Co. Garden work, grass seed, trees and shrubs: Garden Landscapes (London) Ltd. Gas installation: South Eastern Gas Board. *Hairdressing installation and equipment:* Henry Serventi Ltd. *Heating, hot water and ventilation:* G. N. Haden & Sons. *In situ reconstructed stone:* Stuart's Granolithic Co. *Ironing room fittings:* E. & H. Grace Ltd. *Ironmongery, door furniture:* Nettlefold & Moser Ltd. *Ironwork:* main stairs balustrade, site gates, railings and fuel hoppers: Light Steelwork (1925) Ltd. *Ironwork:* escape stairs balustrade, balcony,

parapet and external stair balustrades: S. W. Farmer & Son. Kitchen fitting units and hall cupboards: Built-In Fixtures Ltd. Lettering: 'In' and 'Out': The Supersine Co. 'Iveagh House': Signcrafts Ltd. 'Restaurant' and boundary wall plaques: Buckleys (London) Ltd. Perspex notices: A. & G. Edgington (Leicester) Ltd. Lifts: Hammond & Champness Ltd. Metal windows and doors: The Crittall Mfg. Co. Precast concrete facing blocks: Stuart's Granolithic Co. Refuse hoppers: Haywards Ltd. Roof insulation (bitumen bonded fibreglass): Fibreglass Ltd. Roofing (3-ply Permanite and asphalt): Permanite Ltd. Safe: Griffiths Safe Co. Sanitary fittings: Thomas O'Brien & Co. Suspended ceilings (Colterro): W. H. Colt (London) Ltd. Terrazzo: Malacarp Terrazzo Co. Timber handrail to circular stair: F. J. Lewis Ltd. Wallpaper: Arthur Sanderson & Sons. *Electric fires (main block):* General Electric Co. supplied by: Berkeley Electrical Eng. Co. *Electric washing machines:* Hoover Ltd. supplied by: Berkeley Electrical Eng. Co. *Flue blocks:* (Nautilus): supplied by the Marley Tile Co. *Fluted asbestos:* Turners Asbestos Cement Co. *Gas cookers (staff):* Sidney Flavel & Co. supplied by the South East Gas Board. *Gas drying cabinets (Segas), staff gas fires (Lutello), gas cookers (main block) (Junior General):* supplied by the South East Gas Board. *Gas coppers (staff and laundry):* W. H. Dean & Son, supplied by the South East Gas Board. *Glass:* Aygee Ltd. *Internal and external decorations:* A. J. Lucas & Son. *Light fittings:* supplied by Berkeley Electrical Eng. Co. *Paint:* Imperial Chemical Industries Ltd. *Plastering:* J. H. Jenner & Co. *Plumbing:* Ellis (Kensington) Ltd. *Precast concrete (measured):* Glostone Ltd. *Special light fittings:* S. L. R. Electric Ltd. *Television and wireless installation:* British Relay Wireless Ltd. *Wall paint:* Duresco Products Ltd.; Fleetwood Paints Ltd.

Hospital Extension at Balham, London, for the S.W. Regional Metropolitan Hospital Board. *Architects:* Devereux & Davies. *Chief Architectural Assistant:* L. E. Martin. *Consultants:* Clarke, Nicholls and Marcel (structural); H. A. Sandford (mechanical and electrical). *Quantity Surveyors:* J. K. Carless. *Specially woven curtains in ground floor waiting space:* Michael O'Connell. *Special mosaic wall in children's room:* Mrs. Vera Davies. *Carved wood panel at end of lounge and bronze statue:* Mr. Wain-Hobson. *General contractors:* Marshall Andrew & Co. *Clerk of works:* F. H. Duckett. *General foreman:* J. Bexley. *Sub-contractors:* asphalt: Lawford Asphalte Co. *Reinforced concrete:* Costain Concrete Co. (pre-stressed concrete floors). *Bricks:* Hall & Co. Stone (floor of lounge): Wandsworth Stonemasonry Works. *Artificial stone:* Coulson & West (copings and sills): Noelite Ltd. (external paving). *Structural steel:* Square Grip Reinforcement Co. (reinforcement); Fairfield Ship Building Co. (bridge). *Special roofings:* Alphamin Ltd. (laminated roofs over lounge projection and over penthouse). *Partitions:* Holoplast Ltd. (laminated plastic). *Glass:* Faulkner Greene & Co. *Flooring:* Armstrong Cork Co. (Accotile) and Art Pavements & Decorations Ltd. (Terrazzo). *Tanking to underground water storage:* Lawford Asphalte Co. *Central heating:* Barrett & Wright Ltd.; Fred. A. Pullen & Co. (pumps); Hartley & Sugden (calorifiers). *Sterilizers:* James Slater & Co. (Engineers). *Gasfitting:* Barrett & Wright Ltd. *Boilers:* Rother Boiler Co. *Electric wiring:* Johnson Pearce & Co.; Walsall Conduit Co. (conduits); British Insulated Callender Cables Ltd. (electric cables). *Electric light fittings:* The Merchant Adventurers of London Ltd. *Electric switchgear:* William White Switch Gear Ltd. *Ventilation:* Barrett & Wright Ltd. (mechanical ventilation); Westwell Works Ltd. (hoods and sterilizers,

[continued on page 362]

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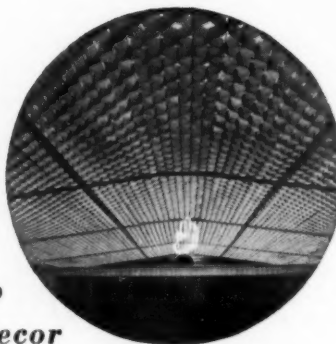
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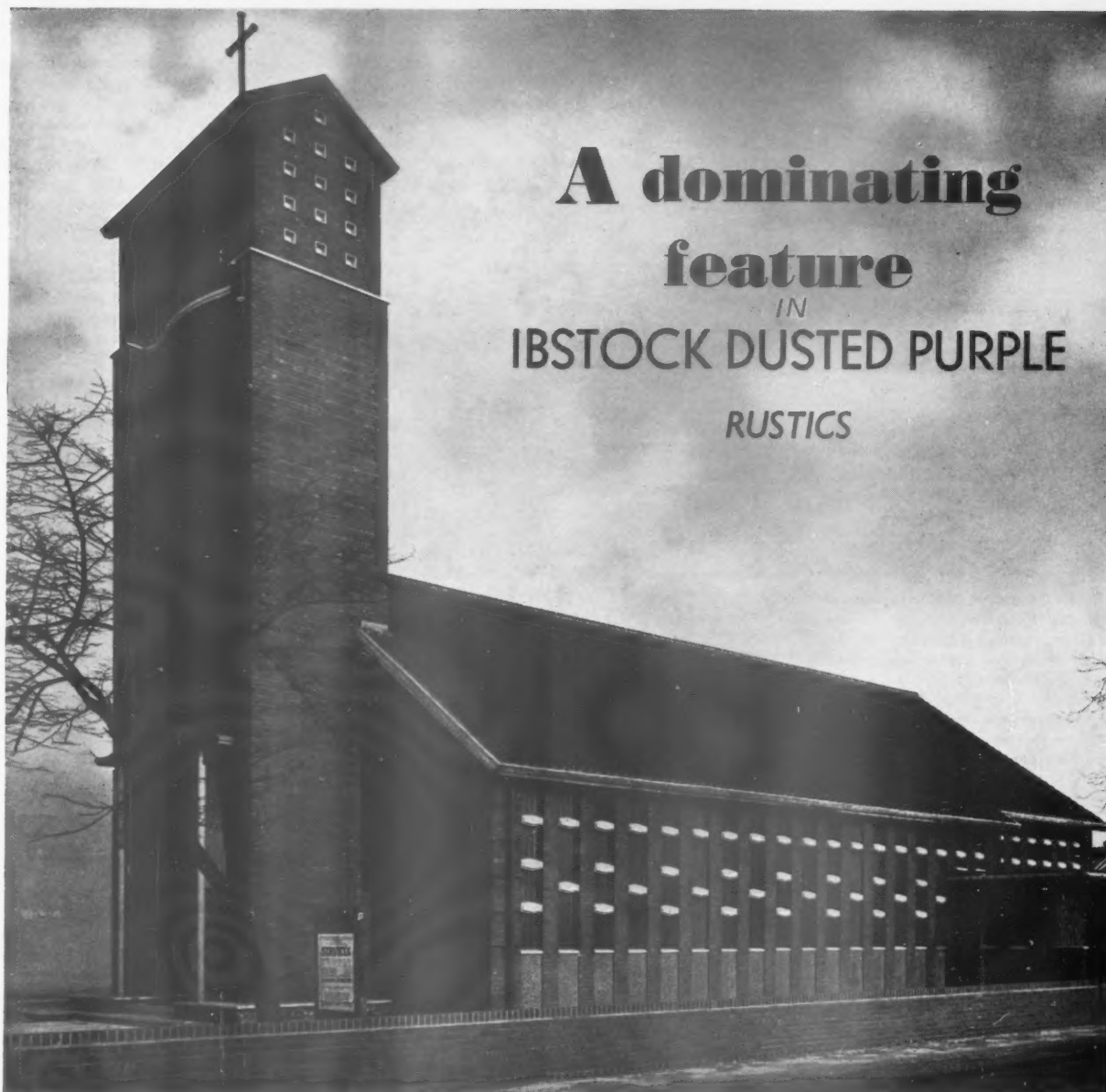
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aluminium trunking). **Plumbing:** Barrett & Wright Ltd. **Sanitary fittings:** John Bolding & Sons. **Door furniture:** Yannedis & Co. (including specially designed handles to architect's drawing and specification). **Metal doors, windows, bronze and aluminium window furniture:** W. James & Co. **Bells:** Johnson Pearce & Co. **Telephones:** Ericsson Telephones Ltd. and Johnson Pearce & Co. **Steel staircases:** Fredk. Braby & Co. **Sunblinds:** Tidmarsh & Sons (venetian and black-out). **Decorative plaster:** J. Ellis & Son (cement glaze); Horace W. Cullum & Co. (acousti-celotex tiles to corridor ceilings). **Specially dyed curtains:** Tidmarsh & Sons. **Most built-in wooden furniture:** L.M. Furniture Ltd. **Shrubs and trees:** Southwood Bros. (gardens, including fencing and lawns). **Hospital fittings:** Cambridge Instrument Co. (thermometers); William Sugg & Co. (incinerators); Vann Bros. (cautery and coldlight units). **Lifts:** Hammond & Champness Ltd. **Clocks:** Synchronome Co. **Water supply system and high pressure distribution:** Bruston Autopneumatic system. **Booster pumps:** G. C. Pillinger Co.

Ealing Technical College Extension for the Middlesex County Council. **Architects:** C. G. Stillman, County Architect; A. J. Bunce, Area Architect; B. S. Roberts and E. F. Stronach, Assistant Architects. **General contractors:** Prestige & Co. **Sub-contractors:** facing bricks: Finnis, Ruault & Nicholls Ltd. **Asphalt:** Highways Construction Ltd.; Brights Asphalt Ltd. **Heavy fuel store covers:** Adams Hydraulics Ltd. **Damp-proof course:** George M. Callender & Co. **Structural steel:** Boulton & Paul Ltd. **Stone and travertine:** Anselm Odling & Sons. **Metal door frames:** F. Braby & Co. **Artificial clipsham stone and granite:** Liverpool Artificial Stone Co. **Ash hoist:** G. Johnson Ltd. **Precast stone stairs:** W. S. Try Ltd. **Studio north lights and skylights:** Standard Patent Glazing Co. **Metal windows:** John Thompson Beacon Windows Ltd. **Ironmongery and steel doors:** James Gibbons

Ltd. **Lifts:** Waygood-Otis Ltd. **Sanitary fittings:** Adamsez Ltd. **Flag staff:** J. W. Gray & Son. **Precast concrete windows:** J. A. King & Co. **External concrete rendering:** Campbell Horne & Co. **Wood-block flooring, semastic tiling:** Horsley Smith (Hayes) Ltd. **Plumbing:** Richard Audrey Ltd. **Cellar flaps:** Luxfer Ltd. **Terrazzo:** Terrazzo & Tile Products Ltd. **Handrails and gates:** William Pickford Ltd. **Flush doors, cupboard units and enquiry desk:** D. Burkle & Son. **Revolving blackboards:** Wilson & Garden Ltd. **Frames and glazing to showcases:** A. Edmonds & Co. **W.C. partitions:** Venesta Ltd. **Revolving door:** F. Sage & Co. **Suspended ceiling lathing, adjustable louvres:** W. H. Colt (London) Ltd. **Drinking fountains:** T. A. Harris Ltd. **Adjustable louvres:** Roberts Adlard & Co. **Paint:** Leyland Paint & Varnish Co. **Curtain tracks:** Lockerbie & Wilkinson Ltd. **Cork flooring:** Korkoid Decorative Floors. **Steel ladders, coat hangers and hooks:** Clark Hunt & Co. **Laboratory fittings and lecture theatre seats:** Sotos Ltd. **Library fittings:** Walker Symondson Ltd. **Window balconies:** Adrian Stokes Ltd. **Anti-vibration mountings:** Silentbloc Ltd. **Wood hand-railing:** F. J. Lewis Ltd. **Steel cycle stands:** Alfred A. Odoni & Co. **Toilet roll holders:** R. Sculthorp & Co. **Paving to car park:** W. & J. Glossop Ltd. **Precast concrete slabs:** Conallcrete Ltd. **Bronze fascia letters:** James Gibbons Ltd. **External tiling:** F. & E. Eastman (England) Ltd. **Paving slabs:** F. Bradford & Co. **Precast curbs:** Wettern Bros. Ltd. **Room labels and numbers:** London Name Plate Mfg. Co. **Topskin to fabric printing benches:** Macclesfield Eng. Co. **Heating, hot water, gas and ventilating installations:** Fretwell Heating Co. **Installation of electric lighting, heating, power, wireless, fire alarm, telephone and clock services:** Electrical Installations Ltd. **Lightning conductors:** R. C. Cutting & Co. **Boilers:** Hartley & Sugden Ltd. **Private automatic exchange and staff location**

system: Standard Telephones & Cables Ltd. **Ventilated spray booth:** Nye & Langston Ltd.; Aerograph Co. **Electric clocks:** Gent & Co. **Ventilation to fume closets:** Nye & Langston Ltd. **Lighting fittings:** Holophane Ltd.; Fred. Thomas Ltd.; Benjamin Electric Ltd.; Merchant Adventurers of London Ltd.; Mek-Elek Engineering Co.; Revo Electric Co.; British Thomson-Houston Co.; General Electric Co.; Hume Atkins & Co.; Falk Stadelmann, & Co. **Batteries and 'Keepalite' plant:** Chloride Batteries Ltd. **Main switchboard:** Parmiter, Hope & Sugden Ltd. **Electric lifts:** Waygood-Otis Ltd. **Fire alarm equipment:** Julius Sax & Co. **Low voltage plugboard and bench units:** Astral Switchgear Ltd.

Offices in High Holborn, London. **Architects:** Max Lock & Associates. **General contractors:** A. E. Monk & Co. (London). **Sub-contractors and suppliers:** Carpets, linoleum and rubber flooring: Catesby's Ltd. **Furniture and curtains:** Heal's Contracts Ltd. **Plants and plant containers:** Shearns. **Electrical work:** L. T. Hall. **Light fittings:** Merchant Adventurers of London, Ltd.; Falk Stadelmann & Co. **Lift:** Bennie Lifts Ltd. **Glass:** Chance Bros. **Heating:** G. N. Haden & Sons. **Wallpaper:** John Line & Sons.

Studio in St. Martin's Lane, London. **Architects:** Max Lock & Associates. **General contractors:** A. E. Monk & Co. (London). **Sub-contractors and suppliers:** Heating and ventilating: Rosser & Russell Ltd. **Suspended ceiling:** Structural Insulation Ltd. **Acoustic tiles:** H. W. Cullum & Co. **Sliding door gear:** Geo. W. King Ltd. **Sound-proof doors:** W. T. Lawrence & Son. **Light fittings:** Merchant Adventurers of London Ltd. **Chairs:** S. Hille & Co. **Unit chairs:** Bowman Bros. **Table:** H. Morris & Co. **'Tygan' woven plastic material:** Fothergill & Harvey Ltd. **Lantern roof:** Stramit Boards Ltd. **'Rocksil' insulation:** Meta-Mica Ltd.

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