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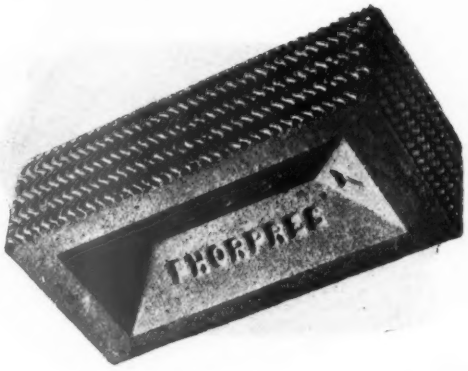

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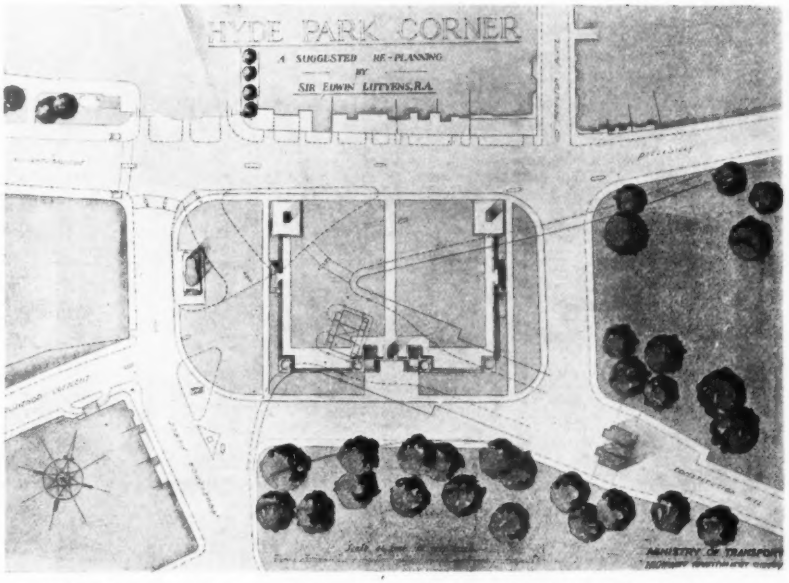
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, JANUARY 27, 1938. NUMBER 2245 : VOLUME 87

PRINCIPAL CONTENTS

ST. GEORGE'S AND HYDE PARK CORNER



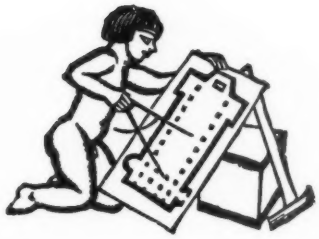
THE publication of the conditions for the St. George's Hospital Competition makes Sir Edwin Lutyens' scheme for remodelling Hyde Park Corner of special interest. The plan above shows the suggested scheme with existing roadways and islands in chain lines (St. George's site appearing on the left). Top, the scheme as it would appear from the north point on the plan. Centre, a view from the Palace gardens with the existing St. George's above the trees on the left.

COTTESMORE COURT, KENSINGTON

This block of flats, further illustrations of which appear elsewhere in this issue, stands on a site in South Kensington not very far from Kensington Gardens.

The lay-out was governed by the shape of the site, two street frontages, by right of light in two positions, a desire for cross-ventilation in all flats, for a garage in the basement and parking space at ground level. The south-west corner was set back to avoid vibration from an underground tunnel.

On the left is a detail of the south and principal front. ***The architects are Unsworth, Goulder and Bostock.***



PRICES

SOMEONE somewhere once said that economics had three floors : the lowest being accountancy ; the first, intelligent self-interest ; the second and principal floor, mass-psychology.

Architects have daily experience of all three of these departments, but chiefly they are concerned with the uppermost. Self-interest becomes with them their clients' interest (although also, indirectly, their own). Accountancy in building in its more complex aspects they manage to escape to some extent. But they never escape the psychology.

Always and everywhere in the matter of building costs they are concerned with the psychological moment. And on their skill in choosing the moments depends more of their success than they like to admit at General Meetings.

There is the story of the architect who never had any trouble with extras. By a coincidence the manager of the general contractors for one job was always asked to call to agree the final list of extras when the tenders for a second job were lying unopened on a side table in the architect's office. The architect used to begin : " Well, we've worked together so well up to now, Mr. Blank . . ." and, as he used to say, he never had trouble in coming to a reasonable agreement over extras.

There is the story of the architect who always chose small builders to tender for a £2,000 house, and sent them eighth-scales only and a specification of only a dozen pages drawn up with infinite care and apparent open-handedness. The day after the contract was signed, nine half-inch details and twenty full sizes, all almost unreadable with written instructions, used to be received by the simple-minded, mortified and successful contractor.

The heroes of these stories, if heroes they were, showed at least an appreciation of the importance of psychology in building. They knew that building is always something of a gamble—on being able to keep a steady volume of work, or on the type of man with whom one is dealing. And they knew that builders as well as architects have to take a chance in these things and set off a small loss against a larger gain.

Where these two were exceptional was in their being, for the moment, in a position where they could get more than a square deal ; and in their taking it without winking. In the building industry nowadays such occasions are becoming fewer, as it becomes obvious that it is in everyone's interest to restrict the gambling part of building within the narrowest possible range.

Especially is it in everyone's interest for prices of materials and labours to remain reasonably steady and to be readily ascertainable. Even when this is so, there remains a mass of unpredictables in building over which chances have to be taken, and which provide more than enough scope for skill, experience and competition in efficiency.

The JOURNAL cannot, unfortunately, contribute towards stability in prices. But it can do the next best thing by publishing a comprehensive range of prices which is simple to consult and as accurate as it can be made. And it can add to the usefulness of this list in two ways. Firstly, by publishing comparisons of prices at, say, six-monthly intervals. Secondly, by combining prices and labours over a range of frequently-used building units (such as brick walls, tiled roofs, and wood block floors on concrete) and expressing the cost as an average price per yard super. or in some other easily used unit.

In the Prices Supplement which begins this week, the JOURNAL has tried to do these things. The Supplement consists of four parts, one published each week, and is as clearly set out and as wide in its range as space has made possible.

The first two sections contain the prices of materials —useful to architects but perhaps even more useful to quantity surveyors and builders. The third and fourth sections contain measured rates ; and the fourth section will also contain twenty to twenty-five Approximate Estimates which will be very useful in making estimates of new works and alterations. The prices will be revised throughout each month and changes marked, and labour rates will be published in February (when the next changes in rates will be made), and thereafter re-issued when subsequent changes occur.

In addition, Messrs. Davis and Belfield, who have compiled the prices for the JOURNAL, will answer any question arising out of the Supplement.

The JOURNAL realizes that in twenty pages a month only a selection of prices can be listed. It has tried to include all the most widely used and best-known materials and methods, whether proprietary or otherwise ; but frequently it has had to choose one out of two, or three, materials equally good. A measure of injustice and incompleteness is unavoidable in such a selection, which necessarily must be a matter of opinion.

The prices for the first month or so should therefore be regarded as experimental, and the JOURNAL asks for, and will pay most careful attention to, any comments and suggestions sent to it.

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NOTES & TOPICS

THE MARS PARTY

WHAT Corisande, of the *Evening Standard*, described as a "distinguished representative gathering" assembled last Wednesday evening, at the New Burlington Galleries, to meet M. le Corbusier.

*

Introduced as "Mr le Coryerbury" by an M.C. who had evidently been to the A.A., he spoke under the further handicap of a sonorous accompaniment from the Exhibition gramophone, and in conditions of heat so stifling that two women fainted and a distinguished architect had to be led out.

*

It is not surprising that he (le Corbusier) complained of feeling a bit weatherbeaten, as he had flown that day from Prague.

*

His easy manner, however, and quiet charm gave a greater conviction to his remarks about "the revolutionary period in which we find ourselves." After paying a tribute to the MARS Exhibition as the most "sensible" he had seen, he described his reactions to London, where he felt that the forces of obstruction were so strong that if modern architecture succeeded here it would succeed anywhere.

*

His views were possibly coloured by his previous experience that evening. After being taken to Brown's Hotel to change, he had been entertained to dinner at the Reform Club. Upon entering its marble halls, he is reported to have stroked a column and to have uttered this remarkable epigram: "I have never designed in the styles, but—sometimes—I regret . . ."

*

Although I saw none of the Tecton partners there, Mr. Basil Ward was seen check-vested, leaning on an ebony cane, and looking very like R. L. S. Another stick-user was Miss Elizabeth Denby, who had apparently strained her ankle outside "the living room."

*

Our Fabian friend, Mr. Robert Byron (who is, of course, the *New Statesman* architectural critic) was heard to reiterate his published view that the Exhibition showed a regrettable "Left" tendency, while my companion in the lift going down was muttering to himself, "Commodity, Guinness and tonight."

THE MARCH OF PROGRESS

A story is now current that the final details of a sizeable competition cannot be settled because the promoters wish either to exclude a particular architect from the competition or to reserve the right to set aside the award if he wins.

*

This is a very difficult situation for a conscientious assessor. The rest of us, sympathetic towards the assessor and with curiosity slightly aroused about the architect, are able to see in the affair a gratifying sign of progress.

*

Twenty years ago (or even less?) the situation was a little different. Then, promoters welcomed a competition providing a particular architect won it, and reserved the right to set aside the award if he did not.

UNMENTIONABLE MEETING

Informal General Meetings must not be reported. The idea is that at a meeting about "Architecture and the Next Slump" (last week) young men can let off steam without giving the game away or allowing the public glimpses of Revolution in the Throne Room.

*

There would be more in this if young architects were more addicted to public speaking. In spite of this modesty the meeting was a success—at any rate a modest success. A planned programme of public works was felt to be the only solution to slumps, beginning with more support for B.I.N.C. Mr. Coppock gave us the works, Mr. Tatchell and Lieut.-Col. Rowe favoured B.I.N.C., and a good, careful speaker (not a Junior Member) described armaments happily as "inert public works."

*

Other people with something to say were the Chairman (Mr. Jordan), Mr. Carter ("begin by helping the Benevolent Society"), Mr. Barr and Mr. Manning. As well as the gentleman who told a good story about a railway accident.

*

If only a little more blowing off steam would occur . . . .

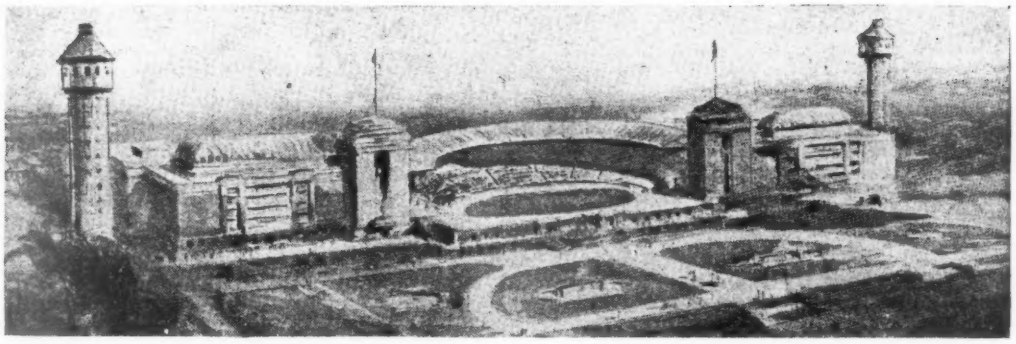
DEATH OF A CLIENT

The client whose small timber residence, by Mr. Brian Herbert, was illustrated in the JOURNAL's New Year Issue has received a fan mail.

*

In case this increases the Editor has asked me, as the

Mr. Herbert's client, referred to above.



The new scheme for the Crystal Palace site referred to below. A stadium for 60,000, two great halls and an exhibition hall are provided for.

most gentle and delicate-spirited of his contributors, to tell a particularly sad story.

*

The client may have objected to the isolation and luxury of his new home (he was observed to have got rid of the lacquer finishes very quickly). Or it may have been the lack of central heating. At all events moodiness gradually developed into the paralysis to which his family are notoriously subject; and at length he was understood to welcome euthanasia.

*

His passing, deeply felt by his immediate circle, will be the more widely regretted in that he was one of the first patrons of a new development in architecture.

CRYSTAL PALACE

A new scheme for the reconstruction of the Crystal Palace, the design for which is reproduced above, is prompted by an unusual, but certainly human motive.

*

Mr. Parnacott, the architect, is reported to have said that "his only inspiration in preparing this scheme was born of his personal association with the Crystal Palace, and a desire to see this noble site developed in a way that would be of rich benefit to the nation."

PRESIDENT AND STUDENT

Mr. Goodhart-Rendel, speaking to students at the R.I.B.A. on Monday, excelled himself—but he always does—and it is surprising that he did not get a fuller house. He kept us chuckling and yet got in a few home truths too. Prof. Richardson called it epoch-making, but I feel it was too well balanced for that—it is the fanatics who are ultimately epoch-making and Mr. Goodhart-Rendel could never be a fanatic.

*

For instance, Mr. Goodhart-Rendel criticized, whilst admiring, that section of the younger generation who place social reconstruction above the fine things of the mind, above "feeling." Give us these latter, he implied, and the other things shall be added unto you. But is this so? Does not history prove something very different? Was not the position of slaves, women and non-Hellenes unspeakable in the age of Plato and Socrates, were not lunatics thrashed and children chained to looms in the days of the Prince Regent, and was not St. Joan burnt in the shadow of Rouen cathedral?

*

No—art and reform do not go hand in hand; they may do so, but it is not in the nature of things that they should. The idea that they should did not arise, I think, until William Morris launched his socialistic wallpapers and until the Garden City movement was firmly established. Rightly or wrongly, the majority of young architects today can only see salvation by following some such road to its bitterest and most logical conclusion.

EASTON & ROBERTSON AND STANLEY HALL

When I took it upon myself to review the architecture of 1937 I made one slip—the last that I would have made on purpose. In referring to the Nurses' Home in Great Ormond Street—the building to which the London street architecture medal was awarded—I mentioned the names of Mr. Easton and Mr. Robertson, but forgot to mention Mr. Stanley Hall. This is an important omission for which I apologize.

*

At the presentation the cross-talk between Messrs. Easton and Robertson left no doubt about how much it was Mr. Stanley Hall's job. Also, for the first time in such an affair, the assistants who worked on it were mentioned by name. A great step forward.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

THE ARCHITECTS' DIARY

Thursday, January 27

R.I.B.A., 66 *Portland Place, W.1. Exhibition of the drawings submitted for the prizes and studentships. Until January 31.* 10 *a.m. to* 8 *p.m. Saturday* 5 *p.m.*

EXHIBITION OF MODERN ARCHITECTURE, *arranged by the MARS Group. At the New Burlington Galleries, Burlington Gardens, W.1. Until January 29.* 10 *a.m. to* 8 *p.m.*

HOUSING CENTRE, 13 *Suffolk Street, S.W.1. Exhibition:* " *Rural Housing.*" *Until the end of January.*

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.1. Exhibition of works by Hector Whistler, including decorative schemes for mural paintings, glass decorations, and others. Until January 31.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At the Institution of Civil Engineers, Gt. George Street, S.W.1.* " *Some Apparatus for Specialized Use on Sites of New Foundations.*" *By A. Hiley.* 6.30 *p.m.*

Friday, January 28

REIMANN SCHOOL, 4 *Regency Street, S.W.1.* " *Modern Design.*" *By Professor R. Gleadowe.* 8 *p.m.*

Monday, January 31

INSTITUTION OF STRUCTURAL ENGINEERS. *Midland Counties Branch (Junior Members' Section). At the James Watt Memorial Institute, Birmingham.* " *Structural Details and Some Interesting Problems.*" *By G. K. Jarvis and E. Morris.*

Tuesday, February 1

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.1. Debate on* " *Publicity for Architects,*" *to be opened by Stanley C. Ramsey.* 8.30 *p.m.*

Wednesday, February 2

LIGHTING SERVICE BUREAU, *Savoy Hill, W.C.2. Conference on* " *Utility Illumination.*" 7 *p.m.*

R.I.B.A.

PRESIDENT'S ADDRESS TO STUDENTS

Following are some points made by Mr. H. S. Goodhart-Rendel, P.R.I.B.A., in his address to students at the R.I.B.A. on Monday last:

My first counsel to students is—*think as hard as you can and think all the time.* My second is not the grudging one of—*feel as much as you must*, since I grudge nothing to feeling that is kept in its proper place as an incentive to thought. All art rises from feeling, from the instinct in man to create, from his desire to share with others his sensuous pleasures. The instinct may be used to noble ends or indulged in in innocent fantasy. In itself it is one of the most delightful capabilities of mankind.

The feeling I recommend you to suspect, when it wells up within you, is that which urges you if books and exercises seem tedious to " come forth into the light of things " and " let Nature be your teacher." When Wordsworth suggested to others this method of education, he himself already knew a large number of things not taught him by Nature but which he certainly did not intend to forget.

For when I say *think*, I mean *think about design.* Every architect knows that he must think about structure and hygiene and the properties of materials and contracts and time schedules and the keeping of accounts. He observes that men of other affairs—lawyers, officials, directors, and so on—have similar preoccupations, whereas painters, sculptors and musicians generally have not. He is sometimes apt, therefore, to forget that painters, sculptors and musicians do not, or at any rate should not, float about in a world of thoughtless feeling, but have special obligations to think that are no less binding upon the architect. At the moment, all these artists have to make things into air and pray that the international art-trade may speculate in their produce.

No architect can make buildings into air in the hope that some dealer or publisher will acquire rights in them. The architect must wait until somebody gives him orders and the money to do a specific thing, and in this his position is more healthy than that of his brothers in other arts. In another way his position is unhappy and peculiar. Very few of those that employ him know or care whether what he gives them is a work of art or not.

Usability, prettiness (or stylishness or starkness or Swedishness or whatever may be in vogue at the moment) and cheapness are all reasonable attributes of a work of art, and to deny them to people requiring them would be a bad way of making those people want something more. It is recognized by architects that the essential factor in the amelioration of their art is the education in it of the public, and if you want to educate people you must not start by annoying them.

The power of orderly manipulation that you claim is only one of architecture's powers, the greatest of which is a mystery of the mind.

For this greatest power our thought can only clear the way, but without all the thinking we can do the way for it will never be cleared at all. Products of this power used in Victorian days to be attributed to inspiration from above, from which attribution a celestial action for libel might frequently have accrued. By certain modern psychologists they would no doubt be attributed to something very much less respectable; but I believe we shall be near the truth if we think of them as results of subconscious experience intermittently becoming available as our thought fumbles with the keys of our memories.

And now I am going to tell you what I think about super-realism, a lost cause that, like most lost causes, has come across to end its days peacefully in England. Super-realism, as I understand its aims, would have the artist hand himself over to his subconscious impulses, avoiding all direction of them by his conscious mind. Now, we all know that Coleridge declared he had written " Kubla Khan " under the influence of " an anodyne," and " Kubla Khan " is a poem well worth having. But is the vein really worth working? Does not its characteristic ore, the wonder of veiled associations of analogies half perceived, of words signifying little but connoting much, does not that ore shoot through all the fully conscious art that is worth much? Are not the super-realists attempting to isolate and turn a spotlight upon something whose presence ought to be assumed as a matter of course?

Logic, the science of reasoning, is the basis of all artistic processes, and in architecture is the basis of the art itself.

Modernistic buildings and buildings that are self-consciously picturesque can both be very pleasing when perpetrated by clever men, and no doubt many of you are clever enough to produce them to your own satisfaction and that of some other people. Those of you that are not clever enough will equally try to produce them with no worse results than most to which the public is already hardened. Looking, however, at the best of this architecture, or as I should prefer to call it pseudo-architecture, I want you to ask yourselves whether it would be any the worse if beside making an effect it also made sense.

I therefore urge you in your studies to aim above everything at the power of quickly grasping a programme. In school, programmes are written for you, in practice afterwards you will have to deduce them yourselves from instructions that will often reach you in a confused and indeterminate form. Never attempt to do a stroke of work—of drawing work—on such instructions until you have put them in order in your mind.

Next consider your plan. If your programme be properly arranged you will see at once what in it are the major desiderata and what the minor. Put the minor desiderata aside for the moment and concentrate your mind upon the major. Make very rough sketches, to a very small scale, of alternative ways in which those pre-eminent needs can be supplied.

The object of the traditional *esquisse* in school training is to accustom students to perform these first stages of design quickly but surely, and no faculty will prove more useful to them in their professional life. The rough little sketches I have just recommended you to make ought to be too slight and diagrammatic even for an *esquisse*—they ought to be for your own eyes alone, not a moment being wasted on making them intelligible to others. When you have chosen one of them to study, you should roughly trace it again and again, working necessary things into it one after the other.

I can lay down no rule as to when the materials and methods of construction should be decided upon, supposing them not to be dictated or unequivocally implied by the programme. I think that generally, when lines of internal communication and the grouping of principal rooms have been provisionally arranged, it is clear enough whether the building can be better and more cheaply built with walls or with a frame. If frame-construction be your choice, you will be spared the many constructional difficulties of carrying weights on walls, though you will incur the moral obligation of wasting none of your employer's money on costly engineering expedients necessitated by untidy planning. To plan a framed building cleanly and well is an admirable exercise of skill, to abuse its constructional capabilities in unmethodical opportunist planning is dangerously easy.

Whether you plan for wall-construction or for frame-construction, I advise you in your earliest sketches never to close spaces with lines but to define them by dots marking points of support.

There is no need that I should follow the process of designing onward from the first or pre-*esquisse* stage, since the method of thinking on tracing paper, and of thinking about things in the successive order of their importance rather than altogether, will run through all your operations until your design is complete.

At the beginning of this address, I said I must confess to many doubts, but of what I have said so far I have no doubts at all. The experience of the world is long enough to show that architecture not conditioned by reason can have no continuous validity. I am much less sure than I used to be, however, as to what under modern conditions is the architect's proper scope. When I was young I thought that an architect ought ideally to design everything that was put into his buildings, not only all the plasterwork, woodwork and metalwork, but also, if his employer allowed it, the furniture as well. I felt there was something idle or even shameful in using a stock pattern if circumstances could allow a thing specially designed.

What I and the many who thought with me ought to have realized is that this conception

On this page are photographs taken at the MARS party at the New Burlington Galleries (where the Group's Exhibition is now on view) on Wednesday of last week. Above, from left to right, the reception committee: Godfrey Samuel, M. le Corbusier, Wells Coates, J. M. Richards, Serge Chermayeff and E. Maxwell Fry.

Above (left to right): Dennis Clarke-Hall, E. Maxwell Fry, Walter Goodesmith, and Mrs. Dennis Clarke-Hall. Right: le Corbusier.

AT THE MARS EXHIBITION

Lord Horder.

Marquis and Marquise de Casa Maury.

Professor C. H. Reilly and Mrs. E. R. Hutcheson.

of the architect's universal obligation was one that, if justifiable at all, was only justifiable temporarily. One of architecture's periodical revolutions was going on at the time, and as a rule if you want a thing done in a revolutionary way you have to do it yourself.

In between such times of revolution there have always been longer peaceful stretches during which the ordinary habits of the building trade produce pretty much the results the ordinary architect approves. The designs made by craftsmen in the days of Wren for woodwork, plasterwork and ironwork were such that Wren could and did adopt them with very little modification.

There are modern parallels to these practices. An architect of large commercial undertakings may often now be a man having a very small staff indeed of draughtsmen and obtaining the designs for everything he can from the manufacturers who will supply it. The transference of details from books has inevitably become less direct since photographic illustration has superseded measured drawings, but still continues. Architects may be rare having a style as strongly personal as Shaw's was, but in a good many offices the authentic master's touch is supplied as often as not in the master's absence.

I used to think these ways of conducting a business abominable ; sins against both honesty and art. I now cannot see that honesty is concerned, except when a man tells or implies an untruth about the authorship of a design or drawing. People who go to the commercial firm of Messrs. Speedy and Sharp do not expect buildings detailed personally by Mr. Speedy or Mr. Sharp any more than they expect to buy a ham personally cured by Mr. Fortnum or Mr. Mason. They get buildings of the well-known Speedy and Sharp quality and are satisfied.

Unhappily their satisfaction is too easy, and as architecture the buildings they get are usually bad. The designs chosen by Messrs. Speedy and Sharp from stock, or those made by manufacturers at their behest, are often unsatisfactory and always mutually discordant.

Quite recently these internecine tendencies have been diminished by a fashion for extreme simplicity, since there are many fewer ways of being simple than there are of being complicated, and one man's notion of an extremely plain thing may be much like another's. Like the music of a modern *revue*, the architecture of a typical block of modern flats will be very much the same whether it has been composed by sixty men, by sixteen men, or by nobody at all. Such architecture has always seemed to me below man's dignity and seems so to me still. I have, however, come to think that the proper remedy for it may lie not so much in the restoration of single authorship as in the improvement and the harmonising of the collaborators. Ideally such co-operation may or may not be desirable, practically it is likely to be forced upon us by circumstances.

When I say that a building could be well designed co-operatively, I mean that it could be well designed by an architect with large contribution from craftsmen (or manufacturers), or by an architect who allowed his draughtsmen frequently to take the initiative. I do not mean that they can often be well designed by architect-groups, because that is a thing about which I am not sure. I used to have no doubt that the architect-group was the designing unit of the future, and that within each group there would be various specialization in which could be avoided the purblind mental isolation to which the whole-time specialist is liable. I always thought of them, however, as bodies each acknowledging a leader, and only as such do I foresee for them any continued success. If the association has been formed in pursuit of an egalitarian creed, it will have, on the emergence of a leader, either to recant or dissolve. This seems to me all very inconvenient when the advantages of an association can be secured by small modifications in the old system of partnership.

Many of you may decide to join neither a group nor a large firm, but to work instead in the architectural department of a public or private body. When I was young I used to think, as most of us did, that this was a decision certain to lead to heartbreaks ; but I now recognize, as I have said recently, that whether the departmental system in the main be disadvantageous or not, its achievements of late years have sometimes been in the van of architectural progress. You must choose your department as you would choose a private office, with an eye to what you can learn in it, the scope it will give you, and the extent to which it will limit your freedom.

And now, ladies and gentlemen, I have put before you such counsels as I feel qualified to give, and have exposed to you some of my uncertainties. I have laid great stress upon the intellectual basis of architectural art, because I observe a tendency in these days to confine intellectual processes to architectural practice and to leave art to look after itself. In other words, I see a great deal of thinking being done about what is sociologically desirable to do, and not very much thinking about the æsthetic processes involved in doing it. You have all decided that you want to be architects ; do not degrade that ambition by the qualification that you want to be architects in order to build hospitals or destroy slums or lay out wholesome cities. You should—and I am sure do—want to be architects because the fine arts and the things of the mind can help to lift civilization to a point at which all cities must be wholesome and slums impossible. Ladies and gentlemen, I wish you God-speed in your studies.

COMPETITION NEWS

ST. GEORGE'S HOSPITAL

The Conditions Reviewed

WHEN it was announced that the proposed rebuilding of St. George's Hospital was to be the subject of an open competition, many of us must have thought of the problems with which competitors would be faced, and of the significance of the project to that particular part of London. It is one of *the* most important competitions of a generation and will presumably raise as much argument as the biggest competitions of the pre-war period. We heard that the new hospital was to be rebuilt on the present site at the busiest traffic corner in London, and wondered why the opportunity of moving to a quieter and more efficient site was not to be taken. We can only guess that the question is a financial one outside the architect's control—a question of prestige, advertisement appeal in order to ensure the necessary flow of voluntary support. One could hope that the decision will not prove to be a blunder, and that the selected architect would have an opportunity of solving the problems of noise, ventilation, and general amenity to the best of his ability.

The Conditions

The conditions of the competition were late in appearing, and many must have wondered what difficulties had caused the delay. A superficial glance gives an indication of the great difficulty and argument which must have accompanied their framing ; Messrs. Lanchester and Lodge have produced a very clear and concise document, and made every effort to assist the competitor.

All questions are to be asked before March 1, 1938, and the designs are due not later than noon on August 30, 1938. The preamble of the " Conditions " is a usual one, and the information to be presented by the competitor is clearly stated. Headings are given as a basis for the reports—a very useful guide — and the estimate of cost is to be supplemented by a schedule giving the costs for electric installation, lifts, heating and ventilating, kitchen and laundry plants, and all fittings for special treatment laboratories, lecture theatres, etc.—this last requirement seems very unnecessary at this stage, for if it is to be the slightest use it will take considerable time and long investigation.

The Site

The drawings accompanying the conditions are excellent—full plans of the present hospital are given, in addition to a site plan. The site is exactly that of the present building and is known by everyone. The pavement falls from the highest part (52·6) at the Grosvenor Place, Knightsbridge Corner, to 32·7 in Grosvenor Crescent Mews—the existing basements have floor levels of 38·0 approximately at the north side of the site, and 33·0 approximately at the Medical School.

The percentage of building allowed within the site is as follows : Basement, 80 per cent. ; lower ground floor, 80 per cent. ; ground floor, 60 per cent. ; above ground floor, 45 per cent. The permitted height from datum (49·1—the level of the pavement outside the present entrance in Grosvenor Place) is 80 ft., and two storeys in the roof (or the equivalent set-back), but owing to the fall of the ground, the height of the building fronting Knightsbridge, Grosvenor Place, and Grosvenor Crescent, may not exceed 85 ft. Diagrams of the angles of light allowed are given on the site plan—the angle

to Grosvenor Crescent to be not more than 45 deg., and that to Grosvenor Crescent Mews to be not more than 51 deg. Wards or habitable rooms abutting any internal court must have an angle "at least 56 deg. measured from sill level."

All windows facing Grosvenor Crescent—significantly on the south boundary—and on the Grosvenor Crescent Mews, are to be such that can be fitted with blinds or curtains, in order to screen the interior from outside, and balconies are to be screened from other premises.

The Requirements

On this site the competitor is required to plan a modern hospital with in-patient accommodation for 521 patients: of these, 90 are for general medical, and 120 for general surgical use; 34 cots are required in a children's unit. The remainder are in units for the following special treatment:—

Dietetic, orthopædic, fracture, gynæcological, ear, nose and throat, ophthalmological, obstetric, isolation, venereal, and psychiatric. A separate section is to be planned for 43 pay patients' beds (or is it 47?—the detailed schedule for this department seems to show 47).

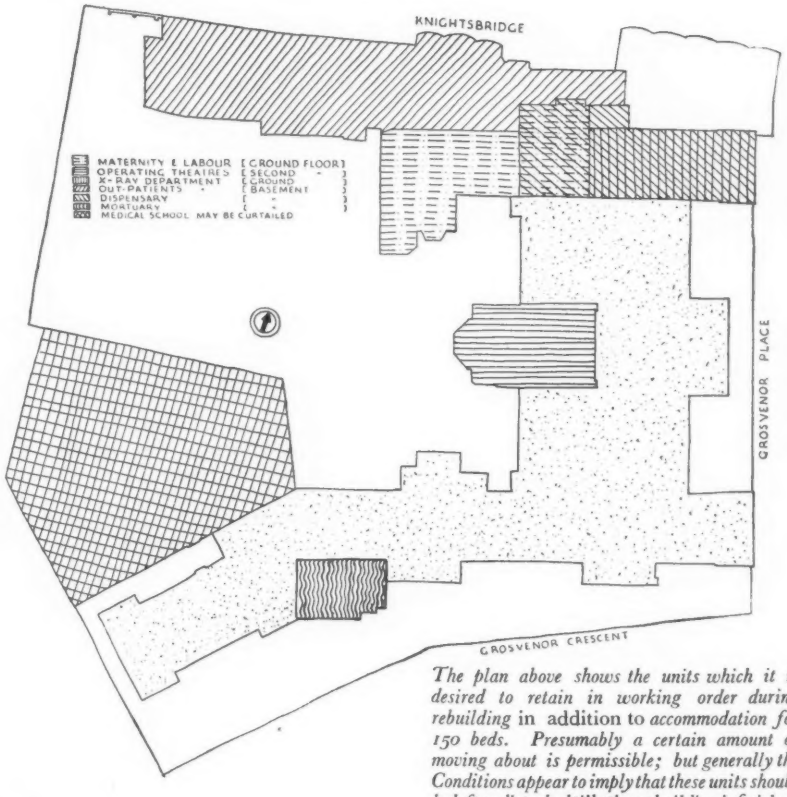
The general medical and surgical beds are to be planned in groups each containing 15 beds—male and female; two such groups are to be coupled together under one sister, forming a unit of 30 beds; each 15-bed unit is to be in the form of one ward of 12 beds, two-bed ward, and one-bed isolation ward. The beds in the large ward to be arranged parallel to the windows in bays of 4 beds. As many wards as possible are to be planned with open and glass-screened balconies suitable as rest-rooms. There is no mention made of noise and ventilation. Surely some special provisions must be made in the ward units to meet the conditions of the site.

Two pairs of general operating theatres and a large clinical theatre are required on an upper floor, with good communication with the wards they serve and to the pay patients' section. Only the clinical theatre which, it is suggested, should be central in the group, is to have a tiered gallery. All are to have north and part top light.

The X-ray department is to consist of two sections diagnostic and therapeutic, grouped together, and easily accessible from the hospital, out-patients' and private block.

It is intended that all patients, both out and in, should enter into the recovery and casualty station, and the circulation of a patient from this point is diagrammatically illustrated on page 38 of the Conditions.

The out-patients' department is a large one, including operating theatre and the following clinics: dental, medical, surgical, eye, ear, nose and throat, and venereal diseases.



The plan above shows the units which it is desired to retain in working order during rebuilding in addition to *accommodation for 150 beds. Presumably a certain amount of moving about is permissible; but generally the Conditions appear to imply that these units should be left undisturbed till other rebuilding is finished.*

Some indication should be given of the size of waiting hall required or the number of patients to be accommodated—incidentally, one is sorry to see that no sub-division of waiting into groups for the various clinics is being considered, and that the practice of herding all out-patients together in one large space is to be continued.

The new medical school is to be designed for 180 students and includes large social rooms, a squash court and three lecture theatres.

The position of the kitchen will exercise the minds of the competitors and all the old arguments for and against putting it at high level will arise; its relation with the central receiving dock will require careful thought. It is interesting to note that all supplies—medical, catering, private parcels, stores, etc., will be received at this central dock.

A considerable amount of staff accommodation is required and under the heading "Nurses' Accommodation" one wondered where the nurses slept until a "changing-room for 300 sisters and nurses" gave the indication that all the nurses will sleep off the premises. There are to be 90 maids' bedrooms, however.

Entrances

The following separate entrances giving access to various units of the hospital have been specified:—

(*a*) Main entrance for administration, voluntary staff, and visitors.

(*b*) Entrance for casualties and new patients.

(*c*) Entrance for out-patients' department.

(*d*) Entrance for venereal department (not necessarily direct from street).

(*e*) Entrance for private patients.

(*f*) Entrance for goods and stores.

(*g*) Entrance for medical school.

(*h*) Entrance for mortuary.

Of these, none open into Grosvenor Crescent Mews, and the following shall not lead directly into Grosvenor Crescent:—

Item (*b*) except by an enclosed and screened entry.

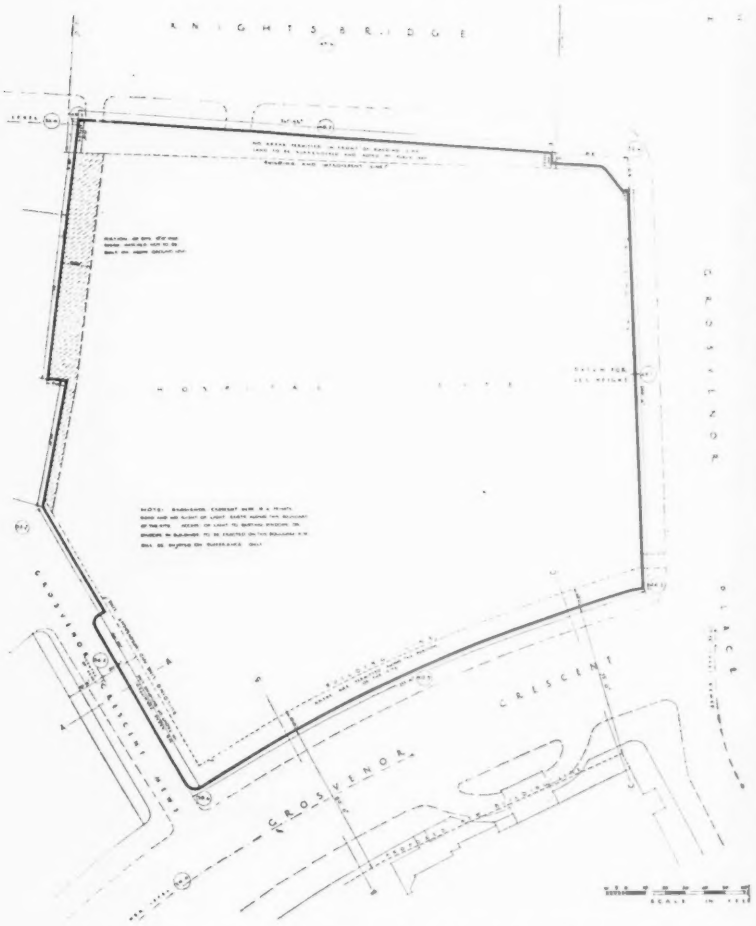
Item (*c*), but an exit is permissible.

Items (*d*) and (*h*). The entrance to the mortuary must be so placed that the hearses cannot enter or leave *via* Grosvenor Crescent or Grosvenor Crescent Mews.

Building Requirements

The above requirements and height restrictions present difficulties enough, but one restriction of paramount importance remains to control and intensify the whole problem.

It is intended to maintain the work of the hospital during the rebuilding, which must necessarily be carried out in instalments so as to retain certain functional requirements of the existing building. It is considered most desirable to retain "a working hospital of at least 150 beds, together with the necessary ancillary services, including maternity and labour departments, operating theatres, and X-ray department, also out-patients and casualty departments, dispensary, mortuary, and post-mortem room, and proportionate



Above is the site plan of St. George's Hospital; the right-hand frontage, labelled Grosvenor Place, faces down Piccadilly. On the right is an aerial view of the site with St. George's in the foreground, Hyde Park Corner in front of it and Piccadilly beyond. Photo: Fox.

accommodation for staff nurses and maids." The medical school must not be closed at any time, though its accommodation may be curtailed. The plan on page 161 shows these units in the existing building and leads one to speculate on the reason for the Conditions making the suggestion that "probably an initial clearance of the site facing Knightsbridge will present fewest difficulties."

There is obviously a strong reason why the hospital must remain open, but the restriction it places upon the competing architect is a fearsome one, especially in view of the difficulty of the scheme without this added problem. It leads one to ask whether in practice, on this restricted site, it is reasonable to ask patients to suffer all the inconveniences that must ensue by such an arrangement—what about the noise and dust of building and the difficulties of the staff during the period? With the site cleared before building operations began, presumably the whole work could be completed within two years—how long will it take done in sections?

Elevations

It is thought desirable that the new building should be "in harmony with the surroundings"—no doubt all architects will immediately comply with this requirement after their fashion—but the reason given is "in view of the fact that the design must be approved by the Office of Works by reason of its proximity to Buckingham Palace and by the Grosvenor Estate on behalf of their property to the south and west." A Portland stone façade is specified for all elevations seen from the neighbouring roads, and thus we have the limiting and very clear clue as to what will be acceptable.

RICHARD H. MANTHEI
B. L. MOIR
ANOTHER ARCHITECT
ERIC GILL
D. E. MORRISON AND
THOMAS G. RICHARDS

LETTERS *FROM* READERS

Professor Reilly Speaking

SIR,—I have read with interest the remarks that have been made from time to time regarding the extent of responsibility taken on by an architect or borough engineer for a job which has been carried out in its entirety by another architect on his staff.

Professor Reilly, in his stimulating article in last week's issue of the JOURNAL, very sensibly states that an architect with more than a dozen assistants or so cannot rightly claim to be responsible for the design of a job to which his name is attached. Although I am an engineer, I do sympathize with Professor Reilly when he sees a borough engineer's name attached to a job which is known to have been carried out entirely by an architectural assistant. I have myself worked in collaboration with such an architectural

assistant on a reinforced concrete baths job and, in spite of attending all meetings right from the start, I never once met the borough engineer until the day of the opening ceremony !

But I have one strong complaint to make. Why is it nowadays becoming the custom to associate the construction of a bridge with the name of the architect employed on the design ? I notice in the press and in conversation with friends that such and such a bridge was designed by such and such an architect. Surely, this is unfair on the engineer, who has far more to do with the design and construction in this high branch of engineering than the architect. I will readily concede that in building work the architect takes first place for responsibility, but with bridges I maintain that it is the engineer who should take first place.

This leads me to that all-important question of collaboration between architect and engineer. In buildings and in bridges, it is fundamentally important that the architect should have a good basic knowledge of the principles of engineering. This can be obtained in one of two ways, namely : (1) by attending a course in engineering at a University or other architectural school ; and (2) by collaboration with the engineer in the initial stages of a new scheme. Not every architect has the advantage of (1), but there is absolutely no reason whatever why every architect should not call in the consulting engineer at the beginning of the job for general discussion and advice before formulating the structural scheme in conjunction with his planning.

I would urge architects, in the case of a factory building say, not to determine the spacing of the columns, where such spacing is not controlled by external factors, but to let the engineer, knowing the loading and general architectural requirements, suggest the most economical arrangement. The architects can then proceed with the preliminary sketch plans and elevations, which will ultimately lead to a scheme that is both architecturally sound and structurally economical.

I remember some time ago Professor Budden of the Liverpool School of Architecture, telling me of a tour he made on the Continent, inspecting a large number of bridges. He ascertained that in every case where a bridge satisfied him æsthetically the structure was the result of close collaboration between the engineer and architect right from the beginning, and where he was not so satisfied, the work was the result of lack of such collaboration in the early stages.

Now, surely, cannot architects and engineers get really together on this question of close collaboration ? Remember, the young students in our Schools of Architecture are being taught the wisdom of this policy, but being juniors in architectural offices when they leave college, how can you expect them to pursue this policy in later life without the assistance of the older architects. It is only the strongest characters who will wait patiently until the time when they have a say in the matter of their firm's policy, or until they branch out on their own. But the number is too small and we want everybody to take part to bring about the system long before evolution will allow.

RICHARD H. MANTHEI

SIR,—Once again last week we had the pleasure of reading in THE ARCHITECTS' JOURNAL another of Professor Reilly's interesting articles, to all of which I and my colleagues look forward with pleasure. I cannot, however, say that I always agree with his point of view, but his articles always provide great food for thought. For instance, in his recent article on official architects, he considers that as the life of the official architect is so serene and untroubled, due to the fact that he has not to search for the next job and has a regular salary and a pension on retiring, the buildings designed by these " gentlemanly" architects should be the finest. Surely this serene and untroubled life of the official is the very reason why so much official architecture is dull and stereotyped, because their lives, their offices, their whole outlook becomes dulled owing to the fact that there is no incentive to work and no credit when the job is completed. Surely it is the incentive of competition together with constructional criticism that architects must have to bring out the best in their work.

If more official architecture were put up for competition, I feel that not only would the ratepayers have a better return for their money, but owing to the competition the best solution to the problem would be found, and our architecture would benefit enormously and we should hope not to see any more of the stereotyped official architecture.

B. L. MOIR

Air Raid Precautions

SIR,—The appearance of militaristic propaganda in THE ARCHITECTS' JOURNAL comes as rather a shock to a number of your readers, some of whom took active parts in the " Great War to End War," and feel quite unable again to aid and abet such wholesale slaughter.

Those experiences and some deep thinking since 1919 have convinced many of us that our spare time can be better employed in seeking to prevent the emergencies so seriously contemplated by R.E. Architect than in attempting, amongst other things, to make dug-outs of the buildings we now create or live in.

We also advocate being " active in good works," but as architects, recommend the rejection of all that leads to the barbarism which is now being so feverishly prepared for. Should we not with equal fervour rather seek to preserve the glories and humanities of Germany and Rome as of London or Timbuctoo, and by letting this be known, so help to build, and be worthy of, lasting friendships between the peoples of all countries.

" Si vis pacem, para bellum " is not very convincing in the light of all our yesterdays.

ANOTHER ARCHITECT

SIR,—With reference to the letter on the above in your issue for January 6, the apathy to which your correspondent refers is due unfortunately to the fact that there is no precaution worth mentioning to be taken. A few rich people can afford air-raid shelters ; the rest of the people will have to make up their minds to be destroyed like vermin.

There is an ominous taint in your correspondent's letter. He says that lack of confidence is " hampering work and trade." One cannot help thinking that the whole situation is the consequence of the unhampered devotion to commerce for which the nineteenth century is famous.

War is no longer the product of racial animosity, but is the product solely of commercial rivalries, and so, if we want to have peace, we must subordinate the financiers. What hopes ?

ERIC GILL

SIR,—We should like to state our views regarding air-raid precautions as opposed to those of " Officer R.E. Supplementary Reserve and Architect " in your issue for January 6.

Mention is made of the alarming apathy of the majority of people. We can only hope that this is a sign of the unwillingness of the people to participate in the war mania now sweeping the country. The Government admits there is no security in the precautions suggested for the " safety " of the people. There can be no safety, only a minimising of the danger.

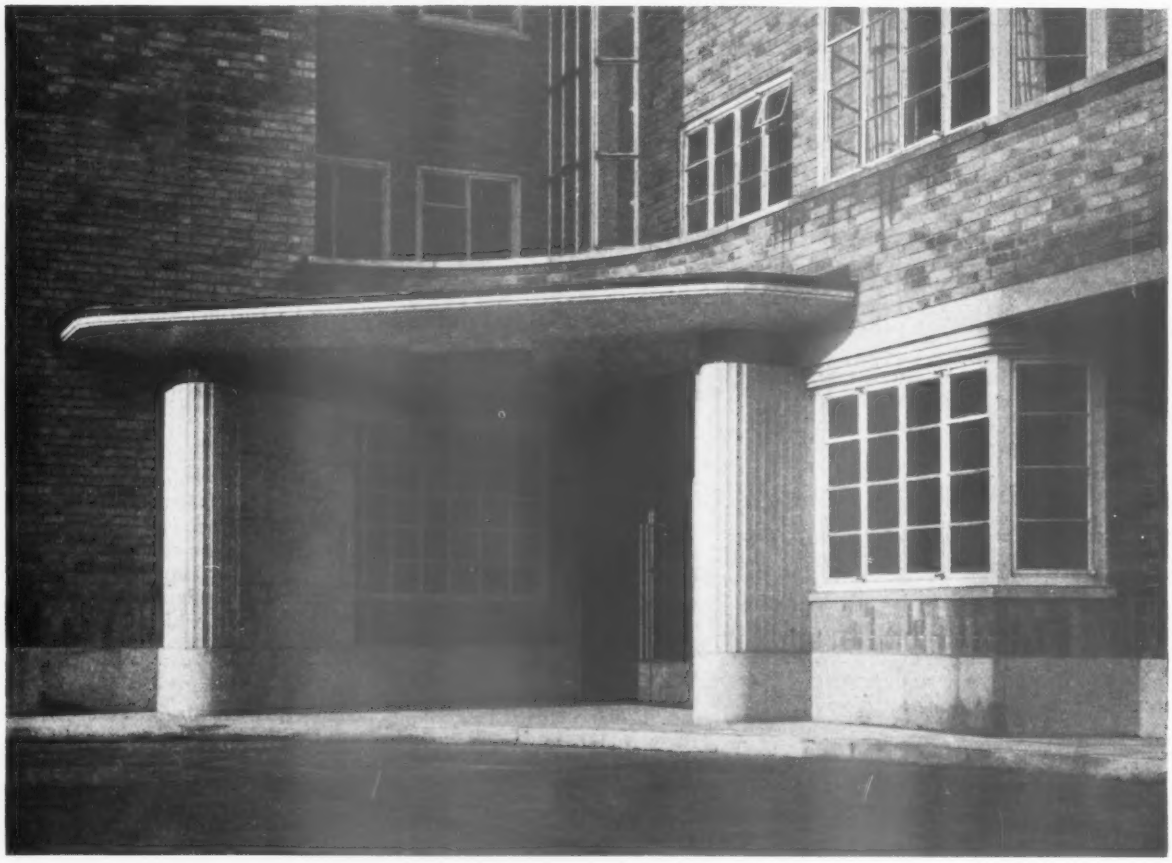
We agree with R.E. when he says it is better to be active in doing good than being passive upon principle. We fail to see how armaments and air raid precautions are doing good. War is being accepted as an institution and no alternative is offered. The people are being deliberately misled. A war psychology is being fostered.

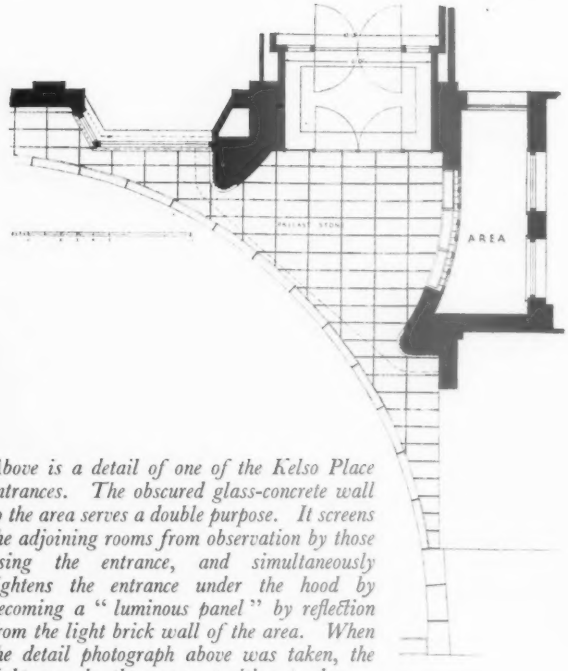
If our leisure hours were occupied in furthering world peace and refusing to be dictated to by the militarists, refusing to have anything to do with war, there would be some chance of having everlasting peace and goodwill.

We offer as an alternative a world peace conference to which all nations should contribute and be willing to meet on equal terms, to share the world's resources to the betterment of all peoples regardless of class or creed.

D. E. MORRISON AND
THOMAS G. RICHARDS

COTTESMORE COURT, KENSINGTON:





Above is a detail of one of the Kelso Place entrances. The obscured glass-concrete wall to the area serves a double purpose. It screens the adjoining rooms from observation by those using the entrance, and simultaneously lightens the entrance under the hood by becoming a "luminous panel" by reflection from the light brick wall of the area. When the detail photograph above was taken, the light was in the wrong position to demonstrate this.
On the right is the Stanhope Road front.

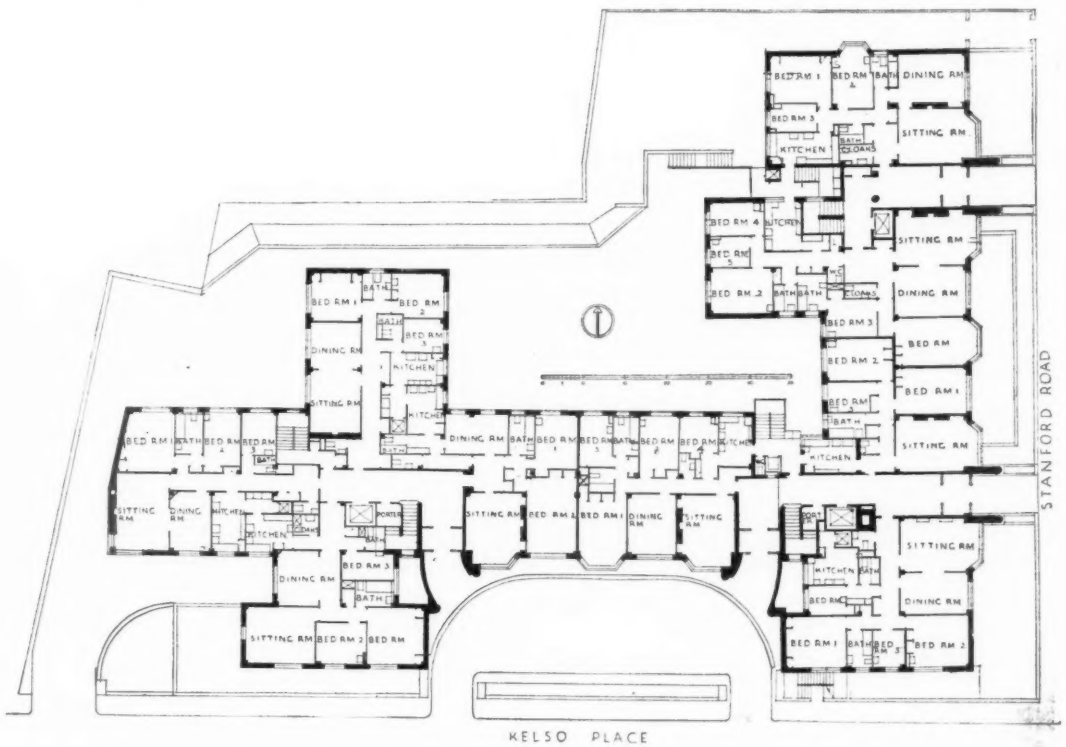
BY UNSWORTH, GOULDER AND BOSTOCK

TYPICAL UPPER FLOOR

PLAN—*The building is divided vertically into three separate blocks each with their own staircases, lifts and entrances. This plan form was held to give greater privacy to tenants. The secondary bathrooms and cloakrooms are internal with mechanical ventilation, making more compact planning possible. Reception rooms and kitchens are grouped together off the entrance halls: bedrooms and bathrooms are grouped together off the bedroom corridor.*

CONSTRUCTION—*Steel-framed construction with hollow tile reinforced-concrete floors. External walls of solid brick with partitions of plaster blocks. The usual double partitions with sound-absorbing material are provided between flats. Floors of flats are of boards on battens, with cork tile floors in bathrooms, kitchens, etc., and in all public spaces and stairs. Flat roofs are covered with asphalt on cork insulation.*

INTERNAL FINISH—*All internal finishes are kept simple, plaster with a textured finish being used in the public parts of the building and plain plaster elsewhere. Bathrooms, kitchens and cloakrooms have a tile dado.*



GROUND FLOOR PLAN

COTTESMORE COURT, KENSINGTON

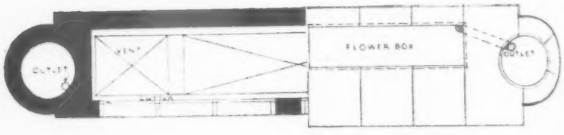
DESIGNED BY UNSWORTH, GOULDER AND BOSTOCK

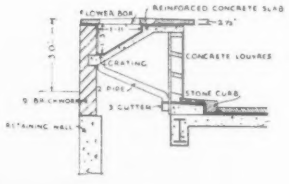
ELEVATIONAL TREATMENT—*Light brown-buff multi-colour brick with cream joints. Dressings in artificial stone.*

SERVICES—*Coal fires are provided in sitting rooms. A passenger lift is provided off each entrance with a modified form of down collective control. Service lifts are provided in a small lobby off the kitchens of each flat, with tradesmen's telephone installation connected to them.*

Central heating and hot water are provided from coke-fired boilers fitted with thermostatic control. Dual mechanical ventilation is provided to internal rooms.

Below are details of combined flower boxes and garage vents in the Kelso Place forecourt. The concrete louvres are backed with wire mesh. On the left is a view of the south-east angle of the building.





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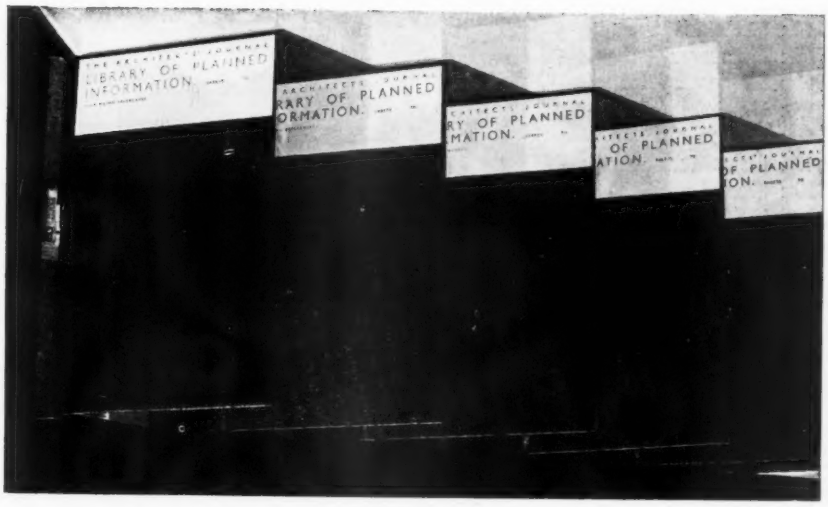
INFORMATION SHEET

SUPPLEMENT

SHEETS IN THIS ISSUE

595 Reinforced Brickwork

596 Gas Heating Equipment



In order that readers may preserve their Information Sheets, specially designed loose-leaf binders are available similar to those here illustrated. The covers are of stiff board bound in "Rexine" with patent binding clip. Price 2s. 6d. each post free.

Sheets Issued since Index :

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502 : Fixing Blocks
503 : Approximate Estimating—XII
504 : Aluminium
505 : Aluminium
506 : Approximate Estimating—XIII
507 : Plumbing : Jointing of Copper Pipe
508 : Roofing—Valley Flashings
509 : The Equipment of Buildings
510 : Aluminium
511 : Elementary Schools—II
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517 : Cycle Parks
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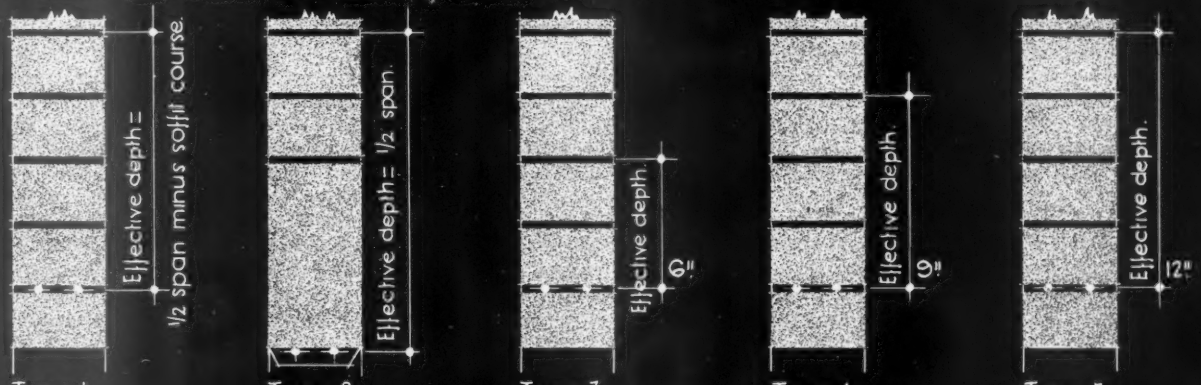
594 : Sheet Leadwork

692. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

THE DESIGN AND CONSTRUCTION OF REINFORCED BRICK LINTELS:

In 4½" brick partitions and cavity walls.

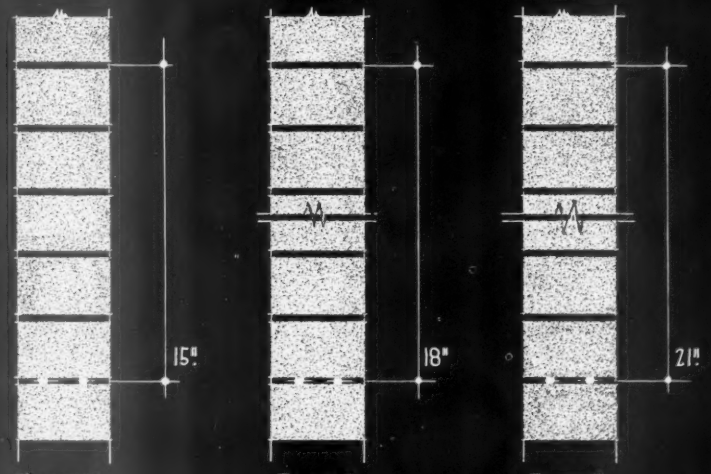


Type 1. Type 2. Type 3. Type 4. Type 5.

TABLE GIVING SAFE LOADING & AREA OF REINFORCEMENT REQUIRED FOR DIFFERENT SPANS OF LINTEL.

SPAN.	Safe super load in pounds per foot run and area of tension steel required in square inches.															
	TYPE.1.		TYPE.2.		TYPE.3.		TYPE.4.		TYPE.5.		TYPE.6.		TYPE.7.		TYPE.8.	
2'3"	730	·033	870	·033	380	·032	580	·031	775	·031	•	•	•	•	•	•
2'7½"	760	·039	880	·038	320	·037	485	·036	655	·036	825	·036	•	•	•	•
3'0"	790	·045	890	·044	240		425	·043	565	·042	710	·042	•	•	•	•
3'4½"	810	·051	900	·050	180		370	·047	495	·047	625	·047	750	·046	•	•
3'9"	820	·056	905	·056	140		330	·053	435	·052	555	·052	670	·051	780	·050
4'1½"	830	·062	905	·062	110		280		395	·058	495	·056	600	·055	700	·055
4'6"	840	·068	910	·068	80		220		355	·065	450	·063	540	·061	630	·061
4'10½"	850	·075	915	·074	60		180		325	·072	410	·069	490	·066	580	·066
5'3"	855	·080	915	·080	50		150		280		375	·074	450	·071	530	·071
5'7½"	860	·086	915	·086	40		130		240		345	·079	410	·075	485	·075
6'0"	865	·093	915	·092	30		100		200		320	·088	380	·083	450	·081
6'4½"	870	·099	920	·098	20		90		170		295	·093	360	·090	420	·087
6'9"	875	·105	920	·104	10		70		150		260		330	·095	390	·094
7'1½"	875	·111	920	·110	—		60		130		230		310	·099	360	·096
7'6"	880	·118	920	·116	—		50		110		200		290	·104	340	·102
7'10½"	885	·124	925	·122	—		40		90		170		270		320	·108
8'3"	885	·131	925	·129	—		30		70		140		230		300	·116

Area of steel = ·0375" | Area of steel = ·056" | Area of steel = ·075" | Area of steel = ·094" | A.S. = ·112"



Type 6. Type 7. Type 8.

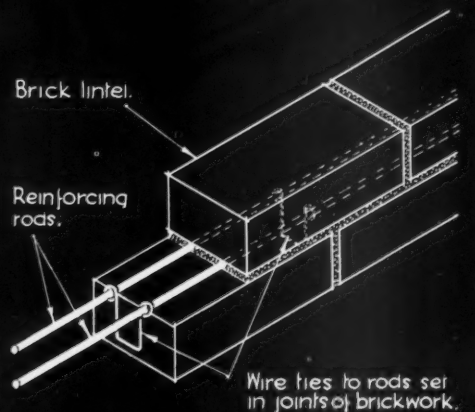


DIAGRAM SHOWING WIRE TIES IN THE VERTICAL JOINTS IN SOFFIT OF LINTEL.

Issued by The Clay Products Technical Bureau of Great Britain. (Figures compiled by C.W. Hamann.)

INFORMATION SHEET: REINFORCED BRICK LINTELS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1. Oscar A. Bayne.

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INFORMATION SHEET • 595 •

REINFORCED BRICKWORK

Subject : Reinforced Brick Lintels

Use of tabulated data :

Brickwork lintels, constructed as shown in the eight diagrams over openings in laterally restrained 4½ in. brickwork, will, when the indicated amount of reinforcement is inserted, carry the tabulated superloads in addition to the effective weights of the brickwork directly over the lintel.

Example.—Type 8 (1st column : entry 10).

If tension reinforcement whose total cross-sectional area is at least 0.096 sq. ins. (e.g. two ¼ in. diam. circular rods) be inserted in the first bed joint above the soffit of a lintel over a 7 ft. 1½ in. opening, the brickwork above which is continuous for at least 21 ins. above the soffit, the lintel will support a distributed load (for example, a floor or roof load) of 360 lbs. per foot run, in addition to the weight of superimposed brickwork.

Basic factors governing the use of data :

(*a*) *Lateral restraint and arch action.*

In deriving the figures given it has been assumed that the wall in which the opening occurs is fully restrained at each end against lateral movement, i.e. the brickwork each side of the opening operates as an abutment. Under such conditions owing to the known arch effect obtaining in bonded brickwork, all stresses operative on the brickwork above the lintel are transferred by such arch action to the abutting brickwork except those which are incident within the triangle formed by the soffit and intersecting lines drawn from the bearings at 45 deg. to the soffit line.

The lintel therefore has only to support the effective weight of the brickwork above it (i.e. the brickwork within the triangle) plus any loads whose points of application lie within the triangle. Therefore in assessing the loads to be carried by the lintel, any loads which operate on the brickwork at points higher above the soffit line than half span can be ignored, as they are transferred to the abutments by arch action.

The data given is, therefore, not applicable where the adjacent brickwork is not restrained against lateral movement, since then no arch action can be assumed and the lintel would have to support by itself the weight of all brickwork plus all loads superimposed thereon at any height above the soffit.

(*b*) *Safe super loads—definition.*

The effective weight of the brickwork (in the triangle) has been deducted from the calculated total load-bearing capacity of the reinforced brick lintels so that the safe super-loads given in the table represent actual load bearing capacity, i.e., floor, roof loads, etc.

Effective Depth : continuous brickwork :

The fundamental principle governing reinforced brickwork design is that, so long as the brickwork, laid up in a proper mortar and suitably reinforced, is continuous it will act monolithically, the compressive stresses being taken by the brickwork, the tensile stresses by the steel. Hence, as regards effective depth of beams (lintels) only those courses of brickwork above the steel which are continuously attached to each other without openings (for floor plates, etc.) or inserted d.p.cs. (other than slate in mortar) can be regarded as acting monolithically with the steel.

Therefore, in cavity walls only brickwork below a lead or other flexible d.p.c. can be regarded operating as a reinforced brickwork beam whose effective depth is that of the courses between the d.p.c. and the steel ; similarly openings in the inner leaf to take wall plates would limit the effective depth. Concrete floors or roofs cast monolithically on to the leaf would not, however, introduce such limitation.

Brickwork below tension steel level :

Such brickwork (as shown in the diagrams of types 1 and 3 to 8) acts merely as a decorative cover to the steel and must not be taken into account in determining "effective depth."

Possible additional safe super-loads (types 3 to 8) :

The super loads given allow for the weight of the whole of the effective triangle of brickwork. Hence, where the brickwork above the lintel does not rise to half span, the maximum safe super-load given may be increased by the weight per foot run of the missing portion of the brickwork triangle. This addition is most appreciable for big spans ; for example, for type 6 lintel, 6 ft. span, overall height from soffit 1 ft. 6 in. it is 37.5 lb./ft. run and for type 8 span, 7 ft. 6 in. brickwork 2 ft. above soffit it is 41 lb. foot run, representing in each case an increase of approximately 12 per cent. in the safe super-load.

Applications :

(*a*) *Partition walls.*—These types of reinforced brickwork lintels are clearly suitable where openings (doors, windows, service hatches, etc.) are required in thin load-bearing partition walls, a few light steel rods thus replacing heavy timbering, camber bars or R.S.Joists.

(*b*) *Cavity walls.*—Similarly, reinforced brickwork lintels can be used with advantage in cavity wall construction, subject to the above-mentioned limitations as regards effective depth. The lintel of each leaf should be designed separately as normally their loads differ, those on the inner leaf usually being the greater.

Constructional detail :

(1) *Reinforcement.*—The total cross-sectional area of the steel required is given in square inches. It may consist of either one or more ordinary solid steel wires or bars or their equivalent in one of the mesh types. The following table gives the sectional areas of wires and rods of various gauges and diameters :—

		Gauge or diameter.	Sectional area per wire or rod.
Imperial Standard wire gauge	Gauge No.	6	0–0290
		5	0–0353
		4	0–0423
		3	0–0499
		2	0–0598
		1	0–0707
		1/0	0–0824
		2/0	0–0951
		3/0	0–1087
		4/0	0–1257
Round Bars	¼ in.	diameter	0–049
	5/16 in.	,,	0–077
	⅜ in.	,,	0–1100
	7/16 in.	,,	0–150
	½ in.	,,	0–196

Position, embedment and cover :

Where only one strand or rod is required this should be placed midway through the section ; where two or more, then symmetrically with the outermost rods at least 1 in. from the nearest wall face. The steel must be entirely embedded (centred) in the mortar, not contacting anywhere with the brick. A top and bottom cover at least ⅛ in. should be obtained, and in exterior walls this cover is preferably increased to ¼ in. Where, as in type 2, the steel is embedded in a mortar soffit, the mortar cover below it for external walls should be at least 1 in.

Mortar, grout and workmanship :

The brickwork above the lintel up to the designed effective depth should be laid in the following mix, for the full width of the span plus 9 ins. at each jamb :—

Parts by Volume.	Material.
1	Portland cement.
⅙ to 1/10	Slaked lime.
3 to 3½	Clean sharp sand.

This may be used as a mortar to fill both vertical and bed joints or preferably as a mortar for the bed joints and thinned down to a pourable grout for the vertical joints. To secure maximum bonding of brick and mortar the suction of the bricks should be partially killed by spraying them before laying for five minutes. Since the brickwork must be continuous throughout the effective depth, workmanship must be thorough and every joint, both bed and vertical, completely filled.

Shuttering :

No other shuttering is required other than a stout plank placed horizontally at soffit level and adequately strutted against bending; this support should not be removed until, as in normal construction, the mortar has hardened sufficiently to carry the loads subsequently superimposed on the construction. Where rapid-hardening cement is used, this period need not be longer than two to three days after completion up to the full effective height (depth) of the lintel.

Wire ties for brickwork below steel :

Where the reinforcement is placed above a course of brickwork which forms the soffit of the lintel, wire ties hooked to the reinforcement should be provided in the vertical joints between the soffit bricks, such ties being looped down into the joint as shown in the detail on the front of this Sheet.

Basic values used in calculating data :

The data given has been calculated from the general formulæ for reinforced brickwork beam design given in the Clay Products Technical Bureau Bulletin No. 2, using the following basic volumes :—

Weight of 4½ in. brickwork per foot super, 50 lbs.

Maximum tension permissible in steel, 18,000 lbs./sq. in.

Maximum compression permissible in brickwork, 200 lbs./sq. in.

Maximum shear stress permissible in brickwork, 20 lbs./sq. in.

$$\text{Modular ratio} = \frac{\text{elastic modulus of steel}}{\text{elastic modulus of brickwork}} = 30$$

Numerical data computed by C. W. Hamann, consulting engineer.

Issued by : The Clay Products Technical Bureau of Great Britain

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Telephone : Sloane 7805

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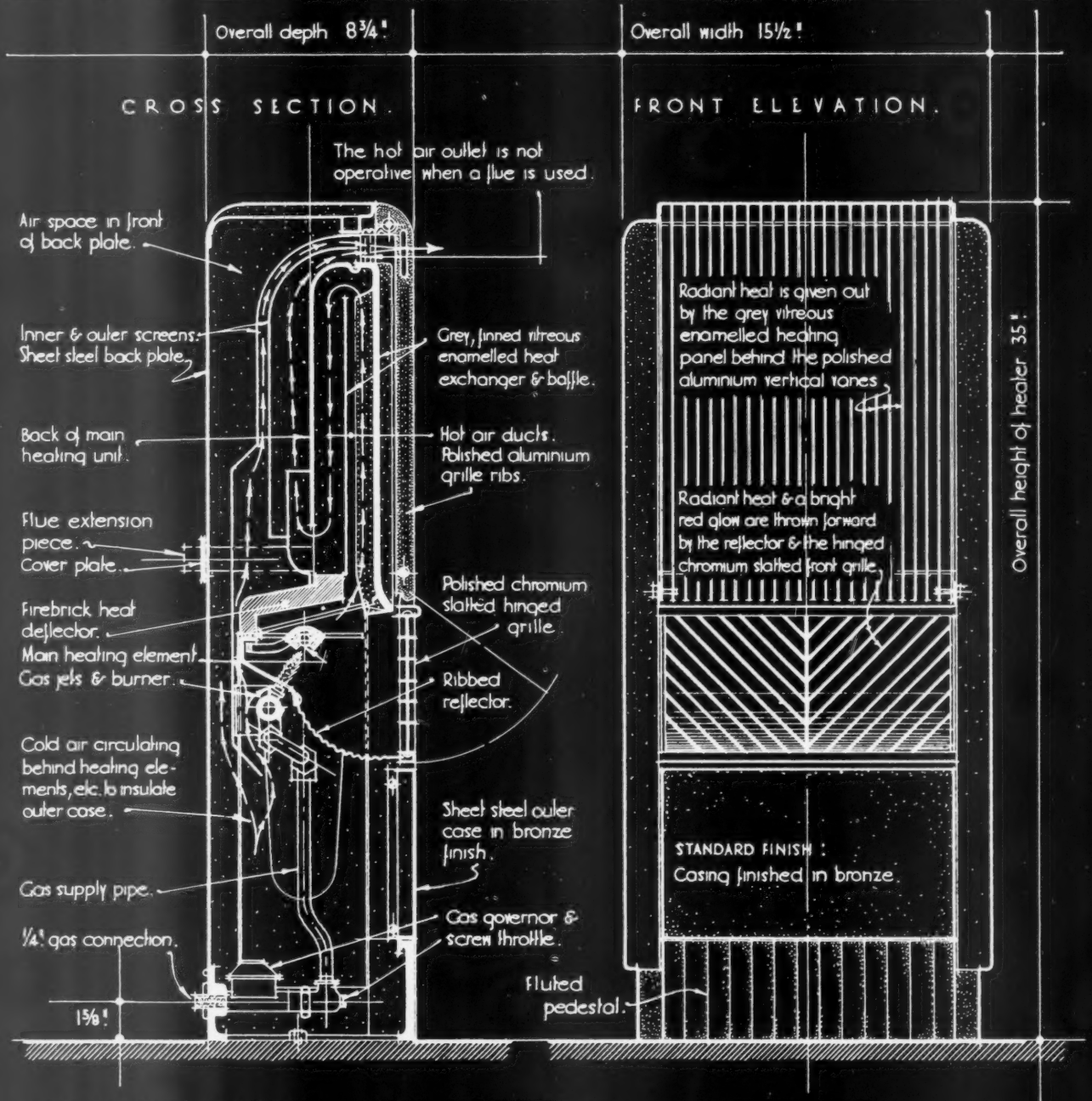
DETAILS OF THE •LUMA• FREE-STANDING FLUELESS GAS HEATER. SCALE : 2 INCHES = 1 FOOT.



MAIN HEATING ELEMENT • This consists of a special wire coil, set in a trough-shaped semicircular fireclay mount. The flame from the gas jets impinges on the wire coil, which gives off a brilliant red glow. The element is held in place by a metal clip.

FLUE CONNECTION • The heater is primarily intended for use as a free-standing unit with no flue, but it can be used with a flue if desired. When the flue connection is used, the hot air outlet at the top front of the heater will not be operative.

CIRCULATION • Gas enters through the ¼" connection & passes to the jets by way of the governor and screw throttle. The flames heat the main element, & the products pass out by the outlet at the top front after heating the grey enamelled front panel.

Information from Radiation Ltd.

INFORMATION SHEET : HEATING EQUIPMENT : FREE-STANDING GAS HEATERS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1• *Rica. a. Bayne.*

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GAS HEATING EQUIPMENT

Product : The Radiation "Luma" Gas Heater.

The "Luma" Heater is a free-standing heater which can be used without a flue if required, and is suitable for use in shops, offices, etc., and for domestic use.

Heating :

Heating is by high temperature radiation from a brightly incandescent refractory element and from a large vitreous enamelled radiating surface. This is supplemented by a stream of warm air discharged upwards and forwards from a vent behind the top of the aluminium guard-ribs.

The element consists of a special wire coil mounted in fireclay. It is mounted above the gas jets and is the main source of heat for the heater. Radiant heat and a brilliant red glow from the heating element are thrown forward into the room by the rippled chromium plated reflector, behind a hinged diagonally ribbed chromium grille, which acts as an additional reflector.

Heated air and products of combustion pass upwards into a chamber after impinging against fire brick deflectors, which are auxiliary to the main heating element. The vitreous enamelled radiating panel which is the second heat source forms the front of the hot air duct, and is heated by the combustion products passing through the chamber. It is enamelled grey and has vertical fins on both sides to increase its heating efficiency.

When no flue is used the hot air, etc., passes out through the front top outlet, providing a third source of heat.

This is not available when a flue is used, but the drop in heating capacity is not serious as the main sources of heat are the glowing element and the front panel.

The heating panel and hot air outlet are screened by an aluminium grill.

Working temperatures :—

Heating rate 9,000 B.Th.U.s per hour.
Front surface temperatures Average : 170°F.
" " " Maximum: 260°F.
Side " " Average : 95°F.
Time taken to reach maximum working efficiency, 20 minutes.

Insulation :

The back, top and sides of the heater remain cool as they are insulated by an air space through which cold air circulates, so that the heater may be fitted against walls, woodwork, etc., without affecting them. The insulation also minimizes risk of discolouration due to convection currents up the sides and back depositing dust particles on the surroundings.

Fixing :

The heater is free-standing and self-supporting. Where it is used without a flue the only connection is the $\frac{1}{4}$-in. gas connection, of normal type, at the centre of the base, at the back.

A panel for making the flue connection is situated in the middle of the back, as shown on the section.

Gas Control :

An automatic governor and screw throttle control the gas flow. There is no cock on the heater, which should be controlled by a union cock fixed as close to it as possible.

Consumption :

The gas consumption rate is 18 cubic feet per hour.

Finish :

The outer case is in pressed steel and the appliance is available in various finishes. The reflector and hinged grille are polished chromium-plated, and the vertical guard ribs in front of the heating panel are of polished aluminium.

Manufacturer : John Wright & Co., Ltd.

Address : Essex Works, Aston, Birmingham, 6

London Showrooms : 19–21 Queen Victoria Street, E.C.4

Telephone : City 6313

Issued by : Radiation, Ltd.

Address : 15 Grosvenor Place, London, S.W.1

Telephone : Sloane 7101

SCHOOLS

The Architects' Journal Library of Planning

Senior Schools

PLAN UNITS : CIRCULATION AND OUTDOORS

TO provide efficient circulation with minimum cross traffic is the most difficult, also the most vital problem in the planning of a large Senior School. Simple connections between well differentiated units make for simplified control by the staff, and avoid confusion at change-over periods.

Entrances

1. *Children's entrances.* In mixed co-educational schools separate entrances to the site for boys and girls are unnecessary.

In mixed schools *not* co-educational separate entrances are advisable as they simplify control. In both types there should be separate boys' and girls' entrances to the actual building, sometimes two or more for each sex, according to distribution of coatrooms. As in Junior Schools, there should be immediate access to coatrooms, thence to lavatories, classroom corridors and outdoor play spaces. Where there are separate coatrooms for each classroom, multiple entrances are likely to work well.

For safety access to the site should be from minor roads when possible, and entrances on opposite sides of the site are usually convenient.

2. *Assembly hall entrance.* With the tendency to use the school assembly hall as an educational centre for the adult community, it is important to plan for independent access to this part of the school. The assembly hall entrance is likely to be used also by parents and visitors.

Turning space and small parking space for cars should be provided. Motorway should be 16 feet wide. By reason of its prominent position this entrance will be referred to as the "main" entrance, but customary adjectival treatment should be abandoned. The impression that the children are expected to sneak in at the

Good surface to hard play space and covered playground at a Stockholm school. By Nils Ahrbom and Helge Zimdahl.

A simple spacious treatment in an entrance hall to a girls' school at Vienna.

back door is not uncommon in recently designed schools.

Where the site adjoins two or more roads the assembly hall can be suitably approached from the most important road, children's entrances from minor roads.

3. *Staff entrance.* This should be separate from children's entrances but may be combined with the assembly hall entrance.

4. *Service entrance* should be entirely independent of other entrances, but should be connected with girls' domestic science wing and boys' workshop. These two departments, as well as main kitchen and heating chamber, should therefore be connected by a service motorway or be given immediate access from a road. Service motorway should be 9 to 10 feet wide with turning or backing space at service entrance.

Corridors

In large Senior Schools it is advisable to make corridors more business-like than in smaller schools for younger children. Circulation has to be efficient and smooth, therefore book lockers and display cases are not suitable in corridors unless recessed. Minimum width for clear circulation should be 7 feet, 9-10 feet when more than six classrooms are served. Projections of any kind should be avoided.

Corridors should be widened at circulation meeting points and at landing points of stairs or ramps.

In large schools there is great advantage in widening the corridor to form a promenade or gallery where it makes contact with the assembly hall. This relieves congestion at a point where children will congregate in large numbers and also provides useful exhibition space, foyer or buffet during school or public entertainments.

Windows

These should be at least 50 per cent. opening with sills well below children's eye level. Centrally pivoted hopper types are most suitable. Central corridors, top-lighted and ventilated, should be avoided except for short stretches.

Artificial lighting and heating

There are no special rules for artificial lighting of corridors. "Port-hole" or built-in ceiling lighting is suitable.

Heating elements should be recessed.

Ventilation

Cross ventilation is not essential unless coat lobbies are combined with corridors, in which case there should either be good cross ventilation or efficient extract ventilation immediately over coat racks.

The problem of getting cross-ventilation to class-rooms on the ground floor of a 2-storey school is usually solved by planning a continuous duct over the ground floor corridor—workable though not entirely satisfactory because of cleaning difficulties.

"Free plan" enthusiasts usually advocate the detached corridor principle for both single and double-storey schools. By this means both classrooms and corridor are given light and ventilation on two sides and classrooms can have two all-opening window-walls. Disadvantages of this arrangement are expense, elongated circulation involving elbowed corridor access to classrooms, and the forming of courts

SCHOOLS

too small to be of any real use, too shady and damp to be kept attractive.

Floor, wall and ceiling finishes

Possible floor finishes are terrazzo (with non-slip carborundum finish or with rubber instead of Portland cement for matrix), non-slip tiles, coloured asphalt, high-density cork or wood composition, and for Nursery-Infant Schools where heavy nailed boots are not worn, jointless rubber or felt or matt surface linoleum. Coved skirtings are important whatever the floor surface.

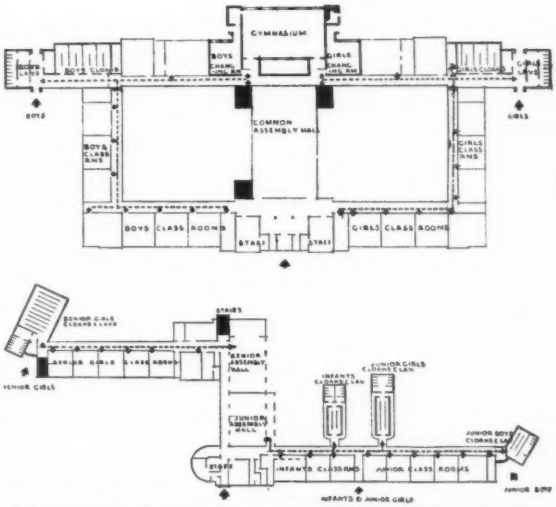
Walls should be washable within finger range, light or bright in colour. Coloured tiles up to sill level, particularly 3-in. tiles with joints carrying through, are attractive and practical (but a little expensive). Above sill level the possibility of washable, cheerfully coloured or patterned cloth wall coverings should not be forgotten as an alternative to washable paint.

Ceilings, of whatever material, should be light in colour to reflect maximum daylight.

Stairs and Ramps

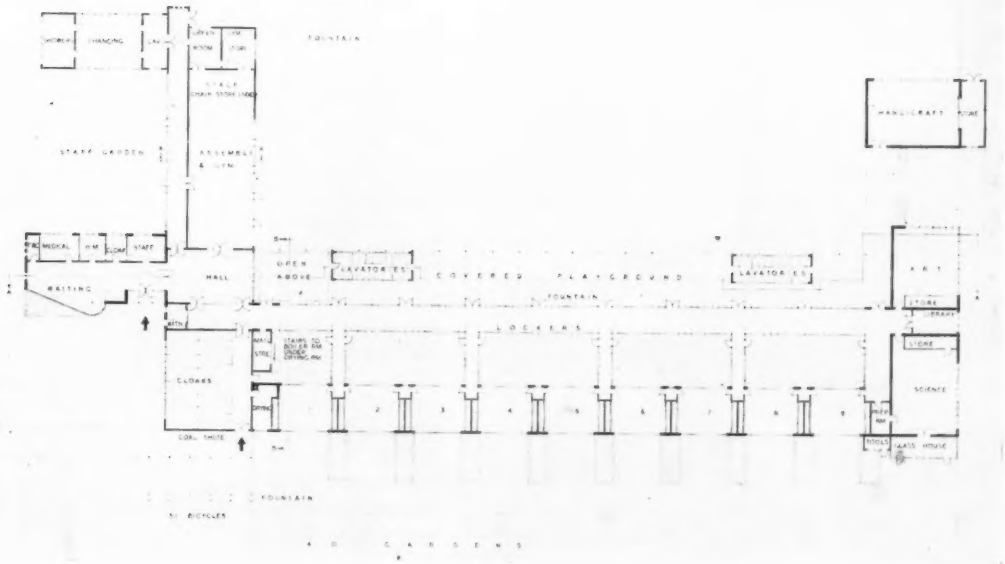
When there is space to spare there are advantages in planning small Senior schools all on the ground floor, but in 3-stream schools it is doubtful if the great dispersion necessary is worth while. The open plan must not degenerate to the straggling plan.

Some form of vertical communication is therefore likely to be necessary in 3-stream Senior Schools, though two floors should be considered the limit for accommodation in general use by the children.



Diagrammatic plans showing circulation in a traditional double-quadrangle school near Birmingham, built in 1929, and in an open plan (the winning design in competition for combined Senior, Junior and Infant School at Folkestone, by Walmsley Lewis).

Elbow access to give two all-opening window walls in classrooms : experimental planning principle well managed in a winning inter-school project for a 2-stream Boys' Senior School. Designed by E. Manasseh, Architectural Association School.



Attractive tiled corridor in a Willesden school. Designed by F. Wilkinson ; G. F. Rowe, Chief Assistant for Schools.

There is a popular belief that ramps are safer than stairs. Though possibly true for Nursery School children, there are no reliable statistics to prove that it is so for children of Senior School age. Unless ramps are shallow, therefore very long, danger of uncontrollable momentum is considerable. It must be remembered that children from 5 to 15 invariably run and are likely to be less careful on ramps than on stairs.

If ramps are used the following rules must be observed :

1. Slope must not exceed 1 in 6. 1 in 7 is preferable.
2. Width must not be less than 6 ft. If up and down traffic is separated by central handrails width should be 8 or 10 ft.
3. Construction fire-resisting.
4. Floor should have a good but not excessive co-efficient of friction. Matt linoleum or high density cork are good, rubber is suitable if its high co-efficient is reduced by polishing.
5. When giving on to halls and corridors should be set back 2 to 3 ft.
6. Should rise in one continuous slope, without breaks or bends.
7. Should not have blank walls on more than one side. When totally enclosed there is a sense of confinement, also a difficulty in gauging the slope.
8. Should be lighted from one or both *sides*, not from top or bottom landings.
9. Handrails on both sides.
10. Access to ramps or escape stairs not more than 120 ft. from any point on upper floors.

Rules for stairs are :

1. Treads 11–12 ins., risers 5½–6 ins.
2. Width : not less than 6 ft., not more than 8 ft. If divided by central handrails : not less than 8 ft., not more than 12 ft.
3. Stairs must be of fire-resisting material.
4. Treads non-slip. High density cork, or terrazzo with rubber binder are suitable.
5. Stairs giving on to halls and corridors must be set back 2–3 ft.
6. Full landings must be used.
7. Not more than 12 risers between landings.
8. Well lighted, preferably from sides. Artificial lighting should fall on stairs from above and below in order to avoid deceptive shadows.
9. Handrails on both sides.
10. Access to stairs should not be more than 120 ft. from any point on upper floors.

OUTDOORS

Playgrounds.

The hard playgrounds of a Senior School are used for unorganized games during play periods, for physical training and rhythmic exercises, and occasionally for open-air classes and smaller organized games. Their placing is finally determined by shape and size of site and buildings, though generally they are placed at the sides or behind the main block. Reasons for this are that when placed in front of the building they are apt to be too near main roads, they disturb classwork continuing during physical training periods for other sections of the school, and they are not usually inspiring to look at. If, on the other hand, they are placed behind or at the sides of the building they can more easily adjoin the w.c.s—a very important point, and be close to gymnasium, playing fields and changing-rooms.

Playgrounds should be of regular shape and

SCHOOLS never less than 50 ft. wide—70 ft. being a preferable minimum. For drainage a slight slope over a wide area should be used to avoid drainage gullies.

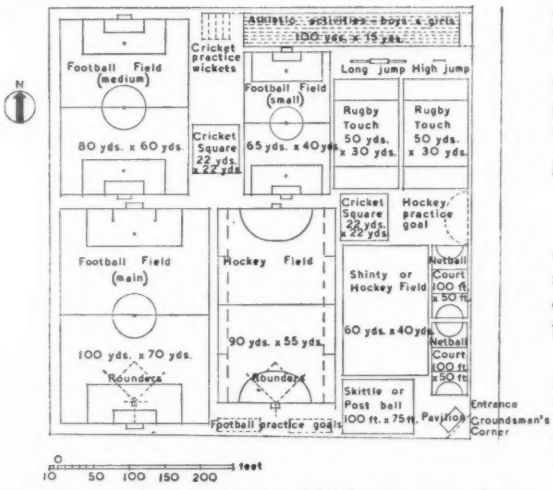


Diagram showing normal playing field layout on an 8-acre site. From the Board of Education's booklet on *Playing Fields*.

The surface should be of concrete, asphalt or tarmac on at least 6-in. foundation hardcore, unless subsoil is exceptionally firm. Red, green, grey or light brown colouring is now possible with asphalt, and a new kind, using cork fibre for aggregate and rubber for binder, has an excellent resilient quality, though it is, of course, more expensive.

Playgrounds should be separate for boys and girls, but a division by means of a white line or movable barrier is preferable to permanent separation, since it allows the whole hard area to be available on special occasions.

Sizes.

Areas recommended for Senior School playgrounds are :

		With indoor accommodation*	Without indoor accommodation
1-stream schools : children	160	1 pitch	1 court 1 pitch
2-stream schools : children	320	1 court 1 pitch	2 pitches
3-stream schools : children	480	2 pitches	2 pitches

* "Indoor accommodation" means the use of a gymnasium or hall for physical training and other exercises.

1 court = 110 × 60 feet = 6,600 sq. ft.
1 pitch = 160 × 100 feet = 16,000 sq. ft.

A covered section of the playground, possibly adjoining the gymnasium, will be very useful for physical training and games in wet weather. 40 ft. by 15 ft. is an adequate size.

One of the least desirable qualities of past schools has been the peculiarly gloomy appearance of playgrounds. It is suggested that preservation of trees wherever possible, use of grass margins and flower borders, and well-placed seats and drinking-fountains may do much to produce a cheerful effect. One drinking-fountain should be provided for each 100 children.

Heights suitable for senior children are 28 to 30 ins. from ground to jet. Pressure should not be large enough to encourage squirting.

The importance of having w.c.s, urinals, and to a lesser extent lavatories easily accessible from playgrounds is emphasized once more. These are very much used before and after games.

Gardens

The provision of a garden is now considered essential for Senior Schools. In rural areas it should be large and fully equipped, and in urban districts an acre should normally be considered the minimum.

The garden is used for graded four-year courses in flower, fruit and vegetable culture, for experiments and lessons in botany, for the keeping of small livestock, and for a place of general interest.

The layout should include some frames, a garden shed about 20 by 12 ft. for tools and garden supplies, and a small greenhouse (possibly adjoining the science room).

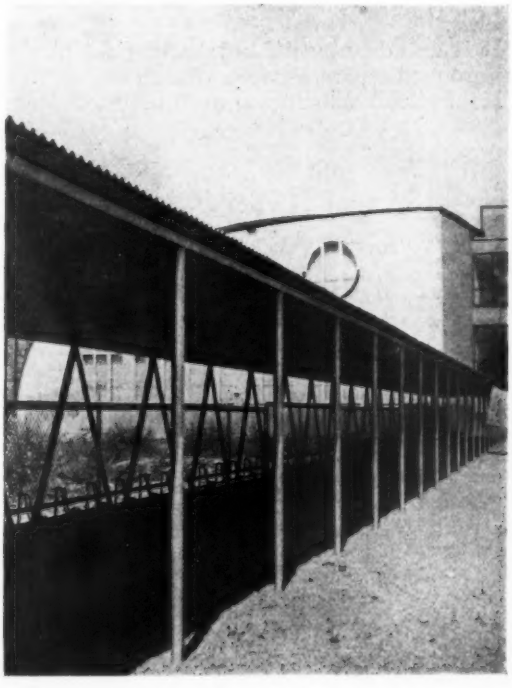
The garden should be reasonably informal, but not without a sense of order, and it should, of course, bear a definite relation to the school buildings.

Playing Fields

All new Senior Schools should have grass playing fields adjoining hard playgrounds. Attempts are being made to find separate playing field sites for existing schools, but loss of time, arrangements for transport and lack of proper lavatory and changing-room facilities are the obvious disadvantages of separate sites.

The Board of Education now considers that a

Simple bicycle shelter, constructed of light welded steel and asbestos-cement in a school at Stockholm.



Senior School for 320 should have at least 4 to 5 acres of playing fields, a school for 480, 6 to 7 acres.

Football, cricket and hockey are the main games, but some of the minor games described for Junior Schools are equally enjoyed by the younger children in Senior Schools.

The recommendations for numbers and sizes of Senior School pitches are :

	1-stream school 160 children 2-3 acres	2-stream school 320 children 4-5 acres	3-stream school 480 children 6-7 acres
Football and Hockey			
Medium : 80 × 50 yds.	1	2	2
Small : 70 × 45 yds.	1	1	2
Cricket, Rounders, Stool ball			
Medium Radius : 40–50 yds.	1	2	4
Small Radius : 30 yds.			
Cricket Pitches : 18–20 yds.	1	2	
Rugby Touch, Shinty, Handball : 60 × 30 yds. ..	1	1	2 (alternative to 1 football pitch)
Netball, Skittle Ball, Pillar Ball : 100 × 50 ft. ..	1	1	2

In addition, for all schools : at least 2 practice goals, 1 high jump, 1 long jump, and one track for athletics 100 yds. by 10–15 yds. wide.

General planning

Entrances should be arranged so as not to encourage the making of tracks across playing pitches.

It is an advantage if boys' and girls' pitches are grouped separately for easier supervision.

Main pitches should run north and south and the following margins should be allowed :

Between field boundary and end or side of pitch : Football, 10 yds.; Hockey, 5 yds.; smallest games, 3 yds.

Between ends of pitches: 10 yds., with 5 yds. for smallest games.

Between adjoining sides of pitches : Football, 7 yds.; Hockey, 5 yds.; smallest games, 3 yds.

Cricket tables, about 22 yds. square, should be 40 yds. from a boundary for Seniors and 30 yds. for younger boys.

A store for games equipment and for groundsman's tools is usually needed, and two drinking-fountains should be provided whenever fountains on playgrounds are not within easy distance.

Ground surface

Ideal soil for playing fields is one which drains quickly and has 9 inches of good loam on top. Clay nearly always needs artificial drainage, and this is essential where natural drainage is poor. Fields should not be turfed or sown for at least 3 months after drainage is complete.

When there is a choice the site should be rectangular, and if levelling is necessary a layout plan of the games pitches should be prepared beforehand.

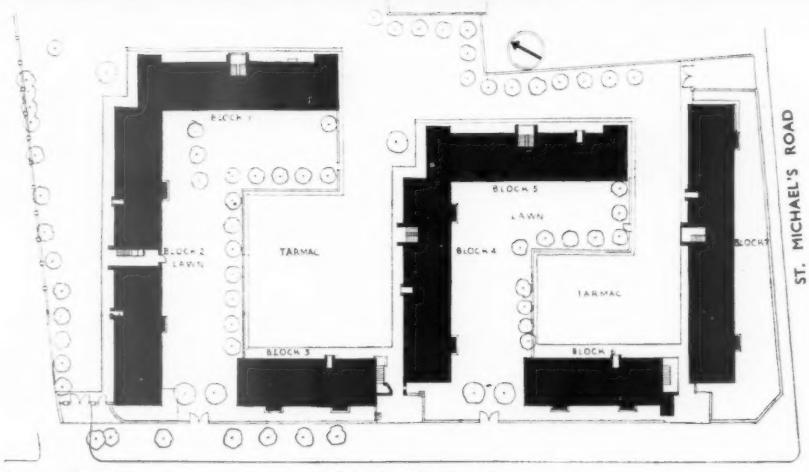
Bicycle sheds

A great number of Senior Schools, especially those in rural or semi-rural districts, will require bicycle sheds for a proportion of the children—the proportion varying in different areas. The sheds should face away from prevailing winds and be of light construction, asbestos cement or timber being suitable. The need for locking sheds during school hours in order to avoid individual padlocks does not necessitate brick walls. Wire mesh is equally effective.

Central gangway sheds are not recommended as bicycles get entangled at rush hours. The actual racks are usually standard fittings made by specialist firms. The sheds should be close enough to the main buildings for general supervision but should not encroach on playgrounds.

Playground and garden of a Senior School at Zurich, by Dr. Roland Rohn.

WORKING-CLASS FLATS, STOCKWELL, S.W.



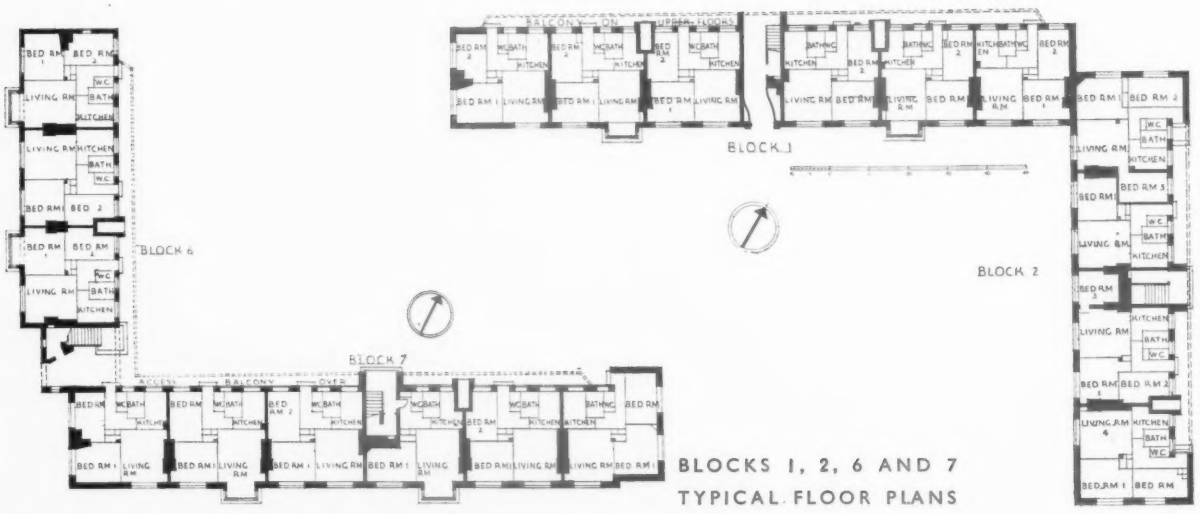
SITE PLAN STOCKWELL ROAD

GENERAL — *In February, 1935, the London County Council appointed three architects in private practice to supplement the work of the Council's own architects' department with a view to expediting the erection of dwellings in connection with its housing programme. Mr. Louis de Soissons was one of the three architects appointed and the scheme designed by him for the L.C.C. is illustrated on this and the following pages.*

SITE—*2⅓ acres at the junction of Stockwell Road and St. Michael's Road, S.W., adjacent to the Stockwell Gardens Estate. The photographs show, above, two views of block 2 (Acland House) taken from Stockwell Road; and below, a general view from the junction of the two roads. On the right is block 7 (Morant House).*

DESIGNED BY LOUIS DE SOISSONS

WORKING-CLASS FLATS, STOCKWELL, S.W.:



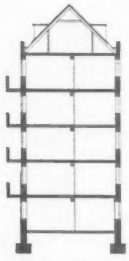
BLOCKS 1, 2, 6 AND 7
TYPICAL FLOOR PLANS

The main front of Block 2. The other block shown is part of the Stockwell Gardens Estate, designed some years ago by the Architect to the L.C.C.

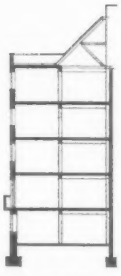
ACCOMMODATION.—*135 flats, as follows: 17 2-room flats; 85 three-room flats; and 33 four-room flats. Also a number of communal drying-rooms.*

RENTS:

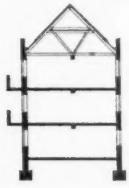
	Two-room	*Three-room*	*Four-room*
Net	*8/6–10/0*	*10/6–12/0*	*12/0–13/9*
Including local charges	*11/4–13/10*	*14/6–16/6*	*16/6–19/3*



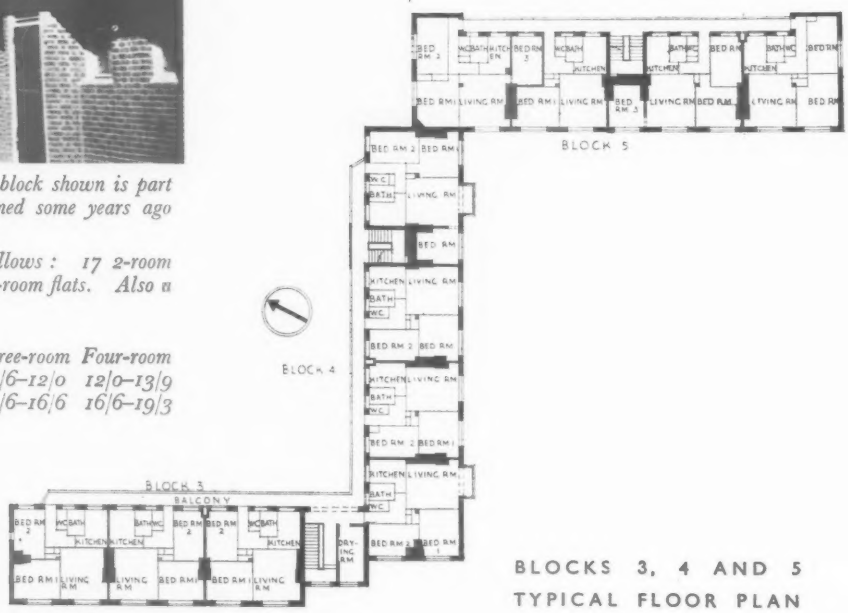
BLOCK 4
SECTION



BLOCK 5
SECTION



BLOCK 3
SECTION



BLOCKS 3, 4 AND 5
TYPICAL FLOOR PLAN

DESIGNED BY LOUIS DE SOISSONS

CONSTRUCTION AND EXTERNAL FINISHES —*Pitched roof construction with filler joist concrete floors. The facing bricks are reddish in colour and the roof is of green pantiles.*

INTERNAL FINISHES—*Halls : painted walls and painted dado. Kitchen and bathrooms : tiling half-way up the walls. Rooms : distempered finish with variations in colours for flats. Floors : wood boarded; granolithic in kitchens and bathrooms.*

The photographs are : above, the entrance to block 3 (Blair House) ; above, right, a view from Stockwell Road showing part of block 3, and, in the distance, block 4, also called Blair House ; and right, a view in the internal courtyard showing blocks 1 and 2 (Acland House).

TOTAL COST (*Estimated*) : *£78,600.*

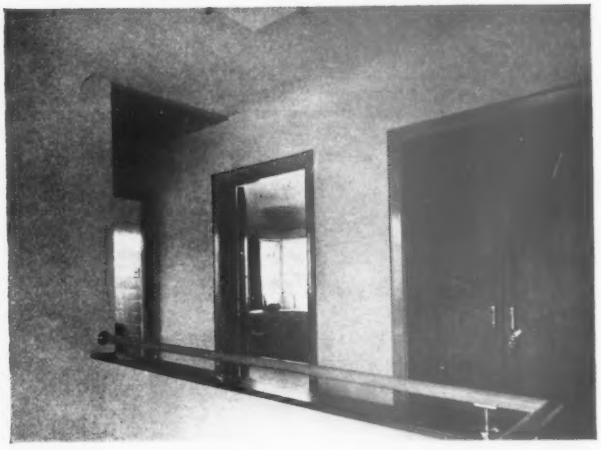
For list of general and sub-contractors see page 186.

HOUSE AT BECKENHAM, KENT

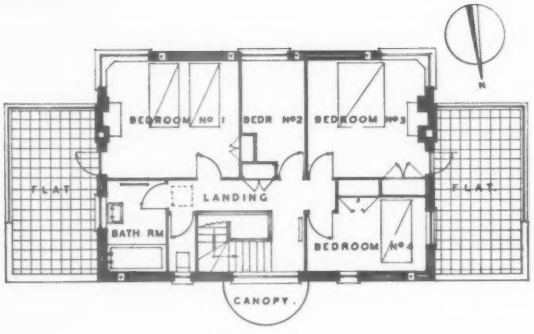
SITE—*Narrow site with houses on either side.*

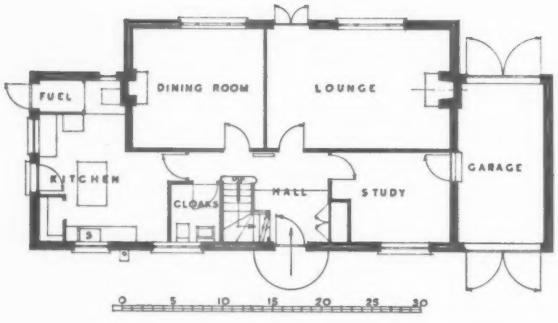
CONSTRUCTION AND FINISHES—*11-in. cavity walls; rustic Flettons, white washed. Roof, covered with pantiles; flat roof over garage of patent construction.*

The photographs show: left, the garden front; below, the first floor landing; and the dining room.

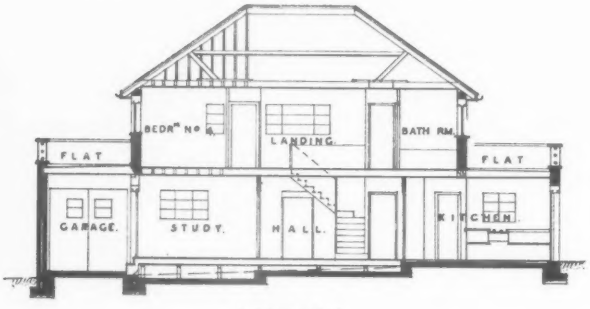


DESIGNED BY P. J. WESTWOOD AND SONS

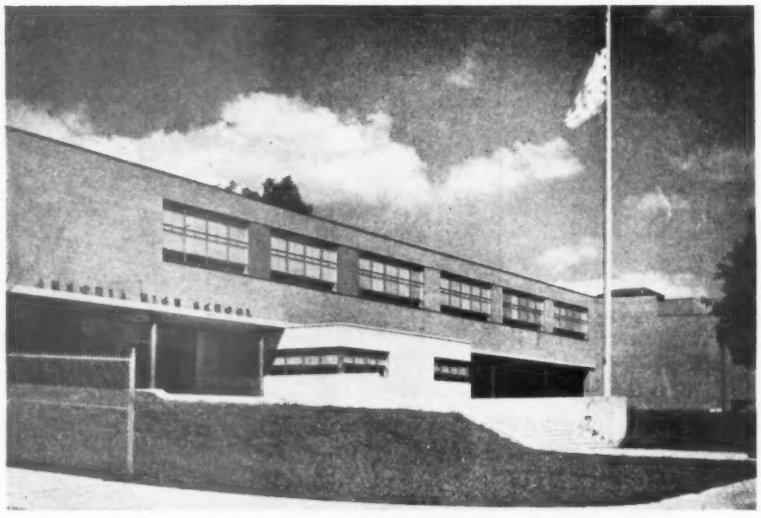




GROUND AND FIRST FLOOR PLANS



SECTION



America's "School of the Year," by Lescaze and Sears. [From the "Architectural Forum."]

PERIODICALS

DECEMBER ANTHOLOGY

AMERICA

Architectural Forum

(Monthly, $1.00. 135 East 42nd Street, New York)

DECEMBER. An office building for the Rockefeller Centre by Reinhard and Hofmeister; a display building for the Corning glass works, interiors good, exterior spoilt by applied modern motifs; a high school at Ansonia, Conn., by Lescaze and Sears (see illustration); various good housing schemes in New York and elsewhere; the housing section deals very faithfully with the "show house" question and gives reasonable suggestions on how to manage the publicity, quoting from various successful methods.

Architectural Record

(Monthly, 50 cents. 115 West 40th Street, New York)

December. An article by Jules Korchien on the increasing mechanisation of architecture—revolving dance floors, sliding roofs, disappearing windows and shop fronts—some of the examples shown seem to have no particular point; some good interiors and furniture, including Wells Coates's own Kensington studio; the Building Types section is devoted to office buildings, none of particular merit save for a single storey block for an advertising agency in Los Angeles by Richard Neutra and Peter Pfisterer and a research building for the Owens Illinois glass company by the Foster Engineering Co., "architects and engineers."

Pencil Points

(Monthly, 50 cents. 330 West 42nd Street, New York)

December. Plans and model photographs for some of the 1939 World's Fair buildings—looks as though there may be too many murals; early Boston churches, photographs and measured drawings—all these monographs on early American architecture are well worth looking at.

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FRANCE

L'Architecture

(Monthly, 8 frs. 51 Rue des Ecoles, Paris 5e)

December. The Centre des Métiers of the Paris Exhibition, various pavilions by different architects; interiors from the Salon d'Automne, including some good metalwork.

La Technique des Travaux

(Monthly, 10 frs. 54 Rue de Clichy, Paris 9e)

December. A flat block in Brussels by Jasinski on a narrow site and with two flats per floor; bungalows in Finland by Erik Bryggman, good photographs and plans; R. A. H. Livett's Quarry Hill flats in Leeds, several pages of photographs and an article describing the construction; harbour works in Denmark and a barrage scheme in California.

GERMANY

Baukunst und Städtebau

(Monthly, 1 m. 90. Bauwelt Verlag, Charlottenstrasse 6, Berlin, S.W.68)

December. Architects' own houses, three jobs for themselves by Fritz Schopohl, Hans Geber and Werner Harting; recent work in Finland, an article on the work of Bryggman, Huttunen, Paatela and Taucher, by Carl Meissner—plenty of photographs, few plans; competition schemes for the new German Embassy at Ankara, won by Konstanty Gutschow.

Baumeister

(Monthly, 3 m. Georg Callwey, Finkenstrasse 2, Munich)

December. The new Town Hall at Weilheim by A. Simbeck; an office and flat block in Cologne by Hans Schumacher; approved schools in Westphalia, all traditional, about 50 per cent. with symmetrical plans; a Lutheran church at Altenlohen by Gerhard Langmaack, a good example of sensitive and very successful traditionalism: the usual working details.

Bauwelt

(Weekly, 90 pf. Bauwelt Verlag, Charlottenstrasse 6, Berlin, S.W.68)

December 2. House for himself by Werner Harting; an information sheet on setting up perspectives.

December 9. A further sheet on perspective; a school and a private house in Kleinmachnow by Friedrich Blume.

December 16. Notes on air-raid protection costs in old and new buildings—an article by Werner Peres; further notes on different aspects of the same problem.

December 23. Two new churches by Martin Weber.

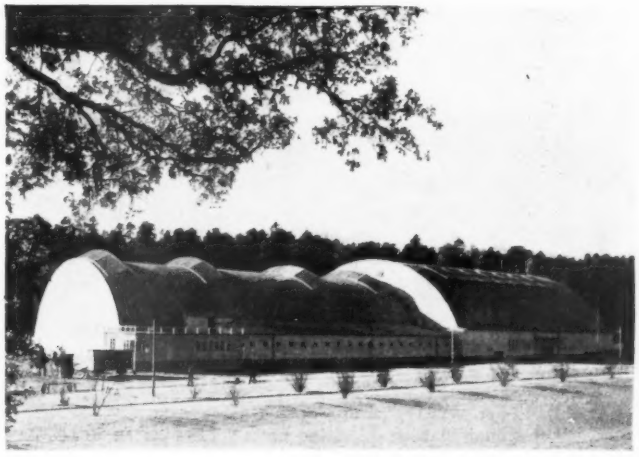
December 30. Results of a competition for a working-class housing scheme in Mecklenburg; Trip to Paris—an article by Alfons Leitl illustrated with some fairly familiar photographs.

Deutsche Bauzeitung

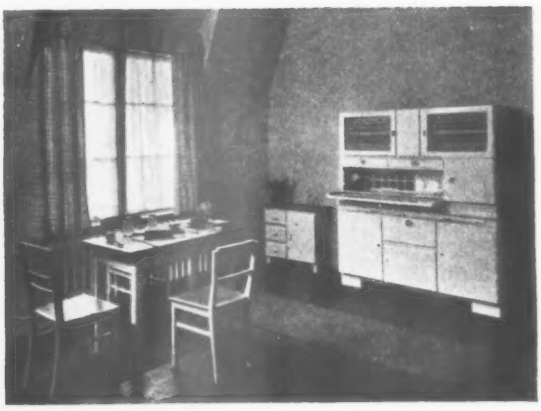
(Weekly, 3 m. 40 per month. Beuthstrasse 6–8, Berlin, S.W.19)

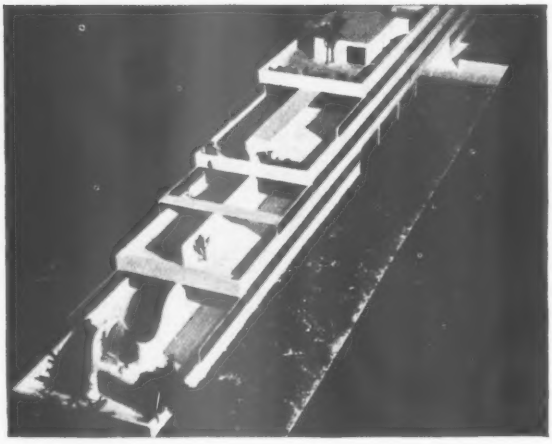
December 1. Result of a competition for a town hall at Emmerich, won by Ernst Kreytenberg; perspective of the 1941 World's Fair in Rome.

December 8. Gas-proof rooms—notes on current regulations with dimensions of all essential equipment, an article by Dr. Fromenholdt.



A covered tennis hall in Sweden by Wolter Gahn ond Erik Fant. [From "Byggmästaren."]





Above, left, a bungalow, near Turku, by Erik Bryggiman. (From "La Technique des Travaux.") Above, right, good simple furniture from Germany; kitchen cabinets and furniture, by Bruno Springer. (From "Innen Dekoration.")

The "Casa a collina," an Italian attempt to provide the maximum of isolation, by Giuseppe Vaccaro. —(From "Architettura.")

December 15. A continuation of the notes referred to above.

December 22. Photographs of the model for the new Tempelhof airport building; result of a competition for a new house for the Hitler Youth at Friedrichshafen, won by Fritz Vogt.

December 29. The design of lighting fittings, some quite useful illustrations.

Buildings Supplement. Traditional country houses by various architects, including an interesting timber job by Guido Görres; a flat block in Hamburg by Paul Baumgarten; working-class housing in Regensburg; traditional timber churches in Finland.

Innen Dekoration

(Monthly, 2 m. 50. Alexander Koch, Neckarstrasse 121, Stuttgart)

December. Various interiors of no particular interest; some good kitchen furniture by Bruno Springer.

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HOLLAND

Bouwkundig Weekblad Architectura

(Weekly, 15 florins per annum. Weteringshans 102, Amsterdam)

December 4. A number devoted entirely to the planning and buildings in Zierickzee.

December 11. A country house by A. Komter; good illustrations and plans.

December 18. A review by J. P. Mieras of H. Avray Tipping's *English Homes*.

December 25. Drawings of old and new Amsterdam.

de 8 en opbouw

(Fortnightly, 30 cents. Amstel 22, Amsterdam, C.)

December 4. Posters and Display.

December 18. Work in Rotterdam by W. van Tijen.

December 31. Recent modern work in Switzerland by various architects.

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ITALY

Architettura

(Monthly, 18 lire. Via Palermo 10, Milan 1)

November. The marine exhibition at Genoa by Luigi Vietti—simple architecture combined with admirable display; an analysis of the "casa a collina" by Giuseppe Vaccaro—an old idea considered with some care (see illustration).

Rassegna di Architettura

(Monthly, 15 lire. Via Podgora 9, Milan 105)

November. Mainly town-planning notes; an article on two recent garden exhibitions in Germany.

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SWEDEN

Boet

(Monthly, 1 kr. 75. Kristinelundsgatan 11, Gothenburg)

November. Pottery and table ware—a ten-page illustrated article showing very good work; English interiors—article by Derek Patmore.

December. Recent goldsmith's work and jewellery; furniture from the Paris Exhibition—an article by Martin Stromberg.

Byggmästaren

(Weekly, 20 kr. per annum. Kungsgatan 32, Stockholm)

No. 36. Sanatoria, the main job illustrated being the Central Sanatorium at Upsala by Gustaf Birch-Lindgren.

No. 37. Heating and air-conditioning plant at the A.-B. chocolate factory offices—an article by Fred Lind.

No. 38. Covered tennis courts, including one (see illustration) by Wolter Gahn and Erik Fant.

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SWITZERLAND

Schweizerische Bauzeitung

(Weekly, 1 fr. Dianastrasse 121, Zurich)

December 4. The Diagrid system of construction, article by Dr. Stephan Szegö.

December 11. Celebrations of the centenary of the Society of Swiss Architects and Engineers.

December 25.—Competition for a warehouse in Zurich, won by Robert Landolt.

Werk

(Monthly, 3 m. 50. Muhlebachstrasse 59, Zurich)

December. A house and studio for a photographer by Elsa Burckhardt-Blum; Paris 1937—further notes and sketches from the Exhibition.

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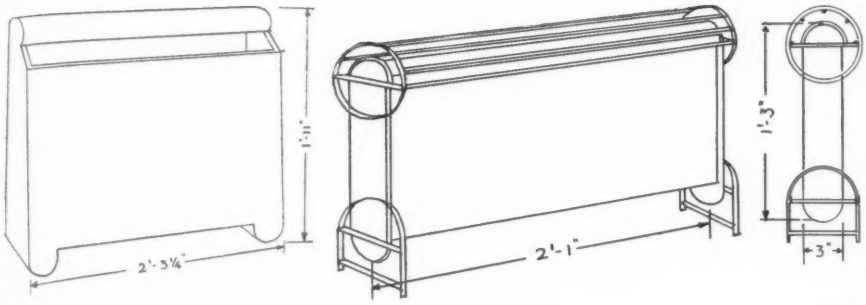
Royal Sanitary Institute

The Royal Sanitary Institute has arranged for a discussion on "The Ministry of Health New Model Building Byelaws" to take place at 90 Buckingham Palace Road, S.W. 1, on Tuesday, February 8, at 5.30 p.m. The opening papers will be read by Mr. E. H. Ford, M.INST.C.E., City Engineer and Surveyor, Coventry, who will deal with the subject from the engineer's point of view, and by Mr. W. N. David, Sanitary Inspector, Hoddesdon U.D.C., who will deal with the sanitary inspector's aspect of the subject. The chair will be occupied by Mr. W. T. Creswell, K.C., HON. A.R.I.B.A. (Vice-President).

British Constructional Steelwork Association

The annual dinner of the above association is to be held at the Savoy Hotel, W.C. on February 3, at 7.30 p.m.



TRADE NOTES

[BY PHILIP SCHOLBERG]

Stuffiness in Rooms

SIR LEONARD HILL'S reply to a query of mine about the stuffiness of rooms, ventilated or unventilated, was published here on December 30. Sir Leonard's conclusions, briefly summarized, were that dark and dull red heat sources produce a feeling of discomfort, while the bright sources give a pleasant sensation of warmth. On these grounds I suggested that Sir Leonard would probably approve of the coal fire, the gas fire, and the brighter types of electric fire; and I ended up by asking how much bright heat was needed to make the dark heat systems bearable. Sir Leonard's reply, slightly abridged, is as follows :—

To prevent stuffiness in occupied rooms, sources of dark heat, whether human bodies or otherwise, require to be mitigated by ventilation of the room with cool air. The air in a room can be changed as often as every five minutes without discomfort from draught, if introduced by adequate diffusers, and warmed to 63–65° F. By such means a great deal can be done to prevent sickness and loss of work-time. One knows how a stuffy, heated railway carriage is freshened and made comfortable by a very small degree of opening of one window.

In rooms with few occupants and heated by a fire, a bright source fitted with a flue is more comfortable to many people than a dull red, or dark source of heat. This is why people prefer the open fire. The makers of gas fires have been on the right lines in making these bright, and filling the whole front of the fire with luminous radiants. Any relief felt from a bowl of water put in front of an old-fashioned gas fire is due to modification of the rays coming from the source of heat by the screen of vapour rising from the bowl; it is not due to any general humidification of the air of the room. Americans use a higher temperature because the air outside is so cold and dry that when heated it robs them of more water vapour and so costs them more than is the case in this country. They also use thinner clothing indoors. They have a very high pneumonia mortality. On the other hand, children in open-air schools and dormitories suffer very little from illness.

Another Information Bureau

Or, strictly speaking, another Development Association, for that is its official title, and the material concerned is zinc. Exactly what should be done to rehabilitate a perfectly good material I do not pretend to know, but the information at present available in text-books is decidedly meagre, and Corkhill's concise building encyclopædia merely says "used extensively for coating iron to prevent corrosion, and as a substitute for lead." That, I am afraid, pretty well sums up the position as far as architects in this country are concerned, a cheap (and by inference rather nasty) substitute for copper and lead, so rarely to be used that it is hardly worth bothering to find out how. How to set about the work of propaganda? The Crystal Palace roof should come in handy as an example for the younger brigade and there is plenty of precedent, too, to be found in France and Germany. But it will be a long job and it calls for a clear policy over the next few years without any likelihood of returns in a few months. I understand that a series of booklets is to be published on the various methods of using zinc for roofings and flashings. This should be plain, straightforward stuff, based on the assumption that most architects know little or nothing about the virtues and vices of zinc, or about the methods of working it. But the first of these booklets is to be ready some time in April, so there is not long to wait.—(*The Zinc Development Association, Great Westminster House, 27 Horseferry Road, London, S.W.1.*)

Electric Convection Heaters

Although they are sources of dark heat, and would therefore presumably meet with the disapproval of Sir Leonard Hill (unless mitigated by ventilation with cool air), the fact remains that there are quite a number of people who like convection heaters as a source of warmth. But many of the designs at present on the market are, by architects' standards, unrelievedly horrible, and it is therefore a great relief to find that Unity Heating have gone about the problem in an intelligent way and produced something that is a lot better than most. The recipe is a comparatively simple one, and was, you remember, put forward in Dr. Nikolaus Pevsner's last book. Briefly this: employ a designer, three days a week or three months in the year, let him produce experimental designs and also let him loose in the works to find out how difficult his designs are to make. This, as far as I can make out, is what Unity Heating have done, and a very admirable method it is. Heads of sales departments and works managers can always criticize a design, but there is always a suspicion in the designer's mind that their opinions are based on prejudice; not so with the really good workman who will carry out a needlessly complicated job and say nothing at all, but who will give a series of such devastating sniffs that no criticism is necessary and there is nothing to say in reply.

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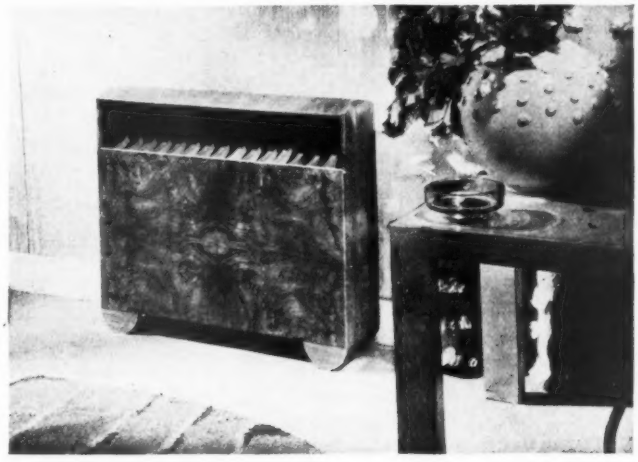
It is encouraging to find firms attacking the design problem in this sensible way, and still better when the results are as good as they are here, and when the manufacturers themselves feel that their expenditure on design has been worth while. Of the three new designs just produced I think the all-welded sheet metal one is perhaps the best, for it is a perfectly straightforward job and its shape is very definitely due to its function as a convector and to its method of manufacture, and there is no reason to ask more of any design than this. The line drawing above gives some idea of what it looks like, and it is obvious that it is quite simple to make, the welding of the front



Electric convection heater described in the accompanying notes.

and back to the side pieces being fairly easy. Three sizes, 1, 1½ and 2 kilowatts, with a choice of colour finishes; price £5 10s. to £6. The other model is shown in the photograph and is roughly the same thing slightly modified so that it can be made in wood, again a sensible piece of design with the loading kept down to 1 kilowatt so that there should be no danger of the wood warping. Both these models have an orange sprayed lamp inside them, and this (so conditioned is one by other forms of heating) seems to give an impression of warmth, though it does serve as a useful indicator to show whether the heater is on or off.

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The other line drawing shows a combined heater and warming horse which should be useful in nurseries or kitchens. Shorn of its what-not this heater looks quite good enough to be used anywhere in the house, and the removable frame is made stout enough to stand rough handling without getting bent. Loading 1 kilowatt, price £4 2s. 6d.

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There are dozens of firms in the electrical industry who would have plastered these heaters all over with embossed dragons or pierced Spanish galleons: a bouquet, therefore, to a firm which has had enough faith in the good taste of its customers to let well alone.—(*Unity Heating, Ltd., Vincent House, Vincent Square, London, S.W.1.*)

Industrial Lighting Equipment

A new 100-page catalogue from the Wardle people shows a complete range of industrial lighting equipment for every conceivable purpose from bulkhead fittings for the sides of pits in garages via workshop reflectors and office fittings to large sodium and mercury floodlights. Lighting, as I said a week or so ago in these Notes, is becoming a more and more complicated business where you need exactly the right fitting for the job. Hence catalogues are becoming more and more complicated and giving more specific information about the precise performance of the reflectors listed. This catalogue is no exception to the rule, and there can be no excuse for anyone who chooses the wrong fitting, for this firm seems to make everything that anyone can reasonably want.—(*The Wardle Engineering Co., Ltd., Old Trafford, Manchester, 16.*)

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Manufacturers' Items

It is commonly known that solder is not proof against the chemicals contained in water in certain districts. The Colne Valley London area is a good example. Electrolytic action is also claimed to cause it to disintegrate. For this reason Messrs. Fordham Pressings, Ltd., makers of the Fordham seamless steel flushing cisterns and of the Fordham solid drawn copper internal fittings for flushing cisterns have decided to cease supplying copper balls with soldered seams and to make no extra charge for solderless balls.

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Fordham Pressings, Ltd., have also sent us a letter dealing with flushing cisterns. They write: "Flushing cisterns, more especially the low level types, are invariably chosen on account of their external appearance, and too often does their efficiency bely their good looks. We are supplying to merchants and sanitary potters sets of Fordham high efficiency fittings suitable for cistern cases of any shape and size, and once an architect has become familiar with the high standard of efficiency of these fittings supplied by us he can specify that they be installed in any cisterns that he selects for any particular building with the assurance that there will be no trouble with them or, if there is, Fordhams will take the responsibility and not the builders' merchant."

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Venesta, Ltd., of Vintry House, Queen Street Place, E.C.4, have just issued a small brochure devoted to the new Venesta-made plywood—Shuttaply. This plywood has been produced to meet the demand for a form lining with a smooth, hard surface. Copies of the brochure are obtainable on application to the firm.

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The Coal Utilization Council recently distributed to every subscriber to the C.U.C.'s funds 50 free copies of the reprint in pamphlet form of the address on "Health and the Hearth." which was delivered by Lord Horder at the National Coal Convention at Harrogate last October.

Further copies of the pamphlet may be obtained at cost price, post free, from the C.U.C. Publicity Department in London, at the following rates: 100 copies, 2s. 6d.; 250 copies, 5s. 6d.; 500 copies, 10s. 6d.; 1,000 copies, 20s.; 5,000 copies, £4 15s.

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Messrs. Airvac, Ltd., manufacturers and patentees of Airvac ventilators, have removed from Darlington to larger and more modern works at Abbeydale Road, Wembley, Middx., with sales offices and showroom at 22 Newman Street, London, W.1. The firm state: "It is felt that the more commodious and central premises now at our command cannot but otherwise prove of the utmost advantage in respect to production and service in connection with our extract ventilators for vehicles of all descriptions, including lorry cabs, staff vans, rail coaches, barges and tugs, and the many other kinds of conveyances as used by public works contractors, builders, and engineering firms."

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In the contractors list for the Zachari Merton Convalescent Home, published in our issue for January 13, the name of the Marbolith Flooring Co., Ltd., was inadvertently omitted. They were responsible for the Marbolith composition flooring.

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The Valor Company, of Erdington, Birmingham, and London, have been appointed official contractors to the Birmingham section of the British Industries Fair for the supply of Valor fire extinguishers to exhibitors' stands.

The Valor Company are, of course, also well-known makers of steel office and works equipment. Their new catalogue of steel equipment has now been completed. It contains details of some of these Valor time and space saving devices.

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Interesting Associations is the title of a brochure just issued by Messrs. Falk, Stadelmann and Co., Ltd., of 83-85 Farringdon Road, E.C.1. It contains a large number of drawings of buildings for which this firm have supplied the electric light fittings, and an abridged list of the names of some leading architects for whom they have manufactured, and in some instances designed, fittings.

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The directors of Messrs. Redfern's Rubber Works, Ltd., have passed a resolution recommending the following final dividends to be paid on February 15 in respect of 1937: 3¾ per cent. on "A" and "B" preference shares making 7½ per cent. for the year; 12½ per cent. on ordinary shares, making 17½ per cent. (same) for the year. The annual shareholders' meeting is to be held at Hyde, on February 15.

THE BUILDINGS ILLUSTRATED

COTTESMORE COURT, KENSINGTON (pages 163-166). Architects: Unsworth, Goulder and Bostock. The general contractors were John Mowlem & Co., Ltd., who were also responsible for the excavations, foundations and joinery. Sub-contractors and suppliers included: St. Mary's Wharf Cartage Co., Ltd., demolition; Excel Asphalte Co., Ltd., dampcourses and asphalt; Attoc Blocks, Ltd., reinforced concrete, patent flooring and fireproof construction; Yorkshire Brick Co., Ltd., bricks; D. G. Somerville & Co., Ltd., artificial stone; Moreland Hayne & Co., Ltd., structural steel; Imperial Chemical Industries, partitions and plaster; London Sand Blast Decorative Glass Works, glazing; Ellis (Kensington), Ltd., central heating, ventilation and plumbing; Bratt Colbran, Ltd., grates and mantels; Gas Light and Coke Co., gas fixtures and gasfitting; Ideal Boilers and Radiators, Ltd., boilers; Lumby's, Ltd. boilers; Drake and Gorham, Ltd., electric wiring and bells; Galliers (Wholesale), Ltd., electric light fixtures; W. N. Froy and Sons, sanitary fittings and tiling; Cork Insulation Co., Ltd., stairtreads; Baldwins (Birmingham) Ltd., door furniture; J. Gibbons, Ltd., casements; Standard Telephones, Ltd., telephones; Haywards, Ltd., folding gates, fireproof doors and iron staircases; Conrad Parlanti, metalwork; H. A. Oakeshott, and Tile Decorations, Ltd., tiling; A. Sandersons Sons, Ltd., wallpapers; Peter Jones, furniture; J. Comber, shrubs and trees; J. and E. Hall, Ltd., lifts; Metropolitan Water Board, water supply; Comyn Ching & Co., Ltd., signs.

L.C.C. FLATS, STOCKWELL (pages 179-182). Architect: Louis de Soissons. Quantity surveyor: Sydney A. Paine. The general contractors were: W. J. Simms Sons and Cooke, Ltd., and the sub-contractors and suppliers included: Cement Marketing Co., Ltd., bricks; Excel Asphalte Co., Ltd., asphalt; Ascot Gas Water Heaters, Ltd., water heaters; Chattaway and Son, Ltd., steelwork; Naybro Stone, Ltd., stone (art); Holliday Hall and Stinson, Ltd., electricians; Hadfields (Merton), Ltd., paint suppliers; E. H. Smith (London), Ltd., roof tiles; W. Newman and Sons, Ltd., plumbing; Waddon Concrete Co., Ltd., tiling; J. P. Griffiths, plastering; Martin Van Straaten & Co., tiled surrounds; Pilchers, Ltd., paint suppliers; John Bolding and Sons, Ltd., w.c. suites; Carter & Co., black glazed tiles; O'Brien Thomas & Co., rainwater heads; South Metropolitan Gas Co., gas fires; Henry Hope and Sons, steel casements to balcony screens; T. W. Palmer & Co., railings, gates and staircase balustrading; A. W. Robertson, bath panels; Eric Munday and William Pickford, Ltd., notice boards, etc.; Frederick Braby & Co., Ltd., dustbins.

The Building News page has been held over from this issue

The following Supplement is the product of many months of work on the part of this JOURNAL *and its collaborators, Messrs. Davis and Belfield, PP.A.S.I., Chartered Quantity Surveyors, who have been asked to undertake the difficult task of creating a new PRICES section. It represents, within obvious limitations and so far as the advice of a number of experts can make it, the most precise and detailed statement of current prices obtainable. We are particularly asked by its compilers to invite readers who use it to forward their reactions (criticism, we hope) to the Editor at 9 Queen Anne's Gate, London, S.W.1, so that adjustments may be made where necessary. The whole of the information is copyright.*

PRICES

FOREWORD

BY THE EDITOR

THE supplement to the JOURNAL of which the first section is published this week is concerned with Prices. These, besides their commonest fluctuations upwards when an extra is claimed and downwards when an omission is in question, have also other movements. The ambition of this new series is to form a complete and reliable guide.

Accuracy will be maintained by obtaining actual quotations for every price for every issue. Comprehensiveness is a much more difficult matter. A complete list of materials and labours obviously cannot be published. And the effort to make the list reasonably full and representative has compelled the division of the list into four weekly sections which, taken together, make up the complete supplement.

The main requirements of such a supplement are : Labour Rates, Prices of Materials, Prices for Measured Work and Approximate Estimating. The first two are needed for checking daywork accounts, the third for costing work which would normally be measured in a Bill of Quantities, and the fourth will, it is hoped, be found extremely useful in preparing small estimates for a client or in rough checks of a builder's account.

Labour Rates change only at long intervals, and it would be a waste of space to publish them frequently. The JOURNAL intends to publish them when they change, and subsequently only when other changes take place. The JOURNAL will keep a stock of London Rates and supply copies to those whose filing system breaks down.

Current Prices of Materials are usually definite prices which cannot be generalized like Measured Rates. Since the prices often vary with quantity needed, indications such as " for 4 tons and over " are included as often as space will allow. This section cannot, it is felt, be simplified beyond a certain point, and if architects are inclined to find it heavy going, it is believed that quantity surveyors and builders will think otherwise.

Current Rates for Measured Work have been based on the method of measurement advocated by the Chartered Surveyors' Institution. Although builders pricing from a specification alone often vary from this method, there is no other standardized procedure, and for this reason it will be adhered to. In consequence,

This Supplement has been compiled for the JOURNAL *by Messrs. Davis and Belfield, PP.A.S.I, Chartered Quantity Surveyors. A separate quotation will be obtained for each price in every issue.*

it is hoped that it will be definite and obvious what has been included.

As it is impossible to publish prices for different types or standards of job, these prices —unlike Materials prices—must be taken as average and not fixed.

Finally, the JOURNAL feels that architects are generally more interested in Approximate Estimating than in detailed pricing, and it is therefore starting a section on this subject somewhat similar to that which has already appeared in Information Sheets. It is believed that Approximate Estimating will be found very valuable for work where the cubing system is difficult to apply.

AUTHORS' FOREWORD

By O. A. Davis, P.A.S.I.

OUR main considerations, on being called in to revise and remodel the pages of prices in this JOURNAL, were firstly accuracy—to spare the architect that humiliating look of condescension more often than not affected by a builder when an architectural journal is mentioned as an authority for a price; and, secondly, comprehensiveness—so that the JOURNAL will not be thrown down in despair on the discovery that the items wanted are not to be found.

Accuracy we can only promise to do our best to maintain by receiving actual quotations for every issue; comprehensiveness was a more difficult matter. Quite obviously, a really comprehensive list of prices could not be published every week without filling the whole issue, and it was decided that the prices would have to be spread over four issues. This has the disadvantage that it is more difficult to find any individual price, but we hope that readers who experience such difficulties will console themselves with the thought that by no other method would they be able to find many of the prices at all.

The main requirements are, without doubt, Labour Rates, Prices for Materials, Prices for Measured Work, and Prices for Approximate Estimating. The first two are required for checking daywork accounts, the third are for costing such work as would normally be measured in a bill of quantities, and the fourth are for submitting an approximate statement of cost to the client and for checking roughly a builder's account.

Labour rates change only rarely, and it would be a waste of space to publish these frequently. We propose publishing these shortly when the rates change, and subsequently only when they are altered. At the same time we will let any architect know the rates prevailing in any particular district, or supply him through this JOURNAL with a complete schedule, on application.

Unlike Approximate Estimates, or even Measured Rates, which vary according to the estimator, Current Prices for Materials are in most cases definite prices which cannot be generalized or simplified. In many cases, prices vary considerably with the quantity ordered, and one average price would be very misleading. For this reason, it may be stated, for instance, that a price is " for orders of 4 tons and over "; by this means it is possible to give an accurate price and also to indicate that prices for smaller quantities would be higher. This section then cannot be simplified, and if some architects find its use too arduous, we can console ourselves with the hope that quantity surveyors and builders, as well as architects who like to price accurately, may find it useful.

Current Prices for Measured Work have been based on the method of measurement advocated by the Chartered Surveyors' Institution. Although it is true that many builders pricing from a specification alone vary the practice, there is no other recognized method, and only by adhering to a definite method will it be quite obvious what has been included in the price; builders and quantity surveyors, particularly, should appreciate this. Architects who are not conversant with the method must remember that sundry labours are often not included, even though space does not permit us to publish the prices of such labours. As it is also impossible for us to publish prices for different types of jobs, the prices, unlike Current Prices for Materials, are average ones and must be

The complete series of prices will consist of four sections, one section being published each week in the following order :—

1. Current Market Prices of Materials, Part I.
2. Current Market Prices of Materials, Part II.
3. Current Prices for Measured Work, Part I.
4. A.—Current Prices for Measured Work, Part II.

   B.—Prices for Approximate Estimates.

★

ANSWERS TO QUESTIONS

While the JOURNAL, *naturally, cannot presume to undertake the responsibilities of a quantity surveyor, it has arranged with the authors of this Supplement to answer readers' questions regarding any matter that arises over their use of the Prices Supplement in regard to their work, without any fee. Questions should be addressed to the Editor of the* JOURNAL, *and will be answered personally by Messrs. Davis and Belfield. As is the normal custom, publication in the* JOURNAL *will omit the name and address of the enquirer so that it is unnecessary to write under a pseudonym.*

considered more as a guide than as a definite price for any individual job.

Realizing that many architects are more interested in approximate estimates than in detailed pricing, which is often left to the quantity surveyor, we are starting a section on this subject, which we believe is an innovation for a journal of this type. Architects who are tired of working out the cost of a floor on the basis of timber priced per foot cube, flooring per square and plastering and distemper per yard, can find in this section the approximate price for a new floor with floor and ceiling finish complete.

Generally, we are striving to present the most complete and accurate information which it is possible to publish, within the limits of the case. Any criticisms or suggestions will be welcome, and will be embodied in future issues if possible.

- *Prices vary according to quality and the quantity ordered.*
- *Those given below are average prices and include delivery in the London area, except where otherwise stated.*
- *Owing to the unsettled state of the market most prices are liable to fluctuate, and those for metals in particular should be confirmed by actual quotation whenever possible.*

PART 1

CURRENT MARKET PRICES OF MATERIALS

BY DAVIS AND BELFIELD, P.A.S.I.

CONCRETOR

Cements

All delivered in paper bags (20 to the ton) free and non-returnable.

		4 Tons and over	Min. 80 ton freights F.A.S. Safe wharf in River Thames, London area
Portland	per ton	42/–	38/–
Rapid hardening	,,	48/–	44/–
Water repellent	,,	72/–	68/–

	1 ton upwards
Colorcrete rapid hardening, Nos. 1 and 2 per ton	66/–
Snowcrete	175/–

	1–10 cwts.	11–15 cwts.	16–20 cwts.	1 ton and upwards
Ciment Fondu, delivered Central London area per cwt.	7/9	7/3	6/–	6/-

Aggregate and Sands (Full Loads)

2″ Unscreened ballast per yard cube	6/3
¾″ (Down) Washed, crushed and graded shingle ,, ,,	6/9
¾″ (Down) Ditto ,, ,,	7/9
2″ Broken brick ,, ,,	10/6
¾″ Ditto ,, ,,	11/9
Washed pan breeze ,, ,,	5/3
Coke breeze 1″ to dust ,, ,,	13/6
3/16″ Sharp washed sand ,, ,,	8/6
White Silver Sand for white cement (one ton lots) per ton	25/–

(For Sands for Bricklaying and Plastering see respective trades)

Pavings

Brick hardcore per yard cube	2/9
Clean furnace clinker and boiler ashes ,, ,,	3/6
Coarse gravel for paths ,, ,,	6/9
Fine ditto ,, ,,	9/6
Clean granite chippings per ton	18/6
Red quarry tiles, 6″ × 6″ × 7/8″ per yard super	6/–
Buff ditto, 6″ × 6″ × 7/8″ ,, ,,	6/6
Hard red paving bricks per 1,000	150/–

Reinforcement

Basis price for mild steel rods, ⅝″ diameter and upwards, from London stocks per ton	£17 10 0
Extras for :—	
9/16″ and ½″ diameter ,,	10/–
7/16″ ,, ,,	15/–
3/8″ ,, ,,	20/–
5/16″ ,, ,,	30/–
¼″ ,, ,,	40/–
3/16″ ,, ,,	60/–
Lengths of 40 ft. to 45 ft. ,,	10/–
,, 45 ft. to 50 ft. ,,	15/–

CONCRETOR—(*continued*)

Sundries

Retarding liquid, in 5-gallon drums (for exposing aggregate) per gallon	20/–	Ex Warehouse, Southwark Bridge. Drums chargeable and credited, if returned.
Ditto. (for obtaining a bond) per gallon	12/6	

BRICKLAYER

Common Bricks

Rough stocks per 1,000	73/–	
Third stocks ,,	54/6	
Mild stocks ,,	71/6	
Sand limes ,,	50/–	
* Phorpres pressed Flettons ,,	46/3	
* ,, keyed Flettons ,,	48/3	
† Bespres Flettons ,,	49/–	
Blue Staffordshire wirecuts ,,	165/–	
Lingfield engineering wirecuts ,,	95/–	
Breeze fixing bricks ,,	57/6	
Firebricks, best Stourbridge 2½″ ,,	155/–	
,, ,, ,, 3″ ,,	190/–	

* At King's Cross. For delivery in W.C. district add 4/3 per 1,000.

† Delivered in London area.

Facing and Engineering Bricks

Sand Limes, No. 1 per 1,000	85/–	
,, No. 2 ,,	70/–	
*Phorpres rustic Flettons ,,	66/3	
Marston bark rustic ,,	64/–	
Midhurst Whites ,,	82/6	
Hard stocks, firsts ,,	95/–	
,, seconds ,,	88/–	
Sand-faced, hand-made reds ,,	,, from 115/–	
,, machine-made reds ,,	,, from 110/–	
Red rubbers (9¾-in.) ,,	300/–	
Hunziker ,,	67/6	
,, (coloured) ,,	,, from 82/6	
Dunbricks (concrete), multi reds, ex works ,,	72/–	
,, ,, multi lavender, ex works ,,	75/–	
Southwater engineering No. 1 (first quality red pressed) ,,	145/–	
Southwater engineering No. 2 (second quality red pressed) ,,	125/–	
Blue pressed ,,	174/–	

* At King's Cross. For delivery in W.C. district add 4/3 per 1,000. Discount if accompanied by order for pressed 2/– per 1,000.

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

BRICKLAYER AND DRAINLAYER

BRICKLAYER—(*continued*)

White, Salt and Coloured Glazed Bricks (9″×4½″×2⅝″)

The following prices are subject to 2½ per cent. trade discount and 2½ per cent. cash discount, and include delivery to any railway station (minimum 4-ton loads). Add 10/– per 1,000 for delivery in London area.

Prices per 1,000	White, Ivory and Salt Glazed		Buff, Cream and Bronze	Other Colours	All Colours
	Best	Seconds	Best	Best	Seconds
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Stretcher, glazed one side ..	24 0 0	22 0 0	26 0 0	29 10 0	23 0 0
Header, glazed one end	23 10 0	21 10 0	25 10 0	29 0 0	22 10 0
Double stretcher, glazed two sides	32 10 0	30 10 0	34 10 0	38 0 0	31 10 0
Double header, glazed two ends	29 10 0	27 10 0	31 10 0	35 0 0	28 10 0
Quoin, glazed one side and one end	30 10 0	28 10 0	32 10 0	36 0 0	29 10 0

Limes and Sand

		1-ton lots
Lime greystone	per ton	42/–
,, chalk	,,	42/–
,, blue Lias (including paper bags) ..	,,	47/–
,, hydrated (,, ,, ,,) ..	,,	47/–
Washed pit sand	per yard cube	8/3

(For cements, *see* "Concretor.")

Sundries

Wall ties, self coloured	per cwt.	19/–
,, galvanized	,,	24/6
Hoop iron, black	,,	20/–
D.P.C. slates, size 18″×9″	per 1,000	157/6
,, ,, 14″×4½″	,,	61/3
*Ledkore D.P.C. Grade A	per foot super	5d.
* ,, ,, ,, B	,, ,,	6½d.
* ,, ,, ,, C	,, ,,	8d.

* Trade discount 5 per cent. and cash discount 5 per cent. Prices include delivery on minimum of £4 orders.

	9″×3″	9″×6″	9″×9″	12″×9″	14″×9″
Earthenware airbricks: red, blue, vitrified and buff terra cotta each	–/8	1/4	2/4	4/–	6/8

	9″×3″	9″×6″	9″×9″	12″×6″	12″×9″
Black cast iron, School Board pattern airbricks per doz.	2/9	5/6	11/–	11/–	20/–
Galvanized ditto per doz.	5/6	11/–	22/–	22/–	40/–
Black hit and miss cast iron ventilators per doz.	12/–	15/–	21/–	21/–	36/–
Galvanized ditto per doz.	24/–	30/–	42/–	42/–	72/–

	1′ 0″	1′ 6″	2′ 0″	2′ 6″	3′ 6″	5′ 0″
Buff terra cotta chimney pots .. .. each	2/6	3/–	4/4	5/9	13/4	22/6
Fireclay .. per cwt.	4/–					

Wall reinforcement supplied in standard rolls containing 25 yards lin.

2″ wide black japanned	per roll 2/–	Greater widths pro rata 2½″ price carriage paid on orders of £5. Discounts for quantities.
2″ ,, galvanized ..	,, 3/–	
2½″ ,, black japanned	,, 2/6	
2½″ ,, galvanized ..	,, 3/9	

Partitions

		2″	2½″	3″	4″
Breeze ..	per yard super	1/3½	1/5½	1/8	2/3
Clay tiles ..	,, ,,	2/4	2/7	2/10	3/1
Pumice ..	,, ,,	3/4	3/10	4/6	5/8
Plaster ..	,, ,,	3/2	3/9	4/4	5/6

BRICKLAYER—(*continued*)

Shepwood Partition Bricks size 9″ × 2⅝″ and 2½″ on bed. Terms, as for Glazed Bricks

Prices per 1,000 except where stated per brick	White, Ivory and Salt Glazed		Buff, Cream and Bronze	Other Colours	All Colours
	Best	Seconds	Best	Best	Seconds
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Double stretcher, glazed two sides	32 10 0	30 10 0	34 10 0	38 0 0	31 10 0
Single stretcher, glazed one side	24 0 0	22 0 0	26 0 0	29 10 0	23 0 0
	Each	Each	Each	Each	Each
Round end glazed two sides and one end ..	–/10½	–/10	1/0½	1/0½	–/10½

Gas Flue Blocks

		Single Flues	Double Flues
Straight blocks	each	1/4	2/2
Building in set	Per set of 3	3/2	5/10
Cover blocks	each	1/11	3/7
Raking ,, 45°	,,	3/–	4/9
,, ,, 60°	,,	2/1	3/1
Offset ,, ...	,,	3/9	5/10
Closer ,, ...	,,	1/4	2/2
Closer flashing blocks	,,	1/–	1/8
Straight ,, ,, ...	,,	1/4	2/2
Terminal and cap	per set	7/6	12/1
Middle terminal and cap ..	,,	7/6	12/1
End ,, ,, ...	,,	7/6	12/1
Corbel block	each	5/3	10/10
Gathering block	,,	—	9/8

DRAINLAYER

Agricultural Pipes

		2″	3″	4″	6″
Pipes in 12″ lengths .. (At King's Cross Station)	per 1,000	65/–	87/6	115/–	205/–

Salt Glazed Stoneware Pipes and Fittings

		4″	6″	9″
Pipes (2′ lengths)	each	1/8	2/6	4/6
Bends, ordinary	,,	2/6	3/9	6/9
Single Junctions, 2′ long	,,	3/4	5/–	9/–
Yard Gulley, without grating	,,	6/3	6/10½	11/3
Ordinary 6″ × 6″ Grating, painted ..	,,	–/7½	1/3	2/6
,, ,, ,, galvanized ..	,,	1/0½	2/1	4/4½
Extra for Inlets, horizontal	,,	1/6	1/6	1/6
Extra for Inlets, vertical	,,	2/3	2/3	2/3
Intercepting Trap with Stanford Stopper	,,	17/6	22/6	37/6
Grease and mud interceptor with bucket for removing silt and grease for 6″, 9″ and 12″ drains, with iron grating, painted	each	20/–		
Ditto, with iron grating galvanized	,,	21/10½		

The above prices to be varied by the following percentages for the different qualities given. All subject to 2½ per cent. cash discount.

	British Standard	British Standard Tested
Orders for 2 tons and over	Less 20%	Plus 5%
,, under 2 tons, 100 pieces upwards	Less 2½%	Plus 22½%
,, under 2 tons, less than 100 pieces	Plus 7½%	Plus 32½%

	Best	Seconds
Orders for 2 tons and over	Less 27½%	Subject to 15% off the price of best quality for all sizes
,, under 2 tons, 100 pieces upwards	Less 10%	
,, under 2 tons, less than 100 pieces	Nett	

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

DRAINLAYER AND MASON

DRAINLAYER—(*continued*)

Cast Iron Drain Pipes and Fittings

Socket and Spigot Pipes :— Weight (per 9 ft.)	Size.	9 fts.	6 fts.	4 fts. each	3 fts. each
1 . 1 . 8	4″ per yard ..	6/6	7/3	11/7	8/9
1 . 1 . 20	4″ „ „ ..	6/9	7/5	11/10	9/–
2 . 0 . 6	6″ „ „ ..	10/–	11/11	19/3	15/4
4 . 0 . 2	9″ „ „ ..	18/2	23/9	41/3	31/5

Socket and Spigot Pipes :— Weight (per 9 ft.)	Size.	2 fts.	18 ins.	12 ins.	9 ins.
1 . 1 . 8	4″ each	7/3	6/6	5/8	5/2
1 . 1 . 20	4″ „	7/4	—	—	—
2 . 0 . 6	6″ „	11/6	—	—	—
4 . 0 . 2	9″ „	—	—	—	—

Tonnage Allowances :
Orders up to 2 tons nett.
„ 2 to 4 „ less 2½%
„ 4 tons or over less 5%

		4″	6″
Bends	each	6/3	12/10
Single junctions	„	11/–	22/–
Intercepting traps	„	37/6	48/3
Gulleys ordinary trapped	each	15/–	
Extra for inlet 4″	„	4/3	
Grease Gulley trap	„	117/6	

Cast Iron Inspection Chambers

	The larger figures below refer to the main pipes and the smaller figures to the branches			
	4″×4″	6″×4″	6″×6″	9″×6″
Straight chambers with two branches one side .. each	56/3	66/10	78/9	153/9
Straight chambers with three branches in all .. each	66/3	76/10	91/3	166/3
Straight chambers with four branches in all .. each	76/3	87/10	103/9	178/9
Straight chambers with three branches one side .. each	71/3	88/9	101/3	—
Straight chambers with four branches in all .. each	81/3	98/9	113/9	—
Straight chambers with five branches in all .. each	91/3	108/9	126/3	—
Straight chambers with six branches in all .. each	101/3	118/9	138/9	—
Straight chambers with four branches one side .. each	93/9	111/3	133/9	—
Straight chambers with five branches in all .. each	103/9	108/9	146/3	—
Straight chambers with six branches in all .. each	113/9	131/3	158/9	—
Straight chambers with seven branches in all .. each	123/9	141/3	171/3	—
Straight chambers with eight branches in all .. each	133/9	151/3	183/9	—

The branches to the above are at 135°

		4″	6″
Extra for branches between 135° and 180°	each	7/6	7/6
Extra for branches between 90° and 135° other than standard angles	each	6/3	6/3

	4″×4″	6″×4″	6″×6″
Curved chambers, no branch 90°–112½° each	26/10	—	38/2
Curved chambers, no branch 135° „	26/10	—	38/2
Curved chambers, one branch 135° „	33/9	48/9	55/–
Curved chambers, two branches 135° „	40/8	65/8	76/3

Channels in White Glazed Ware

		4″	6″	9″
Half round straight channels, 6″ long	each	2/4	3/2	5/3
„ „ „ 12″ „	„	3/3	4/5	6/11
„ „ „ 18″ „	„	4/–	5/3	8/5
„ „ „ 24″ „	„	4/8	6/4	10/6
„ „ „ 30″ „	„	5/10	7/11	13/2
„ „ „ 36″ „	„	7/–	9/6	15/9
Half round ordinary or long channel bends	„	8/5	12/11	21/–
Half round ordinary or short channel bends	„	6/–	8/5	—
Three-quarter round ordinary branch bends	„	8/1	11/8	—
Three-quarter round ordinary branch bends, midgets	„	7/3	—	—

		6″×4″	9″×6″
Half round taper channels 24″ long		7/10	11/3
„ „ channel bends	„	10/3	17/9

DRAINLAYER—(*continued*)

Channels in Brown Glazed Ware

		4″	6″	9″
Half round straight channels 24″ long ..	each	1/3	1/10½	3/4½
„ „ straight channels 30″ long ..	„	—	—	4/2¾
Ditto, short lengths	„	1/3	1/10½	—
Half round ordinary channel bends ..	„	1/10½	2/9¾	5/0¾
Ditto, short	„	1/10½	2/9¾	—
Ditto, long	„	3/9	5/7½	10/1½
Three-quarter round branch bends ..	„	5/–	7/6	—

		6″×4″	9″×6″
Half round taper channels 24″ long ..	„	3/9	6/9
„ „ „ channel bends ..	„	4/8½	8/5½

The above prices are subject to the same discounts as those given for " Best " quality salt glazed stoneware pipes.

Manhole Covers

	Black	Galvanized
24″×18″ for foot traffic. (Weight 0.3.24 in lots of 24) .. .. each	16/–	32/–
24″×18″ for light car traffic. (Weight 2 cwt. in lots of 24) .. .. each	30/–	62/–
24″×18″ Wood Block pattern. For road traffic. (Weight 3 cwts.) .. .. .. each	Coated 48/6	

	Fine Cast	Galv.
Cast step irons, 13½″ long, 6″ wide, 9″ in wall, approximate weight 5½ lbs. each per dozen	10/9	18/9

	4″	6″
Galvanized fresh air inlets, with cast brass fronts (L.C.C. pattern) .. .. each	5/6	20/3

MASON

Yorkstone

Building quality Robin Hood and Woodkirk Blue Stone.

Blocks scrappled, random sizes .. .. per foot cube	4/6
Add for blocks to dimension sizes .. .. „ „	6d. (each dimension)
Templates with sawn beds, edges rough (up to 4 ft. super and not over 2′ 6″ long) .. .. .. per foot cube	5/–
Templates with sawn beds, sawn one edge „ „	6/–
Templates with sawn beds, sawn two edges „ „	7/–
Prices f.o.r. Yorkshire, railway rate to London Station per ton. (Minimum 6-ton loads.)	18/3

Ancaster Stone

Freestone, random blocks .. .. .. per foot cube	3/6
Brown weather bed stone selected for polishing all brown blocks .. .. „ „ „	8/–
Brown and blue weather bed stone selected for polishing .. .. „ „ „	7/–

Prices f.o.r. Ancaster, railway rate to London Station approximately 11½d. per foot cube (minimum 6-ton loads).

Bath Stone

Random blocks, delivered railway trucks. Paddington or South Lambeth .. .. per foot cube	2/10¾

Portland Stone

Whitbed, in random blocks of 20 feet cube average, delivered railway trucks Nine Elms, South Lambeth or Paddington .. .. per foot cube	4/5
Basebed—add to the above .. .. „ „	–/3
For every foot over 20 ft. cube average—add „ „	–/1
„ „ „ 30 ft. cube average—add. „ „	–/0½

¾″ Thick Plain Marble Wall Linings

Roman Travertine .. .. per foot super	6/3
Golden Travertine .. .. „	7/9
Roman stone .. .. „	6/9
Hopton-wood stone .. .. „	7/9
Second statuary .. .. „	9/–
Sicilian .. .. „	6/9

Artificial Stone

6″×3″	Copings and sills .. .. per foot run	1/6
6″×6″	„ „ „ .. .. „ „	2/4
9″×3″	„ „ „ .. .. „ „	2/–
9″×6″	„ „ „ .. .. „ „	3/4
12″×3″	„ „ „ .. .. „ „	2/4
12″×6″	„ „ „ .. .. „ „	3/9

Cornices according to detail, per foot cube (from) 6/9

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

MASON, SLATER, TILER AND ROOFER, AND CARPENTER

MASON—(*continued*)

Reconstructed Stone to match Natural Stone

Sills, lintols, coping, cornices, ashlar, etc., average size	per foot cube	10/-
Window sills, 9″×3″ section	per foot run	2/1
„ „ 7″×3″ section	„ „	2/-

Slate Slabs, cut to size and Planed

	1″	1¼″	1½″
Not exceeding 4′ 6″ long or 2′ 3″ wide, per foot super	3/1	3/4	3/11
„ „ 6′ 6″ long or 3′ 3″ wide, per foot super	3/9	4/1	4/10
Exceeding 6′ 6″ long or 3′ 3″ wide, per foot super	4/1	4/6	5/2
Rubbed faces, per foot super	-/5	-/5	-/6
„ edges, per foot run	-/4	-/4	-/5

Combined Slate Cills and Window Boards for Metal Windows

Window Width	Straight Cills: Wall thickness 9″	11″	13½″	Circular Cills for C.O.P. Frames: Radius	External reveals 2″	4½″
1′-8″	4/-	4/8	5/8	2′-4½″	21/-	24/-
3′-3¼″	7/4	8/7	10/4	2′-7½″	25/6	28/6
4′-10½″	10/6	12/3	14/10	2′-10¼″	30/-	33/3

SLATER, TILER AND ROOFER

Best Bangor Slates

		£ s. d.
24″×12″	per 1,000 actual	33 6 6
22″×12″	„ „	27 19 0
22″×11″	„ „	25 4 9
20″×12″	„ „	24 14 6
20″×10″	„ „	21 15 5
18″×12″	„ „	20 19 3
18″×10″	„ „	17 4 0
18″×9″	„ „	15 11 9
16″×12″	„ „	17 14 9
16″×10″	„ „	15 11 9
16″×9″	„ „	13 19 6
16″×8″	„ „	12 1 11

Prices include for delivery to site in lots of 1,000 and upwards.

Old Delabole Slates (f.o.r.)

Standard sizes.

Prices and computed weights per 1,200.

		20″×12″	16″×10″
Grey medium gradings	per 1,200 cwts.	597/- 46½	366/- 30
Unselected greens (V.M.S.)	per 1,200 cwts.	672/- 55½	413/- 36

Random sizes.

Prices per ton and computed covering capacities in squares per ton.

		No. 1 Grading 24″/22″ to 12″/10″	No. 2 Grading 24″/22″ to 12″/10″
Ordinary grey greens	per ton	128/-	
Covering cap.:	per ton (3″ lap)	2·37 squares	
	per ton (4″ lap)	2·19 „	
Weathering grey greens (V.M.S.)	per ton		139/-
Covering cap.:	per ton (3″ lap)		2·25 squares
	per ton (4″ lap)		2·08 „
Weathering greens (V.M.S.)	per ton		149/-
Covering cap.:	per ton (3″ lap)		2·25 squares
	per ton (4″ lap)		2·08 „
Rustic reds (25%) and weathering greens (V.M.S.)	per ton		174/-
Covering cap.:	per ton (3″ lap)		2·25 squares
„	per ton (4″ lap)		2·08 „

Railway rate to Nine Elms, London, minimum 4 tons, 21/9, minimum 6 tons per truck, 18/1 per ton.

Tiles

	£ s. d.
Hand-made sandfaced 10½″×6½″ red roofing tiles, per 1,000	4 15 0
Machine-made sandfaced 10½″×6½″ red roofing tiles, per 1,000	4 0 0
Berkshire rustic pantiles, „	18 10 0

TO BE CONTINUED IN NEXT ISSUE

SLATER, TILER AND ROOFER—(*continued*)

Westmorland Green Slates

	Price per ton	Bests, 24″ to 12″ long. Proportionate widths. Computed cover in sq. yds. per ton
Random sizes.		
No. 1 Buttermere fine light green	240/-	30
„ 2 „ light green (coarse grained)	215/-	27–28
„ 5 „ olive green (coarse grained)	197/-	25–27
„ 5 Medium green	197/-	25–26
„ 7 Elterwater fine light green	216/-	27–28
„ 15 Tilberthwaite fine light green	214/-	26–28
„ 16 „ light green (coarse grained)	202/-	25–27

Prices include for delivery to any station, minimum 6-ton truck loads.

Asbestos-cement

		£ s. d.
6″ corrugated sheets, grey	per yard super	2/11
Standard 3″ corrugated sheets, grey	per yard super	2/7¾
Slates:—		
15¾″×7⅞″ grey	per 1,000	£6 16 3
15¾″×15¾″ diagonal, grey	„	£12 18 6
„ „ russet or brindled	„	£16 6 6
Pantiles.		
Large russet brown	„	£19 8 6

Prices are for minimum two-ton loads.

Cedar Wood Tiles

Canadian cedar wood shingles .. per square 32/- (normal quantity).

Prices include for delivery to nearest railway station in England but vary with quantity.

CARPENTER

Carcassing Timber

		Per standard £ s. d.	Per foot cube £ s. d.
4″ ×11″ Scantling		26 10 0	3/2½
4″ × 9″	„	26 0 0	3/1⅜
3″ ×11″	„	24 10 0	2/11¾
2″ ×11″	„	24 10 0	2/11¾
3″ × 9″	„	24 0 0	2/11
2″ × 9″	„	24 10 0	2/11¾
3″ × 8″	„	23 10 0	2/10¼
2″ × 8″	„	23 0 0	2/9½
3″ × 7″	„	22 10 0	2/8¾
2″ × 7″	„	22 10 0	2/8¾
4″ × 6″	„	25 0 0	3/0½
3″ × 6″	„	24 10 0	2/11¾
2″ × 6″	„	21 10 0	2/7¼
3″ × 5″	„	22 10 0	2/8¾
3″ × 4″	„	21 0 0	2/6½
2″ × 5″	„	20 10 0	2/6
2″ × 4″	„	20 10 0	2/6
1½″×11″	„ (20 ft. lengths and over)	per ft. run	-/5
1½″×9″	„ („ „ „)	„ „	-/4
1½″×7″	„ („ „ „)	„ „	-/2¾

Yellow Deal Battens

	per 100 feet run
¾″×1″	1/9
¾″×1½″	2/9
¾″×2″	3/9
1″ ×2″	4/9
1½″×2″	7/-

Weather Boarding

Deal:—	
¾″×¼″×6″ Feather edge	per square 12/6
¾″×¼″×4″ „ „	„ „ 10/9
Western red cedar:—	
1″×6″ Rebated	per square 35/-
11/16″×5/16″×6″ Feather edge	„ „ 13/6
¾″×¼″×4″ „ „	„ „ 12/6

Roof Boarding

Deal:—	
¾″×6″	per square 17/6
1″×6″	„ „ 23/6