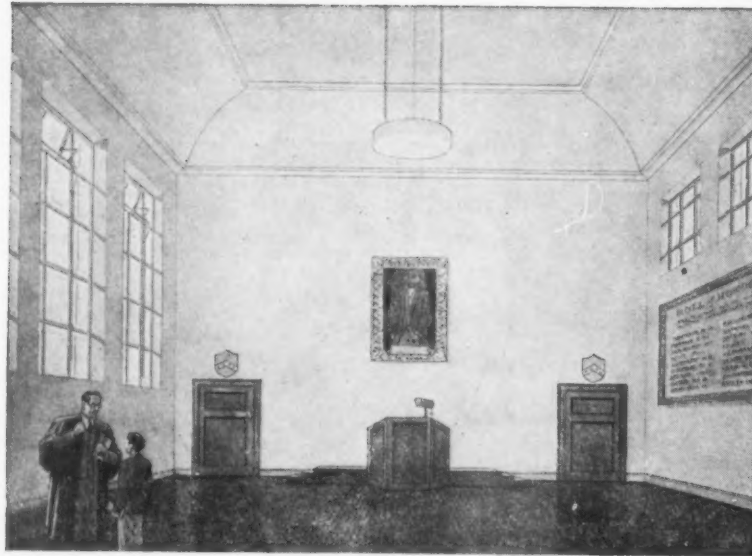




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MARGINALIA

Gropius at Seventy

In a speech delivered at a luncheon in honour of the exhibition of his work with which the Illinois Institute of Technology marked his seventieth birthday, Walter Gropius looked back over his past, and analysed his present position. The constant theme of his discourse was the peril of orthodoxy and received opinion. He found the open-minded pragmatism of the Americans praiseworthy—their willingness to put a new idea to a practical test—but he expressed alarm at the undemocratic and deadening tendencies implicit in an unquestioning acceptance of technological expediency.

He spoke too against the concept of an 'International Style,' saying that 'steel or concrete skeletons, ribbon windows . . . are but impersonal contemporary means—the raw stuff, so to speak—with which regionally different architectural manifestations can be created.' He underlined this last point by explaining how he had tried to absorb into the design of his own house in New England as much of the local tradition as was still alive and adequate, and had been rewarded by the approval of John Adams, a man steeped in the New England tradition. 'He could see that the moving spirit behind it was facing the problem in much the same way as the early builders of the region.' On team-work—'a life-long obsession with me'—he said that he saw 'in voluntary team-work a twofold guarantee: protection of the individual against becoming a mere number, and development of a common expression rather than pretentious individualism.'

Finally he expressed his pleasure to be in Chicago, a city which housed two projects with which he had personal connections: the Institute of Design, which was a descendant of the Bauhaus, and the Michael Reese Hospital development, to which he is architectural consultant. But beyond this was the fact that the exhibition was to be held in a building by 'my friend and colleague . . . Mies van der Rohe' in the city where 'Modern Architecture has been started by Sullivan's genius.'

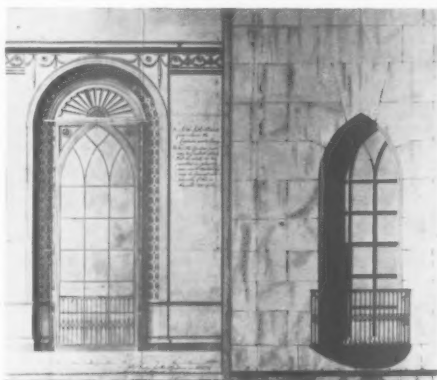
Rome—Domesticated

Dr. J. L. Martin and Mr. John Summerson must be congratulated on having brought about the fascinating exhibition of drawings by the brothers Robert and James Adam being held at the Iveagh Bequest, Kenwood, Hampstead, until September 27.

In 1833 Sir John Soane bought from the family what must have been the drawings left in the workshop after the brothers' death. There are 8,000 of them in all, pasted into 55 volumes, arranged largely according to subjects—ceilings, mantelpieces, door knobs and so on. The exhibition provides for the first time an opportunity to see the drawings grouped according to jobs. Designs for

country houses include those for the library at Kenwood, those for town houses no less than twelve for Home House, now the Courtauld Institute of Art. For the first time many of the outside drawings can be conveniently studied, removed from the volumes and straightened out. Particularly notable is the fantastic 'Design for a Palace' dating from Robert's Roman period, over nine feet long, cramped with classical motifs in a proper *horror vacui* fashion. It is a far cry from the archaeological approach to the sparing decorative use made of Roman and 'Etruscan' designs later on. Rather surprisingly there are not only designs for chimney pieces in the 'Gothick' manner, but also a view of a ruin of a medieval castle in the best picturesque tradition. Villalpando's palmtrees from his *Templum Salomonis* appear in a Table Centre perfectly matching the 'chinese' mantelpiece, above which this drawing is displayed.

For experts and non-experts alike, a visit to Kenwood is both instructive as well as immensely pleasurable, and it is to be hoped that a few visitors will find their way to the Soane Museum to look at some of the remaining 7,880 drawings. S.L.



MYLNE AND INVERARAY (see pages 113 to 114). Left, Mylne's internal treatment of, right, Roger Morris's gothic windows at, Inveraray Castle. The Castle has just been opened to the public for the first time.

The Architects in this Issue

Architects of Flats in Kensington and Chelsea are Edward Armstrong and Frederick MacManus. The partners first met when working in Sir John Burnet's office, formed partnership in 1949 and have an office overlooking the grounds of Buckingham Palace.



EDWARD ARMSTRONG was born in New Zealand. First war service with NZEF. Trained at the AA under Robert Atkinson. Henry Jarvis student 1921. Worked in various London offices

including Adams, Holden and Pearson, and Burnet, Tait and Lorne. In private practice since 1930. Intelligence Officer RAFVR 1939-44. Married and lives in Kensington. Has one daughter at school and a son in the second year at the AA. Likes sailing and foreign travel.

FREDERICK MACMANUS was born in Dublin, where his interest in architecture was kindled by Vincent Kelly. Studied architecture at the Dublin School of Art, later at the AA. Has worked with Beckett and Harrington, Dublin; Clough Williams-Ellis and W. L. Stoddart and Associates, New York. During war years worked at MOW as secretary of 'Inter-Departmental Committee on Building Materials Standardization' and technical officer to 'Standards Committee' (air-raid warden at night); later as advisory architect to EJMA on the standardization of joinery for post-war building. Lives in Hampstead Garden Suburb. Likes colour photography, travelling and popular art. Married.

Architect of Shipping Offices at Newcasttle.

RICHARD SHEP-PARD, recently

returned from an exhausting and detailed five week tour to America saw most of the buildings which are being glossily illustrated in the American architectural magazines. Purpose of his visit was to study American methods of off-site manufacture of building components. In the course of it he visited New York, Boston, Detroit, Chicago and the West Coast. Thinks photography is the most flattering method of recording form which has ever been devised and as a result of his tour he feels that all new buildings should be illustrated by steel or wood engravings. Feels American architects are primarily interested in technique and forms associated with technique. Their buildings do not seem to him to display as much concern for human use and activity, as they do for structural virtuosity.



CORRESPONDENCE

To the Editors,

THE ARCHITECTURAL REVIEW

SIRS,—The article about the architecture of Eastern Europe in your March issue is a crudely political polemic rather than a piece of genuine architectural criticism. To treat the subject in this way is not merely to do what the writer accuses 'the other side' of doing; and it is not merely an act of bad manners towards our colleagues in these countries, who read the REVIEW and are bound to feel more resentment and less respect for us as a result. Worse than all this, it is an evasion of the architectural and aesthetic controversies involved—and as such a surprising lapse in the critical standards of THE ARCHITECTURAL REVIEW.

No one would suspect from this treatment (or from the highly selective and tendentious reporting contained in it, for example that of J. Révai's contribution to a discussion in Hungary in 1951) that any serious architectural ideas existed now in those countries. The present tendencies (and in the other arts too) are merely explained as 'orders from Moscow,' dictated by 'party hacks' and so on.

This kind of argument by sneers instead of by reason is becoming increasingly common, and probably relies on the now continuous and general

Press propaganda of hostility and dislike, by means of which the word 'Moscow' can be counted on to save the trouble of thought.

The fact remains that in the Socialist countries there is a strong current of opinion, held not by 'hacks' but by distinguished architects and critics, which calls in question almost all the main ideas and assumptions of the modern movement, which your writer so unquestioningly takes for granted. The architects there are trying to do different things from architects here and in America, and their buildings are changing from their pre-war style because they no longer find that style a satisfactory basis for what they want to do. These points of difference are instructive, and they concern fundamental architectural problems, which are far from being fully solved by us. Attention should be drawn to them, not diverted from them, as is done by that article.

For instance, there is the conscious aim to develop the national tradition—to build on the past, to be national. Their 'interrupted tradition' of modern architecture, to use your critic's words, is no help to them here—in fact they see it as itself an interruption of the far more deep-rooted national tradition. It was a conscious aim of the modern movement to make a break with the past. It ignored national traditions, avoided resemblances to them and took a pride in being 'international,' that is to say, much the same all over the world, but for minor concessions to climate and function.

However, in England as well, many architects are beginning to feel the need for historical continuity, and are turning to our own heritage for inspiration. THE ARCHITECTURAL REVIEW has itself done much to point out some of the lessons that can be learnt in this way. The question is: ought it to be our aim to achieve historical continuity while making full use of modern structure and materials and satisfying modern function? It is certainly a difficult task, and the experiments (and the failures) of other countries deserve to be studied objectively.

Then there is the conscious aim to be popular, that is to be intelligible to and liked by the ordinary lay public. Many architects—and other artists—among us would regard this as something to be positively avoided, as necessarily involving a lowering of standards. In Socialist countries, it is regarded as indispensable to the forward development of all arts in a healthy society.

And this is not a mere theoretical point. The public have every means of telling the architects what they think of their buildings. During the rebuilding of Warsaw, the unpopularity of buildings like the big Department Store and the great popular success of the Marienstadt housing, which was designed in the spirit of the national tradition, had a distinct effect in changing the architect's point of view.

There is also the whole question of what should be the primary influence forming an architectural aesthetic. The answer of the modern movement used to be 'technique'; and that the Socialist architects completely reject. But in fact, the forms of modern architecture were seldom or never formed primarily by technique, but derived from contemporary schools of abstract painting. To-day the influence of technique is weaker still, and that of abstract form stronger.

We have no satisfactory theoretical answer to this question, and ought not to dismiss the tendency in the Socialist countries to see social ideals as the primary influence on form.

Any intelligent criticism of a work of art must take account of its intentions. Criticism of architecture in Eastern Europe should discuss all the ideas on which it is based and should also criticize the buildings according to their success or failure to apply those ideas. Many of the buildings are certainly open to criticism, as the architects there are the first to admit. (So are many of our own

buildings, after all.) But to imply that our colleagues have no ideas, or to condemn them on principles which they themselves would reject, is extremely superficial, to say the least, and when it is done with the studied rudeness of this article, extremely offensive.

Our own architectural theory, which is in a rather stagnant condition, and has by no means developed far beyond that of the 'thirties, cannot afford to close its ears to controversy.

Yours, etc.,

ANDREW BOYD.

London.

Mr. Boyd has depicted an ideal world which does not exist beyond the covers of the Cominform propaganda journals, a world in which 'there is a strong current of opinion, held not by "hacks" but by distinguished architects and critics, which calls in question almost all the main ideas and assumptions of the modern movement.'

Let us get down to brass tacks. Where do these 'strong currents of opinion' originate, and why did these distinguished architects and critics conceal their light under a bushel until the signal came for a change? The answer is not far to seek. In a totalitarian state everything is grist to the party mill, and the artist is used by the governing clique to create the norms and standards of thought necessary to condition citizens in the correct mental attitudes. The culture pattern is shaped from above, and those who do not conform to it—artist and public alike—are branded as formalists or bourgeois cosmopolitans. The theories that motivate literature, art and architecture have not been arrived at by 'distinguished artists and critics' in the course of their creative activity; they have been handed down as party line decisions to further political ends, and formulated as directives, e.g., in the pronouncements made by the late Andrey Zhdanov shortly before his death. Mr. Boyd's 'strong current of opinion' was turned on from a tap.

This process can be observed with almost microscopic exactitude in the case of Hungary, where the powerful stream of contemporary design was only dammed and turned aside after Révai, the former Minister of Popular Culture (he has lost his job in the anti-Jewish purges) appeared in person at the architects' convention to give direct instructions backed by strong threats. ('It does not necessarily take decades for a person to come to his senses; this may also happen in one year, or even in three months'.) The pathetic attempts to comply with this directive, illustrated in the article, will surely suffice to disprove the cynical suggestion that the new style arose from 'a strong current of opinion.' Similar measures were adopted to foist an alien and retrogressive style on the architects of Czechoslovakia, while, as I have shown, actual transportation and indoctrination in Moscow was resorted to in the case of the Rumanian architects. To imply, as Mr. Boyd has done, that the new developments have arisen spontaneously, as a result of the new life that has opened out in the Peoples' Democracies, is a piece of disingenuousness which only a very new and starry-eyed party member could believe in.

Mr. Boyd suggests that there is a conscious aim to be popular, and that the public in Eastern Europe has every means of telling architects what they think of their buildings. But in Communist countries there is no free intercourse between artist and public: any appearance to the contrary is an illusion, and any open declaration of opinion is in fact always the expression of a carefully formulated policy. True progress in raising the standards of art and the public appreciation of it will sooner be found if artists seek rather to lead public taste than to follow the inclinations of the lowest common intellectual denominator.

Mr. Boyd takes me to task for failing to discuss the ideas on which current architecture in Eastern Europe is based. But these ideas are very fully expounded in Jozsef Révai's speech, which I have summarized to the best of my ability in the article (to the charge that I have been 'highly selective and

tendentious' in reporting it, I can only answer by inviting any interested reader to obtain the typescript translation available at the Hungarian News and Information Service in London and make his own comparisons). Révai's speech is very clear; it is indeed too clear, for it brings out of the misty hinterland of Marxist philosophy the theories underlying Soviet architectural practice and reveals them as a tissue of non-sequiturs and pseudo art history, which is really no cause for amazement when we consider that they emanate from the land which held Marr's egregious system of linguistics in grave respect for upwards of thirty years. Since Mr. Boyd is evidently in a better position to cast light on this matter than I am, he can perhaps explain how a mock-renaissance palazzo is a better expression of the spirit of twentieth century Warsaw than the splendid buildings projected in the competitions of 1946 and 1947.

In conclusion, Mr. Boyd arraigns me for 'taking for granted almost all the main ideas and assumptions of the modern movement.' It is a charge to which I readily pleaded guilty, because I think that in writing for THE ARCHITECTURAL REVIEW no apology is needed for such an attitude. If the day should ever come, however, when a Minister of Popular Culture stands before a massed audience at the RIBA, tells them that all the greatest buildings in history have been symmetrical and orders them to return to the styles of Lutjens and Ralph Knott, Norman Shaw and Aston Webb 'without actually copying,' it is evident that he will find one member at least who is eager to do his bidding.

H. A. MEEK.

Exporting Buildings

In a footnote (page 214) in the article *Exporting Buildings*, April, 1953, Kiplin Hall, Rushbrooke Hall and Tythrop House were listed as having been demolished. Though the future of the first two is uncertain all three are in fact still standing. However, the following which were not listed are being demolished: Henham Hall, Suffolk; Denbies, near Dorking; West Grinstead Park, Sussex; and Felton Hall, Northumberland.

ACKNOWLEDGMENTS

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THE ARCHITECTURAL REVIEW

Volume 114 Number 680 August 1953



This month's cover juxtaposes a breakwater and a children's playground, and the common factor between these two constructions—the Cobb at Lyme Regis, and a playground of the West Chelsea development scheme, which is described on page 82—is their common membership in the Functional Tradition. Though it is only a small thing in itself and not a full dress architectural monument, the playground is of the same class as those semi-serious structures—folies and exhibitions—which serve to bring new ideas into architecture. The appearance of a revived appreciation of the Functional Tradition in such a construction suggests that it is not only becoming more widely understood but may also be on its way to being accepted into serious architecture.

71 Marginalia

71 Correspondence

72 Acknowledgments

74 Frontispiece

75 In Defence of the Cliché by J. M. Richards

It is only since the nineteenth century that originality has been regarded as an absolute virtue in the fine arts, and though this may be a healthy state for the rest of the arts, in architecture the expression of the artist's personality is normally a secondary consideration—the function of the building comes first—and absolute originality may do more harm than good. A sound case can be made out for the plagiarist and the acquired mannerism in the present state of architecture, and in this article Mr. Richards examines the benefits of not being an original. The new-found freedoms of the Modern Movement were immensely stimulating, and helped the truly creative to realize new architectural potentialities, but they left the ordinary rank and file of building designers without the support of rule of thumb procedures and pre-established solutions to every-day problems—that is, without the support of clichés. The real objection to clichés, he points out, is to their negligent use, for when they are used with under-

standing, and fully integrated into the design, they are in no way more objectionable than the invariable vocabulary of, for instance, classical detailing. Used in such a way they could become as unobtrusively acceptable as the detailing of a man's clothes, and could provide the normal language of contemporary architecture—but that, as in large collaborative design offices, where such a language is most needed, can only follow a cheerful acceptance of the fact that we are not all called upon to be architects of genius.

78 Three Housing Schemes in West London Armstrong and McManus: Architects

91 The Doctrine of Auguste Perret by Peter Collins

Though the structural theory of reinforced concrete had existed since almost the middle of the nineteenth century, it was left to Auguste Perret in the last years of the century to formulate an aesthetic philosophy worthy of the material. This doctrine was based on direct experience of the material in the family business, and on readings in the theoretical works of Choisy and Guadet. It is this last influence, connecting him with the tradition of Viollet-le-Duc and the great constructors, which underlies his tendency to find formal solutions to the problems of concrete structures within the terms of the French classical tradition, but the concept of the concrete frame, which is Perret's great contribution to architectural thought, is his own and derives from his study of half-timbered structures with their posts, lintels and filling panels. He refined this basic formula with close attention to the profiling of structural members and to the treatment of surfaces—and aimed at buildings which should be pure, unconcealed concrete structures, both in material and in conception. Though his influence has been wide it has often been superficial, and he has grown away from the modern movement to which he contributed so much, but the inevitability with which the logical development of his manner has led him back to traditional classical forms is regarded by Mr. Collins as proof of his appreciation of the objective validity of the principles of trabeated architecture—the true principles of the concrete frame.

105 Victorian Victorian by Robin Boyd

Architecturally the Australian state of Victoria has a 'Wardrobe full of European reach-me-down clothes . . . a variety of brilliant period costumes.' This remarkable collection of nineteenth-century public and semi-public buildings is a legacy of the great boom which followed the discovery of gold in the early 'fifties and lasted until the crash of '91. In that period opulent private mansions and public buildings were erected in practically all the current period revival manners from Europe, so that Victoria, which lacks that plain and sensible eighteenth-century architecture which can be found in the older settlements of Australia, now presents a largely High-Victorian appearance. Mr. Boyd traces the building history of the state through these boom years and shows how the crash re-focused attention

on the real problems of designing for Victoria's climatic conditions, so that newer buildings are purpose-made for current needs, while the great Victorian set-pieces remain as fit ornaments for splendid occasions, rather than for daily use.

109 Drawing Offices at Walsend-on-Tyne Richard Sheppard and Partners: Architects

113 Mylne and Inveraray by Christopher Gotch

Planned villages are not common in Britain, and, from among their small number, Inveraray stands out as one of the most ingenious, urbane and sensitive to the capabilities of its site. The planning is the work of Robert Mylne, whose considerable output, largely attributed to other men, Mr. Gotch has already attempted, in part at least, to re-value in previous issues of THE ARCHITECTURAL REVIEW. Since Inveraray Castle had been rebuilt by Robert Morris, and two bridges on neighbouring parts of the Argyll estates have been attributed to the Adam office, Mylne has been given little credit for Inveraray, but Mr. Gotch is able to show a continuous Mylne connection with work on the estate from before 1770 until his death in 1806—a connection which involved him not only in the design of the village and its ingenious double church, but also in the remodelling of the interior of the castle and in the building of bridges for which his brother, William Mylne, served as engineer.

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Author Peter Collins, who is 33, studied architecture at the Leeds School of Architecture, where he subsequently lectured for a year. After spending several years working in offices in Switzerland and France, he is now a lecturer at Manchester University.

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, SW 1 · Whitehall 0611

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The sculptured group of the Madonna and Child by Jacob Epstein was recently unveiled* in Cavendish Square, furnishing London with one of its most distinguished works of outdoor sculpture. The group is in lead and is suspended on the stone face of a new bridge, designed by Louis Osman, which links the twin eighteenth-century houses in the centre of the north side of the square. Both houses are occupied by the Convent of the Holy Child, and the bridge spans the entrance to the mews which separates them. It is set back some 30 feet from the eighteenth-century facades, by which the sculpture is therefore framed. Although it adorns a traditional building, it floats free of the surface, after the



same manner in which sculpture has been successfully associated with modern architecture elsewhere: a far more imaginative and intelligent treatment in the circumstances than if it had been incorporated in the structure or set on a pedestal.

* The full-size plaster model, photographed in the sculptor's studio, was illustrated on this page exactly a year ago.

J. M. Richards

IN DEFENCE OF THE CLICHÉ

I think it was Gauguin who said that in art there are only revolutionists and plagiarists. That is specially true of the art of architecture and is wholly as it should be, so long as by the word plagiarist we mean not someone who steals another man's ideas but someone who is content to speak in words that other men have coined. In the fine arts it may be necessary for each man to create his own revolution, and thereby justify himself as having something personal to say. But in architecture what the architect has personally to say must in most cases be subservient to what the building has to do and the part it has to play in the larger prospect, for example in the design of a town, which is the sum of many architects' buildings. The genius of revolution supplies ideas and direction, but the welfare of architecture itself is a load only the more humble followers of genius can carry.

In normal times that goes without saying, but at this moment architecture so sorely needs its plagiarists that the value of not being a genius needs stating afresh. That we live in an age when the revolutionist is the acknowledged public benefactor is a sign of our vitality; the time to worry would be when he came to be regarded only as a public nuisance. But architecture cannot progress by the fits and starts that a succession of revolutionary ideas involves. Nor, if it exists perpetually in a state of revolution, will it achieve any kind of public following, since public interest thrives on a capacity to admire what is already familiar and a need to label and classify. In the affectionate regard he can so easily win from the man in the street the plagiarist finds his consolation for not being an original.

Only since the nineteenth century has originality been accounted the prime virtue. It was then that rivalry between styles led to a search for new styles or blends of style. Design became a personal activity, self-conscious instead of intuitive, and the emergence of the celebrity-architect, with a reputation as a purveyor of original styles, put

a still higher value on novelty. The revolutionist—though he was only a stylistic revolutionist—was applauded, and the plagiarist despised. Each new architect made his own rules, which explains the one outstanding fact about the nineteenth century, which is not that it bred bad architects but that it bred so many good architects whose existence nevertheless did nothing to rescue architecture as a whole from a state of confusion and ineptitude.

It was a case of the dissipation, instead of the canalization, of energy. The moving stream of architectural progress, instead of following well marked channels, lost itself in a swamp, from which it is not yet fully extricated. When certain of the nineteenth century celebrity-architects set new fashions which for one reason or another were widely taken up (such as Norman Shaw's 'Queen Anne' revival), that response was an indication of the instinctively felt need for models to copy. The motifs thus added to the journeyman-architect's repertoire were so many crumbs of comfort thrown to him in his capacity of plagiarist. The acres of residential London that are even now furnished with Flemish gables after Norman Shaw and other motifs made fashionable in the same way show with what little discrimination he accepted anything that appeased his hunger. But he did not remain satisfied for long. Before it could be digested the meal was snatched away when another fashion succeeded Louis Treize or Flemish Renaissance or Queen Anne or whatever the plagiarist was feasting on at that moment.

The Georgian revival that followed about the turn of the century had a longer life because, rather than simply another fancy-dress revival, only to be tolerated when used by a master of the picturesque, it was in part the result of a move towards rationalization and simplicity, and was altogether more suitable for appropriation by the ordinary architect who wanted a rule of thumb to work to. The establishment of revived Georgian as the style of the day coincided with a number of developments in architecture, all of which found in the special characteristics of this style, if not a wholly appropriate, at least a sympathetic, vehicle. With its regular fenestration, for example, the Georgian idiom lent itself to economic, rational ground-planning involving the repetition of standard-size units. It suited the growing industrial demand for an architecture that could be reduced to a series of simple components, easily mass produced. The Georgian, being externally an architecture of flat façades, was particularly well suited to a period in which traffic planning gave new emphasis to the street. Finally, the growth of the idea of neighbourliness in architecture and the habit of thinking in terms of a larger architectural unit than the individual building, was aptly expressed by the repetitious quality, the impersonality and the extended horizontal skyline of Georgian architecture.

Nevertheless, the limitations of the Georgian style were all too clearly apparent; not only was it still a fancy dress style, recalling the manners of an age long since past—a characteristic that was increasingly

criticized as the twentieth century advanced—but it also proved quite unsuitable for the many new types of building that were then being demanded of the architect. To build, say, a new row of almshouses in a Georgian idiom was illogical but not ridiculous; to build a six-storey block of flats in the form of a succession of Georgian mansions piled one upon the other—as was attempted in great numbers—did begin to seem ridiculous, and to build an efficient Georgian factory or railway terminus was well-nigh impossible.

All the Georgian style, thoroughly though it was absorbed into the idiom of the ordinary practitioner, proved to be good for (and then only when it was cleverly used) was to add a superficial charm to buildings whose functional nature was becoming more rationalized and the organization of whose plans was becoming more important. It could not be further integrated into this changing conception of architecture since it was not adaptable to the new techniques which were architecture's principal motive force. The neo-Georgian clichés therefore became increasingly incongruous, yet since it is not the business of the plagiarists to invent new models to copy when the old no longer serve—they can only employ whatever ready-made language offers itself to their hand—many of them, official architects in particular, feel safest employing Georgian even now.

For the more enterprising, escape has come with the modern movement, whose utterly different approach to architectural problems is too well-known to need recapitulation in this essay. But an escape can be embarrassing if there is nowhere to escape to. Modern architecture brought release from the restrictions of an archaic ready-made style, but the freedom it also brought—freedom to plan in all three dimensions and to create new æsthetic values from the exploitation of new techniques—though a source of inspiration to the imaginative designer, left the journeyman-architect up in the air. Design of this kind looked easy to do, but just because of the absence of rules it was particularly difficult to do well. Suddenly anything was possible, and quality in modern architecture suffered accordingly.

That is only further evidence of the need for a system of rules, to fill the gap left now that we are discarding neo-Georgian rule-of-thumb. Lacking such a system, the modern designer either rests content with a crude so-called functionalism which is often the negation of architecture, or he seizes and exploits whatever mannerisms the leaders of the movement have made their own. The latter course has led to the modernistic, which has rightly been criticized as a betrayal of the modern movement by giving it the

appearance of yet another decorative style.

From criticism of this kind of superficial modernity derives the practice of condemning anything that can be called a mere collection of clichés, a practice both repressive and misleading. The time has now come to ask ourselves what we mean by a cliché and when it is a 'mere' cliché. In one sense, after all, any classical building with its familiar array of columns, capitals, porticoes and window architraves is a collection of clichés. In our day, our new architecture being largely inspired by new structural developments, it is natural that the forms and motifs these produced should have been seized upon and emphasized as the trade marks of a new style; should have become the first contemporary clichés. The cantilever, the superstructure perched on *pilotis*, the glass-enclosed staircase-tower, the ribbon window and many other motifs are all legitimate expressions of the structural methods that in the last thirty years have added so much to the architect's repertoire. The conscious drama with which they have been used has reflected the architects' need to make a positive declaration of his independence of traditional styles and formulæ. But a fair degree of independence having been achieved, drama need now be retained only where architectural character, and not where the tactics of propaganda, requires it. All motifs become grist to the architect's mill now that he can afford to use traditional materials and methods of construction when he wants to without aligning himself with the traditionalists; now that glass walls need only be used to give transparency, not in order to show what modern technology can do. Nevertheless, the new clichés of contemporary construction remain as the foundation on which a recognizable architectural language of the twentieth century is slowly being built.

Besides these constructional clichés there are the tricks of style that go with them: the projecting window-frame, the isolated rubble wall, the rhomboid staircase, the plan-form shaped like a grand piano or a coffin. These may seem to have less rational justification, yet they are even more the stuff out of which an accepted architectural idiom is made. They are, admittedly, irritating when too frequently repeated and unacceptable when the process of designing appears to have consisted simply of the blind assembly of such clichés. The test, presumably, is whether the cliché is integrated in the design—whether it is used purposefully or negligently. If clichés are used unskilfully a building is often said to date badly. Now every design dates in the sense of clearly belonging to its own period, but what is presumably meant by a building which 'dates badly' is one which betrays the passing whim or fashion under whose influence it was embellished. Too much of its charm can be seen, after the event, to have resided in its novelty.

The clichés, in a case like this, have been used as merely fashionable decorative adjuncts. But their proper role is not a means of appearing up-to-date, but a means of ensuring a civilized standard of design, even in the absence of genius, by providing the

journeyman-architect with a range of well-tried, culturally vital, forms and motifs. Through their help, too, he can benefit from shared experience, so that each design task does not mean a fresh start; they can begin to build up a recognizable contemporary style which can provide the basis of an interested public's connoisseurship.

It is, of course, difficult to draw the line between the merely decorative cliché and that which deserves incorporation in a widespread style, because many clichés gain promotion from one category to the other. It is a function of the plagiarists to act collectively as a kind of sieve, working through the numerous clichés that abound until by common agreement some find their way into a common language*; until the cliché has become, not a fashionable mannerism but the accepted contemporary way of solving a problem or finishing off a detail, as unselfconscious as the pinnacle that surmounted a medieval buttress, or the panelled eaves that spread the flat-pitched roof beyond the stucco face of a Regency villa—or, indeed (to introduce the metaphor that perhaps best indicates the part properly played by the reigning tricks of style) as unselfconscious as are trousers as a way of covering the male leg or the bow tie as a means of finishing off the collar of an evening shirt.

Another reason why a recognizable contemporary idiom is called for is the growing tendency for architecture to-day to be the product of teamwork, which was the subject of Frank Lloyd Wright's article in May. He deplored the current routines of design that, in his view, deprived architecture of its individuality, but he is a genius to whom individuality comes naturally, standing apart from the plagiarists, who have incidentally found in his own work a rich quarry from which they have dug out any number of contemporary clichés. Modern architecture as a whole can only achieve individuality, and in doing so evoke a response from the man in the street, when the ordinary members of the profession, and especially those whom contemporary circumstances compel to work as a team, have a fund of clichés sufficiently assimilated into a new architectural language to be used without pretention or affectation.

A new language is not of course to be discovered overnight; nor is it made simply by collecting clichés. On the other hand, it is stifled by pouring contempt on everything that can be called a cliché. To convert the passive act of plagiarism into the creative act of building up, and systematically enriching, an architectural language appropriate to our time is bound to be a slow and painstaking business. The architect has a long road to travel before reaching this goal, but one thing he can be certain of: when he gets to the end of the road he will find nothing there that he did not bring with him.

*This process in operation was well illustrated in Dr. Pevsner's article on Johannesburg in the June issue. Numerous modern blocks of flats, displaying the whole range of contemporary clichés, yet showed the beginning of a satisfactorily unselfconscious common idiom simply by virtue of the widespread use of those clichés. The poor quality of some of the designs, and the defects arising from absence of planning, do not affect the principle they illustrate.

THREE HOUSING SCHEMES IN WEST LONDON

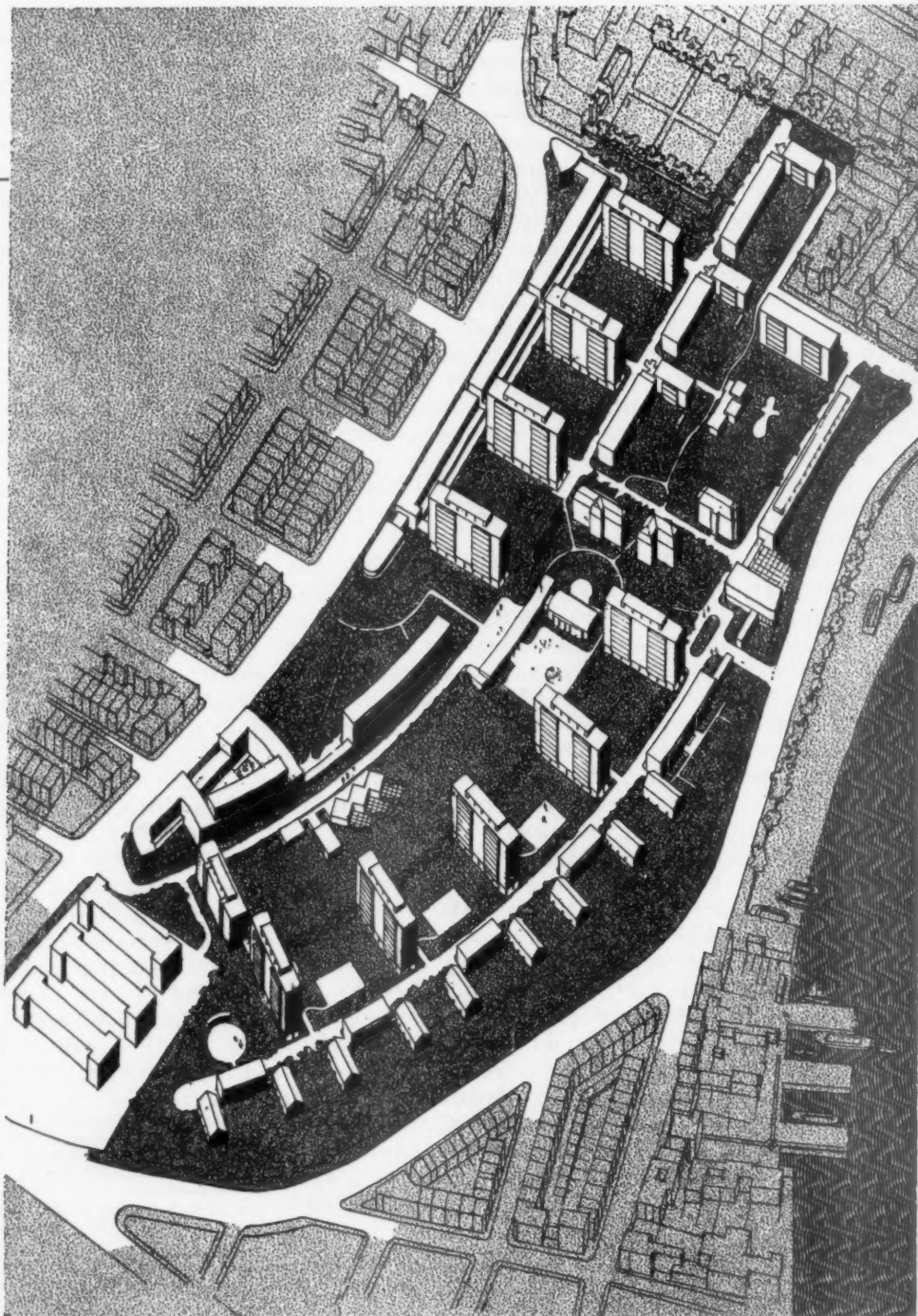
The piecemeal rehabilitation of pockets of derelict housing in London has presented the architects responsible with difficult and irregular sites which are very different from those abstract zones for which ideal projects are evolved, and the three developments by Messrs. Armstrong and McManus which are described below are interesting as much for the free and ingenious way in which the sites are exploited to produce humane urban scenery as they are for the quality of the architecture.

1

CREMORNE ESTATE WEST CHELSEA

ARCHITECTS **ARMSTRONG and McMANUS**

Assistant in Charge:
D. J. TRICKER



The master plan of Cremorne Estate, West Chelsea, the first and second stages of which, consisting of the four eight-storey blocks and 21 lock-up shops with maisonettes over them at the north-east corner of the site, are illustrated on the following pages. Since this master plan was drawn up the Chelsea Council have decided that the existing terrace houses in Cheyne Walk (running along the river and bounding the south-east of the site) must remain and the scheme will be modified to meet this requirement.

1, detail of the balconies of the eight-storey blocks. Balconies are faced with blue-grey tiles and recesses are blue, yellow or red. 2, view of the eight-storey blocks looking east from the terrace over the shops that face King's Road.



1



2

Immediately prior to the second world war the Chelsea Borough Council was considering the redevelopment of a small area in Riley Street, acquired compulsorily under the 1936 Housing Act. During the war areas surrounding Riley Street were severely damaged and the Council made a further compulsory purchase order bringing the total housing area to seven acres.

The Council decided that a comprehensive layout should be prepared so that it could ultimately form part of an area of 21 acres between King's Road and the river Thames which will provide for about 650 dwellings and the rehousing of about 2,500 persons in blocks of flats varying from two to eight storeys, maisonettes and

CREMORNE ESTATE, WEST CHELSEA



3



4

3, rear elevation of the shops with maisonnettes over. 4, east elevation of the most easterly of the eight-storey blocks. The shop in the foreground, designed also by the architects, is part of an adjoining estate belonging to the Chelsea Housing Improvement Society. 5, eight-storey entrance porch. 6, typical east façade of an eight-storey block. Exposed concrete frames of windows and balcony railings are finished white.



5

houses, together with shops, public houses, artists' studios, community buildings, schools and garages.

The present development of seven acres includes 260 dwellings (flats and maisonnettes), providing accommodation for about 890 persons, shops and a public house, artists' studios, etc. The first stage, which is completed, consists of four eight-storey blocks each containing 32 flats and housing 488 persons. The second stage of the development, the first section which was completed in November, 1952, consists of 21 lock-up shops with 24 maisonnettes over, fronting on to King's Road. Included in this development will be a new public house to replace the existing one which it is necessary to remove to permit the widening of King's Road. The third stage, which is now under construction, consists of six blocks, three and four storeys in height, containing a further 90 flats, six artists' studios, tenants' stores, garages, etc. It will also include a two-storey terrace of one-room flats for old persons and the small area that fronts on to Cheyne Walk and the river will be re-developed by providing flats for the higher income group.

The four eight-storey blocks are of reinforced concrete frame construction with *in situ* solid reinforced concrete floors. The external cavity panel walls consist of 4½ in. thick outer leaf of concrete bricks with 3 in. thick inner leaf of hollow clinker blocks. Partitions generally are 2 in. thick hollow clinker blocks, double 3 in.

thick between the flats. Windows, sills and door frames generally are of standard metal types, all external units rust-proofed. Doors generally are of wood, standard three panel type; stairs are of *in situ* reinforced concrete with metal balustrades. Roofs are screeded over wood wool slab insulation and finished with mastic asphalt.

The shops are of reinforced concrete frame construction built over reinforced concrete basement walls and floor raft. The walls of the maisonnettes above are normal 11 in. thick cavity construction with clay facing bricks. All floors are of hollow pot and concrete construction. Pitched roofs are of timber construction and covered with felt and clay pantiles. Asbestos-cement parapet gutters; other components are as the eight-storey blocks.

EIGHT-STOREY BLOCKS external finishes: dun-coloured concrete bricks; exposed concrete frames, white chlorinated-rubber paint; windows, painted white; balcony fronts, pale blue-grey matt glazed tiles; window span-drills to staircase bays, dark green matt glazed tiles; entrances and lift lobbies, blue-grey glazed tiles; recessed concrete surfaces of private balconies, blocks 6 and 8, deep blue, blocks 7 and 9, bright yellow chlorinated-rubber paint; balcony railings, painted white. Internal finishes: stair and landings granolithic finish with cement rendered walls finished with grey-coloured chlorinated-rubber paint; entrance doors to flats red and blue alternated.

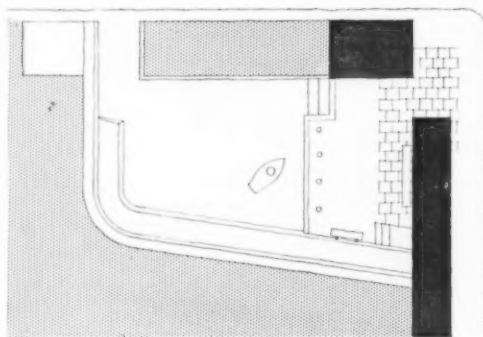
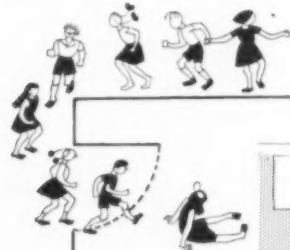
6



MAISONNETTES external finishes: 'Matlock Grey' Leicestershire clay facing bricks; dark brown coloured clay pantile roofs; windows, door frames and ironwork painted white; panels below entrance door sidelights, painted blue-grey colour; surround trim to maisonnette entrance doors and first storey windows and copings, precast concrete; access promenade and forecourts, precast concrete paving flags laid over insulation and mastic asphalt; dividing piers between shops, pale-grey coloured exterior quality matt glazed tiles.

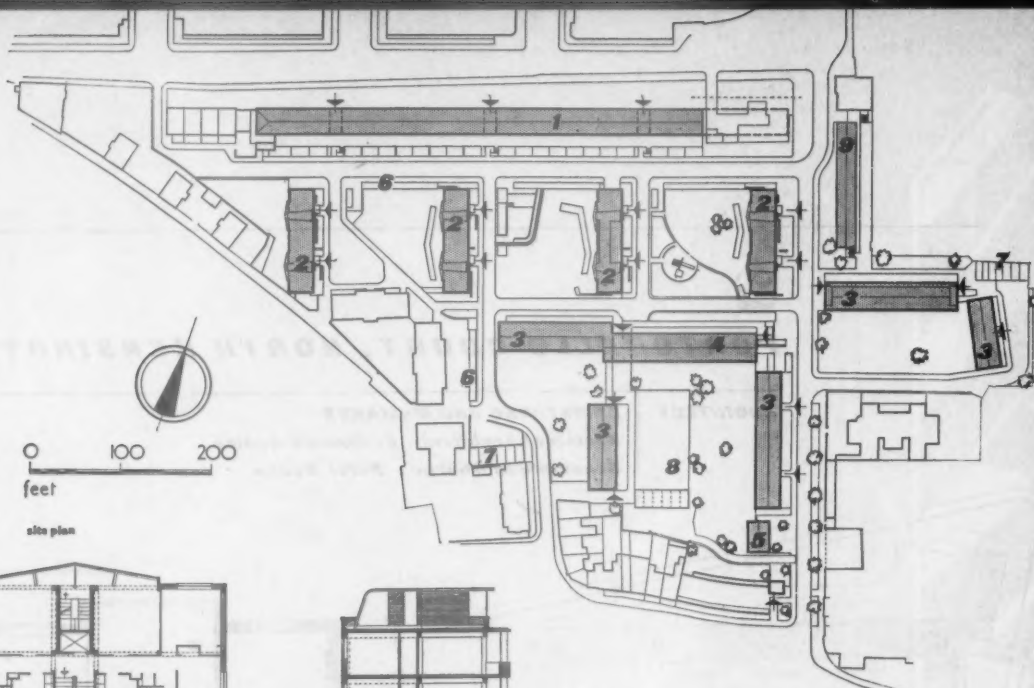
Space heating and domestic hot water are provided

from a central boiler house under part of one of the eight-storey blocks. Heating is by pump-circulated hot water from three sectional boilers (living rooms 65° F. and at least one bedroom in each flat to 52° F.). Hot water is supplied from centralised storage calorifiers to heating coils in all linen cupboards. Heating flow and water temperature are controlled by a compensator and butterfly valve. The boilers have automatic underfeed stokers. Water storage tanks of 6,000 gallons capacity for the domestic hot water service are installed at roof level in the block containing the boiler house.

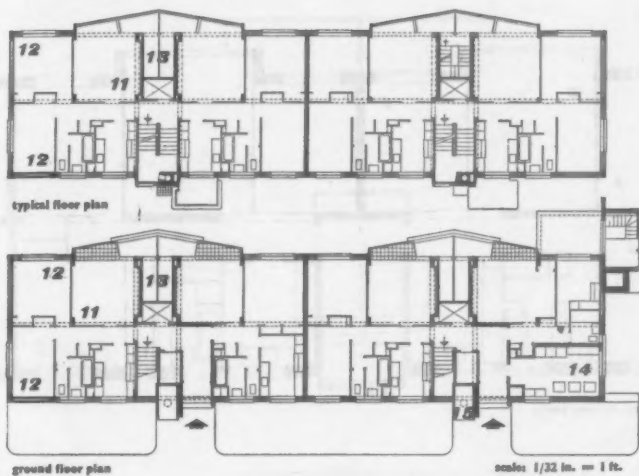


7 and 8, two views of the children's play area and sand pit situated between two of the eight-storey blocks. The sand pit is bounded with a jetty wall and quay to form a harbour in which is placed a brightly painted boat of solid concrete. The employment of variously textured and contrasting materials is indicated in the sketch on the facing page. Its derivation from the Cobb at Lyme Regis is suggested on the cover of this issue and is referred to in the cover note on page 73.



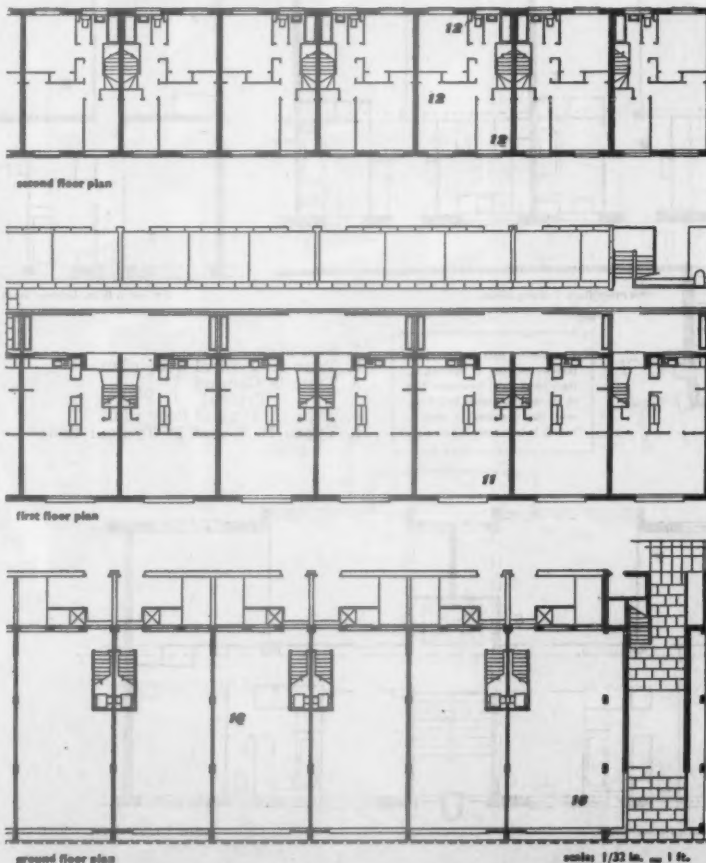


EIGHT-STORY BLOCKS



- key
- 1, shops with 3-storey maisonettes over.
 - 2, 8-storey block.
 - 3, 3-storey block.
 - 4, 4-storey block.
 - 5, 1-storey block (maisonettes).
 - 6, pram stores.
 - 7, garages.
 - 8, playground.
 - 9, 2-storey maisonettes.
 - 11, living room.
 - 12, bedroom.
 - 13, store.
 - 14, utility room.
 - 15, refuse chamber.
 - 16, shop.

SHOPS AND MAISONNETTES



2

PORTOBELLO COURT, NORTH KENSINGTON

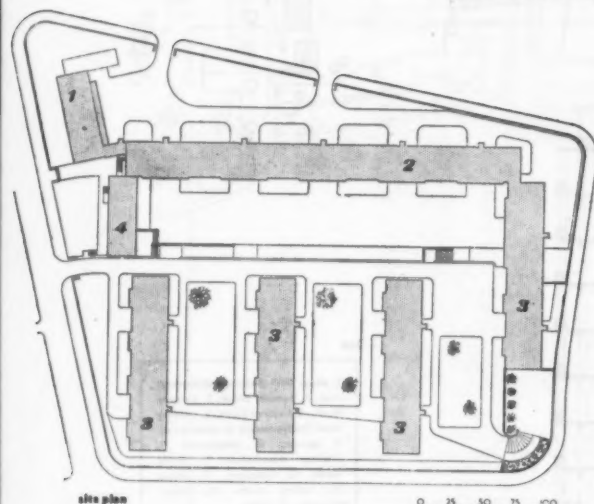
ARCHITECT

ARMSTRONG AND McMANUS

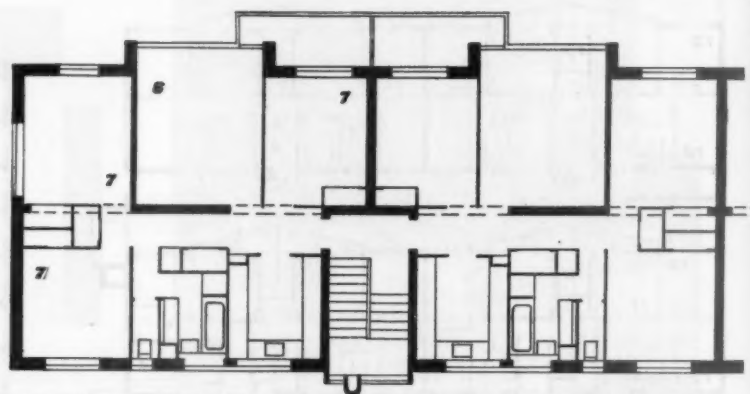
Assistant Architects: E. Howard Sadler

Associate in Charge: Peter Cooke

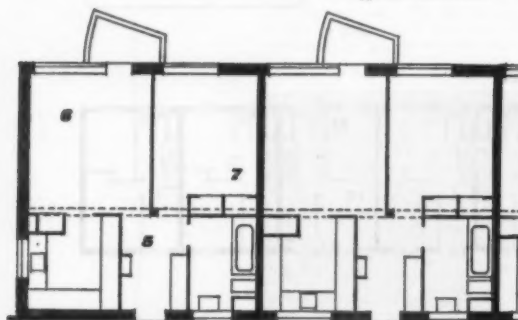
9, on the facing page, the eight-storey block looking west. Spandrels to the living room windows are panelled with fluted asbestos and are painted yellow. The steps lead to the level of the four-storey blocks.



site plan



four room flats, 4-storey blocks

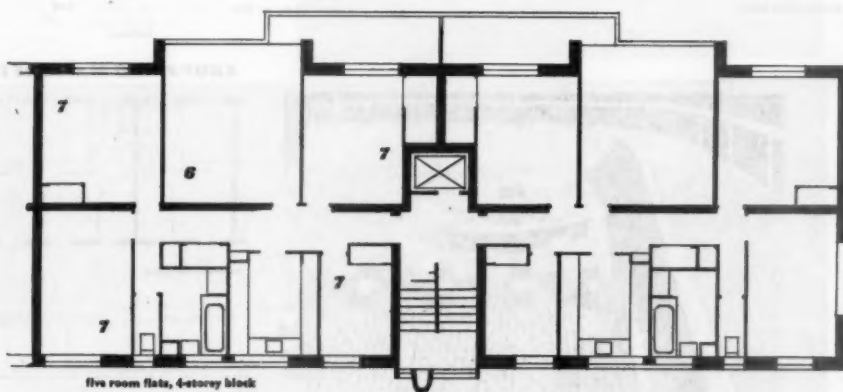


two room flats, 3-storey block

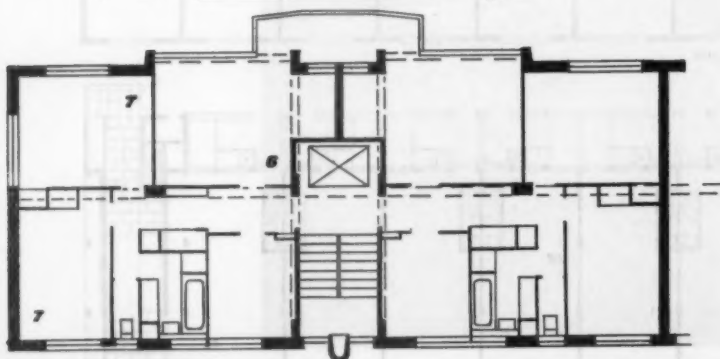
key

1, two-room flats (3 storey). 2, three-room flats (7 storey). 3, (east block only) five-room flats (4 storey). 3, three- and four-room flats (4 storey). 4, club. 5, hall. 6, living room. 7, bedroom.

- 1, Site plan.
- 2, Type A. Typical floor plan.
- 3, Type B. Ground } plans
- 4, Type C. Typical floor plan.
- 5, Types D, E and F. Typical floor plan.



five room flats, 4-storey block



three room flats, 7-storey block

scale: 1/16 in. = 1 ft.

The 158 flats which comprise this scheme are planned in six blocks and range in size from one and two-room flats for old persons and for married couples respectively, to five-room flats for families of seven. The larger family flats are planned in four four-storey blocks with staircase approach. The block at the east end gains an extra storey by being carried across the lower terrace where it forms a link with the eight-storey block which rises from the lower ground along the northern boundary. A small block containing two-room flats with balcony approach, occupies an oblique terminal position at the north-west site corner and the tenants' club room is sited to screen the western end of the lower terrace.

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10

10, west elevation of one of the four-storey blocks on the right with the eight-storey block behind it. Concrete reveals are painted white, spandrels blue-grey. 11, the most easterly of the four-storey blocks, which is linked to the eight-storey block.



11

PORTOBELLO COURT, NORTH KENSINGTON

The eight-storey block contains a total of 80 flats grouped in five tiers of 16, each with its own internal access staircase and automatic passenger lift serving two flats per floor. Flats are planned with the principal rooms facing south over the lower terrace and the grassed lawns between the four-storey blocks.

The building is of r.c. frame construction with 5 in. solid floor and roof slabs, and is divided into three sections by expansion joints the full height of the building to allow for thermal movement. The external columns to each of the five tiers are exposed on the south elevation between which living room windows and balconies are grouped. The ground floor wall on the north elevation is of concrete with thermal insulation as permanent shuttering on the inner face. Roofs are covered with asphalt on foamed slag screed and further insulated by 2 in. dressing of gravel. Internal partitions are of hollow tile blocks; main division walls in brickwork. Windows are galvanized steel casements.

External walls are in brown Sussex facings; exposed fairface concrete is painted white. Fluted asbestos spandrels between living-room windows are painted yellow in the eight-storey block and blue-grey on the lower blocks. Staircases are finished with blue-grey walls, light

grey balustrading and dark blue handrails.

Floors are finished in cork plastic composition. Walls and partitions generally are plastered and decorated in flat emulsion paint. Kitchen and bathroom dadoes and cills are in white glazed tiles. Door frames are pressed metal. Doors generally are flush plywood faced except those between the living rooms and halls which are glazed. The staircase walls are in fairface brickwork finished with hard glazed plastic paint.

Laundry facilities for each flat consist of a utility bathroom with gas wash boiler, sink and draining board and gas drying cupboard, in addition to bath and basin. Drying cabinets for bed-sitting room flats are grouped in a separate annexe.

The tenants' club building consists of a club room with seating for 100 persons, a small entrance foyer with cloakrooms and a small tea and refreshment buffet. External walls are in brickwork with a roof of precast concrete slabs covered with metallised three-ply felt roofing. The floor of the club room is of hardwood strip with a cork plastic margin; the foyer is in quarry tiles. The small areas adjoining the buildings are being cultivated by the tenants as flower gardens.

3

HENRY DICKENS COURT, NORTH KENSINGTON

ARCHITECTS

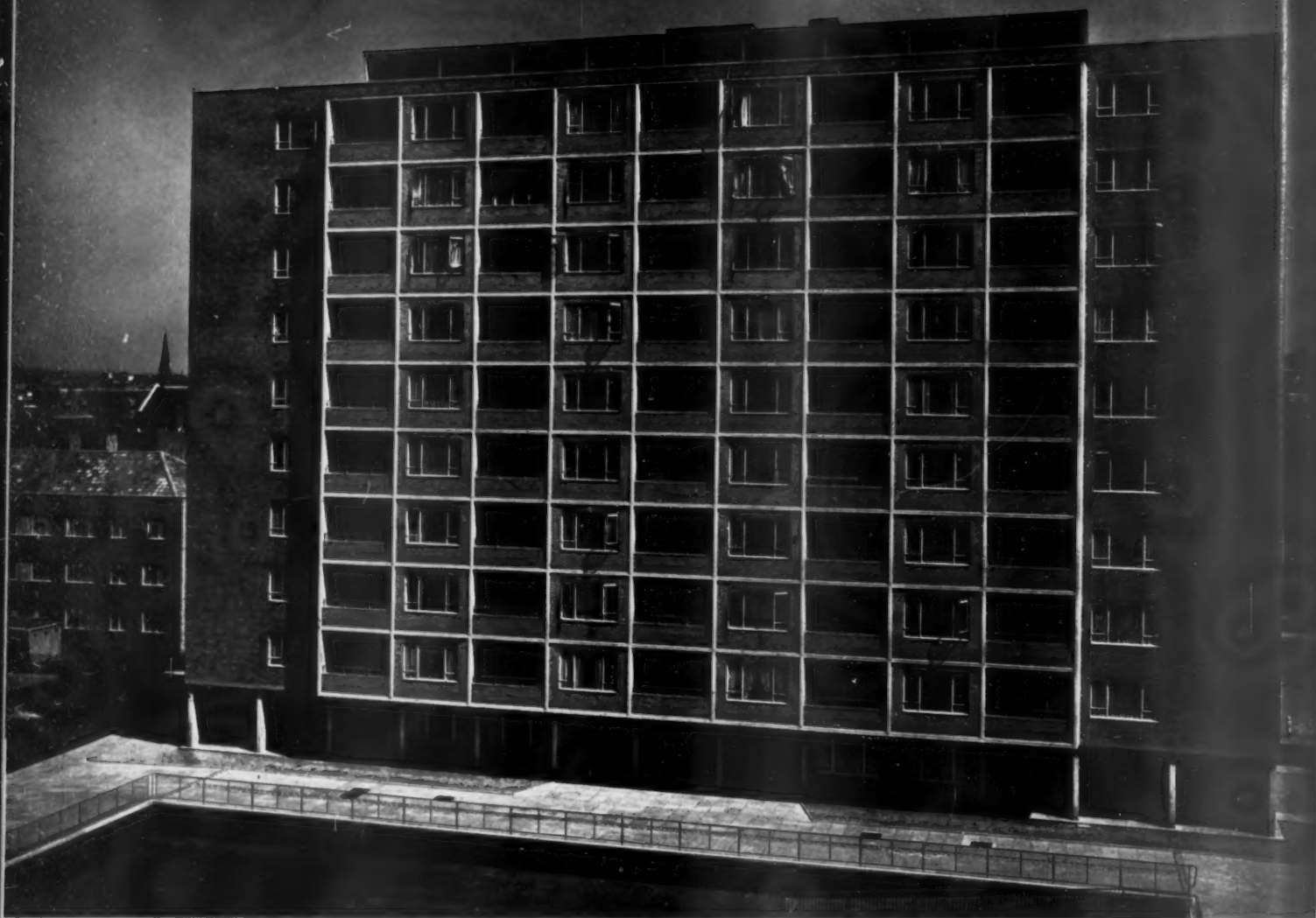
ARMSTRONG AND McMANUS

Assistant Architect: E. Howard Sadler

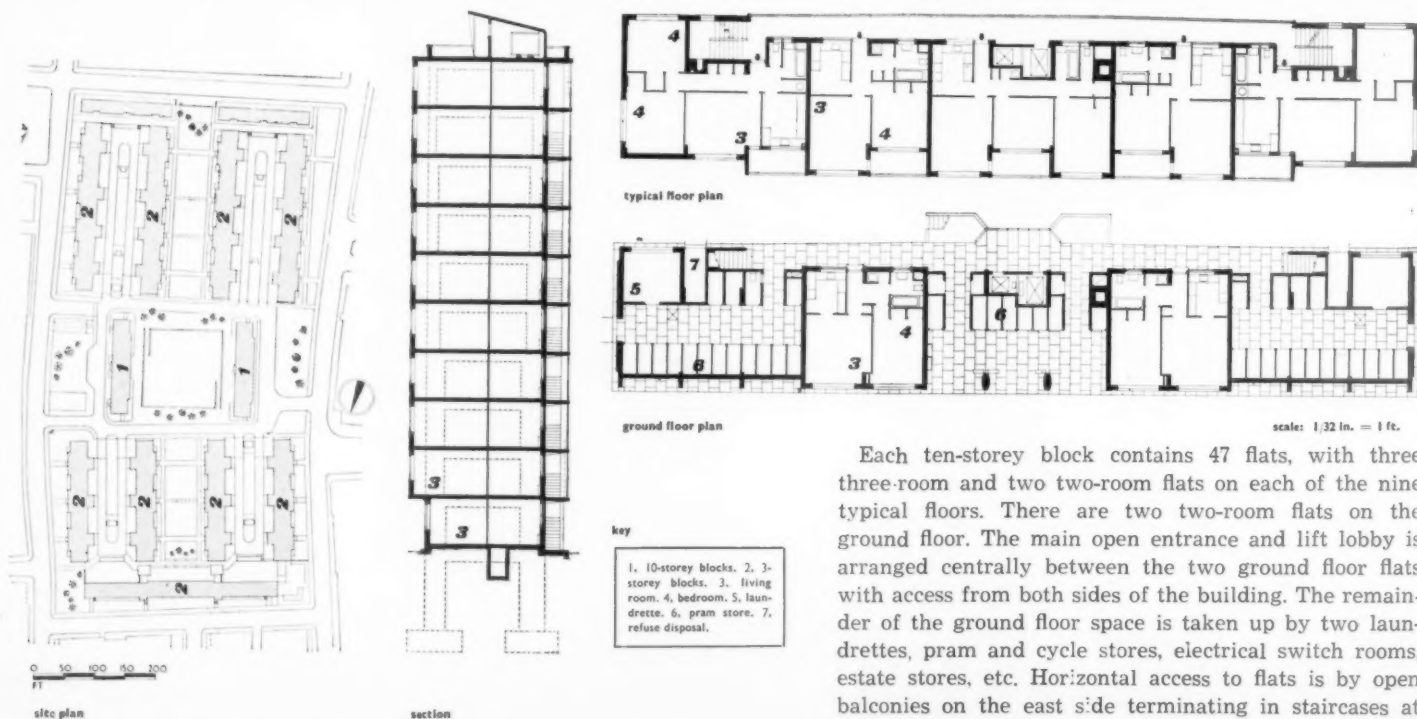
Assistant in Charge: John Sheldon

12. view of the two ten-storey blocks looking east with the sunken play space lying between them. Rear walls of balconies are painted light blue, exposed vertical dividing members white.





13, private balcony elevation and, 14, access balcony elevation of one of the ten-storey blocks overlooking the sunken playground. Exterior facing bricks are brown



Each ten-storey block contains 47 flats, with three three-room and two two-room flats on each of the nine typical floors. There are two two-room flats on the ground floor. The main open entrance and lift lobby is arranged centrally between the two ground floor flats with access from both sides of the building. The remainder of the ground floor space is taken up by two laundrettes, pram and cycle stores, electrical switch rooms, estate stores, etc. Horizontal access to flats is by open balconies on the east side terminating in staircases at either end. Refuse chute hoppers are on half-landings.



brown except for projecting panels between balconies where they are light buff: panel infillings between exposed ground floor columns are dark purple.

The flats are planned with the principal rooms facing west.

The construction is of r.c. framework on a simple grid with solid 5 in. thick r.c. floor and roof slabs. Access balconies are carried on short transverse cantilevers as is the whole projecting feature which contains the private balconies on the west elevation of each block. The exterior, above ground floor, is finished in brown Sussex facing bricks, with lighter buff-coloured bricks for the projecting panels between the private balconies and for the main wall behind the access balconies on the other front. Metal balcony balustrading is painted pale grey. Balcony rear walls are painted light blue and the panel in-fillings between the exposed columns at ground floor level are finished in Kent dark purple bricks. The internal leaf of the external cavity walls and the internal partitions are of cellular clay blocks. Staircase walls are rendered and decorated in cement paint in fairly strong colours.

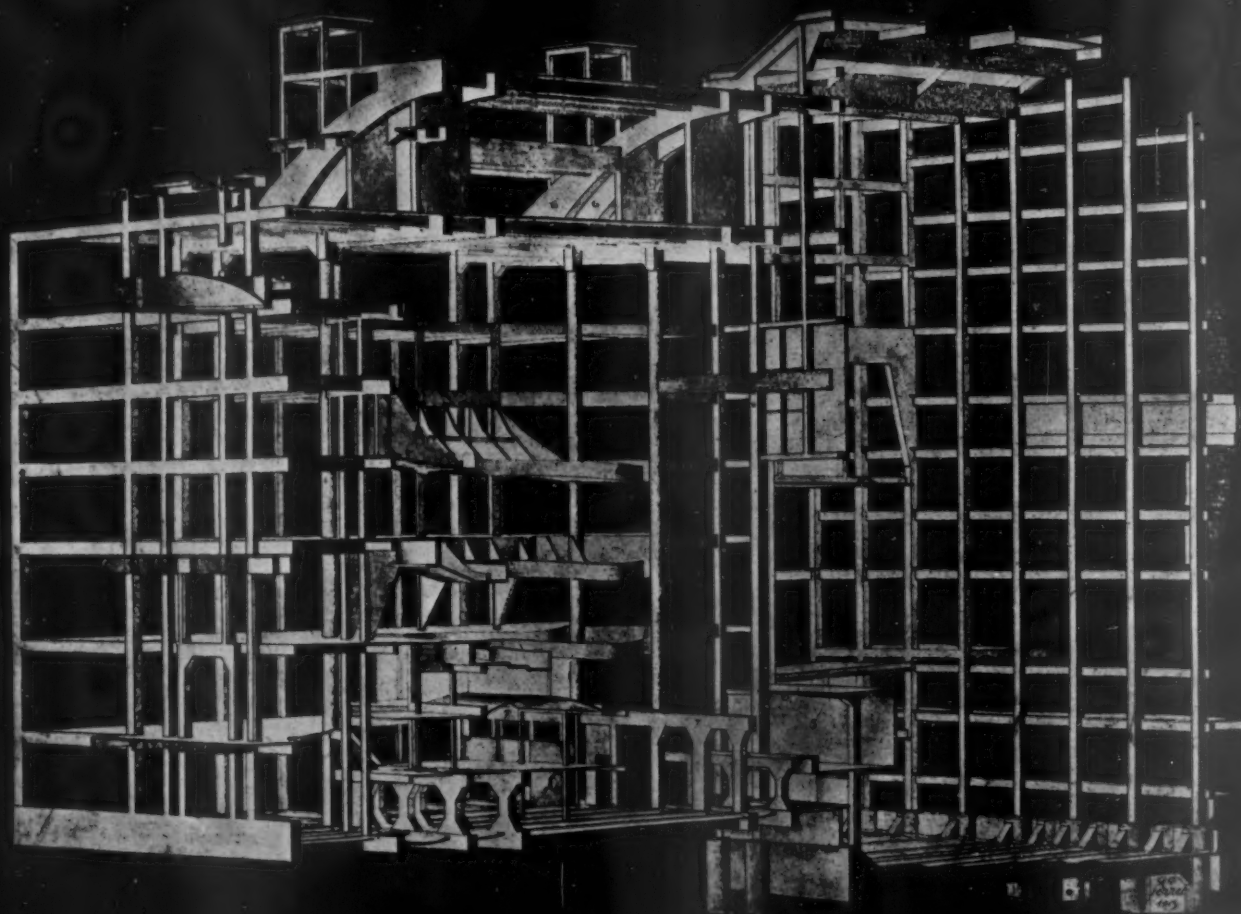
Floors are laid with plastic tiles. Walls, partitions and ceilings are plastered and decorated generally in flat emulsion paint. Areas of kitchen and bathroom walls and cills are white glazed tiled and other cills are finished with pressed concrete tiles. Internal door frames generally are of pressed metal and doors are flush plywood faced.



15

15, north elevation of a ten-storey block seen from a service court between two existing three-storey blocks.

HENRY DICKENS COURT, WEST KENSINGTON



Peter Collins

←

The two outstanding features of the doctrine of Auguste Perret are the insistence on modern architecture—the profiling and management of projecting features—and the philosophy of the concrete frame. The former, exemplified by the house in the rue Reynouard (opposite, above), has inevitably remained a personal preoccupation in an epoch largely devoted to the suppression of such features, though many practitioners of the Modern Movement have benefited from the close attention to detail of this kind which was instilled into them when they were Perret's pupils. The concrete frame, however, exemplified by the skeleton of the Théâtre des Champs-Élysées (opposite, below), is a concept which has become an integral part of the philosophy of Modern Architecture, and remains the greatest of the many valuable contributions, discussed by Mr. Collins in the article below, which Auguste Perret has made to the architecture of our time.

The Doctrine of AUGUSTE PERRET

When Auguste Perret started his career as an architect, modern reinforced concrete theory had already been in existence, in a very elementary form, for about thirty years, and a few advanced architects were aware of the structural potentialities of the material in the construction of tall buildings. Nevertheless, the architectural problem in France had not changed so much as in, for example, America. Tall blocks of flats had been built in Paris for over two hundred years, and there was no great incentive to exceed the maximum height laid down in Napoleon I's legislation, which permitted about seven floors above ground level. This height was obtained quite satisfactorily and not uneconomically with the excellent stone of the region; a stone which allowed full scope for the rather florid architectural and sculptural decoration in vogue round about 1900. If reinforced concrete was used at all, it was introduced merely as an economical substitute for ashlar, and not as the answer to a new architectural problem.

Perhaps the most remarkable example of Perret's perspicacity was his early awareness that reinforced concrete has a structural dignity of its own; and it is significant that the first expression of his ideas should have been in domestic architecture, the small block of flats in the rue Franklin, Paris. These ideas had been fostered by three men; Guadet, who was his teacher at the Ecole des Beaux-Arts, his father, a building contractor with

a strong and uncompromising temperament, and Choisy, whose history of architecture, which is essentially a history of construction, was his constant guide.

The general influence of Guadet is well known, especially in France, where his book on the Theory of Architecture is still a classic. Briefly, one may sum up his teaching by saying that he synthesised the traditional æsthetic values of French classical architecture and the structural functionalism of Viollet-le-Duc and Labrouste. Perret found in him a master admirably suited to his temperament, and during a brilliant academic career became fully imbued with the idea that architectural forms are essentially structural forms, though capable of infinite and subtle modifications in the interests of proportion.

Perret first had to ask himself what was the true structural form for concrete, and arrived at the conclusion that it was a *frame*. The use of the expression 'reinforced-concrete frame' is now so common that it is almost impossible to appreciate how revolutionary the idea was at the very beginning of the century. Yet at that time, and for long afterwards, the general conception of concrete was as a substitute for masonry. The doctrine that reinforced-concrete construction was not similar to building in stone but to building in timber produced architectural forms of a new type, seen for the first time in the building in the rue Franklin. One must insist on the word *seen*. Other architects who later adopted the concrete frame covered the structural element with a screen wall which hid if it did not disguise the structural system. Perret, following Guadet, has always insisted that it is only structure which gives true character, proportion and scale to a building.

In order to arrive at a full technical understanding of the material, Perret, with the co-operation of the family firm of building contractors, constructed a series of utilitarian buildings of the utmost severity. These buildings, such as the garage in the rue Ponthieu, Paris, are barren of all refinements, exhibiting, like Romanesque churches, all the clumsiness of a healthy new architecture in the making.

In 1911, however, Perret had his first opportunity of realizing his æsthetic theories in a building of the first importance, the Théâtre des Champs-Élysées in Paris. Resistance to his ideas was strong, so that he had to use a good deal of tact. Until almost the official opening day, the directors were under the impression that the building was designed throughout in the style of Louis XVI. At the inauguration, critics were frankly hostile; they considered the staircases hardly suitable even for a factory, and were shocked by the unadorned simplicity of the columns. Yet even so Perret had made considerable concessions to popular taste; his façade, though indicating the structural system, was faced with marble, and the internal columns were finished with plaster.

It was in domestic architecture that important developments were next made. Always guided by the principles of half-timber construction, designs were perfected for precast window frames and precast concrete panels to fill the interstices of the monolithic structural frame. It was not sufficient that the general

principle should be established. All the parts had to fit together like a delicate and complex mechanism, satisfying not merely practical but æsthetic requirements. In this way, the architectural forms were created, all capable of the infinite proportional variations which particular needs would dictate, yet all standardized and unified by common obedience to the rational structural system of which they formed part.

One of the most interesting and most misunderstood results of his systematic modification of the elements of architecture was the creation of the column which tapers downwards. Following the principles of timber construction, it became apparent to Perret that the stability of a concrete column was not due to gravity, as in a masonry column, but to the strength of the joint, as in a table leg. Just as he would have revolted against a table designed with each leg wider at the bottom than at the top, so he revolted against a similar structural error in concrete frames.

One of the most fascinating things about these new elements was that several of them, although created by a logical process of deduction, turned out to have the same form as purely decorative features of the architecture of the seventeenth and eighteenth centuries. The medieval timber floor beam, for example, had survived in French eighteenth-century masonry as a broad decorative string course; windows were framed round with mouldings merely carved in the surrounding stone; the wall surfaces were carved to give the impression of panelling.* The reintroduction of these features, and the similarity between the structural concrete columns and decorative pilasters, gives a deceptively archaic quality to Perret's later work. Paradoxically, the element of imitation had occurred in reverse, since the eighteenth-century forms may be said more truthfully to prefigure those evolved by him. For several hundred years, the Roman architects and then the Renaissance architects had applied a decoration of trabeated architecture to their arch constructions, because they were convinced of its intrinsic beauty. Yet even in the late eighteenth

* The architects of the eighteenth century were not unaware that they were thus imitating timber forms. J-F. Blondel (1705-1774), who was rather a purist in these matters, criticized the main elevation of the Hôtel de Béthune as follows: '... l'avant-corps du milieu de cet attique paroît trop fréquemment subdivisé par des tables; ce genre de décoration paroît imiter la Menuiserie; c'est pourquoi il faut en user avec plus de prudence dans les murs de face, dont la matière exige une richesse qui soit relative à sa solidité naturelle.' (*Architecture Française*, vol. i, page 252.)



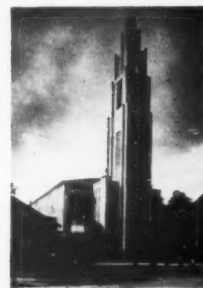
1903 Flats, Rue Franklin, Paris



1906 Garages, Rue Ponthieu, Paris



1912 Theatre des Champs-Elysees, Avenue Montaigne, Paris



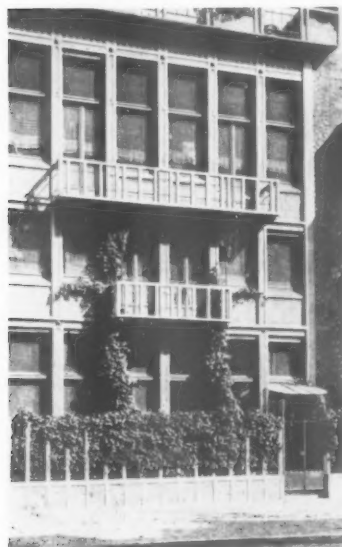
1923 Parish Church, Le Raincy

1925

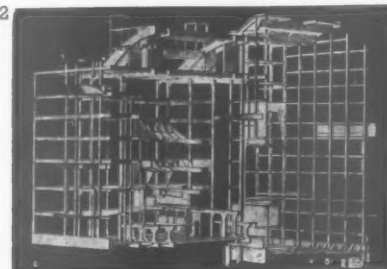
1 CHRONOLOGICAL SURVEY

2 THE DOCTRINE IN PRACTICE

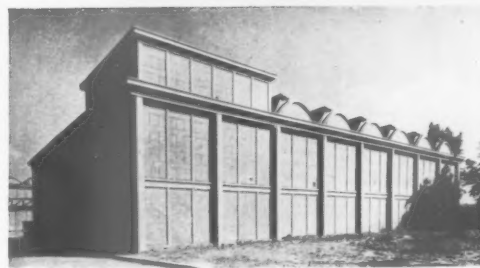
A primary influence on Perret was that of Guadet, his teacher, whose insistence on structure as generator of form is exemplified by his house on the Boulevard Murat, 1; from this grew Perret's high regard for the frame, 2, as a constituent element in design, his insistence on its external expression, as in the house in the Rue Franklin, 3, and his assertion that structure gives character to a building—even a utilitarian one like the warehouse of the Marine Nationale, 4. These theories were first exercised on a large public commission in the Theatre des Champs-Elysees where they show clearly, 5 and 6, in spite of elaborate surface treatments.



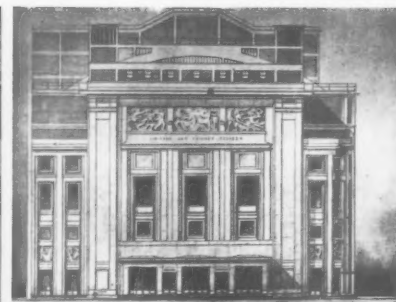
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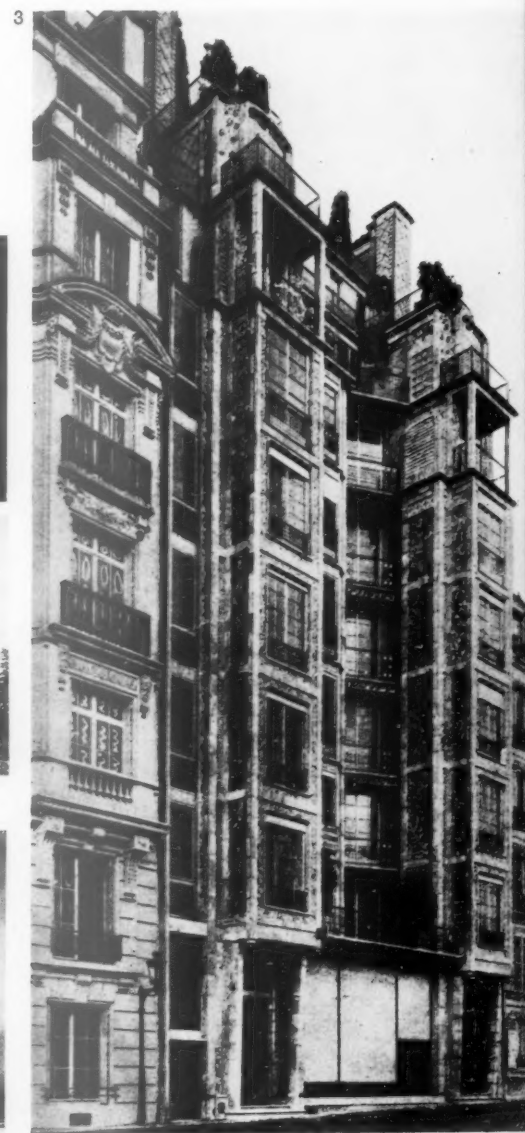
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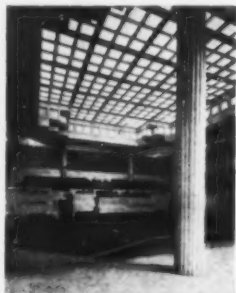
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5 6



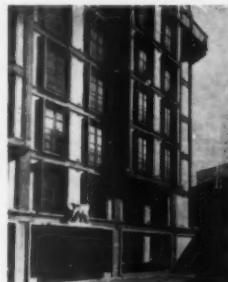
3



1925 Theatre, International Exhibition of Decorative Arts, Paris



1929 Concert Hall, Ecole Normale de Musique, Rue Cardinet, Paris



1929 Flats, Rue Raynouard, Paris



1931 Admiralty Buildings, Boulevard Victor, Paris



7

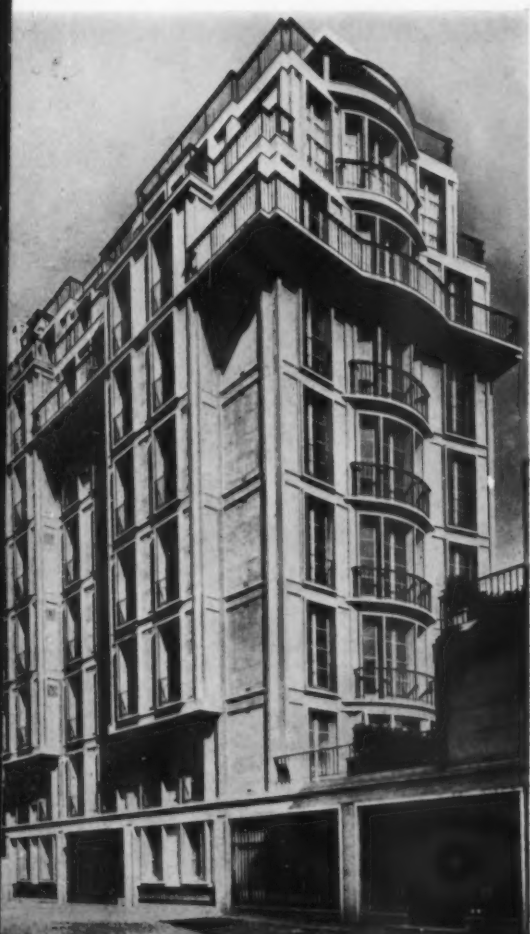
Perret's conception of structural logic exacts a high degree of precision from the parts, which must fit together in a manner which is not only mechanically exact, but also visually comprehensible, 7. His view of concrete structure as essentially trabeated, which is well brought out in his theatre for the Paris exhibition of 1925, 9, coupled with his conception of a frame with rigid joints, produced his characteristic usage—the column which tapers downwards like a table-leg, 8. His regard for classical



8



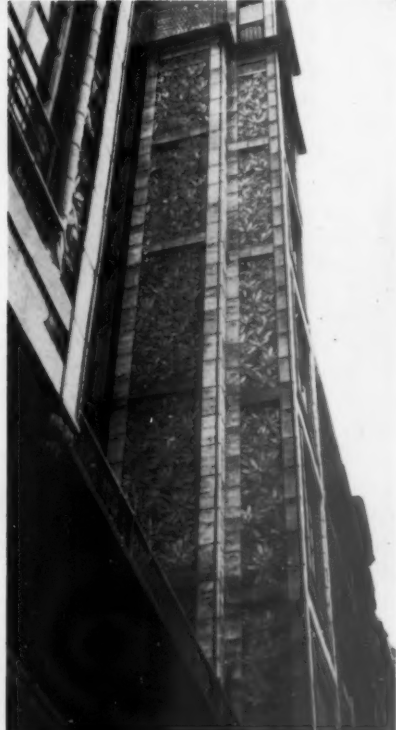
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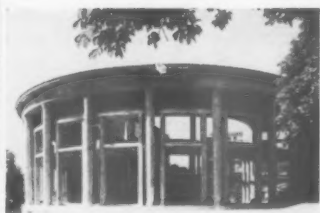


11

precepts is further shown in his insistence on proper modénature—the profiling and disposition of projecting parts, 10—and his regard for the material itself in his manipulation and juxtaposition of textures, in early works like 11 (Rue Franklin) or late ones like the rebuilding of Le Havre, 12.



1932 Private House, Garches



1938 Museum of the Office of Works, Place Iena, Paris



1952 Place de l'Hotel de Ville, Le Havre

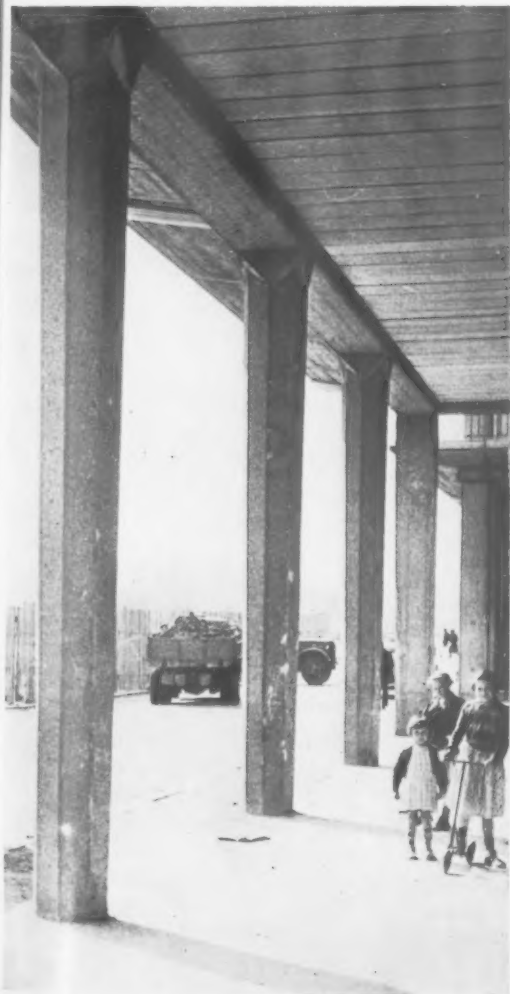
His passion for his chosen material, even in defiance of accepted canons of design, has led him to exhibit large, unmodulated areas of bare concrete in places where they might seem unsuitable, such as the concert-hall, 13 and 14, of the Ecole Normale de Musique where, contrary to acoustic theory, they proved highly successful. At the same time the pursuit of his chosen aesthetic has driven him to refine its practices in detail as well as at large—the problem of a column rising into a square abacus takes another new form at Le Havre, 15, and the nature of the shuttering was exploited to give a controlled diminution to the ‘fluting’ of the columns, 16, of the Musee des Travaux Publics. The pursuit of this trabeated aesthetic has also led him nearer and nearer to classical and traditional solutions, so that much of Le Havre, with its balconies and mezzanines over shops, exhibits close affinities with the types of urban development evolved for Haussmann’s developments in Paris, 17.



13



14



15



16



17

THE INFLUENCE OF PERRET

The influence of Perret is as widespread and as easily recognizable as that of van Doesburg, but not always as superficial, for it has produced in Europe and elsewhere some buildings and architects of note:

DENIS HONEGGER perhaps his most distinguished pupil, has developed a personal note of technological aggressiveness in his Fribourg university, Switzerland, 18.

H. G. J. SCHELLING in the new station at Hengelo, 19, reveals openly an underlying streak of Perret influence which has lain half-hidden in much recent work for the Dutch State Railways.

WERNER VETTER on the other hand, emphasises the repetitive and modular qualities of Perret's constructional technique in his hospital at Colmar, 20.

JOHN FASSLER is the designer of one of the largest and most important Perret-influenced buildings outside Europe—the Witwatersrand Dental Hospital, S. Africa, 21.



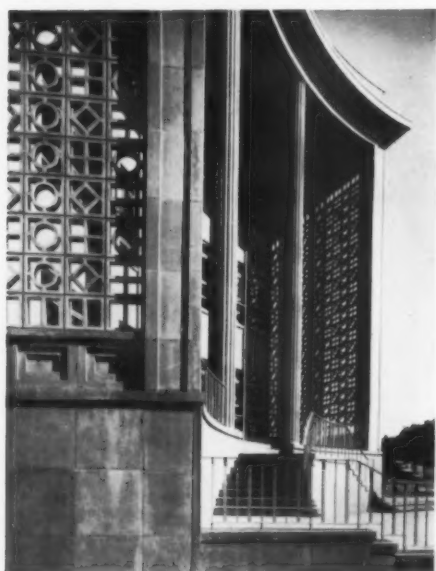
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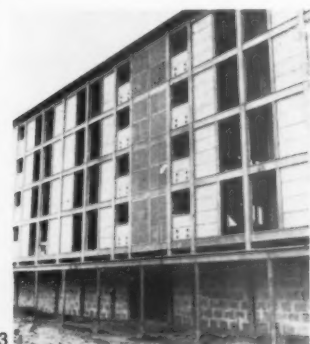
ANTONIN RAYMOND at Tokio, produced, 22, another important testimony to the wide spread of Perret's influence; a near variant of the church at Montmagny.

BEAUDOUIN AND LODS have, like Vetter, emphasised the standardized and prefabricated elements of the doctrine in the Cite de la Muette, 23, at Drancy, near Paris.

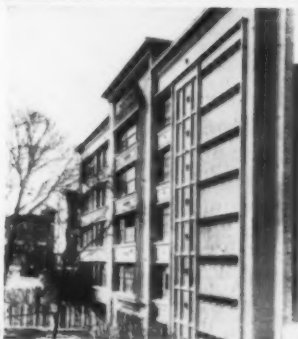
A. and J. GUILBERT in their facade for the Ecole Normale Supérieure, Paris, 24, have not only departed from the Master's canons of axial symmetry, but have also introduced filleted mouldings of their own devising.



22



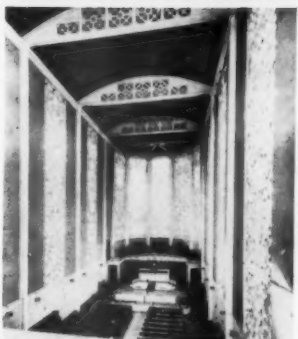
23



24



25



26



27

DUVAL AND GONSE take up the church theme in St. Pierre at Roye, 25, but the square columns and clerestory relate more precisely to Perret's Palais du Bois.

POUREDIER-DUTEIL produces another variant of the church theme for a seminary chapel at Grenoble, 26, with a barrel vault on tympana and blank wall panels.

PAUL TOURNON shows an even freer attitude toward the trabeated doctrine by employing an unmistakably gothic vault, 27, in his church at Elizabethville, France.

century, when a determined effort was made to suppress all arches, the fact that architraves had to be composed of voussoirs brought about complications of thrust which continued to prevent architects from creating pure trabeated compositions. Perret discovered in reinforced concrete the material for a trabeated architecture suitable for modern needs, and in mastering its potentialities subdued it more and more to the discipline of ordered proportions.

The influence of Guadet's clear division between composition and proportioning is shown in Perret's later developments. Once having determined the general system of his architecture, he was not content to leave the elements in the crudeness of their initial form, but applied himself energetically and conscientiously to their refinement. In successive buildings, therefore, he carried out extensive improvements in surface treatment and *modenature*. The nearest equivalent to the word *modenature* is perhaps 'profiling'; the three-dimensioned study of surfaces as determined principally by the depth of shadows. The French have always set great store by it; the early eighteenth-century architectural text-books started off with an analysis of mouldings because, as Daviler puts it, 'Mouldings are to architecture what letters are to handwriting.'

Perret's study of surface treatment involved experiments with different aggregates and different types of bush-hammering. Aggregates could be different in colour, texture and size, to give an infinite number of subtle gradations in tone, luminosity and scale. It was a long and anxious process, as there was a limit to the number of trial slabs which could be made, and in general the real effect could not be judged until the building was completed. It is a tribute to Perret's genius that these effects have been so successful, as anyone may see who cares to examine the relationships between various aggregates in the Musée des Travaux Publics, Paris.

As his fame grew and his commissions became more and more important, Perret became increasingly enamoured of this beautiful material, and exploited its potentialities with greater boldness. More and more surfaces were designed in bare concrete, with delicate modulations requiring the most skilful carpentry work in the preparation of the shuttering. Internal walls were made of precast panels, internal columns were left bare, ceilings displayed their ribs or coffers, everything was abolished which was a covering or a plaster veneer. 'Architecture,' he was fond of saying, 'is what makes beautiful ruins,' and he boasted that there was not a square centimetre of plaster in the whole of the Musée des Travaux Publics. Everything was done to take full advantage of the aesthetic possibilities of structural forms. Large concrete surfaces were used in the most unlikely places, such as the interior of auditoria. The concert hall of the Ecole Normale de Musique is a good example of such defiance, in the spirit of Guadet, of acoustic dogma. After the first concert there, Cortot is reported to have said: 'Perret promised me a hall which would resonate like a violin, but he did not tell me it would be a Stradivarius.'

This variety of work all showed one common

feature; the tremendous care and study lavished on the smallest details. Working in Guadet's methodical manner, Perret ensured that the architect's ordering mind touched every inch of his building to refine and beautify. The elements were studied more and more. The classic problems, such as the transition from a round column to a square abacus, were studied in relationship to structural concrete and methods of shuttering. Greek optical corrections were applied to the silhouettes of cornices and the verticality of columns. Columns were 'fluted' with facets regulated by the number of laths composing the shuttering, and were diminished with a carefully studied entasis specified in large scale drawings. And in all this one should remember the difficulties which had continually to be overcome. Apart from the initial expense of such refinements, which in the case of the church of Le Raincy were largely paid for by Perret himself, the workmen had to be taught and constantly supervised, for, since the essence of the system was the beauty of the structure, the forms once moulded were unchangeable. Any errors in shuttering or in pouring the concrete were thus almost catastrophic, since they could not be covered up, and could only be corrected by partial demolition and subsequent reconstruction. The expense was also a great obstacle in the beginning, although, now that the French contractors have become familiar with the method, prices compare favourably with those of other systems.

It is apparent from even a superficial study of his work that Perret has never sought originality in composition for its own sake. The modern movement, inheriting a tradition which goes back to Ledoux, became obsessed with new plan forms and volumes as the only way to create a contemporary architecture, although once having found exciting new compositions, the designers showed little concern with the surfaces of the geometric solids evolved. Perret learnt from Guadet that good composition, which is largely a matter of luck, is based primarily on a rational appreciation of plan requirements. He refused to be diverted by a search for novel plan shapes, or by extravagant new structural forms, from the pursuit of what he considered the true art of architecture. He ignored the new aesthetic values introduced by the modern schools of painters, showing that traditional French mistrust of painters and sculptors who turn their hands to designing buildings.

Nevertheless, there is no doubt that as he has grown older Perret's compositions have tended to conform more and more strictly to traditional types. The porticos at Le Havre, with shops and entresol, are openly modelled on the rue de Rivoli in Paris. The basic grid of the town shows a rigidity reminiscent of the early nineteenth-century doctrine of Durand. Are we to see in all this the retrograde steps of a man who, growing old, has lost his taste for adventure, and seeks merely to prove his skill at imitating the past? Perret's whole life history must surely refute such a judgment. It would perhaps be nearer the truth to suggest that the classical theories on trabeated architecture have to some extent the objective validity which their creators claimed for them, and that Perret has demonstrated the fact in pushing his basic principles to their

logical conclusion.

Auguste Perret has always fought against the conception of architecture as a deliberate expression of the artist's personality or originality, and one might suppose therefore that his purely objective doctrine, based on traditional principles, would appeal to many of his contemporaries. Those who like his work would expect such a logical use of a new structural material to have had an immediate, stimulating and lasting attraction for the younger generation. Those who dislike it for its traditional qualities would expect older and more conservative architects to have welcomed the new forms as a compromise between masonry and *modernismus*.

Perret's prestige in France has long been prodigious. In the first quarter of the century he was the natural rallying point for all the young architects eager to learn about reinforced-concrete design from the only man then capable of teaching it to them. Now, as Grand Officer of the Légion d'Honneur, Membre de l'Institut, President of the Ordre des Architectes, corresponding member of numerous societies and recipient of numerous gold medals, Honorary Inspector General of Buildings, Architect for the reconstruction of Le Havre, Amiens and Marseilles, *chef d'atelier* at both the Ecole des Beaux-Arts and the Ecole Spéciale d'Architecture, his opportunities for influencing both his own and younger generations are and always have been tremendous.

Yet when one looks at the achievements of his followers and imitators before 1945, their work is disappointing in both quality and quantity. Several of Perret's early students, such as Le Corbusier, had of course, repudiated his doctrine in favour of an entirely different set of aesthetic values. But others who at heart remained faithful to Perret's principles were prevented by their clients' purses or tastes from putting them into practice. In this respect it may be observed that great as was Perret's genius and force of character, he himself could never have achieved so much without the tremendous financial backing of Perret Frères, the family firm of building contractors and specialists in reinforced-concrete construction.

Perhaps only one disciple of Perret has shown himself equal to his master in fidelity to classical principles, sensitivity of design and tenacity of purpose; Denis Honegger. His is the only work which achieves a poetry of expression in reinforced concrete comparable to Perret's finest achievements; work which shows that a real individuality of design

is possible within the strict framework and discipline of Perret's doctrine. The University of Fribourg was admittedly an ideal programme, but it was built in spite of great difficulties: wartime restrictions, local prejudices and severe financial limitations. Only a man with the utmost artistic integrity could have resisted so long and so stubbornly the temptation to compromise with his architectural principles.

Much of the work produced by other architects in the Perret idiom is nothing more than the adoption of certain forms he created, often applied in a way which has all the futility and irrelevance of the Italianate ornament introduced into French buildings in the early Renaissance. Some of this work, however, has been by architects who had never worked under Perret, and were ignorant of the doctrine from which such forms derived their significance.

Perret's work has attracted little attention in England, but this is understandable. The English have never had the same rational, analytical approach to classical design as the French, and have in the past worried more about the accuracy than the appropriateness of their Palladian details. It is no accident that the only Englishman who has thought it worth while to write at length on the principles of architectural composition should have been trained at the Ecole des Beaux-Arts. The fact also that London is so largely built of brick is not without influence, for it is not easy for those used to designing in brick to be sensitive to the subtleties of profiling and contrasts; nor can generations brought up to regard Nash's buildings as the high-water mark of English achievement be expected to despise cement rendering as something sham and unworthy.

The tragic devastation of France by allied bombing has brought to many of those who believe in Perret's doctrine a magnificent opportunity to show their capacities. Under the enlightened patronage of the municipal authorities of Le Havre, and with the moral authority of Perret as Architect-in-Chief, a team of architects is rebuilding the demolished city with a

classical regularity and scale worthy of the best French tradition in civic design. Based on a general plan kept in harmony by a rigidly imposed 20 foot grid, the rhythm of columns, the gradations of surface tones and textures, the subtleties of profiling, and the contrasts of void and solid form a variety of elements in a unity of design which will make Le Havre a monument to reinforced-concrete craftsmanship on a large scale, and one of the most significant creations of European architecture in this century.



Auguste Perret, born 1874.

DRAWING OFFICES

AT WALLSEND ON TYNE

ARCHITECTS

RICHARD SHEPPARD AND PARTNERS

Assistant Architect: Derrick P. Challis

1, the southern extremity of the drawing office block with concourse beneath and the new administrative offices on the further side. Below the projecting drawing office block are time control offices.





2. general view of the existing general administrative offices and ship model gallery (see AR, March, 1950) with the new main shipyard entrance just visible on the extreme right.

These drawing offices are the second stage of a comprehensive scheme for rebuilding all the offices of a shipyard and are related to a scheme for its total reconstruction, incorporating latest techniques in ship building. In the present stage it includes additional administrative and drawing offices.*

The severe limitation of the depth of the site by various railway lines necessitated the concentration of the required offices in multi-storey buildings and use has been made of the natural fall of the site to the south (1:10) to provide material and labour access underneath the general drawing offices. In the offices illustrated the labour control is arranged at ground floor level at the southern extremity of the building; material control at ground floor level at the northern extremity of the building; design control at first floor level (drawing offices) while the general administration offices and directors, board and committee rooms are placed at a higher level in the building forming the first stage.

The general drawing office is built at high level over Station Road, extending over practically the whole of the site. On the east end is a five-storey office block connecting with the drawing offices and general administration offices at second floor level and the ship model

gallery at third floor level. The vehicle access to the shipyard passes beneath the drawing offices with a headroom of 14 ft. 0 in. To the east of the road is an entrance hall for all office staff combined with a gate house to control all vehicle traffic and visitors to the yard and offices. To the west a concourse fans out to provide entrances beneath the drawing offices for all shipbuilding labour and for motor and cycle storage. Time offices are sited at the extreme south of the concourse. The slope of the site permits the construction of a drawing library and staff lavatories over these time offices and beneath the general drawing offices level. These communicate directly with the drawing offices by a staircase which is also arranged to give access to the drawing offices for foremen and others from the shipbuilding berths. Heads of drawing office departments are accommodated at the same level on the office block at the east end. Above are photo printing and dark rooms and on the fifth floor is accommodation for 20 women tracers. The lowest floor of the office block accommodates pay clerks. Above (at the same level as the entrance hall) are the offices used for ordering and buying materials.

The general details of the structure of the office block are as follows:—*foundations*: in situ concrete piles, caps and beams; *framing*: structural steelwork with

*General administration offices forming the first part of this scheme were illustrated in the REVIEW for March, 1950.

3. interior of the drawing office with specially designed artificial lighting integrated with acoustic absorbents.
4. general view of drawing offices with entrance concourse beneath seen from the railway bridge over Station Road. On the left are the main administrative offices and ship model gallery and beyond, the additional administrative block completed with this stage.



3

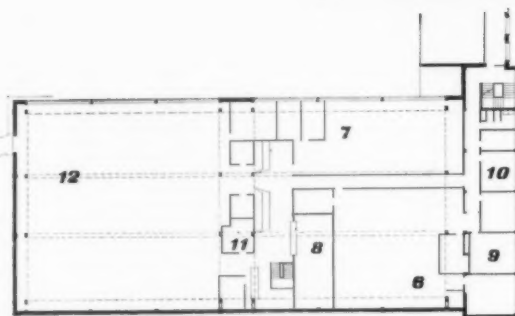


4

DRAWING OFFICES AT WALLSEND ON TYNE



5, the new administrative block seen from the roof of the main administrative offices. 6, the ship model gallery on the ground floor of the main administrative block which is now linked by the mezzanine corridor on the left to the new administrative offices and drawing office block. 7, detail of the r.c. slab and brick infilling construction of the drawing office supported on mushroom columns at 25 ft. centres. 8, entrance to the drawing office and administrative offices at the main shipyard entrance from Station Road.



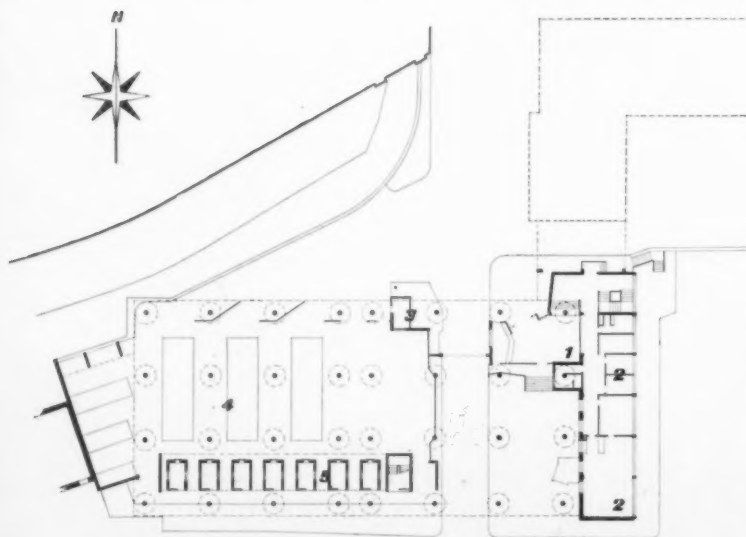
first floor plan



mezzanine

key

1, entrance hall. 2, office. 3, employment office. 4, concourse and cycle park. 5, time offices. 6, design office. 7, electric drawing office. 8, plan store. 9, naval architect. 10, conference room. 11, chief draughtsman. 12, drawing office. 13, print room. 14, dark room. 15, photostat room.



ground floor plan

scales: 1/64 in. = 1 ft.



section through drawing office

scales: 1/32 in. = 1 ft.

concrete casing; *floors*: in situ concrete slabs skim plastered on the underside and with screed and Korkoid tile floor finish, incorporating sub-floor heating coils; *external walls*: cavity walls consisting of 4½ in. brick outer skin and 4¼ in. foamed slag block inner skin, plastered and finished with distemper; *partitions*: hollow clay blocks plastered and finished with distemper; *internal door frames*: standard pressed-metal frames; *doors*: ply faced flush doors, paint finished; *skirtings and joinery generally*: hardwood, Agba and mahogany; *main staircase*: terrazzo treads and risers, mild steel balustrading with mahogany handrail.

The most important part of this scheme was the drawing office (150 draughtsmen, each requiring 10-20 ft. of drawing space, are employed) and north light shell concrete vault construction was decided on. The floor consists of a 9½ in. thick reinforced concrete slab supported over the concourse and road on mushroom columns at approximately 25 ft. 0 in. centres. It is insulated with 2 in. cork slabs sandwiched between the slab and a screed and cork tile composition floor finish containing the sub-floor heating coils. The roof over is divided into three north light vaults running the length of the draw-

ing office with a central expansion joint; each vault spanning 75 ft. 0 in. and being 24 ft. 0 in. wide. It is insulated with vermiculite screed and weatherproofed with three layers of bitumen felt. The large spans of the vaults (there are 12 columns supporting an area of roof 172 ft. 0 in. × 82 ft. 0 in.) and the division of the main departments by metal unit partitions allows flexibility. Artificial lighting, ventilation and sound insulation were considered in conjunction with BRS, and particularly with J. Bickerdike, who designed the lighting system in conjunction with GEC Cold cathode tubes, selected for their relatively low surface brightness, are fixed directly to the shell, which acts as a reflector. Between each lighting bank are suspended panels of perforated hardboard backed with rock wool absorbents to reduce both noises made in the drawing office and noises from the nearby railway. In the centre of each of these panels is a 300 watt tungsten fitting with a purpose made aluminium reflector spilling light on to the panels to prevent excessive contrast between shell and panel.

Wall finishes generally in the drawing office are gypsum plaster with emulsion paint. Skirtings are in softwood and painted.

9. southern extremity of the drawing office block with the workers leaving the workshop area which runs down to the water front and moving up the concourse to the main shipyard entrance.



1	2
3	5
4	



True to its name, the state of Victoria, Australia, is a treasure-house of architectural Victoriana—eclectically florid for commerce, 1; ripely classical for government, 2; picturesquely baronial for lesser public buildings, 4; and extravagantly fanciful in façade, 3, and finial, 5, of the dream-fantasy palaces which the gold-boom magnates, as described in Mr. Boyd's article, built to house their lavish entertainments.



VICTORIAN VICTORIAN

The State of Victoria, Australia, lived its youth in time and in tune with the queen who gave it her name. It was born, it thrived and subsided gracefully with her reign, growing from a blackfeller's hut to a quite highly civilized community in the half-century that was Victoria's—in the spirit, the letter, and in the image of Victorian taste and Victorian endeavour.

The elder colonies in Australia—New South Wales and Tasmania—had been established fifty important years earlier. They had grown up between 1790 and 1840 in the manners of the eighteenth century to which their military governors were accustomed. Those on whom the direction of building in these states had fallen had brought from England an infallible feeling for scale, proportion and subtle detail. One architect, Francis Greenway, the bankruptcy convict who was pardoned by Governor Macquarie, had risen above the common level on scholarly buildings, but few other architects had been allowed to affect the course of design. Most buildings had been designed by the owners, the details left to the builder.

Unstudied late-Georgian dignity had thus persevered deep into the nineteenth century, unaffected by the chain of revivals reacting through Europe. The common heritage of the builders, the limited materials and methods, and the remoteness, had developed a style known as Old Colonial, closely akin to the American Southern Colonial, with white walls and long twelve-pane windows starting at the floor, six-panel doors and flimsy louvred shutters. The buildings had been predominantly horizontal in character, as Hardy Wilson discovered early this century when he made great point of the alliance with the Oriental civilizations. Certainly the encompassing verandah, the two-square plan and the unbroken hipped roof had become a fairly general domestic form.

Victoria, too young to have witnessed this one coherent phase of Australia's architectural development, never knew intimately any style. She knew only the wonderful confusion of all styles which was Victorian. The Old Colonial had passed from the minds of the first builders in this new colony at Port Phillip Bay. All at once, with the opening of the new territory, the revivals of the century came crowding in on top of each other. From the beginning every builder indulged in eclecticism unhampered by any local traditions or any special tastes on the part of the bewildered populace. The churches were mainly Gothic; the public buildings leant to Rome. The houses and offices swung lightly between the two.

The builders who overlooked the Old Colonial details were also oblivious to all lessons on the Australian climate learnt by the older men in New South Wales.

In Port Phillip Bay the new settlers found a climate milder than any yet encountered in the new continent. The winter was grey, damp and depressing, but not uncomfortably cold for long periods; never cold enough to take leaves for

more than three months from the English trees which they hastily planted. Even the fierce summer sun was accepted philosophically. Despite the lesson of the Old Colonials, no verandahs were considered necessary. After some ten summers the need for protection became apparent. A verandah thereafter was added, but it was separately pitched from light poles and sprang in a galvanized iron buttress to the wall line. It was never an integral part of the Victorian house.

* * * *

Victoria had been born to white men with the century (in 1801, the first building, a block-house planted about with ill-fated fruit trees) but a successful foundation was not laid till the 'thirties. In contrast to the older states, this foundation was the work of privately enterprising men under a cloud of official disapproval. Henty, Batman and Fawcner, men of opposed natures and ideals, pressed across separately from the harshly settled little island of Tasmania, bringing fruit trees, seeds, vines, implements, live-stock, some labourers, two builders and one architect: Jackson, of John Pascoe Fawcner's party.

Fawcner and Batman each had such strong rival claims to the foundation of Melbourne that some historians, to make peace, have termed the former the 'father' and the latter the 'founder' of Melbourne. Each man was typical of his class in the sharply divided society that developed. Batman, the polite stockholder, the first of an army of wealthy pastoralists, applying what English elegance he could to the mud and crackling branches of the wild land. Fawcner, the convict's son, the trader, the self-educated editor of the first newspaper which he stuck in manuscript to the window of his, the first, hotel. He was the fighter, the tough, fierce critic of authority, the forerunner to the radicals who later broke by stubborn weight and sometimes by force the oligarchical rule that persevered till the 'fifties. He had the spirit that built up trade unionism and wages and cut down working hours to degrees unheard of abroad, the religiously democratic fervour that brought manhood suffrage sixty-one years before it appeared in the United Kingdom, that led Victoria in 1859 to the honour of being the first parliamentary state in the world with a secret ballot at elections.

The opposing factions were there in strength from the beginning. Those who sought elegance looked for it only in one direction—back across the months of ocean; but those who were required to create the elegance with bricks and sticks had no great love of England—for if they had not been deported, they had fled from hunger.

The release in architecture for the promoters' nostalgia was thus constantly frustrated by careless workmanship and the crudest craftsmanship. Not until the 'eighties, when the sure hands of Italian workmen dwelt lovingly upon the details, and the 'nineties, when the Australian-born began hunting in their own forests for motives, did craftsmanship

CHURCHES, because of rivalry between denominations, were the first architecture of any pretension in Victoria. The very first was St. James' Cathedral, 1, built in 1841 to the designs of Robin Russell—a relatively simple structure with unplastered masonry, round headed windows, white trim; all in the colonial tradition. Such unassuming provincialism could not last, and by 1866 when St. George's, Queenscliff, 2, was erected, the architect (in this case Albert Purchas) was required to produce something more conspicuous and stylish—more ecclesiologically & la mode. But the triumph of ecclesiology was the building, through the eighties, of St. Paul's Cathedral, 3, designed by William Butterfield—no less—in association with a local office. Typical of its author in its hard, ungracious detailing, it took eleven years to build and marks the end of major church-building in Victoria.



COMMERCIAL buildings may have had unpretentious beginnings, like 4—a Bank dating from the lawless days when it was necessary to keep an armed look-out on the roof—but the stakes were soon raised as the boom proceeded, and business blocks branched out into all the ramifications of nineteenth century fancy-dress. The Rialto building, 5, is a typical exercise in eclectic Gothicism, and 6, which was built for an insurance company in the eighties, has its adieliculated facade applied to a block which, under the compulsion of the boom, had grown to a height which would be remarkable even by international standards at the time. Equally typical of the situation in the eighties is the Princess Theatre, 7, with its Paris-Opera-cum-Charles-Barry detailing.



GOVERNMENTAL construction on a monumental scale began, very properly, with the Treasury Building, 8, in the early years of the Gold Boom. Designed by J. J. Clark and completed in 1882, its treatment is just sufficiently refined to excuse the official description 'Venetian Renaissance' rather than 'Birmingham Gin-palace.' The second great wave of official building in the seventies produced the Law Courts, 9, in a flatter and more pompous manner by Smith and Johns,



reach the stage of competence at which it may be overlooked.

Long before this much of the city of Melbourne and most of the provincial cities had been sketched out and roughly filled in.

* * * * *

Before building could begin seriously in the late 'thirties, the raw land had to be cut and sold. The smartest people of Sydney and Tasmania came to pick up huge estates at Government auctions. Everybody of importance stood around the auctioneer's tent on the great sale days, chatting brightly, perspiring gaily under what they believed was the latest London fashion, blowing earthy dust off their cigars and picking little gum twigs out of the French champagne.

Between 1837 and '41 the population rose from 500 to 5,000 and half a million pounds was paid to the Government for land along the Yarra river plains. Building was limited to the town area and the squatters' homesteads of the outer country. The standard house was a single-storied box cottage, recognizing only the necessity for immediate shelter. The few Government buildings in brick and local bluestone had more pretensions, and the churches were openly competitive. The first and probably the best, St. James' Anglican Cathedral, was by Robin Russell, a surveyor-architect who arrived in 1836, when Melbourne was still called Beargrass. He came with Captain William Lonsdale, who was sent from Sydney as a Police Magistrate to rule the undisciplined enterprise of the early squatters. And while Lonsdale set up a little bureaucracy licensing the cutting of timber and the making of building materials, Russell was off surveying the countryside, laying out the framework of the town, and erecting two or three fine little Renaissance buildings.

By 1840 the building trade was well established. Fourteen commercial builders were operating. There were five cabinet-makers, painters and glaziers and a number of lesser dealers. These, however, were boom days which were not to last, for the society was sadly out of balance. Money came with each new arrival, but production, even with the help of aboriginal labour working under conditions very close to slavery, was less than one-third of imports. In 1842 the first crash came. Banks broke; prices collapsed; building stopped. It took the best part of ten years and much hard work to recover, but when that was done Victoria was on her feet and the 1850's were hers.

As this decade opened she gained her independence and she found gold. No longer was she a remote settlement administered from New South Wales. Port Phillip, Australia Felix, Beargrass—the early tentative names gave way to the Queen's own. She was of age, free and suddenly unbelievably rich. The rough period of temporary shelter was passed; the glass shoe fitted; Victoria faced the world squarely and with supreme self-confidence, determined that from this day on only the world's most elaborate garments would be fine enough for her. The soil blossomed into a golden bloom of all the pent-up periods. Great Renaissance public buildings reared up on every hill. The new constitution was proclaimed. The first parliament was elected. In 1853 over 170 new buildings arose each month. Spectacular international exhibitions offered self-congratulation on a grand scale. In 1867 Queen Victoria's son, the Duke of Edinburgh, looked in to a quarter-million pounds entertainment. Life and endeavour in Victoria were quickening to the inevitable climax, the Queen's first Jubilee.

The 'eighties arrived with new bursts of spending by State and people. Speculation in land sent Melbourne bounding out across the low hills to the east. New suburbs opened with great mansions—two tall stories of ball-rooms, banquet halls and galleries, plus a tower—set in rolling estates of foreign trees which flourished, on this new side of the world, far more quickly than in their native climate. Little houses flocked to the feet of the mansions—poor houses, but finely dressed for the occasion with weatherboards made to look

like stone, and cast-iron veils on the brims of their galvanized-iron hats. Closer to the city, rows of terrace houses grasped all the accommodation that they could from the mean land. Big houses squeezed into deep, narrow lots breaking the single-story tradition by a second floor and a tower. In the city, office buildings shot up ten floors until the hydraulic lift power and the city fathers' tolerance ran out. Rich building stones and fine timbers flowed into the port. But not bread alone was imported; an intense appetite for art was developing. Painting collections and musicians were brought from England for the exhibitions. Local groups of painters and musicians formed desperately bohemian clubs. Huge theatres were built.

They were golden years for an architect like Joseph Reed who could catch their spirit. He, within two or three weeks of arrival in 1852 without money or influence, shared first prize in a competition for Parliament House. In a few years he had commissions for several big private works, monotonous success in other competitions for some of the great public buildings in the metropolis and provincial cities, and had founded a practice which still exists today as one of the largest in Melbourne. His success was built securely on the sheer popularity of his work, the timing of his wonderfully irrelevant eclecticism. His buildings may be searched fruitlessly for a consistent thread of creative individuality. He changed styles with almost every building, from the basic Italian Renaissance to Romanesque, or the 'French Picturesque Chateau Style'. He was happiest working in stone or stucco, but once he introduced a fashion of multi-coloured striped brickwork. His few flings at various forms of Gothic were rather unadventurous. Like most of his contemporaries, he never really doubted that Italy should win the Battle of the Styles.

In 1887 the picture was completed with fireworks. The Jubilee of the Queen who had given her name was celebrated with greater enthusiasm and extravagance than in any other part of her Empire.

These were the years, marked with rich Victorian detail, that the State of Victoria now knows as the Boom Period; and all the subsequent water under the bridge has not washed away the pattern of those hearty times. For the Victoria of today, so much subdued, is largely composed of the buildings that were erected or planned in this period. Entire streets of Melbourne, sometimes entire country towns, were built to the design and requirements of the 'eighties. The requirements often did not remain for long. The land gave up the last of its gold and populations dispersed from the big provincial towns. Better residential land was prepared farther from Melbourne and the inner suburbs ran downhill. The shopping and theatrical centres of Melbourne itself gradually drifted away across the city, leaving the big, grand buildings of the 'eighties to make shift for other uses.

In many parts of Victoria of today large areas of unadulterated Victoriana remain, for no matter what errors in advance planning were committed the structures were magnificently solid. Well preserved today, they are adequate for any expected demands of the twentieth century.

The mansions suffered most by the slow change of circumstances. They have become hotels, boarding houses, schools, army camps and Government departmental headquarters. One magnificent place appeared in the inland gold town of Bendigo when George Lansell built for himself beside the mine that had provided his fortune. He gave the house, *Fortuna*, three floors of reception rooms, music rooms, banquet halls and galleries. He put statuettes on the parapet to the flat sunroofs, statues in the halls, on the stair landings and in the temple of love that was reflected in the artificial lake. He put stained glass in each window—'east, west, home's best' round a circular stair well—and mosaics on the drawing-room walls. He brought a shipload of furniture and



with a layout and a dome which are consciously reminiscent of Dublin, and in 1874, just before the crash came, there followed the Exhibition Building, 10, to house a great international show which marked the very apogee of Melbourne's ambitions as a city of art and culture.



10 COUNTRY builders, though a strike of gold might cause local delusions of architectural grandeur, proceeded more quietly without the goad of commercial competition, and simple, well-built structures like the Courthouse at Jamieson, 11, continued to be built in more or less Colonial-Traditional style. Even their gothic buildings were quieter, flatter and



12 more Colonial than their urban contemporaries, for the country school, 13, was building at the same time as St. George's, Queenscliff, 2 (above). Even avowedly commercial structures, such as hotels, preserved, in the country, a low-ceilinged and domestic sense of scale, 13, and were commonly adorned with that cast-iron export-only detailing which went from British foundries to the pioneer areas of both hemispheres.



13 DOMESTIC building on the inflated Victorian scale begins with this red-brick Italianate house, 14, Bishopscourt in Melbourne, built in 1853 as the residence of the first archbishop. Gothic Revival followed hard on its heels but was only a passing fancy, affecting the superficialities of such houses as 15, where a gothicized verandah serves merely as a fretwork screen drawn over the front of the traditional brick box structure.



15 Mass produced cast-iron export detailing flowered as luxuriantly on houses and terraces as on hotels and shops, 16 and 17, promising a filigree vernacular of shade-casting lattice, nicely adjusted to the climate, but this promise was short lived and soon over-run by the need for more conspicuous consumption as the boom rose toward its suffocating climax. Really plushy mansions eschewed such cut-price

ornaments from his trip to the Continent. His bedroom suite, in solid wrought brass, was a prize-winning exhibit which he picked up at the Paris Exhibition. Now his house changes hands uneasily between private and governmental institutions, while the strong southerlies blow a fine grey dust from the neighbouring mullock heaps deep over the broken plaster moulds.

As the crash of '91 drew nearer the building tempers blew hotter. Even in 1892 some of the biggest mansions were built, frequently too late to be enjoyed by the owners, who stood in the bankruptcy court instead of before the majestic marble fireplaces over whose details they had pored.

When the dust cleared, the architects found themselves in a desolate new world with all the signposts down. While society struggled back to stability, most of them wandered aimlessly through the rubble, picking it over disconsolately to see what of the great wreckage of Renaissance detail was salvable.

One or two of their number had been more profoundly affected by the collapse. They left the scene of disaster and went out into the surrounding bushlands to think things over and to seek new elements.

So it was that in the closing years of the century, as Victoria settled down to her first serious attempt at earning a living—at forming an economic society based solidly on production and not riding the crest of successive waves of land and gold booms—the architectural profession split into two camps. The larger camp, which was to lose more and more of its members as the new century grew up, clung to cheaper modified versions of the neo-classical, the last popular style. The others, back from the bush with bundles of gum-leaves, embraced the *art nouveau* and a native bear.

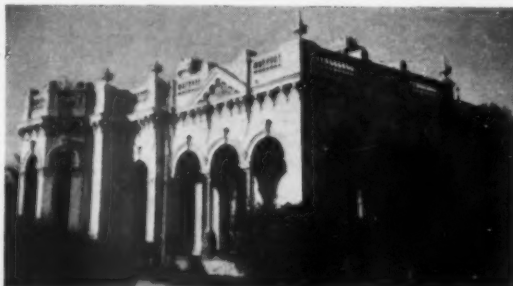
The single-purpose of classic grandeur in Victorian architecture died then as the reign of the Queen herself ended. And among the romantic extravagances of the breakaway group there appeared, even as the Queen died, the first serious, if over self-conscious, efforts to design buildings

entirely based on the climate, the new society and the spirit of the state. Obviously it was this movement, stimulated by everything that subsequently happened in Europe, that eventually won the platform.

But what of the old school? What of the sixty years of experience of Victorian conditions? The old school showed no evidence of ever having slowed its pace to note Victoria's own subtle charms or to explore her native materials. Had it learned nothing? Echo, reverberating through the vast mock-stone halls of the Exhibition building, answered 'nothing.'

From those short, easy, anonymous years no name lingered on to inspire the new generation. There are names that may be discovered, with effort, now that the building background has become old enough to be of historical interest: Samuel Jackson and Robin Russell, the first casual architects; Charles Laing, the first professional; Merrett, Kerr, Clark, Smith & Johnson, Reed & Barnes, the big practitioners; Wardell, Pugin's pupil; Watts, the last of the grand domestic designers. But these names may be noted more for their chronological or commercial interest than with any great reverence. There were buildings: the early churches, St. James', St. Peter's, St. Francis'; the huge government offices, Parliament House, the Law Courts, the Treasury; there were some rather grand commercial buildings in Collins Street. But these may be appreciated more for their size or accurate styling than for their architectural quality. The essential characteristics of Victorian life had in no profound way influenced the planning or structure during those years. The social struggles, the climate and the geological state passed over the heads of the architects because all these were respectively similar enough to their European equivalents. They were exaggerated in places and held minor differences that were sufficient to stimulate the revolt of the new school, but they were similar enough to European equivalents to allow reproductions of the European solutions without fear.

Italianate was the only wear, 18, and it inflated the routine single-storey house with fantastic pretensions. The climax was achieved in houses of the type of 19, dripping with excess of plaster decoration, created not only with iron ridge-rails, but with plaster urns and naturalistic fauna as well. But at this very moment the commanding position of Italianate was being threatened and Norwood, 20, built in the year the boom collapsed, represents the free, natural style in brick and terra-cotta which was to succeed. Though charming Italianate extravagances could be built as late as 1905, they no longer represent the ruling taste, 21, and eyes that had long looked to Europe for inspiration now began to inspect the Australian scene.



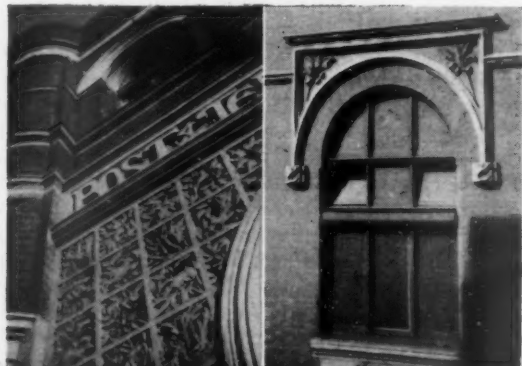
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19



21



TRANSITIONAL features which had appeared in Norwood—such as banded brickwork, terra-cotta tiles, and other 'native' materials—prepared the way for Art Nouveau (as understood in Australia) and an abandonment of historical detailing which made it possible to introduce a new range of specifically Australian decorative motifs. The post office at South Yarra, though grimly baronial in some respects, has its main facade partly covered in terra-cotta tiles, 22, and every tile represents a different native motif. Similarly the label over the windows of an office block in Melbourne, 23, borrows the foliage in its spandrels from the gum-tree. The atmosphere of the period was sober and chastened after the crash, architects no longer fixed their gaze on Europe but looked down at their native earth for inspiration and materials to produce such soberly romantic buildings as 24, the forerunners, of a truly Australian architecture.

23



24

SHOWROOMS IN MANCHESTER

FOR DAVID WHITEHEAD

ARCHITECTS A. S. BUCKLEY AND A. H. KNOWLES



1 The premises consisted of one large open floor previously used as a millinery warehouse with ceiling supported by a single line of cast-iron columns. The clients required five individual offices for sales staff and manager, one general office, an enquiry office and a large showroom with reception and waiting space. Offices were planned on the two walls with natural light resulting in an inner showroom lit naturally on one side only, and separated from the office space by a corridor formed by a part-height partition. To hide the ugly ceiling, a large painted egg crate false ceiling was hung on chains over the showroom and reception area. All light fittings were suspended independently of this on piano wires. The three columns which had to remain were sheathed in artificial stone piers and carry display tables. Timber and metal rod trapeze fittings suspended from the egg crate provide a simple and very flexible method of displaying the various fabrics.



1 and 2, general views of the showroom. The egg crate timber ceiling, which is painted white, allows the frames for draping cloth to be hung in any position. The carpet is French grey and light fittings are finished white. The frames seen in 2 contain cross-reebed glass and were intended to silhouette figures or objects placed behind them.

SHOWROOMS IN LONDON

FOR STANDARD MOTORS

ARCHITECT

HECTOR HAMILTON

DESIGNER

ELIZABETH EATON in
association with Sylvia
Chalmers and Moira Patterson

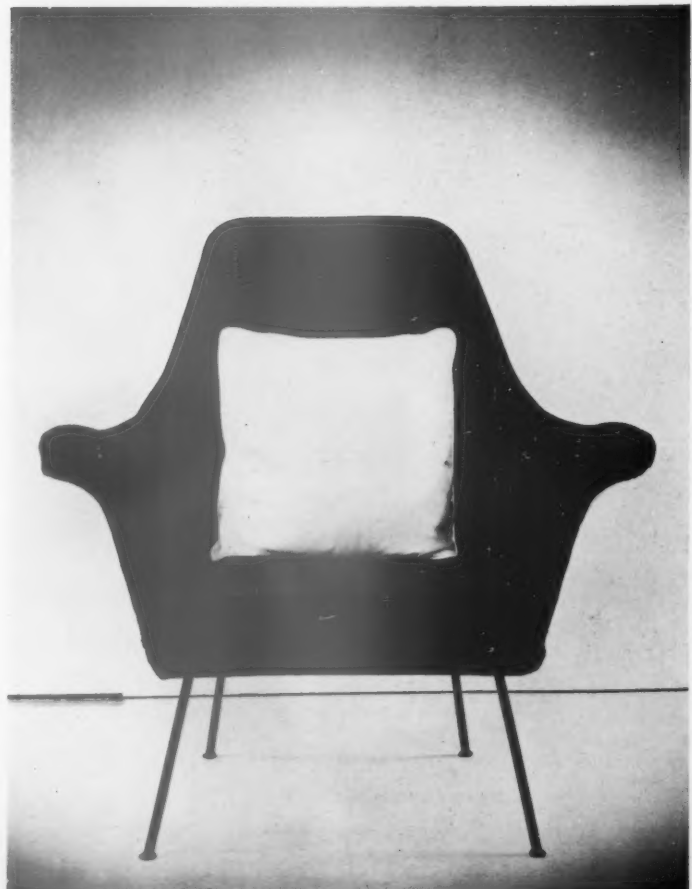




4

The premises, planned originally for two shops, consisted of the bare brick walls and concrete columns, a partial ground floor and the roof. Requirements were a large showroom with a small waiting lounge and staff room on the ground floor, an export reception area and general office in the basement, and executive offices and secretaries' office on the mezzanine floor. The ground floor was completed at an even level, and new flooring added at the rear where there was previously a void down to the basement. A mezzanine floor supported on a lattice girder running the whole length of the showroom was constructed with r.c. staircase finished from ground floor to mezzanine in marble and from ground floor to basement in terrazzo. The main windows to the street are full-height plate in fixed purpose-made frames with a sliding glass door in the centre for moving cars in and out and there are double swing doors at one end for visitors. The showroom ceiling is suspended with recessed circular lights and has cold cathode lighting concealed by troughs along two sides: the floor is cream terrazzo, as is the floor of the basement export reception space.

3. on the facing page, the showroom. Walls are light grey, ceiling red, floor cream terrazzo and venetian blinds white. 4. the basement export reception waiting space from ground floor level. Cars for viewing can be driven into the reception area, the floor of which is of cream terrazzo. The chairs, specially designed by Moira Patterson, are metal framed with lemon, red or black upholstery and contrasting cushions. 5. a close-up of one of the chairs seen in 4.



5



SHOWROOMS IN LONDON

7



8



6. the basement export reception room. Walls are painted dark grey green, the wallpaper is stone-coloured with white trellis. The handwoven rug designed by Ronald Grierson to Elizabeth Eaton's colours is dark green and white on lime. 7. chairs used in the show-room with natural leather covered metal frame and cane panels. 8. chairs used in the basement reception room showing wire mesh upholstery supports. 9 and 10. the managing director's office on the mezzanine floor. The wallpaper is cinnamon coloured and white, the wainscot is painted white. The desk was designed by T. Lupton, bookcase and plant troughs by Moira Chalmers.



9



10

MYLNE

and

INVERARAY

Christopher Gotch

Before the '45 rebellion, the small town of Inveraray straddled a tongue of land at the mouth of the Aray closely guarded by the mediaeval castle. The rising over, the third Duke of Argyll decided to improve his demesne. He rebuilt his castle to designs of Roger and Robert Morris¹ in what may well have been the first large-scale essay in Gothick in Britain. The Duke then planned to move the town; a scheme that had been under consideration for some years. The site chosen for the experiment was Gallows Foreland point, half a mile south of the Aray, 1. The reasons for shifting the populace

were being erected during the decade 1750-60, many of them built by the tenants themselves, with materials provided by the Duke. Little work, however, seems to have been carried out during the fourth Duke's time, so that on his death in 1770 the estate and the town must have presented a melancholy aspect, the old one abandoned, and the new semi-built. Two years after his accession, John, the fifth Duke, appointed Robert Mylne to be his architect.

It was not until September 6, 1772, that Mylne visited Inveraray, where he stayed five days surveying the 'castle apartments from top to bottom' preparatory to designing a scheme for considerable alterations internally. He also surveyed the 'fallen Military bridge' which had served the old town; the site for the proposed new Garden Bridge, giving 'advice about the bank and butment for same,' the Garron Bridge built by Robert Morris, and 'one at the head of Loch Fyne.' An illustration from Vitruvius Scoticus shows the Garron Bridge and the Garden Bridge both of which are still standing. The Garden Bridge is attributed to



The entrance screen of the Avenue which leads from Inveraray in the direction of Lochgilphead.

during one of his visits to Inveraray on Robert's behalf. William Mylne, incidentally, practised as an architect in Edinburgh until 1774, and as an engineer in Dublin later.

Concurrently with the castle work, Mylne was busy with the bridges, the grounds and the approaches as well as the designs for the new town. The Aray Bridge was well advanced by January 1775; for the Duke had written to his architect about the parapet which had been designed solid and now he felt that there should be some balustrades in the centre, and to this request Mylne acceded, 2. The Garden Bridge, or as Mylne refers to it 'the new bridge,' is called Frew's Bridge today. Frew is said to have been an architect, but it is more probable that he was the mason employed upon this exquisite and most delicate of bridges. During his visit to Inveraray in 1776, Mylne inspected the Garden Bridge, then under construction. It had developed a fracture so he 'advised some works to be done' to remedy this. Nine years later, he records the setting out of the approaches. The last bridge designed by Mylne at Inveraray was built over the Garron river where it leaves the Dubh Loch. The Dubh Loch, a large sheet of water, dividing Glen Shira from Loch Shira, effectively barred

for the town; one suspects that he advised the Duke not to proceed with the bastions as proposed in the 1750 plan on grounds of expense, but recommended instead, the change of axis to north-south so that the main street could be longer and terminated very effectively by a vista of the loch each end. Mylne obviously intended to retain the piazza effect proposed by the third Duke without incorporating the more pretentious features of the original plan. Beside the old courthouse and the inn to the north, he had the primitive gaol, a sea wall and one bastion to include in his scheme. The south end of Main Street now known as Arkland, he planned and built as a terrace of three storey tenements. The handling of the elements is masterly; the white-harled masonry punctuated by the rhythmic fenestration stretches unbroken from sea shore to square, capped by steep slated roofs from which the thick chimney stacks thrust dramatically, 5 and 10. The continuation of Arkland beyond the church is Main Street proper; and this is composed of irregular dwellings of varying heights many with neat little dormer windows, 8. The change from the formal to the informal each side of the church thus provides a simple but skilful variation of interest.



A general view of Inveraray from Duniquaich with the Avenue intended to be the principal highway of the town.

away from the castle appear to have been a desire for a more elegant environment, more settled conditions from clan warfare, the erosion of the town shore and a general temptation to build.

The preliminary layout of the new town was grandiose. It was prepared in 1750 and abandoned, perhaps on account of the fierce opposition of tenants, perhaps on economic grounds. It is uncertain whether the scheme was revised before the Duke's death in 1761: nevertheless, a courthouse and inn were built, on each side of the Avenue, the author of these designs being unknown. From various papers found in the old courthouse² it is clear that houses

James Adam, and the Aray or Military Bridge to John Adam. It is this ascription to the Adam Brothers which has kept Mylne's work at Inveraray obscured.

The core of the castle Mylne left intact, but he reversed the access to it by altering the approach and thus, the layout of the main apartments. The interior of the castle is, without doubt, the finest decorative work executed by Mylne. Because Adam was employed upon several buildings—notably Wormleybury House—after Mylne (and vice versa) it has been assumed that the latter never handled interiors; because he subscribed to all the works of George Richardson, the plasterer-cum-architect, it has even been suggested that Mylne employed Richardson to do his interiors. Mr. Christopher Hussey was the first to doubt Adam's authorship at Inveraray (*Country Life*, July, 1927) while Mr. James Lees-Milne hinted that William Mylne might be responsible as his signature was found on one of the drawings in the castle collection (*Country Life*, March, 1944). The unusual feature of these drawings is that they are all unsigned with the exception of designs by Bonomi for the sixth Duke in 1806—which never materialized—and this one drawing of a bridge with William Mylne's signature, which may have been either an alternate scheme by Robert for the Aray Bridge signed by his brother, or less likely, actually drawn by the latter

¹ Robert Morris was a cousin and pupil of Roger Morris and took over the work at Inveraray after the latter's death.

² Inveraray Papers. By Duncan C. MacTavish. Oban Press.



The Aray Bridge.



4, Inveraray sea front seen from the pier.

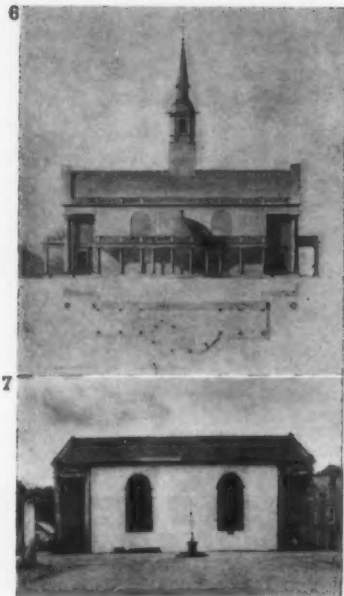


5, Main Street showing Mylne's three-storey tenements.

the way to the glen where the Duke had several farms; Mylne, therefore planned a new avenue through the old Deer Park to cross the Garron by this bridge, for the bridge by Morris was on the coast some way off. The Dubh Loch Bridge is in great contrast to the Garden Bridge.

In March 1774, Mylne sent the Duke drawings of the 'front of the new town at Inveraray.' Two years previously, he must have discussed with his patron the former schemes

Mylne submitted a number of drawings showing his proposals for treating the north façade; but as no drawings are dated, the order in which the schemes were put forward can only be conjectured by checking Mylne's journal. The final and most interesting proposal which was adopted though never carried to conclusion, shows 'Mr. Gillies's group' two stories high, as it is today, with a coved screen and doorway on the shore side. The Main Street has



6, Mylne's elevation and plan for church colonnade: 7, the church today.

similar side screens and doors to the pavements with plinths, and false panels above, cornices, and sloping parapets. Mylne wanted a gate here to complete the idea of a piazza. The Avenue, planted half a century before, played an important role in the conception of the town that Mylne favoured most: for he planned to stop off the old coastal track to form a closed area for the town, and to utilize the Avenue as the main highway. A bold plan which could still be achieved today with little expense and to great effect—it would add enormously to the safety of the townsfolk—the preliminary steps were taken by extending the Avenue southwards across the Cromalt stream until it joined the existing bridle track to Lochgilphead. The way out of the town albeit was never closed so that Arkland, instead of being terminated by the shore or perhaps a garden for the public use, is now cleft by a major road frequented by heavy lorries which will

disturb the foundations of the church, isolated in the centre, sooner or later. In a drawing, the Avenue screen is shown as it exists today though the middle arch only is open, instead of three as now, 3, with a vase placed centrally, while the inn has an imposed parapet with curved ends and a semi-circular bullseye in the middle. Here too is the screen over the road to Dalnally flanked by pedestrian arches each with a kylix vase standing on a base of ollaris. Had this plan been fully executed the result might have been rather unfortunate, although extremely handsome; its very sophistication would have been out of character with the surroundings. This final scheme appears to have been prepared in 1788, to be followed a year later with 'an altered plan for a gateway to the principal street of Inveraray.' As early as 1776, Mylne 'fixed on a situation for a new Kirk,' but nothing was done until 1792, when the Duke and Mylne met in London to discuss the design on May 1st that year; and perhaps it was at this meeting that the novel idea of a double church was broached.

The drawings—'a plan, elevation and two cross sections and one long section all neatly washed and figured'—were prepared and delivered by July 16, 1792. It was not until March 1800, however, that the Duke received 'a section of the church roof' so presumably construction was under way: whilst in June, Mylne wrote a letter about the 'colonnades proposed to be added to Inveraray church.' He followed this with a further letter on the round porticos for each side together with copies of drawings of the 'town, square and church in lines—the circular porticos introduced thereon.' The journal entry reveals some disagreement over these porticos. 'Sent the Duke of Argyll two plans and two elevations of the side of the church in lines with the plan and elevations of the porticos attached to the sides thereof, washed and neat—one design being for a circular, my way—the other the Duke's way.' Neither way prevailed, for the porticos were never built. This was a pity for Mylne had proposed a colonnade the length of the church both sides, with the centre bowing out and domed. The scene

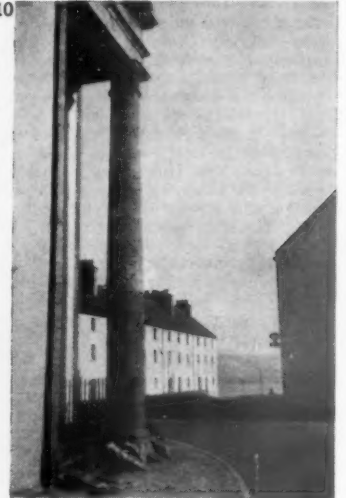
envisaged by him was clearly that of the meeting place for the townsfolk, where they could sit and gossip under shelter—a logical conclusion to the piazza scheme, 6. The church was built without the entrance porches intended originally, but otherwise was as planned, the simple rectangle divided equally to form two halls, the north for the English and the south for the Gaelic speaking congregations.

The cupola was removed in 1941 and with its dismantling the town lost its dominant accent, 7. It was constructed in solid masonry with Doric pilasters supporting a ribbed dome, 10 the junction with the pinnacle taking place under the cover of a plain rounded moulding. Mylne had a penchant for cupolas of all sorts, and the one at Inveraray is similar to that which he designed for the City of London Lying-In Hospital in 1770. The difference between the virile country church and the refined city hospital he characterized skilfully by detailing one cupola solid and reassuring, the other open and delicate.

The new Courthouse, 9, faces the east side of the church and closes the square to the loch. The plan is rectangular with a large semi-circular projection seawards which contains the court room. The main façade has an elegant V-jointed stone base and a dressed granite superstructure. There are no drawings of this building in the Duke's collection nor does Mylne mention it in his journal. It has little of the ingenuity that marks the church, yet its simplicity and dignity combined with the treatment of solid and open parapet, seems to indicate that its author was probably Mylne.

The Duke was an ageing man. On March 31, 1801, he wrote to his second son '... plans and maps relating to this place ... search for diligently and send, particularly one of the town of Inveraray nailed up against the wall. ... Don't shilly shally and loiter about this but set about it directly. ...' Two months later, the Duke's eldest son, George, Marquis of Lorne, consulted Mylne upon the 'covered way for Inveraray town at or near the church.' Before leaving Mylne handed over a final drawing of the town front to the Marquis. This was the ultimate

meeting on Inveraray, after which he retired from the Duke's employ. It would seem, however, that Argyll himself regretted his retirement; for in 1803, he wrote the Marquis a letter, in which he gives his son some advice '... let me observe to you en passant that taste without prudence and economy is a mill-stone about a man's neck. And, therefore, I hope you will not associate too much with Bonomi and Nasmyth'. You will find them expensive pets: they will not consult your pecuniary interest as poor old Mylne used to



Main Street looking towards Loch Fyne.

do mine. I send you a copy of what I wrote him yesterday. I have many other things to say to you, but my eyes, health and spirits which are rapidly declining forbid my writing more.

Less than three years later the Duke was dead. The partnership between him and 'poor old Mylne,' who outlived him by five years, was over. The design of the new town and the extensive alterations to the castle cost the Duke in fees to his architect exactly £810 17s. 2d.

³ Nasmyth was a minor portrait painter in Scotland who liked to dabble in architecture, though his ability was very questionable.



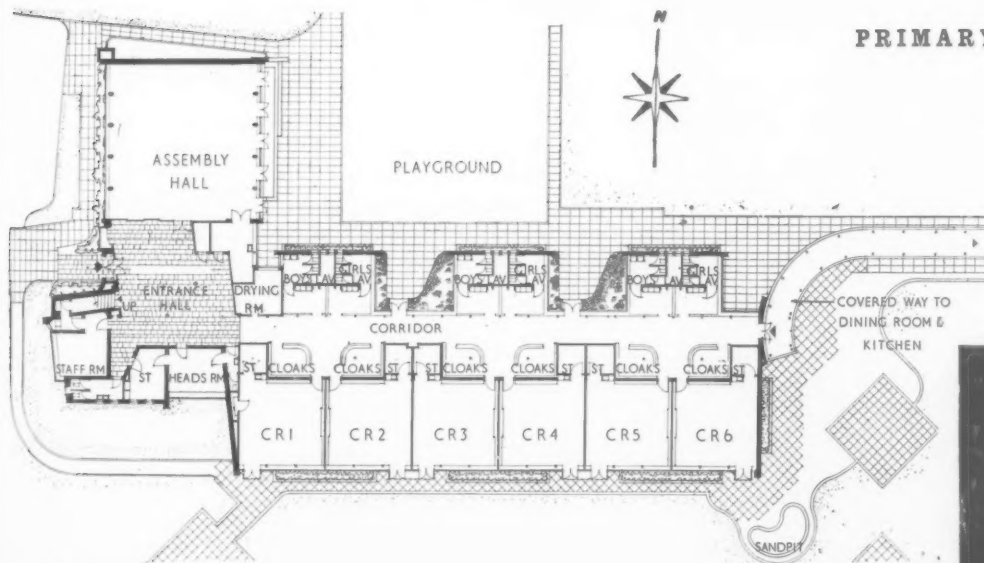
8, view down Main Street from beside the church. 9, the courthouse which faces the east side of the church and closes the square to the loch.

acknowledgments The author wishes to make acknowledgment to Miss J. M. H. Mylne for all references to and quotations from the Journals, and to His Grace the Duke of Argyll for his permission to reproduce Mylne's drawings.

current architecture recent buildings of interest briefly illustrated.



1, general view from the south-west.



ground floor plan scale: 1/48 in. = 1 ft.

PRIMARY SCHOOL AT STOURBRIDGE, WORCESTER

ARCHITECTS: JACKSON & EDMONDS

2, classroom wing from the west.



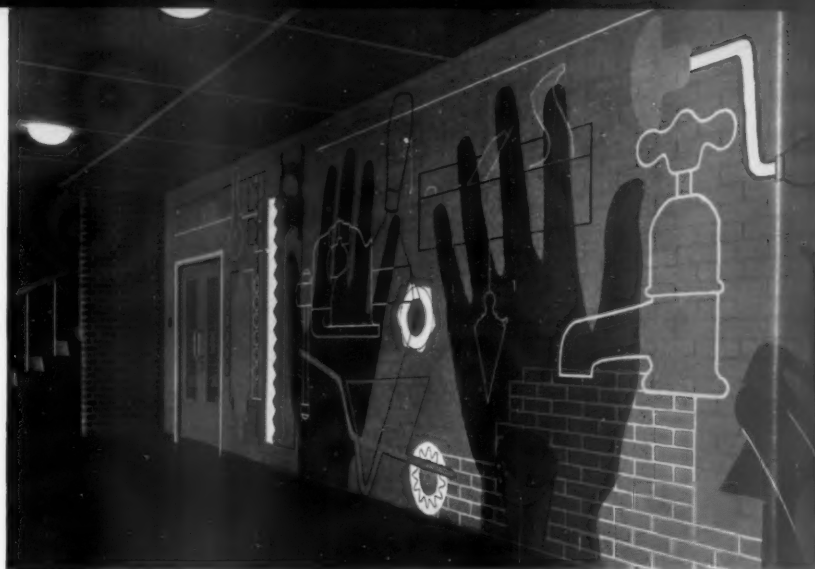
Gig Mill School, Stourbridge, for the Worcester County Council, is the first of three schools proposed for the site and a central dining block has been planned to serve all of them, the kitchen and infants dining room having been built in this first instalment. The school is substantially a single-storey building with a two-storey block containing the medical inspection room. Each classroom has its own store and cloak space and pairs of classrooms share lavatory blocks, all sited to insulate classrooms from playground noise. The steel-framed construction permits the introduction of large areas of glass: solid walls where they occur are of facing brick internally with some Guiting stone round the entrance. Floors and roofs are of reinforced concrete: walls are plastered and painted except in lavatories and cloakrooms where they are tiled. Heating is by underfloor panels throughout, the dining room and staff rooms having convector systems in addition.

WORKSHOPS FOR FOLKESTONE TECHNICAL COLLEGE, KENT

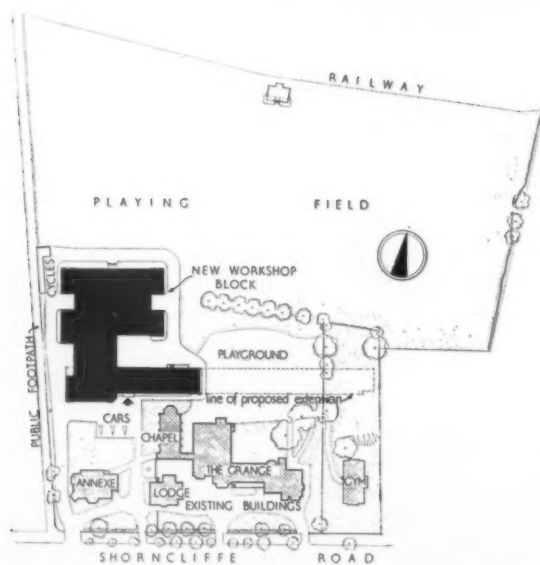
S. H. LOWETH, County Architect, R. TILSLEY GREEN, Deputy County Architect, and R. L. PASSMORE, Principal Assistant Architect.

These workshops, erected for the Kent Education Committee, form part of the Folkestone Technical College and accommodate courses in the building trades and in engineering. The building is planned to allow for the future development of a new full-scale technical college. The two main conditions governing the siting of the new workshops were firstly to avoid interruption in the use of the existing buildings and, secondly, to preserve the playing fields to the north of the site. The whole scheme is devised so that a main teaching block, which will form the next phase, can be added to the new workshops before any of the old buildings are demolished.

The workshops are formed by dividing up a large covered space



3



site plan

provided with roof lighting. Stores are built externally with easy access to the supply road and the working area. Flexibility of planning internally is obtained by the use of demountable partition units with junction posts which allow four-way connections, and these conform to the system of roof-lighting where trusses and tie-members form an egg-crate type of structure beneath the roof monitors on a 10-foot square module. The buildings are steel framed, with box-shaped stanchions in the workshops section, some containing rainwater pipes. In the two-storey block, detachable cantilevered steel brackets are used to support the corridors. Until additional storeys are built, the top brackets are left exposed, allowing clerestory lighting to the teaching rooms. The cladding of the main external walls and the internal partitions is of deep terra-cotta red laminated plastic panels fixed in light alloy frames, assembled before delivery to the site. The stores are separate structures with cavity brick walls and roofs of asbestos cement decking. Structural walls adjacent to staircases in the two-storey block are in brickwork. Internally, all the plastic partitioning is in the same deep red colour. In the workshops, the underside of the monitor roofs is painted bright yellow or blue.

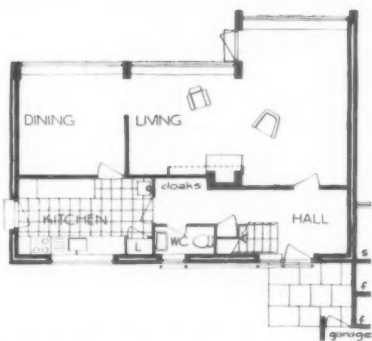
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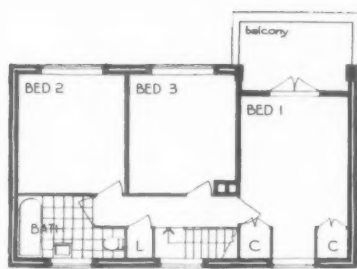
3, above, mural in the entrance hall, painted by students of the Folkestone College of Art. 4, the new workshops from the south-east.



Detached houses on the left, seen from the south.



detached houses: ground floor plan



first floor plan

scale: 1/16 in. = 1 ft.

HOUSING AT HARLOW NEW TOWN

ARCHITECT: **FREDERICK GIBBERD**

EXECUTIVE ARCHITECT: **VICTOR HAMNETT**

These houses are in Area 1 in the Mark Hall North neighbourhood of the new town. All have load-bearing external walls of 11-inch cavity brickwork. The party walls of the 5-bedroom terrace houses are also of cavity brickwork construction; those of the 3-bedroom houses consist of two leaves of 3-inch breeze blocks. The 3-bedroom detached houses have 4½-inch brick partition walls; 3-bedroom terrace houses, 4½-inch brick and 2½-inch breeze; 5-bedroom terrace houses, 2½-inch breeze. Roof trusses are timber. The 3-bedroom terrace houses have single pitch roofs with timber joists. Ground floors are of concrete, finished with thermo-

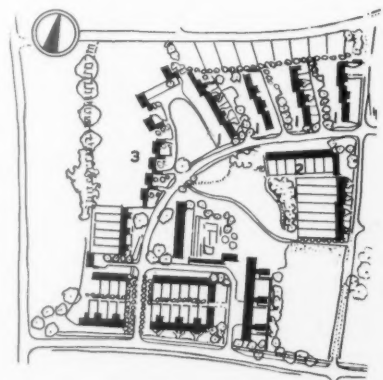
plastic tiles and upper floors are t and g boarding on timber joists. All walls are plastered internally and ceilings are plastered in 5-bedroom houses and skim coat on plasterboard elsewhere. The 3-bedroom detached houses have wood casement windows, elsewhere there are metal windows from a 2-foot range. All houses have an open fire with back boiler, and in addition the 3-bedroom and 5-bedroom terrace houses have independent hot water boilers.

Area 1 was carried out by a Design Unit of the Harlow Development Corporation consisting of Frank Booth, G. L. Dale, D. L. Dyer, C. Featherstone, A. J. McCowan, J. R. Sheridan-Shedden and G. A. Weinmann under the direction of the Architect-Planner and the Executive Architect to the Corporation.



5 bedroom terrace house, ground and first floor plans

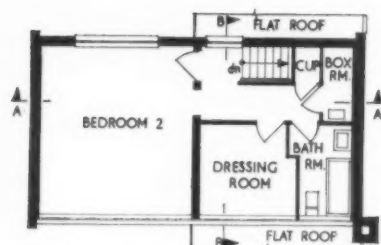
scale: 1/16 in. = 1 ft.



site plan key
1. 3-bedroom terrace houses.
2. 5-bedroom terrace houses.
3. 3-bedroom detached houses.



View from the west showing 3-bedroom houses on left and 5-bedroom houses on the right.



second floor plan



first floor plan



ground floor plan scale: 1/16 in. = 1 ft.

HOUSE AT TUNBRIDGE WELLS, KENT

ARCHITECT: BRIAN PEAKE

The house was designed for a doctor and his wife, to serve as both living and consulting accommodation. The garage has no doors in order to provide easy access for trolleys to a market garden at the rear of the property. Construction is of 11-inch cavity brick outer flank walls, 9-inch brick centre spine walls, and cross walls of 4½-inch brick outer skin with 4-inch thermal block inner skin. The ground floor is concrete and the first and second floors and the roof are of timber construction. Partitions are of breeze blocks. External walls are of fair faced grey brickwork with white cement jointing or pale grey cement rendering. The front door is painted pale yellow and there is a rich red panel forming part of the large living-room window. A flower box on the front elevation is cantilevered on mild-steel brackets and is of polished hardwood. Internal wall finishes include fair faced brickwork, painted plaster and wall-paper. All exposed hardwood is wax polished Honduras mahogany. The staircase is open-tread in hardwood with bamboo balusters between the stair well and ground floor waiting space. One wall of the living room contains a fitting in mahogany and beech, with a plate-glass hatch and panels of pale blue plastic. Wardrobe units in the bedrooms are painted white gloss outside with mahogany finish inside: there is a sycamore dressing table at one end. Floors are carpeted except in the waiting space, where thermo-plastic tiles are used, and in the kitchen, which is cork tiled. The roof is finished with 3-ply roofing felt on ¾-inch screed. The contract price was £3,675 (excluding fittings).



7



8

7, garden facade from the west. 8, view of first floor showing staircase well and living room.

BOOKS

CHASTE RICHNESS

SOUTHILL: A REGENCY HOUSE. Edited by Gerald Millar. Faber and Faber, 25s.

The exact object of this handsome book is difficult to determine. For the student it is little more than an aperitif, while for the general reader it has too specialized a flavour. Consisting of five essays 'written by experts,' together with ninety photos—a few of which are obviously touched up—so far as it goes it is interesting enough. Why, though, group the furniture and decoration into one essay, devote but two pages to the library and omit the garden altogether? The essays dealing with furniture and decoration and the paintings and sculpture are detailed and instructive. That on the library is rather inadequate and that on the house definitely disappointing.

The collection of paintings and the sculpture at Southill reflect well the homely nature of the Whitbread family with their sound business acumen and lack of pretentiousness, yet the glory of the house lies not in these, nor in the house externally, but in its unique interior decoration and its superb furniture with the sure hand of Holland guiding his patron. Mr. Watson reminds us that the Egyptian style in furniture 'long preceded Bonaparte's Egyptian Campaign of 1798-1801, though that expedition gave a new twist and renewed importance to the Style'; also, that the English Regency Style was not 'contemporaneous with the Regency of George, Prince of Wales.' He emphasizes too the widespread influence, despite the war, of French design upon the work of the late eighteenth century onwards. The 'Black rosewood footstools mounted with Ormolu ornaments' in the form of palmettes are models of chaste richness and epitomize this most elegant of periods.

Mr. Watson's informative essay shows up by contrast the paucity of information provided about the garden and the house itself. It would appear that the editor—unacknowledged on the title-page—was content that Mr. Christopher Hussey in *Country Life* and Miss Dorothy Stroud in her monograph on Holland should have described fully the history of the house and its metamorphosis; at any rate he has given Professor Richardson ample scope for 'an attempt to define the meaning of Style in Architecture' as well as to include one of his inevitable broadsides at the decadence of taste to-day. The Professor devotes six out of a total of seventeen pages to a superficial description of the fabric and its environs, the remainder to a general discussion upon the influences of the times. The omission of any description of the original structure—Badslade's view c. 1740 is so vital to a full appreciation—and of any mention of Lord Torrington (from whom Southill was bought in 1795) seems to indicate the weakness in the purpose of the volume as a whole.

Christopher Gotch

Shorter Notices

ACOUSTICS IN MODERN BUILDING PRACTICE. By Fritz Ingerslev. Architectural Press. 35s.

The subject of acoustics and noise transmission is not one that can readily be reduced to mathematical or theoretical terms and most of the advances in knowledge have resulted from the empirical testing of assumptions. For this reason it is a most difficult subject to grasp, or be taught, and Mr. Ingerslev's book is to be welcomed by architects inasmuch as, through the scientific language, there yet gleams a good deal of knowledge which can be absorbed.

Denmark and Sweden have taken a lead especially in a refined aesthetic application of acoustic principals to their practical building work, and Mr. Ingerslev brings a refreshing Scandinavian outlook to bear on a subject which is still in the throes of development and about which it would be unwise, at this stage, to dogmatize or rest complacently on one's own national achievements. Albeit, on the subject of sound transmission, the debt to the effective work carried out in this country is abundantly evident.

The chapter on sound absorbing materials I found particularly helpful and especially the explanation of the helmholz type resonator, the precise function and effect of which had always been to me somewhat obscure. D.M.

Books Received

L'ARRETTAMENTO MODERNA. By Roberto Alois. Editore Ulrico Hoepli, Milan.
THE ORIGIN AND GROWTH OF CATHEDRAL FUNCTIONS. By J. H. Srawley. Friends of Lincoln Cathedral. 2s. 6d.
LINCOLN CATHEDRAL. By J. H. Srawley. Friends of Lincoln Cathedral. 1s.
LINCOLN ROOF BOSSES. By C. J. P. Cave. Friends of Lincoln Cathedral. 2s. 6d.
CONTRIBUTION A UNE THEORIE DE L'ARCHITECTURE. By Auguste Perret. Cercle d'études Architecturales chez Andre Wahl.

NEW TOWNS

FAILURE OF THE NEW TOWNS?

'Failure of the New Towns' was the title of an article by J. M. Richards in last month's issue, in which it was asserted that neither socially nor architecturally could the building schemes resulting from Britain's new towns programme claim to be towns in the true sense. His thesis is answered below by the architect-planner of one of them, the new town of Hatfield.

This is not a defence. Broadly (but very broadly) I take your attack on New Town architecture as a fair one. I propose first of all to sharpen it a little, and then to ask how we may yet deflect it before it strikes the heart.

I shall try to keep clear of economics and sociology except for their effect on architecture. On the whole, with humanity hanging on its cross of iron, we have had no more than a fair share of financial stringency and its consequent distortions of policy. Your

question was rightly whether we have cleverly spent the little we had, and you answered it pretty clearly.

But first of all, this question of urbanity. The town, you say,

'is a sociable place, for people who want to live close together, and expresses itself as such through the compactness of its layout, through the sense of enclosure experienced within it and through being composed of streets. The new towns by and large have none of these attributes. They consist for the most part of scattered two-storey dwellings, separated by great spaces, and their inhabitants, instead of feeling themselves secure within an environment devoted to their convenience and pleasure, find themselves marooned in a desert of grass verges and concrete roadways.'

This is certainly an unkind cut at the New Town architect, who has been talking Urbanity ever since he was weaned. But let us take a look at this word, which with Unit, Research, Organic and a few others has earned its place among the architectural passwords of the century.

In England, you have yourselves pursued it with unexampled thoroughness. It is intimacy, enclosure, floorscape, immediacy, all the pleasures of the small cathedral town. It is not Nancy, or Washington, or the *Unité* on its cyclopean feet. It is not Swedish flats among their rocks and birches, nor low-density Danish terraces with their charmingly free vegetation. It is not the Radburn Idea, nor the Reilly Green, nor, as far as I can judge, is it High Paddington. It is Chelsea, but not St. John's Wood; it is Lansbury, but not the early Welwyn, delightful though both these latter are in their different ways.

In other words it is just one among the many things a town can be, and not necessarily the one that everybody wants. Some want neighbours and like noise; others don't, and it is, of course, totalitarian heresy to blame, as I am afraid you do, 'local councillors . . . not the people who are going to live in the houses.' On the whole, these Councillors represent their constituents pretty fairly (they are soon pulled up if they don't) and few of them, though of course some, want 'urbanity' as you and I define it.

Doesn't it then come to this, that the New Towns fail to provide, not one environment, but the variety of environments that people like to choose from? They are, in fact, like all large-scale English housing since the time of Queen Anne, monotonous. There are plenty of reasons why, and I think they take us to the root of the trouble.

First, inevitably, comes to mind the intriguing obstacle race in which the New Town architect has to take part in order to get a design approved. There are seven jumps in the full course: first, the actual client, the Development Corporation; then the Parish Council, representing steady local opinion; third, the District Council, ultimate heirs to the Town; fourth, if public relations are taken seriously, a public meeting; fifth, the County Planning Officer, full of ideas; sixth, the regional office of MOHLG; seventh, the Planning Technique experts in Whitehall. It

would not be surprising if at the end of all this the project showed some slight signs of compromise. It would be understandable if it were even very dull. For we live in an over-professionalized country, in which too many people (and I write as one) are employed keeping an eye on each other, and drinking in the taxpayer's time eternal cups of unsweetened tea at eternal conferences.

If housing were a dangerous and esoteric science all this checking and cross-checking would be intelligible. In fact it goes far enough to stultify the ingenuity, integrity and local knowledge of the architect on the spot, without securing the economic benefits of modular co-ordination and the mass production of components.* Considering the stream of directives and high-minded advice issued from Whitehall, laying down room sizes, amalgamated living areas, costs, plans, layouts, densities, urgently calling for the substitution of one material for another, and then back again as soon as the shortage has transferred itself, the astonishing thing is that the New Towns aren't worse.

Behind all this scurry of course stands, grim and ineluctable, our plain shortage of cash, which you have treated as almost irrelevant. If a pound a house is well worth saving, and if one material is demonstrably cheaper than another on both first cost and maintenance, it will be difficult to find arguments against the universal use of the cheaper material. Here, straight away, is a prime agent of monotony. It happens, for instance, that fletton bricks and concrete tiles are cheaper on both counts than any other material; every time they are not used is therefore a small victory for civilized values, and one that has often been hard fought. Again, the density of terrace housing you have in mind when you speak of Urbanity means, in terms of landscape, paving stones rather than grass and (on our undulating island) retaining walls and steps rather than banks. These things cost more. (Cobbles and granite setts cost more again.) Taking all factors into account, your 'cheerful life of the streets, market-place gossip,' etc., costs more money than the 'sentimental green landscapes' we are all so tired of. In other words, you are telling the Government that they are not putting enough money into housing.

It is true that a good deal of the greenery results from an approval procedure which gives no weight at all to savings in maintenance resulting from increases in first cost. Ordered to knock say £200 off the cost of each house, the architect will need to be pretty tough to take it off the tenant's indoor amenities rather than the paved square and the screen wall, even though the latter may over sixty years cost no more than grass and hedge. But a reform which gave due weight to maintenance would still not take us very far, because clearly the cheapest answer of all, to the taxpayer, is to enclose the whole *manqué* floospace behind hedges and make the tenants responsible for maintaining both.

We are back in suburbia, whichever way you look at it.

*The Bailey Committee seems to have realised this, but spoils its case by trying to sell a set of plans which have emerged as the lowest common denominator of the process here described.

This is, perhaps, the place to mention in passing another set of hard facts, not this time financial, which more than anything impose the draughty landscape you so dislike. I refer to engineering requirements. The British civil engineer, unlike his Victorian forebear, has (with very rare exceptions) long since ceased to innovate, and is content to operate within a rigid set of rules. His functional requirements, considered *in vacuo*—services, sewerage, traffic—have not changed for some time, and it's all in the book, even though one suspects that the book was written against a Garden City background and never envisaged architects wanting to build any tighter. The forty-foot 'highway,' within which the architect's writ does not run, may have been necessary to keep unbridled speculative building at bay; it is entirely out of scale with the little houses we build these days. If a truce could be called in the architect-engineer war, it could best be used to see whether the latter's layouts could not be cut to the same minima as the former's.

Not that at best we could ever get back to the real eighteenth century small-town scale, which involved standards of daylighting and privacy which would never be acceptable nowadays; not to mention the motor vehicle, which has already killed your dear little street in those countries where it is a universal possession.

I have looked at this density problem in terms of the terrace house, as you did, and I think we would both agree that what has been said applies *a fortiori* to flats. One of the mysteries of life in this misty kingdom is that buildings of two storeys are cheaper per square foot than any other. The precious break in monotony given by the taller building, therefore, has to be paid for. We were able to sell the terrace house in the first place because it was cheaper than the semi-detached; and now it is there, it sells on merit, too. But the flat, in effective numbers, was only built in the New Towns in the post-war seller's market; and now, with Chief Estates Officers competing for tenants with the local R.D.C. and the speculative builder, it is hardly being built at all. Here, again, if we want it, we must tell the government they are not spending enough money on housing.

By now, the one flaw in this hard talk about costs may have become apparent. It is that old bugbear, the low productivity of the building industry. For the money we do spend, we are getting very poor value, and since something has to give, it is the marginal items (pop. 'frills') which go to pay for the industry's deficiencies. This may sound harmless until we remember that civilization itself is only a marginal gloss on barbarism, and a new town only marginally more valuable than a dormitory suburb. Conspicuous among its deficiencies is the apparent inability of the industry to devise a watertight tender system, in which ingenuities in design or structure are reflected in lower costs. Whether this hiatus between the design and production sides should be closed by de-professionalizing the architect, or by professionalizing the builder, is an interesting, very long-term debate. Meanwhile the lack of contact at the design stage, supposedly

in the interests of free competition, has to be paid for by the sacrifices I have mentioned. Red tape, lack of funds, engineering restrictions, consumer's conservatism, inefficient organization—it's an old story, but none-the-less depressing and none-the-less avoidable, given the will. Add to these universal ailments no parks, no main roads, no public buildings, and you have the complete picture, or rather the incomplete sketch you find so discreditable.

Housing thus crabbed and confined means, in the visual result, Monotony wherever it may be, except perhaps inside congested cities where special factors operate. In the case of the New Towns it means, to use your plain word, Failure. We set out to build new towns and this, one-third of the way through the job, we have so far clearly failed to do.

The remedies must have suggested themselves, but here are six of them:

1. Between the Development Corporations (reinforced by whatever public opinion research they may think necessary) and the Minister (with his responsibility for public expenditure) I see no democratic or administrative necessity for any intermediate steps. Once the Master Plan has been approved at all levels, the Corporations can surely be trusted to implement it without supervision.

2. The Housing Manuals should be prohibited reading within New Town architects' offices, and the Corporations should be encouraged to build whatever sort of dwellings they fancy so long as output and costs are within approved brackets.

3. Extra first cost should be accepted as a legitimate 'abnormal' where it can be shown to result in at least an equivalent saving in maintenance.

4. There is still a lot to be said on both functional and aesthetic grounds for the traditional pyramidal shape of a town, with its highest density at the centre. The convenience of a central house or flat should go to those ready and willing to live in an urban environment.

5. The professions concerned should set up a joint committee to work out the economic and technical implications of building houses at a density of 1-20 to the acre. It should not be left to architects alone to fight the national battle for economical use of land in face of rules and regulations worked out to Garden City standards.

6. Now that it has been established that this government can build 300,000 houses (of a sort) a year, the time has come to stop doing so; to give Quality a little encouragement, and to achieve Quantity by calling in our old houses to redress the balance of the new.

Whether a dash for freedom in housing would benefit the country as a whole I am not sure. Releasing the jerry-builder and the genius would take us back to a world we did not fancy when we had it. What I am sure of is that if the pioneering spirit, the right and duty to experiment, the creative idealism of the New Towns are to be recaptured before it is too late, it can only be done by making what for these days would be regarded as a hazardous, unfair and even immoral Experiment in Freedom on their behalf.

Idonel Brett

TOWNSCAPE

SUN-BLINDS AND CANOPIES

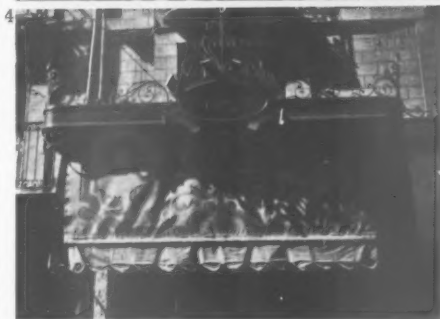
The architectural implications of the various methods of sun control, ancient and modern, have already been discussed in the REVIEW by H. P. H. West.* The purpose of this note is to examine some traditional devices for shading shop windows and doorways, not in relation to the buildings of which they form an extension, but for their own sakes and in relation to the streets in which those buildings stand—in short, as an element in townscape. The first photograph shows a range of sun-blinds, at Brighton, such as may be found in any



town in Britain, neat, functional, and yet a trifle dull—the last quality emphasized in this case by the contrast with the gay scalloped eaves of the metal roofs to the bay windows above. According to the usual British practice the name of the shop appears, where it appears at all, on the sloping surface of the blind itself. In France they manage things differently, suspending a canvas fascia (as it were) along the front edge of the blind. This has two advantages; the name is easier to read, and the wood or metal framework of the blind need not come so low. (Tall men, and the not so tall wearing hats, are often incommode by the British type with its solid front beam, perhaps little more than six feet above pavement level.) The second photograph shows a blind at Menton, in the South of France—quite plain in itself, but redeemed from dullness by the fascia with its characteristic and excellent lettering; the third (Grasse) a fringed fascia of the kind considered suggestive of luxury and therefore most apt for bars and restaurants; in the fourth (Dieppe) an exuberantly decorated blind hangs from a permanent iron canopy. The canvas canopy in the

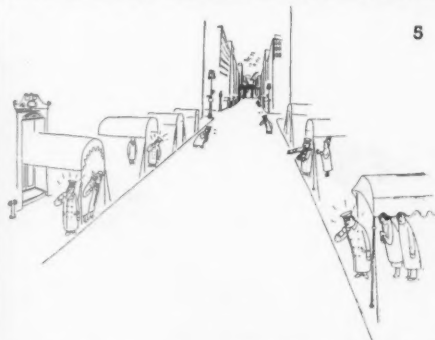


sixth photograph suggests to English eyes the special occasion—a wedding reception or the visit of royalty; in fact it is a



standard summertime feature of the larger American town house and apartment building. This particular example comes

from Chicago; picture five, a drawing of New York by Saul Steinberg, shows, even

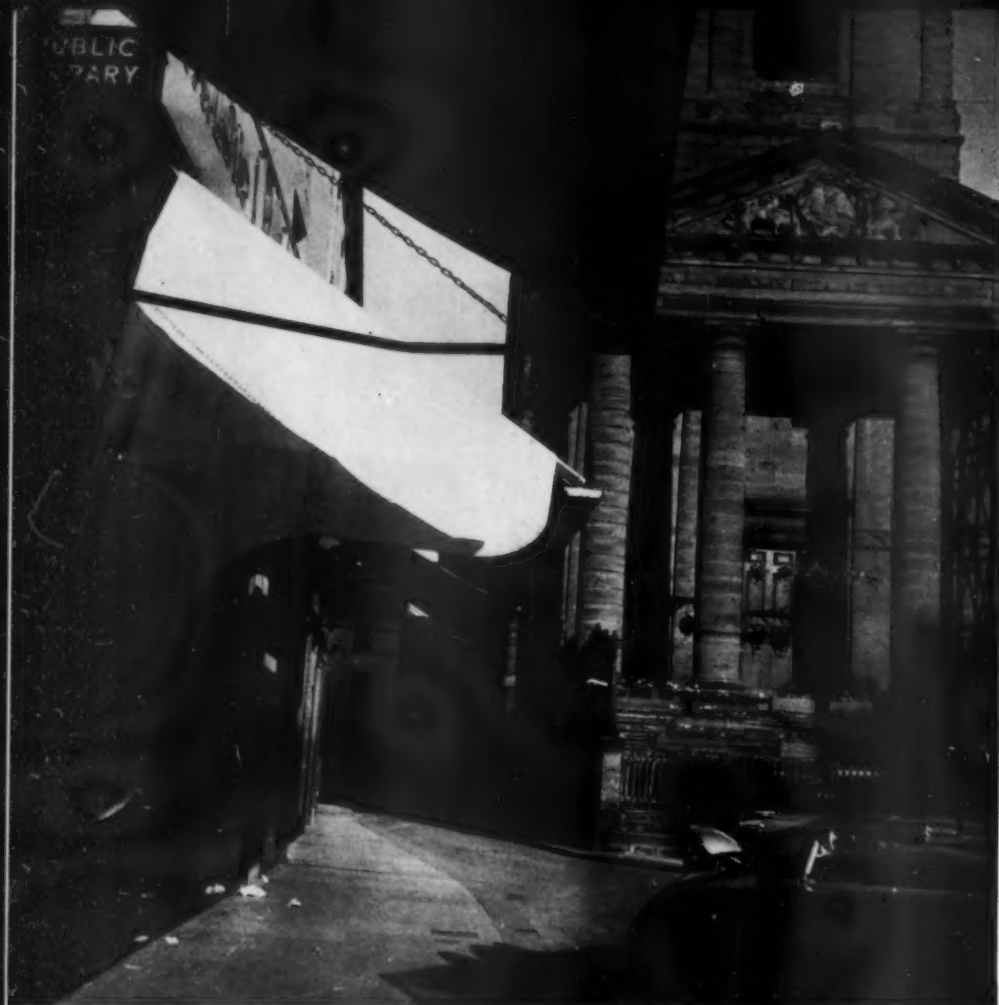


with Steinbergian simplifications, how festal a streetful of such blinds might be.

So far we have looked at our sun-blinds and canopies from the other side of the street. But what the pedestrian on their side of it sees is just as important. In



* Sun Control, A.R. January, 1952.



Britain he sees, very often, the shape in the seventh photograph (Berwick-on-Tweed)—a piece of unconscious abstract art floating without visible means of support across his field of view and forming a splendid foil to the earth-bound shapes of the architecture in the background. In France the tradition is Baroque rather than abstract, as the curtain draped with studied negligence between the sun and the butcher's shop in the eighth photograph shows.

These few examples of sun-blinds and canopies are varied enough to suggest further variations on the theme. At their best they are dual-purpose features, giving colour to the street as well as shade to the shop. The pity is that in Britain, where colour is more important than shade, they should more often than not be colourless.

Marcus Whiffen

THE CORRECT APPROACH: KIMBOLTON

The snags of the linear village are first that it rarely succeeds in establishing its identity and second that it is treated with scant respect by motorists. By the time one has passed the outlying council houses, the gas works, the Moravian chapel, the fire station and a few shops one is already on the way out amongst the sewage works, the cemetery and the allotments. It is only then that one tries to recall the village centre—was *that* it? And on the map it had such a promising name.

The village of Kimbolton, Huntingdonshire, provides a text-book case of how these defects have been avoided. The plan



is simple enough; the High Street section of the village is 120 yards out of alignment with the road direction.

The effect of this is that traffic is compelled to make two dog-leg bends to enter or to leave the High Street. In the case of Kimbolton one of these is quite a sharp blind corner so that there is little risk of

the motorist disobeying the speed restriction placed outside the village.

And this arrangement makes crystal clear to all the exact length and breadth of the village centre.

The entrance to the village is clear and well defined for instead of passing between sporadic buildings the traveller in open country approaches the buildings at right angles, 1. Turning to the left he is confronted with a puzzling corridor street apparently sealed at the end by a blank wall, 2. A closer approach reveals the exit



1



2



3



4



5

and also a monumental gateway, the entrance to Kimbolton Castle, beyond the wall; a hint of grandeur, a suggestion that there really is something urbane and spacious round the corner, 3. The traveller uses the gateway by proxy, so to speak, to enter the High Street which is now revealed, 4, a complete and thoroughly urban scene terminated by the village cross and wide enough for the eye to read it as a 'place' rather than as a corridor, 5.

Gordon Cullen

EXHIBITIONS

PAINTING AND DRAWING

There was so much going on in the streets during Coronation month that rather fewer people than usual visited the galleries, and the variety and quite fantastically high standard of the exhibitions held in the West End and at Millbank to celebrate the occasion would have been more thoroughly appreciated at another

time. Confronted by such prodigality, the critic can do little more than register his excitement.

The Redfern show was the most ambitious and distinguished anthology of contemporary British painting that has been arranged for a considerable time, and the catalogue, with its numerous colour plates and purple and gold covers is one of the most desirable of Coronation souvenirs. Gimpels exhibited carvings by the Eskimo of the Canadian Arctic which were no less remarkable for their simple warmth of feeling than for their evocation of a savagely cold and barren land. The Marlborough, with the blessing of 'Les Amis de Gustave Courbet' showed a group of Courbet's works which conveyed a sense of his vitality and his romantic cult of ordinariness, and with the aid of an exceptionally fine work—the large version of a hooked trout, conceived in prison—succeeded in honouring the memory of an artist who was under ceaseless fire from officialdom and sometimes 'fought back with masterpieces.'

At the Arcade Gallery, which can always be relied upon to enchant us or give us the creeps with some forgotten paintings of the seventeenth century, there was a concentration of still lifes, with the inevitable drop of dew well in evidence. Francesco Fieravino, a Maltese artist, 'active Rome 1650-1680' according to the catalogue, is held responsible for a painting of rich brocades and mildewed fruit, 1, which is so gruesome in its implications that a more comprehensive view of the room might well have revealed a handsomely dressed corpse in the last stages of putrefaction. In the strictest contrast, there was a sweetly sober painting of a dish of



1

apples lit by candlelight. It was a macabre idea to put a Braque and a Morandi into so luscious a spread of fruit and poultry. Morandi's architectural cluster of vessels was unaffected, but the proximity of Braque's basket of fruit to the Fieravino picture drew out its sensual squashiness, and the element of abstraction only gave it an oddly sly look.

An exhibition at Wildenstein's exemplified the art of drawing in many beautiful or curious works dating from 1500 to 1950. The mild perfection of Raphael's study for the Phrygian Sibyl of the Chigi Chapel exceeded any norm of excellence, but at a less awe-inspiring level there were fine examples of Clouet, Cézanne and Renoir, and if Ingres, Degas and Picasso were not at their best, there were many delightful things by lesser masters. The curiosities included Hubert Robert's *Washerwomen in an Egyptian Temple*, and a sixteenth century drawing—Rosso's *Archer and Architecture*, 2—in which the human figures look more like sculpture than the nude effigy in the ornate niche.

For its Constable exhibition, the V. and A. brought out every item it possesses, and the cloud studies look fresher and more mysterious than ever. We know that the artist thought of them almost as scientific documents, and they retain their



status as objective studies of shifting phenomena, but it is their intimation of a profoundly subjective concern with the ineffable that fascinates us. Perhaps we make too much of them, and perhaps for similar reasons we make too much of Leonardo's drawings of deluges; but I don't think that we are here making a fetish of the 'study' for we find in them the qualities which in the art of Turner can be praised in larger and more substantial works. When we have grown more used to Graham Sutherland's language, or when the dust of controversy around his work has died down, I think we shall find that he, too, has sometimes captured the ineffable in substantial works. In the Tate exhibition of his paintings, the very recent pictures are chiefly concerned with the expressive-



ness of split and hollow stones, as in *Landscape with Stones and Grasses*, 3, where a line of such stones, ravaged by a kind of cosmic discontent, advances out of the flaring undergrowth like a band of angry insurgents. But another late work is an almost unseeable sign, a cross-shaped twitching in space, a strange and moving trophy of an encounter with nothingness.

I cannot say much about the selection of drawings by Henry Moore that was shown at the ICA, because I did the selecting. The idea of choosing drawings to illustrate the development of Moore's interest in pictorial space has been criticized, on the grounds that his best drawings are made for sculptural projects, and that the spatial effects in them are unimportant. It has also been suggested that, for the size of the Gallery, I collected too many works. There certainly was a problem of space, but quite apart from whether or not the problem should have arisen, the undemonstrative ingenuity of Mr. and Mrs. Richard Hamilton's set of hanging screens (which can be hooked up to form a false ceiling when not in use) arranged at an oblique angle down the centre of the Gallery, deserves to be examined by everyone interested in the mounting of exhibitions. And no one has cast any doubt on Moore's brilliance as a draughtsman: in the face of such drawings as the one reproduced here, 4, it would be difficult to do so, and if it had been in the Wildenstein show it would have taken a very high place.

There is nothing controversial about Ellis K. Waterhouse's choice of works for the Gainsborough show at the Tate. At this level of understanding selection becomes a creative act, and the exhibition is virtually a new assessment of Gainsborough's genius. The early period, richly represented, comes to so perfect a fulfilment in the *Mr. and Mrs. Andrews* that there was no room for promise in that



direction and another kind of painting had to take its place. The period of successful portrait painting is represented by a few of the best of the commissioned works, which reap a delicious harvest of ripe yellow waistcoats and ribbons, and by landscapes and 'fancy' pictures like the *Miss Gainsborough Gleaning*, 5, which are suffused by a dusky golden light, as if the guineas the artist received for his portraits were liquefied and poured into the pictures he painted for his own pleasure. Then there are the last five years of 'experiment,' represented by some large canvases left 'unfinished' at the point of realization, so that their 'promise' is a new kind of fulfilment, and in an odd way a foretaste of the lyrical 'emptiness' of the late Turners.

The most important exhibition of all—39 Venetian paintings in English collections, at Thomas Agnew's—must have the last inadequate word. The paintings of the Virgin permit us to see her in several stages of her Venetian metamorphosis, from the tenderly hieratic, in a Jacopo Bellini, to the majestically sensual in Veronese's *Visitation of the Virgin to Saint Elizabeth*. Then Venice herself, glorified in Canaletto as if she were simply the loveliest city in the world, but in Guardi's view of the Piazza, 6, more vertiginous than one of Longhi's masked courtesans.

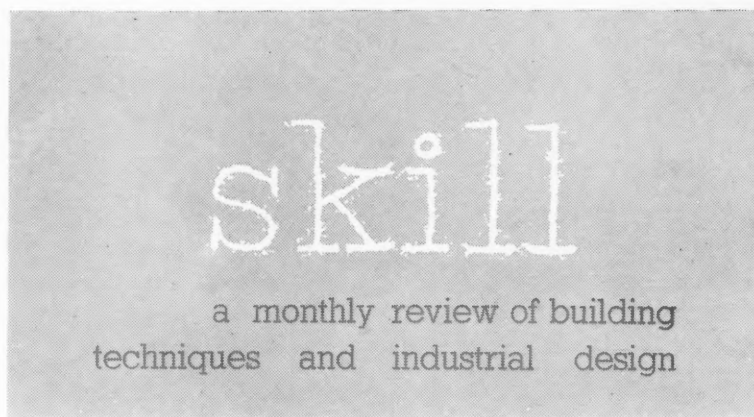
Robert Melville



In the past the REVIEW distinguished between the art and the technique of building by calling one Design, the other Craftsmanship, giving the latter, in token of its immense significance at that time, a special department of the paper. Our portfolio of craftsmanship lapsed during the war and hasn't been—can't be—revived under the same title because the word 'craftsmanship' has become hopelessly dated. Why? From its association with handicrafts? From its unsuitability as a definition of precision building and manufacture? Possibly.

And yet the craft of building in the wider sense remains vital to any decent architecture and was never in greater need of encouragement by word and deed. It is futile to deplore the machine age and precision production even though it may be believed, and not without considerable justification, that design standards have in many industries declined sadly in the past 25 years.

The editors feel the time has come to discuss the issues involved with a good deal of frankness if only to award all possible publicity to those who are keeping the flag of quality flying. They believe that the architect, and the manufacturer, will welcome a new, a bolder and a more critical approach to the whole subject. Hence this new monthly feature, SKILL, whose purpose is to do just that—assess design and workmanship in a much more positive way than has been attempted before. Until further notice this section of the paper will be given up to that purpose, combining with a number of new features those existing ones, like DESIGN REVIEW, which have had the same target in the past.



DESIGN REVIEW

Mary Ward

Kitchen Fittings

Designers and manufacturers have studied the practical requirements of today's kitchens and the people who work in them with laudable results. There are now available fittings and equipment satisfying all demands for hygiene, space economy and the elimination of unnecessary labour. The results are efficient but dull.

In certain areas of the kitchen where fittings are in close contact with grease, acids, water heat and sharp knives it is clear that hard surfaces resistant to these conditions are essential to long life and low maintenance costs. Stainless steel, plastics such as Formica, and vitreous enamel are obvious finishes to use and are available in standard ranges. The fact that a smooth impervious surface is required should not however preclude the use of pattern. Perhaps conscious of the need for a little gaiety many manufacturers show handles in sharply contrasting colours to cupboard and drawer fronts. This seems an unwise method of finding relief in units which are commendably adaptable in assembly since it is not possible to control handle positions as in specially designed fittings and the result is often disorderly. Far better would be a grid pattern over-all in the plastic sheet

or stencilled in the cellulose. Herbs and vegetables immediately spring to mind as a field on which to draw for attractive and appropriate motives. China, glassware and spices in jars could be attractive if visible through glass fronts. With few exceptions their possibilities seem to be ignored.

Where the kitchen is very much exposed to the living area it is often desirable to use storage units suitable for both areas, or even throughout the house. Here is a field worth further exploration than is evident at the moment.

In the standard finishes offered both in metal and timber fittings plain enamels are almost universal, the range of colours often restricted and pastel. If there were a reform in this respect perhaps architects would be encouraged to use a variety of colours to enliven the kitchen and avoid shouted explanations from the bedroom of where the sugar is kept when the man of the house makes morning tea.

In British Standard 1195:1948 the BSI makes recommendations for standard over-all dimensions of kitchen fittings and equipment. They are as follows: width 1 foot 9 inches or multiples thereof; depth 1 foot 9 inches, i.e., inclusive of 2 inches overhang of worktops—carcase depth 1 foot 7 inches; plinth height 3 inches; worktop height 36 inches from floor; hanging cupboard height 4 feet 1 inch or 4 feet 6 inches; dead storage level 6 feet 9 inches from floor on the basis of 7 feet 11 inches or 8 feet 5 inches ceiling levels; depth of certain wall units and alternative shallow tall units 1 foot.

In British Standard 1183:1946 there are recommendations for standard over-all dimensions for kitchen appliances including cookers, refrigerators and washing machines. With the exception of one type of refrigerator designed for insertion into storage units none of these appear to relate to those in BS 1195, which is a regrettable state of affairs. Who has not come across the problem of finding a cooker to fit neatly into a bank of units? Since the requirements for hotplate and oven sizes are perhaps more exacting than those of carcase storage could some move to clean up these anomalies be made by the storage unit manufacturers through the British Standards Institute?

Of the timber ranges illustrated the EJMA range, 1, and that made by Jayanbee, 2, both conform to the British Standard and offer inoffensive metal handles. The EJMA range is a standard specification adhered to by various members of the Association. The prices and finishes vary according to the actual maker, but the units are usually supplied either in the white or cellulosed in various colours.

Jayanbee Joinery, High Street, Uxbridge, Middlesex, give prices only against specific enquiries. They offer a choice of worktop finishes—hardwood, softwood or ply faced with either aluminium, plastic or lino, a choice of satin aluminium or chrome aluminium or two shapes of hardwood handles. The range also includes hardwood draining boards to fit standard sinks and hardwood rod shelving. Normally supplied in the white, all units can be supplied cellulosed to any colour.

John Sadd & Sons, Maldon, Essex, make a similar range, 3, with either hardwood or aluminium handles. There is, however, the addition of either a single or double drainer stainless steel sink unit to match the range. There is no choice of worktop; all are softwood nosed plywood. All units are supplied only in the white and prices range from 43s. for the smallest wall cupboard or 41s. 3d. if ply facing is replaced by hardboard.

These three ranges are typical of the simplest and cheapest kitchen fittings widely used in Local Authority housing. In addition to the EJMA type, Peerless Built-In Furniture, Western Avenue, Perivale, Greenford, Middlesex, make another range B/T, 5, which has a wider variety of units and more luxurious fittings such as a drop-leaf ironing board, drop-front cupboards and a drop table top. In general, the dimensions are as BS. This range is made in hardwood and ply and requires no timber licence. Normally supplied with

a high quality cellulose finish, the price ranges from £4 7s. 0d. for the smallest wall cupboard in the white, and there is a choice of eight colours in the cellulose, including white. There is an exactly similar range made in softwood by the same manufacturer suitable for ordinary painting on site considerably lower in price. Worktops of the B/T range are in Formica or Waverite in a choice of three colours. The decoration of the glass cupboards appears to be derived from 'leaded lights' and sits most unhappily in this context.

In the 'Streamline' range, 4, made by Staines Kitchen Equipment Co., 94 Victoria Street, S.W.1, all units are 20 inches deep with the exception of the shallow cupboard supplied as part of the kitchen cabinet. Internal finish is clear cellulosed and external in a wide variety of colours, or supplied entirely in the white. Prices range from £9 3s. 0d. for the smallest wall cupboard.

In the 'Imperial' range, 6, made by the same manufacturer, the carcase depths are either 10 inches or 15 inches. This range suffers from the restless effect created by the external hinges. The finish is as for the 'Streamline' range and prices are from £9 13s. 6d. in the white for the two-door floor cupboard with two shelves. The makers are prepared to make any size of unit to order. Both these ranges are of hardwood and require no timber licence.

Benham & Sons, 201 Hornsey Road, London, N.7, produce the Nevastane Products range, 7, which though of timber construction has more in common with the metal ranges in external appearance and is an example of over-emphatic and loosely planned handles. There is, however, a solution to a corner wall cupboard which is better than most, and a cupboard unit with fitted glass storage jars exposed below. There are several sink units of various sizes, all stainless steel tops. The finish generally is cream enamel with black handles. Worktops are of Formica in a choice of four colours. Prices range from £12 6s. 6d. for the smallest wall cupboard. This range is perhaps most interesting for the inclusion of floor units with sliding doors; useful for very narrow kitchens.

W. & G. Sissons, St. Mary's Road, Sheffield, 2, make a range of units, 8, which has carcase depths of either 15 inches or 12 inches. Floor units are 18 inches over all where there is an overhang. This is another case of over-emphatic handles and the design of the projecting drawers at the top of the floor units appears to be wasteful of drawer width. Supplied in the white or in cream cellulose finish with a variety of handle colours the floor units have worktops of green, biscuit or blue Formica. Prices range from £6 10. 0d. for the smallest wall cupboard.

Heal & Sons, Tottenham Court Road, London, W.C.2, make fittings designed by Christopher Heal, 9, which are a welcome break from flush fronts. It is an example of a range which could well be extended beyond the kitchen. Cupboards are either 12 inches or 19½ inches deep and the sink unit is 23 inches deep. Cupboards are opened by a finger grip at top and sides of the doors. Units are all of Raminwood and draining boards of teak. The finish is clear

cellulose which is not guaranteed waterproof, but so far proved quite satisfactory in use. In this connection perhaps something could be learned from the coachbuilders in so far as the finishes of natural timbers are concerned. Pagwood is one resin-impregnated laminate which is highly resistant to kitchen conditions. Though not as highly resistant to abrasion as Formica it is considerably cheaper, and suitable for anything but worktops where there is much cutting and sliding. These units by Heal & Sons are from £28 2s. 6d. for the double cupboard with Formica top as shown, but can be made to order in any size to fit specific requirements.

A range made by Elsa Gullberg Textilier, 10, is another and foreign example of units suitable for storage use both in and out of the kitchen.

There is greater variety in the metal ranges though the general standard of design is no higher. It is common to find that cupboard doors are contained

by a frame at top and sides only and though no doubt this is due to a production economy, it is nevertheless unpleasant. Another common feature is the absence of overhang in the floor units so that unless special provision is made the clamping of mincing machines and similar appliances is impossible.

The 'Leisure' range, 11, made by Wallis & Co., Nottingham Road, Long Eaton, is perhaps the neatest though the mixture of knobs and handles is illogical and does not help the appearance. It is built of zinc-coated sheet steel and finished in cream, white, pastel green or blue stove enamel. Sinks, drains and worktops are of either stainless steel or porcelain enamel in the same colours. Prices range from £4 0s. 0d. to £74 0s. 0d.

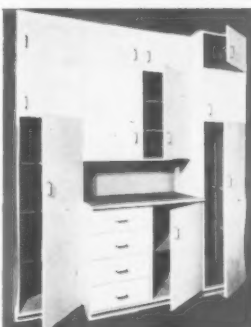
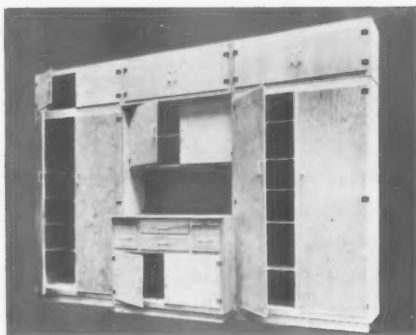
The range made by Hotpoint Electric Appliance Co., 12, of Crown House, Aldwych, London, W.C.2, is very similar to the 'Leisure' range, but has the advantage of the sides and frames of the wall units all in one piece. Materials



1,5,9



2,6,10



3,7,11



4,8,12





13



14



15



16

and finishes are also similar. Prices range from £6 15s. 0d. for the smallest wall cupboard. The range includes an electric cooker, refrigerator and washing machine to match.

Ezee Kitchens, 341a Sauchiehall Street, Glasgow, C.2, have a good simple range, 13, with matching electric cooker, a sink unit with built-in Hoover washer and another with an electric clothes boiler and washing machine with powered wringer, all built-in. The floor cabinets are exceptionally deep at 24 inches. Constructed in Zintec steel bonderized, the units are finished with cream cellulose or white at extra cost. Sinks and draining boards are of stainless steel, worktops of Formica with stainless steel trims. Prices range from £6 5s. 0d. to £111 10s. 0d.

The 'Dale' range by W. H. Paul, Breaston, Derby, 14, incorporates recessed handles of stainless steel which have obvious practical advantages, but are perhaps over-generous in size. The mould round each door and drawer front is no aid to unity in a large assembly since it emphasizes the complexity of each unit without regard to over-all effect. The units are built of pyluminized aluminium and finished in white, cream or green stove enamel. Kicking plates, angle strips, sinks and worktops are all of stainless steel. Prices range from £12 18s. 6d. for the smallest wall cupboard.

C.S.A. Industries, Warwick, produce the 'English Rose' range, 15, which has many merits. The mistake of open shelving at dead storage level is avoided, although only the very large radius profile of shelf is supplied. The profile of

the floor units, though perhaps not very pleasant in itself, does allow for a relaxed knee instead of a stiffly straight leg enforced by the flush-fronted types. This is important in long working hours. There are both gas and electric cookers and a solid fuel water heater to match the range. Perhaps the greatest disadvantage lies in the fact that drawers additional to those at the top of each floor unit must be fixed behind a cupboard door. It seems a pity that the projection of the top drawers has not been designed in such a way as to provide a finger grip and so eliminate the drawer handle. Construction is of pyluminized aluminium finished in cream, sea-green or white. Worktops are of stainless steel or red Formica. Prices range from £10 10s. 0d. for the smallest wall cupboard.

The range by 'Redwing,' Croydon, 16, is notable for the rounded corners of the drawer and cupboard fronts. This is less dangerous than a right angle, but loses crispness in a large assembly. Construction is of aluminium sheet with a finish of stove enamel in white, cream or ivory. Sinks are of stainless steel, vitreous or porcelain enamel; worktops of hard plastic and handles to match or contrast, both in a variety of colours. Prices range from £8 12s. 6d. for the smallest wall cupboard.

The illustrations do not necessarily show every unit in the maker's range, but give a basis for criticism and comparison of general aesthetic standard. Factual details in the text are not intended as a substitute for a catalogue, but as a general guide to readers wishing to make specific enquiries.

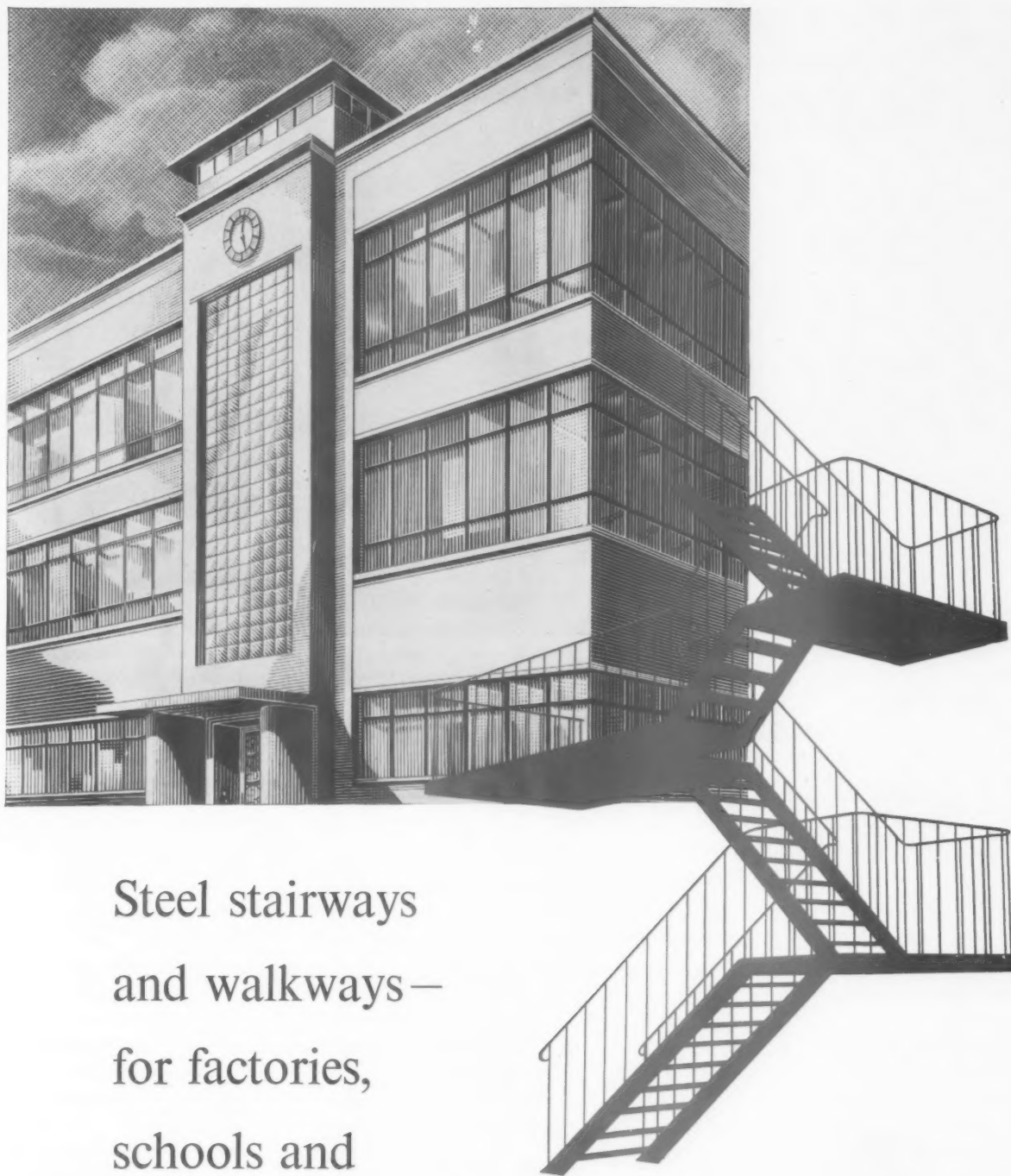
PREFABRICATION

Philip Scholberg

Buildings for Export

In a bare four years the export of prefabricated buildings from this country has developed into something of a major industry; from total earnings of £80,000 in 1949 to £7 million last year, when buildings were exported to more than fifty different countries. It seems likely that the figures for this year will be higher still, but during the next few years the market will probably become fairly stable, and may even show some small decline, for some, at least, of the exports are the result of the currency controls which, however essential they may be for improving the balance of international finance, produce results which the ordinary man may well regard as ludicrous. Australia, for instance, is importing timber houses fabricated both in this country and in Norway, and is at the same time trying to export houses made from steel which is imported from Japan. On the other hand there still remain considerable undeveloped areas in Africa and elsewhere, and there are the vast schemes envisaged by the

[continued on page 129]



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Photograph by courtesy of Mr. Dirk Bogarde.

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Colombo Plan. In most of these areas the local building methods do not provide the minimum housing standards now considered essential for even the more backward races, and the demand for prefabricated houses should increase steadily for several years to come.

In considering the volume of future exports there still remains one apparent anomaly—the export of timber-built and aluminium-roofed houses to Canada and even to the United States, both countries where timber exists in almost unlimited quantity, and where there is also a large-scale aluminium industry. It should be remembered, however, that Canada is in the midst of an extremely rapid industrial expansion, and the building industry has plenty of work, while internal distances are so great that transatlantic transport, to Eastern Canada at least, does not add impossibly to the cost. Excavation for the essential basement and other site work is done with mechanical plant, the result being that the houses, at any rate above damp course level, are in effect built with British labour costing 3s. or so an hour as against a Canadian tradesman's figure of 16s. 6d. or more. As long as the Canadian building industry has plenty of work, exports from this country will no doubt continue, but any appreciable unemployment among Canadian building workers will no doubt lead to a prompt increase in the import duty, which even now is as high as 17½ per cent.

In considering the economics of the export business it must not be forgotten that some firms export technical knowledge rather than complete houses. Wates and Reema Construction produce in this country houses of precast concrete panels which cannot be economically exported, but both have built abroad by setting up the necessary plant and providing supervisory and key workers. These two firms are, of course, essentially builders, as are Messrs. Taylor Woodrow, who are responsible for the export of the Arcon group's buildings, but it is interesting to discover that the majority of the other firms in the export business are relative newcomers to building. True, there are old established joinery firms like Newsums of Lincoln, but firms in the aircraft industry, many of whom were producing or supplying materials for the Airoh house, have continued to devote a proportion of their production capacity to building. Bristol, for instance, produced a

prefabricated light alloy school some years ago, and have now developed their particular type of construction for buildings of other types; Hawkesley, of Gloucester, and SMD, of Slough, have been producing houses, while Scottwood, who produce a plywood house, are an offshoot of the Power Boat Co. of Hythe, producers of motor torpedo boats and other high-speed craft. To these must be added firms like Chamberlain Industries, Trusteel and Apee, who are predominantly engineers and fabricators of steel or light alloys.

K-D Homes (London) have set out to provide a system of construction rather than a standardized product, allowing for adaptation and modification to suit local needs.

In designing any type of building for export it is blindingly obvious that local conditions and habits must be the deciding factors. Temperatures, for instance, will vary from 115 degrees of frost in the Yukon to 115 on the plus side in the Persian Gulf, Africa or India, and these rather exceptional figures may also be taken as a measure of the differences in social habits and planning requirements for building work. In the past it has all too often been said that the British manufacturer will produce something which is essentially for the home market and then expect it to be equally suitable for the equator or farthest north. With buildings, on the other hand, it is fortunately true that most manufacturers have made considerable efforts to produce both a structure and a plan which will be suitable for the country concerned.

From these considerations it follows that a single standard building will not do, and that the plan must be flexible. Hence it follows logically that what is required is a *system* of building, and most manufacturers have at the same time adopted a module, more often than not the popular 3 feet 4 inches, at least so far as the houses are concerned, and this module has also been applied to the Arcon storage building, where, on a larger scale, the bay lengths are 16 feet 8 inches (five modules) with two spans of 33 feet 4 inches and

50 feet (10 and 15 modules).

The buildings at present exported fall into two main groups. First are the complete jobs, where the whole assembly is crated, down to the last screw, with even a tin of paint for touching up incidental damage. With a little ingenuity it is possible for parts of the building to form the case of the package, the Nerdrum house, for instance, being crated in its floorboards. There are, however, other types of building where the framework and roof only are supplied, any necessary walls being made of local materials such as rammed earth, and there are other instances where the insulation is provided by foamed concrete or lightweight blocks too voluminous in relation to their weight or value to be economically exportable, and hence made locally. If the wall panel consists of a channel or angle framework with an external weatherproofing of some sheet material like asbestos cement, with insulation applied locally, the framework will be exported in lengths cut to size and ready drilled for bolting or riveting on the site. On the other hand, where the wall panels are exported complete, the insulation, glass silk, vermiculite or wood wool will be already applied. From these considerations it will be realized that the most suitable materials for export buildings are not necessarily those which are cheapest, but those which are the most efficient: for structural members steel in sheet form or pressed or rolled sections, and light alloys; for insulation glass silk, cork, vermiculite or any other material where the heat transmission figure is exceptionally low. For use in arctic areas the materials should not tend to become brittle at low temperatures, and at the other end of the scale they should be resistant to high humidities, and, if possible, to local fungi and insects, not forgetting the highly destructive termite, a creature whose gastric juices seem able to digest anything save metals and china. It should be added, however, that most materials can be proofed against termite attack and that treatment against termites will in most cases also prevent

deterioration through fungal decay. For permanent protection impregnation under pressure is recommended by the Forest Products Research Laboratory; non-pressure methods such as dipping, spraying or brushing give temporary protection only in proportion to the depth of penetration of the preservative.

The choice of materials is also influenced to a certain extent by the degree of permanency required in the finished building. For a large proportion of housing work it may be assumed that the building will be in a permanent community. On the other hand there is a considerable demand for housing and other types of building in construction camps and for the fighting services. Here the buildings will be temporary in the sense that they may have to be moved after a few months or years. Site work should therefore be kept to a minimum, with as little as possible in the way of foundations, while if the structure or cladding consists of steel or light alloy the building will still have a quite considerable scrap value.

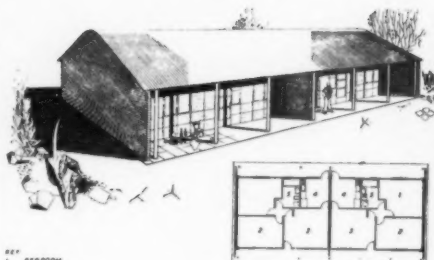
It seems possible that success in the export market may lead some manufacturers to produce prefabricated buildings for use in this country, and several of the designs now in existence would be quite suitable, but although the prices are at present about the same as a traditional house built to a single order, they are still high compared with local authority figures, and production will have to rise very considerably before costs can be reduced.

ARCON The materials used in the Arcon buildings are welded steel tubes for the roof trusses, with sheet materials such as light alloys, galvanized iron or asbestos cement for the covering. A considerable number of different types are produced, the



1, exterior of Arcon three-bedroom house.

most versatile being the Arcon roof, which is insulated by a double thickness of sheet material, and which is produced in three spans, in three heights and with three different eaves extensions, while the use of interchangeable units allows for



2, perspective and plan of Arcon housing for executives.

angle and T junctions. The roofs may be used for storage sheds, houses, hospitals or schools, and the walls may be of local materials or panels (light alloy) held in a frame of extruded sections in which



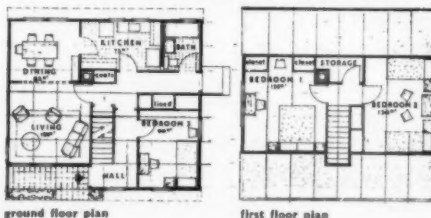
3, interior of Arcon storage building.

windows can be incorporated. All the construction units are easily transportable and can be erected without cranes or other mechanical aids.

RILEY-NEWSUM These houses are produced to a number of different plans, all on a 3 feet 4 inches module, for erection in Australia, Canada, the West Indies and elsewhere. Wall panels are timber framed, 8 feet by 3 feet 4 inches, faced with



4, exterior of Riley-Newsom 1½ storey Canadian house.



vertical weatherboarding and lined with $\frac{3}{8}$ inch plasterboard, the space between being available for the degree of insulation



6, living and dining rooms of the Canadian house.

required by the climate, U figures as low as 0.09 being possible with glass silk. Internal partitions are also framed and faced both sides with plasterboard, which is also used for ceilings. The roof, covered with light alloy sheeting, is carried on folding trusses which need only the insertion of seven bolts for site assembly.

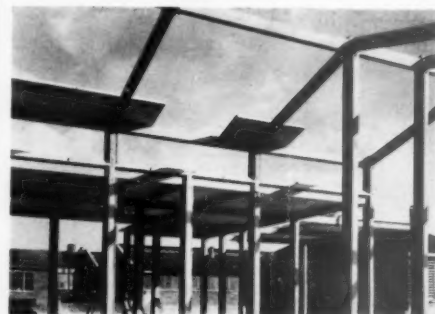
MOD-X These structures are planned to a 3 feet 4 inches module, mostly with standard beam parts 80 inches long and the associated columns and roof, wall and floor panels, all based on a 40-inch square. Floor and roof membranes distribute their load in two directions and in the spans over 13 feet 4 inches are pre-stressed in



7, exterior of Mod-X prototype bungalow.

both directions. Simple spans up to 40 feet are possible and the use of principal beams allows large floor areas which may have pitched, flat or north light roofs.

Various joints are used in different materials, one of the most interesting being a cruciform casting which bolts through



8, structural members of Mod-X prototype bungalow.

the top of a column into the foundation slab, and picks up four roof beams. The system can be used with traditional forms

[continued on page 131]

continued from page 130]
of walling, or with any type of prefabricated panel based on the 40-inch module.

NERDRUM (The Precut House)

This house has external walls made from 2½ inches thick tongued and grooved Scandinavian redwood lined with 2-inch strawboard giving a U value of 0.133. Strawboard is also used for internal partitions



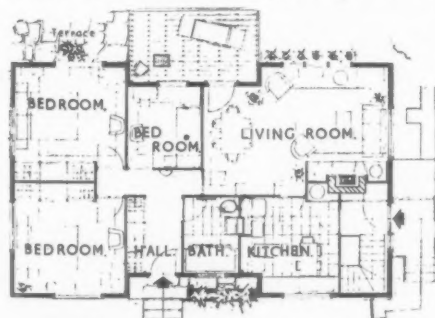
9, rear elevation of the Precut timber house.

and ceiling, while the pitched roof is covered with light alloy sheeting. The corners of the external walls are locked with



10, fixing the FRYA corner construction which binds the house together.

a metal channel (see 10, above) and the wall is also reinforced vertically with ½-inch rods running the full height of the wall and anchored in the foundation concrete. Casements are double glazed in



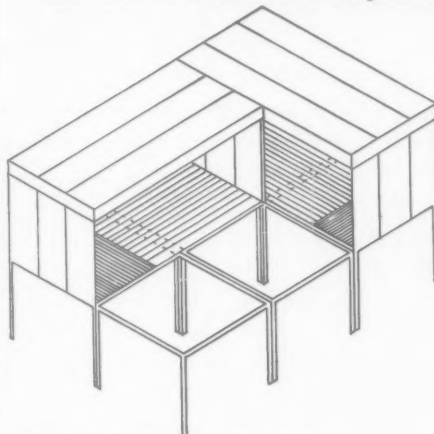
ground floor plan.

independent frames which open for cleaning or removing condensation. Venetian blinds are fitted between the panes.

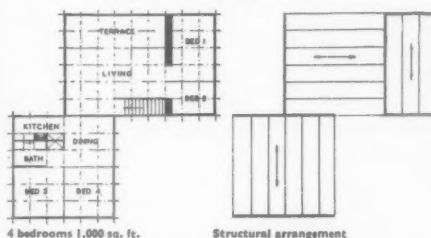
PUNT SYSTEM Mark II (Export)

The Punt system of roofing consists of a series of boxes, or punts, 1 foot 4 inches deep and 3 feet 4 inches wide and 20 feet or 10 feet long. The punts are supported on panels which may be either

solid or framed, the former is basically a fibreboard core faced with a weatherproof skin, resin-impregnated plywood, stove enamelled plywood, or cedar boarding, with an inner face of hardboard. A suspended



11, Punt roofs supported on load-bearing panels.

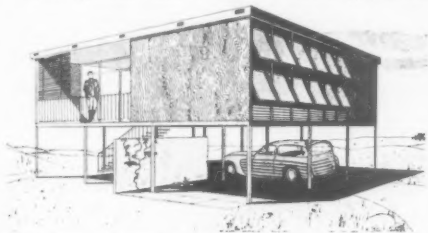


4 bedrooms 1,000 sq. ft.

Structural arrangement

floor is used, made in units 10 feet (three modules) square, supported either on columns or walls. Within the overall 10 feet structural grid the plan is free to the nearest 3 feet 4 inches.

The punts are made of two plywood

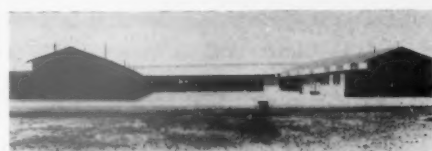


12, a typical Punt house on columns.

webs with a perforated hardboard soffit, and the box is stiffened by light timbers glued to the sides and by timber strips in the corners. The ends of the boxes are shaped to incorporate a special plywood beam leaving space for services.

In wet tropical climates a pitched roof would be provided on firing pieces above the punts.

HAWKSLEY This firm, one of the members of the Hawker-Siddeley Group, produces general purpose single storey buildings. Panel construction is used, with ceiling heights of 8, 9, 11 or 12 feet 6 inches. Panels are framed in light alloy extrusions, faced with corrugated light alloy sheeting



13, a Hawksley 15-classroom school erected in S. Australia.

and lined with hardboard or plasterboard, glass silk being used for insulation. Internal partitions are timber framed, faced both sides with hardboard or plasterboard.

The only limitation on the plan is that it must be based on spans of 24, 32 or



14, erection of wall panels of a Hawksley G.P. building.

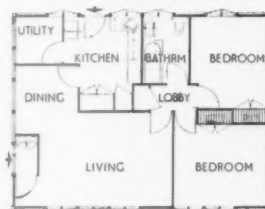
40 feet, and the length must be in multiples of the 8 feet wall panel module, though 4-foot wide panels can be supplied.

K.D. This house consists of load-bearing panel walls supporting a 24-foot span steel truss with steel purlins and a covering



15, exterior of K.D. single-storey house.

of asbestos cement, aluminium or steel sheeting, or timber battens and local tiles. Wall panels are timber or steel frame, faced with steel, timber or asbestos, and lined with glass silk and aluminium

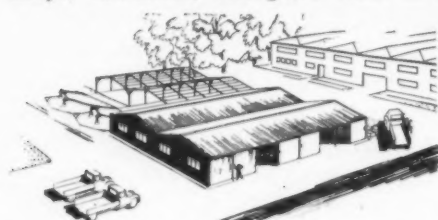


plan

foil, the U-figure being 0.135. Extra equipment such as double glazing or fly screens can be added if required.

S.M.D. This firm is one of the Almin group of companies, and produces the

Alframe range of bungalows and general purpose buildings. As one would expect, a very considerable use is made of light alloys, extrusions, corrugated sheet and



16, aerial perspective of Alframe garage and warehouse.

formed strip. The bungalow is built up from panels of a light alloy framework which can be exported in straight lengths



17, Alframe structural members being erected for garage building.



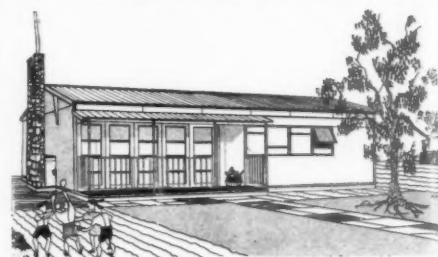
18, Alframe bungalow erected in French Equatorial Africa.

and assembled on the site, the external sheeting being also in aluminium with a lining of hardboard, and glass silk.

The general purpose buildings consist of light alloy portal frames in spans of 24, 32 and 40 feet, the 24-foot frames being spaced at 12-foot centres, the other two at 10 feet. Eaves heights may be either 12 or 15 feet. As with the bungalow, the frames are assembled on site, and have the advantage that they are light enough in weight to be erected without any special lifting gear. Roofs are of alloy sheeting, but any suitable local materials can be used for the walls.

BOOTH This constructional system (the Ubique) provides a frame and panel

structure based on a 6-foot horizontal module. The frame consists of a series of portals linked at the ridge and eaves by spacer panels. Walls are sandwich panels made up of two asbestos cement sheets with a cellular core (Dufaylite). Alternative



19, perspective of Booth 'Overseer' bungalow.

panels are produced giving U-factors of 0.1 or less. Internal partitions, to a 3-foot module, are similar, and the roof sheeting is corrugated light alloy. No heavy lifting gear is necessary for erection and considerable attention has been paid to saving weight and freight space; the 1,000-square-foot bungalow weighs about 9 tons and measures only 1,100 cubic feet crated.

WINDOWS

METAL WINDOW DISPLAY

At the Building Centre, a permanent exhibit of the British Metal Window Manufacturers Association has been designed by James Gardner.

The designer has had recourse to what is termed a labyrinth layout in order to display eight types of window so that they can be properly inspected inside and out, and at the same time shown in relation to wall fixings, together with several examples of steel door framing in position. There is in



addition a working space with desk, drawing boards and chairs available for students, above which are illustrated actual structures with the metal framing projecting from them as extended sections of the actual window frames.

The dummy walls of the labyrinth are in some cases in section to show the method of fixing and in other cases complete to show the finished window or door frame.

Working details, standard sections, hinges and other data are very cleverly integrated with the display, while the piers between existing windows are masked with a rusticated pattern of photographs illustrating the influence of standard window unit sizes on architectural elevations, and the various effects obtained with the metal fenestration.

HEATING

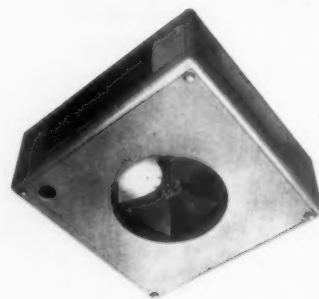
HEATING SYSTEMS

The variety of heating systems now available for use in industrial buildings, offices and schools, together with the alternative methods of producing the heat must make an architect's selection an extremely difficult one.

F. H. Biddle Ltd., Vectair House, Clerkenwell Close, EC1, for example, are

large manufacturers of equipment for heating, air-conditioning, ventilation and cooling, operations which are all closely related.

In their range of heating equipment they market six systems of different capacities, operated in alternative ways and each designed with specific requirements in mind. The 'Projectaire' is a suspended heater designed for lofty build-



ings, discharging warm air vertically downwards over a large floor area. It operates on high or low pressure steam or hot water and a range of 31 models deal with capacities of from 100,000 to 415,000 BThU's per hour.

The 'Univectair,' a suspended fan operated heating and drying unit, a well established product, is designed for use in semi-public places such as restaurants and stores as well as in workshops and factories.

[continued on page 133]

SKILL

continued from page 132]

It is made in 14 standard sizes for high or low pressure hot water, steam or electric systems.

The 'Universal' can be used either as a freestanding unit or for mounting on the wall or ceiling. This flexibility of positioning and quietness in operation are the two points aimed at in its design. It operates on low pressure steam or hot water.

The 'Forceflow' convector is designed primarily for schools and similar institutions as a concealed type heating unit, although of course it has other applications. Two grilles fitting flush against the internal walls are the only parts which show. A new model with propeller fans instead of a centrifugal fan has just been introduced in a lighter construction than the earlier model. It operates on low pressure steam or hot water.

The 'Vectair' is a convection heater for use as a freestanding, semi-recessed or concealed heating unit operated by high



or low pressure hot water, steam, gas or electricity, and made in a large number of sizes for all manner of applications.

The 'Torridaire' is made for large scale space heating. Its main points are flexibility of installation and its ability to

project warm air over considerable distances. The air leaves the heater at a uniform velocity at a comparatively low temperature, so that it travels a considerable distance. This air replaces the cooler air within the heated space which is in turn recirculated through the 'Torridaire.' Duties are from 116,000 to 842,000 BThU's per hour and 1,575 to 16,500 c.f.m.

ROOFS

A 42-FOOT HOLLOW ROOF BEAM

Record performances are not, by themselves, of great importance, they usually get broken sooner or later; more valuable is the light they cast on the organization responsible, particularly when the record is in nowise a stunt.

A case in point is that of the concrete single span hollow roof beams, each 42 feet 4 inches long with a clear span of 40 feet 9 inches, which Concrete Ltd., Stourton, Leeds, manufacturers of Bison floors, have designed and installed in the gymnasium



roof of the Chiswick Polytechnic. It is one of the largest spans of its type to be constructed anywhere. The units are all normal prestressed Bison slabs, each reinforced with fourteen 2 inches diameter high tensile wires per 14 inches width of slab. Each unit is 8½ inches deep at the ends, increasing to 10½ inches in the middle, and 14 inches wide. The cavity is approximately 9½ inches wide, 5½ inches deep at the ends and 6½ inches deep in the middle. The overall weight is 68 lbs. per square foot, plus a loading of 25 lbs. per square foot, providing for a possible roof loading, and for supporting climbing ropes and other gymnasium equipment. The units were tested in the factory with a load equivalent to finishes plus twice the superimposed load, without any sign of cracking, while deflection under the design load of 25 lbs. per square foot was 0.485 inches, or under one eleven-hundredth part of the span. The manufacturers claim that when grouted

the roof is quite rigid with no sign of the springiness that might be expected with this very shallow type of slab.

The slabs were placed in position with a mobile crane, and in spite of the difficulty



of access to the site, the entire area of 380 yards super was completed in under a week.

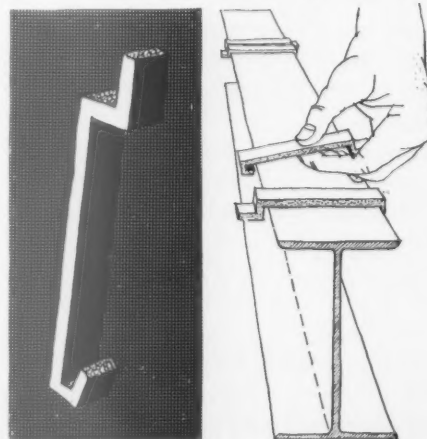
The architects were Dalglish & Pullen, in collaboration with C. G. Stillman, County Architect, Middlesex County Council, and the builders were F. Troy & Co., Ltd.

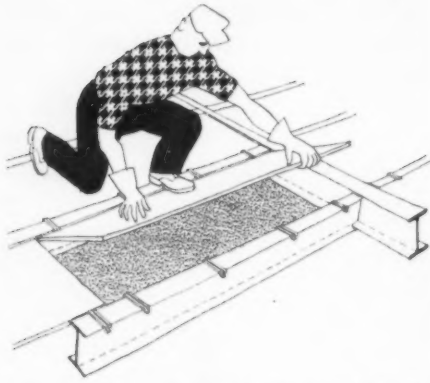
FLOORS

A LIGHTWEIGHT FLOOR (USA)

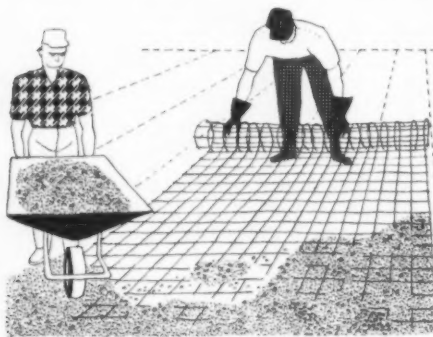
Although techniques practised abroad are not always either applicable to, or available for, construction in this country, they are sometimes so simple in conception that they deserve attention. *The Architectural Forum* gave details in their March issue of a method of laying a 2-inch reinforced concrete floor which, it is claimed in terms of New York City practice, reduces costs in time and materials, obviates the need for scaffolding and results in a lighter structure. It was developed for use in a New York store and is now being used in 10-storey blocks of flats.

The system is based on a cast-iron clip, 1, which snaps on to the top of a steel





joist, 2. The clips support plywood panels, 3, laid between the joists. This provides a level surface on which the reinforcing and concrete is laid, 4. When the concrete is



set, the underparts of the clips are snapped off with a blow from a hammer and the plywood panels—the shuttering—removed. The panels used were 2 feet by 8 feet, so the distance between the flanges of the joists had to be $\frac{1}{2}$ inch extra to allow for the thickness of the clips. The panels can be used up to fifteen times, and, if provided with steel edges, fifty times or more. The clip was designed and patented by Edward S. Klausner, a structural engineer.

SAFETY

SAFETY IN THE BUILDING INDUSTRY

Better standards of safety during the construction of a building can also contribute to greater efficiency. This was the theme of a paper read by P. E. Trench, managing director of Bovis Ltd. at a recent meeting of the National Industrial Safety Conference. He pointed out very forcibly, while underlining the peculiar difficulties, that not only does the building industry have a high accident rate compared with other industries, but that figures drawn up immediately before the war by the International Labour Organisation show the rate to be considerably higher than that for some continental countries.

Official figures for 1951 amounted to 12,500 reported accidents, of which 222 were fatal. Nearly half of all accidents, and over three-quarters of the fatal accidents, arose from personal falls and falls of material. Apart from the human suffering, and this often arises from the victim's own neglect of sensible precautions even in spite of safety measures, the financial burdens to an employer for Employers' Liability Insurance premiums—which are related to the claims history of the policy-holders—is frequently of the order of £10,000 per annum and in some cases over £30,000. Lost time and disorganization clearly add to this cost.

The problem is extremely complex since it is impossible to frame safety regulations which will meet all the circumstances without putting construction work into a strait-jacket. It is rendered more so by the structure of the industry, the very varied nature of the construction jobs involved and by the high proportion of casual labour employed, together with a very high rate of labour turnover. Although the problem arises in the small firm, it is far more difficult and serious for the medium-sized and large firms. The Building Regulations, 1948, and the Factory Acts of 1937 and 1948, deal with a number of specific circumstances relating to safety and the first defines the obligations of the employer and employee. But the whole essence of their value for accident prevention lies less in applying the letter of the law than in the spirit in which they are applied by both employer and employee.

Mr. Trench considers that the high overheads for insurance premiums can be largely eliminated by spending money instead on carefully planned educational programmes to reduce accidents. The avoidance of work stoppages and an improved morale, the costs of which are real but difficult to calculate, should also have a similar effect.

Each firm should organize a permanent safety department with personal responsibility from the boardroom down to site level. The safety officer on the site should be able to arrange talks, poster displays, show films, pursue the subject at Joint Consultation Committees, and in fact by every method which will show results. Full information on all accidents should be collated and analysed so that the actual results of such a campaign can properly be assessed, and plans adjusted accordingly.

H. McG. Dunnett

THE BUILDING INDUSTRY

BOOKLETS

Specifications for Wallpaper. This is a concise and very useful little booklet for architects, decorators, display consultants and others who may have to deal with wallpapers. It gives information on the different types and their dimensions, and includes a ready reckoner for estimating wall coverage. There is also a technical section dealing with the various surfaces, old and new, to which wallpaper may have to be applied. It is issued by and available from the Wall Paper Manufacturers Ltd., Kings House, King Street West, Manchester, 3, where a new showroom and advisory service has recently been opened.

Cape Asbestos, 1893-1953. A most interesting and well presented account of the development of the Cape Asbestos Co. Ltd., from the pioneering of 'Cape blue' asbestos to the world-wide mining and manufacturing organization of today.

Gas and the Warming of Large Buildings, Part 2. This booklet issued by the Gas Council deals with independent unit type heaters and the circumstances in which they may be preferred to centralized plant heating.

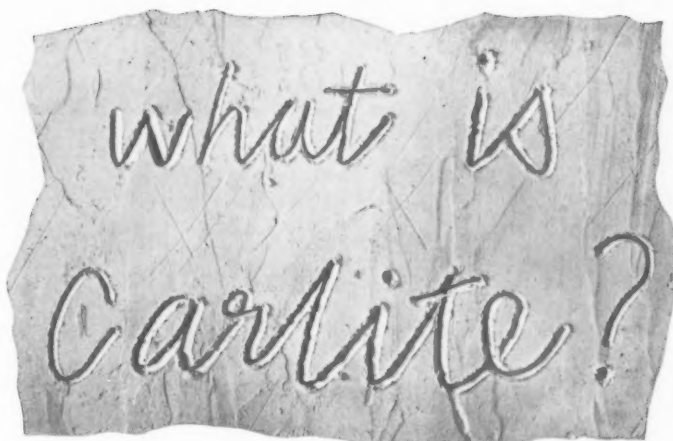
Kitchens issued by James Stott & Co. (Engineers) Ltd., Vernon Works, Oldham, deals with the planning of large scale kitchens suggesting how the various pieces of equipment may be built up into a comprehensive plan. Available free from the manufacturers.

The Here and the Now of Reeded Glasses is a review of the Reeded and Reedyte glasses produced by Chance Brothers Ltd., 28 St. James's Square, SW1, with illustrations of recent buildings showing their application in a variety of interiors.

Consumer's Service Units is an illustrated survey of the units produced by British Insulated Callender's Cables Ltd., Norfolk House, Norfolk Street, Strand, WC2, which enable all the supply equipment for any normal domestic electrical installation to be provided in one compact assembly.

Floor Quarries. This is a booklet of superb photographs illustrating and describing the processes in the manufacture of 'Triton' floor quarry tiles and issued by Wheatley & Co., Ltd., Trent Vale, Stoke-on-Trent, the manufacturers. It explains, too, the essential differences between floor quarries and other types of floor tile.

[continued on page 136]



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The Gotham Company Ltd., Wheeler Gate, Nottingham

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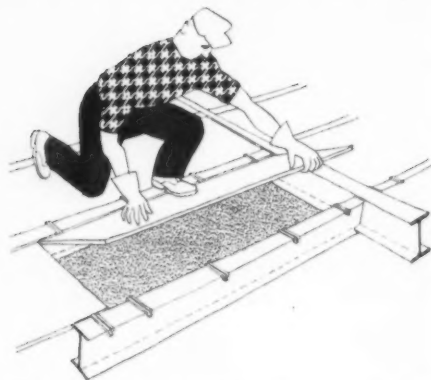


The Board Room, The Jaeger Co., Ltd., London. Architect: Eugene C. Kent, F.R.I.B.A., M.T.P.I. The furniture and furnishings were supplied by Heal's Contracts Ltd., to the order of the architect. Sapele, cross-banded with sycamore, was used in the making of the table top. The legs are of stained beech, and the chairs are covered in Heal's Welsh wool tweed. A grey Wilton carpet and curtains of lime-yellow linen complete the scheme.

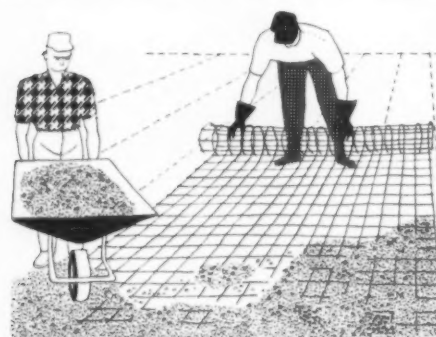
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THE BUILDING INDUSTRY

BOOKLETS

Specifications for Wallpaper. This is a concise and very useful little booklet for architects, decorators, display consultants and others who may have to deal with wallpapers. It gives information on the different types and their dimensions, and includes a ready reckoner for estimating wall coverage. There is also a technical section dealing with the various surfaces, old and new, to which wallpaper may have to be applied. It is issued by and available from the Wall Paper Manufacturers Ltd., Kings House, King Street West, Manchester, 3, where a new showroom and advisory service has recently been opened.

Cape Asbestos, 1893-1953. A most interesting and well presented account of the development of the Cape Asbestos Co. Ltd., from the pioneering of 'Cape blue' asbestos to the world-wide mining and manufacturing organization of today.

Gas and the Warming of Large Buildings, Part 2. This booklet issued by the Gas Council deals with independent unit type heaters and the circumstances in which they may be preferred to centralized plant heating.

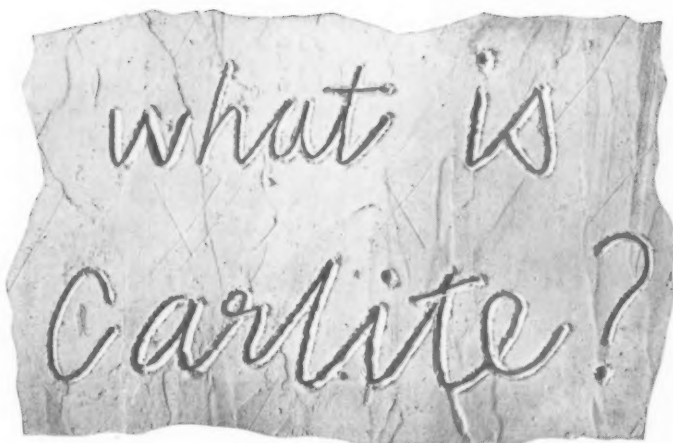
Kitchens issued by James Stott & Co. (Engineers) Ltd., Vernon Works, Oldham, deals with the planning of large scale kitchens suggesting how the various pieces of equipment may be built up into a comprehensive plan. Available free from the manufacturers.

The Here and the Now of Reeded Glasses is a review of the Reeced and Reedlyte glasses produced by Chance Brothers Ltd., 28 St. James's Square, SW1, with illustrations of recent buildings showing their application in a variety of interiors.

Consumer's Service Units is an illustrated survey of the units produced by British Insulated Callender's Cables Ltd., Norfolk House, Norfolk Street, Strand, WC2, which enable all the supply equipment for any normal domestic electrical installation to be provided in one compact assembly.

Floor Quarries. This is a booklet of superb photographs illustrating and describing the processes in the manufacture of 'Triton' floor quarry tiles and issued by Wheatley & Co., Ltd., Trent Vale, Stoke-on-Trent, the manufacturers. It explains, too, the essential differences between floor quarries and other types of floor tile.

[continued on page 136]



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The Board Room, The Jaeger Co., Ltd., London. Architect: Eugene C. Kent, F.R.I.B.A., M.T.P.I. The furniture and furnishings were supplied by Heal's Contracts Ltd., to the order of the architect. Sapele, cross-banded with sycamore, was used in the making of the table top. The legs are of stained beech, and the chairs are covered in Heal's Welsh wool tweed. A grey Wilton carpet and curtains of lime-yellow linen complete the scheme.

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CATALOGUES

Purpose Made Windows and Doors is the well presented and illustrated catalogue of Williams & Williams Ltd., Reliance Works, Chester, showing the application of universal sections.

Broadsheet of Tungsten Lighting Fittings illustrates the complete range of Raylux tungsten lighting fittings produced by Hume, Atkins & Co. Ltd., 66 Victoria Street, SW1.

1953 *Office Furniture* is the catalogue of D. Matthews & Son Ltd., 14-16 Manchester Street, Liverpool, 1, detailing their range of equipment 'from a paper-clip to a complete office.'

NOTICES

Aygee Ltd. of London have now opened a Glasgow office for the administration of all Scottish contracts and H. M. Dale, who has been on their technical and sales staff for a number of years, has been appointed Scottish Area Manager.

G. A. Harvey & Co. (London) Ltd., Greenwich, SE7, announce that P. T. Bliss, who has been with them since 1909, has been appointed Sales Director of the Company.

CONTRACTORS

Epstein Sculpture, Cavendish Square. Architect: Louis Osman. The stonework of the bridge was worked by hand on the site, the builders being Messrs. Norman & Son, of Burgess Hill, Sussex. The carved stonework was cut by four young sculptors: Charles Hopkins, George Swaysland, Bridget Wreford and David Wynne.

A rigid bracketing system was devised by the structural engineer, Professor Collins, and incorporated in the fabric of the bridge, designed to withstand the weight and twist from the five to six ton lead group suspended free of the wall face. Unlike bronze, lead will not carry its own weight. Mr. S. D. A. Saunders, of Messrs. Stoner and Saunders, the cast lead experts, advised on all the technical aspects, and eventually designed the bronze skeleton over which the cast lead has been so applied that there is complete freedom of movement of all the component parts.

Epstein's original plaster was cast in lead by the ancient *cire perdue* method by Mr. Gaskin of The Art Bronze Foundry. The copper gilt haloes were worked by a silversmith, Mr. Popham of the Royal College of Art, and mercurial gilded by Messrs. Pairpoint of Soho, whose craftsmen still occasionally practise this ancient and dangerous technique. The Latin inscription on the stone panel over the group was cut and gilded by Mr. Frederick Wigzell.

Flats at West Chelsea. Architects: E. Armstrong and F. McManus. **General contractors:** Holloway Bros. (London) Ltd. **Sub-contractors and suppliers:** metal windows: Crittall Mfg. Wood windows: Rippers Ltd. Refuse chute doors: Tomo Trading Co. Heating and hot water installation: Matthew

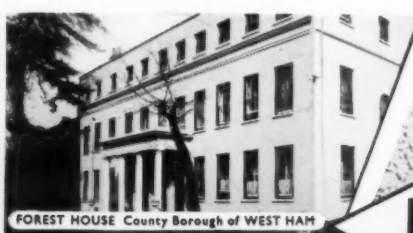
Hall & Co., Ellis (Kensington). **Electrical installation:** Matthew Hall & Co., Phoenix Electrical Co. **Gas installation:** North Thames Gas Board. **Lift installation:** Express Lift. **Facing bricks:** Dunbrik Ltd., R. Y. Ames. **External wall tiles:** Carter & Co. (London) Ltd. **Glass lenses for boiler house:** Pilkington Bros. **Coal hoppers:** Broads Manufacturing. **Sanitary fittings:** B. Finch & Co. **Floor finishes (Accotile flooring):** Armstrong Cork Co., Hollis Bros. **Pressed metal door frames:** Crittall Mfg., Joseph Sankey. **Metawork:** Light Steelwork. **Extract fans:** Aerex. **Doors:** John Sadd & Sons, Holloway Bros. **Ironmongery:** Nettlefold & Moser. **Kitchen fittings:** Built-In Fixtures. **Pre-cast concrete copings:** Stuarts Granolithic Co. **Wireless installation:** British Relay Wireless Ltd. **Laundry equipment:** Electrolux Ltd. **Pavement lights:** J. A. King & Co. **Lettering:** The Lettering Centre. **Roofing tiles:** Eastwoods Specialists, J. H. Sankey Ltd. **Patent roofing material:** Alphamin. **Playground equipment:** Paul & Marjorie Abbott. **Asphalte roofing:** Rock Asphalte Co.

Flats at Kensington. Architects: E. Armstrong and F. McManus. **General contractors:** Holloway Bros. **Sub-contractors and suppliers:** asphalte: Excel Asphalte. **Asphalte roofing:** Durable Asphalte. **Ash hoists:** George Johnson Ltd. **Aerated roof screed:** Premier Plastering & Granolithic. **Composition flooring 'Accotile':** Armstrong Cork. **Gas installation:** North Thames Gas Board. **Gas Water Heaters:** Ascot Gas Water Heaters Ltd. **Gas drying cabinets:** Barralets Ltd. **Electrical installation:** Berkeley Electrical Eng. **Glass brick panels:** J. A. King & Co. **Refuse chute hoppers:** Haywards Ltd. **Metal windows:** Crittall Manufacturing. **Heating and hot water installation:** G. N. Haden & Sons. **Flush doors:** Jayanbee Joinery. **Standard doors:** Linden Doors. **Kitchen fittings:** Jayanbee

[continued on page 138]



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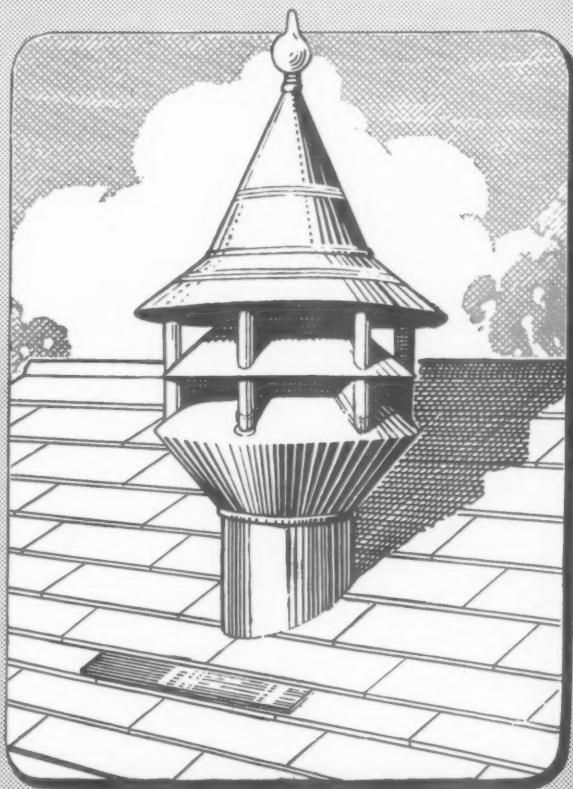
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continued from page 136]

Joinery. Sanitary fittings: Shanks & Co. Ironmongery: Nettlefold & Moser. Laundry equipment: Electrolux. Lettering and name plates: William Pickford. Facing bricks: R. Y. Ames, Henfield Brick Co., Henry J. Greenham (1929). Metalwork, screens, staircase balusters, boundary railings, etc.: Light Steelwork (1925).

Flats at Portobello Court. Architects: E. Armstrong and F. McManus. General contractors: Y. J. Lovell & Son. Sub-contractors and suppliers: asphalt: Permanite. Reinforced concrete: Y. J. Lovell & Son. Artificial stone: Joseph Mears, Marley Tile. Roofing felt: Permanite. Partitions: Broad & Co. Glass: Aygee Ltd. Patent flooring: Whitney-Fairechild. Central heating: Young, Austen & Young. Gas fires: Radiation (supplied by the North Thames Gas Board). Gas installation: North Thames Gas Board. Electrical installation: Berkeley Electrical Eng. Electric light fixtures: Berkeley Electrical Eng. Electric fires: Bratt Colbran (supplied by Berkeley Electrical Eng.). Plumbing: Richard J. Audrey. Sanitary fittings: John Bolding & Sons. Door furniture: Nettlefold & Moser. Metal casements and door frames: Crittall Manufacturing. Escape staircases, balustrading and site railings: St. Peter's Metal Works. Plaster: W. A. Telling. Internal and external decorations: South London Decorators. Balcony railings: S. W. Farmer & Son. Standard doors: Montague L. Meyer. Carved stonework: James Walker. Bricks: Henfield Brick. Dust chute hoppers: Haywards. Tiling: Carter & Kernahan. Grassed areas and tree planting: Garden Landscapes. Kitchen fittings: W. Crosby Ltd. Lifts: Express Lift. Lettering and signwriting: Buckleys. Fluted asbestos balcony fronts: Dalton Ballard & Co. Television and wireless installation: British Relay Wireless.

Drawing Offices at Newcastle. Architects: Richard Sheppard & Partners (Assistant Architect: Derrick P. Challis). General contractors: demolition and site stripping, retaining walls, pile caps and foundation beams: Demolition & Construction Co. Piling: Arthur B. Holmes. Superstructure: Charles R. Price. Sub-contractors and suppliers: metal partitions: Rowe Bros. Korkoid and linoleum floors: Korkoid Decorative Floors. Accotile floors: Neuchatel Asphalte Co. Terrazzo: Commercial Marble & Tiles. Heating and hot water installation: Benham & Sons. Handrailing: N. F. Ramsay & Co. Roller shutter: Mather & Platt. Internal telephone installation: Reliance Telephone. Vermiculite screed and plastering: Meta-Mica. Metal windows: Henry Hope & Sons. Aluminium patent glazing: W. H. Heywood & Co. Bitumen felt roofing: Neuchatel Asphalte Co. Asphalte tanking and roofing: Val de Travers Asphalte Paving. Structural steelwork: Lambhill Ironworks. False ceilings: Steel Bracketing & Lathing. Electrical installation: Swan Hunter & Wigham Richardson. Paints: International Paints. Sanitary fittings: Adamsez. Ventilators: Colt Ventilation. Lettering: N. F. Ramsay & Co. Metal door frames: Frederick Braby & Co. Door furniture: James Gibbons. Cycle racks: Alfred A. Odoni & Co. Gates and fences: Steel Bracketing & Lathing. Joinery: Swan Hunter & Wigham Richardson. Electric light fittings: Troughton & Young, General Electric Co. Partition blocks: London Brick. Facing bricks: Uxbridge Flint Brick. Cork slabs: Aubanel & Alabaster. Tarmacadam paving: Constable Hart & Co. Plastering: R. W. Smiles. Painting: Henry J. Sinclair. Plumbing: Rowells. Glazing: Reed Millican & Co.

Showrooms in Manchester. Designer: A. S. Buckley. General contractors: A. H. Knowles.

Sub-contractors: joinery and electrical installation: Lloyds Sawmills. Decorating: Deansgate Decorating Co. Electric light fittings: Troughton & Young. Diabolo fittings: Courtney Pope. Furniture: Ernest Race, George M. Hammer & Co. Office desks: designed by A. H. Knowles.

Showrooms in London. Architects: Hector Hamilton & Partners. General contractors: Sir Robert McAlpine & Sons. Sub-contractors and suppliers: sunblinds: J. Avery & Co. Metal partitions: Art Metal Construction. Service lift: Aldous & Campbell. Sprinklers: Atlas Sprinkler Co. Plumbing and heating: C. S. Bacon & Son. Tiling: Carter & Co. Air conditioning: Carrier Engineering Co. Sanitary fixtures: W. N. Froy & Sons. Pavement lights: John Healey (London). Bronze work: Haskins. Linoleum floors: Korkoid Decorative Floors. Glazing: Pilkington Bros. Structural steel: Rubery Owen & Co. Internal telephones: Telephone Rentals. Electric work: Troughton & Young. Plastering: Veronese Co. Marble and terrazzo: J. Whitehead & Sons. Interior decoration: Elizabeth Eaton. Furniture: Nicholls & Jones, (basement only) Frederick Donnelly. Carpet: John Crossley & Sons. Upholstery materials: Old Bleach Linen Co., Tibor, Marvic Textiles, British Replin, N. B. Smith & Co., Arthur H. Lee & Sons, Arthur Sanderson & Sons, Donald Bros. Soft furnishings, curtains, etc.: G. Henderson Ltd., H. Harris Ltd., Elizabeth Eaton (Wholesale). Wallpaper: John Line & Sons, Cole & Son (Wallpapers). Canteen furniture: Ernest Race. Upholstery, soft furnishings and general furnishing contract: Elizabeth Eaton.

Primary School at Stourbridge, Worcester. Architects: Jackson & Edmonds. Assistant-in-charge: C. F. Walker. Structural engineer: S. Willis. [continued on page 140]

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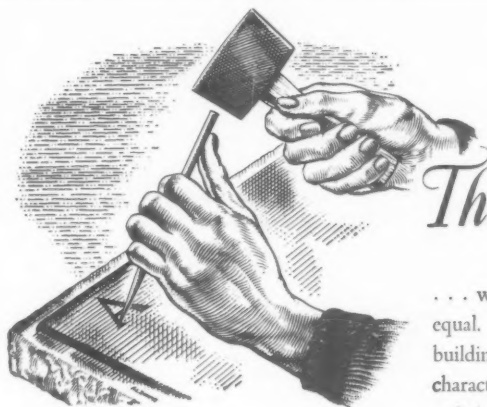
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continued from page 138]

Quantity surveyor: T. Selwyn Berry (Robottom & Berry). **Clerk of works:** J. B. Stokes. **General contractors:** William Cooper & Sons. **Sub-contractors and suppliers:** **steelwork:** Jesse Tildesley Ltd. **Roofing:** The Ruberoid Co. **Facing bricks:** Himley Brick Co. and Blockleys. **Flush doors:** The Adamite Co. **Reconstructed stonework, Precast concrete beams:** Constone Ltd. **False ceilings:** Expanded Metal Co. **Sanitary goods:** William E. Farrer Ltd. **Metal windows:** John Gibbs Ltd. **Sandpit cover:** Johns & Sons. **Ironmongery:** James Gibbons Ltd. **Electrical installation:** A. H. Gwilliam Bros. **Composition flooring:** Granwood Flooring Co. **Roller shutters:** Harris & Sheldon Ltd. **Entrance gates:** Hill & Smith Ltd. **Sliding door gear:** P. C. Henderson Ltd. **Heating and ventilation installation:** G. N. Haden & Sons. **Lantern lights:** Henry Hope & Sons. **Asphalt tanking:** Limmer & Trinidad Lake Asphalt Co. **Terrazzo flooring:** Marbello & Durus Ltd. **Acoustic tiling:** Midland Wallboards Ltd. **Wood block flooring:** Patent Oak Flooring Co. **Domelights:** Pilkington Bros. **Wall tiling:** R. G. Robertson Ltd. **Cork tiling:** Venetian Flooring Co.

Workshops for Folkestone Technical College, Kent. **Architect:** S. H. Loweth. **County Architect:** R. Tilsley Green. **Deputy County Architect:** R. L. Passmore. **Principal Assistant Architect:** Schools Group One, under the supervision of J. H. Garnham Wright, assisted by G. G. Grylls, L. B. Matthews, and W. A. Shirbon (executive assistant for the contract). **Consultants:** **structural:** Malcolm Glover & Partners. **services:** J. Stinton Jones & Partners. **Quantity surveyors:** D. R. Nolans & Co. **General contractors:** O. Marx & Son. **Sub-contractors:** **bricks:** Sussex & Dorking United Brick Companies, and Ryarsh Brick & Sand Co. **Suspended ceilings and fins:** Merchant Trading Co. **Structural steel:** T. W. Palmer & Co. (Merton Abbey). **Fireproof construction:** Smiths Fireproof Floors by R. Corben

& Son. **Asbestos cement roofing:** Turners Asbestos Cement Co. **Asbestos cement vertical sheeting:** Universal Asbestos Manufacturing Co. **Special roofings:** Stramit Board Co. **Roofing felt:** Permanite Ltd. **Prefabricated curtain walls and internal partitions:** Holoplast Ltd. **Patent glazing:** Williams & Williams Ltd. **Resin tile flooring:** Marley Tile Co. **Steel gutters:** Lloyd Lawrence Ltd. **Unit heaters:** C. A. Dunham & Co. **Gas fixtures, gas-fitting and boilers:** G. N. Haden & Sons. **Electric wiring and electric light fixtures:** Troughton & Young Ltd. **Ventilators:** W. H. Colt (London) Ltd. **Plumbing:** Alfred Olby Ltd. **Sanitary fittings:** J. Bolding & Sons. **Rooflights:** Lenscrete Ltd. **Rolling shutters:** Haskins Roller Shutters. **W.C. cubicles:** Venesta Ltd. **Cloakroom fittings:** Cloakroom Equipment Ltd.

House at Tunbridge Wells, Kent. **Architect:** Brian Peake. **Assistant-in-charge:** M. E. Woodford. **General contractors:** Frank W. Clifford Ltd. **Sub-contractors:** **dampcourses:** Ruberoid Co. **Bricks:** Stonehenge Bricks Ltd. **Fireproof construction:** Cape Asbestos Co. **Roofing felt:** Permanite Ltd. **Partitions, sanitary fittings:** Broad & Co. **Glass:** Chance Bros. **Patent flooring:** Semtex Ltd. **Gas fixtures:** Ascot Gas Water Heaters Ltd., De La Rue & Co. **Gasfittings:** South Eastern Gas Board. **Electric wiring:** South Eastern Electricity Board. **Electric light fixtures:** Troughton & Young Ltd. **Electric heating:** Thermovent Ltd. **Plumbing:** Messrs. Fairs & Green. **Door furniture:** Baldwins (Birmingham) Ltd. **Casements:** Henley's Metal Windows Ltd. **Plaster:** Messrs. Mitchel. **Antique marble column:** J. Crowther & Sons. **Furniture, textiles:** Dunn's of Bronley. **Wallpapers:** John Line & Sons, Arthur Sanderson & Son. **Shrubs and trees:** Arthur Charlton & Sons.

Housing at Harlow New Town, Essex. **Architect-planner:** Frederick Gibberd. **Main contractors:** Crook Brothers. **Sub-contractors:** electrical in-

stallations: D. C. Evans. **Precast concrete work:** Cambridge Artificial Stone Co. **Firegrates:** Rowson Drew & Clydesdale. **Sanitary fittings:** Ashley Brandon Ltd. **Ironmongery:** Lockerbie & Wilkenson. **Kitchen fittings:** Peerless Built-In Furniture. **Floor tiling:** Marley Tile Co. **Balustrading:** B. Finch & Co. **Gas installations:** Eastern Gas Board. **Water services:** Herts & Essex Water Company. **Main contract (forming part of main contract for Areas 1, 2 and 3):** **Main contractors:** Geo. Wimpey & Co. **Sub-contractors:** **metal windows:** Williams & Williams. **3-ply felt roofing:** D. Anderson & Son. **Structural floors and staircase:** Stent Precast Concrete Co. **Electrical installation:** Escotts Ltd. **Precast fireplace surrounds and chimney caps:** Cambridge Artificial Stone. **Floor tiles:** Marley Tile. **Metal balustrading:** B. & C. Engineering. **Rotary clothes driers:** G. F. Tompkin and M.G.A. Industries.

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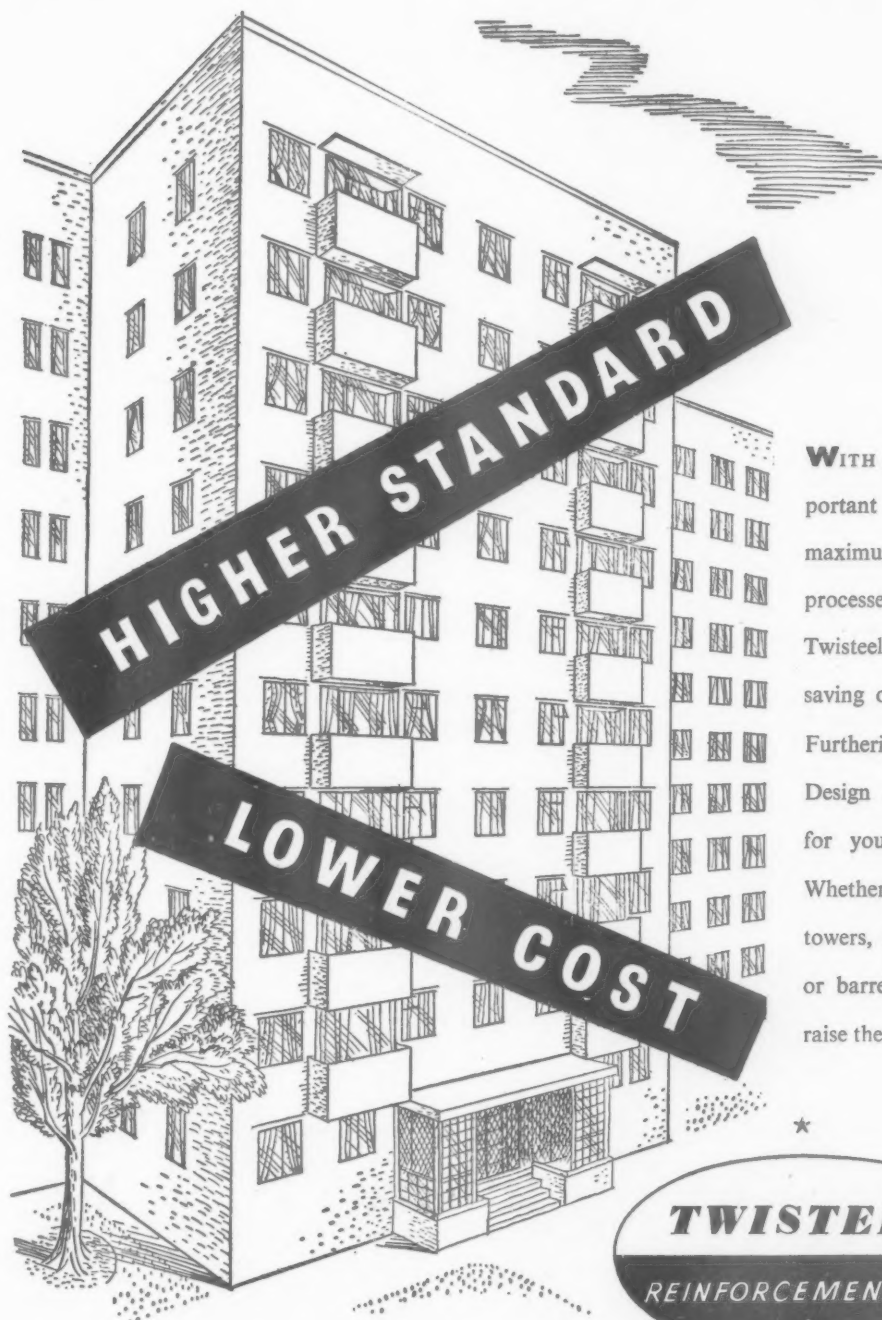
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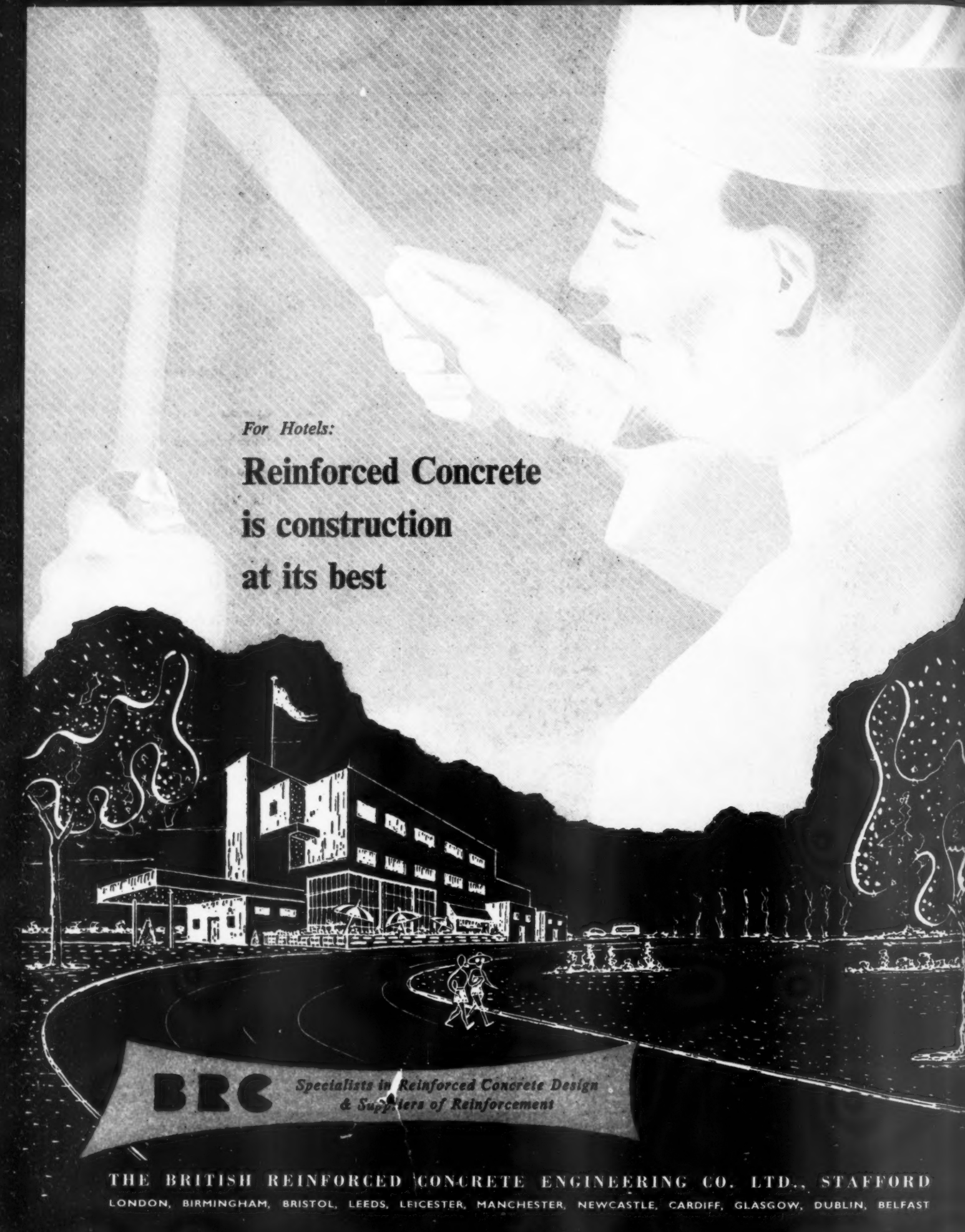
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