Wednesday, May 28, 1924. Vol. LIX, No. 1534.

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

FROM AN ARCHITECT'S NOTEBOOK.

Of the Kinds of Gardening.

I think there are as many kinds of gardening as of poetry. Your makers of parterres and flower-gardens are epigrammatists and sonneteers in this art; contrivers of bowers and grottoes, treillages and cascades, are romance writers. Wise and London are our heroic poets. . . . As for myself, you will find, by the account which I have already given you, that my compositions in gardening are altogether after the Pindaric manner, and run into the beautiful wildness of nature, without affecting the nicer elegancies of art.

Joseph Addison.

27-29 Tothill Street, Westminster, S.W.1.

The Stadshus at Stockholm : The Terrace Garden

Ragnar Ostberg, Architect

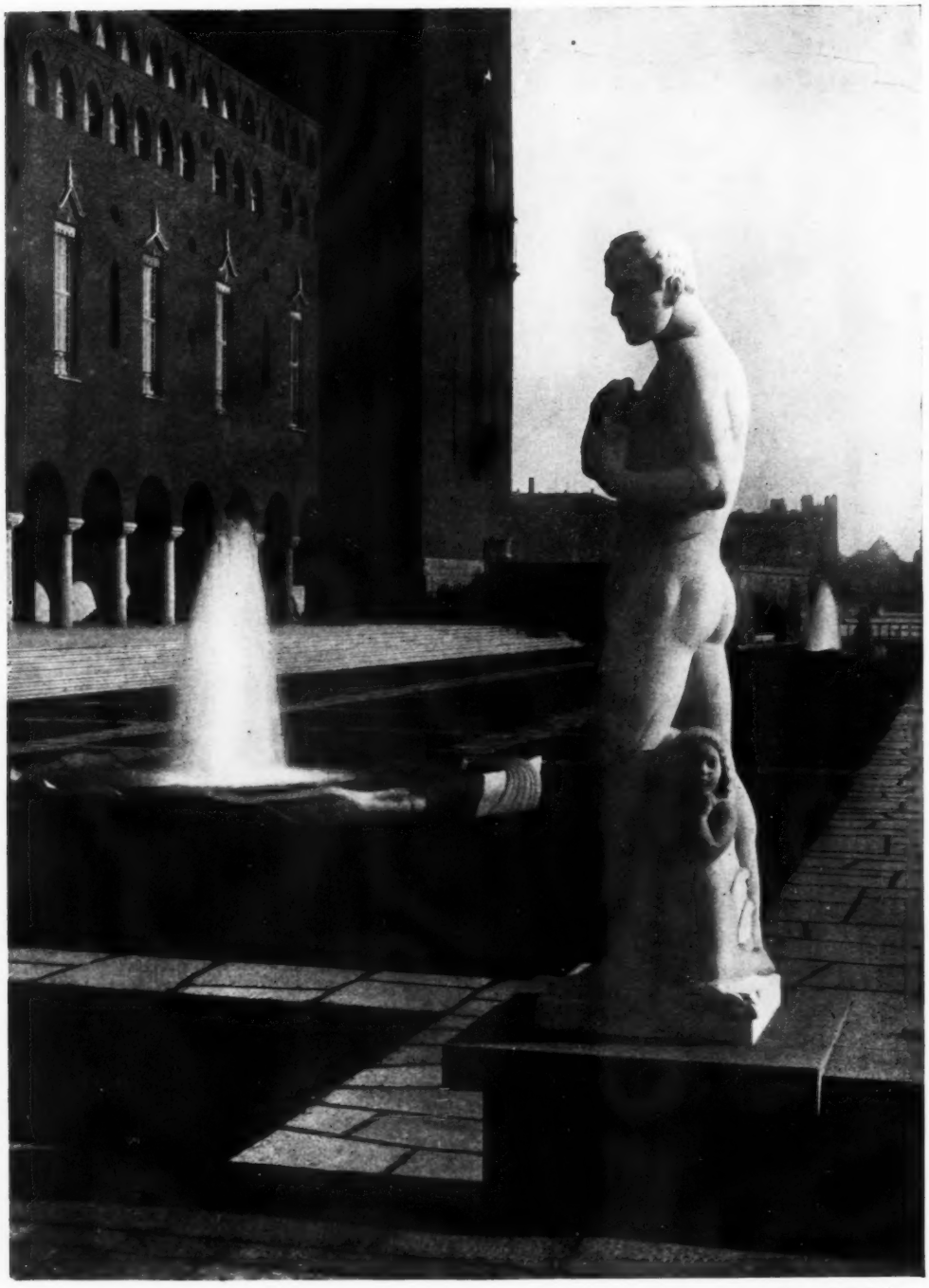

Photo : F. R. Yerbury.

A number of photographs of the new Stadshus at Stockholm are included in the Exhibition of Swedish Architecture at the R.I.B.A. Some of these were given in our last issue and others appear this week. The Exhibition remains open until June 6th.

THE

ARCHITECTS' JOURNAL

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The Revival of Craftsmanship

ONE of the most notable characteristics of current architectural development is the revival of craftsmanship. Though, in a sense, it goes hand in hand with a revival of architecture, it has something within it that is essentially its own and is, up to a point, independent of the main current of architectural tendency, though travelling in the same direction. The explanation of this phenomenon—if the word is not too strong—is, we think, the *conscious* striving (we use the term in its best sense) of the craftsman to infuse into his work something that may be compared with the craft spirit that animated the guild work of the mediæval period.

The mediæval craftsman perhaps worked unconsciously; certainly he did what he did because he could do naught else. In this he had the advantage of the twentieth-century craftsman, who has to work in a variety of styles and in widely differing media. That is at once the handicap and the opportunity of the skilled worker of to-day.

In an ancient country such as ours, with a tradition of fine craftsmanship going back nearly a thousand years, it is difficult to think of the spirit of craftsmanship ever dying out. It is doubtful whether the flame ever has been extinguished, though in the early years of the industrial era it sank to embers that flickered convulsively and threatened to expire. But the spark persisted, in spite of machinery, and after much effort with the Ruskinian bellows, it grew again into a flame—not a very fierce one, as the craftsmanship of the Gothic Revival only too plainly shows, but one that has since brightened to a very convincing glow.

For this most encouraging condition of things we must give due credit to the artist-craftsmen of the Gothic Revival, and after. These men were regarded as cranks and eccentrics in their day, but they had the true vision. Certainly there was something a little unconvincing about the inception and development of the mid-nineteenth-century craft movement, with its strong bias towards sociology and economics; and its very self-consciousness made it suspect.

The spectacle of earnest artistic gentlemen taking off their coats, just like British workmen, rolling up their sleeves, and getting to work with mallet and chisel, hammer and tongs, and such like implements of the handicrafts, was distinctly amusing—to some people. But these cultured pioneers happened to be enthusiasts, who were deeply in earnest, and they founded a school of craft-workers from which we may trace the growth of all that is best in modern development.

The movement may be said to have grown in two distinct directions. On the one hand we still have the individual professional craftsman, ploughing his lonely furrow, and on the other a great body of skilled workers who have grown up in the crafts under the direction of modern business firms. To those firms who are carrying on the torch of fine craftsmanship, every credit is due. To them almost as much as to the originators of the arts and crafts movement we are indebted for the very successful attempt that has since been made to wed art to industry; for no matter how good a design, it is of no avail if you have not the requisite perfection of craft skill to carry it into execution. This skill we have got, and we are now getting the design in rapidly increasing measure.

In these days of highly involved industrial organization, it is obvious that the best craft work can only be obtained by a close association of artistic skill with technical and commercial ability. Though this ideal has not generally been reached—often in commercial production, let it be sadly confessed, the people who do the designing see nothing of the execution; sometimes, indeed, have only a vague idea of the craft processes that go to the realization of a design in three dimensions—in spite of this, it can be said that in the architectural field, at least, we have all the conditions essential for complete success. The architect, working in close association with the craft firm, can acquire a knowledge of all the processes at first hand, while at the service of the craftsman is the architect's special knowledge of architectural form and detail. The modern craft firms, indeed, provide an essential *liaison* for the production of perfect craftsmanship—perfect both in conception and technical execution. Thus the wheel has come full circle, and we have the spirit of craftsmanship fully revived under the searching conditions of the modern commercial system, with all its complicated machinery of "production, distribution, and exchange."

The success of the outstanding craft firms of to-day may be attributed in large measure to the spirit of reciprocity adumbrated above, but essentially it is due to the complete mastery of the technicalities of design which these firms have acquired in the course of a long unbroken tradition of specialization in architectural craftsmanship. They have gained the confidence of architects, and confidence begets confidence, reacting strongly upon the quality of the work produced. The constant support given by leading architects of the day to these firms is reciprocated by an eagerness on their part to substantiate their claims as expert craftsmen. In other words, appreciation promotes the very human desire to please; for service, despite a cynical brand of modern philosophy, is still the mainspring of human endeavour.

Notes and Comments

Form and Structure

The recent Press controversy between two distinguished architects on the point as to whether or not a bridge with steel arches may legitimately be faced with stone, opened up anew, if it did not settle, a nice question of architectural ethics that has been often debated. The old canon of "expression of structure through material" was sound enough when the apparent material was structurally employed, but in these days of structural steelwork it no longer holds good, unless we are willing to erect our buildings entirely of steel. If we approve the covering of the steel framework of a building with stone, then we cannot logically object to the concealment of the steel arches of a bridge with some facing material. The trouble is that in building we are still very largely obsessed—perhaps rightly obsessed—by traditional forms. The introduction of new methods of construction finds us unready to adapt our expression to them; and, like the conservative people we are, we continue to repeat the old forms with little regard for reason—perhaps, also, with a slight feeling of resentment towards these "skeletons in the stonework" which, though out of sight, trouble the mind as the body of his victim troubled Eugene Aram. What the future holds who can say? There is some consolation, some hope, in remembering that for a long time the naval architects clothed the "wooden walls of old England" with steel plates. To-day, while retaining the old form of the ship in its general lines, they have yet evolved a completely satisfactory steel expression. It is not suggested that our buildings should be built entirely of steel: there would doubtless be many practical objections; but the experience of the naval architects at least shows that unsatisfactory compromise is not necessarily the end of the story.

"Rows of Ten or Twelve"

Mr. Wheatley has pleased everybody with his handling of the preliminary negotiations in connection with the Government Housing Scheme. To get the three principal interests involved to consult together and to come to an agreement on the complicated questions of labour, building, and materials, before revealing in detail his own proposals, is a considerable achievement. He has now crowned this triumph by winning over the local authorities, so that the sole remaining obstacle to success is the House of Commons, whose approval of a measure is likely to be sought during the next two or three weeks. Having done so well in the practical preliminary arrangements, we hope that Mr. Wheatley will not fail on the point of architecture, which is really the most practical point of all. His assurance to the deputation of architects that waited upon him a week or so ago that their recommendations would in due course be considered is encouraging so far as it goes, but there would be more satisfaction if it were known that the architectural aspect were regarded as essential rather than as accessory in so important a matter as a great national housing scheme. There is reason for concern on this point, for already those who profess to know are giving more or less guarded accounts of Mr. Wheatley's intentions. For example, here is Mr. Joseph Toole, the Labour member for South Salford, telling us that the houses will not be semi-detached, but in rows—"not the monotonous rows we have been used to for the convenience of the landlord in collecting rents, but rows of at least ten or twelve." This piece of information would seem to imply that some thought has been given to the question of appearance, but is it realized in official quarters that houses "in rows of at least ten or twelve" need not necessarily be any less monotonous than the "by-law" rows of houses of the industrial nineteenth century? Since Mr. Wheatley proposes to build no fewer than 1,555,000 houses within the course of the next ten years, the point is seen to be by no means negligible.

The late Louis H. Sullivan

American architecture has suffered a further severe loss by the death of Louis H. Sullivan, which follows closely upon the passing away of Henry Bacon and Bertram Grosvenor Goodhue. Mr. Sullivan differed from the two other recently dead architects, his contemporaries, in that he was an original genius, who had much to do with the initiation of the new movement in architecture which began in the United States some twenty or thirty years ago. He was one of the first American architects to evolve a logical treatment of the skyscraper, as his Gage building in Chicago, and his Guaranty building, Buffalo, N.Y., among many other fine buildings, bear witness. His work on the "horizontal," as opposed to the "vertical," was no less interesting for its original and courageous handling of essentially modern problems. His influence in the development of modern American architecture has been entirely invigorating, and he will be greatly missed.

A National Theatre and a Site

Mr. Ernest Law makes, in "The Times," the interesting suggestion that a National Shakespeare Theatre should be erected on the Embankment site between the Board of Trade buildings and Whitehall Gardens. "The site is vacant," he writes, "and being part of the Crown lands, is at the disposal of the nation. It is within a few yards of the old Great Hall and Great Chamber of Henry VIII's Palace, in which, and in the old Banqueting House of the time of Queen Elizabeth and James I, the first productions took place before the Court of 'Measure for Measure,' 'Othello,' 'The Tempest,' and many other of Shakespeare's plays, besides some 200 other performances, all in his own lifetime. The site, surely, has historical and Shakespearian associations enough." Also it would rather pleasantly revive the water-side tradition of the Southwark theatres of the poet's own day. But we were under the impression that this very site had been reserved for the new offices of the Board of Trade, for which a big competition was held in pre-war days, Messrs. Vincent Harris and Moodie being the winners. What has become of this project? Mr. Law's suggestion may perhaps be the means of reviving it.

More Bridge Suggestions

"The cry is 'still they come'"—"they," of course, being suggestions for dealing with the London bridge crisis, which has so suddenly come upon us. The reality of the crisis is brought home very vividly when it is seriously suggested that the Royal Engineers should at once be instructed to fling a pontoon bridge across the Thames! The suggestion that a service of ferries between the Embankment and the Surrey side should be got ready in case of emergency is, of course, merely flippant. But, "many a true word," etc. One of the most practicable proposals is that of Sir Howell Williams—that a new bridge should be built parallel with Waterloo Bridge, beginning at the end of the eastern arm of Aldwych and ending, on the south side, in an arc debouching on the east into Great Charlotte Street and Blackfriars Road, and on the west into Waterloo Road and the New Cut. (This scheme, it may be remarked, is similar to Mr. Lanchester's.) Sir Howell Williams suggests that "Waterloo Bridge should be patched up and re-opened to traffic as soon as possible. The idea of a temporary bridge should be dropped, and the £250,000 to be spent on it should be put towards the new scheme." It needs only a glance at the map of Central London to show that a bridge in the position indicated is really wanted. This is only a few hundred yards beyond the sphere of influence of the Bridge House Estates and their reputedly well-filled coffers. The suggested Commission on Bridges may be the means of enabling them to cross the intervening space.

First Impressions of the Wembley Exhibition

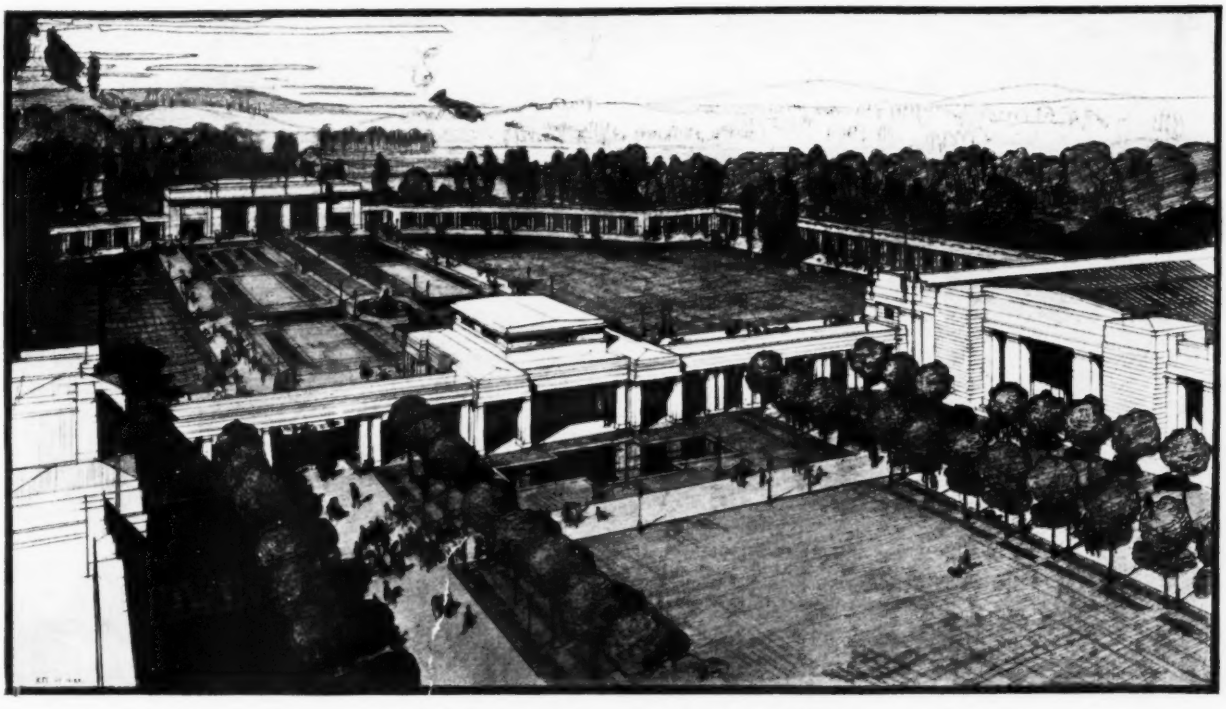
By PROFESSOR C. H. REILLY

A NICE homely little exhibition with a definite post-war flavour is the first impression an architect will receive as he passes through the rather gloomy portals of the main entrance. I admit afterwards from the very tiredness of his feet he will revise his estimate of the size, but in architecture generally and in exhibition architecture in particular, it is the first impression which is most important. Unless the imagination is fired at the outset the discovery of any number of things of interest later on is of little avail.

In order to estimate aright the Wembley achievement I had refreshed my mind beforehand with a glance at the illustrations of some of the recent American exhibitions like the San Diego one, and that for the opening of the Panama Canal. One remembered, too, the permanent buildings left one by the first Paris Exhibition of some thirty years ago, the Grand Palais and the Petit Palais. One knows them to-day as rather florid buildings no doubt, but with a certain vigour and splendour which outlives in one's mind the overwrought detail. There is no mistaking they were, and are, palaces. But what at Wembley is to be said of these heavy, low concrete structures on either side of the axis with their great square piers and with big openings between? Are they great garages or aeroplane sheds? They are certainly called palaces—one of Engineering and the other of Industry—but do they justify the title? Let us approach nearer.

You are now inside the main propylæ, with a semi-circular garden in front of you. You cannot, however, traverse it on the main axis, for there is no path. The axis is marked, though slightly, with a few disordered shrubs, but only in single lines. You are at once deflected into one or other of the quadrant colonnades which enclose it. In passing you notice that this garden, which is blocking the direct approach, does not exhibit any very interesting lay-out, even allowing for the disordered state of the shrubs, no doubt recently put in. It will require a great deal of pulling together before it is worthy of its position. Once near it you see that the colonnade consists of square coupled columns built of concrete blocks, and that these, like all the vast concrete works of this exhibition, when viewed near at hand, show interesting surface treatment and detail, well suited to this very difficult material. It is no doubt the material that is at fault, and it is that which gives all the permanent structures erected in it such a sad and depressing appearance. Naked concrete seen near at hand always suggests to me the war and its effects. In the distance, as in the towers of the Stadium, it is another matter. There neither the dullness nor the want of texture in the material matters. One sees the towers in silhouette against the sky. Close at hand, however, concrete is infinitely depressing. One notices this particularly in contrast with the Canadian, Australian, and Indian buildings, which are in plaster, or have been colour-washed, or more still in contrast with the bright little advertisement kiosks. One hates to suggest that a permanent material, which in itself withstands the weather, should be coated with something else, though the Romans would have felt no such delicacy. I can see no way out of it, however, unless all our future exhibitions in this spot are to start with initial handicap which the mud colour of the concrete has given to the present one.

Continuing down our colonnade we come to the Palace of Engineering. Unfortunately, the entrance from the colonnade is through the base of a huge pylon, and the vista is closed by a telephone box. One ought not to have walked in the colonnade, but in the drive within it, then one might have reached the entrance properly. But surely a colonnade which joins on to a great entrance in this way has not been very skilfully planned. It is little clumsy arrangements like this, the over-emphasis of the pylons, the stopping of main cornices for inadequate reasons which give a certain crudeness to the façades of these "palaces." Perhaps this



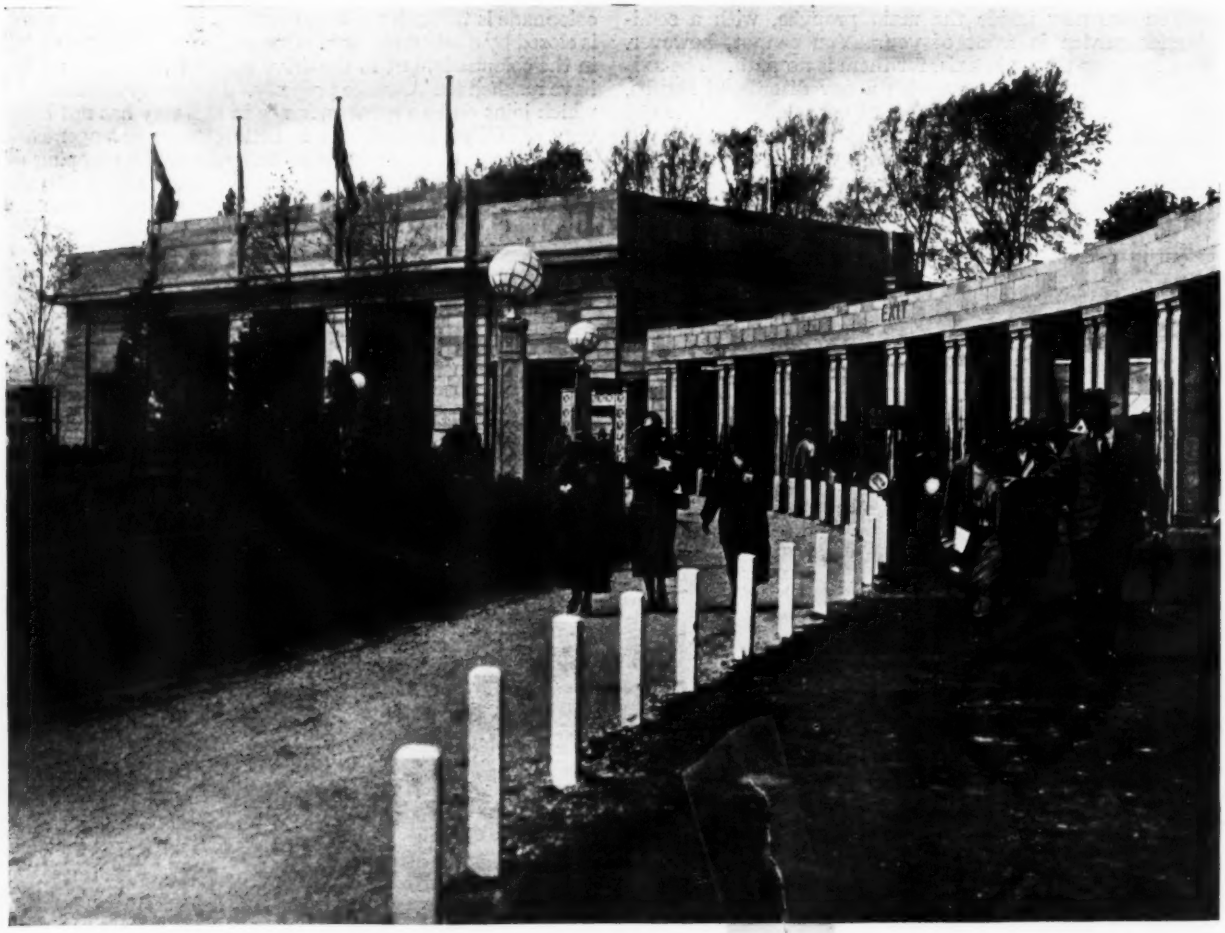
A BIRD'S-EYE VIEW OF THE NORTH ENTRANCE

is intentional to emphasize the primitive character of the material. I can see a whole school of architects arguing back from the material to this type of design and finding it, as I hope its creators do, very good. I admit it has character and strength, but to my mind it suggests that the British Empire is very far down the scale of civilization. Why should we have no new elegances to correspond to our old ones of the Renaissance or the eighteenth-century? Has the war really made us cave men again? I do not believe it, and certainly the stalls within these palaces, and particularly those in the Palace of Industry, suggest something very different. There we have life and colour, elegance and scholarship combined, but of this more later on.

Let us pass through the corner of the Palace of Engineering then and be as quickly out again on to the main axis as possible, and proceed along it till we come to the end of the palaces and to the great cross axis. This latter traverses an irregular lake, but by standing on one of the parabolic bridges, which rise high above the water, one can see the whole layout or nearly the whole of it.

From this point, seeing both façades of the two great palaces—we will admit the term—they can be realized to their full extent. They certainly cover an immense amount of ground, but so might any low building and not thereby be impressive. I do not think it was possible with such heights to make such vast buildings really monumental, except in the cemetery sense, either externally or internally. On the inside one needs a lofty roof to give the right sense of enclosure and a gallery from which to get a general view. As it is, these buildings internally, especially the engineering one, seem to go on endlessly without any climax or finish. They are vast without being big. There is no reason why they should ever stop growing. And so it is externally. Towers, I know, are now out of fashion, but both these buildings require some balancing towers or domes or other lofty features to control their vast extent. Imagine what a Rickards would have made with such an opportunity, or any of the young architects, or any rate architects young in spirit, like those who have given such interest to the interior of the Palace of Industry. Again, no doubt it is the war and the war costs which prevent us soaring in the air as our predecessors did. Still, for the twenty millions one hears rumoured, or for a tenth of that sum, one imagines something more might have been done.

Apparently the Canadian, Australian, and Indian Governments have thought so too, for there is certainly more *esprit* about their buildings. The Canadian and Australian ones are long balancing blocks on the far side of the lake. Of these the Australian building designed by Mr. J. G. Oakshott, of Sydney, is much the better. It is dignified and well detailed, if not very exciting, and when one enters it one finds a single lofty roof giving unity to the interior. The roof, too, is not left in all its bald construction of trusses. There has been a good attempt to decorate it. The Canadian building with its small detail, and with the elaborate caps of its columns, no doubt looked very well on the drawing board—better possibly than the Australian. But one feels its effects are draughtsman's effects, a little thin in execution. The same remarks in a less degree, perhaps, apply to the two buildings for the Canadian railways, which flank it at either end. On the whole, perhaps, the Indian building is the most satisfactory. It gains immensely by its large,

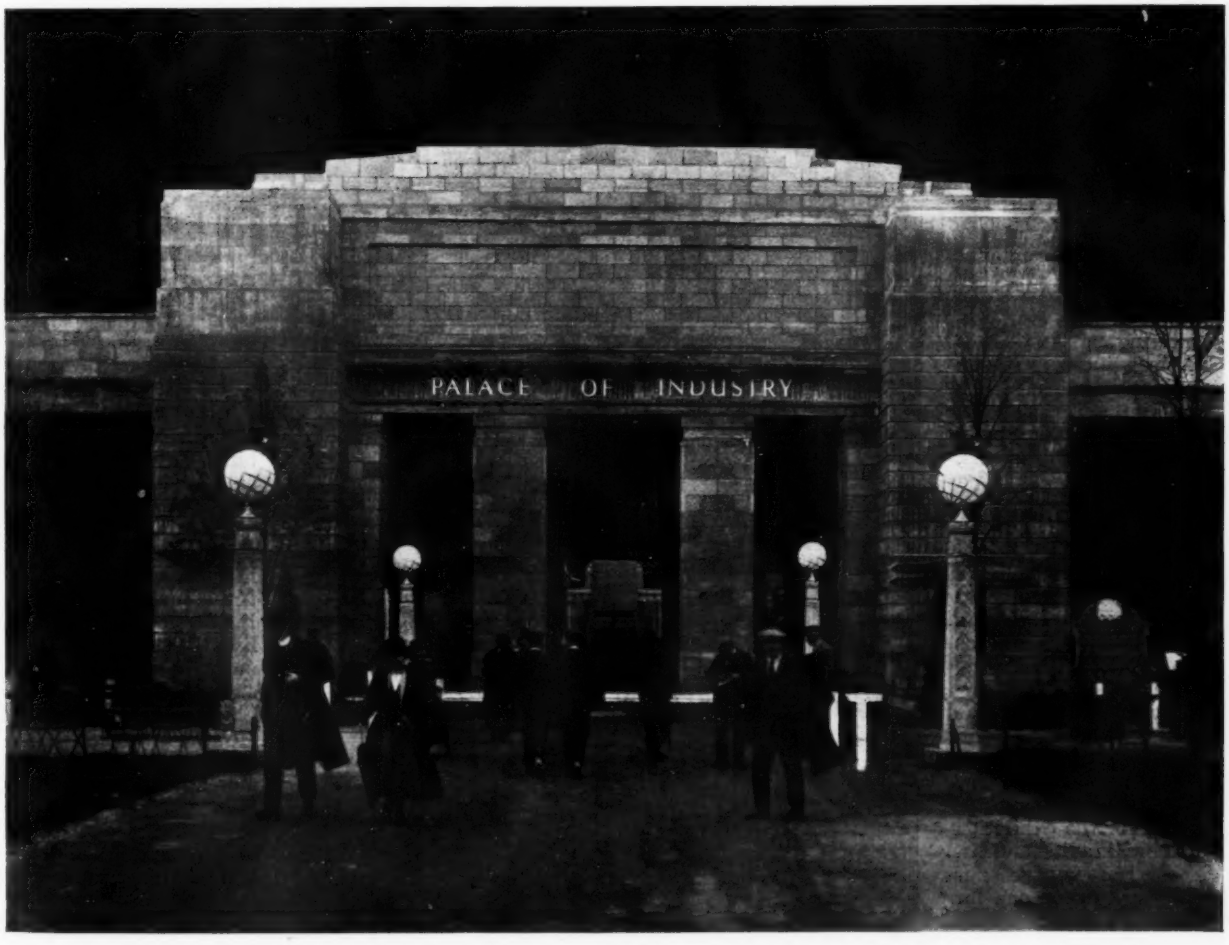


THE NORTH ENTRANCE, WITH ITS SEMI-CIRCULAR COLONNADE. SIMPSON AND AYRTON, P-P. AND F.R.I.B.A., ARCHITECTS.

quiet central court, with a blue pool in the centre, and it gains by the distinctive character of its architecture. No doubt it is largely reproduction work, but it recalls work that is not so well known to us. One notices the same effect in all the strange lesser pavilions, such as the Burmese, the Maori, and even the mud walls of the West African village. These structures with their strong racial character, have an effectiveness for us which our own have not. Let us hope to the natives who occupy them the reverse is the case, and that they find interest where we only find dullness.

Far away over a very effective mediæval-looking bridge lined with shops, and almost part, so it seems, of the amusement park, is the British Government pavilion—perhaps the best of the permanent concrete structures. It is in the same heavy style, but the voids between the piers are here filled with gilded grills, which lighten the concrete in a wonderful way. Six great cast British lions guard the steps. Surely two would have been sufficient. One obtains a curious shock, however, on passing through the comparatively lofty portico, for the ceiling of the main apartment within is at the level of the top of the door, or nearly so—that is to say, only half way up the portico. One wonders what is above, for one could find no stairs going up. However, almost immediately one looks down into a crypt with a map of the world with little ships moving in real water, and soon forget all architectural difficulties. That is the great advantage of an exhibition. If one does not greatly care for the façades of the Canadian Palace one can at any rate laugh at the Prince of Wales and his horse, all modelled full size in best Canadian butter. Or if one is too tired to do justice to adaptations of the Taj Mahal, one can revive one's flagging interest in the East with dances by real Tibetan dervishes. One must not take an exhibition too seriously. But, confound it, those concrete buildings are permanent and must be taken seriously.

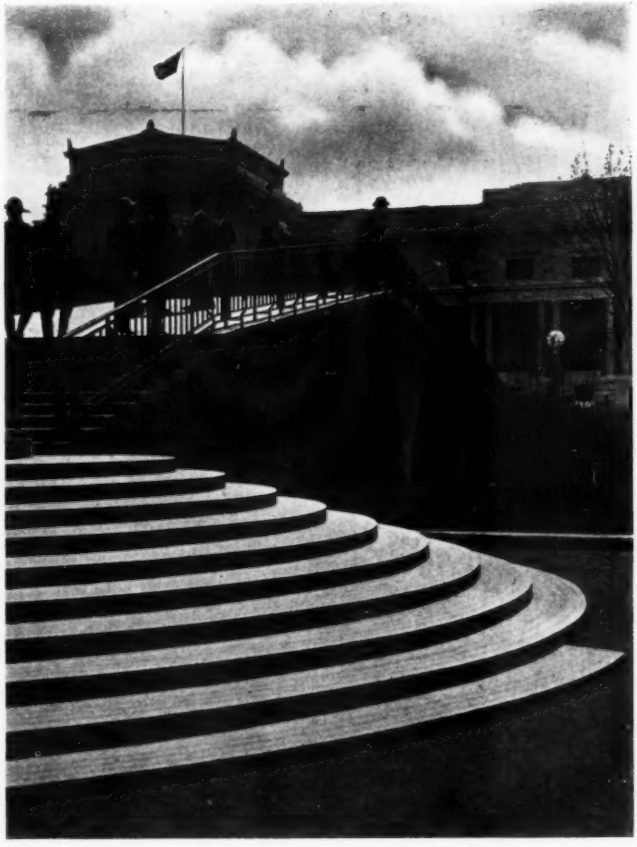
Let us turn to the interiors and the stalls. Here Sir Lawrence Weaver has had a real triumph. Never have the discordant exhibits of the singularly individualistic and discordant firms, which make the commercial strength of these islands, been reduced to order and even beauty before, and consequently never have their wares been so well shown. This is particularly the case in the Palace of Industry. Manufacturers of cotton goods, woollen goods, chemicals, toys, or any and every sort of merchandise, have been grouped together. Each group has been given a court from a main avenue, and better still, an architect to devise a portico or entrance and an internal scheme. These are the most delightful things in the exhibition, and the justification of the younger architects. One either knows they are young or feels they are, so happy are the results. There is Mr. Clough Williams-Ellis uniting all the chemical manufacturers in bonds of harmony, mostly through gilded columns and a gay figure frieze. Professor Hubert Worthington tempts any one to look at the cotton exhibits by his delightful Italian portico, and Mr. Austen Hall and Mr. Vincent Harris in the same way invite to gas and building material exhibits. The former has made of his court two really fine rooms, well lit and well decorated. Mr. Lawrence Dale has a fine Colonial portico for tobacco, while Mr. Morley Horder has a delightful colonial pavilion for Cauldron pottery. This architect has equally delightful things in other styles—a planter's house for rubber, and very appropriately a Scottish baronial castle for whisky. But I cannot mention a tithe. Nearly every group in this palace



THE ENTRANCE TO THE PALACE OF INDUSTRY. SIMPSON AND AYRTON, P-P. AND F.R.I.B.A., ARCHITECTS.

THE AUSTRALIAN PAVILION: SIDE ELEVATION. J. G. OAKSHOTT, ARCHITECT.

is given distinctive, gay, and interesting treatment. I noticed very happy work by Mr. Oliver Hill for pottery. Mr. Clough Williams-Ellis again for Ulster, Mr. Maufe for food products, Messrs. Milne and Phipps for linoleum. To the architect the interior of the Palace of Industry far surpasses that of Engineering in interest. One gathers that in the latter Sir Lawrence Weaver did not have so free a hand. However, in the Engineering Palace there is a magnificent square pavilion of big black Scagliola columns with a red ceiling by Sir Edwin Lutyens for Messrs. Dorman Long, and a fine large Doric portico to the Port of London exhibit by Sir Edwin Cooper. If only more architects like these could have been employed on the exteriors as well as the interiors! Messrs. Milne and Phipps certainly were for the charming little pavilion for "The Times"—very fortunately for "The Times," but not so fortunately for the exhibition on the main axis—and Mr. Morley Horder, I guess, for the equally good one for Messrs. Crosse and Blackwell. Mr. Emberton has done his best to liven up the grounds with his exciting little advertisement pavilions, but they are too big and too gay for the elderly respectable concrete structures behind them. The same may be said, too, of Messrs. Lyons's rectangular painted restaurants, amusing enough in themselves, but properly to be hidden among the switchback railways in the amusement park. However, this enterprising firm has also secured large sections of the palaces, even annexing two of the main porticoes of the Palace of Industry. I heard some one say the whole of the exhibition appeared to be an adjunct to their cafés. Such an exaggeration shows, however, the strict need there is in an exhibition for truly functional planning. If the chief architects had been content to unify the whole as McKim and Burnham did at the Chicago, or the firm of McKim, Mead and White at San Francisco, and let more of their contemporaries and juniors join in the planning and design of the separate buildings, it would have led to better functional arrangements and certainly to a more interesting and inspiriting whole.



A BRIDGE ACROSS THE LAKE.

SOME OF THE PERMANENT EXHIBITION BUILDINGS.
SIMPSON AND AYRTON, P-P. AND F.R.I.B.A., ARCHITECTS.

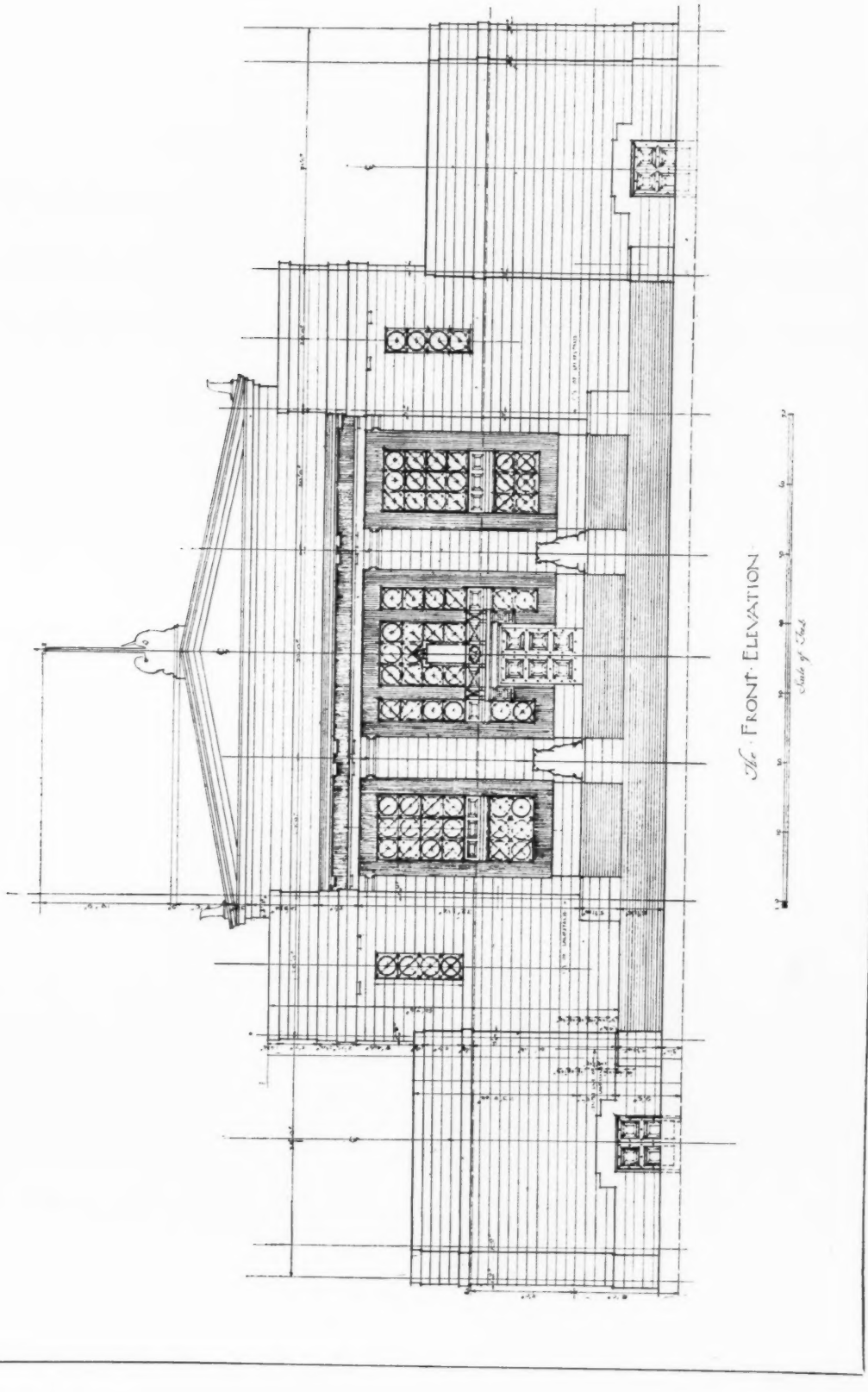
THE CANADIAN PAVILION. J. O. TURCOTTE, ARCHITECT

THE PROMENADE BETWEEN THE CANADIAN PAVILION AND THE STADIUM.

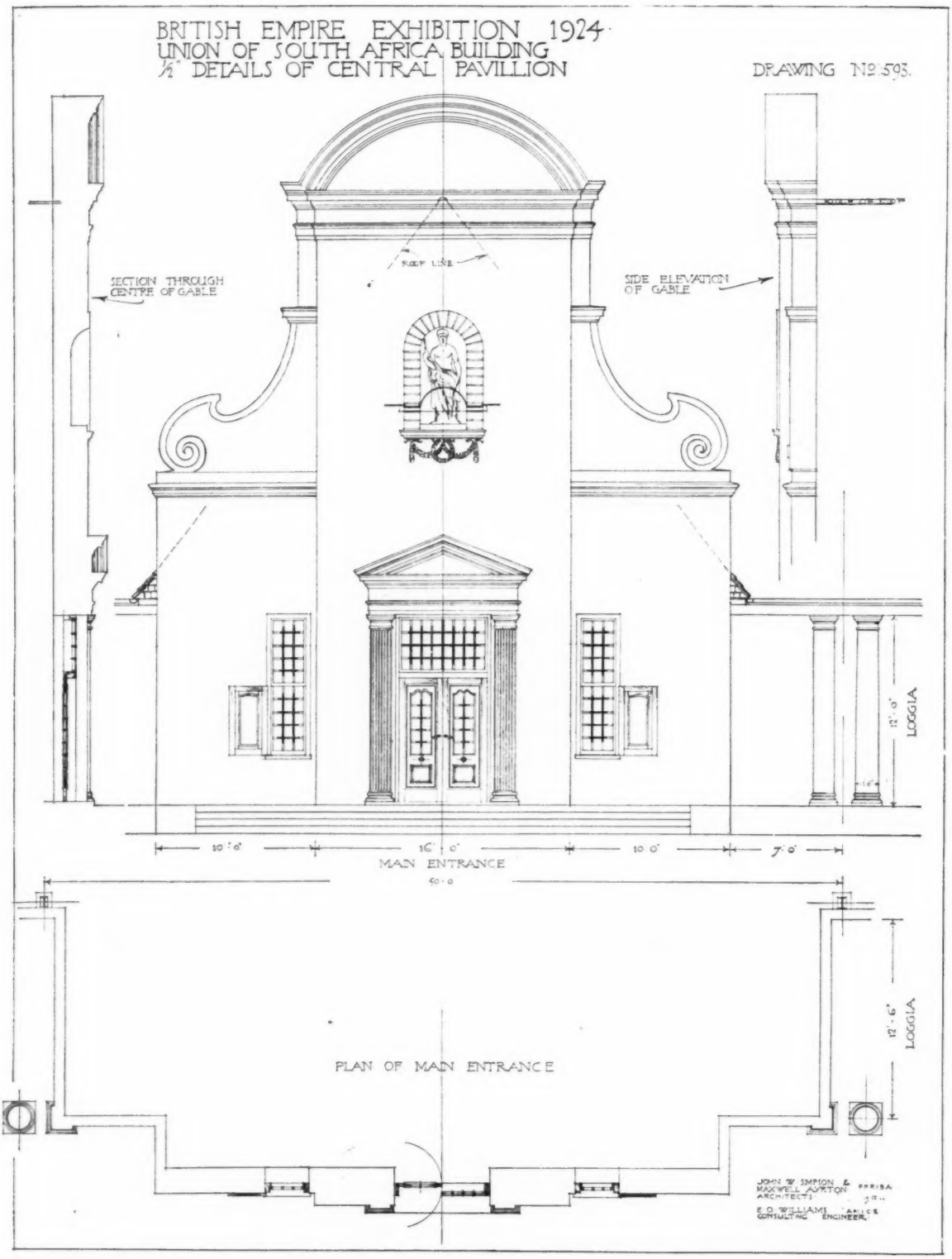
THE SOUTH AFRICAN PAVILION. SIMPSON AND AYRTON, P-P. AND F.R.I.B.A., ARCHITECTS.

"THE TIMES" PAVILION. MILNE AND PHIPPS, FF.R.I.B.A., ARCHITECTS.

THE BRITISH GOVERNMENT PAVILION.
SIMPSON AND AYRTON, P.P. AND F.R.I.B.A., ARCHITECTS.



THE BRITISH GOVERNMENT PAVILION: THE FRONT ELEVATION. SIMPSON AND AYRTON, P.P. AND F.R.I.B.A., ARCHITECTS.



A DETAIL OF THE SOUTH AFRICAN PAVILION. SIMPSON AND AYRTON, P-P. AND F.R.I.B.A., ARCHITECTS.

The Planning of the British Empire Exhibition

A Symbolical Lay-Out

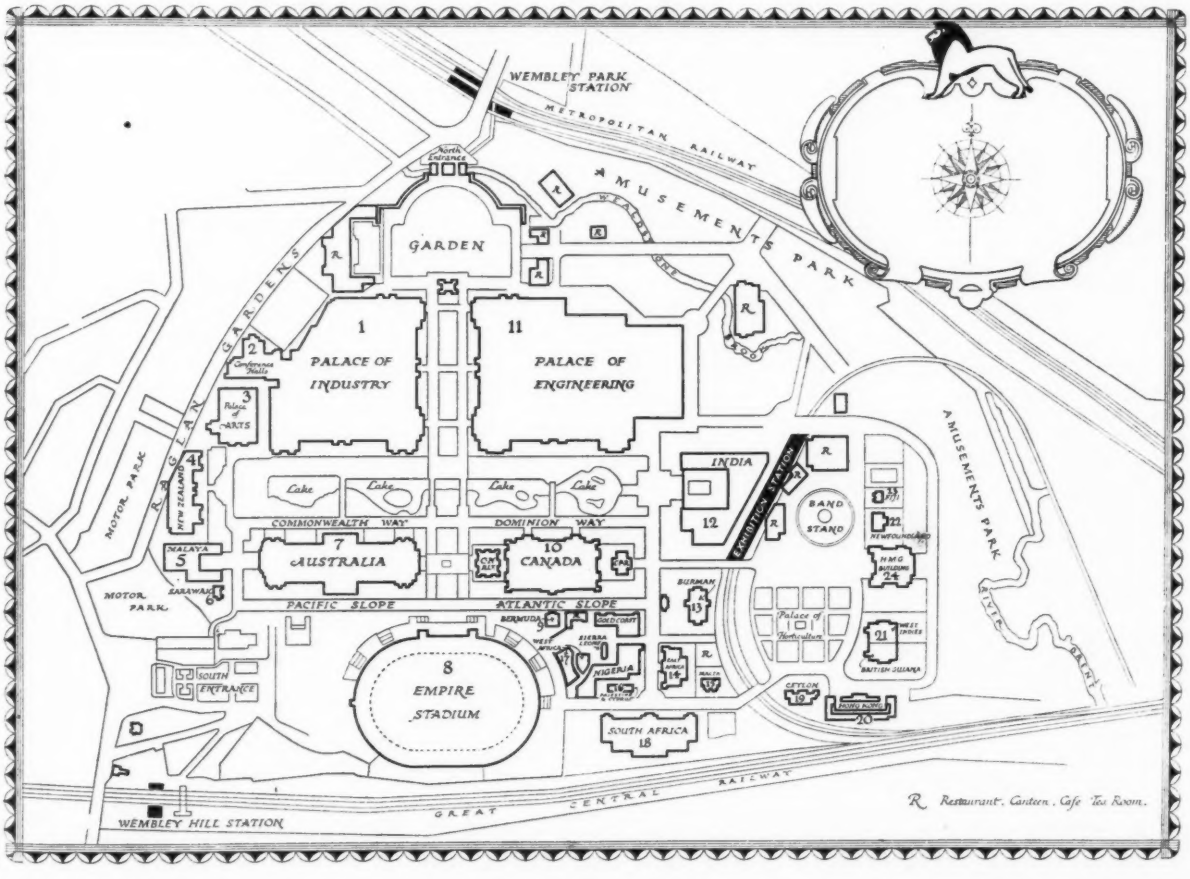
By PROFESSOR PATRICK ABERCROMBIE, M.A., A.R.I.B.A.

IT is natural to assume that an exposition whose separate exhibits illustrate the several activities and departments of our Empire, should, in its general plan, typify the Empire as a whole, and everyone must agree that Wembley succeeds in this double conception. If the buildings of the Colonies, India, and the Dependencies are admirably representative of localities and the great palaces of our activities, the plan and arrangement of these units display the Empire we love so well, with its central idea attempting to pierce through a mist of illogicalities, anachronisms, and haphazards. Were the organizers and planners conscious of this parallelism, or did it occur spontaneously, proving once again that our Empire could have grown in no other way than it did?

The authors of the plan certainly set out with a definite idea: a main avenue starting with an expanding circular colonnade from the north entrance, flanked on either side by the symmetrical palaces of Industry and Engineering, and culminating in the great national Stadium on the top of the rise; the end and object of all the business activity of the Empire thus shown to be pleasure, and that particular British form of pleasure—outdoor sport and games. But here at once in this central way—the backbone of the whole scheme—intrusions occur: Lloyds Bank at one end, "The Times" building at the other, entirely block up the fairway. Both bank and newspaper are confessedly admirable in themselves (I keep my money in one and daily read the other), and their respective pavilions unexceptionable; but on no logical or reasonable grounds can these centralized and obstructive positions be justified. On the other hand, we suppose, no real Britisher could quarrel with the appropriateness of the upper gateway which precedes the northern entrance (itself in a hollow) and which is inscribed with the single and gigantic word BASS: this antithesis of "abandon hope all ye who enter here" forms an excellent preface to a British Empire Exhibition, and supposedly illustrates our Imperial tolerance.

Perhaps the only serious defect which can be laid to the charge of the architects to the exposition, who have manifestly been working under great difficulties, is the treatment of the lake on the main cross axis: there is no quarrel with the asymmetry of the Canadian and Australian buildings, which face the southern side of this lake, and which are sufficiently equal in mass and importance. But the lake, lying between its terminal features the Indian and New Zealand pavilions, should clearly have been a formal canal spanned by its high arched bridges instead of a series of pools of irregular shape. If any one wants to see, close by, an example of what the water treatment should have been, they need go no further than just outside the northern entrance, where they will look up the delightful straight stretch of the Wealdstone Brook.

To return to the exhibition: In the species of backwater beyond old London Bridge (a delightful fantasy of the



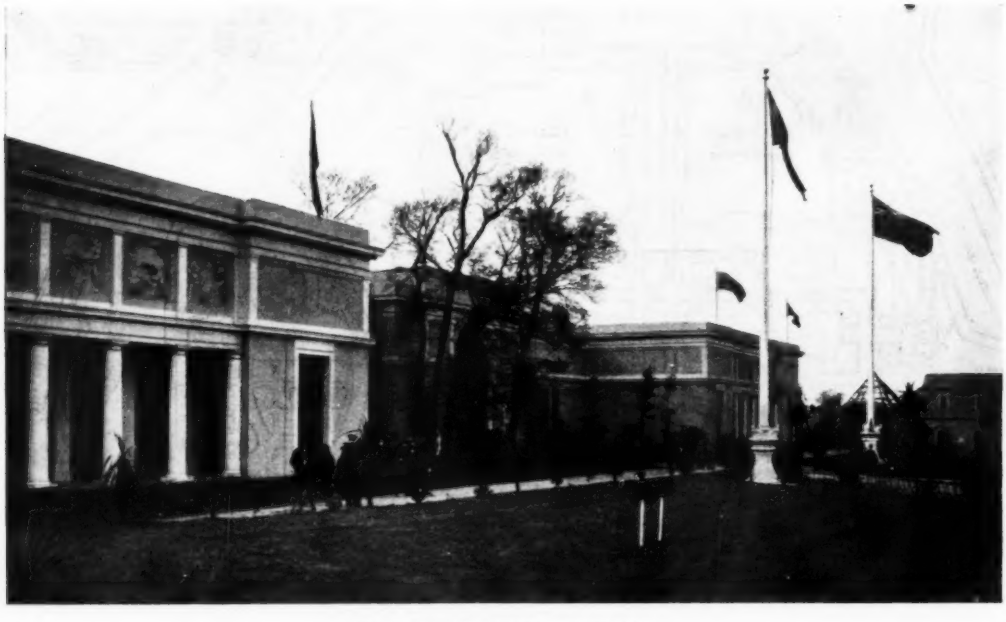
THE GENERAL LAY-OUT.

THE WEST INDIES PAVILION.

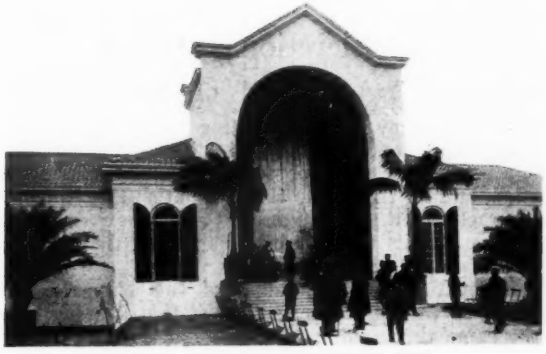
architects, though fantastically so named) all logical planning is thrown to the winds; H.M. Government building (which should be the focal point of the whole exposition) fronts you, severity itself, with its flanking British lions; to the left all is gaiety, a bandstand and eating-houses of differing degrees of delicacy; to the right, in the midst of the beds of the horticultural section, rises the graceful pavilion of Messrs. Crosse and Blackwell (perhaps so placed by reason of the origin of their pickles), and beyond are seen British Guiana and Hongkong; all very snug and pleasant, as the secretary of the Pickwick Club once described a scene of similar illogicality.

The architectural treatment of the official plan (i.e., the buildings designed by the exhibition architects and their adjuncts) is original, so far as expositions are concerned. It is the extreme opposite to the florid plaster treatment of outrageous Moorishness so frequently adopted, and has none of the fantastic freakishness and amusing symbolism of the Gothenburg Exhibition of last year. Nor has it the gracious opulence of the recent Mostra Romana, nor yet the richly-coloured magnificence of the San Francisco Exposition of 1915, both of which exploited a free classic to the utmost limits of an imperial Roman manner. The Wembley buildings are concrete, frank, and grim, suggesting an iron inflexibility of purpose which is not borne out by the plan. Where colour relief is properly applied (as in the Lucullus Restaurant, under the architects' own control, with orange vermilion, emerald, and purple of the quality of Chinese lacquer) the effect can be distinctly imposing; if eventually these stark masses are draped with gorgeous banners and adorned with painted armorial escutcheons, 20 ft. high, hung out as they are over some old Spanish buildings, they may emerge triumphantly. But the fussy kiosks which are dotted about, without sufficient rhythmic care, are, though bright in colour, too frankly advertisements, and merely lower the dignity of the concrete masses.

There is thus at Wembley the contrast of severe buildings and a loose plan, and the intrusion of the pavilions of national (and, therefore, architecturally discordant) architecture into every view. As has been said, perhaps the whole is as typical of the British Empire as the unity of the San Francisco Exposition was of Jefferson's Constitution. And, like our Empire, the exhibition is sure to succeed.

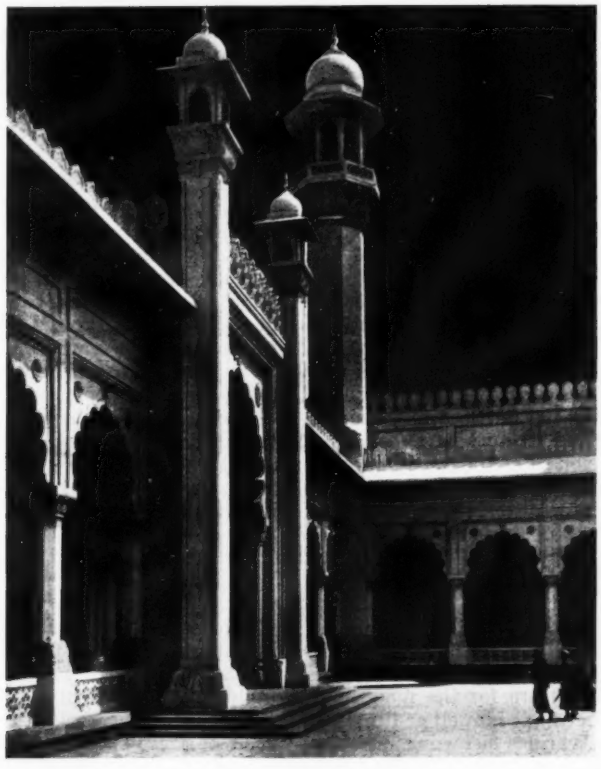


THE NEW ZEALAND PAVILION.
SIMPSON AND AYRTON, P-P. AND F.R.I.B.A., ARCHITECTS.



THE BRITISH GUIANA PAVILION.

THE NEWFOUNDLAND PAVILION.



THE INDIAN PAVILION.

WEST AFRICA

"OLD LONDON BRIDGE."

The Principles of Architectural Composition—12

The Relation Between Plan and Elevation

By HOWARD ROBERTSON, S.A.D.G., Principal A.A. School of Architecture

THE point has already been stressed that architectural design is essentially three dimensional in character, and since we are dealing with solids, the internal forms, of which the elevations are merely the envelope, are bound to find some expression on the exterior. An analogy is that between the covering of the body and its internal structure and organs, which, while not expressed in detail on the exterior, dictate nevertheless the general contours of the human form.

The degree in which the elements of the plan will find visible expression in elevation is a matter for the architect to determine, and will depend on the impression which it is desired that the building should convey, and upon the interest and worthiness of the various internal elements to obtain recognition externally. If certain features of the plan are not worthy of emphasis, it is undesirable to call attention to their presence, for it is paying but a poor compliment to the spectator to present to him an expression of the trivial, however meritorious may be the conscientious honesty of purpose which prompts this relation of fact.

The whole question of the treatment of elevations, and their relation to the plan, is intimately bound up with the standard of restraint or assertiveness to which it is desired that the design of the building should attain (Fig. 139), and with the building's duty to the "social order" of the buildings and surroundings with which it is related. In the same way as a certain standard of conduct and deportment is required of the individual in any civilized State, so is it incumbent for the design of a building to maintain a degree of public propriety and good manners. Cases may arise where individuality in design may have to be restrained for the sake of fulfilling the function of forming a link in some general scheme, and it must be remembered that the emphasis and expression of character desirable in a design cannot be adequately determined without full consideration of the effect in relation to surroundings, whether they be other buildings or natural features.

The architect who designs a bold and striking building which jars on the general setting may be showing his personal ability, but at the same time lays himself open to a charge of bad manners in architecture.

There are apt to be, therefore, definite limiting restrictions on free expression, but one must assume for the purposes of discussion that these are for the moment in abeyance, and that the architect finds himself at liberty to determine to what extent the various elements, divisions, and functions of the plan should be expressed in the design of the façades. Under these conditions, one of the primary determining factors in the design of the elevations will undoubtedly be the desire to convey a definite expression of the purpose of the building, since the *raison d'être* of any creation makes a most human and interesting appeal, second only to that of sheer abstract beauty of design. It is therefore of the utmost value to endeavour to try to blend this expression of purpose with the effort towards production of beauty of form, thus endowing satisfactory form with the vitality which expression of character supplies. It is the function of the building which primarily dictates the plan (Figs. 137, 138, 146, 150), and if, therefore, we express this function in elevation, we are indirectly expressing the plan, and implication of purpose often reveals the essence of the building more than does a literal expression of details of structure.

A building, for example, which is treated on its exterior elevations with blank walls devoid of window openings at once conveys the suggestion that its interior must be lighted either from the roof or by internal courts. This conclusion suggests to the architect a general impression of the type of plan involved, the type with which in his experience such systems of lighting are associated. He will conclude, in addition, that a building planned on such lines must be destined for some particular and special function, and for the key to the designation he will look to the character of the elevations and any characteristic and descriptive details which are employed in their working out (Figs. 140, 143).

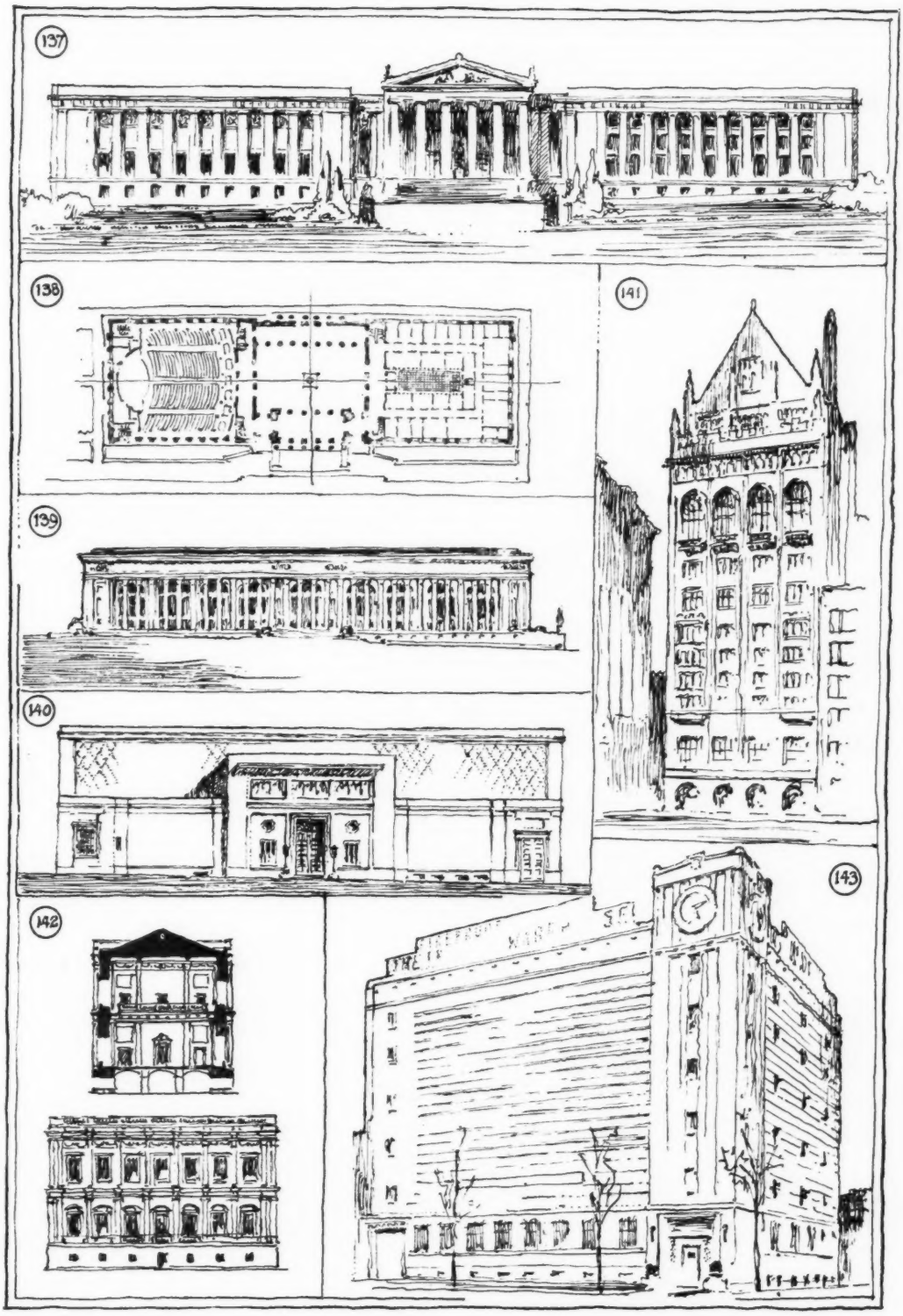
The elevations of a building of this character may therefore be thoroughly suggestive of the planning, while at the same time failing to reveal much of the internal details of arrangement. These latter may, in fact, be so disposed that the most interesting and appropriate elevation takes the form of an architectural screen; such a treatment might occur in the design of a prison, where the suggestion of sub-division into rooms and cells is not elevationally interesting, and the whole is masked by a screen wall treated in the appropriate note of character.

It is in the case of plans which contain characteristic and important elements that it is particularly interesting to find the recall of these in the façade treatment. Large rooms and halls may be of such height that their roof covering will appear on the elevation in the form of domes, gables, or attic stories, while their position on the plan may be marked by corresponding "breaks" on the elevation (Fig. 144). In other words, the articulation of the plan, the division into main and subsidiary groups, may be most appropriately emphasized by an articulation of the planes of the façade, expressed by breaks of various importance accompanied by variations in height necessary to obtain good proportions and complete the idea of the dominant and subsidiary expression.

The section of the elevation corresponding with some principal element of the plan will be appropriately richer in treatment and in general accentuation. More simply and monotonously treated portions will correspond with internal corridors and connecting links of the plan, and minor emphasis will convey the presence of secondary but, nevertheless, important plan elements (Figs. 149, 150). Emphasized expression on elevation will not be conceded to plan details lacking in interest, and the good planner will have assisted to this end by aiming to place these in inconspicuous positions. Series of small service rooms, lavatories, etc., in those cases where their presence on the building's front is necessitated will, if possible, not be placed in a central position, and an attempt to proclaim their presence by an honest expression of their modest and sometimes even mean function will probably be less satisfactory than an external treatment which includes them as a unit or incident in some general broad scheme appropriate to the general scale and character of the building. The provision of lavatory windows in the base of a monumental pylon flanking a main entrance is an extreme case in point. The lavatory should have been placed elsewhere on the plan, but once its position is accepted, it would be more desirable to blend its windows in the decorative scheme than to express them as features in themselves worthy of emphasis as points of interest.

The attempt to express staircases in elevation often presents difficulties. Staircases have the peculiarity of breaking the line of floor and window levels, requiring, as they often do, openings providing light at intermediate landing levels. Their external expression therefore presents a problem and at the same time opportunity for development into features of strong architectural interest.

The emphasis given depends on the general plan scheme, and their position on plan will be decided having always in mind the elevational possibilities. They may be expressed, for example, as strong vertical motives, or with ramping lines following the line of the "going," or their expression



FIGS. 137 and 138.—Elevation and plan of winning design for the Tennessee Memorial by McKim, Mead and White. Note the variations in the plans of the two wings, and the frank expression of these in the elevation. The balance of the composition is preserved by the maintenance of the running Order in each, while at the same time the fenestration gives truthful expression to the internal requirements of the planning.

FIG. 139.—The New York State Education Building, Albany, by Palmer and Hornbostel. Here the façade takes the form of a screen behind which occurs the fenestration required for the various divisions of the plan. Expression of individual apartments is subordinated to the dominating idea of a highly monumental effect.

FIG. 140.—Design for an Art Gallery by Easton and Robertson. Normal fenestration is here not desired, and the elevation expresses the requirements of the art gallery plan type.

FIG. 141.—The University Club, Chicago, by Holabird and Roche. Note the expression in elevation of the large and lofty dining hall on the eighth floor. The collegiate Gothic treatment and the handling of the fenestration marks the expression as other than that of the usual office building.

FIG. 142.—The Banqueting House, Whitehall, by Inigo Jones. The reproach is often made that the hall is screened behind an elevation which expresses a two-storied interior. The presence of the gallery largely justifies, however, the scheme of fenestration adopted.

FIG. 143.—A furniture storage warehouse in Chicago, by Ottenheimer, Stern and Reichert. Expression of planning and function is here obvious and direct, and the absence of normal fenestration has been frankly accepted, interest being legitimately obtained by surface treatment.

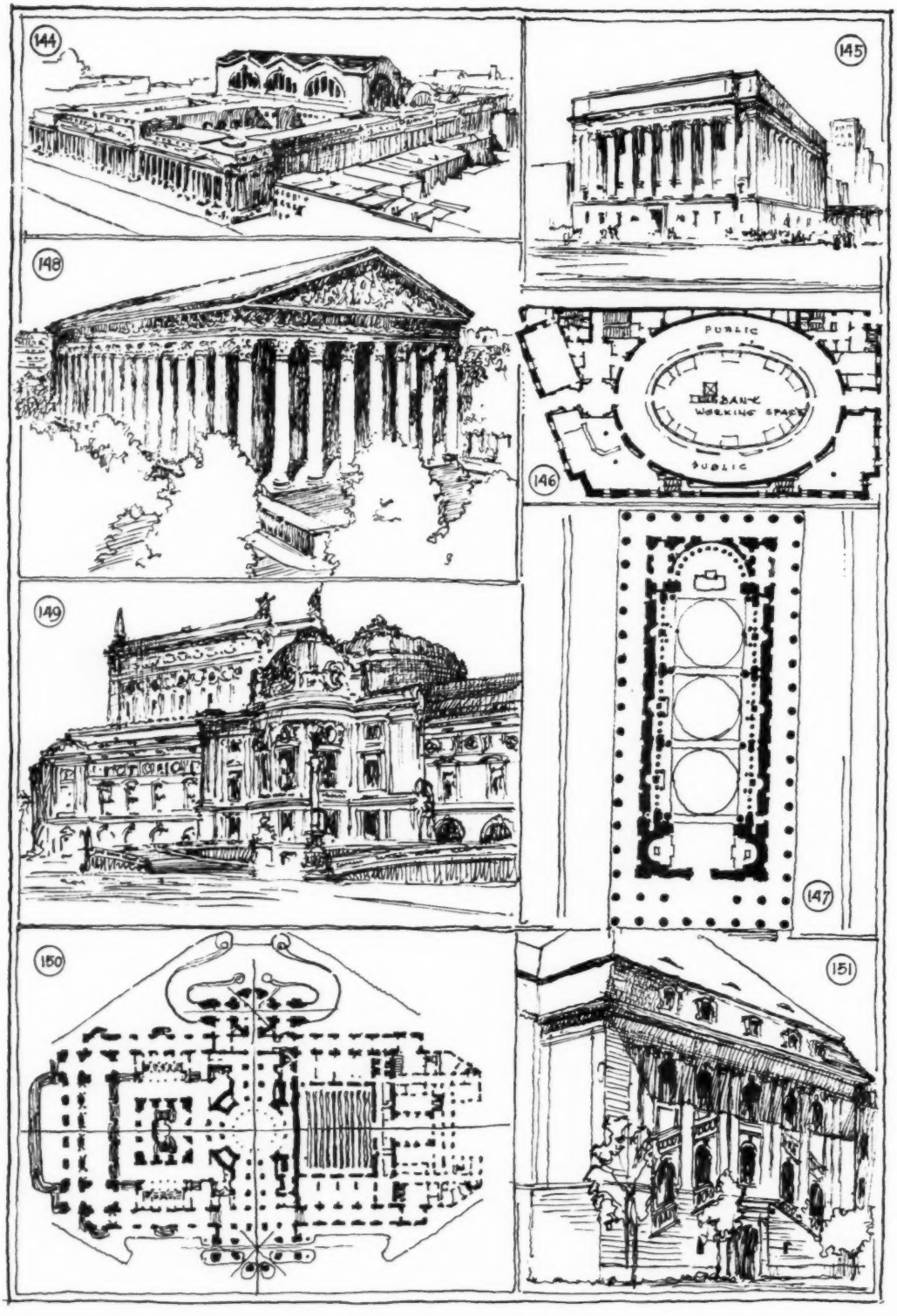


FIG. 144.—The Pennsylvania Railroad Station, New York, by McKim, Mead and White. Note the expression in the elevation of the main waiting hall, rising above the roofs of the subsidiary plan elements. The desire for monumental effect makes this treatment practicable, and it is logically expressed.

FIGS. 145 and 146.—Elevation and plan of Greenwich Savings Bank Building in New York, by York and Sawyer. In this case the exterior does not express the elliptical banking hall, which dominates the plan. Such expression as might have been obtained was probably not considered to be worth the sacrifices in other ways involved, but the building would undoubtedly have gained in elevational interest if the unusual internal shaping could have been used as the keynote to the exterior design.

FIGS. 147 and 148.—Plan and elevation of the Church of the Madeleine, Paris. This is an instance often cited of false expression of plan in elevation. The three main domed compartments of the interior and the absidal end suggest a façade of far greater interest than that revealed by the conventional Neo-Roman temple treatment.

FIGS. 149 and 150.—Side elevation and ground plan of the Paris Opera House, by Charles Garnier. This is one of the most beautifully studied plans of any comparatively modern building, and its various elements are clearly articulated and marked in the elevations, so that the main planning divisions can readily be perceived without entering the building.

FIG. 151.—The main block of the Virchow Hospital, Berlin, by Ludwig Hoffmann. An honest and interesting attempt to express a main staircase in elevation. It is, however, open to question whether the resulting elevational disturbance is justified by the importance of the element expressed, which is not in this case dominating the building's conception, and is not really sufficiently interesting to call for such strong emphasis.

may be suppressed behind a screen wall which has a window treatment precisely similar to that of some adjoining element of utterly different function, such as a room. To make of the staircase treatment the main motive of a monumental building is to run the risk of over-emphasizing what is after all more a practical necessity than the keynote of a conception (Fig. 151). On the other hand, a cleverly handled treatment may supply an emphasis which is just what is required to heighten a rather moderate general interest.

Should, however, the façade consist of an ordered rhythm of regular openings, it would not be worth while to interrupt it out of a quixotic desire to provide an honest expression of the staircase, and the fact that a landing happens to cut across a window is less damaging than the destruction of the unity of the façade conception.

Expression of plan in elevation may be carried to absurd lengths. It is a common failing, for instance, to stress unduly the height of a hall, which is an important plan element, in order to make its location more evident by showing its roof and upper part on elevation. If the hall is required to be low, for acoustical or other reasons, to attempt an expression of loftiness is quite illogical. The mere presence of importance of bulk and position cannot always be directly indicated in façade; an instance occurs in the new building for the Port of London Authority (Fig. 122), where the presence of the huge circular Rates Department, the focus of the plan, can only be indicated elevationally by the emphasis of the corresponding entrance block on the main front. It would have been absurd to have forced the dome of the Rates Hall up to the height necessary for dominating the elevation.

We may conclude, in considering the expression of plan in elevation, that it is desirable to express important features of the plan in the measure that such expression appears of interest either in emphasizing the purpose of the building or in providing elevational elements which by proportion, shape, contrast, etc., contribute to the general plastic and detail beauty of the design. Truthfulness alone, while a virtue in the abstract sense, may result in that misguided conscientiousness which insists on the expression of those things which, architecturally considered, are better left unsaid.

(*To be continued.*)

[The previous articles in this series appeared in our issues for January 9, 16, and 30; February 13 and 27; March 12 and 26; April 9, 16, and 30; and May 14.]

The Stadshus at Stockholm

RAGNAR OSTBERG, Architect

A MODEL of the Stadshus at Stockholm was on view in the Exhibition of Swedish Architecture at the R.I.B.A. This model, in conjunction with photographs there, gave one a very fair idea of the building, but perhaps a sight of the actual building is necessary if a just appreciation of it is to be attained.

It has more individual character and charm than anything of the kind recently erected in England or America, says an architectural correspondent of "The Manchester Guardian," and the design has points of resemblance with the Doge's Palace. As Stockholm is known as the Venice of the North this is not inappropriate, but the style in which the parts are worked out is entirely original and fresh, and there is no trace of the wearisome "imitation" architecture too common in modern buildings. There is a double arcade, with granite columns, which opens out the courtyard on the south side and gives a view over the water to the islands, which must be a magnificent effect.

The great hall is the main feature of the building, and a photograph gives an idea of a very impressive interior, the windows being set in deep recesses with curved jambs ornamented with mosaics, the scale of which is enormous, and the flat ceiling of richly ornamented beams is fine in its simplicity of treatment. The exterior is built of brick, which is dull purple and rather larger than the English brick, being 11 in. by 5 in. by 4 in. The tower stands boldly out at the angle of the building, and must be a remarkable object across the water. But the cupola looks toylike and does not appear to sit happily on the tower, comparing very unfavourably in this respect with many of the campaniles at Venice.

Each copper plate of its roof was the gift of some citizen.

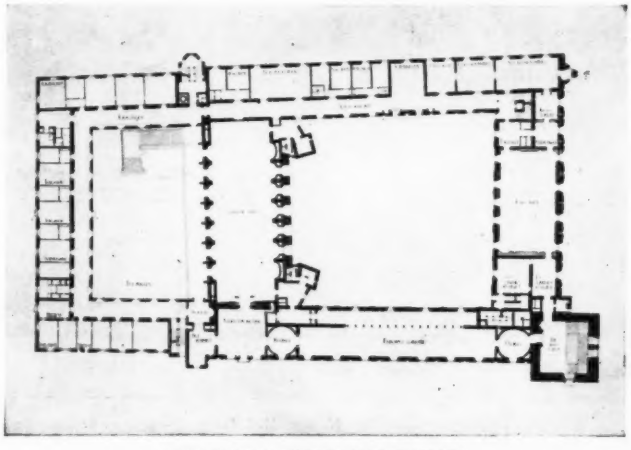
A competition held in 1902 decided who was to be the architect. Fresh designs of an entirely different character were called for, and these, too, were subjected to continual evolution as the work proceeded. Granite was the material then proposed.

The site faces part of the heart of the city, and the two principal fronts give on to the water. "Seen from the water," writes Mr. Murray Easton in "The Architectural Review," "the Stadshus, with its harmony of deep red brick and vivid green copper roofs and cupolas, touched here and there with gold, has a dream-like beauty. This in no way diminishes on a nearer view, for every resource of texture, colour, and form is called into play to maintain interest, the bricks used are very large, after the northern mediæval pattern, with deeply-raked joints, while granite, marble, and copper, all of Swedish production, are the contrasting materials."

The Banqueting Hall compares with the greatest rooms of Europe. Its actual size—44 metres by 14 by 13.5 in height—is considerable, but its proportion and the modelling of its form produce an effect that is no less than majestic. The subdued radiancy of the lighting arises from the setting of the windows in deep piers, niche-shaped within, and having a depth from outer to inner wall face of 4.5 metres. From the tall, narrow windows a strange greenish light falls on walls of gold glass mosaic, enriched with patterns and figures of the mythical and historical heroes of Sweden. This decoration was the work of Einen Forseth. The ceiling is formed of closely-spaced concrete beams, their soffits patterned in red and gold in such a way as to produce lines that carry the eye along the room and counteract the otherwise too powerful effect of the cross-shadows.

The Council Chamber has an open timber roof, mediæval in feeling, its walls being panelled with sound-absorbing material. In this chamber red is the predominating colour.

The cost of the building was over 18,000,000 crowns — £1,000,000 sterling and more.



THE MAIN FIRST-FLOOR PLAN.

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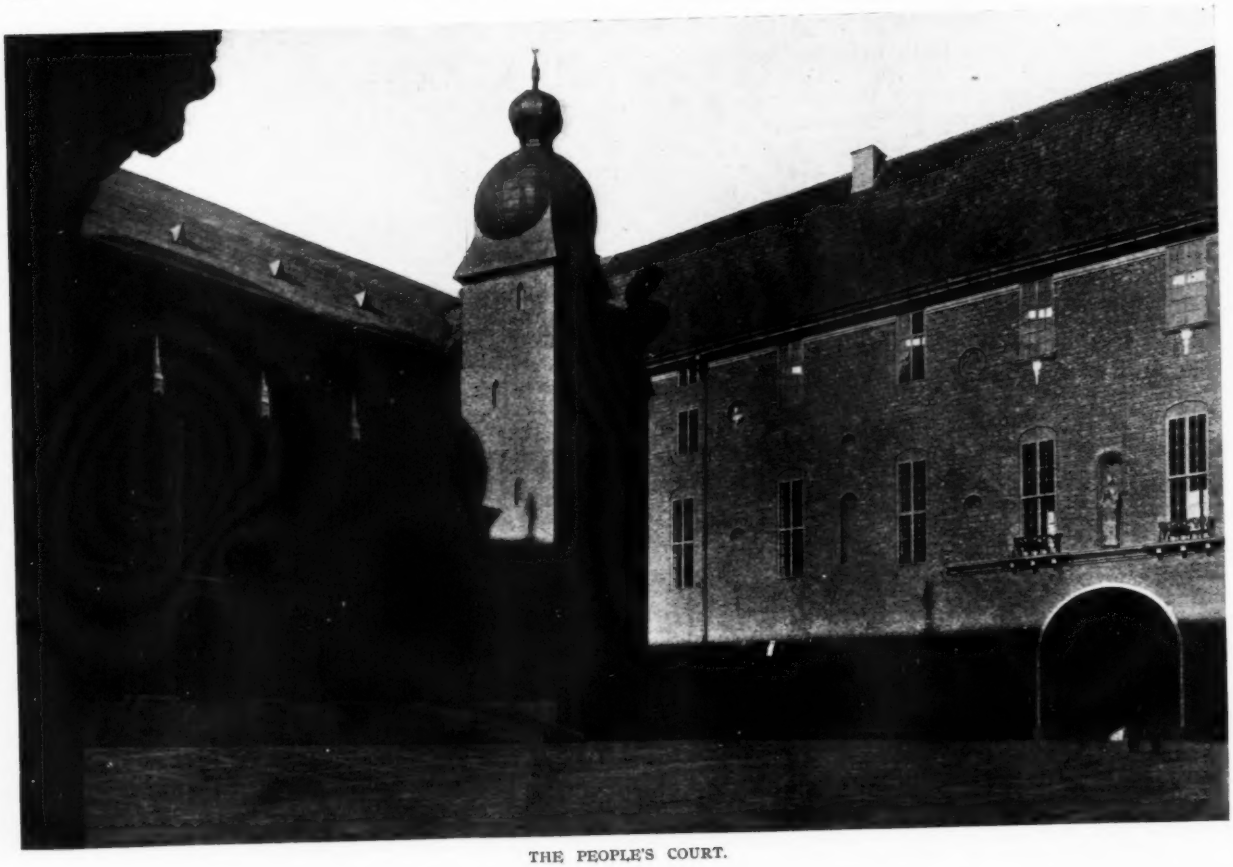


THE PEOPLE'S COURT.

Photos: F. R. Yerbury.

THE COUNCIL CHAMBER.

THE STADSHUS AT STOCKHOLM. RAGNAR OSTBERG, ARCHITECT.

THE PRINCE'S GALLERY.

THE BLUE HALL.

Photos: F. R. Yerbury.

THE STADSHUS AT STOCKHOLM. RAGNAR OSTBERG, ARCHITECT.

Modern Business Prem

Professor Lucian Bernhar

Manoli House is typical of recent work executed in Berlin. The feeling is entirely modern feeling, yet it is a re

iness Premises in Berlin

Lucian Bernhard, Architect

g, yet th is a remembrance of the classical tradition, notably in the pedimented façade and the columned entrance.

The Prime Minister on Architecture

The Sixth Dinner of the Architecture Club

THE Prime Minister was the principal guest at the sixth dinner of the Architecture Club, which was held on Friday night, at the Hotel Cecil. Mr. J. C. Squire, president of the club, was in the chair.

In a few words, prior to the toasts, the chairman said that they were met that night in what was, architecturally, the least offensive room they had ever had. Here, at least, their surroundings did not intrude, and for that they must be grateful.

Proposing the toast of "Architecture," Mr. Ramsay MacDonald—in a speech which must surely have been considered classic by all those who heard it, and which so impressed as to gain appreciation rather by silence than by applause—said he supposed he was there for one or two very simple reasons. The first was that he was very much interested in architecture; the second, and, perhaps, the explanatory reason of the first, was that long before he dined with the gods at eight or eight-thirty in the evening, he supped with the muses at midnight, and from those suppers he acquired an abiding interest in the things that were beautiful to the eye and comforting to the mind.

Remarking that he did not intend that evening to embark on any controversial topics, the Prime Minister recalled how a colleague of his not long ago at a meeting such as that was bold to make the suggestion that all the big public buildings in London should be faced with glazed tiles. Another colleague, he believed, was foolhardy enough to give his vote in favour of building a bridge over Piccadilly Circus, and, if anybody was foolish enough to read the newspapers, they would be aware that two or three members of Parliament, notorious for good taste for the first time in their lives, were pestering him very much about the new St. Paul's Bridge. Mr. Alfred Gotch, whose name was coupled with the toast, was one of those devoted servants of architecture who had looked into the past as well as contributed something to the present. He claimed for architecture that it was the first of all the arts. They were told that architecture did not begin until a definite and conscious sense of duty was super-imposed upon utility, but in his opinion utility had never in the whole history of humanity been dissociated from the desire to do something that was beautiful as well.

"The first architect," continued the Premier, "the pioneer of this club, was the Simian gentleman, who, in paying attentions to a Simian lady on a somewhat warm day, broke off a bough which she selected, not only because it was convenient in order to protect her beloved head from the scorching rays of the sun, but because she thought it the best looking and most attractive bough on the tree. That was the beginning of architecture; the spiritual and historical father of our chairman, the forerunner of Mr. Gotch, the raw material from which the knights who built Wembley have been made.

"Not only is architecture the first of all the arts; it is the most omnipresent of all the arts. If I want to buy a good picture I find that a rich American has stood in front of me and I cannot have it. It may be a wealthy person who is not American will buy it in front of me and transfer it to his harem which he calls his private picture gallery. It is a most extraordinary thing that private enterprise in the collection of art seems to have a predominating idea similar to that of the Mohammedan, who discovers a beautiful lady and immediately appropriates her and locks her up.

"These arts, these other arts, are purely individualistic. My heart is in the arts that are social. I am sorry that even in the choice of my house I have no free will. Every decent, respectable, God-fearing man declines to buy ready-made clothes. Is it not, therefore, a much greater sin to live in a ready-made house, for the house is clothing raised in all its moral virtues to the n^{th} power of effectiveness. If I cannot take advantage of free will in my pictures, or in my rooms, or in my door, or in my house, there is one thing I can do, I can enjoy the streets of the town in which I live. That is where architecture comes in as the great social art. I believe that in some way or other I am responsible for the National Gallery, and I am very proud of it.

"But a thing that we are very apt to forget is this, that for every hundred people who take delight in the National Gallery a million people see the public buildings that are on our streets, and that upon a pure mathematical basis it is far more important that a Government should see that its public buildings are beautiful than that it should see that there is a choice collection of old and new masters properly and adequately housed for people to see because they are citizens of a country that has an appreciation of art.

"There are some places, and there are some things in London, that I have passed for the last thirty years and have never had a kind word from them and never a decent thought. I do not like that, and that is why I hope you architects will form an association that will adopt some revolutionary method and give me the pleasure of getting up one morning and finding that they are not. Here, undoubtedly, the Government comes in. We have a very great responsibility. My great test of Government responsibility in building is: Can I feel happy, can I get a cheery smile, can I feel a spiritual welcome every day that I pass it going to my business or setting about my work?

"I will tell you a secret, the revealing of which, I hope, Mr. Baldwin will not object to. Just before I came into office I was consulted about a certain committee—it shall be nameless, but you know about it—that was set up to look after monuments and big buildings and that sort of thing. I said 'For goodness sake appoint it before I come in.' I am perfectly certain that it is composed of the most worthy gentlemen who could have been selected, but I am not at all sure but that I would do a good service if I supplemented that committee with another. I am turning it over in my mind just now whether I should not appoint a committee of artists and architects, men, and perhaps women too, of good, chaste eye, who could appreciate a beautiful thing when they saw it, and should charge that committee not with the power of creating something fresh, but from the annual estimates voted by Parliament I should give them a good store of dynamite and allow them to use their discretion in employing it to clear the way for creations that would give people more pleasure and would benefit the community by their existence more than happens at the present time.

"The great question is: What can the Government do for architecture? I am one of those people who hate bureaucracy. I am in favour of getting my letters filed, my pencils sharpened, or my doors opened by bureaucracy. That is its job. That is its proper task. But when you come to matters of architecture and such things, bureaucracy is out of place. A young man who has become a bureaucrat has become prematurely aged. An artist who becomes a bureaucrat becomes a cog in the machine.

"I would suggest to the Architecture Club that they could do no better public service than help me out of my difficulty. How can the Government help art and architecture? My conclusion is that perhaps the only possible way just now is that it should be the patron, leaving the architect free and spontaneous, leaving him to do his untrammelled

best, and even then there are many slips between the cup of idea and the lip of accomplishment. Nevertheless, when we look on the old buildings which delight us so much, this thing is perfectly certain—that either the public or the private patron has been an essential element in the development of art. I candidly confess that I would like the public patron to do more than it has done. I confess to you I should like to be assured that no public building, however humble or small, is to be put up in this country which would make men and women of good taste ashamed to take a stranger to look at it and say: 'That is a public building. I don't want public buildings to be more expensive; I don't want them to be great, huge, gaudy, vulgar things; I don't want them to impress us by their immensity; I want them to impress us by their chastity, by their spiritual correctness, and if you can do that you may design plain walls or decorative walls, but it will make no difference, the effect will be the same. It will mean that the citizens of our country are proud of the spirit of our country as embodied in the erections and houses of our country."

Mr. J. A. Gotch, P.R.I.B.A., responded to the toast.

The company present included: Mr. O. Maxwell Ayrton, Mr. and Mrs. Loughborough Ball, Mr. J. A. Barlow, Mr. R. M. Barrington-Ward, Mr. L. E. Barrington-Ward, Mr. Oswald and Mrs. Barron, Mr. E. C. Bentley, Mr. and Mrs. C. H. Biddulph-Pinchard, Miss Bland, Mr. and Mrs. James Bone, Mr. and Mrs. R. S. Bowers, Mr. Cloudesley Brereton, Mr. Herbert T. Buckland, Mr. Robert Cable, Mr. H. P. Cart-de-Lafontaine, Mr. H. J. Cart-de-Lafontaine, Lady Charnwood, Mr. Harold Child, Mr. and Mrs. A. B. Colls, Mr. and Mrs. Ewart G. Culpin, Mr. W. R. Davidge, Mr. and Mrs. Arthur J. Davis, Mr. and Mrs. E. Guy Dawber, Mr. Matthew J. Dawson, Mr. C. F. W. Dening, Mr. W. Reid Dick, A.R.A., Mr. Rudolf Dircks, Mr. and Mrs. W. McG. Eagar, Mr. J. Murray Easton, Mr. and Mrs. J. H. Elder-Duncan, Mr. Ralph Ellis, Mr. and Mrs. C. W. English, Mr. Norman Evill, Mr. Horace Farquharson, Mr. and Mrs. G. Topham-Forrest, Mr. Gerald Forsyth, Mr. and Mrs. W. A. Forsyth, Sir George Frampton, R.A., and Lady Frampton, Mr. A. G. Gardiner, Mr. J. L. Garvin, Mr. C. Lovett Gill, Mr. Macdonald Gill, Mr. J. Alfred Gotch, P.R.I.B.A., Mr. and Mrs. H. Austen Hall, Mr. and Mrs. G. R. P. Hamilton, Mr. and Mrs. Stanley Hamp, Mr. and Mrs. E. C. Hannen, Mr. and Mrs. Cecil Harmsworth, Mr. and Mrs. E. Vincent Harris, Mr. W. Alex. Harvey, Mr. and Mrs. Ambrose Heal, Capt. A. H. Henderson-Livesey, Mr. H. D. Hendry, Mr. P. D. Hepworth, Mr. A. P. Herbert, Mr. and Mrs. C. Lewis Hind, Mr. and Mrs. P. Morley Horder, Mrs. Cedric Horsfall, Mr. and Mrs. A. W. Jarratt, Mr. D. R. Jenkins, Mr. W. J. Palmer Jones, Mr. and Mrs. Ralph Knott, Mr. E. V. Knox, Mr. and Mrs. H. V. Lanchester, Mr. Gilbert Ledward, Miss Doris Lewis, Mr. Nathaniel Lloyd, Miss Ishbel MacDonald, Mr. Alister MacDonald, Mr. and Mrs. Charles Marriott, Mr. and Mrs. Edward Maufe, Mr. and Mrs. H. P. G. Maule, Mr. and Mrs. A. A. Milne, Mr. and Mrs. Oswald P. Milne, Mr. H. Greville Montgomery, the Hon. Mrs. Graham Murray, Sir Frank Newnes, Bart., Lady Priscilla Newnes, Mr. and Mrs. Alfred Noyes, Mr. Lionel G. Pearson, H. E. Palmstierna, the Swedish Minister, and Baroness Palmstierna, Mr. R. D. Peck, Mr. R. Randal Phillips, Mr. and Mrs. Paul Phipps, Mr. A. T. Pike, Mr. W. T. Plume, Mr. and Mrs. A. R. Powys, Mr. T. Michael Pope, Mr. and Mrs. Stanley C. Ramsey, Professor A. E. Richardson, Mr. E. W. Roberts, Mr. Howard Robertson, Professor W. Rothenstein, Colonel Rowse, Prince George of Russia, Sir Philip Sassoon, Bart., Sir John Simpson, Mr. and Mrs. A. Dunbar Smith, Mr. and Mrs. F. Speyer, Mr. and Mrs. J. C. Squire, Mr. and Mrs. Harold Stabler, Dame Janet Stancomb-Wills, P.R.W.A., Mr. J. B. Sterndale Bennett, Capt. George S. C. Swinton, Mr. and Mrs. W. Harding Thompson, Mr. and Mrs. Joseph Thorp, Mr. Philip Tilden, Mr. and Mrs. Milton Waldman, Sir Charles and Lady Walston, Mr. John Walter, Mr. and Mrs. H. J. Ward, Sir Lawrence and Lady Weaver, Lord Gerald Wellesley, Mr. and Mrs. Hubert Wellington, Mr. and Mrs. George Whale, Sir Owen Williams, Mr. and Mrs. Trenwith Wills, Sir Robert Witt, Mr. and Mrs. W. L. Wood, Professor J. Hubert Worthington.

THE SUMMER PARLOUR, DURNINGFOLD FARM, DUNSFOLD.
H. CHALTON BRADSHAW, A.R.I.B.A., ARCHITECT.
(From the recent Exhibition of the Architecture Club.)

OLD PREBENDAL HOUSE, SHIPTON: ADDITIONS AND NEW GARDEN.
MILNE AND PHIPPS, ARCHITECTS.

HOUSES AT SWANPOOL, LINCOLN. HENNELL AND JAMES, ARCHITECTS.
(From the recent Architecture Club Exhibition.)

The Scheme for a Thames Embankment after the Great Fire of London

Mr. Sydney Perks at the R.I.B.A.

At the last meeting of the R.I.B.A. Mr. Sydney Perks, F.R.I.B.A., F.S.A., read a paper on "The Scheme for a Thames Embankment after the Great Fire of London." The President, Mr J. Alfred Gotch, F.S.A., occupied the chair, and the Council guests of the evening were the lecturer, Dr. Philip Norman, F.S.A., and General Sir J. Talbot Hobbs.

Mr. Perks, in the course of his paper, which was illustrated by lantern slides, said: In December 1919 I had the honour to read a paper before this Institute on the Town Planning Schemes of 1666; now I ask you to consider certain proposals with reference to the reconstruction of property on the north bank of the river.

Wren showed a wide quay on both his plans, the quay being wider and more important on his first plan, which provided for filling in Dowgate Dock. The proposal to make a quay has been referred to as an example of Wren's great genius, but it was a fairly obvious idea; Hooke proposed a quay and also the abolition of all docks, so as to make a wide and uninterrupted thoroughfare from the Fleet to the Tower. Evelyn's second plan also shows a quay 80 ft. wide, and the filling in of Dowgate Dock.

A public quay or embankment as shown on the plans of Evelyn and Hooke formed a thoroughfare by the river with no street immediately at the rear, but Wren's plan of the proposed quay, according to the Acts of Parliament, show a quay with a thoroughfare only slightly further north: we have Thames Street, a direct line east and west, and the quayside, according to the Acts of 1667 and 1670, would not have been wanted as it was only a few yards farther south.

In my previous paper I showed how Wren's scheme for the rebuilding of London was rejected by the Privy Council in three days or less.

Two Acts of Parliament were passed, and they stated a quay 40 ft. wide was to be made; shortly, the generally accepted view of to-day is that a magnificent quay 40 ft. wide was made at public expense, the money being provided by the coal dues; this quay has been compared with the present Thames Embankment, and it has been stated that the Corporation of the City of London, after paying for the quay with public funds, allowed people to build over public property until in about a hundred years it practically disappeared, and finally that the Corporation went to Parliament in 1821 and obtained an Act repealing certain sections of the old Acts. This Act of 1821 is usually referred to as an Act to "whitewash" the City, it being assumed the Corporation were so conscious of the scandal created by the misdeeds of their predecessors.

I doubted the story when I started to examine the wonderful businesslike methods adopted for dealing with the catastrophe of the Great Fire.

I saw the cash-books, I saw the survey books, and I have dealt elsewhere with the machinery adopted ("History of the Mansion House," Chap. viii). I doubt if the method could be improved upon to-day: you may be interested to hear that shortly after the recent disaster in Japan, when after the earthquakes the cities of Tokyo and Yokohama were practically destroyed by fire, the representatives in England of the Japanese Government applied to our librarian at the Guildhall, and asked for a list of books showing how the City of London dealt with a similar catastrophe as far back as 1666. It was, indeed, a great compliment by one of the most thorough and practical empires of to-day.

After dealing with the various acts and maps, and other documents dealing with the scheme from 1667 to 1671, he said: I now come to an important document dated 4 December, 1671, and entitled "Letters Patents confirming the Design for making an open Wharfe forty feet wide on the North side of the River Thames between London Bridge and the Temple and directing that no Buildings should be erected within that distance from the River." I have reason to believe that this document has never been made public; it is signed "By Writt of Privy Seal—Pigott," and has the great seal. It refers to the Act of 1670 stating "a Key or Public and open Wharfe" had to be formed, and buildings set back 40 feet from the river front, and that "Bounds of each Proprietors Ground . . . should be distinguished by Denter Stones to be placed in the pavement" and that the line of the whole Key or Wharfe should be ascertained by Direction of the Lord Mayor, etc., refers to cranes, etc., to be allowed within the 40 feet, and that a plan had to be submitted by the 20th Day of June following the passing of the Act.

The whole document is exceedingly interesting, but perhaps the most interesting part is a plan of the frontage of the Thames from London Bridge to the Temple made in 1671; it is over 8 feet long, the scale is 50 feet to the inch: and it was submitted to Wren in draft in May, 1671.

It does not agree with the Ogilby and Morgan map and a comparison is very interesting, for Ogilby and Morgan show the suggested quay according to the letters patents was not constructed.

The entries in the minutes of the City Lands Committee, etc., indicate the improvements contemplated were national rather than merely local; the King was the final authority and not the Corporation. The Corporation acted with the greatest care in the matter.

With regard to the Act of 1821, said to have been promoted and passed to "whitewash" the Corporation, the Act is very short, and is entitled "An Act to repeal so much of an Act of the twenty-second year of His Majesty King Charles the Second, as restrains the Proprietors of wharfs between London Bridge and the Temple from erecting any Buildings or Enclosures thereon." I tried to find a Parliamentary report in the public press and could not do so: but I found the particulars I wanted in the minutes of the City Lands Committee.

On February 28, 1821, the Remembrancer called attention to the fact that a Mr. Charles Calvert had given notice to introduce the Bill: people interested for or against the Bill were heard by the City Lands Committee, which decided to oppose it, and on application by the Corporation, Parliament adjourned the consideration of the Bill; this enabled the Corporation to draw up a petition against it, and the Committee voted a sum not exceeding £200 for expenses to be incurred to carry out their views. In spite of the opposition of the Corporation the Bill was passed; and the Corporation eventually spent £1,090 8s. 11d. in their fruitless attempt to oppose a Bill which it is suggested was promoted with a view to "whitewash" them.

I submit for your consideration the fact that the quay as defined in the letters patents was never built; also that it is very doubtful if a clear space of 40 ft. was ever formed from the water line for the whole length of the river frontage; and lastly that the Corporation acted throughout in a fair and proper spirit, bearing in mind the best interests of the citizens at the end of the seventeenth century, just as they always did, and do to-day.

A vote of thanks to the lecturer was moved by Dr. Philip Norman, and seconded by Mr. Delissa Joseph.

Perspective Drawing and Design

By WILLIAM HARVEY

THE proud exhibition of the knowledge of perspective as an end in itself was very properly held up to ridicule by Ruskin in his "Stones of Venice," and this interesting science must be made subordinate and subservient to several other elements of design if it is to contribute anything valuable to the work of art as a whole.

But this does not imply that it is not one of the most useful aids to an architect who knows how to avail himself of its services in arriving at a just estimate of the appearance of his projected building before he is committed to a definite and final plan. To the architect the value of perspective is twofold in that it shows him with absolute exactness the silhouette of his intended work, allowing his critical faculty to advise him betimes of any errors in the disposition of forms and detail. Its other use is to explain the intention in regard to the appearance of the building to non-technical persons whose sympathy and support it is desired to enlist on behalf of the building scheme, but whose lack of special training prevents them obtaining information from plans and elevations made in orthographic projection. To permit of both these functions being performed satisfactorily the rules of perspective must be applied with absolute accuracy if the designer wishes to avoid deceiving himself and others. But perspective drawing has another aspect which is sometimes allowed to obscure the impartial scientific outlook.

This is its association with an artistic representation of the proposed building which shall bear inspection for its pictorial value as a thing of intrinsic beauty and apart from any idea of improving the design of the work of architecture. This consideration of pictorial values has frequently done violence to truth in delineation owing to the fact that any picture appeals to the observer not only on account of its merit as a true representation of a given subject, but also, and, perhaps primarily, as an arrangement of masses of light and shade or of colour harmoniously grouped within the arbitrary confines of a rectangular frame.

The artist, intent upon producing this pleasing counterchange of light and shade, and thinking of the perspective from the painter's and not the architect's point of view, is not likely to see any harm in adding or subtracting a fathom or two of sunlit or shadowy wall in response to his desire for more light or dark in a given corner of his picture. Just how this is done is of considerable moment to the development of sound architecture. It is perfectly legitimate to effect alterations in the perspective diagram to enhance its pictorial value if the plans and elevations in orthographic projection are consistently amended to agree with the improved picture, and it is the principal value of perspective to the architect that it suggests such improvements. It is, on the other hand, both ridiculous and misleading to alter the perspective without amending the orthographic drawings, and a comparison of the walls of an exhibition where perspective drawings are hung with the architecture of our streets is a sufficient demonstration of the futility of this process as far as building is concerned.

The temptation to produce misrepresentations of this kind arises partly from the laborious nature of perspective methods of synthesis and analysis and partly from the artist's lack of knowledge of the way to build up, by legitimate means, the pictorial disposition of masses he desires to achieve. Too often a point of view is chosen in a general way, and a great deal of time and labour is expended upon setting up a detailed perspective diagram which will not carry its weight of light and shade or of colour to pleasantly fulfil the pictorial requirements. The alternatives of conscientiously setting up the perspective afresh or of distorting portions of the existing diagram then arise, with a severe penalty in labour against the adoption of the strong-minded course.

Now a building can be viewed from an infinite number of different points, and it should be within the power as well as within the discretion of the artist to select a point rationally that will procure the artistic results he wishes for, unless, indeed, the design be thoroughly bad. Even in this case it may be possible to use it for the basis of a pleasant picture, for, unfortunately for architecture, it is by no means unusual for a good picture to disguise a bad design. A good design may be shown at its best, however, by judicious posing and selection of the view-point.

The connection between the artistic intention and the technical processes of geometry has generally been the weak, or missing, link, but it should not be difficult to supply the deficiency by a process of working backwards by the rules of perspective from a sketch to a position of plan.

A great deal of labour is saved if the artistic effect is considered in the first place and a careful sketch made to a small scale anticipating the effect of the perspective and disposed within a border also drawn to scale and representing the size and shape of the finished picture. A cubical mass of building may be taken in illustration.

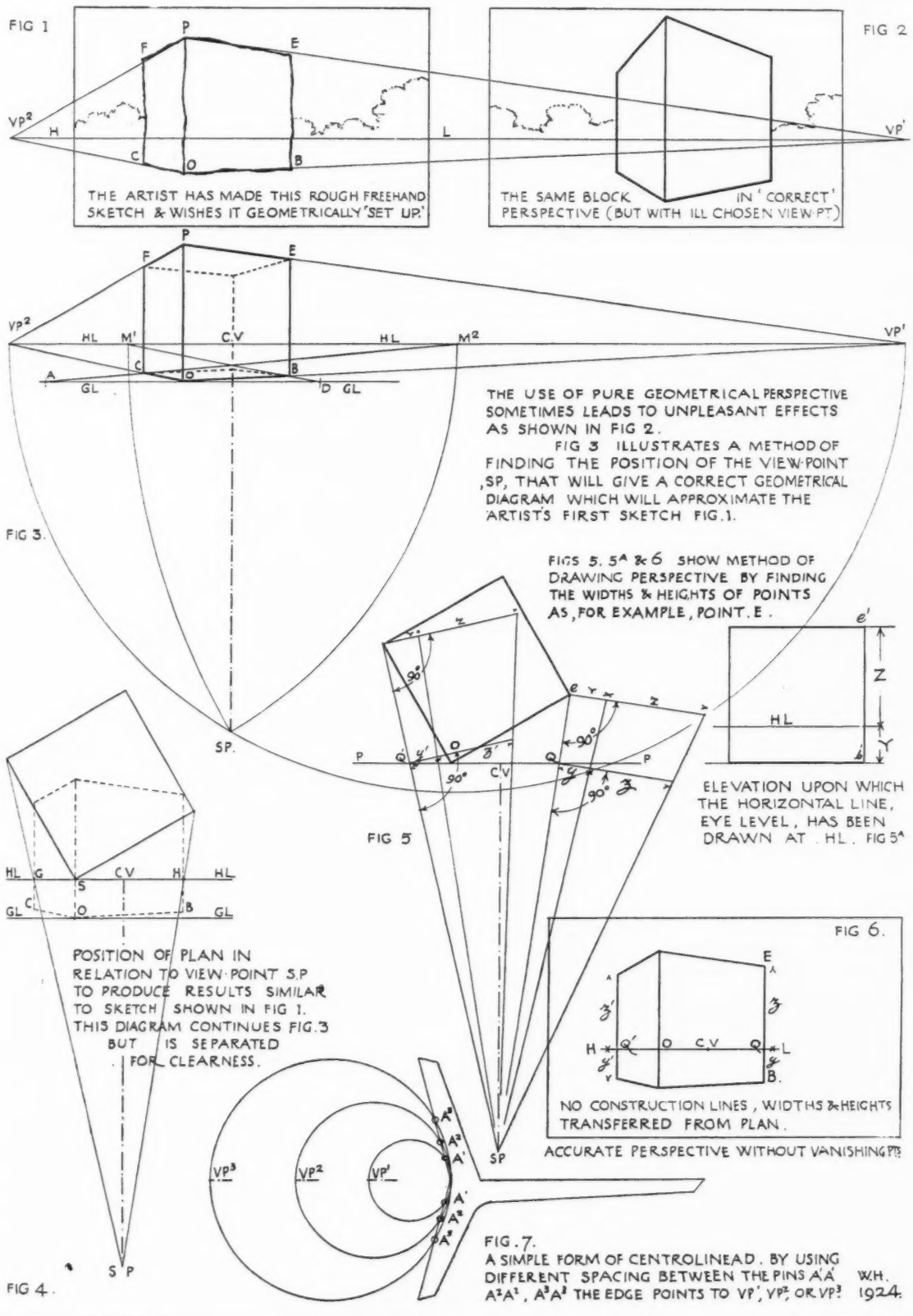
It is desired to arrange the plan in such a position in regard to the picture plane and the station point as will make the perspective outline appear as sketched in Fig. 1, and not as drawn in Fig. 2.

Every point of a freehand sketch cannot be translated exactly into rigid geometry, but a corrected average of the sketch can and may be so translated by the following construction.

Taking Fig. 1 as the basis of operations, and accepting its height O P as correct, the next step is to produce the sloping lines P E and O B till they meet in V P^1 and P F and O C till they meet in V P^2. These points should lie upon a horizontal line H L, which will be drawn in an average position, and the two vanishing points adjusted to coincide with it. (See Fig. 3.)

Through point O draw a line G L, or ground line, parallel to the horizontal line H L. On G L, with centre O and radius O P, mark off points A and D. O A and O D are the true lengths of the lines O C and O B, which happen, in a cube, to be equal to O P. Join A C and produce to M^2. Join D B and produce to M^1. M^2 and M^1 are measuring points on the horizontal line H L. With V P^1 as centre and radius V P^1-M^1 describe an arc M^1-S P. Bisect the line V P^1-V P^2 and erect a semicircle V P^1-S P-V P^2 beneath it, intersecting the arc M^1 S P in S P. S P is the required station point from which to set up the accurate and detailed perspective construction. The position of S P can be checked in regard to point M^2 by taking V P^2 as centre, and V P^2-M^2 as radius and describing an arc which should pass through S P, if the original sketch has been phenomenally well drawn! A certain amount of adjustment must be expected, however, and this is allowed for on one side or the other as the artist decides best. That is to say, it is optional whether S P is determined from M^1 or M^2, though, ideally, it should be determinable simultaneously from both these points.

The plan of the cubical block is then laid down with one corner at S above O on H L, one on a radial line drawn from S P through G, G being a point on the H L vertically above C. A third corner of the plan will lie on another radial line from S P through H, a point immediately above B. (See Fig. 4.) The plan may need careful adjustment to obtain a true square within these lines, but if the drawing has been carefully done the error should be very slight, the theory being demonstrable by trigonometry and other mathematical processes.



PERSPECTIVE DRAWING AND DESIGN: DIAGRAMS.

In the case of any other figure of rectangular plan the true lengths of the sides O C and O B are marked off at O A and O D on the G L in the process of finding measuring points M^1 and M^2. (See Fig. 3.)

With a more complicated building the most important factors must be singled out in advance, and the station point found in regard to them. A drawing of a building consisting of several massive blocks, which was hung in last year's spring exhibition of the Royal Academy, was arranged in this way. A great part of the architectural interest depended upon the detailed treatment of the masonry, which was faithfully depicted in the perspective, and an alteration in the main masses would have involved nothing short of redrawing the whole in order to do justice to the knitting up of masonry courses with projecting balconies, window heads, and similar features.

When the relative positions of the plan, the station point, and the picture plane have been decided, the hard labour of setting up in detail has to be faced, and a difficulty arises in regard to finding space for the vanishing points if the scale of the finished drawing is large. There are several ways of meeting this difficulty. One is to draw from a small plan and multiply all dimensions systematically by means of proportional dividers or some other mechanical device, but this does not make for the utmost precision in detail. It is best to allow a separate drawing table to the plan and the station point in their proper positions with a long straight-edge pivoted on the S P.

The perspective drawing is made at an adjoining table without using a long straight-edge for the distant vanishing point, the heights being obtained as follows. (See Fig. 5.) It is required to find the height of point E in perspective above the horizontal line H L and the depth of point B below it. The operations are carried out entirely on the plan, preferably on strips of paper pinned across it, and the measurements transferred to the perspective drawing. (See Fig. 6.)

The straight-edge is placed in contact with the S P and the corner *e* of the plan. The point Q at which the edge of the straight-edge hits the plan of the picture plane P P gives the position of the vertical line containing the required points. The distance O Q is transferred to the perspective drawing (Fig. 6), and marked off along the H L, a vertical line being drawn through Q.

Returning to the plan, a set-square is used in conjunction with the straight-edge, and a perpendicular line erected at *e* and another at Q. The dimensions Z and Y are marked off on the perpendicular through *e* from an elevation drawn to the same scale upon which the position of the horizontal line has been marked at the desired height above ground. Using the straight-edge still pivoted at S P, the dimensions Z and Y on the perpendicular from *e* are transferred in a diminished form to *z* and *y* on the perpendicular from Q, and show the accurate perspective heights ready to be transferred to their position on the vertical through Q in Fig. 6. In a similar way the heights of any other points may be found; and by systematically finding the position on plan and the height of successive points the most complicated perspective drawing can be accurately set up without any further ado, i.e., without vanishing points, measuring points, or height lines on the perspective diagram.

An Abbreviated Method.

When once this abbreviated direct method has been thoroughly mastered it can be depended on as the surest and quickest for architectural use where plans and elevations are already available for reference. In any case it is a useful check by which to test the accuracy of a point found by any other system. To develop its possibilities to the utmost the heights of three corners of the building are determined with all their intermediate courses, and these points are joined respectively by lines whose inclination will point towards the vanishing points automatically without any geometrical or mathematical construction being employed in their discovery. If the vanishing points, or one of them, can be used, greater neatness in the ruling of the converging lines is gained by working with a straight-edge pivoted upon it, but this is a convenience, not a necessity. In a similar way the vanishing points for oblique lines of roofs find themselves without any special construction. This is a great advantage when it is required to draw the parallel rows of Roman tiles or the rolls of lead which run from eaves to ridge and vanish either up or down towards extremely distant points.

The Centrolinead.

Where the beauty of the drawing depends upon the neatness with which the converging lines are drawn, and the vanishing points are inaccessible, a centrolinead is a useful help. These instruments can be purchased from scientific instrument makers, or can be designed and made without any great difficulty. The principle upon which they act has nothing to do with perspective science, but they permit of an indefinite number of lines being drawn which, if extended in the appropriate direction, would meet in a point. And, by arranging that this point shall be one of the vanishing points, the device is usable for perspective processes.

The stock of wood, celluloid, or metal is made with an obtuse angle to slide upon two pins placed at equal distances from the angle. By altering the distance of the pins from the angle the straight-edge is made to point to $V P^1$, $V P^2$, $V P^3$, etc., at the extremity of the diameter of a circle whose circumference passes through the angle of the stock and the two pins (see Fig. 7). Elaborate printed instructions are sometimes issued with centrolineads sold in the shops, but whether any student ever yet managed to fathom them seems somewhat doubtful.

Use of the Centrolinead.

No instructions are needed, however, for if, as suggested above, two or three of the converging lines are drawn in the first place by the use of heights found on the plan, the centrolinead can be set to them by trial and error in the course of less time than it would take to read the instructions, and much less time than would be spent in calculating distances for any special case. Once the positions for the pins are found they are marked in pencil, so that if they have to be temporarily removed during the operations they can be put back in exactly the same places. One centrolinead can be used for the drawing-board on which the perspective diagram is being prepared, and another on the plan if room is not available for the long straight-edge, so that it is quite possible to produce an accurate perspective drawing without ever having calculated the position of the station point or of any vanishing point whatsoever.

For subjects which only involve normal straightforward walling this advantage is not, practically speaking, very great. For complicated subjects, such as a spiral staircase with ramping arches supported upon columns, the process of finding all particulars on the plan and transferring them to the perspective diagram without cumbrous construction lines to obscure its necessarily complex contours would mean all the difference between a pleasant exercise and a miserable toil. Here again the value of a carefully thought-out preliminary programme sketch showing the disposition of main masses would amply repay the labour spent upon it, and in translating it into a foundation for the arduous geometrical setting up. Staircases with elaborately ramped and wreathed strings and handrails can easily be spoiled by the ill-considered adjustment of straight to curved parts, and perspective could be made to assist very materially in visualizing the results beforehand if the abbreviated direct method were adopted. Most other methods would be too cumbrous to be thought of in this connection, or, at any rate, too elaborate and confused to be trusted.

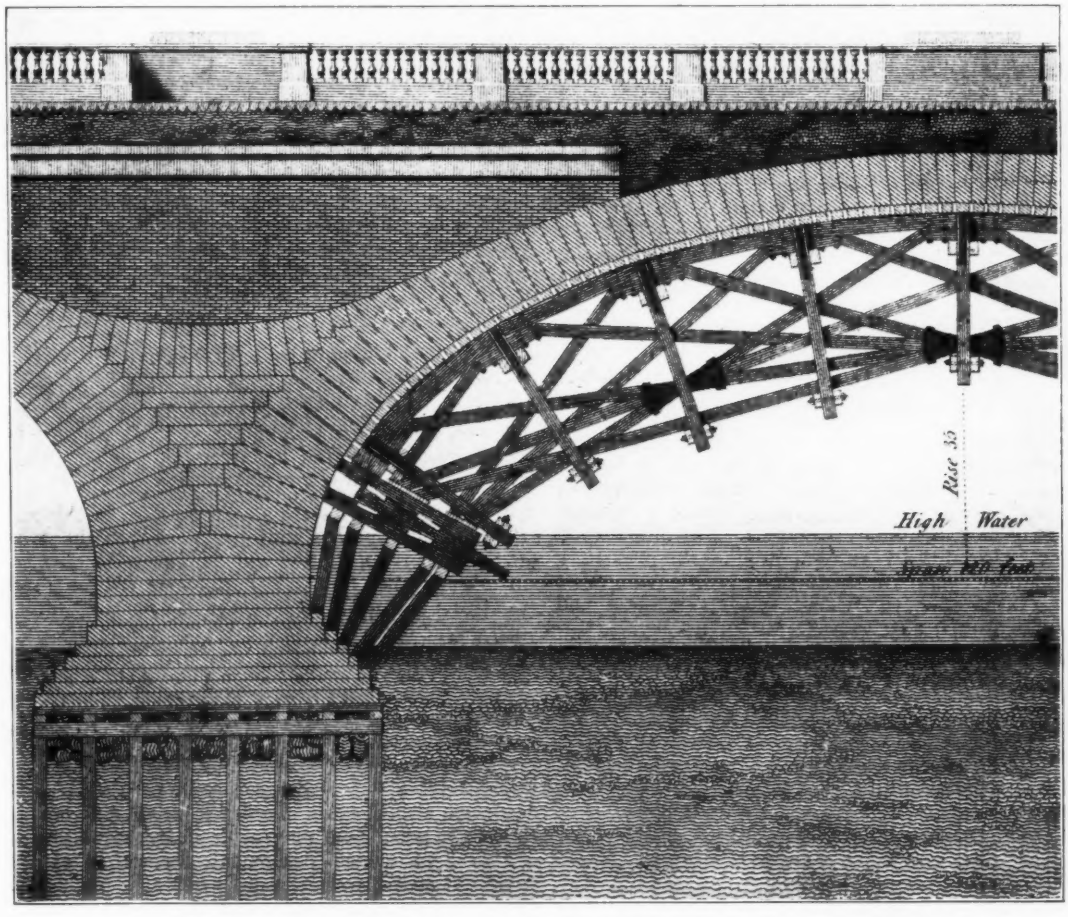
The Foundations of Waterloo Bridge

A Contemporary Engraving

EXAMINATION of old drawings of Waterloo Bridge shows that the foundation of each pier and of the abutments consists of timber piles about 20 ft. long, driven in rows. Each row is capped by a whole timber sill or sill piece, across which further whole timber sills are laid, forming a gridwork of timber about 2 ft. deep above the piles, the interstices being packed with stone. The gridwork is covered by a decking of timber about 6 in. thick, upon which the masonry of the piers is built.

The bed of the river in and towards the centre is composed of gravel, but underlying the gravel is the London clay, which extends downwards for a great depth. The thickness of the gravel bed is relatively small. Under the masonry of the third and fourth piers from the Lambeth side the gravel is only about 9 ft. to 10 ft. thick; consequently, piles of the length shown on Rennie's drawings would pass right through the gravel and be standing in the London clay. It would appear from the original drawings that, when the bridge was constructed, the tops of the timber platforms were everywhere below the bed of the river. Such is not the case now, however, as in many cases the bed of the river between two platforms has been so eroded or scoured out that it is lower than the top of the platforms—that is to say, it is below the bottom of the masonry of the piers. The erosion or scouring is of long standing, and in 1882-4 the late Metropolitan Board of Works expended about £62,000 in laying concrete slabs around the timber platforms with the object of protecting them from erosion or scour.

In their report to the London County Council the Improvements Committee stated: "Settlement has occurred practically throughout the bridge, but is far more pronounced at the fourth pier from the Lambeth side than elsewhere. That which is now taking place at the fourth pier is an indication of that which may be expected at other piers. There is, in fact, a condition of unstable equilibrium, and it has to be borne in mind that such a condition often tends rapidly to become worse. The type of construction of these foundations is almost identical with that of old Southwark Bridge, which was built at the same time (opened in 1819) and by the same engineer as Waterloo Bridge. Both the foundations and the superstructure of old Southwark Bridge have been removed, and others of a different design substituted, and we are informed that much of the old timber work in the foundations was found to be in a decayed condition."



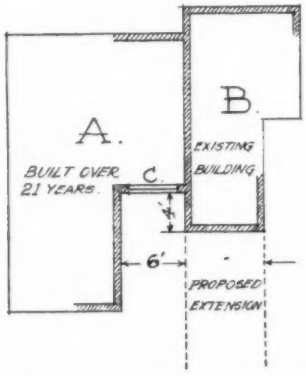
A LONGITUDINAL SECTION THROUGH WATERLOO BRIDGE, SHOWING CENTERING.
(FROM PETER NICHOLSON'S "PRACTICAL BUILDER," 1824.)
(By Courtesy of the Journal of the Incorporated Clerks of Works Association.)

Enquiries Answered

Enquiries from readers on points of architectural, constructional, and legal interest, etc., are cordially invited. They will be dealt with by a staff of experts, whose services are specially retained for this purpose. If desired, answers will be sent direct through the post. In no case is any charge made for this service. Whenever diagrams accompany an enquiry, they should be clearly drawn and lettered and inked in.

RIGHT OF LIGHT.

"Student" writes: "Please inform me whether the owner of the property A (see sketch) can prevent the owner of the property B erecting a projection to an existing building by reason of light to the ground-floor window C. In other words, does the line of light of 45 deg. extend laterally as well as vertically?"



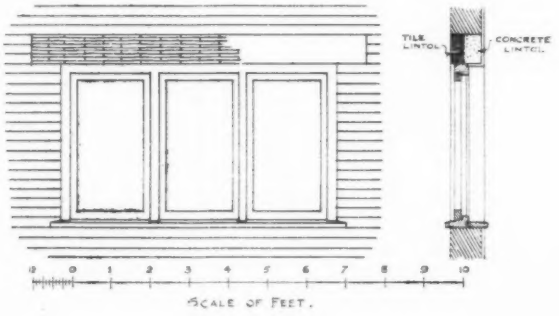
—The window "C" is an ancient "light," because it has existed for over twenty years, and for all that period has enjoyed all the light and air it now does. The owner of the building B cannot build in any way so as materially to interfere with A's enjoyment of that light and air; the question of what is "material" interference will be interpreted in a court of justice in accordance with all the circumstances (such as the use to which the room lighted by window "C" is used for—a boudoir requiring more light than a dining-room, and a watchmaker's shop requiring more than a cobbler's repairing place). The angle of light is not a legal standard, but is useful as a rough and ready measure of the damage caused by an obstruction. It naturally extends in all directions. The plan leads one to suppose that the proposed extension will injuriously affect "A."

F. S. I.

LINTEL FOR SPANNING A WINDOW OPENING.

"E" writes: "Are there any known data, such as moments of resistance, tables or such-like, from which may be calculated the amount of load which a lintel, composed of roofing tiles bedded in mortar, for spanning a window opening, may be relied upon to support. The information is required with a view to determining the necessary strength of the concrete or other lintel built in the inner thickness of the wall. I enclose typical elevation and section to illustrate my question."

—It appears that the tile lintel, the strength of which is in question, is 4½ in. wide and 9 in. deep, with a clear span of 6 ft., and composed of ordinary plain tiles laid horizontally to break joint, and bedded in mortar or cement, with a flush face. This, or any other rectangular lintel uniformly loaded, has a bending moment in the centre $=\frac{Wl}{8}$, to balance which the working moment of resistance must be ZC, where W = total distributed load in pounds, l = effective span in inches to centre of bearings, Z = section modulus $=\frac{1}{6}bd^2$, C = working stress allowed in lb. sq. in. tension = say, for tile 70, slate 150, ordinary lime mortar 15, cement mortar 45. The strength will depend chiefly upon the cementing material, assume this to be cement mortar as above, then, $\frac{Wl}{8}=ZC$, or $W=\frac{8ZC}{l}=\frac{8\times\frac{1}{6}\times4{\cdot}5\times9\times9\times45}{6\times12+9}$ $=270$ lb. Deducting from this the weight of beam $270-220$ $=50$ lb. external safe distributed load. Therefore it will do practically no more than carry its own weight over that span.



By experiments on concrete beams, as in the back lintel, we have the rule for average strength $W=\frac{11{\cdot}2\,bd^2}{L}$ $=\frac{11{\cdot}2\times4{\cdot}5\times81}{6}=$ say, 678 lb. where L = clear span in feet. This will make the total safe load $50+678=$ say, 728 lb. distributed, or less than one-third of a ton. These calculations are only approximate as we have no experimental data to work upon for the tile lintel, and the strength of a rectangular beam is always greater than theory would show. For an explanation of this curious fact see p. 18 "The Mechanics of Building Construction" (Longmans, 10s. 6d.), or p. 72 "Structural Design in Theory and Practice" (Constable, 10s. 6d.). It is very desirable that a test should be made of a beam constructed as the tile lintel with, say, a span of 6 ft., and a central test load.

HENRY ADAMS.

A SOUND-PROOF PARTITION.

"B" writes: "Do you consider that a partition built of two walls of 2½ breeze blocks, with an air space of 2 in. between them, would make a soundproof division between two bedrooms, so that a conversation or coughing would not be heard from one to the other."

—The coke-breeze slabs should be 3 in. in thickness, and the floor must not be continuous between the two rooms. If the floor is continuous bed the two walls on a course of machinery cork. To follow Professor Watson's method—use two 3 in. heavy plaster slab walls planted on machinery cork—and cover the whole of the inside surface of *one* member (within the cavity) with felt. Bring the felt round the head of the partition to insulate from ceiling. Plaster over external surfaces very carefully leaving no cracks.

H. B.

THE LINING OF WALLS AND CEILINGS.

"H. M." writes: "In your issue for February 20, page 358, you published an enquiry from 'F. G.' who wishes to obtain a good fibre or plaster board for lining walls or ceilings, on which permanent decoration of wallpaper (without strips to cover joints) could be put immediately, and which would not work out any dearer than plastering. Might I suggest 'Celotex insulating building board' as being a material that would satisfy his requirements? It is supplied by Messrs. Bivert and Firth, of 27 Cockspur Street, S.W.1."

Contemporary Art

Animal Decorations.

The Chinese and Japanese painters, sculptors, and print-makers never lacked the sense of decoration in the treatment of animal forms. The sculptors of the ancient nations possessed the secret, too, and I have no doubt that the painters were equally fortunate. We know, at any rate, that the painters and sculptors of India were greatly gifted in the exploitation of animal form, and were never tired of repeating it. When the modern artist goes back to nature in this direction it is a sign of his regeneration, and when his application of the renewed impetus is exercised in the direction of decoration, it points to the fact that he is indulging the quite primitive expressional urge. Orovida is the representative of three generations of painters: her grandfather, Camille, and her father, Lucien Pissarro, studied nature, but mostly inanimate nature; Orovida herself gets back to animal nature, and adds to her study the natural gifts of a born decorator. Her prints of animal life, like those of the Japanese and Chinese engravers, are decorations if not primarily decorative in intent, her larger paintings of animals are compact of decorative feeling, her ostensible decorative pieces are alive with the engaging life and action of the animals she uses. In all these directions she proves her mastery of fluent form; fluent and yet expressed in tense line, for the attitudes of her subjects are invariably set with a grasp and a pull which communicate with the beholder and set his muscles at a corresponding tension. In front of these studies you feel the necessity of grasping and pulling at something on your own account. There is an engaging union between human and animal beings in Orovida's work. In such pictures as "The Moonlight Rider" and "Friends," man and the fiercest animals are seen in an accord which sensitively represents the better understanding and continuity of organic life which we have arrived at in the twentieth century. These are the living factors in the artist's work, but no less important are those of design, and the applications to pure ornament of these subjects is startling in its striking and convincing suitability, and the bare forms, used with such economy, with nothing too much, nothing to detract from their pristine excellence, are remarkably effective as well as original, allied as the work in general is, with the understanding which inspired particularly the Japanese and Chinese artists. The exhibition is being held at the Redfern Gallery, 27 Old Bond Street.

French Modernists at the Lefèvre Galleries.

Corot is the earliest artist here represented, Gauguin the latest, and between the two is a whole world of difference. Corot was once considered an innovator; he certainly led the romantics back to nature, but he was born in the eighteenth century, and Gauguin, who was born half a century later, incorporated a new romanticism into nature. There are typical examples of the works of both, and the only link between them is the modified realism which underlies the points of view of each. Corot tried to reproduce the gentleness and rest of nature; Gauguin its disturbing actualities, but an even greater dissension lay in their methods. The Impressionists had been at work while Corot had been occupied with plein air, and had discovered scientific colour, and Gauguin, taking off from their vantage ground, demonstrated not only the great world of romantic imagination lying behind the world of appearances, but also what vital colour really is. The Impressionists analysed colour, he wonderfully synthesized it. In landscape nature you may see in this exhibition how Camille Pissarro built on Corot, along with Monet, whose "La Plage de Trouville" is a gem in the show. In human nature you may see how Manet visualized people in his new analytical fashion, and how it enabled him to express human character as he was acquainted with it, but in Paul Gauguin's "La Baignade" you see something more; you get down to the essentials of human life deprived utterly of the trappings of civilization, and this is a matter of great importance, a matter of as much moment as the return to the study of animals, not only in representational art, but in the arts of design. In this exhibition the most decorative piece—for Gauguin's bather study is pure realism—is Auguste Renoir's "Roses and Honeysuckle," a superb piece of nature study conventionalized into a fine ornamental panel.

At the Twenty-One Gallery, in the Adelphi, Hester Adlercron is exhibiting a collection of "Snow Pictures in the Land of the Ski."

KINETON PARKES.

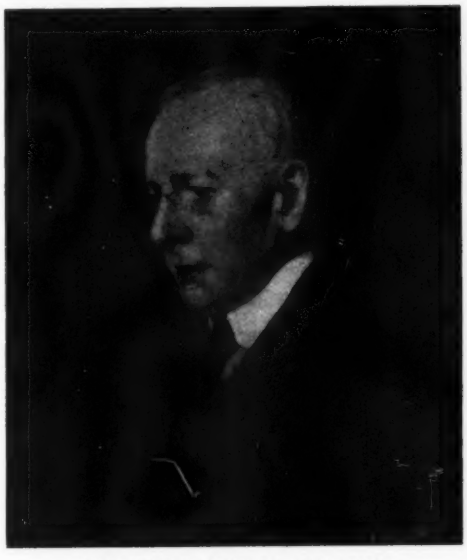
Obituary

The late Louis Henry Sullivan.

It is with regret we have to record the death, at the age of sixty-eight, of the great American architect, Mr. Louis Henry Sullivan.

Louis Henry Sullivan was born in Boston, September 3, 1856, and died in Chicago, April 14, 1924. He was educated in the public schools and received his technical training at the Massachusetts Institute of Technology and Ecole des Beaux-Arts, Paris. He came to Chicago in 1880 and engaged in the practice of architecture with Dankmar Adler, and later alone. He received the gold medal, Union Centrale des Arts Decoratifs, Paris, 1894. He was also a writer of distinction and among his last works are "The Autobiography of an Idea" and "A System of Architectural Ornament," the completed proofs of which were shown to him during his last illness.

In association with the late Dankmar Adler, a great constructionist and executive (says a writer in a recent issue of "The American Architect"), Mr. Sullivan designed many buildings of note, among them being the Chicago Auditorium, which is, perhaps, unequalled as an American opera house, and the fine Transportation Building, with its glorious golden door, at the World's Columbian Exposition in 1893.



THE LATE LOUIS H. SULLIVAN.

His buildings are notable in many respects, and while his unusual scheme of ornamentation attracts immediate attention, it is but component of a logical design. This ornamentation is of low relief, usually confined to one plane, intricate in its detail and extremely beautiful and, withal, virile. It is an elaboration of geometrical form and so fashioned that the basic pattern is not readily discernible, resulting in a feeling of texture rather then form which permits of its *incorporation* well *within* the structure as opposed to the standard, inane, methods of *applying* ornamentation *upon* a building.

The late Col. C. L. Wilson.

It is with deep regret that we record the death of Brevet-Colonel Cecil Locke Wilson, T.D., a noted architect, and one of the most distinguished Territorial officers Glamorgan has ever produced. He was educated at City and Guilds of London Institute and Cardiff Science and Art Schools, and was pupil and assistant to the late E. M. Bruce Vaughan, F.R.I.B.A., Cardiff. In 1890 he entered into partnership with Mr. Harry Teather, in conjunction with whom he carried out much ecclesiastical, domestic, hotel, and other work in South Wales. Among the more important buildings are drill halls, Roath Free Library, Lee Memorial Chapel, Boys' High School, Cardiff; Women's Training College, Barry; Baltic House, Cardiff; Public Hall and Offices, Dynas Powis; Wesleyan Chapel, Llanbradach; Full Moon Hotel, Maesteg; Llanbradach Hotel; business premises in Queen Street and St. Mary Street, Cardiff; Exchange Club, Cardiff; and additions and fittings to churches. He became a Fellow of the R.I.B.A. in 1906. He

THE LATE COL. C. L. WILSON.

was president of the South Wales Institute of Architects from 1910 to 1911, and hon. secretary from 1897 to 1898. He was surveyor to the Diocese of Llandaff, and architect to the Glamorgan Territorial Force Association. Col. Wilson was buried with impressive military ceremony, the funeral being attended by many of his former comrades in the Territorial Force and colleagues in the architectural profession. He was fifty-four years of age.

The late Mr. T. H. Mitchell.

We regret to record the death of Mr. T. H. Mitchell, of Todmorden, architect, at the age of sixty-seven. He was architect for the Todmorden Free Library and several other prominent public buildings.

Law Reports

Housing and Town Planning Act

Mayor and Corporation of Salford v. *Hale.*

May 15. King's Bench Division. Before the Lord Chief Justice and Justices Shearman and Roche.

This was an appeal by the Corporation against a decision of the stipendiary magistrate of Salford in favour of Mr. W. Hale, the owner of houses in the Borough.

Mr. Montgomery, K.C., appeared for the appellants, and Mr. Cyril Atkinson, K.C., for the respondent.

Mr. Montgomery stated that the case raised a point of law under the Housing and Town Planning Act, 1919. The Act empowered the local authority to do work to houses to make them habitable if the owner would not obey an order to do the work and the authority can sue the owner for the amount of the cost. In this case the Corporation did work that cost £623 to Mr. Hale's houses and sent the account to him. He paid £19 10s. down and agreed to pay a similar sum every quarter. But as later he declined to continue his payments the Corporation summoned him before the magistrate. His contention was that the Corporation had in July, 1922, sent him an account setting out all the costs they demanded and that showed that they had elected to recover the money in a lump sum, and as they had not taken proceedings within six months they could not succeed. The magistrate upheld that contention and dismissed the summons. Counsel submitted that the six months in which notice of intention to proceed summarily must be given did not commence till default had been made by the respondent in his payments.

Mr. Atkinson said when the work was done the Corporation had to make up its mind how the money should be paid. If they wanted the whole sum they must proceed quickly to get it, but if they elected to accept quarterly payments they took the risk of the respondent failing to pay. In fact, a further contention was that the Corporation were given six months in which to get their money. After that time they could not succeed in an effort to get it by action of law.

The court allowed the appeal with costs.

The Lord Chief Justice, in the course of his judgment, said the obviously audacious contention of the respondent was wrong and his action was of the kind that did not excite sympathy. He could not agree that if the Corporation under section 3 decided by agreement to hold its hand it was afterwards debarred from proceeding to get the money under section 4 of the Act.

Justices Shearman and Roche concurred.

Question of Definition of Drain or Sewer

Poplar Borough Council v. *Planet Building Society.*

May 13. King's Bench Division. Before the Lord Chief Justice and Justices Shearman and Roche.

This was an appeal by the Poplar Borough Council against a decision of the stipendiary magistrate in favour of the building society on a question of drainage. The magistrate held that the Borough Council were liable to abate a nuisance arising from drainage of certain houses in Ealing Road, Bow.

Mr. Croom Johnson, who represented the Council, said the question was the vexed one of: When does a drain become a sewer? It appeared that drains from four houses passed into one line of pipes that ran under the house, No. 17, and a nuisance arose from that pipe just before it entered the main sewer. The magistrate held that the Council had not overcome the onus upon them to prove that the pipe was a drain when, by a combined operation, it took away the sewage from more than one house. Counsel said that decision could not stand because, in the Metropolis, the fact that a number of drains by combined operation joined into one line of pipe did not alter that drain to a sewer when the work was done upon notice for or the approval of the local authority.

The court, without calling upon counsel for the respondents, dismissed the appeal.

The Lord Chief Justice said that to succeed the Council had to prove that the combined operation of drainage took place upon the order of the local authority and the magistrate had found that there was no evidence that any plan of the amended system of drainage had been approved by the local authority. In the circumstances the appeal could not succeed.

Mr. Justice Shearman said magistrates were often flustered by the multiplicity of cases that had come before the courts upon the question: "When is a drain not a drain?" If they would put aside those cases and look at the definition in the statute they would have no difficulty.

Justice Roche concurred.

A Light and Air Dispute

Sharland v. *Rosenberg.*

May 12. Chancery Division. Before Mr. Justice Russell.

Plaintiff, Mrs. H. Sharland, the proprietress of a boarding house at St. Michael's Road, Bournemouth, sued for an injunction to restrain the erection by Mrs. Nellie Rosenberg, of Balmoral, West Hill Road, Bournemouth, of a garage and other buildings so as to cause an interference to the light to the plaintiff's scullery.

For the plaintiff it was contended that the defendant's buildings would have a serious effect on the plaintiff's property, and this was the view taken by the plaintiff's experts, Mr. H. E. Hawker, a surveyor, and Mr. Tom Stephens, a Bournemouth architect.

His lordship, after hearing evidence, granted plaintiff an injunction with costs, and further made a mandatory order on the defendant to pull down her buildings to a height of 9 ft. above ground.

Correspondence

The New "Fortune" Theatre

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—As solicitor for the building owner of the above theatre, I am instructed to write and correct an erroneous impression conveyed in your beautifully illustrated account of it upon its completion, which appeared in your last issue. The printed statement that Mr. Schaufelberg was the architect necessitates the important qualification that his appointment to that position was terminated by my client some months ago.

W. P. ARMSTRONG.

Colour in Architecture

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—Mr. Trystan Edwards, in his article on "Colour in Architecture," seems to forget the necessity of colour in those streets where scarlet 'buses and brilliantly coloured private cars are never seen; where the inhabitants cannot afford gay clothes; where the streets are narrow and little sky is visible; and where orange or banana peel in the gutter (or more probably the pavement) form the only colour of the street. While "the painting of urban façades in bright colours, must necessarily, if there is unity in the street composition at all . . . irritate the public," I do not think such irritation would be aggravated by gaily-painted front doors relieving the monotony of our dingy façades. Why not substitute say, orange, royal blue, emerald or sea-green (to mention one or two examples) for the spinach-and-mud-mixture in which every builder seems to delight?

L. F. M. PAYNE.

The Demolition of "Redfern's" Building, Edinburgh

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—While in Edinburgh lately, it struck me that we would soon be losing a gem of a building in Princes Street—that of Redfern's—it being scheduled for demolition to make way for extension of adjoining business premises.

The architect is Mr. G. Washington Brown, of Edinburgh, and I think it is one of the finest things he ever did. Its disappearance will be regretted by many.

J. W.

Bertram Goodhue as Type-Designer

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—As the art of lettering is one of the minor accomplishments of the architect, it is not surprising to find here and there an architect achieving extraordinary proficiency in it.

Bertram Grosvenor Goodhue, to whose lamented death you refer in an editorial note in your issue of May 14, included among his artistic achievements that of having designed the extraordinarily popular series of letterpress type-faces known as "the Cheltenham Family," concerning which, Mr. D. B. Updike, in his standard work on "Type Faces," offers this critical observation: "Its capitals are better than its lower case, which is too 'perpendicular' in effect, a fault appropriate to so distinguished an architect of Gothic buildings. It is, however, an exceedingly handsome letter for ephemeral printing." By "ephemeral printing," Mr. Updike means, apparently, anything less substantial than a full-dress sample of bookbinding in "boards."

Messrs. H. W. Caslon & Co., of the historical Chiswell Street letter foundry, who cautiously decline, however, to take any responsibility for the attribution, have been good enough to lend me the appended specimen of one of the varieties of "Cheltenham" to assist your readers to identify Bertram Goodhue's phenomenally successful type-face, and to form an opinion on the validity of Mr. Updike's half-jesting conjecture as to the influence of Gothic architecture on the design of letterpress printing types. "All art is one."

J. F. MCRAE.

London, S.E.

THE CHELTENHAM OLD STYLE SERIES
was designed by Bertram Grosvenor Goodhue, architect.
Here are specimens of one size of its roman and italic.

The Royal Technical College, Glasgow

On Saturday afternoons in April and May the students and staff of the architecture and building day and evening classes of the Royal Technical College, Glasgow, paid a number of interesting visits to buildings in the district under construction. The first visit was to the Automobile Club, which is being converted from separate self-contained houses into a club house, from the designs of Mr. James Miller, A.R.S.A. The next visit was paid to Messrs. MacFarlane, Lang & Company's new biscuit factory at Tollcross, of which Mr. C. Ernest Monro, A.R.I.B.A., is the architect, and the last day was devoted to Paisley, where works presently being carried out from Sir Robert Lorimer's designs were visited. The new choir of the Abbey Church, which was begun by the late Dr. MacGregor Chalmers, was first examined. The central tower, now being completed, was ascended, and its detail studied. After a few remarks on the old Abbey Church nave, transepts, and St. Mirin's aisle, also on the new cloisters, the party inspected the war memorial.

At the close of each visit Professor Gourlay, the head of the architecture and building department in the college, expressed the hearty thanks of the students and staff to the architects of the buildings visited, also to the clerks-of-works and all who had in any way assisted to make the visits so valuable and instructive as they had been.

MR. FRANK T. VERITY, F.R.I.B.A.

Whose Shepherd's Bush Pavilion has been awarded the R.I.B.A. Gold Medal for the Best Street Frontage in London for 1923.

Parliamentary Notes

[BY OUR SPECIAL REPRESENTATIVE.]

Asked by Mr. E. Simon for the best available information as to the total number of working-class houses completed by all agencies in each of the calendar years 1921, 1922, and 1923, the Minister of Health replied that it was not possible to state the total number as figures were not available showing the number erected by private enterprise without State assistance over the whole period. The numbers of houses erected with State assistance were: 1921, 86,669; 1922, 88,999; 1923, 19,185. During the year ended September 30, 1923, it was estimated that over 39,000 houses of not more than £26 rateable value in the provinces, and £35 in the Metropolitan Police district were completed.

In reply to a question as to wages, also asked by Mr. Simon, Mr. Wheatley said that the rates of wages of building trade operatives had varied in different districts and in different occupations. The following table showed the percentage increases of various classes of labourers between the end of 1913 and the present date :—

Town.	Percentage increases in hourly rates of wages between the end of 1913 and 7th May, 1924.			
	Bricklayers	Carpenters and Joiners.	Painters.	Labourers.
London	74	74	100	100
Newcastle ..	95	95	117	119
Manchester ..	86	86	105	127
Birmingham ..	95	95	117	111
Derby	105	117	144	146
Lincoln	129	129	144	168
Chatham	89	100	143	132
Reading	100	100	143	132
Southampton ..	79	79	100	96
Cardiff	105	105	129	127

Mr. Shaw, the Minister of Labour, informed Mr. Black that the subject of the augmentation of the number of building trade workers was under consideration in connection with the report recently prepared by the employers' and workers' organizations. In this connection, the Minister of Health and he would take into consideration any practicable method of absorbing men at present unemployed.

Mr. Wheatley, replying to questions as to the price of building materials, said his attention had been drawn to the statement contained in the March report of the Inter-Departmental Committee on the Prices of Building Materials, that advances in the price of bricks had been notified from seven out of the twelve centres selected by the committee. The committee were making detailed inquiry into the reason for the advances. He would consider the matter further when he received their report. He was also aware that the price of sheet lead had risen, and that it now stood at approximately £48 per ton, as against £36 in April, 1923. It had, however, quite recently been reduced by about £4 a ton. He was advised that the increase in the cost of sheet lead had been due to a corresponding increase in the cost of the raw material which, in turn, was governed by conditions of world-wide demand. At present it was not the intention of the Government to make direct purchases of material in connection with the new housing schemes.

Sir J. Brunner asked the First Commissioner of Works whether, in view of the large amount of money which was annually expended on repairing the stonework of national buildings, he was carrying out any research work to find a suitable preservative material ?

Mr. Jowett said that the Department of Scientific and Industrial Research had appointed a committee, with a research staff, to investigate the whole problem of stone decay and the possibility of its prevention.

Miss M. Bondfield, Parliamentary Secretary to the Ministry of Labour, informed Lt.-Colonel Horlick that during the years 1919 to 1922, inclusive, 2,054 disabled ex-Service men completed training under the industrial training schemes as bricklayers or plasterers. None were trained as slaters. The approximate cost was £450,000, of which about £350,000 represented allowances to the men. Out of a total number of 2,635 men who had received training as bricklayers or plasterers under the scheme, 142 were registered as unemployed at the end of March, 1924. Apart from the above figures over 600 men were trained in the trades mentioned under the Interrupted Apprenticeship Scheme.

Mr. Ormsby-Gore asked the First Commissioner of Works what was the number of members of the recently-appointed Commission of Fine Arts ? How many of these were practising artists, architects, or sculptors who had been already employed on public works ? What number of them were members of the Royal Academy or other recognized societies of artists ? Whether he was aware of the widespread criticism with which the commission had been met; and whether, in view of this criticism, he would discontinue the public grant of £2,000 a year to the commission, and appoint a committee, with power to take evidence, to inquire into the question of the further expenditure of public money on art ?

Mr. Graham, Financial Secretary to the Treasury, who replied, said the commission at present consisted of nine members. These included four architects, one painter, one sculptor, and one specialist in town planning. Three of the architects had been employed on public works, five of the *personnel* were members of the Royal Academy, and one was the present president of the R.I.B.A. He was not aware of widespread criticism; criticisms and divergence of opinion were always active in the realms of art. He saw no reason to discontinue assistance from public funds, which was at a much lower rate than £2,000 per annum, or to appoint a committee of inquiry. He believed the commission were already doing very useful work in the public interest.

Mr. Wheatley informed Captain Terrell that fifty-seven local authorities had submitted schemes for the improvement of insanitary areas on the basis of financial assistance provided either under the Housing Act, 1919, or the Housing Act, 1923.

Replying to Mr. Hardie, Mr. Wheatley said that the amount of the subsidies paid to date to local authorities in respect of State-aided housing schemes was £19,671,500. No payments had yet been made by the Government in respect of houses for which subsidies had been paid by local authorities out of borrowed money. It was estimated that the interest payable by local authorities in respect of schemes under the Housing and Town Planning Act, 1919, amounted to £11,000,000.

Mr. Wheatley informed Mr. G. Ward that the annual loss to the Exchequer in respect of houses under the Addison scheme was £7,700,000. The annual cost of the collection of rents, including the cost of management, was approximately £250,000. Local authorities had been authorized to accept applications from tenants to buy the houses if this could be done without increasing the annual loss.

In reply to Mr. T. Thomson, Mr. Wheatley said that the maximum number employed under the scheme was in July, 1921, when the number was 149,854.

In answer to Sir K. Wood, Mr. Wheatley said that returns received from local authorities showing the average price of houses included in contracts let during each month this year gave the following result :—

	Non-parlour.	Parlour.
	£	£
January	386	445
February	389	439
March	416	459
April	425	440

Housing Progress in Scotland

The following figures show the progress that has been made in State-aided housing schemes in Scotland to April 30, 1924 :—

	Completed.	Under Construction.
1919 Act	24,109	2,989
Private Subsidy schemes	2,324	—
Slum Clearance schemes	430	1,267
1923 Act	89	2,809
	26,952	7,065

Of the total number of houses completed and under construction under the 1923 Act, 1,023 are by the local authorities, and 1,875 by private enterprise.

The British Industries Fair, Birmingham

ALL the building exhibits of the British Industries Fair have been grouped at the Birmingham section this year, and considering the attractions of Olympia and Wembley, they muster a very representative and interesting show. Following are descriptive notices of the principal exhibits :—

ART METAL-WORK AND FITTINGS.

James Smellie, Ltd., Dudley, have some fine metal fire surrounds and dog-grates in various finishes, and all kinds of architectural and ecclesiastical art metal-work.

John A. Harry Hunt, Birmingham, have a large range of electric and gas light fittings, metal stands, illuminated signs, and art metal ware.

S. F. Turner, Ltd., Dudley, exhibit dog-grates, repoussé metal work, and art metal furniture.

BRICKS AND TILES.

A. Boulton & Co., Shrewsbury, have some fine red facing bricks, sand-faced bricks, and multi-coloured bricks in various thicknesses.

Gibbons Bros., Ltd., Dudley, show firebricks for all types of industrial furnaces and chimneys.

W. Hewitt and Sons, Stourbridge, have some excellent hand-made enamelled tiles and slab panels, and some very fine tile and faïence surrounds and curbs on show.

Minton, Hollins & Co., Stoke-on-Trent, exhibit a comprehensive range of glazed and enamelled tiles in special finishes. Their "Dusermo" and "Cloisonne" eggshell enamel and plain enamel finishes are especially suitable for interior and fireplace decoration.

Marsden Tiles, Ltd., Burslem, show their "Marsden" tiles in various period finishes. There are also on show slab surrounds, curbs, etc.

CONCRETE AND CONCRETE REINFORCEMENTS.

The Holwin Building and Construction Co., Ltd., Aldwych, exhibit their new system of concrete reinforcements.

T. F. Fathers, Birmingham, show a large variety of breeze concrete partition blocks.

DOOR AND WINDOW FURNITURE.

Francis Crisp & Co., Ltd., Birmingham, show a large selection of finger plates and other ornamental door furniture.

Joseph Steer, Birmingham, exhibit their cast and machine made brass fittings for doors, windows, and furniture.

Walsall Locks and Cart Gear, Ltd., Walsall, show their automatic lever and tumbler padlocks; rim, mortice, and cabinet locks; night latches and motor locks.

W. F. Shum, Birmingham, are patentees and manufacturers of Mace's locks and door furniture, bell and electric pushes, finger plates, Lane's patent handrail screws, and general builders' fittings and ironmongery.

Baker and Walsh, Ltd., Birmingham, have some finely-finished finger plates and fittings in different finishes and materials.

Henry Allday and Son, Ltd., Birmingham, exhibit their "A.C." curtain rail and the "Ever-ready" window lock.

FIREPROOFING MATERIALS AND EXTINGUISHING APPLIANCES.

Samuel Withers & Co., Ltd., West Bromwich, exhibit fire and burglar-resisting safes, strong-room doors and frames, and complete strong-rooms.

Chas. Winn & Co., Ltd., Birmingham, show fire extinguishers and hose, and portable fire-fighting appliances.

Antifyre (Sales), Ltd., Aldgate, exhibit the "Antifyre" extinguisher, a dry chemical extinguisher in the form of a pistol.

The Darlaston Galvanized Ironware Co., Ltd., Darlaston, show among their fire-fighting appliances the first motor-cycle fire engine made in this country.

The Cape Asbestos Co., Ltd., London, exhibit fireproof theatre curtains and asbestos fireproof materials.

FIREPLACES AND MANTELPIECES.

Frank Lord, Oldham, in conjunction with Godwin and Sons, Hereford. Mr. Frank Lord exhibits some mantelpieces and furniture of original design and beautiful craftsmanship.

Candy & Co., Ltd., Heathfield, near Newton Abbott, have a number of their well-known "Devon" fires on show, and faïence and tile fireplaces in a large variety of styles and colourings.

A. Bell & Co., Ltd., Northampton, show "Bell" fires fitted with Dutch tile surrounds.

The Falkirk Iron Co., Ltd., Falkirk, Scotland, have some original designs in rustless steel, cast bronze and armour bright.

Brookes Bros., Birmingham, exhibit wood mantelpieces in mahogany, oak, walnut, and whitewood. The types range from simple surrounds to elaborate period designs.

FLOORS AND FLOORING.

A. Boulton, Shrewsbury, show their red flooring quarries and broken granite chippings for granolithic and composition floorings.

Minton, Hollins & Co., Stoke-on-Trent, exhibit tesselated tiles and mosaics for decorative floors.

The Malkin Tile Works, Burslem-on-Trent, have some very fine floor tiles and mosaics of pleasing originality.

Fielding and Platt, Atlas Works, Gloucester, have samples of their Manu-marble.

HEATING, COOKING, AND LIGHTING APPARATUS.

Parker, Winder, and Achurch, Broad Street, Birmingham, have a complete range of all kinds of heating apparatus, boilers, radiators, stoves, ranges, geysers, etc.

The Interoven Stove Co., Ltd., 156 Charing Cross Road, W.C.2, exhibit their "Interoven" and "Super-Interoven," convertible cooking and heating ranges; and also their "Bewty" expanding, barless fire-fronts, which, fitted to old-fashioned sitting and bedroom grates, converts them to economical burning and pleasing appearance. This firm also show a number of high-class wrought, welded ranges, and boilers of different types.

Samuel Smith & Co., Ltd., Beehive Foundry, Smethwick, exhibit their "Foresight" combination range, which will execute all cooking and boiling operations economically and with the minimum of labour. The range is fitted with a high-pressure boiler at the back of the fire, which ensures a plentiful supply of hot water both in the bathroom and kitchen. The front and surround is finished in glazed tiles of various colours, and the range is easily converted into a cheery open fire. The

A FIREPLACE IN BURR WALNUT.
(FRANK LORD, OLDHAM.)

firm also exhibit their different types of fireplaces, ranges, stoves, and boilers.

The Carron Co., Carron, Falkirk, Scotland, show some high-class kitchen ranges, combination sitting-room grates, gas cookers, geysers, and fire surrounds.

MISCELLANEOUS.

R. A. Lister & Co., Ltd., Dursley, Gloucester, exhibit their "Lister" electric lighting and power plants for country-house lighting.

PAINTS, STAINS, WOOD-PRESERVATIVES, AND DECORATION.

South-Staffordshire Mond Gas Co., Dudley Port, have a large number of preservatives, stains, and disinfectants for both steel and timber.

Naylor Bros. (London), Slough, Bucks, exhibit panels finished with their various paints, enamels, and varnishes.

Gross, Sherwood, and Heald, Ltd., Barking, Essex. This stand is distempered with Sherwood's washable distemper, and shows various paints, enamels, and varnishes made by this firm.

Atlas Preservative Co., Deptford, show an anti-corrosive paint—"Atlas Ruskiala"—which has been devised to neutralize all rust and decay on iron and steel work.

SANITARY FITTINGS.

Chisholm, Grey & Co., Ltd., Birmingham, show all kinds of sanitary appliances and fittings in white, nickel, and aluminium.

Scotswood, Ltd., Birmingham, exhibit wood sanitary seats; and bathroom fittings, polished and plain, in various hardwoods.

Ludlow Bros. (1913), Ltd., Birmingham, have a number of sanitary pans and cisterns on show.

SHOP AND STORE FITTINGS.

A. Edmonds & Co., Ltd., 89-97 Constitution Hill, Birmingham, exhibit sectional fittings, glass counters, oak and metal display stands, signs, showcases, and shopfronts.

T. G. Blood, Birmingham, show a large variety of fittings and hotel equipment.

Model Hospitals

Mr. W. Glen Dovie (President of the Liverpool Architectural Society) wore for the first time, at a meeting held recently at the Society's rooms, the gold badge of his office. The design embraces an heroic central figure holding in one hand an emblematic portrayal of "Architecture," and in the other a kindred representation of "Liberty." The bordering incorporates a dolphin and wavelets to indicate a maritime city. Mr. Dovie introduced Mr. W. Milburn (Sunderland) to deliver a lantern lecture on "Hospitals." In 1908, he said, Mr. Milburn was the Saxon-Snell prize-winner for work on the construction of hospitals, and in 1910 he won a bursary.

The lecturer, who has had experience both as architect and hospital patient, exhibited in rapid succession and with terse comments, a large collection of photographs of plans, lay-outs, elevations, interiors, fittings, and surroundings of the leading hospitals of Great Britain, France, Germany, Holland, North America, and Egypt. Generally he approved the corridor and pavilion designs with central heating and some measure of natural ventilation. He stressed the advantages of artistic decoration of the wards and furniture, and condemned the old workhouse ward, cold in colour and with bare walls and uncurtained windows. The gymnasium, recreation grounds, and boulevards of certain German hospitals were commended, and the latest American enterprise cited with strong approbation.

In the discussion, Mr. Gilbert Fraser said formerly England had much to learn from Germany, but to-day more from America.

Mr. T. Taliesin Rees pointed out the costliness of some of the hospital sites in London—for example, Charing Cross, and in Liverpool. If these sites were sold after the Manchester fashion, and advantage taken of dressing stations and modern transport, the larger hospitals now demanded by the National Insurance system and by paying patients could be erected on spacious and economical sites in the suburbs.

The President advocated permanent buildings for administration and temporary wards. As a medical authority had put the matter bluntly, "if the wards were burnt down every fifteen years so much the better."

An Adjustable Travelling Cradle

The accompanying illustration shows a device for overcoming the difficulties and dangers incurred by the users of hanging cradles when attempting to reach wall surfaces beneath the overhang of heavily projecting cornices and galleries. The practice of reaching over the handrail of the cradle is not only attended with grave risks of accident, but by altering the centre of gravity, the cradle has the effect of actually moving farther away from the work it is desired to approach.

This contrivance consists of a rigid bar attached to the lower end of the rope employed for the free suspension of the cradle, and a weighted lever which can be adjusted with respect to the bar in such a way as readily to bring the point of suspension closer to or farther from the wall. By means of this compensating weight it is possible to move the cradle into any desired position under the cornice, and at the same time maintain its horizontality. It has been found by experiment that when it is desired to shift the cradle 2 ft. in a given direction, the weight need not extend beyond a distance of 6 ft., or exceed one-third of the combined weights of the cradle and its occupants.

The equipment is easily controlled, and in no way interferes with the free use of the platform. An integral part of this ingenious adjustment comprises four stops which project from the vertical face of the cradle and regulate its distance from the wall.

In view of the heavy cost occasioned by the elaborate staging now necessary to provide access for the painting and decorating of awkwardly situated wall surfaces—particularly in the case of domed structures—this invention should prove an economical and expeditious alternative. The patentee (Mr. Alfred Soames, 66 Southampton Row, Holborn, W.C.1) is, we understand, prepared to grant licences for its use for a small sum, with a nominal annual royalty for each cradle.

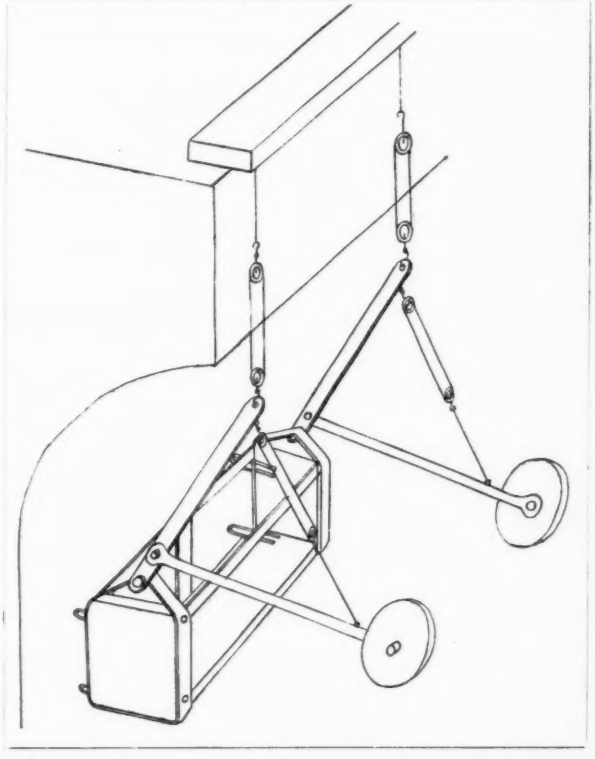


DIAGRAM SHOWING AN ADJUSTABLE TRAVELLING CRADLE.