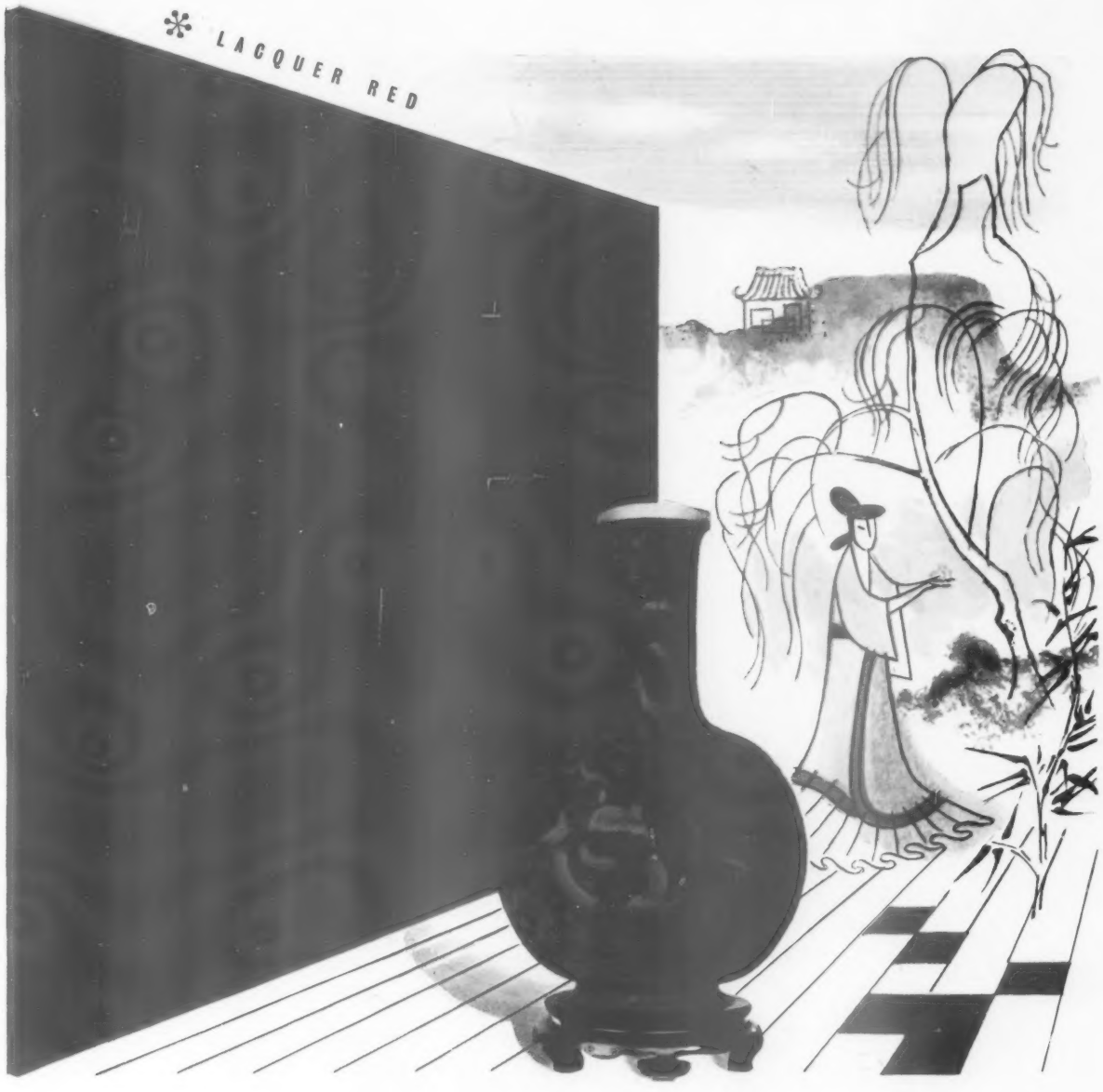
THE ARCHITECTURAL REVIEW VOLUME CXIII NUMBER 678 JUNE 1953 FIVE SHILLINGS



From the palaces of Emperors and the tombs of the noble dead the world has slowly gathered its precious heritage of Chinese porcelain and lacquer-ware — a wealth of fragile beauty that is beyond price. Among such treasure, in the Victoria and Albert Museum, is a superb vase of Cinnabar lacquer attributed to the reign of Ch'ien Lung. The colour of the Vinyl Tile illustrated is a Lacquer Red, standardised by the British Colour Council: it is based upon the brilliant red in Chinese lacquer-ware that is both an inspiration and a challenge to artists and designers of our Western civilization. The colours in the Semtex Vinyl and Semastic Decorative Tile ranges were chosen in collaboration with the British Colour Council.

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THE ARCHITECTURAL REVIEW

Volume 113 Number 678 June 1953

This month's cover shows a recent painting, and one of the massive wooden sculptures, by Le Corbusier, seen against the famous random wall of his studio in Paris. The career of this great romantic of the modern movement seems at last to be approaching a fitting climax in various kinds of official recognition and in his magisterial designs for Chandigarh, of which sketches are reproduced on p. 348, and also in a note on pp. 403-406, which describes the recent exhibition of his painting and sculpture at the ICA and considers the part played by works such as those on the cover in the development of his creative imagination.

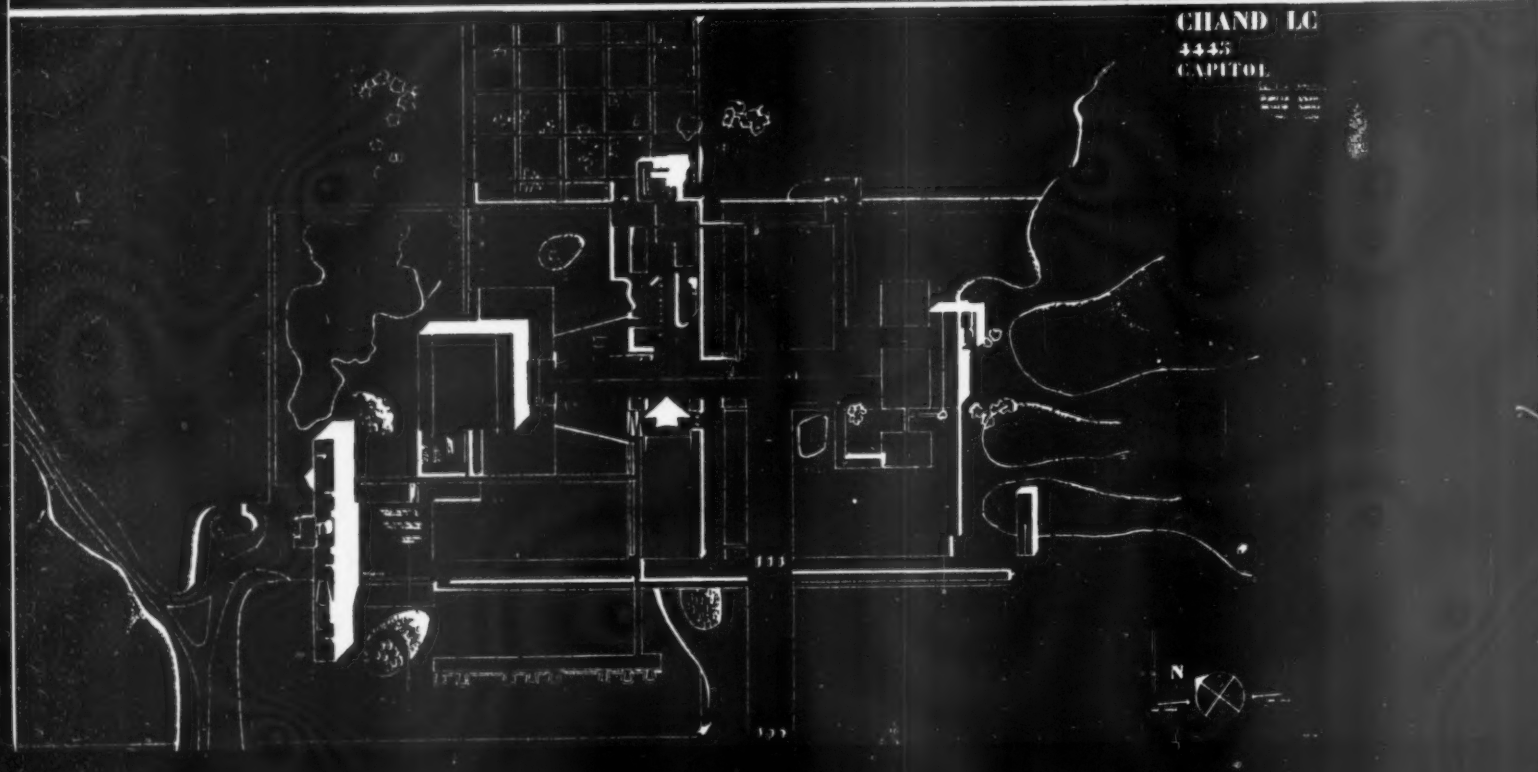
Author *Grant Manson*, born in Chicago, 1904. As a child saw and was fascinated by many of Wright's early prairie houses. Educated at Columbia and Harvard Universities. Although a trained architect, has never practised. Before war taught art history at Columbia University. Half war service spent in England. At present preparing a book on Frank Lloyd Wright.

SUBSCRIPTION RATE: The annual post free subscription rate, payable in advance, is £2 18s. 0d. sterling, in USA and Canada $9. An index is issued half-yearly and is published as a supplement to the REVIEW.

THE ARCHITECTURAL REVIEW

9-13 Queen Anne's Gate, Westminster, S W 1 · Whitehall 0611

FIVE SHILLINGS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It has fallen to the lot of Le Corbusier to follow Sir Edwin Lutyens in the creation of a great city on the abstract plains of India, but the two cities could hardly be more different. The Capitol at Chandigarh, opposite, the group of public buildings that dominates his new capital city for East Punjab, is an urban composition into which Le Corbusier has poured not only the accumulated technical resources of the twentieth century, but has cast them in the mould of a plastic imagination which now reveals itself as one of the richest and most personal of the age. The view towards Government House, reflected in the pool which lies before it, shows architecture and landscape organized and shaped by a single creative hand whose development is outlined in a note on page 408, which describes the recent exhibition of his work as painter and sculptor at the ICA. The cover illustrates further work which was not on view at the exhibition.

Grant Manson

WRIGHT IN THE NURSERY

THE INFLUENCE OF FROEBEL EDUCATION ON THE WORK OF FRANK LLOYD WRIGHT

It is difficult and open to challenge to try to define, in the usual way, a set of 'influences' that may have affected the career of so pioneer a genius as Frank Lloyd Wright. But he is an alert and sensitive human being, and it would be a mistake to think, no matter how beguiling it may be, that his art sprang whole from a certain complex of inheritances at a fixed moment in time. Other than the nebulous and overpublicized inspiration that he drew from Louis Sullivan, the 'Lieber Meister,' he has of course undergone experiences in his life that have marked his work. The job is to track them down, particularly those experiences which came to him in childhood and early manhood when his characteristic view of things was forming.

If we are to understand the phenomenon of Frank Lloyd Wright's career, it must never be forgotten that, although it is now illuminated by the brightest fluorescence, it started by gaslight. It is in the brown decades, therefore, that we must look for what influences there may be.

As is well known, Wright was born in Wisconsin, a prairie state, in 1869; but he spent some years of childhood in Weymouth, Massachusetts, where his father, an itinerant music master and lay preacher from New England, had been called as pastor to the little Baptist congregation. For the father, it was a return to familiar scenes, but for the mother and children it was a revelation in all ways. The Wrights had not been long in Weymouth when the mother and father made an excursion to see the great Philadelphia Centennial Exposition of 1876. There, in that welter of horrors spread out in Fairmount Park, Mrs. Wright, to her credit, made a discovery. She found something exciting and new that seemed to her a sign of better and cleaner times to come; her discovery led to that influence upon his career that Wright himself concedes, and to which he devotes several passages in his autobiography.

To get the picture clear, it must be noted that Mrs. Wright was a most unusual woman, of direct Welsh descent. Animated always by a controlled fire of ambition for accomplishment, she was filled with a yearning for education beyond her time and place. It was her husband's Amherst degree, more than his singing, that won her to him and reconciled her to the many years' difference in their ages. Hers had been, back in Wisconsin, a small but constant voice of courage in the wilderness. She had predestined her son, Frank, to be a builder, out of some

sort of Celtic vision, and, from the day of his birth, her quest for means to develop him along the chosen path was tireless.

Thus, and with unerring acuity, Mrs. Wright passed most of her time at Philadelphia studying an exhibit of Froebelian kindergarten training in charge of Miss Ruth Burritt, a Froebel disciple. The display of Froebelian toys and games which Miss Burritt had arranged made a startling contrast with the Victorian gimcrackery of neighbouring booths, and, furthermore, what Miss Burritt had to tell found an absorbed and sympathetic listener in Mrs. Wright. Here, indeed, was a radical departure in child education, and she grew eager to put its principles into practice back in the Weymouth parsonage. Accordingly, upon her return to Massachusetts, she went to Boston to see what was available in kindergarten equipment and instruction.

She found that another of Froebel's disciples, Madame Kraus-Boelte, had established a kindergarten in Boston in 1872, and that several kindergartens were currently in operation there under the direction of Madame Kriege and Mrs. Shaw, other disciples. A Boston bookseller carried some textbooks in English published a year or two before by Steiger of New York, and Milton Bradley's store had in stock a complete line of Froebelian toys and kindergarten chests. There was nothing like this in Wisconsin! The way was clear for Mrs. Wright to begin her experiment in the education of her children, and of Frank in particular.

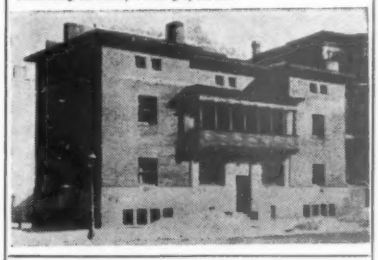
The fact that Frank was then going on seven years old, and somewhat beyond the accepted kindergarten age, did not in the least deter her; he was, she knew, by predestination and by precept, highly sensitive to structural experience, and could well derive more value from Froebel's chests at seven than at four. She proceeded; and to inspect the Steiger textbooks, crammed with diagrams, and minutely practical, is to get an explicit understanding of how she proceeded.

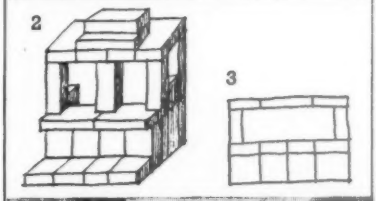
It is perhaps hard for today's people to grasp that the idea of directing play instinct into constructive channels could ever have been revolutionary. But revolution is precisely what Froebel and his colleagues had brought about under the happy title of 'kindergarten,' a title that reveals Froebel's basic tenet that direction must be so sympathetic as to increase rather than diminish the joy of play. It was only that, without the child's awareness, play was transformed from a random outlet for energy into instructive games designed to inculcate interest in and respect for natural objects and principles. To this end, the first and most obvious improvement was in the character of the toys. Froebel offered nothing amorphous. Instead, the child was given objects simple and crystalline in shape, primary in colour, and truthful in material. The toys, known in the early days of the kindergarten as 'gifts,' were given to the child in a series beginning with the three fundamental shapes—the cube, the cylinder, and the sphere—followed at intervals with other gifts gradually increasing in variety. With each gift there were dozens of games to be played, organized into a progression.[1] In this way the child perceived without prompting the mastery he had gained over these materials, giving him the self-confidence to progress another step on the Froebel ladder. In contrast to the gingerbread toys of Victorian times, a child familiar with the Froebelian gifts would have the very unusual advantage of developing a sympathy for basic forms, simple materials, and true colour.

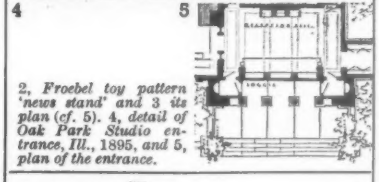
Of this important experience in his childhood Wright says in his autobiography: 'The strips of coloured paper, glazed and "matt," remarkably soft brilliant colours. Now came the geometric by-play of these charming checkered colour combinations! The structural figures to be made with peas and small straight sticks; slender constructions, the joinings accented by the little green pea-globes. The smooth shapely maple blocks with which to build, the sense of which never afterward leaves the fingers: so *form* became *feeling*. And the box with a mast to set up on it, on which to hang with string the maple cubes and spheres and triangles, revolving them to discover subordinate forms. . . . And the exciting cardboard shapes with pure scarlet face—such scarlet! Smooth triangular shapes, white-back, and edges, cut in rhomboids, with which to make designs on the flat table top. What shapes they made naturally if only you would let them!' And again: 'That early kindergarten experience with the straight line; the flat plane; the square; the triangle; the circle! If I wanted more, the square modified by the triangle gave the hexagon—the circle modified by the straight line would give the octagon. Adding thickness, getting "sculpture" thereby, the square became the cube, the triangle the tetrahedron, the circle the sphere. These

[1] It is understood that only a Victorian child would submit to such regimented play; this fact of itself contributes to the flavour of the era being described.

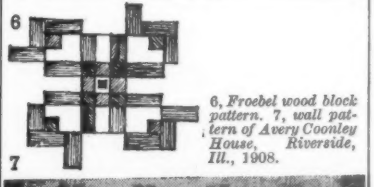
1, *Frank Lloyd Wright's personal geometry: James Charnley House, Chicago,* 1891.



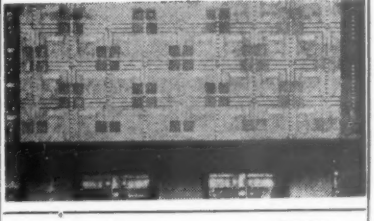


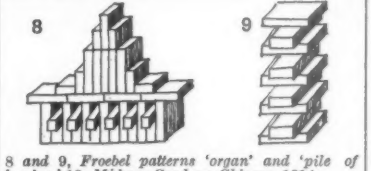


2, *Froebel toy pattern 'news stand' and 3 its plan (cf.* 5). 4, *detail of Oak Park Studio entrance, Ill.,* 1895, *and* 5, *plan of the entrance.*

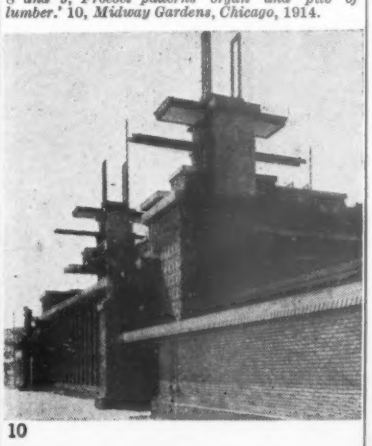


6, *Froebel wood block pattern.* 7, *wall pattern of Avery Coonley House, Riverside, Ill.,* 1908.





8 *and* 9, *Froebel patterns 'organ' and 'pile of lumber.'* 10, *Midway Gardens, Chicago,* 1914.



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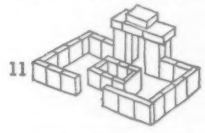
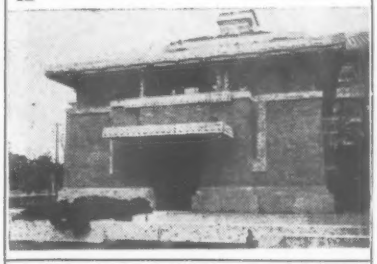
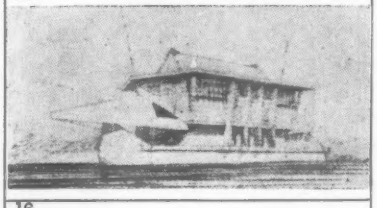
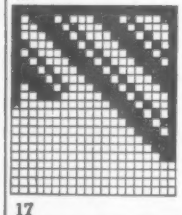
11, *Froebel 'farmyard' pattern.* 12, *Emperor's entrance, Imperial Hotel, Tokio, Japan,* 1916–22.



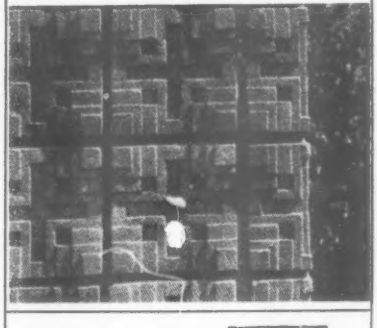


13 and 14, *Froebel paper folding patterns 'bed' and 'cruet.'* 15, *family barge, Tahoe summer colony project, California,* 1922.

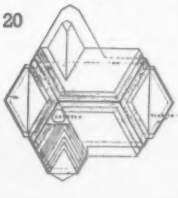




16, *Froebel flat pattern.* 17, *external facing blocks of Mrs. George Madison Millard house, Pasadena, Calif.,* 1923.



18, *Froebel cardboard shapes.* 19, *perspective of cabins, San Marcos water gardens project, Chandler, Arizona,* 1927, *and* 20, *plan.*



primary forms and figures were the secret of all effects . . . which were ever got into the architecture of the world.'

Such ecstatic passages, highly characteristic of Wright's literary effort, give the impression, as they are meant to do, of a tremendously receptive child responding to the fascination of abstract forms and patterns just at the moment when his thought-habits were becoming firm. Their hypnotic style should not be permitted to obscure the very real experience that lies behind them, nor the fact that it had an enduring effect upon him which he is eager to admit. We see that he found equal delight in both the two- and the three-dimensional Froebelian exercises, and they bear a distinct resemblance to certain designs which he incorporated into the work of his Prairie-House and subsequent periods. The determining factor in these resemblances is always that a passionate attempt is made to give expression to the nature of materials[2] and to allow it to dominate the design.

Froebel insisted that his toy structures be built carefully, with a plan marked out first upon the floor. The child's imagination was stimulated by being persuaded to name the resultant structure, even though the similarity was slight, after some well-known object in reality, and he thus felt that he had the power to build anything he could ideate, a form of self-confidence which Wright has exhibited to a marked degree.

The curve, lying within the sphere, was limited in application, and the kindergarten engineer knew that he could only use it as ornamental relief for his prevalent straight lines. The chief decoration for his block-houses was vigorous effects of light and shadow, with which he could produce interesting and satisfactory rhythms that gave his houses richness without any surface ornamentation whatever. There was an emphasis on good balance and an acceptance of adequate unbroken surfaces as the surest way to success. Sometimes partial enclosure was the aim, as in walled 'barnyards,' and here the imaginative child could take pleasure in co-ordinating his structure with its environment—an illuminating experience. Even the complexities of town-planning were suggested in such exercises as 'street scenes' and 'street crossings.' Furniture, too, was built, likewise abstract, and looking very modern.

It is noteworthy that Froebel, unlike his present-day successors, did not recommend drawing or painting until the last stages of the child's kindergarten experience. Thus, there could be no direct imitation of nature; all natural objects were interpreted in the crispness of pure geometry. At the same time, the child was encouraged to see that geometric forms underlie all natural objects and are readily arranged into satisfying approximations of them. Letting his imagination run free in the pleasantly ordered world of the abstract, Froebel's child could produce unlimited results, both flat and solid, that were independent of 'nature' in the banal Victorian sense. It was an enormous advantage.

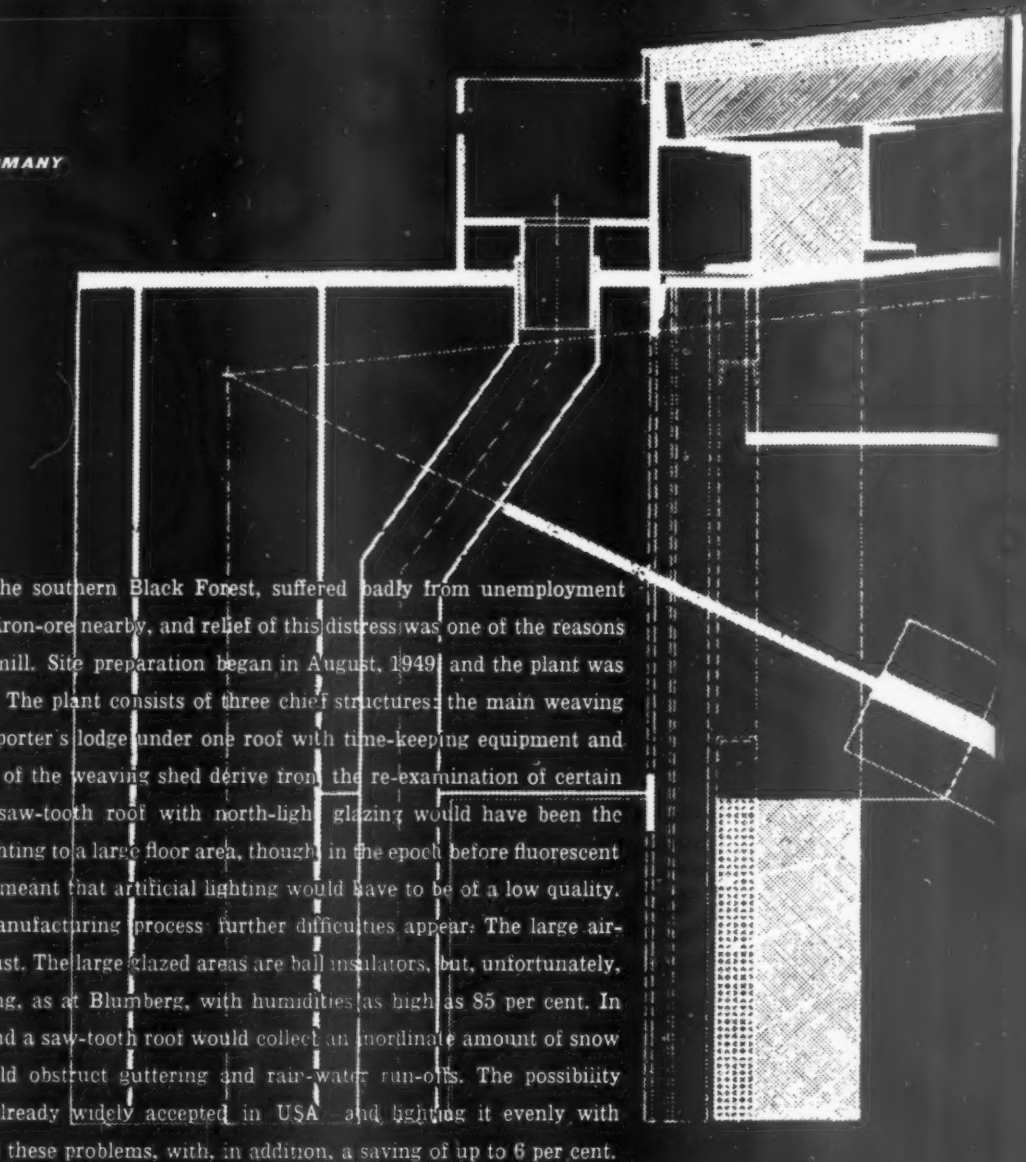
How many hours of his time Wright devoted, in the Weymouth house, to such play is incalculable, but the value is not. It is most significant that Wright, a man who ordinarily rejects out of hand any suggestions of 'influence,' so freely acknowledges it. He used to speak of it to George Elmslie[3] and to Robert Spencer[3], who very wisely and penetratingly stressed its effect on Wright in his sympathetic early monograph in THE ARCHITECTURAL REVIEW in 1900, pointing out that Wright was probably the only American architect of his generation to have been so disciplined.

It was not in vain that his mother stopped and studied Miss Burritt's exhibit that day in 1876 at the Centennial; as a result, she did indeed, in the heyday of Welsbach and Eastlake, open to her builder-son a vista of cleaner things to come. The question as to whether he would have absorbed in due course, thereby supplanting what she offered him, the mannerisms of the Arts and Crafts movement, of which the Froebelian principles, like those of William Morris, were progenitors, is beside the point. The two things are not the same, and Wright had gained and incorporated direct kindergarten experience, and demonstrated its influence in his actual buildings, before Chicago was aware that an Arts and Crafts movement was in being. His immediate and powerful declaration of faith in function, right across the board and at the moment that he made his first independent design, bespeaks an ingrained habit of thought that could only have come to him very early in life, and basically.

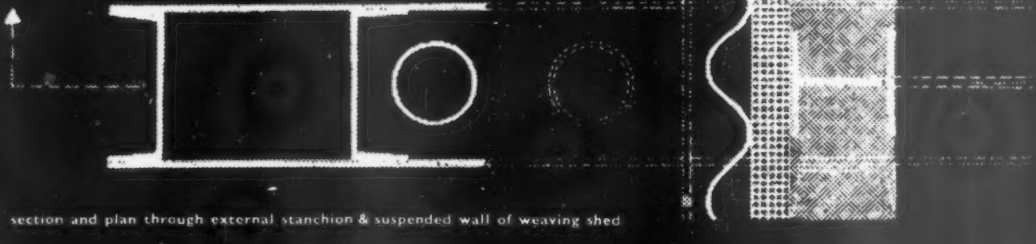
[2] This factor was memorialized by Henry-Russell Hitchcock in the title selected for his book on Wright: 'In the Nature of Materials' (Duell, Sloane, and Pierce, 1942).

[3] Colleagues of his early Chicago days.

FACTORY AT BLUMBERG GERMANY

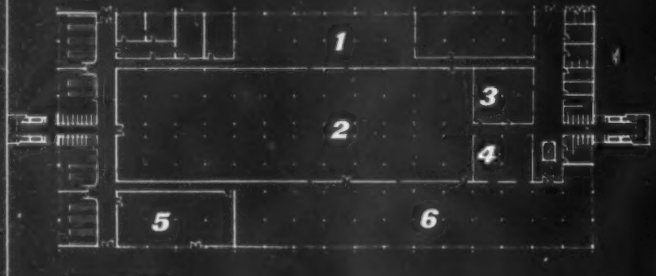


Blumberg, a small town in a remote part of the southern Black Forest, suffered badly from unemployment as a result of the closing of a mine of low-grade iron-ore nearby, and relief of this distress was one of the reasons for selecting it as the site for this new weaving mill. Site preparation began in August, 1949, and the plant was completed in the autumn of the following year. The plant consists of three chief structures: the main weaving shed, a boiler house with bath facilities, and a porter's lodge under one roof with time-keeping equipment and a cycle park. The unique form and fenestration of the weaving shed derive from the re-examination of certain well-known industrial planning procedures. A saw-tooth roof with north-light glazing would have been the normal solution to the problem of giving equal lighting to a large floor area, though in the epoch before fluorescent lighting, its poor form as a reflector would have meant that artificial lighting would have to be of a low quality. But when air-conditioning is essential to the manufacturing process further difficulties appear. The large air-trunks in the roof obstruct the light and collect dust. The large glazed areas are bad insulators, but, unfortunately, excellent condensers, another fault when working, as at Blumberg, with humidities as high as 85 per cent. In addition, winter in this area is long and severe and a saw-tooth roof would collect an inordinate amount of snow which, becoming hard-packed and frozen, would obstruct guttering and rain-water run-offs. The possibility of building a windowless factory – a solution already widely accepted in USA – and lighting it evenly with fluorescent tubes offered an escape from many of these problems, with, in addition, a saving of up to 6 per cent. of the cost of the structure if a plain pitched roof were employed. Calculating the volume of conditioned air required on the basis of the summer maximum, when the greatest amount of heat would have to be extracted, it was found that this form of roofing and lighting offered a saving of 25 per cent in current consumed, and this was decisive in turning opinion in favour of this new and original layout.



section and plan through external stanchion & suspended wall of weaving shed

key
1, offices & staff wing.
2, yarn store.
3, material store.
4, pattern room.
5, canteen.
6, preparation room.
7, weaving room.
8, stores.



ground floor plan

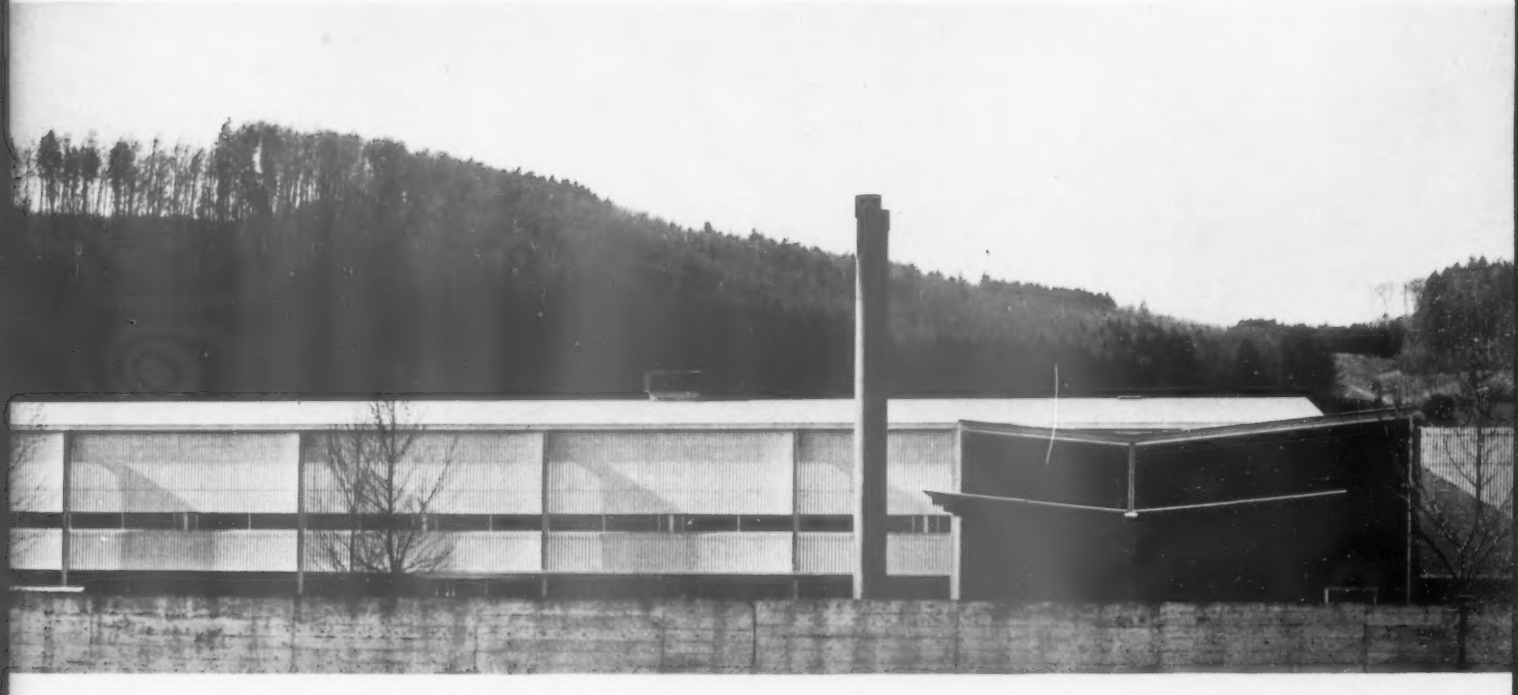
first floor plan

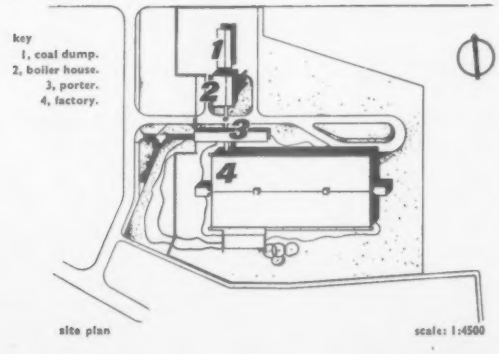
FACTORY AT BLUMBERG GERMANY

EGON EIERMANN : ARCHITECT

1, the northern elevation of the factory seen from the road. On the right is the boiler house with canopy protecting the fuel dump in front of it.

1





The lower floor of the main shed contains a canteen, cloakrooms, stores, workshops and preparation rooms. Construction is of precast concrete columns dropped into prepared sockets by means of a crane ; precast beams span between them and form the substructure of the floor of the main machine room above. This room is a continuous space interrupted only by a double row of stanchions down the centre to support the steel roof trusses whose outer ends are carried on steel columns placed outside, and independent of, the walls and the lower floor—the walls of the main room being hung

2

from the roof structure. This mode of construction was adopted for ease and speed of erection—since site work began in August there were only two months before the first frosts were expected, in October at Blumberg's altitude of 2,300 ft. The ultimate loading of the footings was not known at the time they were poured, and this, in conjunction with the determination to keep the precast columns of the lower structure identical, made complete independence of the two structures the only rational solution. Concreting was complete before the first frost, and only dry construction remained to be carried out during the winter months. Rain-water run-offs are concealed in the external stanchions, and the sheet-steel guttering also acts as a torsion beam between their heads. All exposed steelwork is painted light blue, the upper part of the main shed is walled with light insulating slabs clad externally with corrugated asbestos painted white, and the lower walls, together with those of the boiler house and porter's lodge, are faced with black glazed ceramic tiles.

The two air-conditioning plants are located in the roof between the central rows of stanchions, and all distributing trunks are located inside the trusses above the

2, the main entrance on the south elevation with suspended corrugated asbestos canopy. 3, detail of the vision strip which runs the whole length of each main façade. 4, windows of the lower floor canteen. 5, the north façade of the main shed seen from beneath the canopy over the works entrance.

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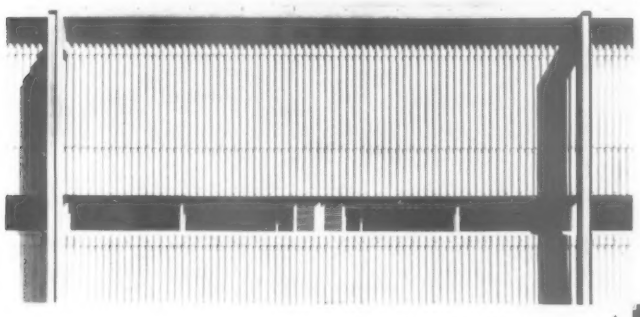

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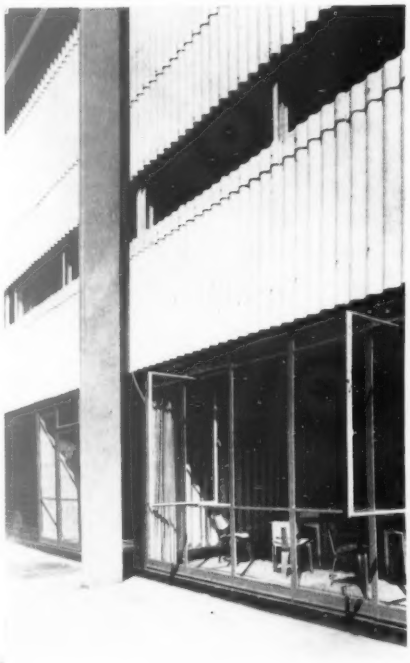

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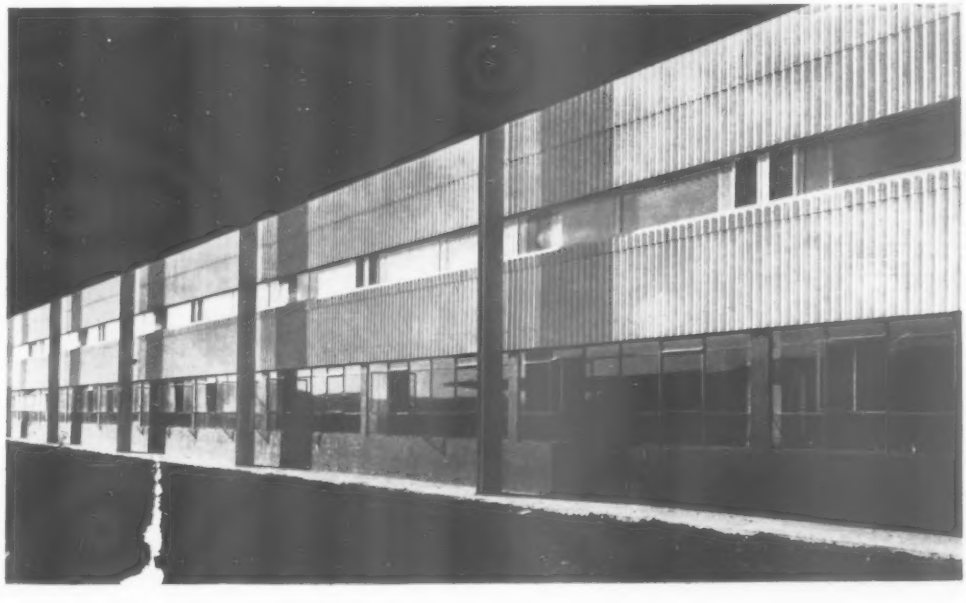

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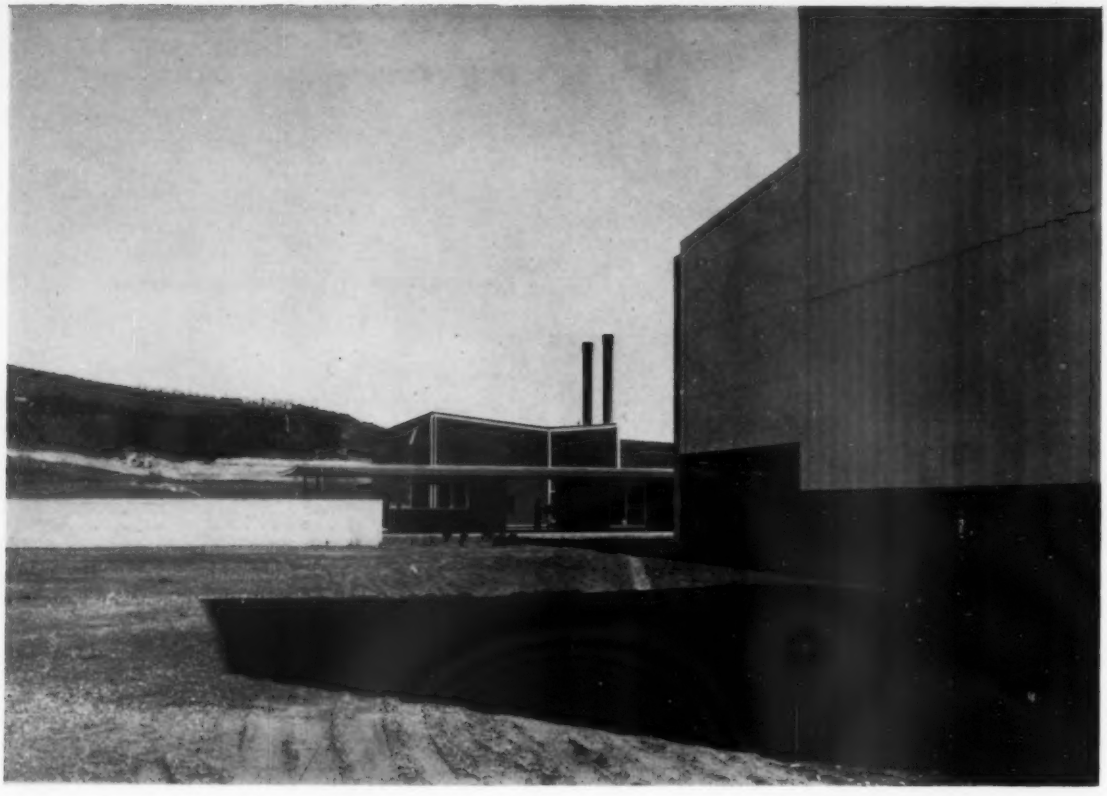

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ceiling, which is perfectly flat, broken only by inlet and outlet grilles. This offers no upward-facing surfaces to harbour dust, and gives a far cleaner interior than a saw-toothed or monitor roof. Metal grilles alternating with the windows discharge any surplus air pressure during the summer, but during the winter discharge is into the roof space to keep it above freezing point. The boilers deliver high-pressure steam as this is required for part of the production process, and low-pressure steam is used to heat all the lower rooms, since only the main machine room is air conditioned. Special attention had to be given to the choice of ceiling materials as these had to have the contradictory qualities of a surface with high sound absorption and high reflectivity. The fluorescent lighting tubes were placed directly below

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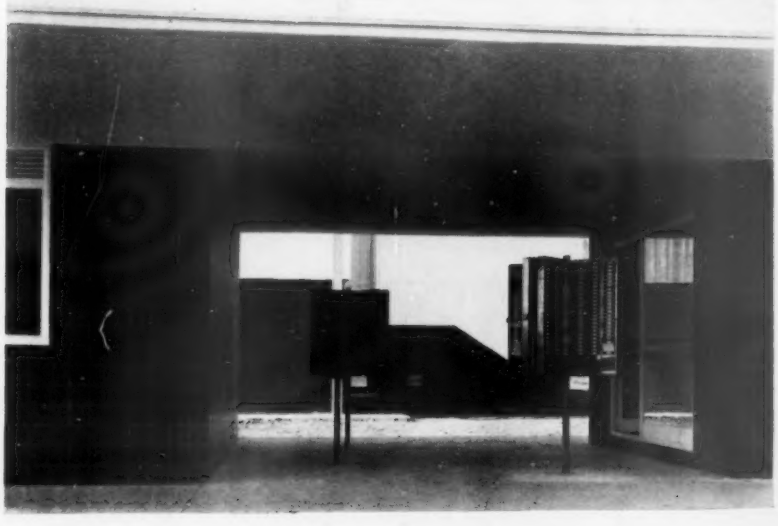
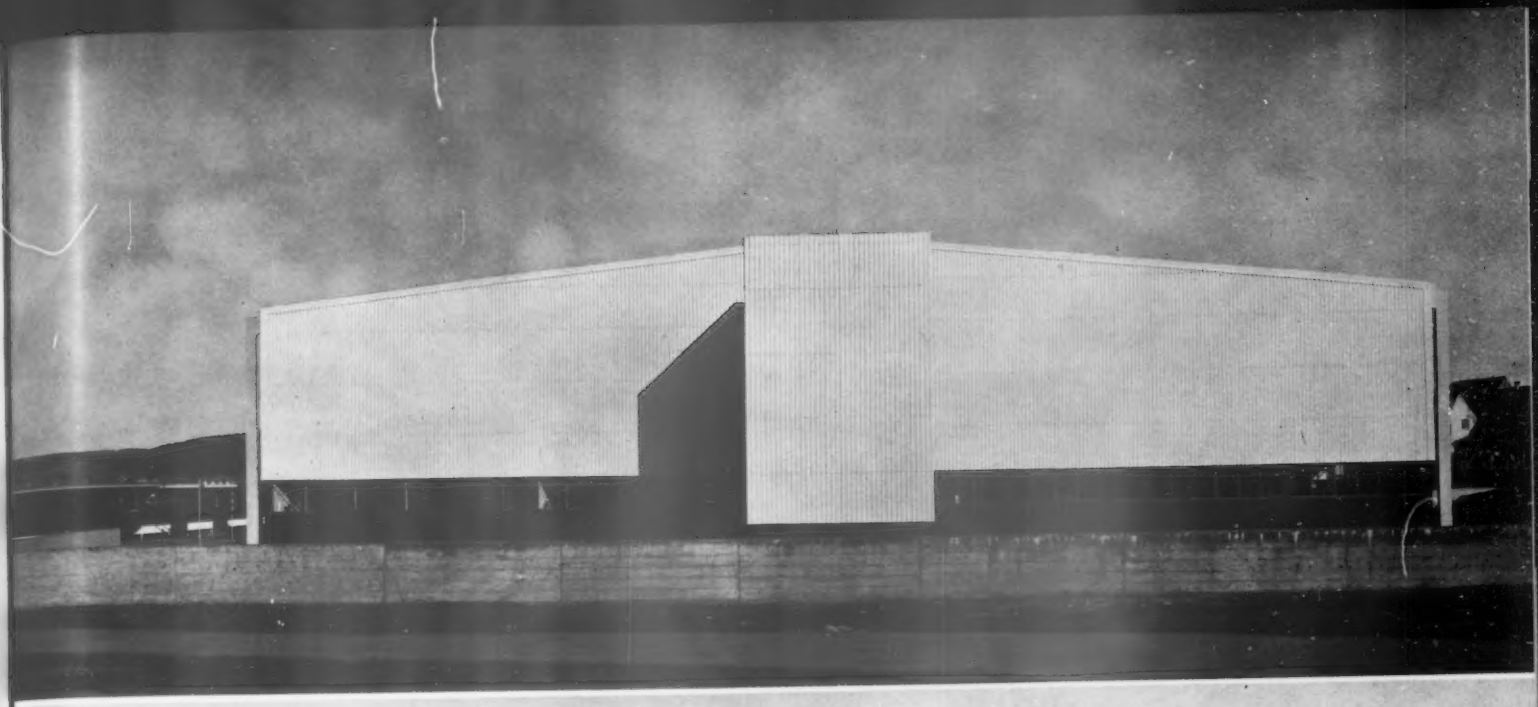


6, general view of the works entrance looking north. 7 and 8, the works entrance and gatekeeper's lodge. This whole unit is protected by a cantilevered concrete canopy. The external walls are faced with black glazed tiles. 9, on the facing page, the west elevation showing the staircase block in the centre. 10, the north elevation looking south-east.



FACTORY AT BLUMBERG GERMANY

12

the ceiling, to avoid the effect of a cramped headroom which often appears when lamps are hung just above the machines. No reflectors were needed since the ceiling is white, and this gives high quality lighting, without glare, over the whole of the working area. The rows of tubes are run at right angles to the orientation of the machines, so that there is enough shadow cast to render faults in the fabric visible, while the colour-temperature of the lighting has been carefully studied in order to make exact colour-matching possible. The architect considered that working under these conditions, though ideal, might seem rather inhuman, and therefore pro-

11, opposite, the south-west corner of the boiler house looking towards the main factory and works entrance. 12, west elevation of the boiler house as seen from the works road. 13, north-eastern view of boiler house showing free standing chimneys.

13

vided a vision-strip to afford some visual communication with the world outside, but this narrow band of window has also proved to provide a remarkable amount of light, due to the high reflectivity of the all-white interior. The reactions of employees to their working conditions have so far been entirely favourable.

Nikolaus Pevsner

In the struggle to consolidate and exploit the new architecture as a manner of everyday construction—often a more heroic battle than the original invention of the style—the Dominions are playing a vital, though sometimes unappreciated, part. In the article which follows Professor Pevsner draws attention to a hitherto unremarked phenomenon: the sudden appearance of 'a little Brazil within the Commonwealth.' For in Johannesburg a group of architects have evolved a contemporary vernacular for the many large buildings, mostly blocks of flats, which have been erected there since the War. The greater part of this development lies in the suburb of Hillbrow, seen opposite in two high-level views—one from, the other towards, the gleaming sand-tips which form a suitably exotic and dramatic complement to an area extraordinarily consistent in its use of a modern idiom.

JOHANNESBURG

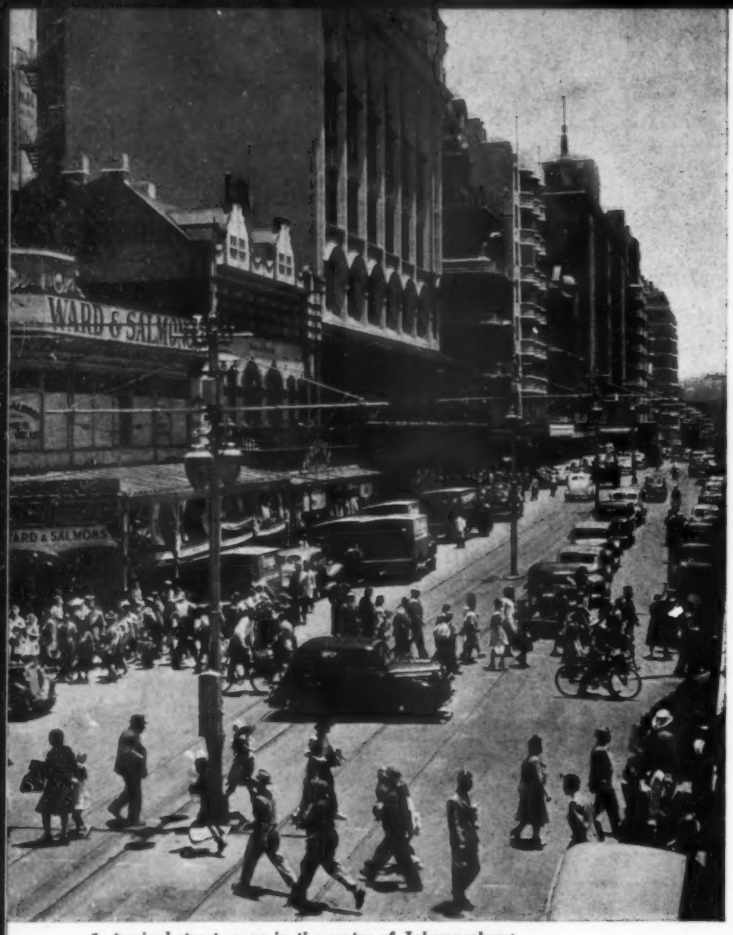
THE DEVELOPMENT OF A CONTEMPORARY VERNACULAR IN THE TRANSVAAL

The train climbs nearly 6,000 feet from Cape Town to Johannesburg. You travel through the vineyards and fruit plantations of the Cape Province, then up the Hex River, in serpentines as daring as those of the Gotthard route across the Alps, rising by two and a half thousand feet over a distance of 36 miles, and then you reach the Great Karroo, miles upon miles of flat, bare and barren table-land both sides of the railway track, untouched perhaps within eye-sight by any human hand, scruffy low growth, never tended; red soil, red rocks, no water. The towns and villages, where there are any, are of low houses along wide, dusty, tree-lined streets. The hotel may be the only house rising to three storeys, the Lord Milner Hotel for instance, at Matjesfontein, 3,000 feet up; European population 150. But from Matjesfontein it is still 650 miles to Johannesburg, 650 miles through the Central Karroo and then the Northern Karroo or the High Veld.

You stop at Kimberley, where they found the first diamonds in 1871 and still show you 'the largest man-made hole in the world,' a crater 1,200 feet deep, and finally you reach the Rand, the reef that runs in a west-east direction, and on which Johannesburg stretches out its suburbs, its locations, its subsidiary towns, for something like 40 or 50 miles in one direction, for 7 or 8 in the other. Gold-mining has left its mark in handsome sand-tips and slime-dams of all sizes. The sand-tips are often conical, the slime-dams of a stepped tabular shape something like models of Table Mountain. They say a number of them have already settled so firmly that one could build on them. They also point at one of them or near one of them and tell you that there the first gold of the Rand was dug in 1885. The conical tips look very much like the white china-clay dumps of Cornwall, but vary in colour from a pale yellow to gold and auroral pink. They stand on your right and don't leave you, until the train pulls in at the station.

It is an untidy station, because it is obsolete in its size, and rebuilding has begun. The old station still proudly displays its Imperial Roman booking halls, by Gordon Leith—old indeed; for the building dates back to about 1934. Now the designs for a new station have been approved. It will be modern and extensive and have all the most up-to-date facilities, separation of the rare long-distance traffic from the suburban traffic along the Rand, concentrated to maximum capacity in the rush hours, and of course another kind of separation, providing for the black their own entrances, booking-offices, cloak-rooms, luggage-counters and waiting-rooms. It will make a fine-looking group, though placed against the screen of a sixteen-storey block which in the present designs is rather schematically symmetrical.

But gone are the giant columns of Rome, America and Sir Herbert Baker, gone to make way for a straightforward idiom of today, handled apparently with complete ease and without any of the self-consciousness which in Europe might lead to a more sensitive, more personal design, or on the other hand to overdesigning. If you have not much work on a scale larger than that of a cottage or terrace of cottages, you tend to overdesign what you have to



1, *typical street scene in the centre of Johannesburg.*

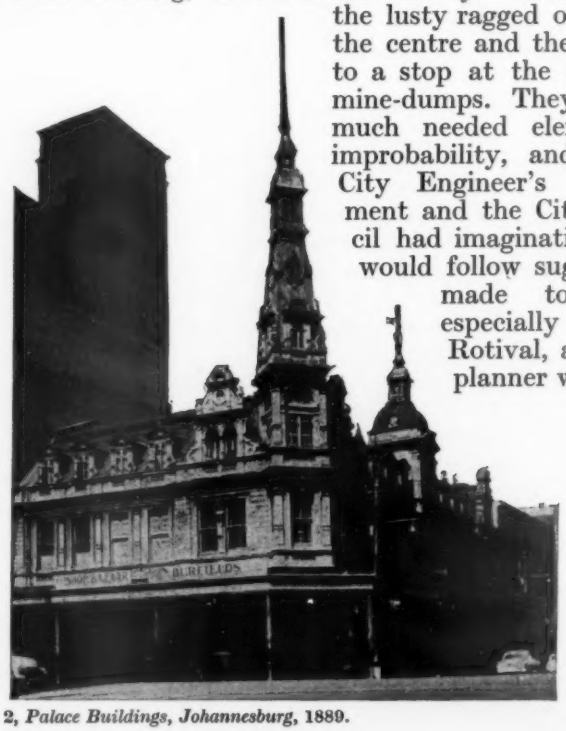
design. There is no shortage of work for the architect at Johannesburg.

The town has about 800,000 population, 350,000 white, 450,000 black. The first houses on the stretch of bare Veld were built in 1886. Chicago is of venerable age compared with Johannesburg. The earliest dated house I have seen is Palace Buildings, of 1889, that is the year of the completion of Sullivan's Auditorium Building, of Holabird & Roche's Tacoma Building at Chicago, the one creating a new style in interior decoration, Art Nouveau years before any European Art Nouveau, the other using steel framing for a 13-storey office block. Palace Buildings is sweetly provincial. With its 2½ storeys and its confectionery turret at the corner, it was no doubt an ambitious piece of display in a town three years old, but its patterns are at Walsall or, if you like, Peckham Rye, rather than in the City of London or at Paris or New York. However, at Johannesburg also it was out of date five years later, and heights of six and seven storeys and the giant columns and bulging friezes of Mountford and Aston Webb, or alternately the pilasters and tourelles of the Franco-Flemish varieties favoured by Sir Ernest George, appeared along the straight and wide streets. The population in 1910 had reached over 200,000 (112,000 European).

The original mining camp was divided into square blocks 206 foot each way and had a plain grid pattern of streets. On this American pattern the town grew, and the centre is laid out entirely like that. An occasional grouping of two blocks together to allow space for the City Hall or the Law Courts or the station, and an occasional leaving of one block to the municipal gardens department is all that punctuates the plan. Moreover, the centre is on flat land. There is nothing attractive there, neither English variety and surprise, nor French scale and grandeur. And when vertical development began in the centre, no control was established over the placing of skyscrapers, so that the pattern has no more composition in the third dimension than in length and width.

But immediately north of the centre, just across the railway, the ground rises steeply, the face of the red rocks is exposed in many places, and then, all through the wealthy white suburbs ridge appears after ridge, the main roads follow the lines of old tracks or lanes, and to the left and right innumerable spacious gardens stretch out, with lush vegetation, jacarandas, plane-trees, syringas, pine-trees, poplars, all planted in the last fifty years and mostly less, and all tended with great care during the winter months of unbroken dryness. The surprising extent of this garden landscape is due to the almost universal preference for the bungalow. The richest magnates in the early years of this century built two-storeyed villas; otherwise houses keep close to the ground and spread loosely, often as the result of gradual growth. Here and there, pavements have never been made in the streets. Those who live in these suburbs all have cars; pedestrians are black. Their graceful, resilient gait, their sleek swinging arms are in contrast to the bulging curves of the ubiquitous fat American cars. Now that flats have broken into this artificial Eden the car is beginning to become a problem.

The University of Johannesburg or the University of the Witwatersrand, as it is called, is as good a vantage point as any to take in the prospectus of the city. The university was founded only in 1921, but being official or representational architecture, it sports a giant portico and a symmetrical layout looking dominant enough on its ridge. Behind the main building, to the south the eye wanders over the lusty ragged outline of the centre and then comes to a stop at the chain of mine-dumps. They add a much needed element of improbability, and if the City Engineer's Department and the City Council had imagination they would follow suggestions made to them, especially by M. Rotival, a French planner who used



2, *Palace Buildings, Johannesburg*, 1889.

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to be at Yale University, and build on suitable dumps. The centre lacks space for civic buildings, a grid is never a satisfactory setting for monumental architecture. Individual buildings on individual barrows, especially if surrounded by well-laid-out planting, would give the town just what it lacks.

Behind the dumps—which are no more than a quarter of an hour's walk from the City Hall—the town goes on, with poorer suburbs, small industry and much waste land. The main roads out are tidier to look at than in the States, but no more gratifying architecturally. M. Rotival's plan deals, apart from the separate case of the dumps, with large issues. It is an outline plan for the development of the whole area between the centre of Johannesburg and the town of Vereeniging, 36 miles by road to the south, which has become, in recent years, the centre of a new area of industrial expansion. The plan is very much in outline; its anatomical diagrams look fascinating. Whether it will be followed depends on many things. The commissioning agency was a group of property-owners; the City Council has nothing to do with it, and one has reason to believe—housing policy in particular—that it would not possess either enough imagination or enough enthusiasm to vote and raise money for such a plan. It would be the first planning venture of Johannesburg.

Housing policy has just been mentioned. The position is this. Land in the better-class suburbs is in private hands, and development is—with certain qualifications—uncontrolled. Native housing is partly—much too small a part—municipally built, but mostly squatting. We must take these various sections of Johannesburg one by one, and examine their architectural aspects.

The well-to-date private house received its architectural cachet at the skilful hands of Sir Herbert Baker. Until he came and revived Cape-Dutch gables and stoops with white columns, the unpretentious villa with iron or timber verandah had been the rule. The two types made up the pattern, until a band of young architects between 1932 and 1934 grafted Le Corbusier on to the Transvaal. They were Rex Martienssen with his partners John Fassler and Bernard Cooke on the one hand, Norman Hanson with his partners Tomkin and Finkelstein on the

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3, aerial view of municipally built native township at Orlando. The main group was built from 1930-33*: houses in the foreground from* 1945-51. *4, standard type of two-family house erected at Orlando in* 1951. *5, typical native slum shacks, for which extortionate rents are often charged, on native-owned soil. 6, municipally owned land at Moroko in* 1947 *given for native settlement. 7, the same site in* 1952 *after the squatters had occupied it for five years.*

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other. And in Pretoria there was Gordon McIntosh. Rex Martienssen, the most brilliant of them, died young in the early years of the war. The best of these Early Modern houses were illustrated in THE ARCHITECTURAL REVIEW nine years ago [Vol. 96, 1944]. They now look curiously and often pleasingly dated. What was good in them is still fresh, what was stunt seems as distant as Art Nouveau.

The style of the wealthy private house in the Transvaal now, as far as it is not Cape-Dutch or garnished with other semi-period motifs (Spanish-Colonial-Mission is having quite a run), can best be compared with the United States. Distance is no longer an object; the *Forum* and *Progressive Architecture* bridge it with ease. American are the low-pitched spreading roofs and the contrasts of materials. Random rubble has become a menace to domestic relaxation in the Transvaal. It tends to accentuate too boldly the exterior and to make its voice heard too ostentatiously by the fireside. Should Frank Lloyd Wright's Taliesin I of 1911 and Taliesin III of 1925 be made responsible for the fashion outside houses or rather Le Corbusier's Pavillon Suisse of 1930–32? For the wealthy American private house Mr. Breuer surely is the principal culprit who caught the infection already before he left England. And as for the exposed boulders inside, the source may again be Frank Lloyd Wright's Taliesin III, or else such Corbusier designs as that for the flats at the Porte Molitor (1933). Anyway, modern domestic architecture in the Transvaal seems almost wholly committed to it. Exceptions such as the elegantly precise and entirely unmannered house which Bernard Cooke built for himself are rare, and equally rare is so original, ingenious and excessive a handling of the accepted motifs as that of Mr. Norman Eaton's houses near Pretoria (see p. 380).

Pretoria is only 35 miles from Johannesburg, and although the atmosphere of the seat of government is utterly different from that of commercial Johannesburg, the two can in their examples of recent architecture be taken together. Cape Town, 900 miles away, keeps an architectural *milieu* of its own. Mr. Eaton enjoys the use of the straight and slender trunks of gum trees for mullions and for open roofs—the gum poles supporting a beamed flat roof also carried on gum poles.

As for the plan of the private house, the special problem in South Africa is raised by the colour bar: African servants have their quarters separate from the main living and sleeping rooms of the house, even if usually very close to them. The solutions vary, and Mr. Eaton's fantastic kraal of rondavels is emphatically an exception. Separation of 'white' living rooms and bedrooms in different wings is also done often, and with an intermediate arrangement of porch, lobby and entrance hall has been used for successful grouping, especially by Messrs. Cowin & Ellis.

Less ambitious houses differ first of all by the size of the plot, or stand, as its local name is, and then by number of rooms. When it comes down to stands of an eighth of an acre one longs for planning in the English sense, for terraces and groups of four, in all the various patterns they can be given. But the lower middle class in South Africa won't have them. As far as they are immigrants from the countryside into the town, they still, in their hearts, hanker after a farmstead, and as far as they are immigrants from Europe the bungalow is their very idea of the new, larger and opener life. Flats are therefore even more hopelessly out of the question. With no vertical punctuation by alternating one-storeyed, two-storeyed and bigger houses and no horizontal punctuation by detached houses, semi-detached houses and terraces, no visual interest can be given to those parts of towns, where in England most of the promising work is to be found. No Lansbury, no Harlow must be expected. To make working-class estates at Johannesburg gratifying to the eye much inducement would be needed.

That is where in their townships for Africans the city engineer and the manager of native affairs have so far failed. If only authorities could make up their minds to look at African housing purely as poorer working-class housing, much could be achieved. A hundred years ago in England also industrialisation had brought to the towns an illiterate country population, earning wages too low to pay for any but the most disgraceful housing. Read *The Builder* in the 1840's, and you will find conditions as sordid as those you see at Alexandra and Sophiatown. The same fear also prevailed amongst the 'whites' of London and Liverpool then of violence, and of the disastrous consequences of allowing any rights to the workers. Again, what was done for them in 'family dwellings for the labouring classes,' in Peabody Trust and Guinness Trust, was charitable at first. When towns and boroughs began to build, they knew they could not expect returns. All this is repeating in Johannesburg, with two differences, however. One is outside the framework of this article. The London workman who grew up in the slums might rise to be a mill-owner. The African worker cannot even be a foreman. If you keep nearly half the population of a city as permanent unskilled labour, you cannot expect that housing them will ever be other than sub-economic. That does not make it less of a municipal duty to provide sufficient housing. It makes it more so. And, secondly, standards of housing and standards of estate planning are not now what they were before 1900. There is no excuse for repeating the mistakes of drab and uniform layouts as we know them from Peabody estates and from Brixton and Clapham. Yet the City of Johannesburg, when it does provide for black workers, houses them in rows upon rows of rectangular boxes arranged in straight lines, neither according to their home traditions nor to ours. No one has been able to explain to me why municipally laid-out and built native townships should not be visually as attractive as council housing estates can be here, by means of variety of layout, planting and so on.

Otherwise, the situation is like this. There are municipally-built native townships chiefly at Orlando, Western Township and White City. They house a total of about 150,000. Buildings are plain and primitive, but sufficient, and considering those who move in, compare probably with prefab housing in England. There are snags, such as the larger size of the African family and also that for instance at Orlando there is

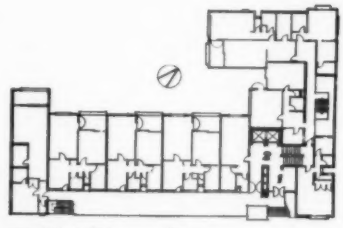
[continued on p. 381

Johannesburg The following pages survey the rapid development and diffusion of a contemporary Johannesburg vernacular, of which this building is typical.

HERMANNA COURT

ARCHITECTS | **COWIN AND ELLIS**

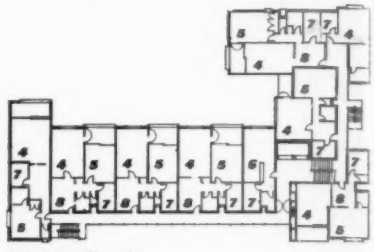
These semi-luxury flats, completed in 1947, comprise 49 two-roomed and 15 bachelor flats. Because of a steep fall on the site and to avoid overlooking, the block was planned with two wings on different levels. Building regulations restricted floor space to 1,000 square feet. A central fin of dark blue facing brick between the two south wings houses the boiler flue, electrical and telephone ducts, the main hot and cold water supply, and rubbish chute to each floor. On all street frontages plumbing pipes have been concealed in ducts with crimped wire mesh covers painted the colour of the brick dadoes. Externally brick in dark and light brown has been used as a facing to the underlying reinforced concrete frame. 4, view from north-west; 5, view from south-west; 6, detail of lift hall; 7, the main staircase.



ground floor plan

key

1, hall. 2, lift hall. 4, living room. 5, bedroom. 6, bedroom-living room. 7, kitchen. 8, dining hall.



typical upper floor plan

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6

7

GROOT DRAKENSTEIN

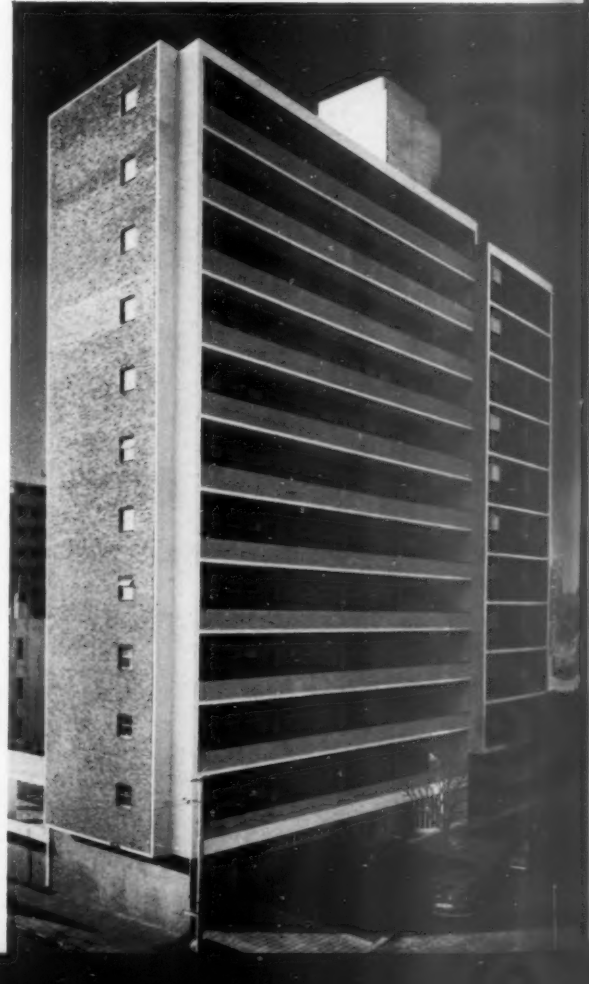
ARCHITECTS | **H. H. LE ROITH AND PARTNERS**

This block of luxury bachelor flats was sited so that practically all flats face north and west, enjoying maximum sunshine and a magnificent view; the L-shaped plan keeps a large proportion of flats back from the road and away from traffic noise. Flats are designed on a cellular system using a 16 ft. 8 in. module which is clearly expressed in the elevations. The living space has a dressing recess along one side which can be curtained off and is directly connected with the bathrooms. The bathrooms help to separate the balconies and act as effective visual and sound insulation. Furthermore, one of the chief disadvantages of the inward facing L-shaped plan for flats—namely that the two wings overlook each other—is mitigated here by the interposed bathrooms apart from the staggering of the floors. R.C. construction was used and flats are effectively insulated from one another by 11 in. hollow block floors and 7 in. brick cavity wall partitions. Externally the finish is painted plaster for the cellular structure with red and plum coloured rustic brick, while external walls facing the access gallery are finished in smooth-faced red bricks with parapet walls in beige-mustard tyrolean rendering. 8, view from south-west; 9, west elevation.

key
1, living room. 2, dining. 3, kitchen. 4, hall.

typical floor plan

8



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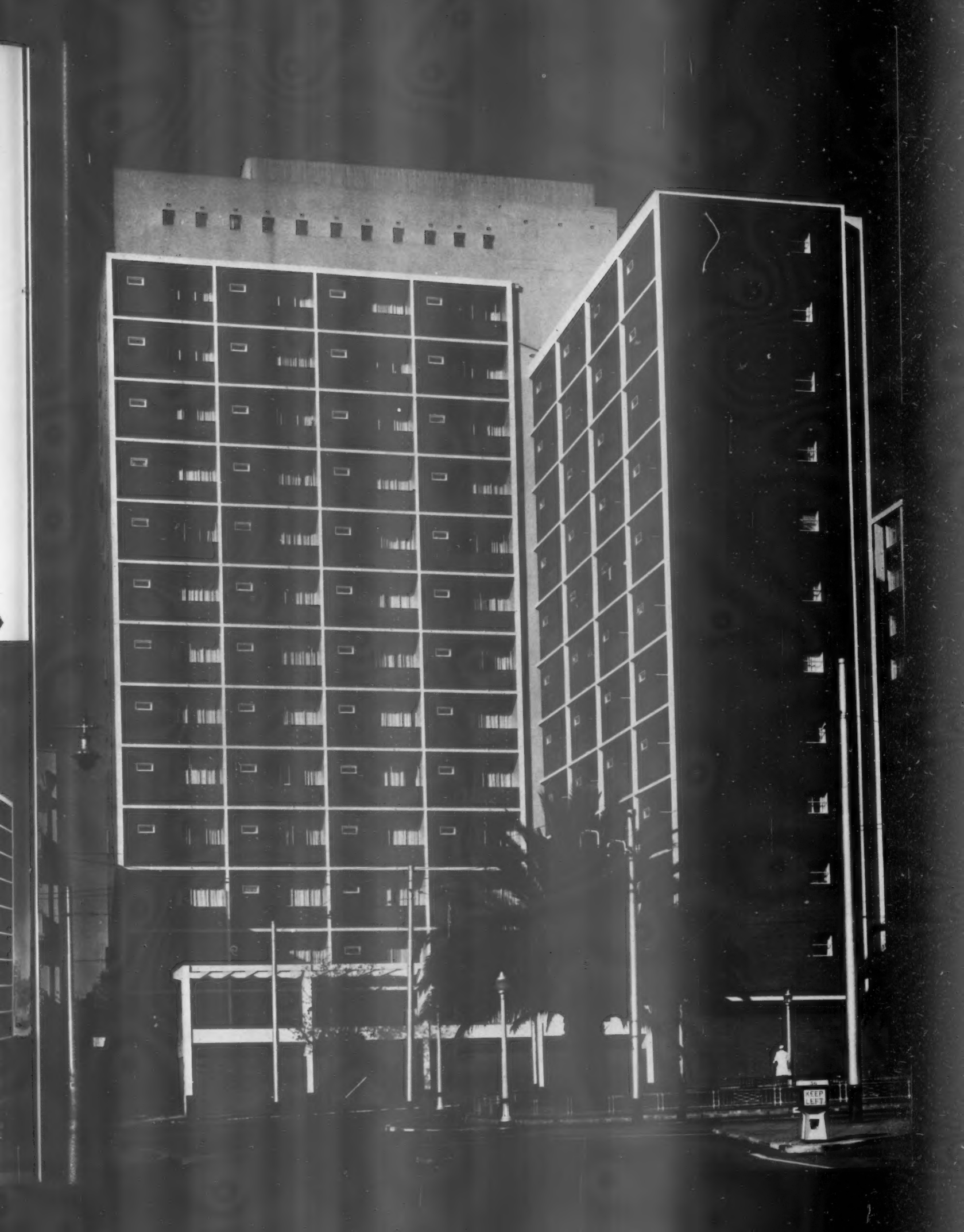

KEEP
LEFT

MARLENE MANSIONS

ARCHITECTS | **H. H. LE ROITH AND PARTNERS**

The plan of these flats is L-shaped, their link containing the main vertical circulation. Typical floors provide three-room flats with street frontage. Exposed concrete is grey-green, finishing bricks are plum coloured. 10, view from north-east.

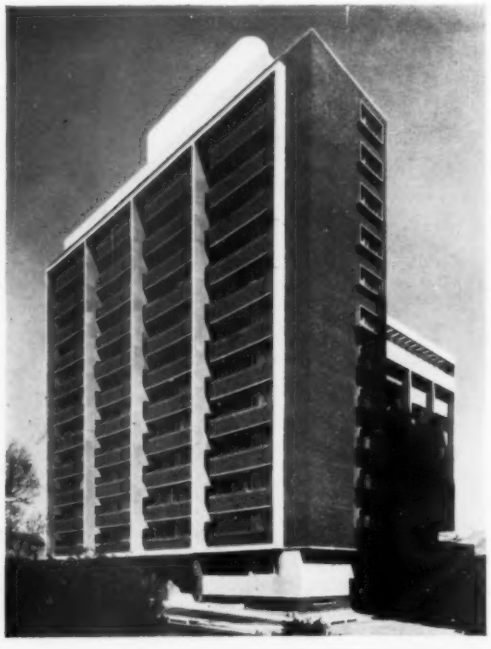
10

STANFORD HALL

ARCHITECTS | **H. H. LE ROITH AND PARTNERS**

The plan is very similar to that of Marlene Mansions. Two- and three-room flats occupy the higher wing facing north while the west wing has bachelor flats each with a deep balcony for protection from the sun. The building stands on a slasto plinth. Facing bricks are dark blue; faces of concrete fins are white and side reveals buff. Native servants' quarters are situated on the roof. 11, view looking south-west.

11



CLARENDON HEIGHTS

ARCHITECT | **PHILLIP KARP**

Finishes of concrete reveals are maize coloured in balcony soffits and window lintols, pale green in projecting ledges and window frames. Balcony walls are finished with orange-brown facing bricks while the remaining brickwork is blue-black. Canvas sunblinds are attached to balcony side walls in a metal track. 12, general view.

12

CRANBROOKE HOTEL

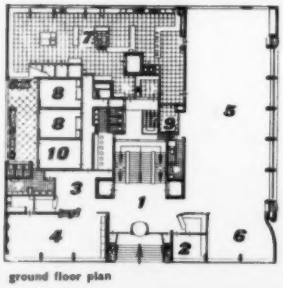
ARCHITECTS | **H. H. LE ROITH AND PARTNERS**

Completed in 1947 this seven-storey residential hotel has 138 rooms mostly with balconies. In the basement is a car park. Construction is r.c. with brick wall panels; internal walls and ceilings are plastered; window frames are steel. 13, view from north-west.

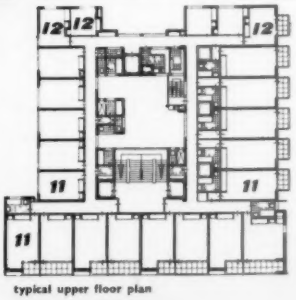
13

key

1, vestibule. 2, office. 3, lounge lobby. 4, lounge. 5, dining room. 6, private dining room. 7, kitchen. 8, staff bedroom. 9, linen store. 10, card room. 11, double bedroom. 12, single bedroom.



ground floor plan



typical upper floor plan

JOHANNESBURG · · · LOW FLATS

CRADOCK HEIGHTS

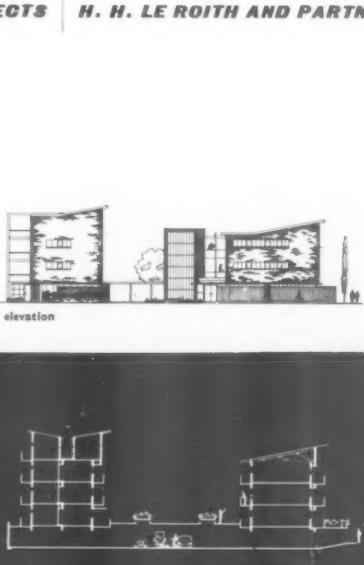
ARCHITECTS | **H. H. LE ROITH AND PARTNERS**

These flats in the northern suburbs were built under a subsidy scheme and are at moderate rentals. Zoning regulations forbade more than three-storey blocks and previous experience showed that a twin-block plan provided maximum sunshine, avoided overlook and gave the kind of garden city character required by the clients. The upper floors of the east block have access galleries. The staircase to these galleries is independent of the block and acts as a screen, giving some privacy to the garden. The site falls rapidly to the west and advantage has been taken of this change of level to provide garages beneath the blocks for the entire width of the site. Slasto stone, brick and tyrolean plaster have been used as external facing materials. 14, street façade; 15, the main entrance showing on the left the fully-glazed independent staircase for the access galleries.

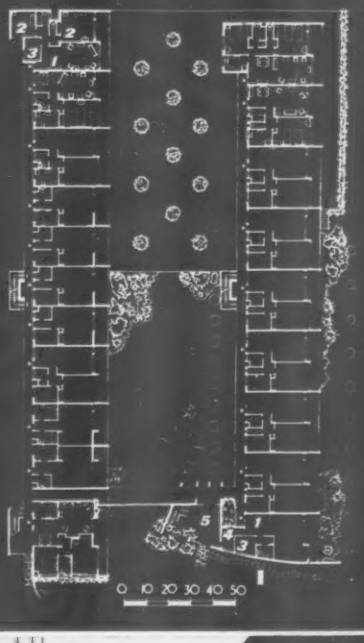
elevation

key

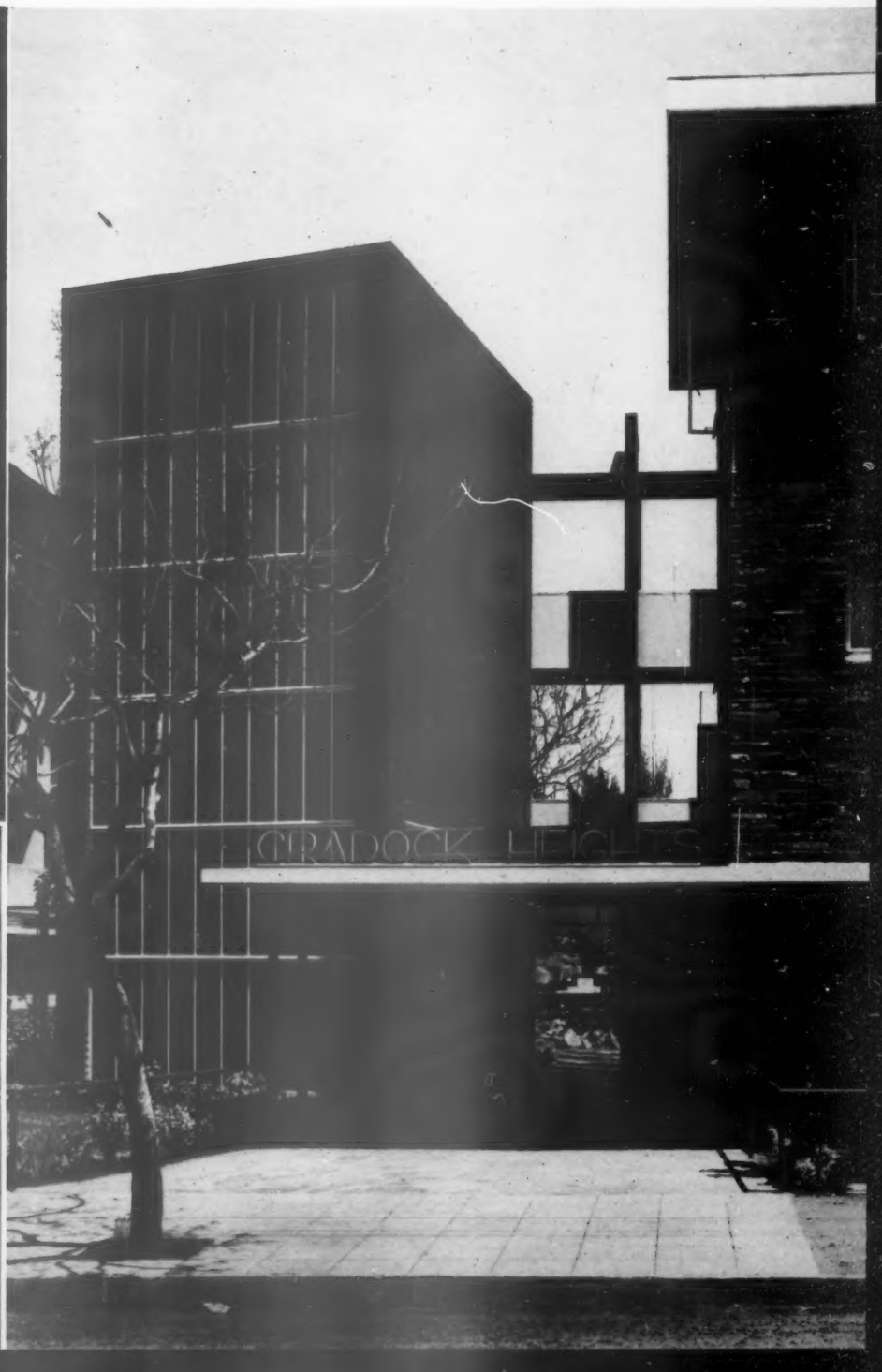
1, living room. 2, bedroom. 3, kitchen. 4, office. 5, hall.



section



ground floor plan



HATHERLEY HALL

ARCHITECT | **S. A. ABRAMOVITCH**

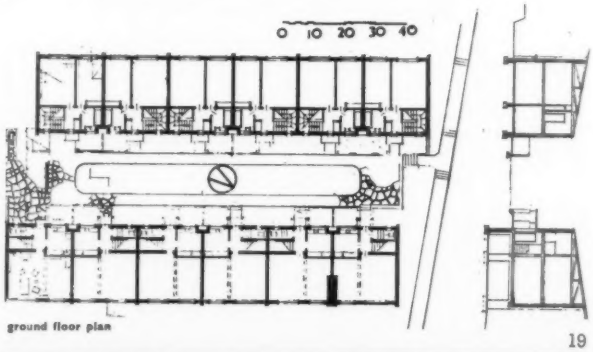
The construction of these 30 flats is of r.c. frame with r.c. hollow-tile floors on wood-wool permanent shuttering. 16, main entrance.

16

CRAIGHILL FLATS

ARCHITECTS | **COWIN AND ELLIS**

These duplex flats, conventionally planned owing to difficulties with local by-laws, are sited round a central court with the main aspect of the flats away from the court. 19, view from the east.



ground floor plan

19

TIBER MANSIONS

ARCHITECT | **BRUNO GHERSI**

The continuous slab roof provides a canopy to the fire escape stairs and forms a visual link between blocks. 17, general view from the street; 18, cantilevered r.c. porch to main entrance and lift hall.

17

18

LEANDER COURT

ARCHITECT | **BRUNO GHERSI**

Construction is r.c. frame with brick cladding; the roof is of corrugated iron. Balconies are supported on concrete bearers spanning between the structure and the vertical fins. 20, general view from the street.

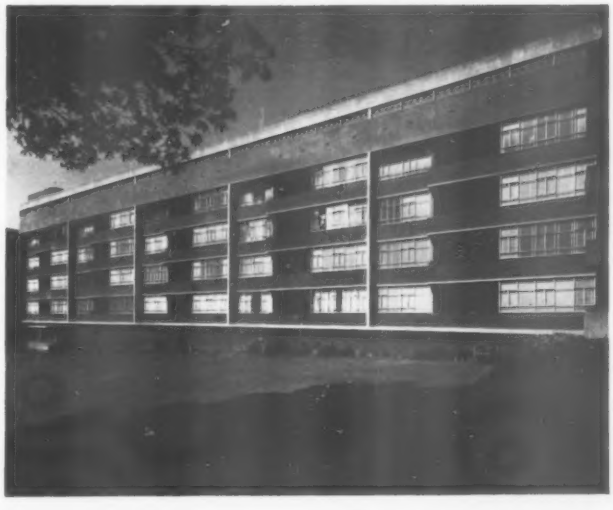
20

QUEENSGATE

ARCHITECT | **JOHN M. SHUNN**

These flats are planned in two blocks sited in an L-shape with a glazed link above the ground floor. Import restrictions at the time allowed only two lifts. The main wing consists of basement garage, four floors of flats and servants' quarters on the roof: the secondary wing has five floors of flats, the ground floor ones being entered from the garden. There are 51 flats with 15 different types of layout. All the corridors are enclosed and the nuisance frequently caused by corridor lighting has been avoided by the use of skirting lights. The hollow block system of reinforced concrete with supporting trestles of beams and columns at right angles to the façades has been used which avoids the necessity of having any beams whatever parallel to the façades and all windows can extend up to ceiling level. The egg-crate effect which would have resulted from exposing each column was rejected in favour of a horizontal one which reveals the 48 ft. 6 in. frontage of each flat by only projecting the columns between them. Exterior colouring is as follows: surroundings, white; brickwork, dark plum; nibs at window heads, ivory; soffits, green; broad panel enclosing wall to servants' quarters (see 21), French grey; ventilating panels above, terra cotta; columns (ground floor), rose. Main entrance doors are bronze, the floor is white terrazzo with olive insets and walls are French grey. 21, the west façade of the main block seen across garden from road; 22, main entrance; 23, link between blocks; 24, the east façade of the main block.

21



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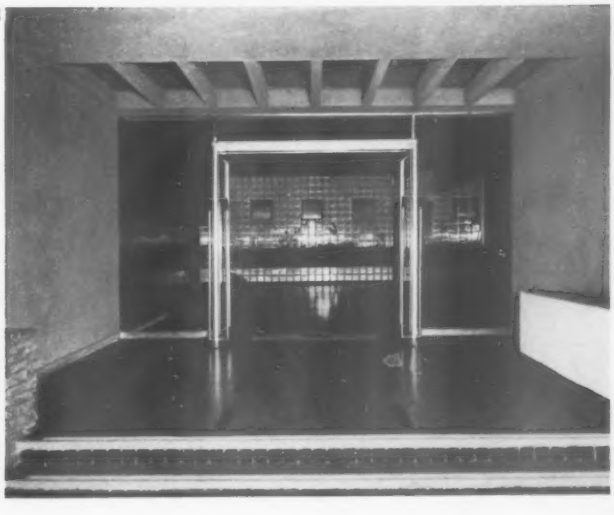


23

24

25

26

INGRAMS BUILDING

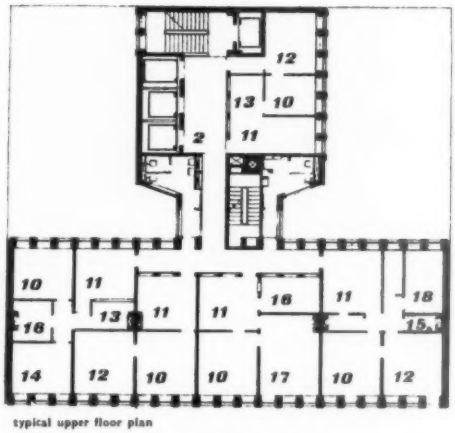
ARCHITECTS | **COWIN AND ELLIS**

This building was designed to accommodate members of the medical profession on their return from war service. The 100 ft. square site already contained shops with concrete frame construction but designed only to carry seven floors of flats. To reduce traffic noise, advantage was taken of the additional height allowed by regulations to build the main block eleven storeys high and setting it well back from the two main roads. A floor of showrooms was built above the existing shops with roof garden restaurant above. The top three floors contain a complete nursing home with operating theatre, etc. 25, general view from the north-west ; 26, the subsidiary west block.

MEDICAL CENTRE

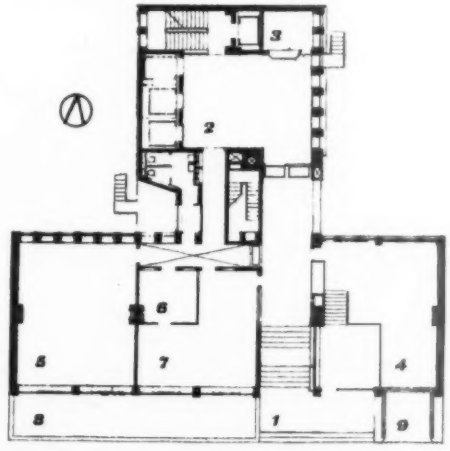
ARCHITECTS | **HANSON, TOMKIN AND FINKELSTEIN**

Designed to provide accommodation for schemes assisting ex-servicemen to return to medical practice, the building was commenced in 1946 and was completed and occupied in stages from 1948 onwards. Medical suites of varying size and arrangement and for a wide variety of specialist practice constituted the primary requirement. The r.c. structural frame was designed to a 3ft. 3in. module. External facing of piers, window heads and cills, ledges and mouldings on the main street façade is of biscuit-coloured terrazzo, with panels of yellow-bronze bricks. Courtyards and flat roofs are surfaced with slate embedded in mastic. Windows throughout are of heavy steel section painted off-white. 27, general view looking north-west ; 28 and 30, details of the main façade ; 29, the east courtyard.

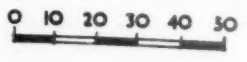


typical upper floor plan

key
1. main entrance.
2. main stair.
3. shop.
4. pharmacy.
5. doctors' suites.
6. kitchen.
7. tea room.
8. roof terrace.
9. parking, etc.
10. consulting rooms.
11. waiting rooms.
12. examination rooms.
13. nurse.
14. laboratory.
15. dark room.
16. office.
17. playroom.
18. screening.
19. accounts.

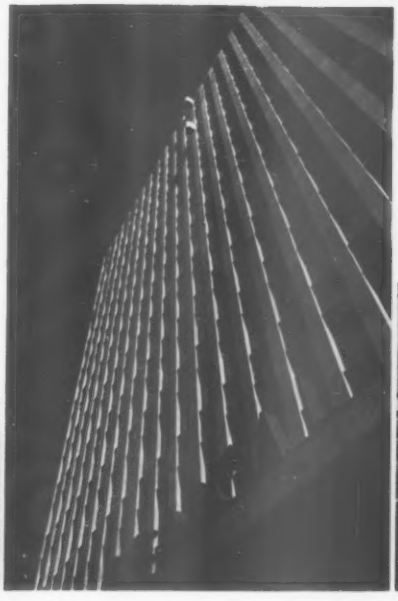


ground floor plan



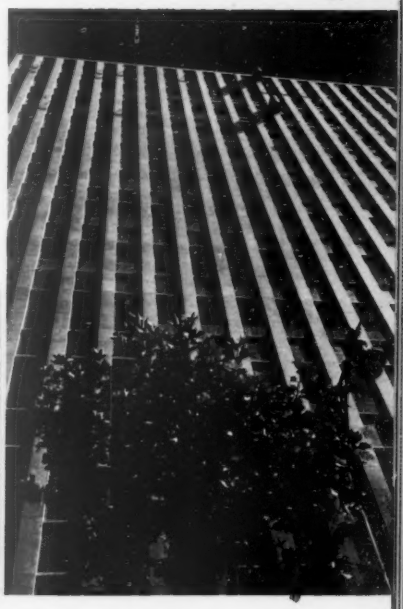
27

28



29

30

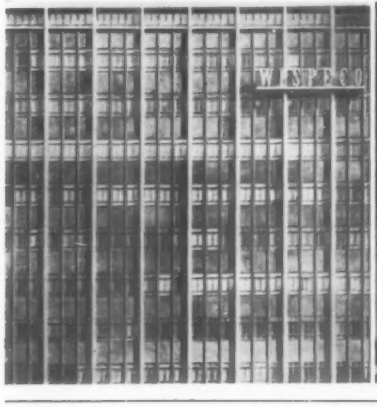


WISPECO BUILDING

ARCHITECTS | **COWIN AND ELLIS**

The site of this office block lies within an industrial zone where no height restrictions apply. To obtain maximum flexibility in subdivision of offices, mullions were introduced between east-facing windows on a module of 40 inches, which is reflected in the beams of the ceiling, and all stud partitioning is movable. 31, the main east façade ; 32, the block, looking south-west.

31



32

MONTE CARLO & UNITAS BUILDINGS

ARCHITECT | **BERNARD JANKS**

In both office blocks elevations are designed on the same principle of expressing vertical mullions and columns, some of which extend as fins, all filled in with spandrils of precast stone facings. 34, the main elevation of the Monte Carlo Building ; 35, main elevation of the Unitas Building.

34

35

POYNTONS BUILDING

ARCHITECT | **W. G. McINTOSH**

This office block is in Pretoria, 30 miles from Johannesburg. The floor slabs are projected from the r.c. frame to give some measure of sun protection. 33, view from the street.

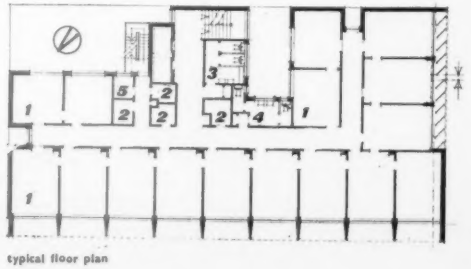
33

ARGOSY HOUSE

ARCHITECT | **G. CANDIOTES**

The block consists of ground floor shops with five floors of offices above ; on the roof is a squash court with barrel-vaulted roof and a garden. The blank wall is faced with white terrazzo panels ; horizontal banks of bricks are plum coloured ; louvres and vertical fins are coloured vieux rose. On each floor corridors and frames are in different colours, e.g., pale green walls and tomato-coloured door frames ; or biscuit walls and pale blue door frames. 36, overleaf, view from the west.

key
1. offices.
2. records.
3. male lav.
4. female lav.
5. tea kitchen.



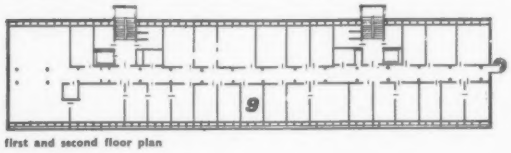
typical floor plan

0 10 30

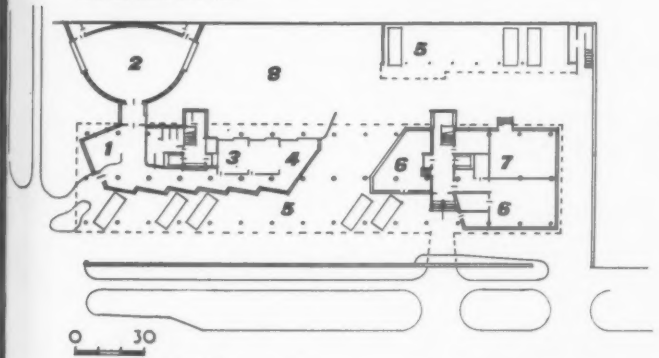
MEAT BOARD BUILDING

ARCHITECTS | **H. W. E. STAUCH AND PARTNERS**

The administrative offices for the controlling body of the livestock and meat industries have been designed on a 3 ft. 5 in. module, producing a single or minimum office 10 ft. wide. The requirement of complete flexibility led to the design of partition units constructed of standardised wooden posts and rails faced with painted asbestos sheets and insulation board between framing. The structural system combines steel and r.c. units. Office floors are r.c. ribbed construction supported by r.c. columns which also carry the dropped slab over the corridors. External surfacing is generally grey precast concrete slabs. Vertical fins are white and precast spandrils between windows have a blue mosaic facing. The projecting frame of the main entrance has white mosaic on the outer and green mosaic on the inner surfaces. 37, the main entrance by day and, 38, at night; 39, general view from the south-west; 40, view from the north-west, with boardroom in foreground.



first and second floor plan



lower ground floor plan

key

1, foyer. 2, board room. 3, committee rooms. 4, reading room. 5, parking. 6, store. 7, sub-station. 8, garden. 9, public offices.

37

38

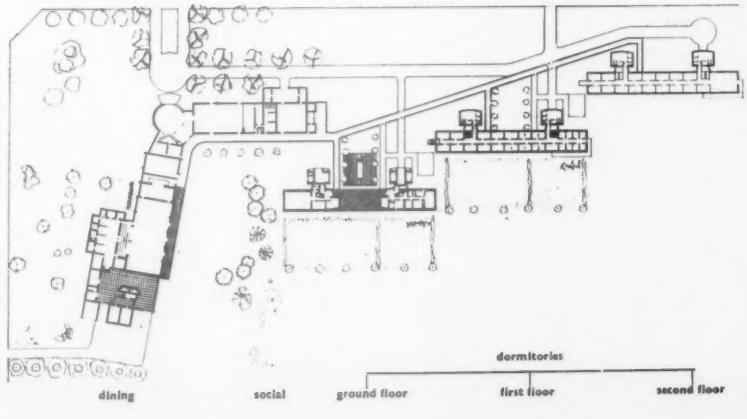
39

40

HOSTEL IN NEW TOWN

ARCHITECTS | **FLEMING AND COOKE**

This hostel at Vanderbijl Park, an expanding industrial area some 35 miles from Johannesburg, is designed to house 300 apprentices in three blocks of 100 residents, each block controlled by a supervisor and a matron. Construction of dormitory blocks is of r.c. portal frames at ground-floor level, with concrete frame above and brick in-filling. The dining-hall roof is of shell concrete. The projecting frame shades the ground-floor windows and allows clerestory lighting above. The escape staircases at the end of each block are cantilevered and stiffened by flanking ties from which the landings are further cantilevered. Concrete reveals are finished ivory colour and in-filling bricks are light red. Extensive use has been made of colours in the interiors. 41, two dormitory blocks, looking towards the dining hall; 42, in the foreground, right, the dining hall, left, the dormitory blocks; 43, detail of dormitory fire escapes.



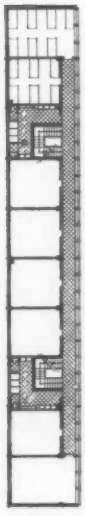
41
42 | 43

HOSTEL IN NEW TOWN

NATIVE HOSTEL

ARCHITECTS | **FLEMING AND COOKE**

This hostel, accommodating one hundred Africans in six-bed dormitories, stands in a densely built up central area. The entire main façade is cantilevered to allow ease of parking on the ground floor and open corridors on the upper floors.



typical floor plan

44

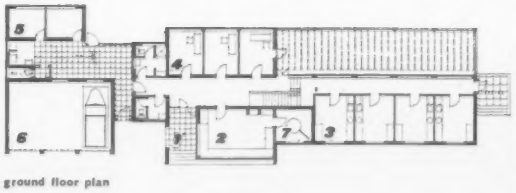
LABORATORY FOR TRANSVAAL COAL OWNERS ASSOCIATION

ARCHITECTS | **FLEMING AND COOKE**

Built of standard brick and concrete construction, the r.c. roof slab of this laboratory is an entirely separate unit independent of beams and walls. It was required that a constant temperature should be maintained in the calorimeter rooms and this was largely met by the insulation of the roof. 45, general view of the rear elevation.

45

key
1, entrance porch.
2, main laboratory.
3, calorimeter room.
4, office.
5, servants' quarters.
6, garages.
7, furnace room.



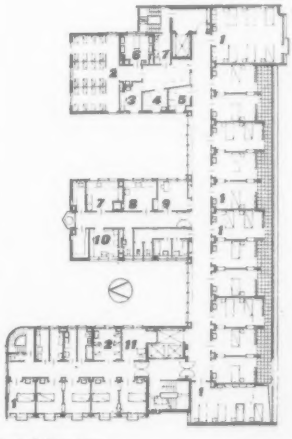
ground floor plan

PRINCESS MATERNITY HOME

ARCHITECTS | **STEGMAN, ORPEN AND PORTER**

This is a private maternity home accommodating 150 patients and with the exception of the isolation unit all wards have been placed on the main south frontage. Each of the six ward floors is designed as a self-contained nursing unit. The basement and ground floors beneath the wards are taken up by administrative offices and nurses' rooms. The seventh floor contains the delivery rooms and operating theatres as well as the central sterilizing and supply rooms. The r.c. frame has brick infilling and steel windows. 46, general view looking north-east.

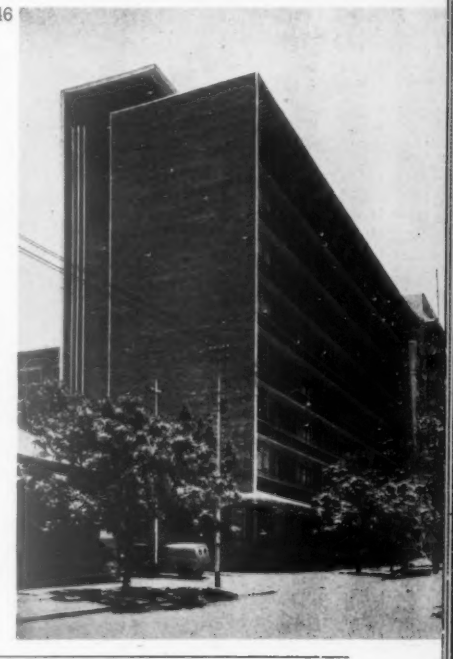
46



typical floor plan

key

1, ward. 2, nursery. 3, duty and exam. 4, premature. 5, suspect. 6, bath. 7, servery. 8, sterilising. 9, duty station. 10, sluice room. 11, duty and lift lobby.



REPERTORY THEATRE

ARCHITECT | **M. HERMER**

Construction is r.c. with brick panels. Concrete mullions of top floor rehearsal room windows are painted blue and white. 47, general view of exterior ; 48, foyer ; 49, auditorium spanned by post-stressed beams.

47

48

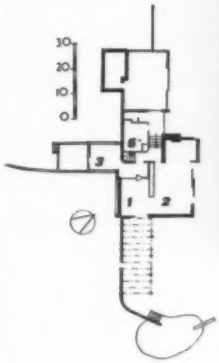
49

MARRIOTT HOUSE

ARCHITECTS : H. W. E. STAUCH AND WEPENER

This house is of load-bearing brick plastered internally. Ceilings are fibreboard, the roof shingles. 50, view from the garden to the ground floor ; playroom on the right, living room on the left.

50



standard key for all houses
1. dining.
2. living.
3. kitchen.
4. bedroom.
5. utility.
6. study.
7. garage.
8. servant.

WOOLL HOUSE

The external walls are brick, entirely whitewashed, and the roof is of tuscan tiles. Living-room areas are lit by clerestory windows. 51, view from the garden ; 52, living-room interior.

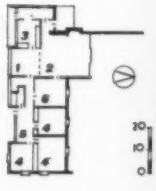
52

51

VAN DER MERWE HOUSE

Walls are of stock brick with blue-grey granite chimney and corrugated iron roof. The living room has clerestory lighting and bedrooms have the same but with small view windows below. 53, view from garden.

53



MARTIENSSEN HOUSE

ARCHITECT | R. MARTIENSSEN

The architect was the first to introduce the projecting frame to Johannesburg and here uses the motif with brick in-filling for this house built for himself and his wife. The house stands in a relatively built-up area and the design avoids windows communicating with neighbours on either side. 58, view from the garden.

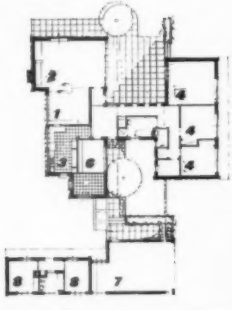
DONEN HOUSE

ARCHITECTS : GOWIN AND ELLIS

The house is planned in two wings, one living, one sleeping, linked by the entrance hall bathroom unit. External finishes include Slasto stone walls at the visible ends of the two wings with other walls of brick, the joints raked horizontally to window heads and plastered above. The plinth is Indian red ; walls, grey ; eave soffit, pale blue, and rafters, white. 54, the bedroom wing ; 55, living room.

54

55



HOUSE CRAIGHALL PARK

56, garden terrace ; 57, interior, on the left the living room, right, the entrance to the garden ; 59, opposite, the exterior, with living-room block on right and bedroom block on left. Garden entrance is between them.

56

57

MARTIENSSEN HOUSE

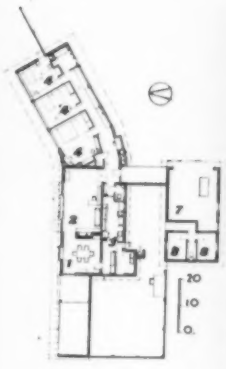
HOUSE CRAIGHALL PARK

PLOVERS

ARCHITECT | **J. FASSLER**

This brick house is single-storey, mainly whitewashed. Timber is painted white. 60, the north façade showing the sliding doors from the living room to the terrace. The louvred eave continues round to form a pergola.

60



GERSHATER HOUSE

ARCHITECT | **H. H. LE ROITH AND PARTNERS**

A suburban house, consisting of bedroom wing, central living area and servants' wing. 61, view past the bedroom wing to the lounge windows. The terrace is a continuation of the lounge.

61

HOUSE AT PARKTOWN

ARCHITECT | **B. COOKE**

Ground floor walls are load-bearing brick with first floor of hollow-tile concrete slab. The dining room and stair run the full height of the house. 62, view from garden.

62

GREENWOOD HOUSE

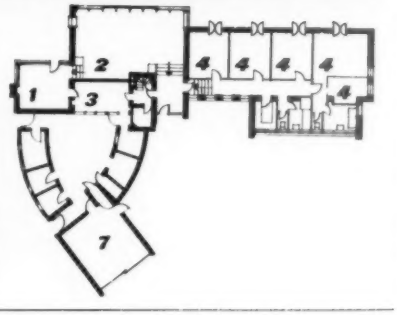
Situated ten miles east of Pretoria the walls of this house are built of dry packed kopje stone picked from the site. Joinery is knotty pine. 63, general view from the garden terrace; 64, entrance hall; 65, main entrance; 66, native servants' kraal.

63

64

65

66



ANDERSON HOUSE

This house is situated in the same area as the Greenwood House and is built of the same materials with the addition of gum wood columns and beams. 67, detail of the living room; 68, exterior from the garden.

67

68

continued from p. 364

only one water-tap to each five houses. Sanitation by the bucket system is in every house. That is not much—not as much I understand as in some locations in other parts of the Transvaal—but more than in most parts of the southern half of Africa. But at least another 200,000 people are in need of such houses, and the town says they have not got the money to provide them. The result is the disgusting shanty towns around Johannesburg. Some of them are municipal land thrown open without any care as to what would happen on it, except that no one was allowed to occupy more than a minimum space. Shacks and huts are built of any material, sanitation is provided, but inadequate, rubbish collecting not frequent enough, tuberculosis rampant. Such is the situation at Moroko, at Sophiatown and Newclare. The worst township, however—and this is food for thought—is on African-owned land. It is the anomaly of Alexandra that here, closer to the town than Orlando and White City, an area was thrown open to native ownership. Houses went up that were at first as good and spacious as white houses on similar land; for only the rare well-to-do Africans could buy the ground. Each house had a spacious backyard, and it was there that soon crowds of miserable huts appeared and were let to fellow-Africans at extortionate rents. A one-room corrugated hut in Alexandra costs more than a house at Orlando.

Rents in the municipal locations are 17s. 4d. a month for a two-room house, from 21s. 8d. to 35s. for a three-room house and from 26s. to 50s. for a four-room house. At Moroko the rent for a building plot of 20 by 20 foot is 10s. a month. At Alexandra a one-room shack may cost 20s.

Planned estates for African workers designed by the best architects in the Transvaal are the most urgent necessity, and they could become one of Johannesburg's visually most attractive features. The cleanliness of the kraal is guarantee for the way in which they would be kept.

The building of blocks of flats has recently been recommended to house African workers. I doubt the wisdom of this. The contrast to conditions at home, that is in the kraal, would be too great. Once an urbanized population has finally settled down to decent living that may change. For the moment it is small houses not flats that must solve the problem of native housing.

It is different with white housing. No country could be more addicted to the villa and the cottage than England. Yet, while the working class housed first by the charitable trust and then in flats by the council still regards to this day the flat as a poor second, expensive housing in flats has become a matter of course, and seems welcome to many. The same is happening at Johannesburg. Blocks of flats looking like English 1910 (Georgian-Palladian rather than Tudor) began to appear about 1925–35, and they have multiplied in the last ten years and changed their costume. In their new shape they are the outstanding contribution made by Johannesburg not only to South African architecture but to the whole of modern architecture in the Commonwealth. I doubt if there is any other city in any other part of the Commonwealth which can offer the eye so consistent and convincing a vision of the style of to-day. Now a centre in the Commonwealth where the twentieth century is the twentieth century is a phenomenon worth knowing about. Johannesburg has up to now been too modest about its recent buildings, perhaps because the architects responsible for the new style, remarkably thoughtful and eminently reasonable men, felt that there was no special merit in being of the twentieth century, where there is no nineteenth century at all, with its respect for, and imitation of, the past. But that modesty, while it is becoming, ought not to sway us. We can be critical of individual solutions or attitudes; and that is indeed what those working out there expect of us. But the undeniable fact remains: the unknown existence of a Little Brazil in the Transvaal.

It is the new blocks of flats more than anything that rouse such feelings. They deserve to be examined in some detail. There are two types, three- to four-storeyed, and nine- to sixteen-storeyed. The first type may be found anywhere, though specially frequently near main crossings, circuses, etc., the second in only one neighbourhood, Hillbrow. This small township is the only one in which skyscraper flats have been authorized by the city council—for reasons best known to its members. The area until then was chiefly one of bungalows, and it is hardly necessary to say that the value of each plot of ground has since risen tenfold and more. So someone is making a lot of money out of this change in land utilization.

The three- to four-storey flats can be built in any of the numerous areas zoned for the purpose and there are a few areas—Rosebank for instance—where they begin to make sense visually. Hillbrow makes no sense. The street pattern is the usual grid. Street widths are therefore far too narrow to justify ten storeys and more. It is almost impossible to arrange for sufficient space for cars, as most of the flats are small, and with each flat goes at least one car. Moreover, most servants are natives, both those servicing the blocks and those employed by the tenants. For them rooms are—in an old Continental tradition—in an attic storey. But there are no other facilities for them, and so they have to spend their odd moments or hours of leisure in the streets, sitting on the kerb and playing the guitar, or sitting and playing a game of merils together, or just sitting and enjoying the sunshine and the silky blue sky. It is a pleasure to watch, but not what government, city council and indeed tenants would favour, who have to pay exceedingly high rents. The result of all this in a few years is obvious. Up to now there are still enough gaps between the new blocks to give many people fine views. They can be superb, since Hillbrow lies indeed on the brow of a hill. When all is built over, most flats will be gloomy, rents will go down and the class occupying the flats will change. Hence the high rents now. Blocks are intended to pay back the money invested in four or five years. From the point of view of planning—social as well as visual—Hillbrow is a dismal failure. From the architectural point of view things are different.

All these new blocks of flats at Johannesburg are modern, in the sense that no one would be tempted to give them doorways with pilasters and pediments or sash-windows or pitched roofs. Moreover, they are all

of the same sub-species of modern: with reinforced concrete frames and brick panels; plastered partly in pale colours, pink, rust, nile-green and so on—colours which keep fresh in the Johannesburg climate. They have horizontal windows, recessed or rectangularly projecting balconies, and somewhere or other projecting frames.

The projecting frame is the hallmark of Johannesburg at this time. It reached the town with Rex Martienssen's own house, an extremely carefully designed study in the abstract art of the façade, balanced as nicely as a Mondriaan painting and incidentally expressing the internal plan. The whole little block is outlined by such a projecting frame. The motif had been used by architects in England before the war more frequently than in other countries. Maxwell Fry, Lubetkin, F. R. S. Yorke and Goldfinger all have occasionally made use of it between 1935 and 1939. Le Corbusier has nothing similar; nor apparently had Italy, except for the Colonia Principi di Piemonte at the Lido of Venice in 1938. The popularity of the motif may well be due to its wide acceptance by Brazil and the sudden fame won by Brazilian buildings, thanks to Mr. Kidder Smith's gloriously illustrated *Brazil Builds* of 1943. There examples abound, by Niemeyer, the Robertos and so on. Whether Johannesburg swallowed it whole, thanks to Martienssen's house or *Brazil Builds*, I cannot say. Anyway, it is ubiquitous now. The projecting frame might be applied to the odd lavatory window or a row of them up the wall of a tall block, or to each loggia, or to whole parts of façades.

The result is most impressive. Nowhere in England, and indeed nowhere known to me in Europe or North America, can such a consistently up-to-date neighbourhood be seen. The speed of construction—people move in while the top floors are not yet built—ensures stylistic unity. There are no stages of modern at Hillbrow. And that stylistic unity, while not giving much chance to individual genius is yet an achievement. The style as here described and amply illustrated is taught by the flourishing School of Architecture in the university, and it is unhesitatingly used by the architect of the largest number of successful blocks of flats in the town: Harold Le Roith. He builds much, but even young men a year or two after graduation may find themselves designing blocks of flats on their own account. There is, to be sure, no difficulty in the designing. Motifs are frankly motifs and come in useful whenever the opportunity arises.

But should one not weigh against that the blessings of the universally accepted idiom? What makes Bloomsbury Bloomsbury and Bath Bath is the acceptance of the pattern-book. What makes Oxford Street and Princes Street the muddle they are is individualism running riot. Georgian doorways were designed by small builders straight from engravings in volumes to which you subscribed. Hillbrow is the outcome of this same attitude and benefits from its advantages.

Nor is the projecting frame confined to the flats. Office buildings in the centre share it. There is little difference all round, except that in the last few years another pattern has become the fashion, one with narrow upright windows separated by boldly projecting mullions rising sheer to the top. Norman Hanson's Medical Centre, ingeniously constructed so as to give all consulting rooms the necessary services, electricity, etc., is the best example to date.

Only public architecture lags behind. Looking at the new General Post Office one is sadly reminded of conditions at home (or in the States). The Public Works Department of South Africa would not shrink from the new Government Offices in Whitehall. In fact, Nationalist and Afrikaans as the Department may be, its style is more British than Dutch or South African. The rules were of course laid down by Sir Herbert Baker. His Union Buildings at Pretoria, superbly sited against a hill, with glorious gardens at their foot and the lilac jacaranda trees lower still along the avenues of the town, started giant columns and cupolas. Much can be said in favour of Sir Herbert Baker. It was he, I was told, who found quarries and trained men to use and carve stone intelligently, he who found local woods suitable for architectural decoration; and, in addition, he succeeded here and there in an original and adventurous handling of his material, in the inner court of the Union Buildings, for instance, and in parts of St. John's College, Johannesburg. But his all the same remains the responsibility for an alien idiom grand enough to impress officialdom. If the men of the City of Johannesburg had been like those of the City of London, he would no doubt have lured commercial architecture into his Palatial-Palladian too. But the private capital of Johannesburg kept a pioneering bluntness and soon got over what might be called its Edwardian-Imperial phase.

As for the public buildings a similar change is perhaps imminent. There is at least one extremely encouraging case. To design the new building for the National Meat Board a private architect, H. W. E. Stauch, was commissioned (telegraphic address: Bauhaus, Pretoria), and the result is excellent—not a mere re-hash of the Johannesburg flats, yet clearly a member of the same family. The railway station of Johannesburg from which this conducted tour started will also be modern and without any official phraseology. The subtlety and brilliance of the Rome station one must not expect, a sturdy direct contemporary idiom is enough, and there can be no question that the new station, when completed, will be liked by more than a clique. I have not once heard any of the English clichés against modern building. What goes up is welcomed.

Optimism is the pervading mood of Johannesburg. The city stands on gold, and as long as mankind does not grow up to see through the fallacy of gold, Johannesburg will prosper. Money is earned more easily than in England. There is more leisure. Basic food is cheap, wine is cheap, service is cheap, income tax is low. The sun shines for months on end, rains on the whole come at their established time of the year and the day. What else can you ask for? That a total collapse may be caused by racial rather than commercial policy is only beginning to dawn on people. Remarks on future DP camps for South Africans in England are no more yet than jokes. Yet there are few who would venture to say that they know a practicable and equitable solution.

TOWNSCAPE

D. Dewar Mills and Kenneth Browne

ROAD AS TRAFFIC INDICATOR

The need for standardization and greater legibility of road signs has received much attention, but preoccupation is mainly with the vertical sign, or notice board often either lost amidst a background of advertising and other signs or with its message obscured by misplaced municipal primping. In towns the driver must give most of his attention to the road ahead and cannot safely search up and down lamp-posts for information. At speed on the open road, he needs warning of any dangers ahead in a more forceful manner than by some diminutive sign half hidden in the hedge. With the exception of some writing on the road and the already familiar Zebra crossings, little use has been made of the road surface as an informative blackboard. Although no plea for the abolition of often essential vertical signs, the suggestions which follow are intended as a tentative basis for a code whereby the road itself might serve as a guide for its users, diminish the present confusion and, equally important, decorate and relieve our monotonous miles of tarmac.

1 by texture

That demarcation of major categories of use and priority could be made by instituting a texture code has already been suggested in the article 'Legs and Wheels' by Gordon Cullen, and, although this was primarily aimed at the definition of pedestrian precincts, the theory could be carried further.*

Smooth surfaces, 1, suggesting and encouraging speed, could indicate streets and roads with absolute vehicle priority and this message could be reinforced in towns by the accentuation of the kerb as a clearly defined boundary between wheels and feet. 2, Smaller scale units, the same for both vehicle and pedestrian with, as in this example in Florence, a raised kerb between the two, could signify mixed usage with care to be taken by both sides. 3, Small scale surface in Orvieto. The walkers' territory where local traffic may come, but only on its best behaviour. A variation on this category at Lake Garda, 4, again with small scale surfacing; but this time wheeled traffic—except for vehicles calling at the buildings—must keep to the tracks.

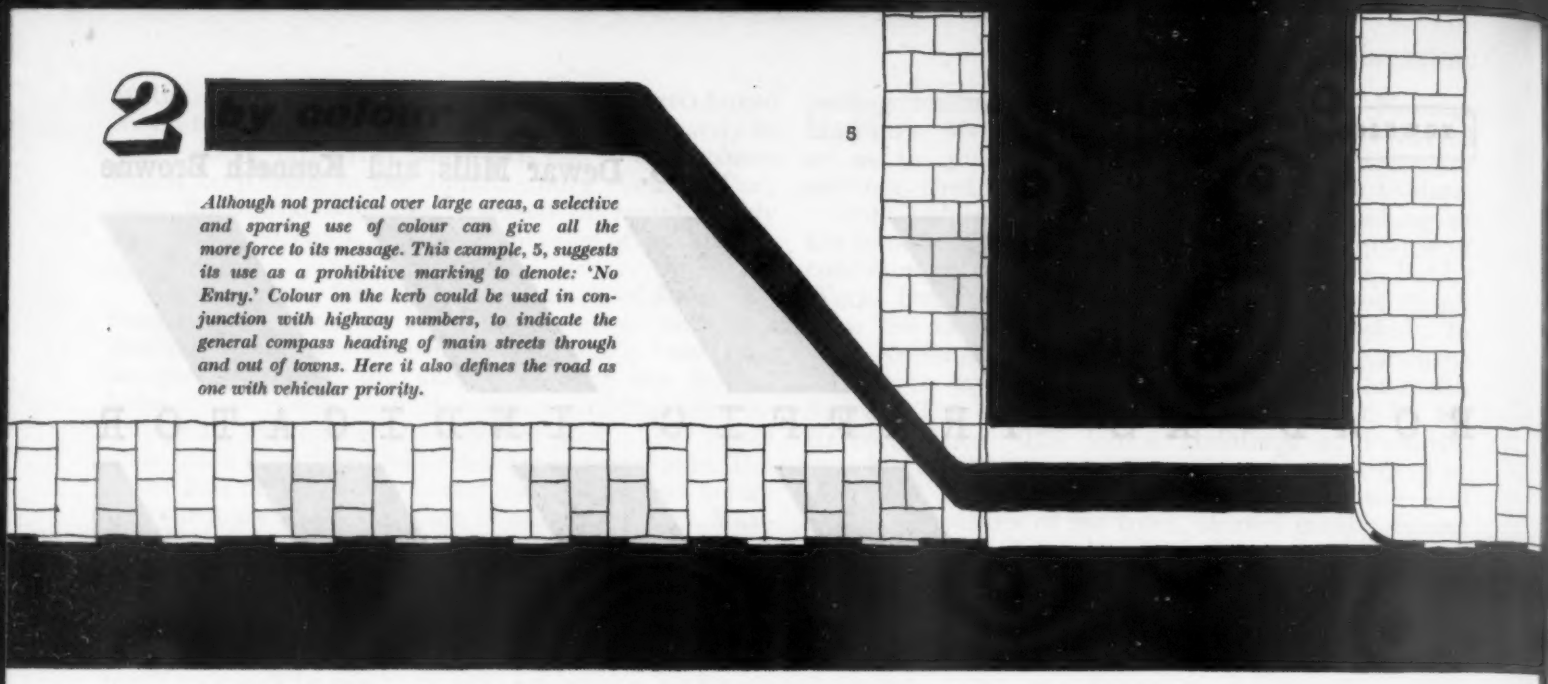
* AR, August 1948.

1/3 | 2/4

2 by colour

Although not practical over large areas, a selective and sparing use of colour can give all the more force to its message. This example, 5, suggests its use as a prohibitive marking to denote: 'No Entry.' Colour on the kerb could be used in conjunction with highway numbers, to indicate the general compass heading of main streets through and out of towns. Here it also defines the road as one with vehicular priority.

5



6

7

3 by writing . . . . .

A system frequently used but often lacking the boldness of these two examples in Lancaster, 6 and 7, where writing on the road is used to marshal traffic into and through the city. They achieve their ends decoratively and with far more clarity and assertion than small vertical signs which may be confusing and can even get lost altogether amongst other notices, as in the example in Rome, 8. An additional gain in decoration is derived from the exaggerated forms of the letters which, when viewed from a low eye level, are considerably foreshortened. Although, for messages such as these, it would be impossible to dispense with actual words on the roads, their use should be restricted to information which can be conveyed in no other way. Wherever possible, signs and symbols like these opposite are preferable, for they have an immediate impact, and would soon become part of a universal vocabulary—a visual highway code.

8

9

. . . and signs

This arrow, 9, *again in Lancaster, points the way to a further and more ambitious use of the road as an instructional blackboard. The examples which follow are not intended so much as final thoughts on the subject as leads to its potentialities.* 10, *A suggested substitute for the present inadequate 'Halt, Major Road Ahead' warning sign. Here the driver is warned that he should slow down by a diminishing ladder of white lines placed across his path, acting as a visual retarder, followed by the final 'Halt' line.* 11, *A variation of the ladder convention, this time to warn that the road ahead is narrowing.* 12 *and* 13 *could replace a large number of inadequate signs—especially the misleading Z-bend sign—by showing the driver plainly and accurately the shape and complexity of corners which he is approaching.*

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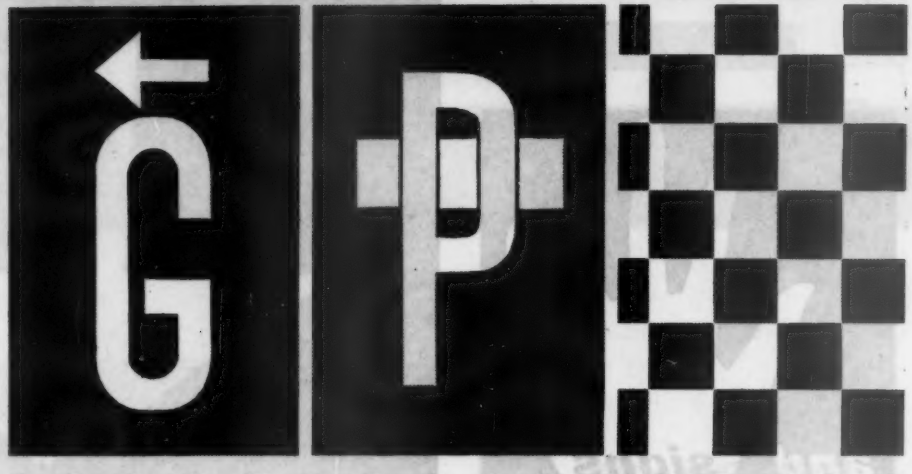
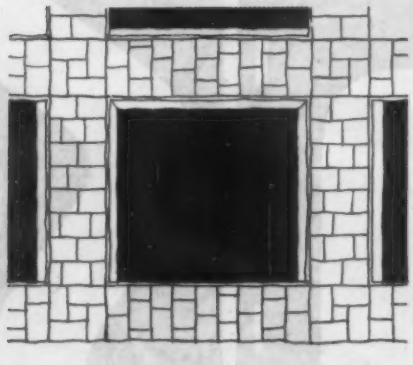
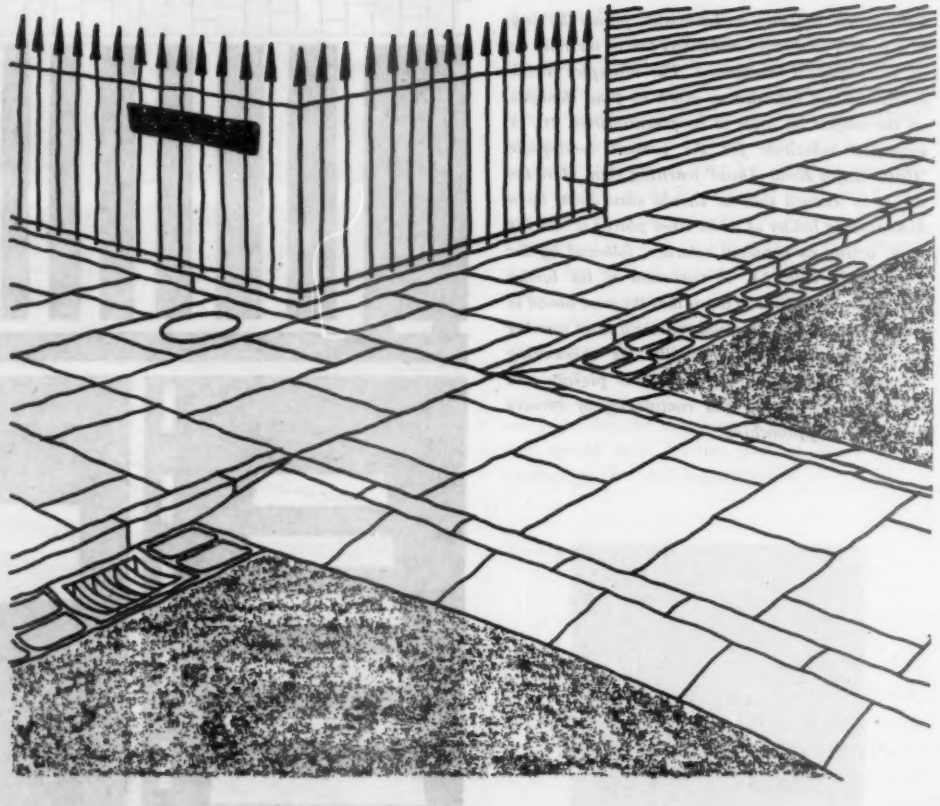


The well established 'Caution' triangle could be elongated and used on the road before, for example, 14, *a school and* 15, *a hospital while, advancing into the realms of the purely pictorial,* 16, *the cricket bat and stumps are here used to denote a play street. This bold letter upon the road,* 17, *could tell of a garage and its distance, in yards, ahead; thereby making less blatant the assertiveness of many service stations. In streets where parking is not permitted, another bold letter, the barred P,* 18, *could be shown at intervals along their surface while where even momentary stopping of cars and lorries is forbidden at bus stops, for example,* 19, *the road could be clearly chequered.*

4 by hazard

Although the wall, railing and, of course, the bollard come under this heading, the example shown here relies mainly on suggestion with a degree of physical persuasion. In the purely domestic precinct the pedestrians' priority can be suggested by the continuation of the pavement at all intersections. As on entering a private driveway the motorist must drive up and over the pavement—pedestrian territory—and, if he values his springs, do so slowly.





BRITISH TRANSPORT

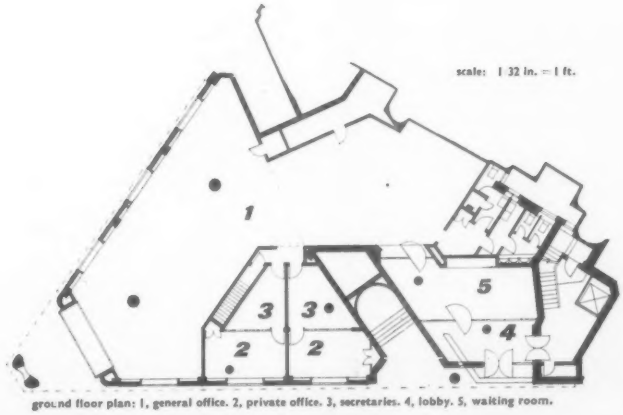
ADVERTISING OFFICES

1 2

1, Cranbourn Chambers before the present offices were built. 2, the ground floor after conversion.

ARCHITECT: PETER MORO

in association with Gordon and Ursula Bowyer



ground floor plan: 1, general office. 2, private office. 3, secretaries. 4, lobby. 5, waiting room.

Before the war, the ground floor of Cranbourn Chambers, at the corner of Charing Cross Road and Cranbourn Street, was and had been for many years partly an underground station and partly a tobacconist's shop. It was vacated in 1934 when London Transport engineers required the space during the building of the new Leicester Square station. During the war Westminster City Council used the floor as an ARP distribution centre.

The architect was required to convert this ground floor into offices for the Commercial Advertisement Division of the British Transport Commission, which occupies the upper floors of the building. A solution providing a common entrance near the existing lift and staircase, sharing control and waiting space, was found to have so many advantages that a separate corner entrance was ruled out. In working out the external design, therefore,

3

3 and 4, two views of the continuous elevational treatment in Cranbourn Street establishing a visual connection with the existing underground entrance which is to the right in 3. Vertical boarding is teak with extruded aluminium channels anodized black, display window framing is painted white. The corner stanchion which unites two existing stanchions is of dark grey terrazzo, the hole, lined with white terrazzo, revealing the display window behind.

the architect was concerned to establish a strong visual connection between this common entrance in Cranbourn Street, beyond the existing tube entrance, and the new offices forming the main corner. This has been done by a continuous elevational treatment which is predominantly horizontal. Not to interrupt this treatment, the existing tube entrance has been made to form part of the new entrance.

Accommodation had to be provided for a general office for the Sales Section (some twenty people) and two pairs of private offices, together with a clients' waiting space and lavatories. The interior of the ground floor is of an irregular shape and nearly bisected by the bulkheads of the two station stairways. The apex of the corner site and the Charing Cross Road side contain the general office, while the rest of the outer section on the Cranbourn Street side is occupied by the private offices. This section is lit by a continuous band of clerestory windows above the display windows. The inner area provides a waiting space, lit from the entrance through full-height glass panels. Beyond this is an information room in which four screens carry large wall-maps illustrating the advertising facilities controlled by British Transport, and adjoining the maps on integral frames are filing cabinets containing statistical charts.

4

5

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5, the draught lobby looking through the glass partition to the waiting room. The entrance to the main office can be seen beyond the second column. On the left is the commissionaire's counter. The lobby

7

floor is grey slate, the waiting room floor has a grey-green carpet. Columns are painted white. 6, the waiting room, walls being faced with cherry veneer. 7, part of the general office. The rail and ladder lead to the mezzanine at the apex of the site. Walls are dark grey, columns are white. The doors to the display cases are painted white, flanked by perforated metal panels finished red which cover radiators on either side.

8

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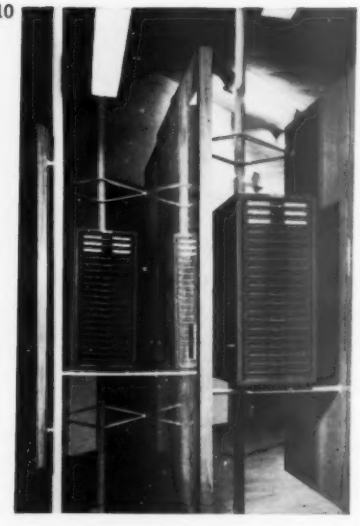
BRITISH TRANSPORT

ADVERTISING OFFICES

10



8, 9 and 10, three views of the interior. The screens carrying large maps illustrating advertising facilities controlled by British Transport are finished with natural beech veneer. Supporting poles are painted white and filing cabinets containing statistical information are painted warm grey. Information room floor is cork tiled, and walls are dark grey. The ceiling is white acoustic tiles. The glass partition between the waiting room and general office in 5 has vertical sand-blasted lines. The mural was designed by Ronald Ingles.

DESIGN REVIEW

Frank Austin

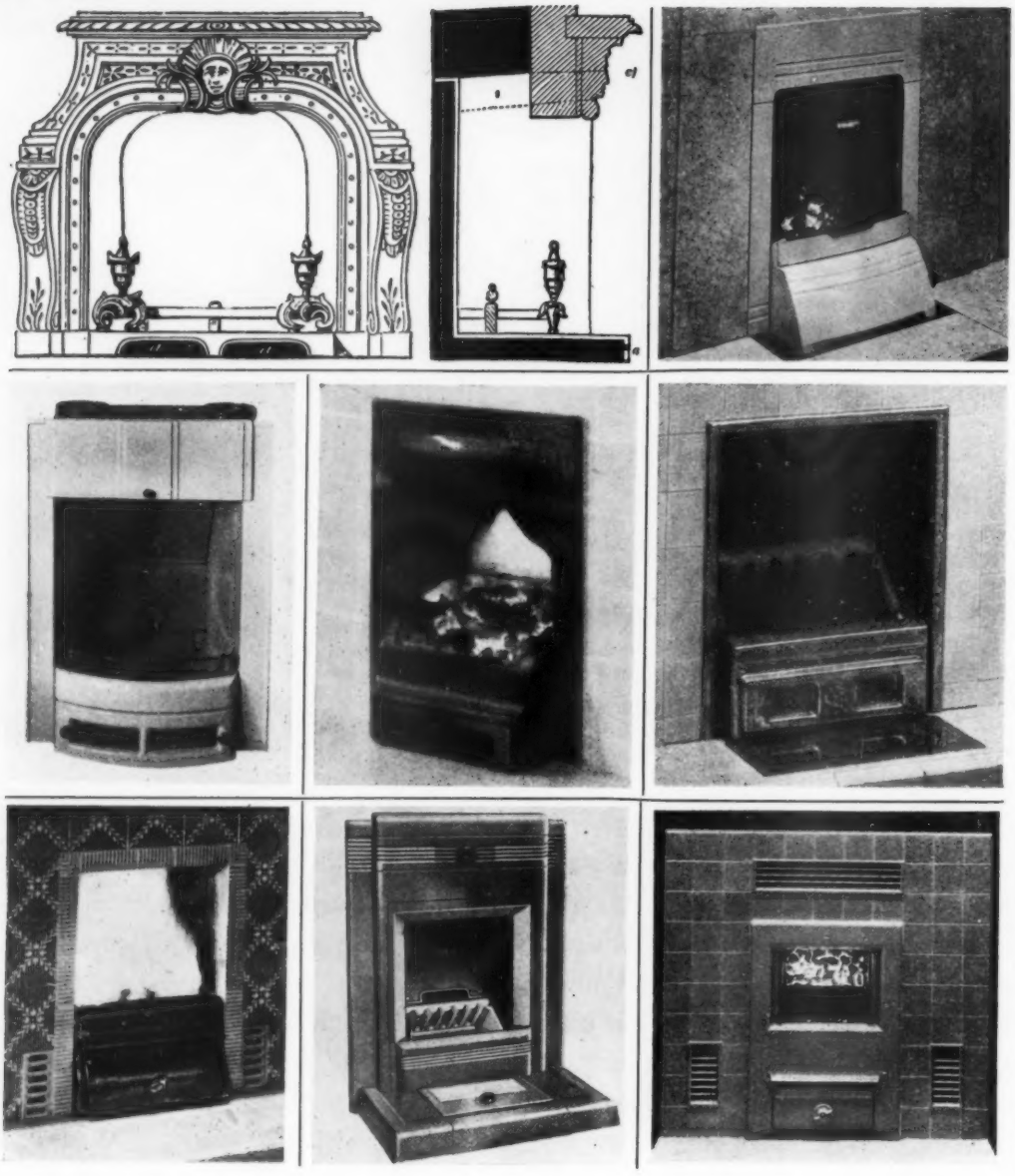
SOLID FUEL

In 1624 M. Louis Savot described what we should today call an inset solid-fuel burning appliance, with convection ducts, then installed in the Louvre. Improvements on this form of fire were later made by Cardinal de Polignac. These gentlemen observed that by supplying a fire with air from a duct under the floor, thus reducing draughts, and by surrounding the grate with a metal air chamber with outlets for warmed air, known as caleducts, above the fire opening, a great deal more heat was given out. They were right. Such convection arrangements alone raise the efficiency of a modern grate from around 30 per cent. to 45 per cent.

The stool grate, of which there are still probably hundreds of thousands in use, had an efficiency of around 17 per cent. and this has in recent years been redesigned with a higher front lined with firebrick to give a deeper and therefore hotter fire, which in fact consumes less coal because it burns it more completely. Illustrated are a number of fires of this type, all of which conform to the minimum standards required by the Ministry of Fuel and Power. Those chosen show least of their kind the common fault of nearly all present-day solid fuel appliances; that is (being finished in vitreous enamel, which tends to run off all sharp corners in the firing), they are inclined to be overrounded and to lack definition, looking, it has been said, like 'sucked caramels'.

Even these stoves, the darlings of both ministers and housewives (of the latter because they burn all night and thus save labour), leave much to be desired, for by installing a back boiler to use some of the heat for warming water their efficiency is raised to 40 per cent., or by using the devices applied in the Louvre three hundred years ago it is raised to 45 per cent. A fire of this kind is shown side by side with a drawing of the Louvre grate.

More efficient than any open fire in general use are the free-standing closed stoves. They achieve an efficiency of 50—55 per cent. and in some cases even higher. These, too,



inset convectors *heat air circulating round sides and back of fire, which may be passed into the same room as the fire, or to another part of the dwelling. They have a higher efficiency than the normal open fire.* 1, *the Louvre Grate described by Louis Savot, was in use in the* Cabinet des Livres *at the Louvre in* 1624. 2, *section through Louvre Grate.* 3-7, *contemporary fires of similar type;* 3, *Eagle Sutton (Radiation);* 4, *Ametro (Flavel);* 5, *Sofono (Grangemouth Iron Co.);* 6, *New Marathon (Allied Ironfounders);* 7, *Chevin (Radiation);* 8, *Camelon: this has a sunk ash pit of sufficiently large dimensions to make daily emptying unnecessary. A hinged flap covers the fire at night (Camelon Iron Co.).* 9, *Raymax Mark II convector fire. This is a continuous burning convector fire of a highly efficient type. It has a large back boiler sufficient for domestic hot water and some radiator service; works on a down draught system and is therefore smoke consuming (Radiation).*

1 2 3
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7 8 9

seem to suffer from the same disadvantages in design due to the requirements of vitreous enamelling. There is one notable exception to this—some anthracite-burning stoves with sheet metal casings in stainless steel, or stove enamel with pierced brass air vents.

The coupling of heating with ventilation was much in the mind of designers of fireplaces in earlier times (see *The History and Art of Warming and Ventilating Rooms* by Walter Bernan, 1845), and this has again become topical since scientists at the moment are concerned with the problem of reducing excessive ventilation through the chimneys of open fires. The idea has received a certain amount of publicity and to meet the resulting demand a number of coal economizers—devices to restrict the size of flues—have appeared on the market. These are not always aerodynamically very sound and sometimes are even dangerous if used with a coke fire. One fire, however, the Callesto, has now been put on the market with properly designed flue control. Such a device may reduce the number of air changes from three or four to 1½ changes per hour with consequent improvement in the warmth of the room. The Callesto has also a specially designed

inset fires *include the improved grates designed to Ministry of Fuel and Power requirements and inset stoves. Among the better designed grates of this type on the market are* **10**, *Fulham (Radiation);* **11**, *Cheston (Radiation);*

12, *New Zenith (Allied Ironfounders);* **13**, *Chatsworth (Pickersgill and Frost);* **14**, *Ideal Neofire (Ideal Boilers and Radiators);* **15**, *Baxi patent coke fire with sunk ash pit draws air from below floor (Richard Baxendale and Sons);* **16**, *Sloday (Sloan and Dandson);* **17**, *new Bratt Colbran heaped fire with foot operated control;* **18**, *Callesto stove with adjustable flue opening which reduces unnecessary air changes (Carron Co.);* **19**, *Esse openable stove (Smith and Wellstood).*

10 | 11 | 12
14 | 15 | 16
17 | 18 | 19

fire-back by means of which radiant heat is directed to a lower point than normally, thus improving heating at floor level.

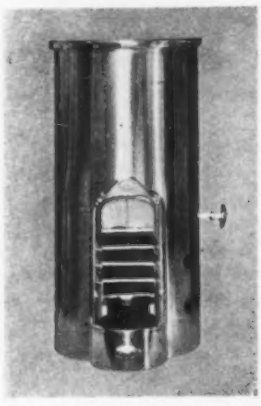
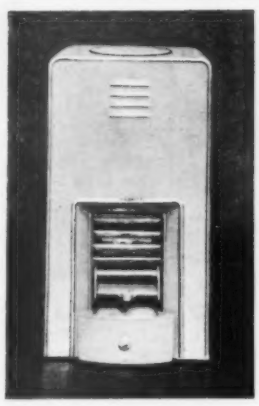
It is interesting to notice that the grate incorporating a flue control was in common use in Victorian and Edwardian times. It was known as the register grate and is still beloved not only by users who still have them, but also, such was their fame, by house agents, who rarely fail to mention them along with bay windows. This type of grate only disappeared to make possible the present sort of tiled surround.

That architects at the beginning of this century so ruthlessly sacrificed these comfortable fires for the sake of an unbroken expanse of blue-green tiles may perhaps be an inducement to architects today to help to reverse the process. Several experts have pleaded that architects should design free-standing open fireplaces, which, while preserving the open fire, so essential a part of the English home, would allow its heat to be diffused into the room rather than lost in the flues.

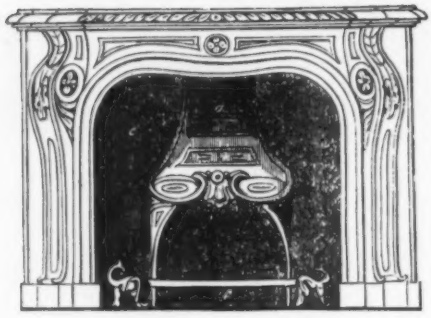
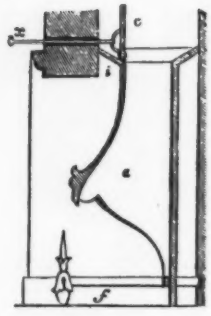
This desirable principle was embodied in a stove called by the delightful name of



free standing stoves *give maximum control of combustion and air change. They are highly efficient and give out a high proportion of both radiant and convected heat.* **20,** *Esse* **400** *(Smith and Wellstood);* **21,** *Otto (Allied Ironfounders);* **22,** *Torglow (Jones and Cambell);* **23-25,** *three anthracite burning stoves by Pither. These highly efficient hopper fed stoves serve as a reminder of how much definition in design is lost by the use of vitreous enamel;* **23,** *Junior, small stove for small rooms, caravans, yachts, etc. in stainless steel;* **24,** *Unique No.* **2,** *stove enamel and brass finish;* **25,** *Sheraton No.* **3,** *in stainless steel or stove enamel with pierced brass grille for air circulation.*


free standing fires *release more heat into a room, by convection, than the normal open fire;* **26,** *Cheminée de Nancy, an eighteenth century French fireplace;* **27,** *section through* **26** *showing free circulation of air round fire and controlled flue opening;* **28,** *a logical development of this type of fire from America;* **29,** *Danish fireplace costing £9 in Denmark designed by Paul Ernst Hoff and Bennet Windinge.*

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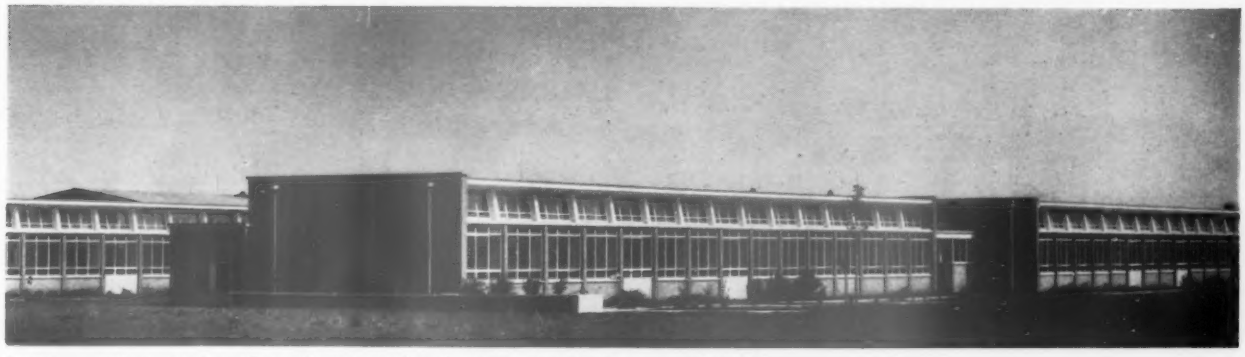
23 | 24 | 25
26 27 28 29

Cheminée de Nancy. Its earliest appearance cannot be fixed but it was certainly before 1750. It often stood in a conventional fire opening, but was essentially a free-standing metal funnel with a fire opening and tapering to give a very restricted flue. This not only gave all the radiant heat of a normal fire, but heated air by convection from its hot casing and reduced excessive air changes by the restricted flue.

A reconstruction of such a stove by A. F. Dufton, of the Building Research Station, reduced air changes from $4\frac{1}{2}$ to $1\frac{1}{2}$ per hour, when installed in his own home.

A number of fireplaces based on this principle have appeared from time to time and some of these are illustrated. It would seem that once again it is only the architects who can make the break with established custom possible, which is necessary to bring about further improvement in the open fire.



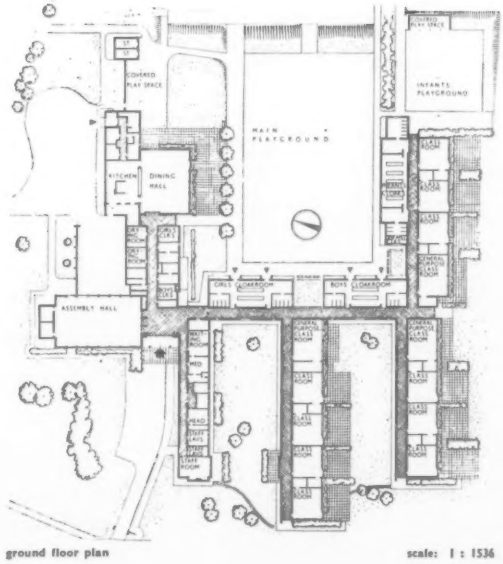
1, *classroom block seen from the south-west, another classroom wing can be seen on the left.*

PRIMARY SCHOOL AT RAMSGATE

ARCHITECTS: HOWARD V. LOBB AND PARTNERS
in collaboration with S. E. Loweth, County Architect

This primary school was designed to accommodate 480 pupils, most of whom will come from a new housing estate nearby. The classroom blocks are parallel to each other and are screened from the playground by the cloakrooms and lavatories. The main entrance with adjoining administration wing faces the housing estate. Foundations are RC ground beams on mass concrete bases at approximately 8-ft. centres. Walls are of 11½-in. cavity construction; south sides of classrooms have brick piers supporting wide transomes, above which are short precast concrete columns sloping slightly inwards and supporting the roof. Roofs are asbestos-cement cavity decking units, 8 ft. or 8 ft. 3 in. long, supported on rolled steel joists over classrooms and welded steel lattice trusses over assembly and dining halls. These are finished with ¾-in. asphalt on felt underlay, topped with white spar. Ceilings of classrooms and halls are fibre board supported with secret fixings hung from steel beams or roof trusses; elsewhere, insulating spray finish was applied direct to soffits of decking units. Windows were purpose made, of galvanized steel.

Classroom, dining hall and administration wing floors are of wood block; cloakrooms, granolithic; corridors, asphalt tile; assembly hall, wood strip; kitchen, quarry tile. Classroom walls are fair-faced brick distempered above facing-brick dado.



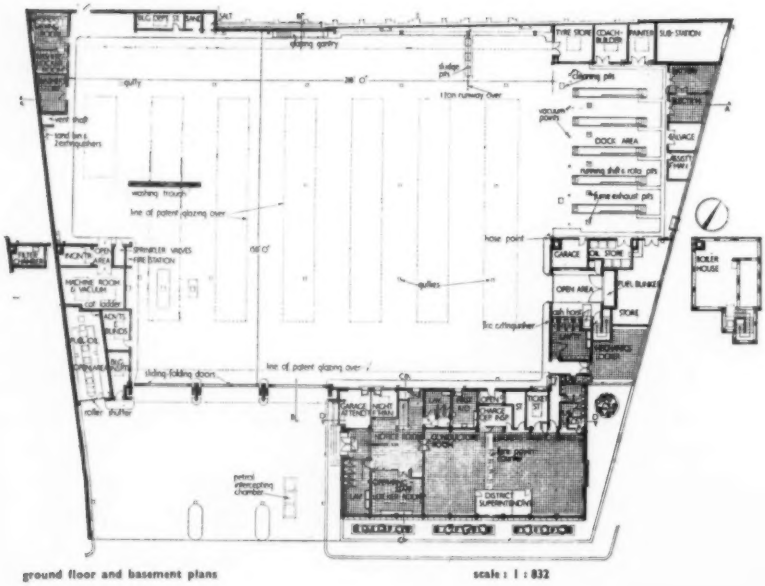
ground floor plan scale: 1 : 1536

2, *view from the north-west with dining hall on the right.*

3, *the administrative block from the east.*

BUS GARAGE AT THORNTON HEATH, SURREY

ARCHITECTS: ADIE, BUTTON AND PARTNERS



ground floor and basement plans scale: 1 : 832

This garage forms part of the LTE South London tramways conversion scheme and occupies the site of the former tram depot and three houses facing the London Road. The building was planned to accommodate 107 buses, together with five running shift and rota pits, workshops, stores, etc., for engineering staff. The block facing Whitehall Road contains the traffic offices with staff canteen and recreation room on the first floor.

All the existing buildings on the site, including the three houses, were demolished before building began, with the exception of the sub-station on the south-west side, which could not be demolished until a later date when trams on all routes had ceased to run. The garage has been set back from the old building line on London Road to allow for future road widening and this portion of the site has been made into a fenced garden. The main entrance and exit was planned as far as possible from the main road to allow buses to queue, before entering the garage, without disturbing traffic. The main entrance to the operating and welfare block is off the bus entrance to allow conductors easy access when paying in fares.

The main parking area has a flat roof carried on lattice

4, *view from the south-east, with glazing to the dock area in the background.*

5, folding, sliding entrance doors.

6, bus being repaired over one of the rota pits.

girders, supported on stanchions, and the external walls are solid 18-in. brickwork. Some of the walls formed part of the original tram depot and have been refaced on the inside. The welfare block is completely steel framed; the external walls are of 13½-in. brickwork. Partitions are of 13½-in., 9-in. and 4½-in. brickwork and of 3-in. breeze blocks. All suspended floors and the low-level roof slab are of precast reinforced concrete with *in situ* filling.

The roof over the parking area is of asbestos-cement decking covered with three-ply felt and 1-in. macadam intersected with 14-ft. wide skylights. All r.c. flat roofs are covered with 2-in. cork, screeded to falls in sand and cement and covered with three-ply bituminous felt with 1-in. macadam. The main parking and pit area walls are of sand-lime bricks, with a 5-ft. cement rendered dado painted grey. The floors are of hardened granolithic, and the ceiling is distempered cream. The main elevation of the welfare block is faced with 2-in. Portland stone and other elevations are faced with brown rustic facing bricks. All windows are steel, rust-proofed and painted. All workshops have walls of fair-faced brickwork, painted grey to a height of 7 ft. and ivory above. Ceilings are plastered and distempered cream. Lavatories and locker-room walls are finished with 6-in. sq. sepia or mushroom coloured tiles to 7-ft. height and peach distemper above. The canteen is tiled with 6-in. sq. mottled yellow tiles up to 7 ft. and has a floor of heather brown tiles. Window sills are cantilevered over the radiators and covered with laminated plastic. Work was carried out under the direction of P. Croom-Johnson, chief engineer to the LTE, and T. Bilbow, architect to the LTE.

7, parking area looking towards the entrance doors.

HOUSE EXTENSION AT WELWYN GARDEN CITY, HERTS

ARCHITECT: W. A. ALLEN

8, garden facade with extension in foreground.

Although 4, Ashley Close was built in 1948, and is the first fully floor-heated house in Britain, it has recently been extended. The general purpose of the scheme was to see whether floor heating could really free planning completely, so far as draughts were concerned, and also to avoid other troubles which could offset the advantages of open planning.

The important points to test in open planning combined with floor heating are: first, can stairs be placed in the living area and draughts still kept under control; second, can the front door be sited near the living room, without a draught lobby and, third, is there too much noise transmission up and down stairs. In practice it has been found that open planning can be draught free, but that sound absorbents to reduce noise transmission are important and must be carefully placed. The fireplace was built so that in stage 1 of the development, which was only 1,000 sq. ft. in area, there was a view into the garden over the mantelpiece, as seen in 9, overleaf, and in stage 2 it serves as a counter dividing living and dining areas.

Foundations are 10-in. diameter short-bore piles to a depth of 6 to 7 ft. (chosen because of the clay soil and for

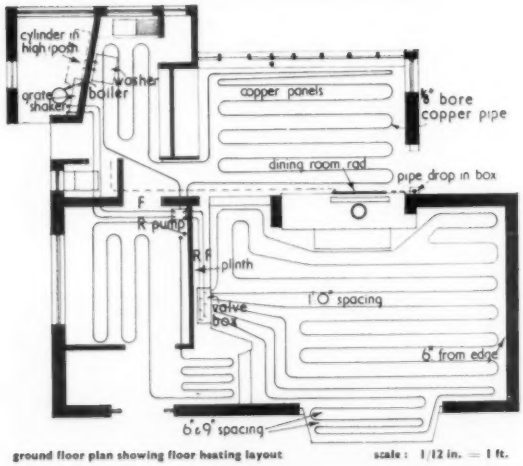
9, *living room looking towards new dining space.* 10, *inset, before conversion.*

economy) with 9-in. *in situ* beams between, formed by thickening the site concrete and inserting single-rod reinforcement. Walls are of cavity construction, the outer skin being brick and the inner skin clinker blocks. The first floor is of lattice steel joists with concrete beams formed in their depth to span between supports, without showing beams. The scissor truss roof helps to avoid the 'boxy' appearance of small rectangular bedrooms and reduce over-all height. When this house was built planning authorities and others requested a pitch roof, plain tiles and red brick external walls.

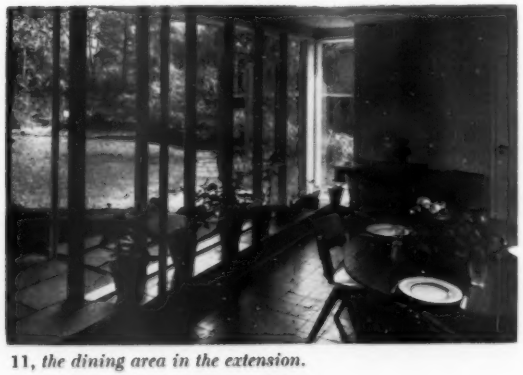
10

The floor finishes downstairs, which have proved most successful with floor heating, are quarry tiles and plastic-bonded chipboard. The latter replaced soft plywood, which proved difficult to obtain. The large mantelpiece, 9 ft. by 3 ft., is finished with quarry tiles on a concrete slab.

Heating is by pump-circulated floor panels using $\frac{3}{8}$-in. bore soft copper pipe, supplemented by one radiator downstairs. On the first floor the heating pipes are run in the open web joists and are again supplemented by one radiator. The solid-fuel boiler serves heating and domestic hot water. The radio is built-in between living room and kitchen to get good baffle and the magnetic back of the speaker is used to hold kitchen utensils.



ground floor plan showing floor heating layout scale : 1/12 in. = 1 ft.



11, *the dining area in the extension.*

BOOKS

MARLBOROUGH'S LARGE FABRICK

BLENHEIM PALACE. *By David Green. Country Life.* 126*s.*

Everyone knows the story of the building of Blenheim—how Queen Anne presented the Duke of Marlborough with the manor of Woodstock as a token of gratitude for his services; how, although the 'large Fabrick' to be erected there was also to be a royal gift, the warrant issued by Lord Treasurer Godolphin stated that the Duke himself had resolved to erect it and appointed Vanbrugh surveyor 'for, and on behalf of the said Duke'; how supplies of money from the government were irregular and uncertain at the best of times; how the works were at a standstill for two seasons after the Duke's dismissal from his posts in 1711; how there were continual disputes between the Duchess and Vanbrugh, the results of incompatibility of temperament being exacerbated by the fact that the former had wanted a dwelling while the latter was intent on building a 'Royall and National Monument,' and how things came to a head over the affair of Woodstock manor house; how Vanbrugh resigned his surveyorship in 1716; how the masons sued the Duke for arrears of payment; how Vanbrugh, on tour with the Earl of Carlisle in 1725, was refused entry into the park on the Duchess's orders. Yes, it is a familiar story and he who would retell it at length must have good reason for doing so.

Mr. David Green has. True, he has not made any discoveries that demand a radical revision of our views on the parts played by the two chief actors in the tragicomedy, Vanbrugh and the Duchess—though it does now appear that Sarah may not have wished to rid herself of the architect as soon as she did. But he has extracted from a truly formidable mass of documentation at Blenheim and in the British Museum a great deal that is both new and of very considerable interest. He is able to show, for instance, that during the important period 1708-12 Grinling Gibbons was responsible for all the ornamental carving in stone and marble, both indoors and out; that Hawksmoor did not, as has been assumed, carry on at Blenheim after Vanbrugh left (although he never quarrelled with the Duchess); that 'your Glassmaker, Moor' referred to in Vanbrugh's letter of resignation was James Moore the cabinet-maker, and that Moore did indeed act as comptroller or clerk of works from 1716 till 1725. Then there are the drawings restored to the light of day, notable among them being a design for the decorative treatment of the great hall by Thornhill, three more for the saloon by the same artist, and a number of designs from the hand of Hawksmoor, including a sketch for a tremendous monumental descent from the west parterre into the park. Nor is Mr. Green content to ring down the curtain at the death of Duchess Sarah; in his last four chapters he covers the 208 years intervening between that event and us, describing the activities of Brown and Chambers under the fourth Duke and those of Achille Duchesne under the ninth. (His account of the formation of the Italian garden by Duchesne in the nineteen-twenties, in which he quotes letters from the ninth Duke which recall Sir George Sitwell at his best, is exceedingly entertaining.) A massive apparatus of notes and appendices supports the close-packed text and materially increases the value of his book as a work of reference.

On the literary side, it is arguable that Mr. Green's chapters are a little too much like self-contained essays; one might wish for a more baroque integration of the elements of the plan, a stronger directional emphasis. A severer criticism which must be made relates to a matter that was not Mr. Green's concern at all, but his publishers'. Collotype is a notoriously uncertain process of reproduction; I have been told that when Messrs. Batsford used it for plates in their larger books thirty and forty years ago every impression was examined separately and those which did not come up to standard—sometimes a high proportion—were scrapped. To compare the photograph of the saloon as reproduced on page 77 of my copy of *Blenheim Palace* (a good reproduction as they go) with the same photograph as reproduced on page 103 of the Vanbrugh volume of Tipping and Hussey's *English Homes* is to wish that Messrs. Country Life had stuck to half-tone, while the reproduction on page 90 would hardly stand comparison with the average illustration in a daily newspaper. Perhaps collotype was chosen in the belief that it is better than half-tone for the reproduction of drawings. Unfortunately, there are plates which show that it is not necessarily so.

Marcus Whiffen

DIGEST

Of Town Planning History

It must be expressly stated when treating a subject where history is still so largely used as a basis for discussing today's problems that it is the *history* of town planning as a discipline I am concerned with here, and not present-day practice or theory. Although this conception of the use of history was the primary source of present-day contemplation of the subject—Camillo Sitte's *Städtebau* standing at its inception—the scope has increased considerably since and today town planning history is the happy hunting ground of a wide circle of erudites ranging from the formalist art-historian at the one end to the sociologist at the other with an odd geographer perhaps thrown in and a number of archæologists in addition.

This would be a very desirable state of affairs in a subject as complex as this if each individual scholar would stick to his own subject and make whatever contribution he has to make from his particular point of view and from the facts he (and only he) could assemble—and go no further; but unfortunately this is not always the case, with the result that contributions take a wide stand instead of going into depth. The only sensible treatment of general town planning problems, as related to civic history, one which should be a most useful starting-point for further discussion, comes from Hans Blumenfeld in his very comprehensive *Theory of City Form Past and Present*, Journal of the Society of Architectural Historians, vol. 8, Louisville, 1949; particularly valuable is his warning to be careful in the use of the terms 'grown' and 'planned' towns. Obviously a short paper on such a wide subject must be made up of generalizations, some sound and illuminating like the interaction of site and function or the division into plans where the streets are the determining factor and others where it is the building, others not so; particularly the interaction of wall and pattern seems doubtful and the pictorial representation of towns more dependent on the style of painting than on the conception of the town.

In contrast to this well-thought-out paper stands another general essay coming from the Sociological quarter: Antony Kriesis, *Versuch einer soziologischen Typologie des Städtplanes* in Figura 1, Stockholm, 1951. As the title says, this is an attempt to allocate various types of plans to various political groups. The author divides towns into 'Metropolen' which originate in a 'untersättigten Lebensraum' and whose irregular plans are always based on village patterns, and, secondly, colonies which are offshoots of the metropolis and always built on a regular pattern; the colonies can be divided in autocratic, religious or political, and democratic; and certain types of plans belong, according to the author, to certain types of government. But since identical patterns occur in different sociological groups, nothing is really proved.

Paul Zucker's *Space Concept and Pattern Design in Radio-centric City Planning*, Art Quarterly, vol. 8, Detroit, 1945, similarly attempts a classification of types, this time from the art-historic point of view, again, however, in such a general manner that nothing can be gained by it. Moreover, the author insists on Alberti having been the inventor of the star-shaped town (for which there is no evidence in the architect's writings), and includes such sweeping and hardly correct statements that the seventeenth century town 'reverted' to the rectangular square; had there not always been such squares?

Another art-historical article comes from E. Hempel, *Ruinenschönheit* in Zeitschrift für Kunst, vol. 2, Leipzig, 1948, where a plea is made to preserve and re-use the ruins of war-damaged buildings, wherever this is possible, and fit them into the surrounding townscape; Hempel gives many examples where this has been done to advantage, and deals at length

with Rome, whose ruins were re-used throughout its history, but also consciously left as ruins and incorporated into new schemes (the author also gives a survey of Renaissance town-planning schemes and alterations to the city until the coming of the archæologists in the nineteenth century). The paper was really written with an eye to present-day needs—the case of Dresden is particularly mentioned and a suggestion put forward for rebuilding the core of the town as a cultural and religious centre. In the same magazine, vol. 1, 1947, a paper by O. Schürer, *Unsere alten Städte, gestern und morgen*, is mainly an invocation of the spirit and visual beauty of German towns meant to help those people who will have to do the rebuilding towards an understanding of their task.

Last, but certainly not least, comes a more important contribution from another art-historian, a paper by S. Giedion, *Space and the Elements of the Renaissance*, in Magazine of Art, vol. 45, New York, January, 1952—a condensed version of an additional chapter for a forthcoming new edition of *Space, Time and Architecture* which indeed whets our appetite for the whole thing. This is given to a detailed study of single problems and shows what can be done that way. Realizing that only the constituent parts of a Renaissance town matter —no overall plan was devised either by Bramante, Leonardo or Michelangelo—he concentrates on these, discussing first the haphazard arrangement of quattrocento streets, each palace being an individual (and also, incidentally, stressing the fact that the palaces open their windows on to the street in an unprecedented manner) whereas Vasari in the sixteenth century, possibly influenced by Michelangelo, devised what was called the Piazza degli Uffizi with unified façades and a single colonnade running right round. Of particular interest is Giedion's derivation of the external staircases, as it were, of Michelangelo's Capitol from Bramante's Cortile del Belvedere.

The contribution the economic historian can make was brilliantly demonstrated in three Third Programme talks on *The Landscape of Towns* by Dr. W. G. Hoskins.* The lecturer after making an impassioned plea for a detailed topographical survey of single towns, helped by documentation from their records, did in fact discuss a number of English towns, tried to disentangle their history and explained, as far as this can be safely done, why they look as they do, though in the first talk on the Planned Town he could not refrain from theorizing, thus abandoning his professed method and making some unfounded generalizations on the use and origin of the chequer-board plan.

How fruitful this method of detailed enquiry, using historical documents, old maps and present-day topographical evidence can be, is exemplified by a whole group of contributions in vol. 10, no. 4 of the Journal of the Society of Architectural Historians which is dedicated to American Town Planning. F. R. Stevenson and Carl Feiss give the origin, as Utopian towns, both in constitution and layout, of Charleston and Savannah and their subsequent history. The case history of Cleveland, Ohio, whose development can be followed through maps and records, given by Edmund H. Chapman in *City Planning Under Mercantile Expansion*, shows a town which was founded in 1796 by speculators, not by idealists, and grew up in the mid-nineteenth century only to become a city today faced with almost unsurmountable difficulties.

Carroll Meeks in *Lynx and Phoenix*, gives a survey of the foundation and subsequent history of Williamsburg, Virginia (founded 1699) and Litchfield, Connecticut, of 1720, again putting the raison d'être of their town planning features first, but integrating history and visual planning so that these two towns come to life properly. Of interest also is his remark that English landscape gardening had little influence on these towns and that Litchfield, particularly, may owe much to French influence in the nineteenth century.

The archæologists and their contributions must finally be mentioned; they can give as clear a picture of ancient towns as one can hope for through interpreting excavation results in the light of the relevant background knowledge. The Town Planning Review was instrumental in publishing several such articles. H. W. Fairman reported on *Town Planning in Pharaonic Egypt* (vol. 20, 1949), where our sole sources of information are a few workmen's villages, a number of fortresses and the ruins of the city of Akhenaten, today's Tell-el-Amarna; since this town, however, is an exception (built by Akhenaten in the course of a religious reform), it must remain doubtful how far it can be considered to have been typical. The author, however, also tries to reconstruct from visual representations, hieroglyphs, etc., what would otherwise appear to be lost for ever.

Professor H. Frankfort who takes care of *Town Planning in Ancient Mesopotamia* (vol. 21, 1950), is much luckier, since a wealth of material is available, mainly through excavations of which the author has, of course, first-hand knowledge. Thus we are presented with a full and most vivid account of town planning in that district, its background and its raison d'être. The situation in Crete, dealt with by R. W. Hutchinson (vol. 21, 1950), is again most obscure, since only small bits of the layout are known and it appears to be quite impossible to give a fair account of towns in neolithic Crete.

Professor R. E. Wycherley has greatly augmented his book *How the Greeks Built Cities* of 1949 with a paper on Hellenic cities in the Town Planning Review, vol. 22, 1951, and one on Hellenistic cities in vol. 22, in *Notes on Olynthus and Selinus*, in the American Journal of Archæology, vol. 55, 1951. In the last mentioned paper the author clarifies some of the points about these two cities, but of particular interest is his thesis of the variety and variability of Greek towns, even when the system of Hippodamos was employed. W. A. Eden had the ingenious idea of investigating the medieval *Plan of Mesta, Chios* and to deduce from it what may have been the form of the 'early' towns mentioned by Aristotle and Plato's prototype for the defence of his utopian colonial city. (Annual of the British School at Athens, number 45, 1950.)

The ancient world was also covered by Giorgio Cavaglieri in the form of contributions to the Journal of the Society of Architectural Historians (vol. 6, 1947, vol. 7, 1948, vol. 8, 1949); this *Outline for a History of City Planning from Pre-History to the Fall of the Roman Empire* is the most recent compilation available and the only one in English; it is well illustrated, but, unfortunately, lacks a bibliography.

S. Lang

* Published in *The Listener*, September 18 and 25, October 2, 1952.

INDOOR PLANTS

DAVALLIA CANARIENSIS (Polypodiaceae)

The popular name of this attractive plant is the Hare's-foot fern. It is on the large size as ferns go and is distinguished by its glaucous or blue-green fronds and its scaled rhizomes.

These rootlike growths appear on the surface and are covered with what appears to be light brown or tan fur. Another fern with a similar habit of growth is the Squirrel's-foot, *Davallia bullata*, which is a dwarf creeper.

Davallia canariensis was introduced from the Canary Islands, as its name implies, in the eighteenth century. It is also a native of Spain and North Africa.

Its leaves can in favourable conditions grow to a very large size, but one and a half to two feet is normal for a potted specimen. The specimen illustrated has ruffled wavy margined leaflets and as this is not a characteristic it may be a variety of the species.

Like most ferns it requires lots of light, but no sun. The soil in which it grows should be light and well drained, a compost of loam, peat and silver sand is the most suitable, and it can be watered and sprayed frequently except in its dormant season when once a week is sufficient. It is a greenhouse species, but it will stand low temperatures and is admirable for rooms. It can be propagated by division of the

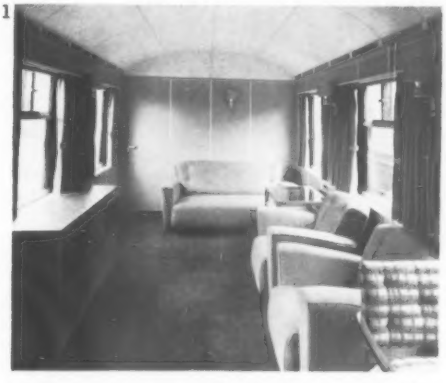
rhizomes. Its handsome foliage makes it especially suitable for display and decoration with the popular Nephrolepsis and Pteris ferns and it should be more widely used. H. F. Clark

DESIGN REVIEW

ROYAL TRAINS

Recently published photographs of the Duke of Edinburgh's saloon in the Royal Train show that British Railways are still not alive to the possibility of creating de luxe *interiors within an authentic transport idiom.* If readers will refer to the article on *Royal Transport* in the Coronation issue of THE ARCHITECTURAL REVIEW (January, 1953) and compare what is reproduced there with this interior, 1, they will see that this new saloon represents a fractional improvement—there is a slight

1



decrease in over-all fussiness, and the elimination of carpet pattern increases the sense of space—but the general conception remains as muddle-headed as ever; this still does not look like a train. The effect, largely through use of free-standing, rather than built-in furniture, is still that of an oddly-proportioned hotel-lounge—a rather drably modernistic one at that. Since design for royalty is always regarded as the proper place in which to honour British traditions, it seems perverse not to maintain this attitude where Royal trains are concerned—the tradition of vehicle design is still vital and creative, and British Railways, in spite of some notorious lapses, have done much to maintain its flourishing condition. It is a design idiom which, in the past, and in Royal vehicles of the Victorian era particularly, has shown itself capable of absorbing a great deal of *luxus* without losing its fundamentally vehicular character—why not use it now, instead of fathering such unhappy hybrids as the present Royal train. P. R. B.

ANOTHER CROWN FURNISHES

The design of furnishing textiles specially for use in Crown buildings seems to have received more attention in Sweden than here. Though the REVIEW's Coronation number surveyed the British approach to the furnishing of Crown buildings and provided some contrasts with practice in Sweden, mention of textile design could not be included, so a few examples of Swedish textile designs, produced specially for official use, are apposite reminders of what does not happen here.

All three are printed fabrics produced by the textile studio of Nordiska Kom-

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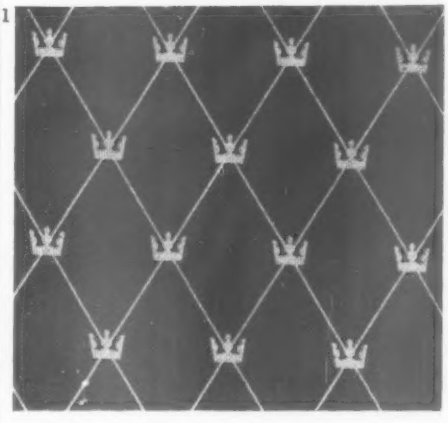
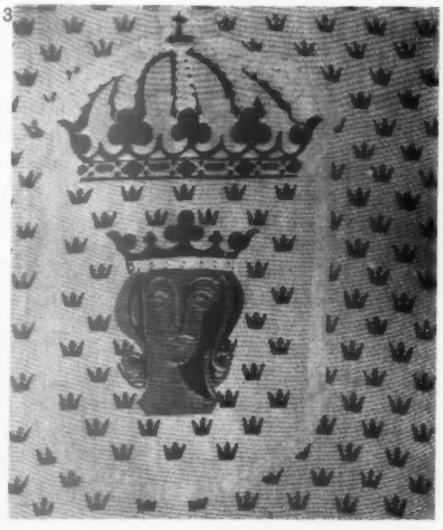


paniet, Stockholm. 1 is a discharge print in white on a royal blue ground carried out for military hospital wards. The repeat is on quite a small scale while the crowns—which are of course a national emblem as well as a royal one—are a very neat simplification of that emblem. 2, another discharge print in white on a deep blue ground, was designed for use on curtains in Royal Swedish Navy establishments. It is a straightforward naval emblem, modified to reproduce clearly by this printing process. Both are a rather unselfconscious blend of tradition contemporized, as it were, but without any suggestion that the tradition is moribund. 3 is a printed fabric in light

2

gold and dark gold—the latter portion in a white surround—on a cream ground, designed for a county administration and therefore not so strictly a 'Crown' production as the other two. Civic buildings in Sweden have a high reputation for design,

3



and this probably explains the greater detachment from traditional treatment despite the traditional theme, as compared with the other two. Nevertheless, it could be used equally effectively in traditional or in contemporary surroundings.

All are on plain-weave rayon cloth produced in quantity, the two prints are in one colour only and inexpensive to produce, while the third is in three colours, hand blocked, and therefore rather more expensive in printing. It could happen here if someone in official places gave his mind to it. H. McG. D.

PAINTING

PAINTING AND SCULPTURE OF LE CORBUSIER

Had Le Corbusier never written a book, nor ever built a house, he might not have become a Commander *of the* Legion d'Honneur, *and certainly would never have been awarded the Royal Gold Medal for Architecture this year, but he would have been remembered as one of the Masters of the* Ecole de Paris, *one of the heroes of post-Cubist painting.* The achievements of his career as architect have overshadowed his work as painter and sculptor, and those few who are acquainted with the whole of his output in these fields do not often prize them highly. Yet they have a particular significance now that we begin to see that the

Modern Movement in Architecture has its foundations not only in material and functional revolutions, but in a visual revolution as well, and the recent exhibition of his paintings and sculpture at the Institute of Contemporary Arts was revealing as well as timely.

These oils, watercolours, lithographs, drawings and sculptures are too little known, too little studied, for us to appreciate them fully, as yet, as works of art, but their importance as laboratories of form is manifest. They throw a penetrating light on the æsthetic mechanisms of his architectural creation, and, in those barren periods when he had no chance to build, they lead us on to the next achievement in construction, anticipating its innovations. Long before his first 'Modern' buildings were erected, the early still-lives of 1918–19 give evidence of a mania for precision and for geometrical forms so pure as to be almost devoid of substance, 1, elaborated from drawings of meticulous linear construction, based on a system of *tracés regulataires*, anticipating the unsubstantial and subtly-proportioned façades of the Ozenfant and La Roche-Jeanneret houses.

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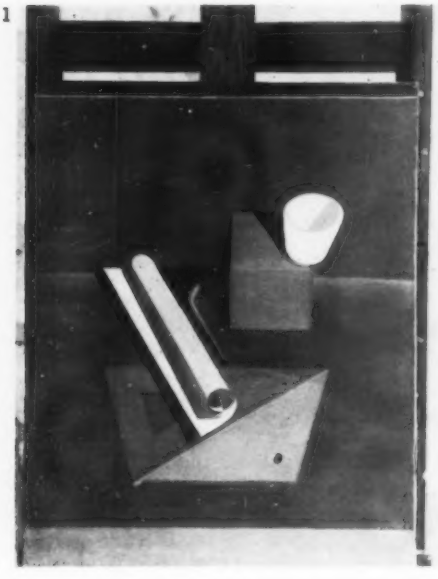

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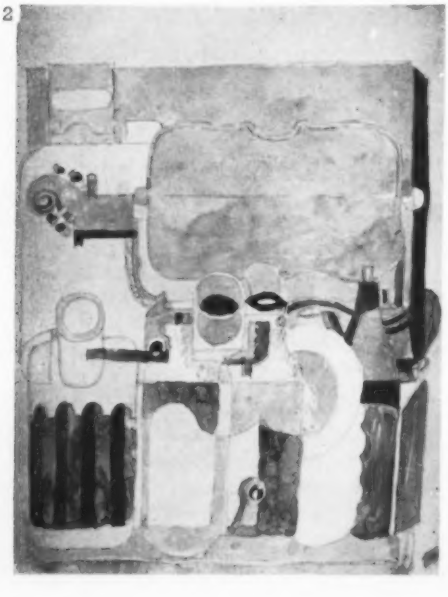


Yet, by the time these were built his painting had passed on to those large compositions, called *Puriste*, in which objects of daily domestic familiarity combine together in grave and formal dances of candy-coloured transparency, sharing and exchanging contours, 2. Though these bottles and jugs, plates and pipes, were the customary bric-à-brac of the cubist still-life table, he and his fellow purists gave them a new significance—they are not merely pretty forms on which the painter may improvise, they are also, as he and Ozenfant expressed it in a chapter of their forgotten book *La Peinture Moderne*, to be praised for having 'the peculiar virtue of being standardized, for being closely associated with man and in scale with him . . . they serve man most directly, are to him like extra hands and fingers, of an intimacy and banality so great as hardly to interest him.' Thus he promoted the products of mass-production to the status of a kind of serially-produced folk-lore, came to terms with the machine on a note of lyricism, and at the same time laid the foundations of many later important architectural researches, such as the Modulor, and the standardization of domestic equipment.

This period of the purest Purism ended with a show of stronger earthy colours and freely manipulated forms, which received their architectural realization in the Villa Savoye, a habitable still life table of concrete. But again, having made his peace with the machine, he was already moving on to other considerations in his painting, and the human form appears, together with a note of fiercer and more full-bodied plasticity, in works which often distil a dark disquiet, as if the rising tide of Surrealist anxiety was engulfing him as well, 4. But, a year after this menacing picture, the frustrating thirties ended on a note of cheerful and rumbustious gaiety, the great murals, 3, at Cap St. Martin.

3

4

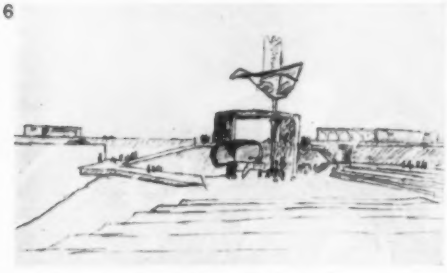
When the further frustrations and sterility of the war were over the new buildings were so different from those of the thirties as to appear the work of a different man, yet the paintings of the intervening years were full of clues of this new development. And there was in addition a new plastic adventure, a new laboratory of formal experiment—sculpture. The fat and confident detailing of Marseilles, its swaggering and pachydermatous legs, the rough romantic finishes, had all been worked out in the polychromed sculptures like 5, which was shown completed in the exhibition and is signed by Le Corbusier

5

and Joseph Savina, and that which appears on the cover of this issue.

These large wood-carvings were undertaken by him as experiments towards a sculpture intended for an architectural

6



setting, but under their influence his buildings have begun to create bold plastic effects, and in the Capitol of Chandigarh, the new administrative centre for the Punjab, the crowning achievement of his career, the emphasis is everywhere sculptural—the same plastic sensibility has carved and modelled the landscape (see frontispiece to this issue), moulded and manipulated the concrete masses of the buildings, 7, and shaped the purely sculptural features, 6, which animate and punctuate the plan.

Government House is the most astonishing creation of this sculptural force, but the forms and perforations of the Courts of Justice, 7, and the roof structures of the Secretariat, 8, also bear witness to its power. Yet he continues to paint, and one of his recent pictures, 10, shows that even the most abstract and intellectual of his conceptions, the Modulor, is for him a matter of visual, as well as technical, consequence and full of decorative possibilities of its own. His creative power as artist continues unabated, and he is

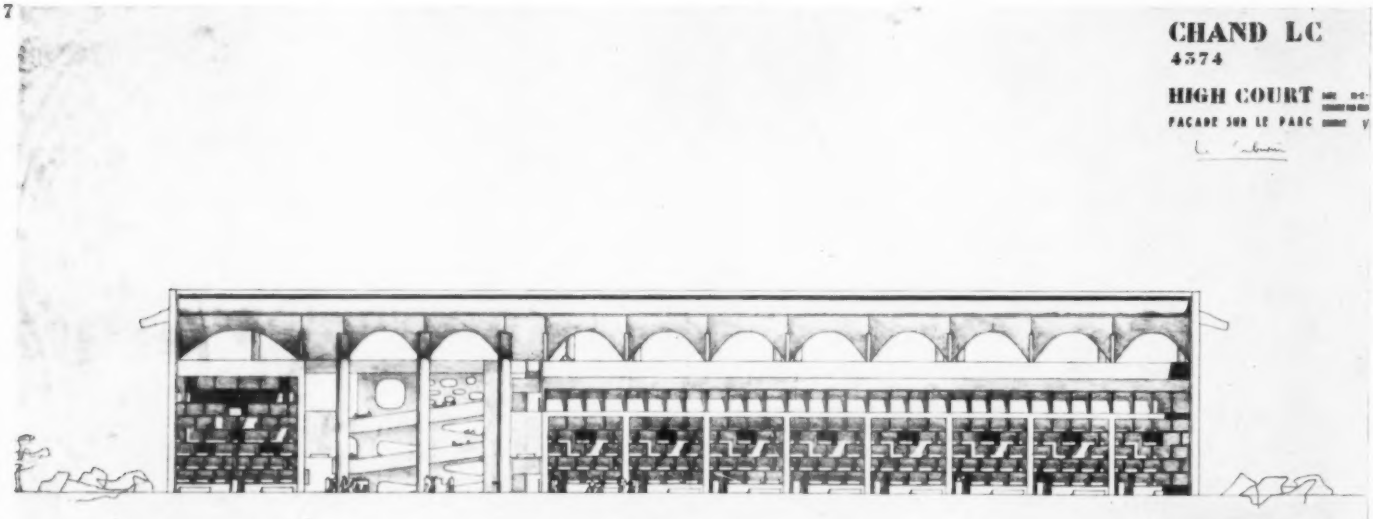
9

emerging now as one of the truly original creators of the age. Just as the growth of the human embryo summarizes the evolutionary prehistory of Man, so the development of Le Corbusier's art summarizes the more general process which, in *La Peinture Moderne*, he termed *La Formation de l'Optique Moderne*. All the elements are there:— the absorption of the past, the submission to the laws of geometry, the confrontation with Cubism, the comprehension of the machine, the study, continued at Chandigarh as 9 shows, of natural and human form (and of natural and human behaviour), the three-dimensional experience of sculpture—through all these stages he has passed to emerge the confident master of materials, both massive and light, natural and synthetic, self-coloured or painted, the

10

assembler of magnificent and cunning plays of volume in the sun. **Reyner Banham**

7



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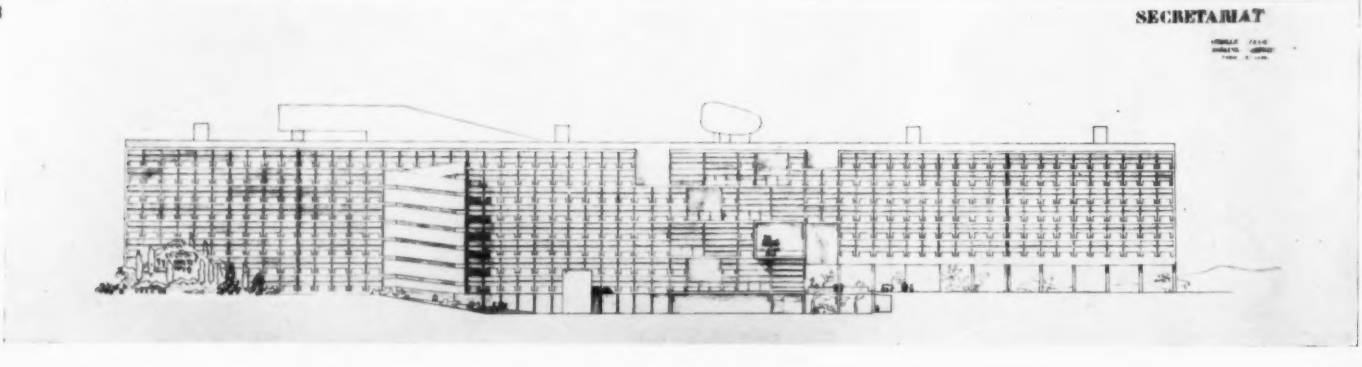

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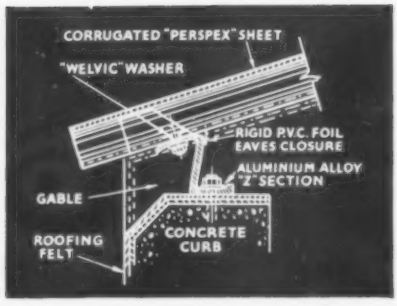

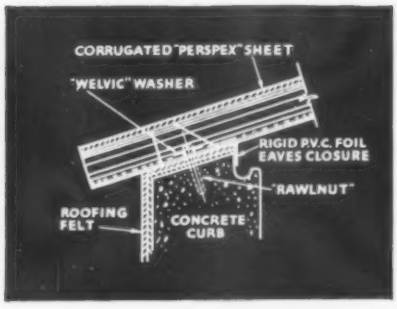

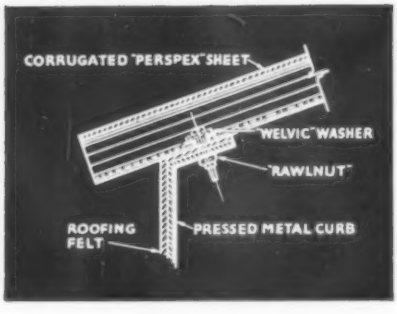

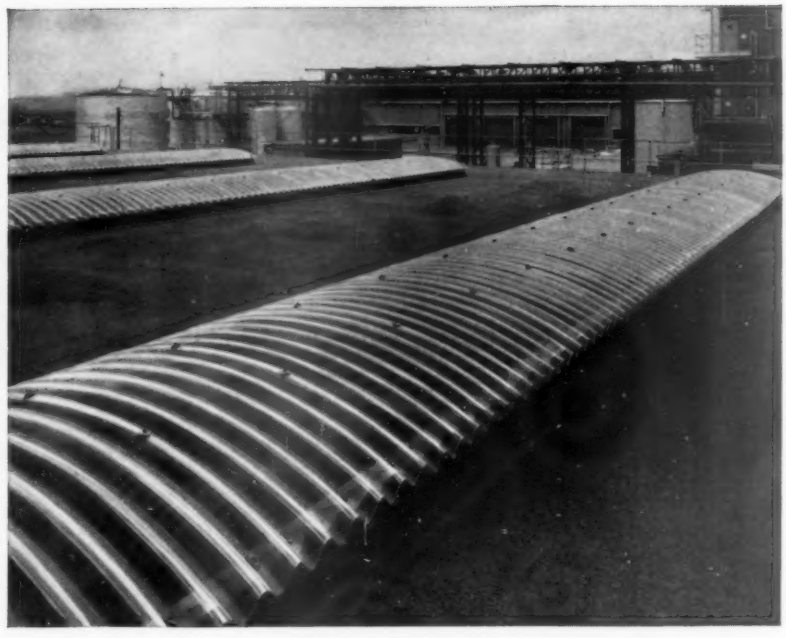

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ANTHOLOGY

NOTHING REGULAR

The inland suburbs of Bournemouth are like any other suburbs, indistinguishable from Wembley or the Great West Road. And they stretch for miles into Hants and Dorset, leaving here and there a barren patch of pylon-bisected heath. . . . The beauty of Bournemouth consists in three things, her layout, her larger villas and her churches. All of these are Victorian.

Earliest Bournemouth is on the western and Branksome side of the Bourne, which runs into the sea by the Pavilion. It consists of a few villas built by Mr. Lewis Tregonwell, whose name survives in a terrace and a road, and whose house was part of the Exeter Hotel. He started building in 1810. In 1836 a local landlord, Sir George Tapps, of Westover and Hinton Admiral, built on the eastern bank of the stream. Adding Gervis to his name, he went on building and called in Benjamin Ferrey, the Gothic church architect and friend of Pugin, to lay out his estate. Thus Gervis Place arose with its stucco Tudor-style villas, Tudor or Italian, the villas were varied, well spaced in their setting, roads were broad and planted with trees, but everything had to wind. Nothing was to be regular. That is why there is no formal promenade in Bournemouth, and why there have always been so many footpaths and curving roads in the older and finer parts of the town. The place was carefully planned from its beginnings on the principle that nature abhors a straight line, the picturesque school of Georgian gardening surviving into Victorian times. This sense that Bournemouth is a garden with houses in it survived the century. The name Tapps-Gervis increased to Tapps-Gervis-Meyrick, hence Meyrick Avenue, Meyrick Park, Meyrick Road. And if you are not sure of the owner of the road, you may often guess its date from its name—Adelaide, Alma, Gladstone. They are hidden behind trees and flowering shrubs, down lengths of gravel bordered with rhododendron, these Victorian villas. Some are hotels, some are now government offices. They reflect every phase of leisured Victorian and Edwardian life—here a hint of Madeira, there an Elizabethan cottage, then an Italian villa like the Royal Bath Hotel. All these are in stucco and not later than the 'seventies. Then brick came in, and we have 'Flemish style' buildings, with gables and white wood balconies and leaded panes, of which J. D. Sedding's Vicarage at St. Clements and big house at the top of Boscombe Chine, called The Knole, are beautiful, satisfying examples. They look stately and practical. Later, a brilliant local architect, Sidney Tugwell, designed villas in the new art style with tiny windows fluttering cheerful chintz, low-pitched roofs of local stone and broad eaves—wholesome and simple buildings like home-made cakes. He had his imitators. And each of these strongly individual Victorian houses, not content with its garden-like road, Knyveton Road, Manor Road, Alum Chine or further inland round Meyrick Park, has or once had, a beautiful garden of its own. So that the real Bournemouth is all pines and pines and pines and flowering shrubs, lawns, begonias, azaleas, bird-song, dance tunes, the plung of the racket and creak of the basket chair.

JOHN BETJEMAN (Extract from *First and Last Loves*), John Murray, 1952. Price 20s. (pages 11-13).

MARGINALIA

Architects in this Issue

Architect of the Factory at Blumberg (see pages 352-359). EGON EIERMANN was born in Berlin in 1904. At the age of 19 he began work as a scenic architect in films, having studied at Berlin Technische Hochschule under Hans Poelzig. He subsequently established a practice in factory and home design, but very little of the work of this period, mostly around Berlin

and in Thuringia, has survived the second world war. Having escaped from the Eastern Zone in the last stages of the war, he was invited in 1947 to become professor of architecture at the oldest of the German technical universities, the Technische Hochschule at Karlsruhe in Baden. He soon became Dean of the Faculty, where his incisive methods of instruction and the position he has built up as an industrial architect and as an assessor persistently favouring contemporary solutions have made him one of the outstanding figures of German post-war architecture, and the Karlsruhe school a leading centre of contemporary design studies. Besides Blumberg, other recent works have included a factory for the CIBA pharmaceutical firm near the Swiss frontier and a large scheme for the Silk Combine (for whom Mies van der Rohe once worked) at Krefeld, between which two jobs, a distance of 500-odd kilometres, he commuted in one of the first Porsche coupés, now replaced by an English Sunbeam-Talbot.

Architect of Advertising Offices (see pages 387-390). PETER MORO, born 1911 in Heidelberg, Germany. Studied in Berlin and Zurich, under Professor Salvisberg (Roche Products Factory, Welwyn), where he qualified. First job in England, 1937, was as assistant to Tecton on 2nd Highpoint. First building, a house at Birdham, Sussex (with Richard Llewelyn Davies). Taught design at the Regent Street

Polytechnic for six years and then, after the war, specialized in exhibition design (most enjoyable, two connected with aircraft design, one at Copenhagen, and one at Charing Cross, with Robin Day). Was appointed associate architect, Royal Festival Hall, in 1948. Since in private practice. Married to a one-time architectural student, whom he advised to give up architecture. Has two daughters, Alice, 4, and Frances, 7. Lives in a 1690 house on Croom's Hill, Greenwich. Likes cars (owns a '48 silver grey Citroën), photography (with a Rollei), Continental food, jazz, his children, skiing in Austria, and badminton.

Johannesburg Architects (pages 360-382)

S. A. ABRAMOWITCH. Born November 30, 1923, in Johannesburg. Trained at the University of the Witwatersrand. Spent three years in the office of Harold Le Roith, and has been in private practice since 1950. Hatherley Hall was the first project to be completed, followed by flats, houses, commercial and industrial buildings. Married, devotes a great deal of leisure time to water-colour painting and music.

GEORGE CANDIOTES. Born in Capetown on December 29, 1917. Educated at the Witwatersrand Technical College, and the University of the Witwatersrand. Became a 'Scholar of the University' in 1938. Served as a pilot in the South African Air Force during World War II. In June, 1945, was awarded first prize in an architectural competition for the best designs for a housing project in Pretoria. August, 1945, commenced private practice in Germiston, near Johannesburg. Has worked on housing schemes for the National Housing and Planning Commission, the Vereeniging Municipality, and for the South African Coal, Oil and Gas Corporation. Nearing completion in Boksburg is 'Morco House' a 'sister' building to Argosy House. Has carried out school projects for the Transvaal Provincial Administration. During 1952 he made a tour of Italy, Switzerland, Paris and London. Interests include the study of colour as applied to contemporary architecture. Hobbies are cine photography, tennis, golf, swimming and squash racquets.

JOHN NORRIS COWIN. Born at Muizenburg, Cape, October 3, 1907. Educated at Liverpool School of Architecture, 1924–29. Six months' office experience with Sir Herbert Baker. Visited France, Switzerland and Italy, 1925; New York, April–October, 1928, office of Carrère & Hastings; New York, April–October, 1930, office of A. Lindebergh. Toured Eastern States of America and Canada. Works include houses, hospitals, offices and cinemas. Served in SAEC during the war. Amateur cinematography, radio, joinery, golf.

L. H. FLEMING (Fleming and Cooke). Born in Johannesburg in 1911. Studied architecture at the Witwatersrand University and at the Architectural Association School, Bedford Square. Joined his father in practice in 1935. Served with the South African Forces during the war on aerodrome construction. Travelled in Europe, including an intensive tour in 1952 of modern hospital design. Married and has four children. Is a keen fisherman, plays tennis, and likes taking motor cars to bits.

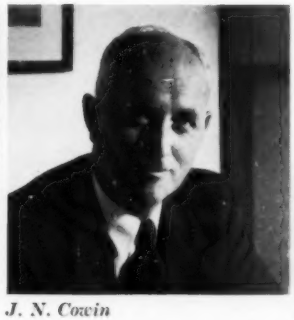
BERNARD COOKE. Born 1910, Sheerness, England. Trained at Witwatersrand University with post-graduate work at the Architectural Association, London. Travelled widely in Europe particularly in Italy. Married with three children. Started private practice in 1934; during the war engaged on aerodrome design and thereafter served in Egypt and Italy with a camouflage unit. While in Egypt made a study of Arabian houses. Since the war practised in partnership with Mr. L. H. Fleming; they have built schools, hostels, exhibition buildings, laboratories, private houses and a large amount of government work. Interested in painting, travel and country life.

NORMAN EATON. Born of old Cape farming stock early in the twentieth century. Apprenticed to Dr. Gordon Leith at Witwatersrand University. Voyages of architectural discovery into the outer world commenced in the 30's in Italy, Egypt, Greece and Turkey. Also visited the different Central European countries and England. Private practice on own account in Pretoria, on return to SA, grew slowly through private houses to schools and buildings for the Land Bank of SA; in the 40's the great two million pound Commission from the Government for the Ministry of Transport Building in Pretoria was received, designed, accepted, made completely ready for erection and then abandoned by a succeeding Government. In latter half of the 40's during work on the final drawings for the Ministry of Transport Building, the USA, Brazil and the Argentine were visited. Recent practice has included work for the Land Bank, more schools and private houses. The new Netherlands Bank now being erected in Pretoria is the most important present work. Interests centre round music, painting, sculpture, literature and associated arts. A desire to live and practise in closer contact with the country and its natural amenities is at present suppressed only by practical difficulties.

JOHN FASSLER. Born April 1910 in Potchefstroom, Transvaal. Received training in architecture at the University of the Witwatersrand, and

S. A. Abramowitch

G. Candiotes



J. N. Cowin

L. H. Fleming and B. Cooke

N. L. Hanson

M. Hermer

W. D. Howie

R. D. Martienssen

J. M. Shunn

H. Stauch

MILLBROOK HOUSING ESTATE, SOUTHAMPTON

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F. L. Wooldridge, M.I.C.E., M.I.Mun.E., Borough Engineer & Surveyor

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joined the staff of the School of Architecture of the University. For a time in partnership with R. D. Martienssen and B. S. Cooke. Was a lecturer and later senior lecturer prior to appointment as Professor of Architecture in 1948. Past President of the Transvaal Provincial Institute of South African Architects, and past member of the Central Council. Principal works: houses and flats with R. D. Martienssen and B. S. Cooke and University buildings with G. E. Pearce. In 1936 visited Europe and in 1949 travelled in Europe and the United States of America. Married with two girls and a boy. Hobbies are photography and gardening.

BRUNO GHERSI. Born in Genova (Italy), July 20, 1907. Graduated at Turin in civil engineering—bridges, roads and railways—in 1929. Also qualified at Rome Polytechnic same year. Worked in Italy (Genova, Naples, Foggia, Civitavecchia, Rapallo, San Remo and Milano) as professional engineer and builder. Arrived in South Africa in 1949, built a house in Craighall Park and flats in Rosebank and Illovo. Interested in a brick and tile factory, as well as a factory for plastic floors.

NORMAN LEONARD HANSON. Born 1909 in Johannesburg. In practice since qualifying at the University of the Witwatersrand in 1932. Travelled extensively in Great Britain and Western Europe. President-in-Chief, Institute of SA Architects, 1947-48. Member, Board of Faculty, University of the Witwatersrand. Executive Member, National Housing and Planning Commission. Has built a cinema, medical centre, an hotel and schools, government buildings, flats and a new town at Ashkalon, Israel. Has a son and a daughter. Interests: community housing, music and travel, especially in Africa.

MANFRED HERMER. Born March 23, 1915, in Volksrust, Transvaal. Trained at the University of the Witwatersrand from 1933 to 1937. Commenced private practice in 1939, served with the Forces in East Africa and the Middle East, recommenced practice in 1945. Has toured the Middle East and Far East, and has made a study tour of theatres in Europe. Main works include an Old Age Home in Johannesburg, the Reading Country Club, the Reps Theatre, Rosebank Galleries—a large communal centre in the suburbs, and several blocks of flats, offices, warehouses and factories. Interests include photography, painting and astronomy.

WILLIAM DUNCAN HOWIE. Born Johannesburg October 19, 1912. Educated at the University of the Witwatersrand. After a period in the office of Hanson, Tomkin and Finkelstein, Johannesburg, joined the full-time lecturing staff of the University of the Witwatersrand. Served temporarily in the University of Pretoria from March, 1938, to November, 1942. Member of the Board of the Faculty of Architecture since 1943. Acting Editor of the *South African Architectural Record* in 1938, Joint Editor in 1943, Editor in 1947. Committee member of the Transvaal Provincial Institute since 1938, President in 1948. Designed houses in Sandringham Township, under SA Legion ex-Volunteer Housing Scheme. In association with Prof. J. Fassler designed experimental houses for the National Housing and Planning Commission. Closely concerned with the extensions to the Central Block of the University, and the Wolf and Hersch Hillman Building. With others responsible for the Douglas Smit House, and the designs for research laboratories at Rietfontein. Joined the Rand University Training Corps from its inception until its disbandment. Married 1937, has son and daughter. Hobbies: photography, motor mechanics, wood work.

HAROLD H. LE ROITH. Born 1906, Grahamstown. Educated Rhodes University College, University of the Witwatersrand. In private practice since 1934. Built offices, factories, hotels, halls, houses and flats, with specialization in the latter field. Clubs: Auto Club, Killarney. Recreation: golf, tennis, bowls. Recently went to Europe and America to study the design of hotels and departmental stores.

W. GORDON McINTOSH. Born November 29, 1904, Glasgow, Scotland. Educated at University of Witwatersrand. 1930–1949 part-time lecturer Department of Architecture, University of Pretoria. Visited England, France, Belgium, Holland on Students' tour in 1925–6. Visited England, Scotland, France, Northern Spain, Italy, Sicily, Austria, Switzerland, Belgium and Holland, Stockholm and Copenhagen in 1950. 1933–52, Committee, Transvaal Provincial Institute of Architects. 1936 and 1942, President, Transvaal Provincial Institute of Architects. 1949–53, Chairman, Town Planning Advisory Committee set up by the Pretoria City Council. Buildings (with others): College hostels, Pretoria; Caxton Printing Works, Pretoria; Poynton's Building, Pretoria.

REX DISTIN MARTIENSSEN. Born February 26, 1905. Educated at University of the Witwatersrand. Joined the staff of the University of the Witwatersrand in 1932. Travelled in Europe, Sicily, Greece and Crete. Joint editor from 1932 of the *South African Architectural Record*. From 1936 a member of the Transvaal Institute Committee of the Institute of South African Architects, and in 1939 President of the Transvaal Institute and member of the Central Council. Designed, with others, Peterhouse and House Stern, Johannesburg. In 1940 designed a house for himself in Greenside, Johannesburg. Married in December, 1937. Died on active service in August, 1942. The November issue of the *South African Architectural Record* is devoted to his memory. Interests were wide and varied, and included theatre, music, ballet, painting, photography and motoring.

JOHN MOSSOP SHUNN. Born Germiston on August 4, 1923. Educated at the University of the Witwatersrand. Enlisted SAEC. Lectured engineering students under rehabilitation scheme, and was demobilized February, 1945, whereupon he commenced private practice and joined staff of the University of the Witwatersrand. Commenced work on 'Queens Gate' in 1949. Principal works: Flats, shops, offices, foundry and machine shops, Alberton, factory, school. Married 1948, now has two daughters.

HELLMUT STAUCH. Born 1910, at Eisenach (Thuringia). Education at Berlin Technische Hochschule and Ittenschule and Bauhaus Dessau. 1930–33 worked with Fred Forbat and Marcel Breuer. 1933–35 own practice in association with Professor Gustaf Hassenpflug, mainly working on prefabrication of houses and furniture. Went to South Africa in 1935; worked with A. V. Nunn until 1942, then practised alone in Pretoria. Lecturer at Pretoria University 1943 to 1951. Responsible for a number of houses, four experimental, in the use of prefabricated standard units and in the independently developed double lean-to or 'butterfly' roof. Has built flats, shops and offices (some for the government). At present engaged in government enterprise on building containing offices, entirely prefabricated and assembled on the site in five months. Other buildings under construction are 150 flats and seven houses. Keen yachtsman and amateur designer. Won international competition for the Olympic monotype yacht in 1934, which subsequently became international class. Represented South Africa at the Olympic Games in Helsinki 1952. Visited Argentina and Brazil in 1949, subsequently toured Finland, Sweden, Denmark, Germany and Switzerland.

EXHIBITIONS

The exhibition entitled '20th Century Form' at Whitechapel Art Gallery was addressed to the 'plain man.' It dealt with the open conspiracy to provide him with a new environment of 'clear-cut, stabilized forms,' and attempted to show him that painters, sculptors and architects are all in it together. Considering the acute shortage here of appropriate material, it was excellently done, and there was a sudden juxtaposition of four images at the far end of the Gallery which was more brilliantly conceived and dramatic than anything of the kind that I've seen for a long time. An enormous abstract by de Staël occupied practically the whole of the end wall, and near it on a screen was an enlarged photograph of Lloyd Wright's Taliesin West: there was no avoiding the

Femine Accoupie *by Auguste Rodin*

correspondence; they were informed by the same feeling for the squat, the rough-hewn and the richly textured. On either side of the de Staël there was just enough room for a small picture by Mondrian and a photograph of Mies van der Rohe's Lake Shore Drive apartments: the relationship between the white Mondrian, barred by black lines and illuminated by one rectangle of pure colour, and the Chicago flats, photographed in the evening with rectangles of light appearing here and there in the glass and black steel façades, was no less evident. It was the pictorial effects in the architectural photographs that drew one's attention to these creative affinities and oppositions, but they only dramatized the truth, and the emotional impact was profound.

There were no more confrontations on this illuminating level, but Reg Butler's spiky 'Woman Resting' was well placed under Lam's painting of barbed aerial forms, and the Smithson model for the Coventry Cathedral


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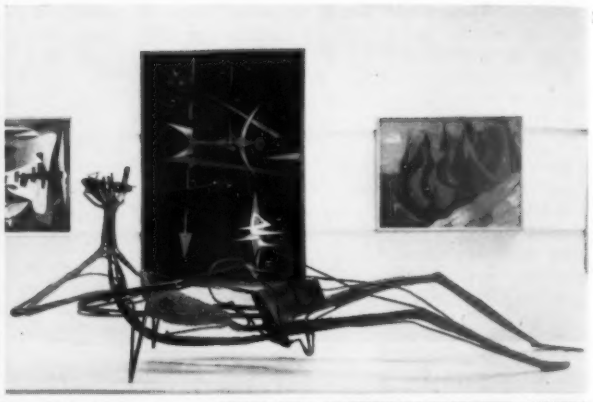
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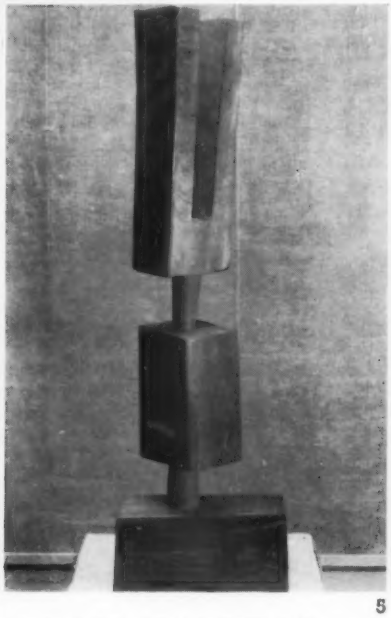
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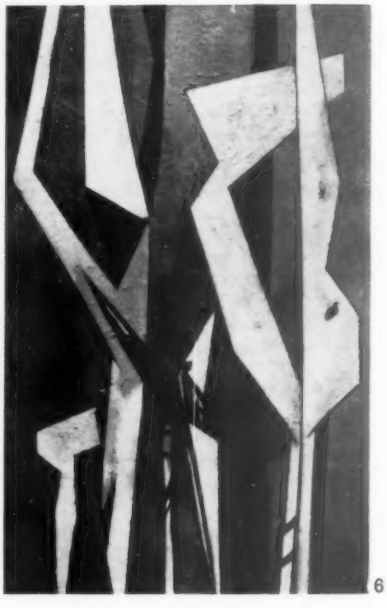
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1, Composition *by Nicholas de Staël; and* 2, Woman Resting *by Reg Butler in front of* Caos-Caos *by Wilfredo Lam (both Whitechapel);* 3, Le Chevreuil *by André Minaux (Adams Gallery);* 4, Lorry Driver III *by Prunella Clough (Leicester);* 5, Divided Column *in African wood by Robert Adams; and* 6, Figure Composition, Sculpture Project *by William Gear (both Gimpel Fils).*

Competition, which has the same ferocious assurance, might well have been placed close by: its soaring milk-white roof seems on the point of slipping its moorings and whizzing arrogantly into heaven.

With great tactical skill, Roland Browse and Delbanco have chosen to remind us at this point of the genius of Rodin. It is a difficult moment for the modern movement, and the fact that some well-known constructivist sculptors have fallen into the error of attempting to illustrate a tragic theme and have made a confused and confusing use of a purely formal language, has given the Rodin exhibition the irritating air of an object lesson. The fact is that if one has pinned one's faith to 'clear-cut, stabilized forms' Rodin's art is bound to seem ugly and contorted. His passionate fidelity to appearance and his wonderful grasp of the human body in movement, allied to a somewhat vulgar streak of 'spirituality' led him to depict human emotions and aspirations in terms of physical striving, with much straining of necks and flexing of muscles and shining of knee-caps. But everything in the exhibition rippled with life, and the eager hands and faces, and the dancing, turning, striding and crouching figures made the world outside seem half asleep.

André Minaux at the Adams Gallery and Prunella Clough at the Leicester have an obsessive interest in their subject matter. Minaux is fascinated by the dead weight of slaughtered beasts and the unseemliness of flayed rabbits spread out on tables like reclining nudes. His kitchens are torture chambers, but he paints them with a lovely subdued luminosity. He occupies a position in French painting somewhere between the romantic existentialism of Buffet and the gross, energetic realism of Reyberolle; at his best he avoids both the melancholy and the sordid by a hair's breadth, and the spectacle of so many narrow escapes is peculiarly exciting.

Prunella Clough, perhaps unintentionally, treats her succession of lorry drivers as rigid, unsmiling prisoners of their cabs. The beautiful still lifes of ladders, oil drums, milk bottles and tied-up objects which pile up behind them and over them, and the cabin roofs which press down on to their caps turn them into remote, mild relatives of the overburdened Indians in Mexican murals. Miss Clough has remarkable gifts of design, but she seems to be imprisoned herself, in a Vicarage of good taste.

The elegance and refinement of the work of Robert Adams give his austere inventions a kind of sumptuousness, and the collages and sculptures which he has recently exhibited at Gimpel Fils are the smiling Buddhas of non-figurative art. William Gear, who exhibited at Gimpels at the same time, seemed restless and uncertain in this serene company. His work is losing its cheerful shimmer: the forms in some of his recent pictures have sharp cold edges as if cut out of sheet tin, but his feeling for colour remains bold and sensuous even when he experiments with industrial greys. Adams and Gear should have been represented in the Whitechapel exhibition, for they are among our most accomplished adherents of 'clear-cut, stabilized forms.'

Robert Melville

Design Review: Space Heaters

The prices quoted in *Space Heaters* in the April REVIEW did not take into account the reductions in purchase tax announced in this year's budget. These were from 100 to 75 per cent on electric and from 66⅔ to 50 per cent on gas fires.

[continued on page 410

continued from page 408]

TRADE & INDUSTRY

A Mastic Cement for Tile-fixing

One is growing accustomed, these days, to the frequent introduction of new building techniques, appliances and materials, some of them simple, others elaborate, which are gradually changing the face of the industry, and certainly of the buildings. One's interest nevertheless quickens at the announcement of a new material which is calculated to replace completely the established method of doing a job.

Richards Tiles Ltd., Tunstall, Stoke-on-Trent, have recently marketed a new type of mastic cement made expressly for the purpose of fixing ceramic wall tiles. Practical tests have been carried out over a period of several years and as a result, the manufacturers make a number of important claims for 'Richafix,' as this new adhesive is called. They are satisfied that it enables the fixing of tiles to be carried out more simply, more cheaply and more expeditiously than is possible with the more usual cement and sand mixture, and that a stronger and more permanent bond is achieved, which at the same time has a quality of resilience, thus enabling it to resist stresses in the wall arising from cement contraction, vibration and thermal shock.

Provided the wall is dry, solid, level and free from springiness, 'Richafix' can be used on a variety of types of base walls such as cement, asbestos, fibre board, masonry, plaster, steel and wood. It can also be used in conditions where temperatures run up to 120°F., or down to low levels, i.e., a greater range than is practicable with the sand and cement method. It can thus be used on boilerhouse and bakery walls, for example, and in cold storage plants.

Since it is supplied in one gallon cans ready for use in a viscose state, it does not give rise to dust and dirt, which is an advantage when tiling has to be carried out in occupied premises.

On the score of crazing of tiles, which arises from contraction of the cement as it sets, manufacturers' tests show that this does not occur with 'Richafix' even in adverse conditions.

Although this is a new product for this country, it is already used widely in America, mainly to reduce costs of fixing.

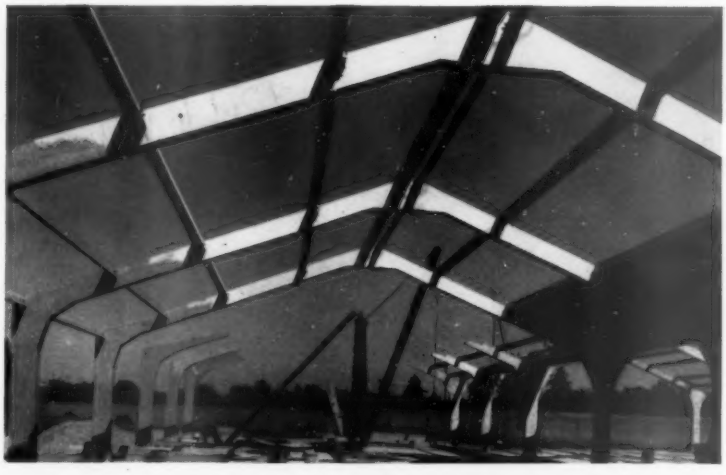
For the 'floating' method, 'Richafix' is applied thinly to the whole surface of the wall and a plasterer's trowel with a notched edge is drawn over it so that a series of ribs are raised. The wall is then left for from 30 to 90 minutes till the mastic reaches the proper state of tackiness and the tiles are then put in position. One gallon of 'Richafix' will suffice for fixing six to eight square yards of tiles. The wall is then finished in the normal way.

Lambda Reinforced Concrete Construction

When the accepted trend in building is, as it were, to take the building to the factory, it would, on the face of it, seem a retrograde step to take the factory to the building. But life is full of upsets, and surprises, and the Lambda system of construction for framed buildings provides one more, if you look at it that way.

This is a rigid frame method of construction in reinforced cast components based on the Lambda patents, the rights of which are held by R. E. Eagan Ltd., structural engineers, of 1, Ashley Place, Victoria Street, London, S.W.1.

[continued on page 412



7, Lambda pre-formed reinforced frame construction with semi-completed section in the background.

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V&T

S.C.P.808

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Each building is designed individually as a rigid frame structure. The design is then converted to employ the Lambda constructional principles, so that joints are moved away from the point of maximum stress to the point of contraflexure. Design and construction is, however, normally in accordance with B.S. Code of Practice CD114 (1948). The object of the system is clear open spaces, saving in steel and timber, saving in construction time, saving in maintenance and saving in cost.

The components are preformed or precast on site as near as possible to the point of use, and in multi-storey buildings each floor is used as a bed for casting the components for the floor above. Thus no scaffolding is needed. Practically all components are part of the structure, including the precast gutters. Although this system has, in the past, been applied mainly to single-storey buildings, it is now being more widely applied to the construction of multi-storey structures of four and five floors.

Full details of the system are available from the patent holders.

Experiment in Croydon

What may well prove one of the most important housing experiments in recent years is now being carried out at Croydon, Surrey. It is an enquiry into the possibilities of re-claiming sub-standard houses—the small terrace type of houses, built some fifty years ago in thousands throughout the country. Although many of them are still structurally sound, they were built when bathrooms and piped hot water were not normally considered essential. Now, when modern council houses and flats set different standards—at much higher rents which at the same time involve high rates, these houses are tending to become more and more neglected and spurned by young couples who want somewhere to live. The question is, can we afford to allow sound houses to deteriorate in view of the present high cost of replacing them?

Federated Foundries Ltd., 4, Stratford Place, W.1, have embarked on this 'Croydon experiment' to find out whether they can be restored satisfactorily by installing the bathroom and water heating facilities which they lack. The company has purchased a group of six houses for a 'guinea pig' experiment in order to install baths and piped hot water. They intend to find out the best way of doing this, the cost, how the improvements react on the rent, how the inhabitants react, how the value of the property is affected and what local authorities and private landlords think about the results.

Many problems remain to be solved since most of these properties are rent-controlled and the possibilities of recovering the cost of improvements are not clear. Moreover the idea cuts clean through to-day's dominant political theme of 'new homes for old.' By the time this note is in print, the results should be almost complete and anyone wanting full details should apply to 'Croydon Experiment, Federated Foundries Ltd.,' at the above address.

Notices

The United Steel Companies Ltd., 17, Westbourne Road, Sheffield 10, announce that Dr. W. Davies, head of their ore dressing laboratory at their central research and development department, has been selected to be one of the two official delegates to the O.E.E.C. mission set up to enquire into research in low grade ores.

Change of Address

Expandite Ltd. announce that their address is now Chase Road, London, N.W.10. Telephone Elgar 4321.

H. McG. Dannett

CONTRACTORS etc

British Transport Commission Advertisement Offices. *Architects:* Peter Moro in association with Gordon & Ursula Bowyer. *General contractors:* Marshall Andrew & Co. *Sub-contractors: windows and glazed screens:* Henry Hope & Sons. *Electrical installation:* H. J. Cash & Co. *Heating installation:* Rosser & Russell Ltd. *Metalwork:* A. Arden & Co. *Cork flooring:* Armstrong Cork Co. *Venetian blinds:* J. Avery & Co. and Tidmarsh & Sons. *Acoustic ceiling:* Sundeala Board Co. *Slate paving:* Setchell & Sons. *Decorative glass panels:* Pugh Bros. Ltd. *Sanitary fittings:* Adamsez Ltd. *Carpets:* James Templeton & Co. *Furniture:* S. Hille & Co. *Door furniture:* A. J. Binns Ltd. *Extract fans:* Vent Axia Ltd. *Information room:* Westminster Joinery Ltd. *Light fittings:* Thorn Electrical Industries Ltd. *Terrazzo work:* Art Pavements & Decorations Ltd. *Perforated metal panes:* G. A. Harvey & Co. *Cabinets for information room:* Remington Rand Ltd. *Linoleum:* Catesbys Ltd. *Roof lighting:* Haywards Ltd. *Window displays, murals and maps in information room:* Design Research Unit. *All external lettering:* Charles Hasler.

Primary School at Ramsgate, Kent. *Architects:* Howard V. Lobb and Partners in collaboration with S. H. Loweth, Kent County Architect. *Assistants:* A. P. Hodgson; S. E. Aldridge. *Quantity Surveyors:* C. E. Ball & Partners. *General contractor:* R. J. Barwick. *Sub-contractors: structural steelwork:* Dorman Long & Co. *Bricks:* Wills & Packham Ltd. *Precast concrete:* Girlings' Ferro-Concrete Co. *Artificial stonework:* Liverpool Artificial Stone Co. *Metal windows:* Crittall Manufacturing Co. *Asphalt*

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A Window in Kensington

BY EDWIN LA DELL

There are also in Kensington many modern blocks of flats, offices, and other buildings, in which Crittall Windows have more than outweighed regret for the charm of the old by what they have brought in efficiency and comfort to the new.

CRITTALL WINDOWS

THE CRITTALL MANUFACTURING COMPANY LIMITED

BRAINTREE, ESSEX, TEL: BRAINTREE 106 AND 210 HIGH HOLBORN, W.C.1, TEL: HOLBORN 6612

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work: Val de Travers Asphalte Paving Co. *Sanitary fittings:* Associated Clay Industries Ltd. *Hardwood block flooring:* Hollis Bros. Ltd. *Radio and electric installation:* South-Eastern Electricity Board. *Fibreboard ceilings:* Anderson Construction Co. '*Pyrok*' *finishing:* C. & T. Painters Ltd. *Granolithic pavings:* Plastona Ltd. *Asphalt tile flooring:* Marley Tile Co. '*Insulight*' *double glazed units:* Pilkington Bros. Ltd. *Reinforced concrete roof lights:* J. A. King & Co. *Cement cold glaze:* Robb's Cement Enamel Finishes. *Metal faced w.c. partitions and doors:* Flexo Plywood Industries Ltd. *Metal cloakroom fittings:* Clark Hunt & Co. *Ironmongery:* Yannedis & Co. *Roller shutters (hardwood):* Dennison, Kett & Co. *Terrazzo:* Camden Tile & Mosaic Co. *Cavity decking to roofs:* Turner's Asbestos Cement Co. *York stone paving:* Joseph Brook & Sons. *Heating and hot water services:* C. S. Thompson (Letchworth) Ltd.

Bus Garage at Thornton Heath, Surrey, for the London Transport Executive. *Architects:* Adie, Button & Partners in association with T. Bilbow, Architect to the L.T.E. *Consulting engineers:* A. E. Beer (Structural); Ronald Edgar & Partners (Electrical); L.T.E. New Work Engineer (Heating & Ventilating Section) (Heating). *Quantity surveyors:* Harris & Porter. *General contractors:* M. J. Gleeson (Contractors) Ltd. *Sub-contractors: demolition:* St. Mary's Demolition & Excavation Co. *Asphalt:* E. H. Smith (London) Ltd.; General Asphalte Co. *Reinforced concrete:* Triad Floors Ltd. *Bricks:* E. H. Smith (London) Ltd. (Tuckers rustic, brown, facings, engineering bricks, sand limes); Eastwoods Ltd. (stocks); J. H. Sankey & Son (Swindons). *Stone:* Damar Bros. Ltd. *Tiling terrazzo:* Jaconello Ltd. *Structural steel:* Octavious Atkinson & Sons. *Tiles:* H. & G. Thynne Ltd.; Dennis Ruabon Ltd. *Special roofings:* E. H. Smith (London) Ltd. (supplying and fixing Turner's Asbestos Cement Cavity Decking). *Roofing felt:* General Asphalte Co.; Permanite Ltd. *Partitions, patent glazing, casements:* Mellowes & Co. *Glass:* Leay Glazing Service Ltd. *Paint:* Walter Carson & Sons. '*Formica*' *panelling:* Merchant Trading Co. *Waterproofing materials:* Arcunum Ltd. *Central heating:* C. W. Evans & Sons. *Sprinklers:* Mather & Platt Ltd. *Electric wiring:* Tanjan Ltd. *Electric light fixtures:* Troughton & Young Ltd.; General Electric Co. *Sanitary fittings, door furniture:* W. N. Froy & Sons. *Duct covers:* Dover Engineering Co. *Balustrading:* Geo. Wright (London) Ltd. (metal); D. Burke & Son (wood). *Oil tanks:* John Bellamy Ltd.; Tecalemit Ltd. *Vacuum plant:* British Vacuum Cleaner & Engineering Co. *Folding doors:* Geo. W. King Ltd. *Rolling shutters:* John Booth (Bolton) Ltd. *Fireproof doors:* Light Steelwork (1929) Ltd. *Iron staircases:* Geo. Wright (London) Ltd. *Grilles:* Potter Rax Ltd. *Granolithic and plaster:* Plastering Ltd. *Metalwork:* Light Steelwork (1929) Ltd.; Potter Rax Ltd.; T. Holland. *Joinery:* D. Burkle & Son. *Linoleum:* Cellulin Flooring Co. *Painting:* City Constructions Ltd. *Paving stones:* Wettern Bros. *Kitchen equipment:* Benham & Son. *Office fittings:* D. Burkle & Son. *C.I. drainage goods:* Burn Brothers Ltd.; Broads Manufacturing Co.; Thames Bank Ironworks. *Hoist:* Acrow Ltd. *Cat ladders:* H. & C. Davis Ltd. *Floor hardener:* Adamite Co. *Water supply:* Stanton Ironworks.

House Extension at Welwyn Garden City, Herts. *Architect:* W. A. Allen. *General foreman:* L. Tozer. *General contractors:* For part I (original house), Stevenson-Spence, Harpenden; For part II (extensions), Yeomans & Partners Ltd. *Sub-contractors: tiles:* Messrs. Speights of Leighton Buzzard. *Patent flooring:* Jicwood Ltd. *Boilers:* Aero Pannier & Co. *Electric wiring:* Eastern Region Electricity Board. *Door furniture:* Dryad Metal Works Ltd. *Joinery:* Fuller-Hills Ltd. *Wallpapers:* Arthur Sanderson & Sons; John Line & Sons.

ACKNOWLEDGMENTS

Cover and Frontispiece, Lucien Herve. WRIGHT IN THE NURSERY, pages 349–351: all photographs Henry-Russell Hitchcock from *In The Nature of Materials*, published by Duell, Sloan and Pearce. FACTORY AT BLUMBERG, pages 352–359: Franz Lazi Junior. JOHANNESBURG, pages 360–382: page 360, South African Railways and Sky Fotos; 4, 12, 34, 35, J. G. Boss; page 365, 4–7, 16, 25, 26, 50, 56, 57, 62, E. Robinow; 9–11, 13–15, 21–24, 27, 29, 41, 51, 61, B.R.S. Photographers (Pty.) Ltd.; 17, 18, Kurt Schlesinger; 8, 19, 31, 32, 46, 54, 55, *South African Architectural Record*, July, 1952, April, 1950, July, 1949, November, 1948, August, 1950; 33, Alan Yates; 2, 36, Neil Malan; 39, 40, 53, Martin Gibbs; 47–49, Willex; 60, Derrick A. Bridge; 63, 64, 67, Constance Stuart Studio; 66, Handiek. ROAD AS TRAFFIC INDICATOR, pages 383–386: 1, McCallum, Arphot; 2–4, 6–9, de Wolfe, Arphot; drawings by D. Dewar-Mills. ADVERTISING OFFICES, pages 387–390: 2–6, 8–10, Galwey, Arphot. SOLID FUEL, pages 391–394: 3, Logan; 5, 19, John Maltby; 7, *Yorkshire Post*; 9, Wallage and Gilbert; 10, J. Pask; 12, Holder and Squires; 14, Morgan-Wells; 16, NDH; 29, Bygmasteren. CURRENT ARCHITECTURE: 1, 2, Austin Hargreaves; 3–11, John R. Pantlin. *Indoor Plants:* drawing by Gordon Cullen. *Painting:* Lucien Herve. MARGINALIA, page 405, Fritz Wellmann; page 406, Eli J. Herr, E. Robinow, Henry Jacobs, Alfred Davis Studios (Pty.); 1, Manor Studio.