Wednesday, November 11, 1925. Vol LXII. No. 1610.

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

FROM AN ARCHITECT'S NOTEBOOK.

THE GLORY THAT WAS GREECE.

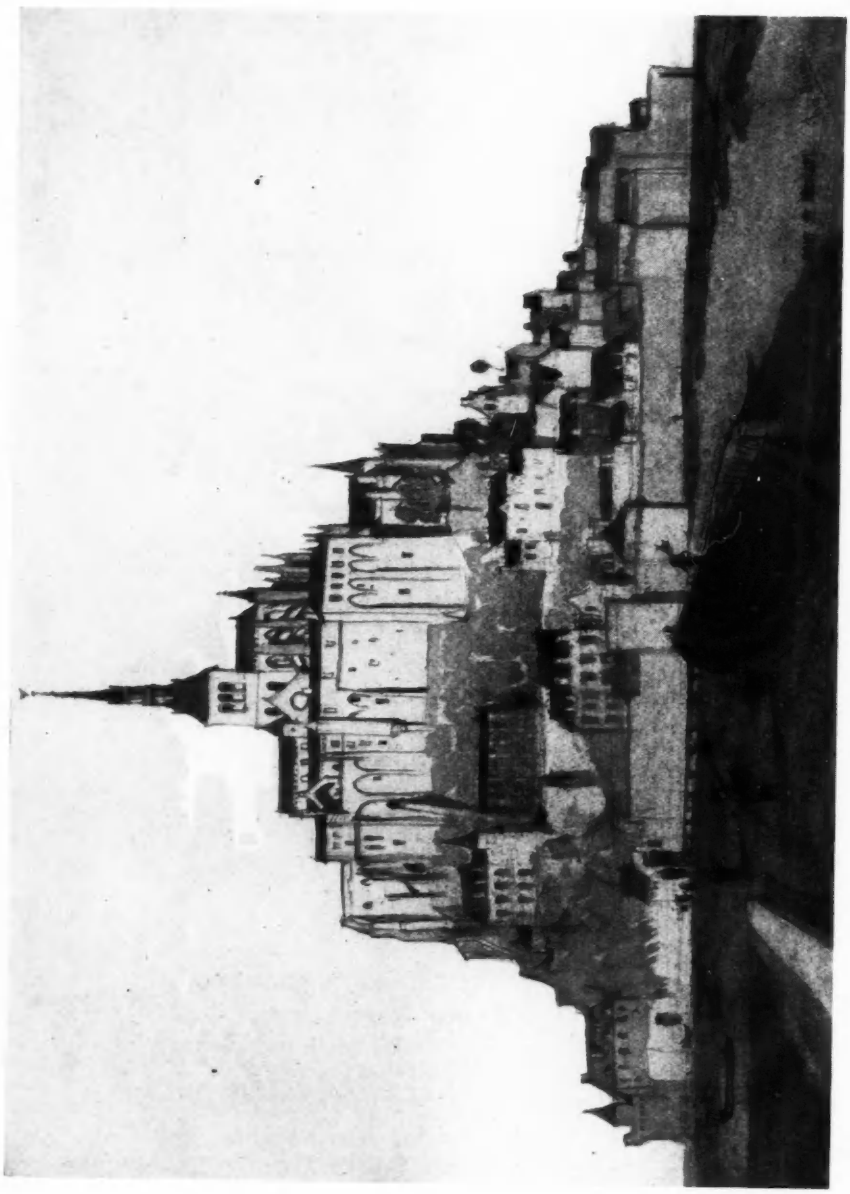
Is it illusion? or does there a spirit from perfecter ages,
Here, even yet, amid loss, change, and corruption, abide?
Does there a spirit we know not, though seek; though we find,
comprehend not,
Here to entice and confuse, tempt and evade us, abide?
Lives in the exquisite grace of the column disjointed and single,
Haunts the rude masses of bricks garlanded gaily with vine,
E'en in the turret fantastic surviving that springs from the ruin,
E'en in the people itself? Is it illusion or not?

CLOUGH.

9 Queen Anne's Gate, Westminster.

Mount St. Michael

From a Water-colour Drawing by M. Tha Tun



(*From the A.A. Exhibition of Holiday Sketches.*)

(See note on page 740.)

THE

ARCHITECTS' JOURNAL

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These Exhibitions

PUBLICITARIAN method is no bad index of the *Zeitgeist*. In none of the arts and sciences does the public get its deserts so fully as in advertising. And of advertising the supreme revelation is the exhibition. Two seasons of it at Wembley and Paris are now past, and the time-spirit they breathed is the reconstructive disillusionment of all things post-war.

Plastic restraint being the vogue, it is good that in Paris and Wembley there have been two so essentially different opportunities of judging its trend. Difference in scale and character involved different approaches to the architectural problem. One could not expect from an exposition of "big business" the same æsthetic titillation that proceeds from the advertisement of art as such, if one accepts the manifestoes of the French promoters. The whole *raison d'être* of the Paris exhibition was at Wembley only one of many, and to capture and reproduce an architectural *leitmotif* from a polyphony of Wagnerian proportions meant rigid simplification, if it was to be understood at all. Again, Paris reacts to novelty as easily as London reacts against it; Paris has a terse way with the vendor of intellectual bubble-and-squeak, as anyone knows who has heard a French gallery boo. Nor are public occasions in France the rendezvous of provincialism that they are in England; hence there is less danger of choking Victorian babes with Neo-Georgian meat.

Stylistic *carte blanche* was thus to be looked for at Paris rather than at Wembley. Considered individually, the buildings at the Invalides revealed the more genuine attempt at architectural handling of the materials. We grant the British Empire Exhibition the discreetly imperial note of its elevational perspectives, but was the aërial effect ever considered? It was only from the air that one realized the insignificance of architectural façades thrown round acres of glass and metal roofing like ribbon round a chocolate-box. A generation hence, the aërial spectator will not be such an exotic as to-day, and the plastic handling of roofing-surfaces will furnish some pretty conundrums for the next exhibition.

The criticism is not so academic as it sounds, because it was in reconciling mass with sound proportions that Wembley revealed its greatest weakness. The problem is almost peculiar to exhibition-planning. Vertical development is strictly limited; the economic value of a third story would be cancelled out by the vast increase in constructional expense, to say nothing of physical reluctance in the visitor. But to prolong a frontage without reference to height, is to produce an incoherence of form whatever the unity of style, while to dismiss all relation between the ground-plan and the elevation is to disregard an accepted principle. It is a difficulty which only admits of solution by setting a limit to the ground-plan; and in the cases mentioned, horizontal development has already passed the bounds of consistency.

Yet, though in detail Wembley suggested little that is not realized in the civic building of to-day, one came away from it with a sense of its imperial purpose which no exhibition on the old rococo lines could have given—sobriety combined with a tactful adherence externally to the principles of construction in producing a dignified unity of impression that was not affected by assertiveness of style in buildings of small dimensions and restricted content. In short, Wembley functioned as a whole.

Of all this, Paris was the direct antithesis. It could hardly fail to be. When art advertises itself, it is necessarily self-conscious; project that self-consciousness into a multitude of small structures of highly particularized function, and the result is a riot of competitive egotisms, in which the collective effect is bound to suffer. Such was the International Exhibition of Decorative Arts.

In the matter of individual treatment, Wembley had nothing to compare with the Pavillon de la Maitrise, or the Pavillon du Collectionneur. Steel and concrete both; truth could not be franker; more subtly it might be, but more gracefully it could not be, expressed. In both a gentle leading-up by stages to the central theme—a mere inverted box, relieved in the one by a vast panel of stained glass, in the other by a segmental portico surmounted by a frieze in bas-relief. No toying here with the phraseology of stone; there was even a conscious shrinking from it, which resulted in a treatment of angles that was too mechanical, too abstract by half.

Over-abstraction is, of course, the price of all demonstrations of preconceived æsthetic values. They are too casuistic, too scornful of the logic of practice. At the same time, let us not undervalue these efforts; if they are not so originally inspired as they would have us believe, if they are but children of the expressionist generation of Picasso and Pissarro, they indicate at least a path of development for a new plastic.

And there the case for Paris ends. Expressionism, individualism, subjectivity—all the catchwords of an egocentric age were let loose in a frenzy of self-justification. But were they really justified? One issued from the Porte d'Honneur with an eye-ache reminiscent of Burlington House, with nothing but a composite impression of line and colour, and a feeling that though all the arts were there expressed, art found no collective voice at all.

Now it seems to us that one is entitled to demand of an exhibition, just as one demands of any form of architectural expression, that it shall explain itself. The demand is more insistent to-day than ever it was; machinery has so far caught us up that we have not time, and later generations may not have even the will, to speculate. Modes are too transient, the effort to evolve them is too painful, for us to afford any failures. The more reason, therefore, to concentrate on this matter of function.

Let it be admitted at the outset that the architectural direction at Paris had set itself a problem of unusual difficulty. Internationalism in art implies a form of expression that, while taking into account the tendency of Western art at every stage to fulfil itself along certain lines which we generically label as "the movement," must also leave freedom for national motives. This in itself is

an obstacle to collective handling of the architectural material. Add to this the inherent disadvantages of the locale, and the weakness of the Paris exhibition largely explains itself. A narrow site, without even geometric possibilities, the domination of its principal axis by the extraneous classicism of the Invalides, and the temperamental discord produced by reminiscences of older exhibitions, which could not be wholly eliminated, all tended to emphasize the note of egotism as against catholicity of expression.

But even so the crucial problem was burked. Mere unity of colour—a general impression of white and silver and gold—will not create a unity of form. Colour alone will never pass off Rubens as Titian. One felt that too much responsibility had been thrown on to Mansard's dome. The main perspective was left to its own devices; judge it on its own merits, and even the symmetry of its plan was outbalanced by the insignificance of its units. The two buildings which, by their scale, could have formed a pivot for the lateral elevations were concealed by a series of small pavilions which broke up the skyline and irritated by their individual efforts to look massive. As for the perspectives along the Seine, the southern alone presented any characteristic; the northern was formless in plan and indeterminate in execution, even allowing for the antipathies stirred by the Grand Palais. In fact, the grouping of the national pavilions on the north bank was the *ne plus ultra* of individualistic anarchy. Each was an independent entity, with no compensating motive of any kind to bring it into architectonic harmony with the whole. Everywhere, in short, particularization, and nowhere unity.

It was simply a question of functional expression. An exhibition, like a town, depends mainly on its perspectives for the characteristic impression it leaves on the mind. As in a town, strong perspective comes only by strong and simple design. But strength of design is not to be found in an aggregate of ungraduated masses, particularly if they are highly specialized in treatment to meet the requirements of *réclame*. To close up the plans, as at Paris, is to produce æsthetic chaos; to separate them widely enough for individual appraisement is uneconomic and inorganic.

Gradation of bulk seems the easiest way out of the problem. It is rarely that a site is so restricted as to admit of none at all. The more assertive the mass of a building, the less need it has of stylistic particularization. Size alone, irrespective of content, will always attract, and it is in a relative degree of magnitude that the *ethos* of the whole most readily finds expression; determine how your dominant masses shall be manipulated functionally, and they will form a broad thematic basis for the more individual variations. It is here that Wembley succeeded; one may regret its imaginative poverty, but the sheer severity of its principal buildings sounded a note of business which the lesser and more specialized structures were left to interpret at will. Local styles never obtruded themselves upon the dominant concept of an imperial style. Perspective everywhere was concentrated upon this motive; even the temperamentally alien manner of India was forced into the scheme by the suggestion of remoteness allied to bulk.

These relations are not easy of adjustment. The lure of bread and games is economically indispensable. It exists only by its blatancy, and to reconcile it with any architectural scheme is so thankless a task that nowadays its worst features are banished to an obscure corner, where the scenic artist takes over the job of pretending they are not there. It is a confession of failure, but there was a hypocritical time when the Oriental was the conventional guise of frivolity. One remembers Earl's Court; there were corners of the White City. Were Gilbert and "The Mikado" at all responsible, one wonders?

But we have changed all this. That we confess our past falsehoods, that we deal sternly, if desperately, with amusement parks, are worthy concessions to the truth. A conscious effort to be oneself never yet produced bad art, and it is just this effort which stamps the post-war exhibition. It remains now to determine whether that effort shall be collective or individual, whether the whole shall be a noble thing, or its entity sacrificed to the free development of its parts. The next generation will decide.

The Laugh of the Week

The London County Council have tried their hardest to make Sir Edwin Lutyens a party to their folly. Of course they have not succeeded. Architects have a reputation for being simple, honest folk, but Sir Edwin Lutyens has been much too clever for the L.C.C. The questions they have put to him must be seen to be believed. "Please, Sir Edwin, we are so delighted with the look of London Bridge that we want to fasten just the same sort of projecting footpaths to Waterloo. Will you make us a little sketch design? But perhaps you are one of those who feel diffident about the scheme. Well, we are prepared to listen to your views. If you know of a better way to make that malingering rascal, Waterloo Bridge, bear yet greater burdens, you just tell us." Of course Sir Edwin will not hear of the footways. They "would altogether destroy," he says, "the architectural character of Rennie's bridge." We understand he has, in accordance with the wishes of the L.C.C., designed some such footways, but there you have his opinion of them, unequivocally expressed. The L.C.C., however, had foreseen his criticism, and the second part of Sir Edwin's task was to show how the impossible could be accomplished in another way. No Columbus, real or legendary, ever planted his egg down with a more admirable directness. A one-span steel bridge above Waterloo—the suggestion is a masterpiece of repartee, and we ourselves confess to having been kept in roars of laughter upon reading it. Mr. Heath Robinson has not imagined anything so attractively imbecile. We may be thankful that Sir Edwin has made the most of his endearing gift of impish humour, using it to strike a blow in a cause that means a great deal to English architecture.

Mr. Squire and Arson

The latest dinner of the Architecture Club was held, very appropriately, on Guy Fawkes night, and Mr. Squire seized the occasion to denounce the refined iconoclasm that animated those in charge of the architectural treasures of London. "If," he said, "there are any guys in this room to-night" (or words to that purpose) "let them go out and do as much damage as they please; provided they do not lay a finger on the City churches, and Somerset House, and the Foundling Hospital, and a few other such notable buildings, no one among us will utter one word of reproach against them." Unfortunately the modern guys are all the other way. Wherever a housebreaker is seen at work one may safely assume that the building about to be removed is one of peculiar merit, historical, if not invariably æsthetic. Vulgarity alone is immune; stupidity and ugliness are surrounded by a magic circle. From the northern heights St. Pancras Station Hotel still lords it over London, with St. Paul's a poor second, and a none too vigorous one at that. Regent Street is gone, but Charing Cross Road bids fair to last some generations yet. Indeed, the housebreaker is curiously discriminating, and the Architecture Club is doing a very natural thing when it contemplates a retaliatory measure or two.

An Architectural Magazine Room

THE ARCHITECTS' JOURNAL and THE ARCHITECTURAL REVIEW have always made it their business to provide their readers with examples of the best contemporary architecture of foreign countries. It is impossible, however, to do more than make a small selection among the most distinguished; and the proprietors of these papers will be delighted if readers who are interested will spend a few minutes now and then at the magazine room in 9 Queen Anne's Gate. The most important Continental and American periodicals may there be seen among quiet and restful surroundings.

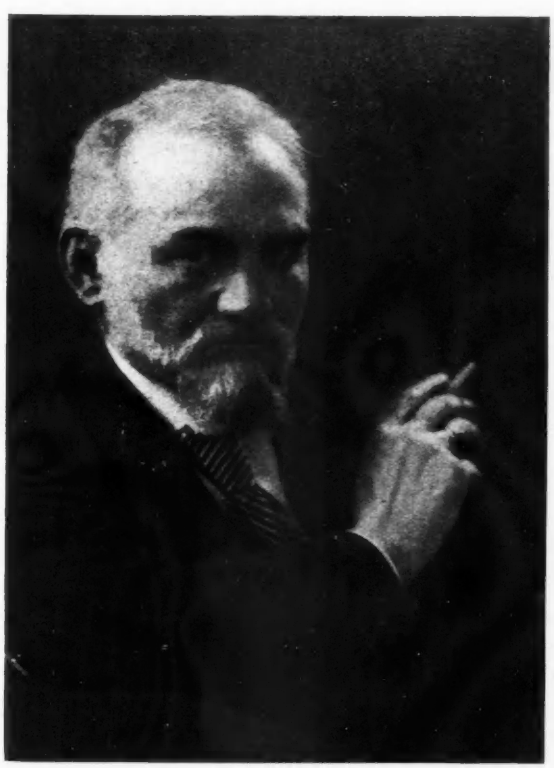
Phases of Architectural Evolution

By PROFESSOR H. GLICENSTEIN

WHEN I was a boy in my village home, I often stopped and looked at the village houses—simple, primitive peasant dwellings built of wood for the most practical needs of man. Yet it was obvious that their builders had taken delight in their work. They had lingered lovingly over a bit of chiselling here and there; each house had an individuality of its own—here two wood pillars, or two carved columns; there an ornamented balcony or a beautiful wall-projection, or a figure-head roofing. These were houses made to live in, with the fields and the forest at hand. There was the smell of the earth in them, and the hands of living men had wrought them, men with nerves, whose work showed unevenness and roughness, but showed also that they had put their hearts into what they had done.

In an Industrial City

When I grew up I saw the houses in the great industrial city not far away, built without heart, without warmth, prisons in which the people were herded away from the light. They were abodes, sleeping-places, but not homes. And the great houses where the wealthy industrialists lived, dull-faced buildings, with a veneer of sham stone, heavily overloaded with false decorative effects—a jumble of styles from many periods, clashing and jarring, and pieced together without any knowledge or understanding or taste. And grime and vulgarity, and the repulsive imitations of forms which represent the sum-total of a gradual and careful development in art, the wonderful solution of a profound problem in architectural law, now adapted and strung together with a complete indifference to their right place in the range of architectural forms.



PROFESSOR GLICENSTEIN.

I was astounded when I saw, in later years, the Roman basilica. There, in effect, were the peasant houses logically constructed on precisely the same principle.

The Basilica

On the ruins of the temples of heathen gods, Basilica arose. Where the temples of the old Romans had become enervated with Bacchantic exaggerated ornamentation grown thin and fleshless, the Basilica arose sound and simple and primitive, like the peasant houses, like a blast of fresh morning air after a sultry night. A great block, an avenue of pillars leading from the portal on to the sanctuary, to the high altar in the abside, with a gold mosaic heaven above, and in its depths the nebulous visions of angels and saints. The creation of the period, the expression of the time, it was not the architecture of the church alone, but also of the home. The same peasant who built the stable and the barn built also the church, and built it with the same feeling and in the same method.

In both is the essence of religion. For all architecture, all great architecture, is the expression of religious feeling. It arose from the great ideal of building glorious immense monuments for eternity.

The Pyramids and the Temples

Think of the two mightiest examples of the two methods—the Egyptian pyramids and the Doric temples. Or of the supreme achievement of architecture—the spiritual height and grandeur of the Indian temples. No one man could have created any one of these. Each stone is a life-work, and the number of the stones is countless. A whole nation is there, a whole nation raised itself a monument that is imperishable. Here is the proof that art is the heritage of all, only the little things which count so much in everyday life have killed the feeling which all men have in common for the great things, the eternal things.

In India, great piles to express the striving for Nirvana; the soul rising to the illimitable. In Egypt, the sanctuaries for the dead life dominated by the thought of death, of eternity. In Greece, Olympus and the gods descending among men. The temples rising on the mountains, striving to reach the heights whereon the gods dwelt.

Creative Faith

Throughout the East they had that primitive god-like feeling. Their religion burned in them as the sun burned above them. They had the faith by which alone great works can be created, no matter what the faith, the race, or the land. The farther to the north civilization went, the more clothes we had to heap on our bodies, the colder and more dim our religion became. And it was fitting that this religion expressed itself in the cold, dim form of the Gothic. But the Gothic was religious, and was great art. The Renaissance never achieved the heights of the Gothic; never again do we meet with a religious feeling like that of Giotto.

When Donatello and Ghiberti wandered to Rome they saw there the ancient temple architecture, and the ruins of the Colosseum, and they grew enthusiastic over them. They saw fragments lying about, broken down from the walls, away from their rightful place, and yet wonderful as sculpture in themselves. They saw sculpture as something distinct from architecture, sculpture as a means in itself, sculpture separate, architecture separate. For Donatello, Ghiberti, Verocchio, it was no longer the

whole, the mass as a whole, with its sculpture, as unified ornamentation, a part of it, but it was the sculpture as an aim and an achievement in itself.

Thus art in the Renaissance grew into groups, into schools of arts, with masters and their dominant individualities. Their sculptures were, indeed, placed into architecture, but they were not conceived, created as an inseparable part of the great tree of the architecture. They were placed in a niche in the great building, but they could as well be placed into another niche and in another building. Before, sculpture had been the ornament to the architecture, now it had become the central purpose, and the architecture had become its frame.

With the masters of the Gothic the house was something to dwell in, made beautiful with painting and sculpture. It was a place of worship, on the adornment of which all art was lavished. In the Renaissance it was the house which became the background, so to speak, to set off the sculpture.

Emulous Schools

We had the Ghirlandajo school, Verocchio, the Medici park, di Boboli, the Academy of Art, the centre from which the great masters of the Renaissance developed into their supreme individuality, showed themselves as immortals. In the days of the Gothic the whole structure was the thing, and the artist enshrined himself in it. Few are the names that are known to us individually as the masters of the Gothic. With the Renaissance everything became a striving to create, a competition between masters —Leonardo, Angelo, Raphael—all striving to excel one against the other. There was the volcanic Angelo, shaping his titanic works, hewing them, raising them out of the very ground, cosmic masses, a Colossus growing into life, half sunk still in the earth, mighty, rude, elemental.

The sun itself had touched the earth. It was the sunset of art, a burning, wonderful sunset, filling the heavens with its blood, but still it was the sunset.

Michelangelo and Bernini

And here at the glowing, burning sunset, Bernini arose. Not at the dawn to labour singing through the day, but at the close of day he came. Where Michelangelo had left off he commenced. Not at the source, but where the river already flowed into the sea. What could he do more with what was already completed ?

So many still start their work where a giant like Angelo or Rembrandt or Cézanne has finished. They do not commence with his commencement, and follow him along his gradual, natural development, developing as he developed ; but they start where there is nothing more to do, where that particular road has already come to its end. After the end we have disintegration. It is impossible to carry farther what has achieved its culmination, its highest point.

Bernini's art was not in his heart or in his head. It was in his hands. He had not the religious naïveté of the catacombs, of the Romanesque, nor the high culture of art of the Renaissance. He was the technician, the man who had mastered everything, could do everything, and, therefore had no longer any respect for anything.

Michelangelo knew his limits, knew where to stop. Bernini recognized no bounds. He always went on to display his wonderful technique, his extravagance in technique. Stone ceased to exist for him. He could twist it about like cardboard. It became a naked, naturalistic, finished man, finished and condemned to death, a flying angel who does not stir from his place, a running-man who takes no second step, undulating drapery that does not lift in the wind.

The function of stone had gone. We no longer had the solid block out of which the plastic form was hewn rigidly, retaining its essential quality as a rigid block of stone. The stone was made to do things which stone is not intended to do. It became flexible, it lost its stony character. It became Baroque.

It was with the later Michelangelo that the Baroque style had begun. We must distinguish in Michelangelo's work between the Florentine Angelo and the Roman Angelo, the Angelo of the Tuscan school, the Angelo of Donatello, and the Angelo who matured into the pompous, grandiose Roman Baroque. In his early work we have composition, discipline within the marked-out space, and restraint. In the "Last Judgment" we have the cosmic, the boundless, the Baroque. When Michelangelo came the second time to Rome to paint his "Last Judgment," it was no longer the Michelangelo who, in his youth, had painted the Prophets and the Sybils. If we look at the three plans of St. Peter, we shall see Angelo standing midway between Bramante and Bernini. It was his cupola of St. Peter which prepared the way for Bernini. But Bernini developed the Baroque, not only in St. Peter, not in any one church or building. He made the whole of Rome, the whole of the great city, one huge monument of Baroque. He bound together the whole city of Rome like a massive network; the whole city one immense proud, overbearing monument. No longer the individual church, the individual house ornamented lovingly by the art of the architect. Proudly, presumptuously, the whole town was built up on one huge plan. As Florence is the city of the Renaissance, so Rome is the city of the Baroque.

Both the Renaissance and the Baroque and the empire as well grew out of the Pantheon. The St. Pietro in Rome, numerous churches in Rome, the Madeleine in Paris, the Pantheon in Paris, the Exchange in Paris, the Exchange in London, St. Paul's, the British Museum, the National Gallery, churches without number through the City, in Berlin the Dom, always the Pantheon, the frontage or the cupola, or both together.

After the Baroque, grown into the twisted, gilded, sentimental ornamentation of the Boucher - Watteau period, there suddenly swept through the world the blast of revolution, the great overturning of the French Revolution, the return of the Greek, heralded by Winckelmann, groping about in the holes and corners of forgotten Rome, and inspiring Goethe, fathering the neo-Grec movement which spread throughout the world, the Hellenic ideal of Goethe in Germany, Byron in England, David in France, the Danish Thorwaldsen in Rome, and the Italian Canova.

Back to the Hellenic

Back to the Hellenic, back to the classic form of the Greek, went architecture, even as did art and literature. A new enthusiasm came over the world, and the result was the Empire style. But it was Greek only without—imitation, not creation—the new men never managed to capture the spirit of the Hellenes. Neither Thorwaldsen nor Canova was Greek, creative Greek—it was not the Greek spirit that was in them—only the desire to be Greek.

In architecture the neo - Grec movement achieved nothing. It has no soul, even as there is no soul in the sham Gothic of the Victorian age. Neither was the expression of the time the creation in the image of their creators, and therefore they had no life in them.

With the growth of industrialism the replacement of stone by iron girders, engineering took over architecture. Architecture is no longer the work of the naïve builder of his own home, the work of the sculptor, the artist, the creator. It has become an exclusively mathematical problem of construction.

In centuries to come, when our London and our Paris are ruins as Thebes and Athens and the Rome of the Forum, what will there be to tell of our civilization then ; unless we again work humbly, filled with religious feeling, raising outwardly that which is within us, and trusting that it will grow in God's good time into something distinctive, that will last out to be the memorial of our generation ?

The Treatment of Interior Wall-Spaces

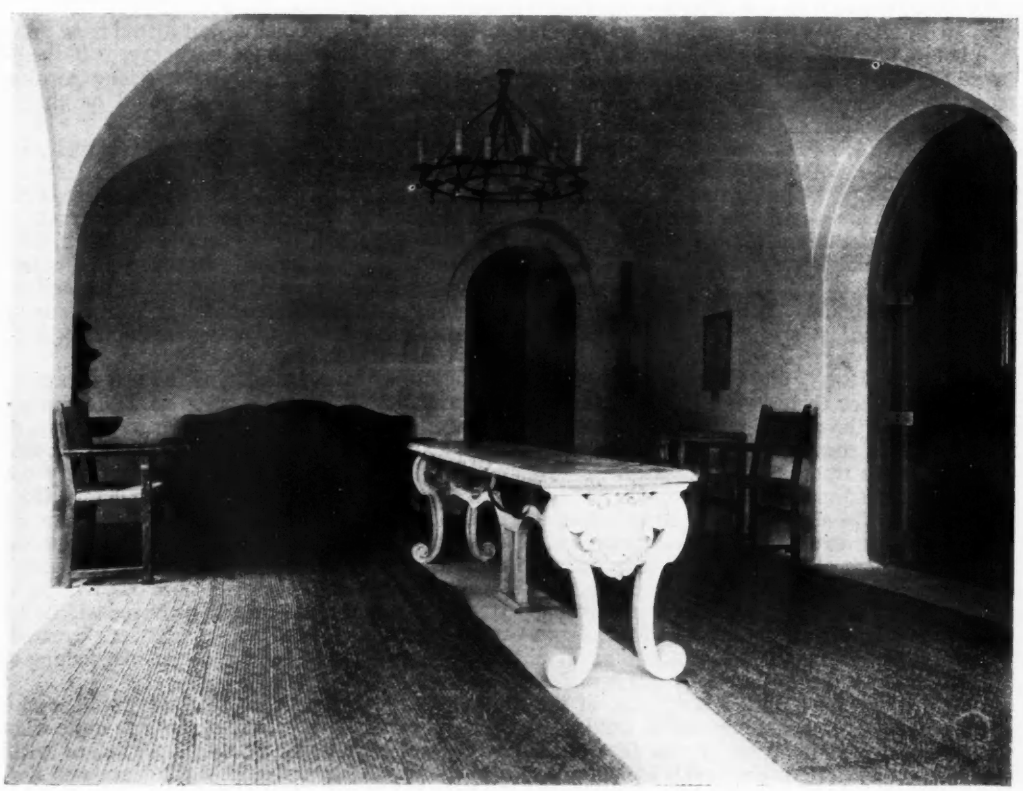
By BASIL IONIDES

THE perfectly designed building should have each separate interior wall well proportioned, both in itself and in relation to its neighbouring walls. Its window and door openings should be well placed in relation to the whole, and should be in good proportion to it. The placing of the dado rail, if there is one, and of the picture rail, if it is needed, should be so well arranged that the further decoration in paint, paper, or distemper is assisted, and, if possible, indicated by the design.

If a room or passage is completely designed, there is little for the decorator to devise beyond what has been already done by the architect. The decorator's work will be reduced to colouring and to the filling of spaces prepared for him. He will not have to provide architectural lines. Of course, the counsel of perfection is for the architect to superintend all the decoration. But often, when the house is built, a temporary distemper is applied until the plaster is dry enough to take the final and more permanent decoration; and probably by that time the architect and client have drifted apart, and so the painter and paperhanger are left to put the final touches, which possibly may not harmonize with the architectural scheme unless the room is so complete that the decorator can't go far wrong. If the decorator has but little architectural knowledge, it is likely enough that he will plant friezes at the queerest depths, and dadoes of the oddest heights. Or he will introduce panelled wallpapers, making the panels completely out of proportion to the room, or he will use every device to create quaint and curious lines where none should exist. This is possible only because the architect has not completed his work.

Looking over an eighteenth-century house one sees that it is almost always impossible to ruin the proportion by superimposed decoration. The chair rails are strong enough to hold their own against any papers; and the cornices cannot be spoilt by badly placed picture-rails, as they have sufficient character to endure whatever is placed below them. The design of a room of this period generally indicates what is intended for the wall treatment, and when panelling was best it was supplied—richly for important rooms, and simply for lesser rooms. If material or paper was intended to be put on the walls, one sees the spaces well proportioned to take these; if tapestry was intended, one usually sees wooden panels placed above the doors so that the walls are divided into panels suitable for its reception.

All this applies, of course, to the better-class work of to-day; but on turning to the lesser houses one finds that as a rule nothing is suggested to complete the rooms, and very little care is taken to complete the treatment of each wall. Taking the average room, one finds walls that are treated as one large panel of no particular merit, out of which the door or the windows are cut. With a little thought it is possible to work out an appropriate treatment which, costing little, will give character.



This garden room is covered with a 2 ft. 6 in. centre. It shows how every break in the wall and every opening creates charming and graceful lines which catch the light well. The proportion of the walls is masked by this treatment.

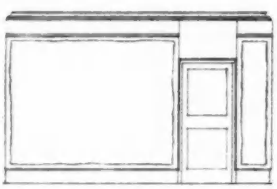


FIG. 1.

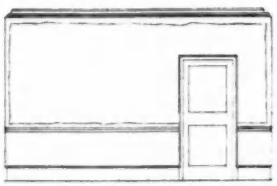


FIG. 2.

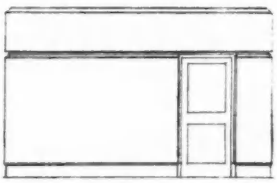


FIG. 3.

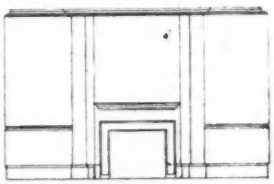


FIG. 4.

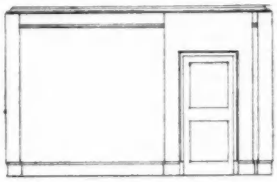


FIG. 5.

FIG. 1.—The doorway feature carried to the ceiling will end the sections, of the wall, but the filling having no bordering feature at the angles will require a definite border such as is supplied by paper manufacturers to-day.

FIG. 2.—The painted dado allows the whole upper part to be treated as one panel into which the upper part of the door cuts without destroying the panel, as it would were the dado missing.

FIG. 3.—The heavy picture-rail becomes virtually the room cornice, since it throws the real room cornice into the ceiling portion of the room. All below this rail is best kept similar in tone.

FIG. 4.—The addition of pilasters to the chimney-breast adds greatly to the importance of the fireplace at a trifling expense, but unless the architect sees the painting of this portion made to match the room his work will be in vain.

FIG. 5.—Pilasters added at the angles and beside any features will form panels that will take any filling desired, and whatever treatment is added the room will not be spoilt.

Fig. 1 shows an ordinary wall treatment, such as appears in every small house, but here, above the door, a break in the wall surface has been made, which break is carried up to the cornice, the bottom members of which will return round it. This device enables one to treat the rest of the wall as a single panel, which has a value in the spacing of the room. The picture-rail is placed so that it forms a frieze, which should be kept in proportion to the cornice. A heavy cornice will require a narrower frieze than a light one. The butting of the picture-rail into the door projection avoids several awkward lines and spaces above the door, which would occur did it return across. The woodwork, cornice, picture-rail, and the portion over the door, and possibly also the frieze, should all be painted to match.

Fig. 2 shows a similar wall, but treated with a dado moulding. In this instance there is not enough space to have a frieze as well, so the picture-rail is best placed in the bottom member of the cornice. The dado will naturally be coloured to match the woodwork of the room, as will the cornice, in a well-painted room. This reduces the importance of the line over the door, though it is better if carried up and coloured in to match the woodwork.

Fig. 3 shows a treatment that is architecturally wrong, as the frieze is of exceedingly disproportionate depth. In a well-planned house the division of the wall into skirting, dado, wall, frieze, and cornice follows the rules of the Classic orders; but there are occasions when one must break a custom. Fig. 3 is an example. The picture-rail is placed so that its top line corresponds with the top line of the door architrave. All below this line should be similar in tone, and all above, similar in character, so that one's frieze, cornice, and ceiling are all the same, breaking all the rules, even to colouring the cornice to match the ceiling, because the picture-rail has really become the cornice of the decoration. This picture-rail should be of prime importance, and the neat cornice secondary, as if the picture-rail were the main cornice, and the ceiling cornice the top moulding of a parapet. That would be the proportion were one returning to Classic rules.

The present taste for panelled walls is really an artificial one, though it is good.

The old wood panelled walls took the place of plaster, and the proportions were dictated by the construction. To-day the walls and panelling are usually of plaster, leaving absolute freedom of treatment. It is therefore rather a pity that there has been no development in the design of panelling to suit its present material, as construction no longer dictates, and surfaces can be varied in plaster in a way that they could not in wood.

The use of coving instead of the usual cornice is as yet in its infancy here, but it can be used effectively to form a decoration in itself. The points where windows, doors, and other features break into it may be used adroitly to give delightful and graceful curves that are very satisfactory and extremely simple. Coving also limits the activities of the decorator in a great degree, since where there is no breaking line the same colour must spread from the skirting right on to the ceiling. Small rooms, passages, etc., will be greatly increased in apparent size by coving, and when so treated will always be charming; but it will be found that in this treatment the bald appearance demands special door and architrave designs, while the skirting should be heavier.

In planning most houses there are recesses on each side of the fireplace. These recesses, unless quite wide, are far better treated architecturally as niches, or with built-in shelves, where, supposing that these are well designed by the architect, the cornice can be brought forward and a more regular ceiling line formed.

The Greenmount Agricultural College: New Cottages and Extensions

R. INGLEBY SMITH, Architect

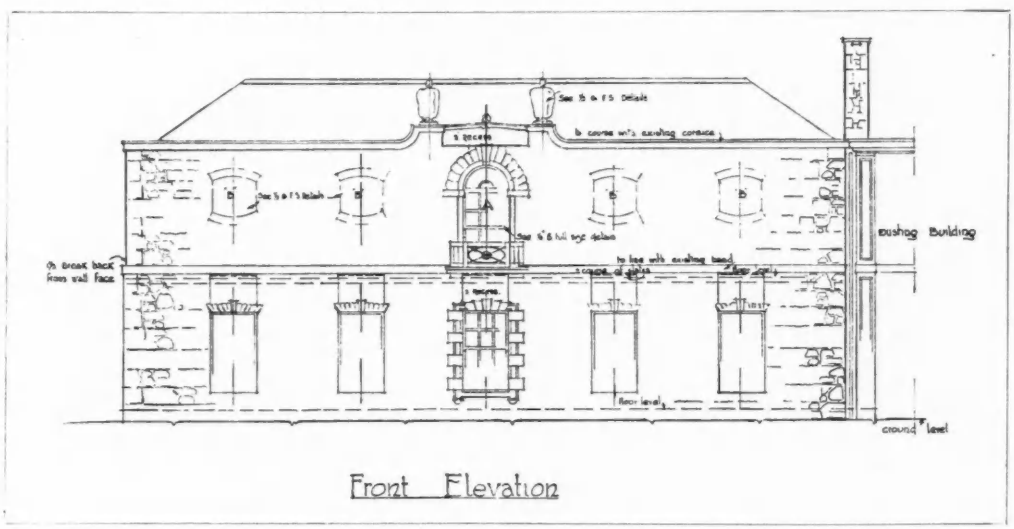
THE Ministry of Agriculture, Northern Ireland, being desirous of increasing the facilities for scientific agricultural training, instructed the architect to prepare designs for certain extensions to Greenmount Agricultural College, County Antrim, Northern Ireland. The work consisted of :—

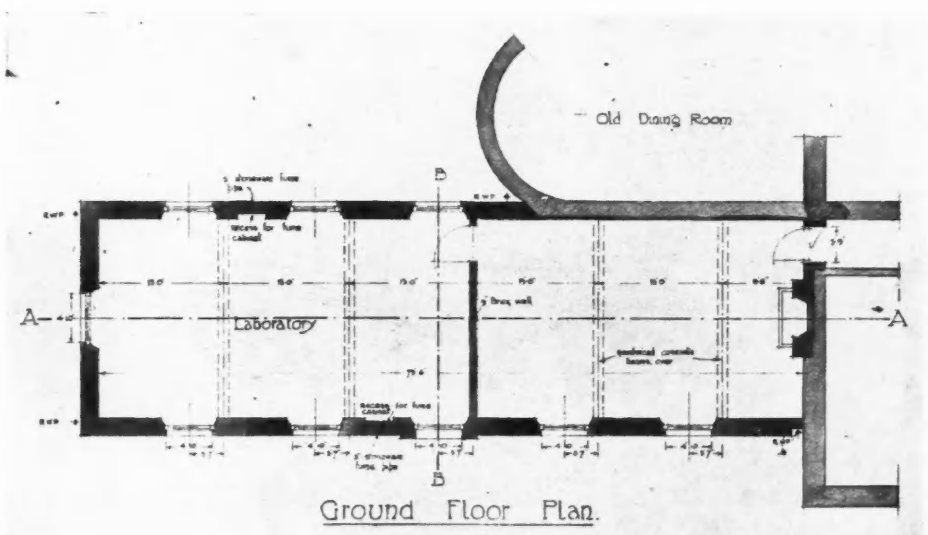
1. Extension to the existing school buildings, to give additional laboratory space on ground floor, together with a large new dormitory above.
2. A new house for the principal.
3. Cottages for gardener instructor and the farm foreman.
4. New drainage system with septic tank disposal.
5. New byres, tool-sheds, potting-sheds, and reinforced concrete silo.
6. New water supply.
7. Self-contained electric lighting plant.

An illustration is given showing the extension to the school building, with a detail of the central feature. The Ministry of Agriculture stipulated that the windows of the dormitory on the first floor should be at such a height from the ground floor that the spacing of the beds would not be dependent upon the window spacing.

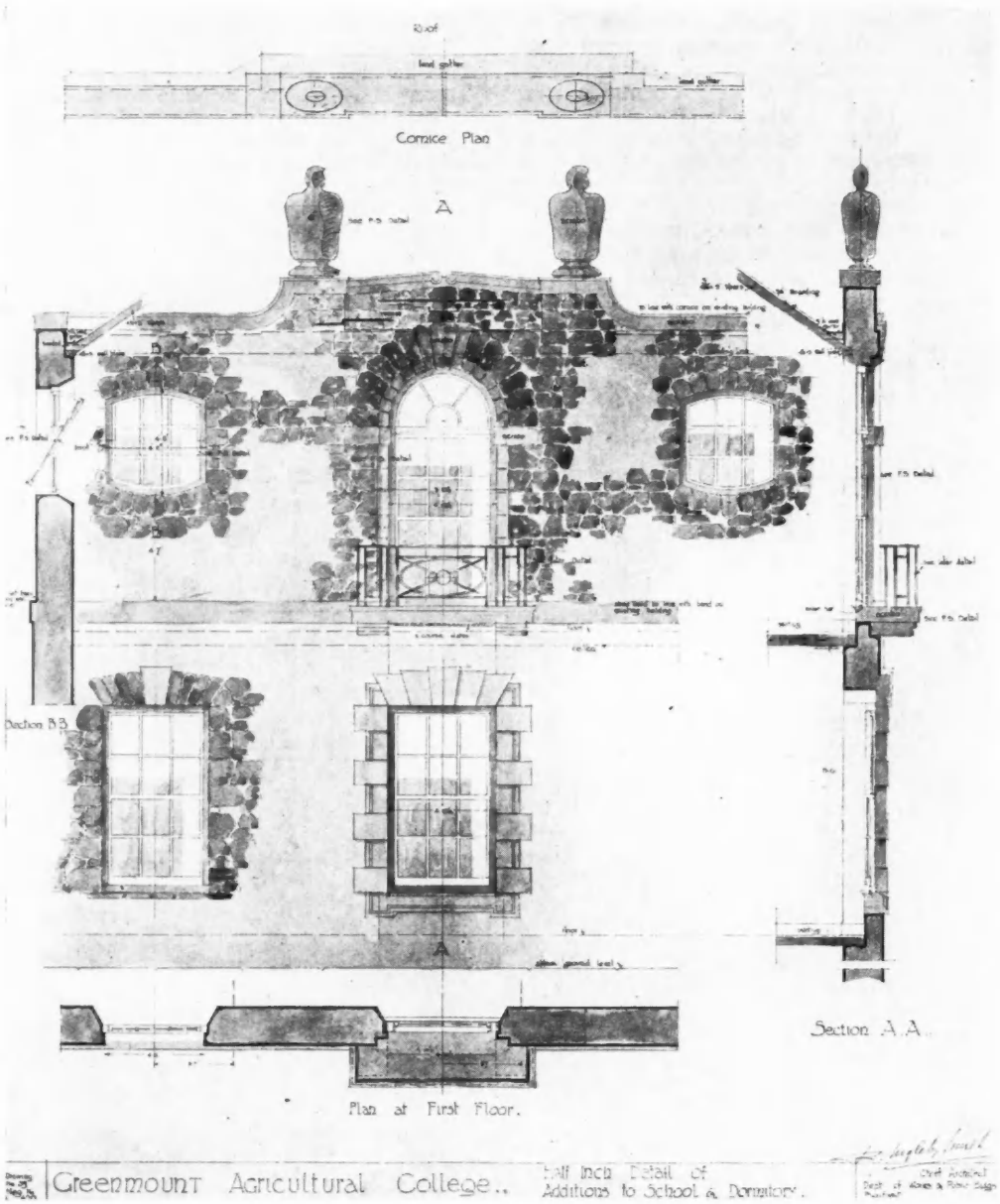
The cottages, though differing in accommodation, were made to show a balanced elevation towards the lane, forming two lodges to the entrance drive.

The whole of the works were executed in local basalt stone in rubble walling, with cut stone dressings of local sandstone. Roofs were covered with Westmorland green

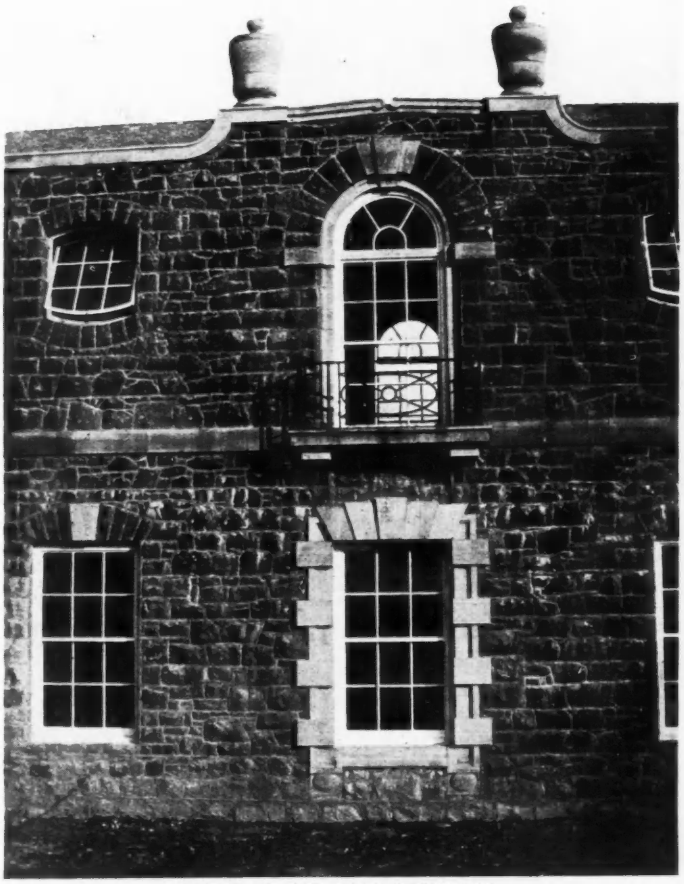




THE ADDITIONS TO THE SCHOOL.



GREENMOUNT AGRICULTURAL COLLEGE: DETAIL OF ADDITIONS TO SCHOOL AND DORMITORY.
R. INGLEBY SMITH, ARCHITECT.

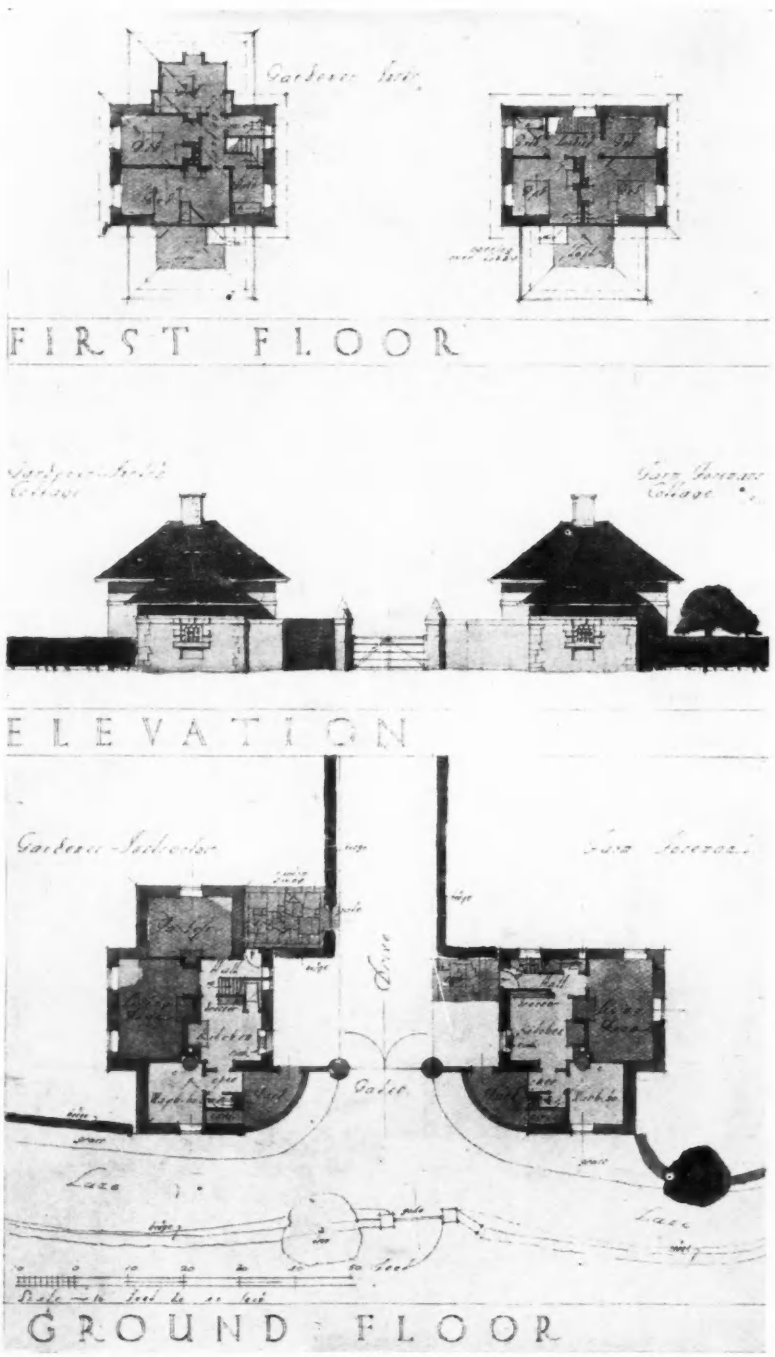


DETAIL OF THE CENTRE WINDOWS.

THE NEW LABORATORIES AND DORMITORIES.

GREENMOUNT AGRICULTURAL COLLEGE: ADDITIONS TO SCHOOL AND DORMITORIES.

R. INGLEBY SMITH, ARCHITECT.



GREENMOUNT AGRICULTURAL COLLEGE: GARDENER-INSTRUCTOR'S COTTAGE AND FARM-FOREMAN'S COTTAGE.
R. INGLEBY SMITH, ARCHITECT

THE GARDENER-INSTRUCTOR'S COTTAGE.

THE FARM FOREMAN'S COTTAGE.

GREENMOUNT AGRICULTURAL COLLEGE. R. INGLEBY SMITH, ARCHITECT.

GREENMOUNT AGRICULTURAL COLLEGE: THE PRINCIPAL'S HOUSE.
R. INGLEBY SMITH, ARCHITECT.

THE PRINCIPAL'S HOUSE

slates. The sites all being in an elevated park-like country, simplicity and severity, with a due regard to resistance to heavy weather, had to be borne in mind.

The contractors for the works illustrated were Messrs. T. McKee and Sons, of Belfast, the architect being Mr. R. Ingleby Smith, O.B.E., F.S.I., M.R.San.I., chief architect to the Government of Northern Ireland, Belfast.

Correspondence

Art in Industry

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—The analogy you draw between women's fashions and furniture is scarcely apposite. Women dress as they do because they would rather be dead than unfashionable. Men do the same, though to a far less degree, and also, perhaps, because, as Jerome K. Jerome says, it is a tonic "to put on a new suit, walk down Bond Street, and give the girls a treat." There is a temptation, a rivalry, and a challenge about one's clothes, but furniture has a morality of its own. New garments lure one out. Good furniture keeps one at home. We may all deplore the lack of enterprise in modern furniture designs, but we must remember that there are certain traditional lines from which it is dangerous to stray too far. I believe a chair, for instance, was originally intended to reflect the figure of a woman, the highest example of form-beauty, but to-day, in striving for some novelty we see chairs with parallelograms fitted in the back, and hard rectangular or Cubist designs on which only a Robot could really be happy. You have apparently forgotten that whilst men and women display with pride the latest creation in garments, it is their oldest piece of furniture which they exhibit, and although they may possess a beautiful piece of modern furniture of exquisite workmanship and design, they still give their antiques pride of place.

I can, of course, only express my own views, and am unable to convey a unanimous or majority opinion of my manufacturing members.

Many of them may be in accord with you as to the desirability of breaking away from tradition, and alternatively they may not. But I do believe they would generally be in agreement on the following points, viz. :—

1. Manufacturers do and will continue to produce novel furniture designs for public consumption.

2. But their customers are not the public *directly*.

3. Their natural customers are the well-informed buyers in the large retail establishments, who from constant contact with the public are, after all, in the best position to gauge the common taste.

4. These buyers are expected to make their departments pay, and if the piece of furniture is not a "commercial proposition," i.e. not readily saleable, neither you nor I nor anyone else can make them display it.

5. That is our real problem.

A. WARNE-BROWNE.

General Secretary, The National Federation of the Furniture Trades, 11 Tavistock Square.

Registration and Chief Assistants

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—In THE ARCHITECTS' JOURNAL of October 28, your correspondent "Equity" asks: "What is the position of chief assistants" who are unattached to a professional body? May I reply that the position is very serious, but far from being hopeless, as his letter would suggest. There remains for his protection, and the protection of all chief

assistants, membership of the Association of Architects, Surveyors, and Technical Assistants. Not only is this association in a position to protect his interests under any scheme of registration, but in the many disadvantageous circumstances surrounding the individual salaried architect, such membership will give him the help and assistance of the majority of his fellow assistants. No matter whether it be low salaries, unfair professional competition for appointments, breaches of contract or wrongful dismissal, or protection from the effects of overcrowding and casual employment, he will find the will and the power to overcome these difficulties by becoming a member. Through the association's architectural group he will be officially represented on the Council of the R.I.B.A. Membership is open to all assistants who satisfy the Council of the A.A.S.T.A. that they are bona-fide assistant architects.

It is the duty of every assistant to belong to a professional organization, and if "Equity" and those in a similar plight continue to feel neglected, then they can blame no one but themselves.

JOHN MITCHELL,
General Secretary, Association of Architects, Surveyors, and Technical Assistants.

November 3, 1925.

Surveying a Factory Site

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—The following errors have unfortunately crept into my second surveying article, and I shall be greatly obliged if you will kindly publish a list of corrections. The errors in the diagrams are the printer's; those on page 701 are, I regret to say, my own.

Fig. 1. Ref. letter E omitted.
Fig. 5. Column headed "Number"—8 should read 1.
,, ,, "Line"—BC should read CB.
,, ,, "Foresight"—1·01 should read −1·01.
,, ,, "Reduced Level"—There should be a dash opposite each backsight, except the first.
,, ,, "Distance"—70′ 0″ should be on the next line down.
,, ,, "Between"—B & 7 should read B & 6.
B & 8 ,, ,, B & 7.
E & 8 ,, ,, E & 7, and be on the next line down.

Page 701, left-hand column—7 should read 6; 8 should read 7.

WILLIAM WOOD.

War Memorial, St. Catherine's Church, Liverpool

The memorial illustrated on the facing page, has been recently erected in St. Catherine's Church, Liverpool. It was designed by Mr. Gordon Hemm, architect, of Liverpool, and the sculptured group was executed by Mr. Charles J. Allen, R.B.S., also of the same city.

The design is strong and sober in feeling, devoid of superfluous ornamentation, and is in character with the restrained architecture of the classic interior. The simple pedestal which centralizes the design is crowned with two bronze soldiers, i.e. an officer and a private. The officer is in the act of succouring the wounded private on the field of battle, having one hand round the wounded man's shoulder, and in the other a revolver will be seen.

The screen treatment on each side of the central feature embodies a small entablature, on the frieze of which are appropriate inscriptions.

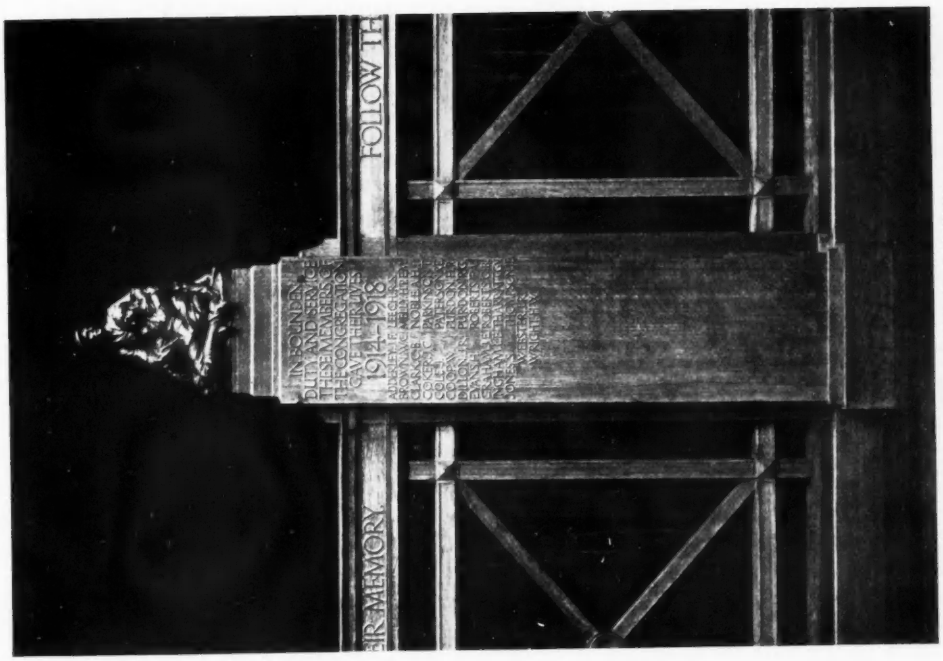
The material used is the finest oak, which has been fumed to tone with the existing woodwork of the church.

The names of the fallen are carved out of the front of the pedestal, projecting slightly from the face, and are arranged in two columns, with the main inscription above placed in larger type lettering.

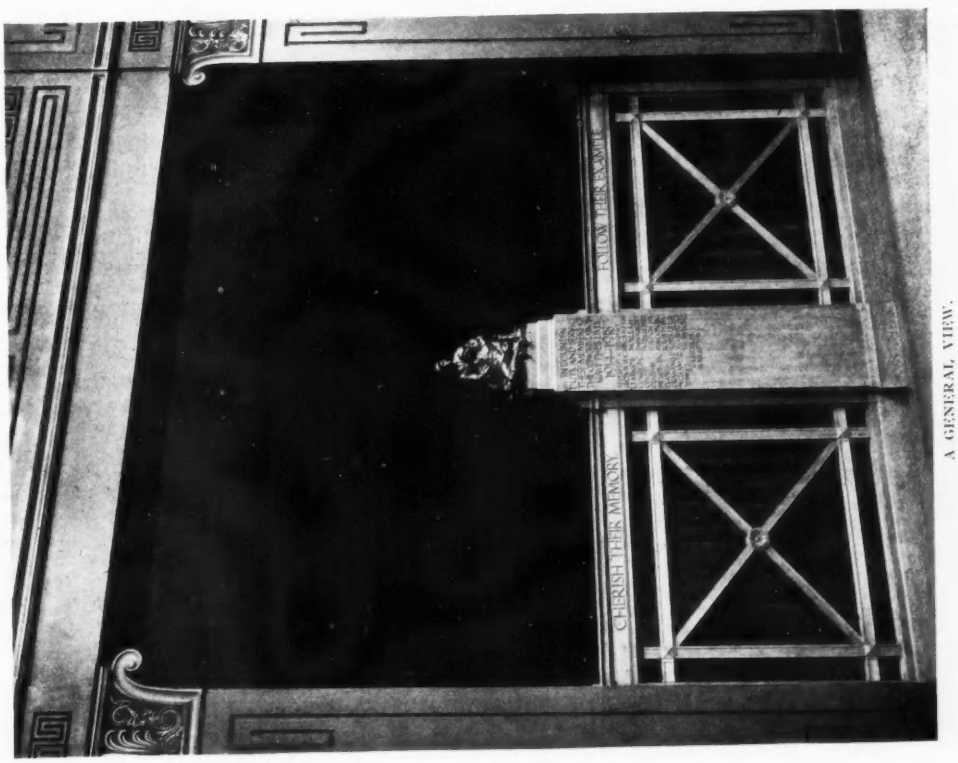
The Liverpool Gas Company Memorial, Liverpool

This memorial takes the form of a bronze and stone tablet, treated in a simple manner. Above the panel recording the names of the fallen a niche has been designed, containing the two bronze soldiers, an exact replica of the subject which crowns the pedestal of St. Catherine's Church Memorial, Liverpool. The stonework has been imported from France, being light grey with warm browns in places. The memorial fits in between a stone architrave treatment of two doors, which helps to frame-in the design. Mr. Charles J. Allen, sculptor, was associated with Mr. Gordon Hemm, architect, in designing the work.

THE LIVERPOOL GAS COMPANY MEMORIAL.



DETAIL OF CENTRAL PEDESTAL.



A GENERAL VIEW.

WAR MEMORIAL, ST. CATHERINE'S CHURCH, LIVERPOOL. GORDON HEMM, ARCHITECT; CHARLES J. ALLEN, R.B.S., SCULPTOR.

The Alteration of a House in New Zealand

W. GRAY YOUNG, F.N.Z.I.A., Architect

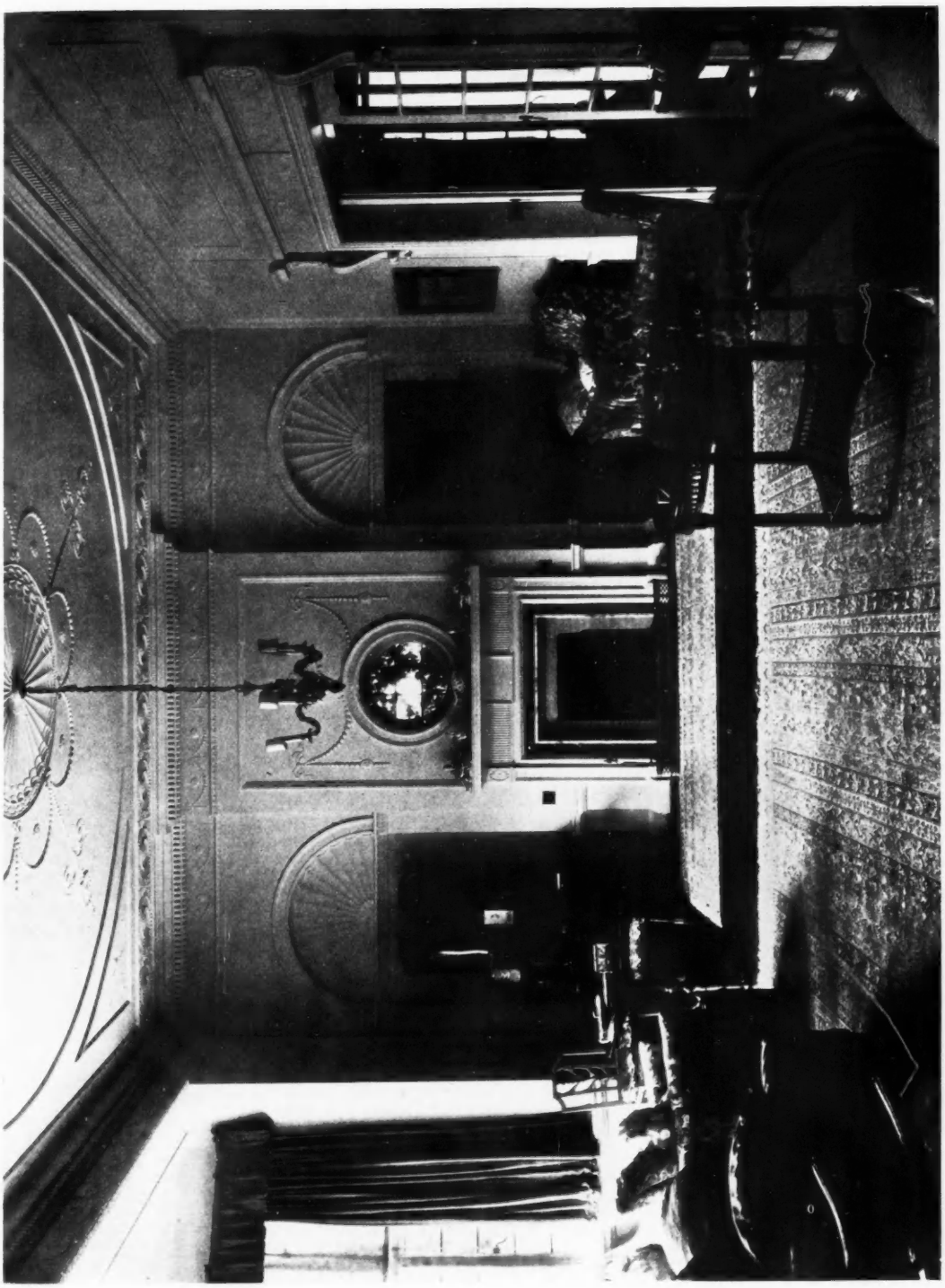
THIS house is situated at Featherston, New Zealand. It was originally of the battlemented type, and had pressed-brick walls and cement quoins. The alterations and additions were designed to cover as far as possible the site of the existing building, and the old walls were covered with rough-cast to agree with the new work. The only portion of the old building showing on the main front is between the two gables behind the balcony and veranda.

The interior of the house was re-designed, and a new staircase built. The hall, vestibule, and staircase hall are finished with wood panelling, and the remainder of the rooms are plastered, the dining-room and the drawing-room being panelled in plaster.

"Longwood," Featherston, New Zealand

W. Gray Young, F.N.Z.I.A., Architect

The Main Front.



"LONGWOOD," FEATHERSTON, NEW ZEALAND: THE DRAWING-ROOM. W. GRAY YOUNG, F.N.Z.I.A., ARCHITECT.

The Society of Architects, Singapore

THE most recent society to be affiliated to the Royal Institute is that of Singapore, the much-talked of island of the Straits Settlements. The fierce light of Press criticism beats on the town of Singapore. It is fiercer than the tempered rays of the tropical sun in which Singapore basks, but perhaps less illuminating. There is no doubt that the island is achieving an importance apart from its significance in naval strategy, which is occasioned by its peculiar geographical position.

This growing importance of Singapore is exemplified in its architectural development and the advance of its building industry. Building has progressed apace since the war, and the recent decision of the British Government to make Singapore a naval base will undoubtedly stimulate the building industry, and also the profession of architecture in the colony. Singapore is yet another of the outlying British possessions whose whereabouts are little known at home.

The Island of Singapore is comprised within the group of the Straits Settlements. There are also the colonies of Penang (including Province Wellesley and the Dindings), Malacca, and Labuan. They are quite distinctive in government from the Federated Malay States, although adjacent to them.

The population of the colony is 417,859, which is made up of representatives of practically every nationality. The Europeans include British, French, Dutch, and, before the war, Germans. There are also Americans, and a large colony of Eurasians, Chinese, Malays, Japanese, Tamils, and several of the native castes of India. The Chinese form the bulk of the working population of the island, the Malays being content to allow them to be so.

CAPTAIN S. D. MEADOWS, PRESIDENT, SINGAPORE SOCIETY OF ARCHITECTS.

The Island of Singapore was obtained by treaty from the Malay ruler of Jahore by Sir Stamford Raffles, in 1819. He it was who first recognized the strategic importance of the island, which now, after one hundred years, will soon become our stronghold in Eastern waters.

The natural products of the island are rubber and tin, in which there is great speculation and not a little industry.

The colony has enjoyed a peaceful prosperity during the régime of British government, with the exception of a brief period during the Great War, when, in 1915, a mutiny occurred of one of the native Indian regiments garrisoned in the town. This, however, was soon quelled, but with the loss of fourteen European lives; the rebellion did not spread, and many of the interned Germans, in whose aid it was planned, refused to escape when the opportunity offered.

With the return of peace, there has been considerable building activity, and when more normal conditions are reached, and markets are more staple, it is anticipated that the town of Singapore will assume a more modern appearance. At present the buildings are mean, and exhibit little architectural treatment. Many improvements are contemplated, the chief being the inauguration of an adequate water supply and an up-to-date sewerage system. Given these, Singapore should be one of the finest and healthiest cities east of Suez. At present the town is poorly sewered, and there is a good, but insufficient, water supply.

The town has not been designed on any recognized town-planning lines, and there is frightful congestion in some of the native quarters, but a Town Planning Bill is now before Government, and a scheme in course of preparation. This should go far to improve prevailing conditions, and should reduce the rather high death-rate.

There are several low hills around Singapore, the highest of which is 519 ft., and those which have not been commandeered as Chinese cemeteries are generally used as sites for European houses. The latter are built, as a rule, with large open verandas, large lofty rooms, and without any glass in the windows. This allows free circulation of air in the houses, which is so important a factor to the health and comfort of the European.

The nights are cool and beautiful, and the day temperature rarely rises above 83 deg. or 84 deg. The atmosphere is, however, somewhat humid and enervating, and there are heavy rains to be considered in the design of buildings.

The style of the residences and buildings generally is improving, and with the influx of more modern ideas into the colony since the termination of the war, it is anticipated that the art of architecture will advance, and that future buildings will be erected in conformity with the best traditions and modern ideas. To ensure this, and to assist in its realization, the Society of Architects has been formed, under the distinguished patronage of H.E. the Governor of the Straits Settlements, Sir Laurence Guillimard, K.C.M.G., K.C.B., with the colonial engineer and other important officials as honorary members. The first president of the society is Captain S. Douglas Meadows, A.R.I.B.A., chief architect to the municipality, who was formerly superintending architect to the Ministry of Agriculture and Fisheries, London. The hon. secretary is Mr. H. Donnington Ward, A.R.I.B.A., architect, P.W.D., Singapore.

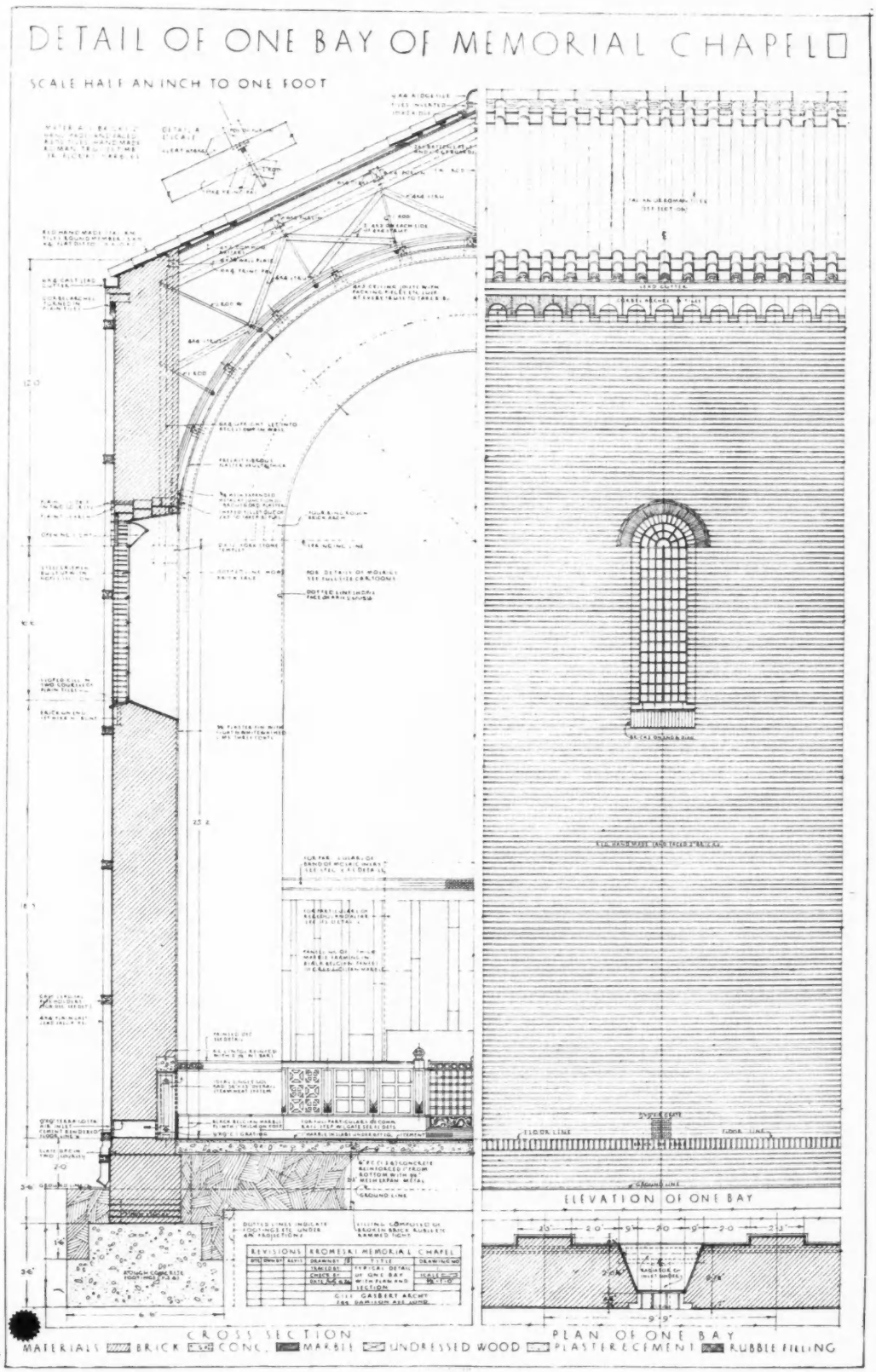
The society, which includes every local architect of repute, is now affiliated to the Royal Institute of British Architects, which has welcomed this important new centre of architectural interest.

The Malayan pavilion was a feature of the British Empire Exhibition at Wembley, and the exhibits displayed there gave some indication of the life and industries of this now important outpost of Empire.

Memorial Pulpit, Hillhead Parish Church, Glasgow

Hutton and Taylor, Architects

The pulpit was erected as a memorial to the late Dr. Strong, D.D.



THE R.I.B.A. ARCHIBALD DAWNAY SCHOLARSHIP OF £75. FIRST PREMIATED DESIGN BY J. BREAKWELL.

(See note on page 740.)

Shear Members in Reinforced Concrete—I

By PROFESSOR HENRY ADAMS, M.Inst.C.E., F.R.I.B.A., Etc.

UNDER the London County Council (General Powers) Act, 1909, Section 23, the London County Council were empowered to make regulations with respect to the construction of buildings wholly or partly of reinforced concrete. These regulations were duly made and published, commonly called the "Reinforced Concrete Regulations."

By section 42 (*a*) shearing stress for concrete 1 : 2 : 4 (V=6) is 60 lb. sq. in.; for 1·2 : 2 : 4 (V=5) 65 lb. sq. in.; for 1·5 : 2 : 4 (V=4) 70 lb. sq. in.; for 2 : 2 : 4 (V=3) 75 lb. sq. in. The proportion of 1 : 2 : 4 at 60 lb. sq. in. is generally used. These shearing stresses are based upon 90—5V, and this formula may be applied to any intermediate proportions. V = the volume of the sand plus that of the coarse material, per volume of cement, each measured separately and including the voids proper to each material.

The sections dealing specially with shear or web reinforcement are Nos. 64 to 69, as follows :

64. The vertical shear taken by the concrete only shall be calculated on the compressed area of the web or on the web area for a depth equal to the arm of the resistance moment of the beam. The intensity of the shearing stress shall not be greater than the values given in regulation 42 (see paragraph above).

65. Where the vertical shear is taken by the concrete only, in accordance with regulation 64, the ends of 50 per cent. of the bars of the tensile reinforcement shall be inclined across the neutral plane of the beam, and shall be carried through a depth equal to the arm of the resistance moment, or the whole of the bars shall be carried through to the ends of the beam. (See regulations 87c and 88c.)

66. If the shearing stress at any cross-section, calculated on the concrete alone, is in excess of the permissible shearing stress, the whole shear shall be provided for by the tensile resistance of the shear or web reinforcement acting in conjunction with the compressive stresses in the web, but in no case shall the ratio $\frac{S}{b_r d}$ exceed three times the shearing stress given in regulation 42a, where b_r = mean breadth of the rib of a tee-beam or the breadth of a rectangular beam; d = effective depth of the beam; S = total vertical shearing force at any cross-section.

67. Shear or web reinforcement shall—

(*a*) Be spaced according to the distribution and intensity of the shearing stress, but the distance from centre to centre of the shear or web members at any part of the beam shall not exceed a length equal to the arm of the resistance moment.

(*b*) At least extend from the centre of the tensile reinforcement to the centre of pressure in the concrete under compression.

(*c*) Be passed under or round the tensile reinforcement or be otherwise secured thereto.

(*d*) Be hooked at both ends, in the same manner as for tensile reinforcement, or equally effectively anchored.

68. Tensile reinforcement which is inclined across the neutral plane of a beam, and which is carried through a depth equal to the arm of the resistance moment, may be taken as shear or web reinforcement.

69. The shear or web reinforcement may be regarded as anchors under the regulations 61 and 62, provided it complies therewith.

Section 84 is: "The minimum breadth of rib of a tee or ell beam shall not be less than one-third of the depth of the rib below the slab."

Section 87 is for slabs, rectangular beams, and tee beams reinforced in tension only when the neutral axis is within the slab :

87 (*a*). $n=[\sqrt{(m^2r^2+2mr)}-mr]\,d$.

87 (*c*). The arm of the resistance moment shall be obtained from the equation :

$a = d - \frac{n}{3}$, or approximately, for tee beams, $a = d - \frac{d_s}{3}$.

Section 88 (*c*) is for tee beams reinforced in tension only when the neutral axis intersects the rib, i.e. tee beams in which r is greater than $\frac{S_1^2}{2m(1-S_1)}$, where $r = \frac{A_s}{bd}$ and $S_1 = \frac{d_s}{d}$, bd being full rectangle occupied by tee beam.

88 (*c*) The arm of the resistance moment = a where $a = d\left[1 - \frac{S_1}{3}\left(\frac{3n^1 - 2S_1}{2n^1 - S_1}\right)\right]$, where $n^1 = \frac{n}{d}$,

or approximately $a = d - \frac{d_s}{2}$.

From the above it will be seen that :

(1) If the concrete included in the arm of the resistance moment is sufficient to meet the maximum shearing force at 60 lb. sq. in., no shear reinforcement is necessary, but if not sufficient then the whole of the shearing force must be provided for by reinforcement.

(2) When shear reinforcement is used the members must not be further apart than the length of the arm of the resistance moment. This regulation seems to overlook the fact that the shear towards the centre of the span is very much reduced, so much so that many designers leave the middle third of the span clear and nearly all leave the middle fourth clear.

The L.C.C. regulations do not make any reference to the angle of the shear stirrups whether vertical or inclined.

The difference between the bending moment at any two points at nearly adjacent parts of a beam, divided by the lever arm of the resistance moment gives the horizontal shear on that portion. The vertical shear at any section is equal to the horizontal shear. Then the sectional area of the shear members for this portion multiplied by the working stress on steel in shear must equal this amount when the stirrups are vertical or $A = \frac{B - B^1}{fa}$. Where they are inclined at an angle 45 degrees to the horizontal we shall have $A = \cdot 707\left(\frac{B-B^1}{fa}\right)$, and when inclined at 60 degrees $A = \cdot 866\left(\frac{B-B^1}{fa}\right)$. The safe working shear stress on steel (f) is variously taken as 12,800 lb. sq. in. (Marsh and Dunn), 12,000 lb. sq. in. (Adams), 8,000 lb. sq. in (Andrews).

Let B = minimum bending moment under uniformly distributed load then at any distance x from the centre of support the bending moment will be $\frac{4\,Bx\,(l-x)}{l^2}$, l being span in inches; or it may be scaled from a bending moment diagram. Taking x and x^1 at the two extremities of one of the divisions we shall have the shear

$$S = \frac{4B\,[x\,(l-x) \sim x^1\,(l-x^1)]}{l^2\,fa}$$

If we set off a parabola on the effective span of a beam with a height equal to as many $\frac{1}{4}$ inches as we wish to have positions for shear members in the half span + 1 for end space, and draw horizontal lines from each of these $\frac{1}{4}$ inches in height to cut the parabola, the intersections will give the positions of the shear members. Thus, for seven positions in the half-span we have Fig. 1 with eight divisions. The advantage of thus using a parabola is that the spacing

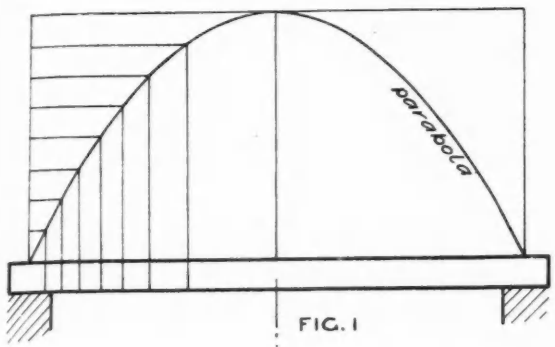


FIG. 1

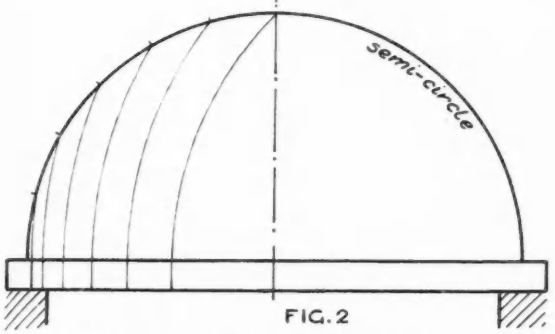


FIG. 2

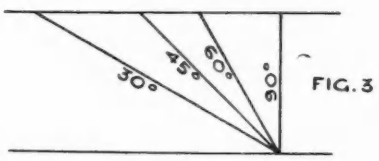


FIG. 3

increases as the shear reduces so that a uniform section can be retained for the shear members throughout. A usual number of divisions for positions of shear stirrups is $\frac{1}{2}$ span in feet.

Another method of finding the position of shear members is to take equal divisions on a semicircle, and from one end of diameter strike arcs from these points to meet the diameter as in Fig. 2.

Another method of finding position of shear members is as follows :

Number of stirrups each end $= \frac{1}{2}$ span ft. $= n$

Space occupied by stirrups = approx. $\frac{2}{3}$ of each $\frac{1}{2}$ span $= s$.

Continuous beam the same.

First space, say, 2 in. $= a$.

$$\text{Common difference in spacing} = \frac{s - na}{n\left(\frac{n-1}{2}\right)} = d.$$

Say, 20 ft. span, $n = 10$, $s = 80$ in., $a = 2$

$$d = \frac{80 - 10 \times 2}{10\left(\frac{10 - 1}{2}\right)} = \frac{60}{45} = 1\tfrac{1}{3} \text{ in., say } 1\tfrac{1}{2} \text{ in.}$$

Then consecutive spacing from end will be

2, $3\frac{1}{2}$, 5, $6\frac{1}{2}$, 8, $9\frac{1}{2}$, 11, $12\frac{1}{2}$, 14, $15\frac{1}{2}$

and continuous spacing

2, $5\frac{1}{2}$, $10\frac{1}{2}$, 17, 25, $34\frac{1}{2}$, $45\frac{1}{2}$, 58, 72, $87\frac{1}{2}$.

The relative position of the stirrups when vertical or inclined would be as in Fig. 3. They should grip the longitudinal reinforcement and terminate at the top of the lever arm. Vertical shear stirrups must be rigidly connected to longitudinal bars to resist horizontal shear. Inclined shear stirrups being in the plane of mean shear will be sufficiently connected if merely twisted round the bars. With inclined stirrups care must be taken that the concrete is packed close underneath as well as on top of them.

(To be continued.)

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 must be clearly drawn and lettered and inked in.

NOISY WASTE-PIPES.

"Subscriber" writes : "In altering a house it is desired to discharge the waste-pipes from two baths, two lavatory basins, and one sink over the open channel of a gulley. This gulley is almost immediately under one of the windows to the principal bedroom, and it is necessary to prevent the noise of the discharge from being heard in this room. Are there any methods which may be employed to silence the wastes from baths, sinks, etc.? The usual practice in this district is for the lead waste-pipes from the bath and the lavatory basin to be discharged over an open cast-iron hopper head, and the water is then conveyed to the channel of gulley by a 2 in. cast-iron pipe."

—Some degree of noise must accompany the discharge of water in the open air, but it can be very considerably deadened if the rate of discharge is regulated at the plug of the fitting. An annular washer reducing the size of the plughole in bath, sink, or lavatory will reduce the noise at a cost of reduction in speed of emptying the fitting. A very fine metal or wire gauze grid fitted in the plughole is still more effective. Noise produced outside the building has also to be dealt with, and may be dismissed by taking the foot of each waste-pipe into actual contact with the surface of the side of the hopper or channel into which it is to discharge. If the pipes are already erected in position with their feet some inches away from the hoppers or channels, they may be provided with short lengths of indiarubber hosepipe to bridge this distance. The water must be made to discharge along the surface of the hopper or channel, and if the lead-wastes are long enough they may be dressed into position. Failing this the new indiarubber feet can be held in position with stout copper wire. In districts where side inlets to gulleys are permitted these should be installed, as they reduce the tendency to splash.

Alternately the gulley may be dispensed with and taken directly into a drain, provided that each fitting is properly trapped, and that each trap is adequately ventilated by means of pipes provided for that purpose.

The sanitary authorities of the district have the power to approve or disapprove of these alternative methods, and they should be consulted before any expense is incurred.

W. H.

SEPTIC TANK OR CESSPOOL.

"F. L." writes : "In your issue for October 1, 1924, you described the construction of a septic tank for five persons. What should be the sizes of the tank and of the filter for a system for a house of ten bedrooms (three double rooms) using between 200 and 250 gallons of water per diem ? Under the heading 'Minimum safe distance' you refer to flies, and the smell as if the latter were a necessary evil. If this is so, why is such a plant installed ? Surely the old cesspool with all its disadvantages would be preferable."

—To provide for the disposal of sewage from a house with ten bedrooms and a flow of 250 gallons daily, the cubic capacity of the septic tank illustrated in THE ARCHITECTS' JOURNAL

for October 1, 1924, should be doubled, and the filter-bed enlarged to contain one cubic yard of clinker per person.

The underwater dimensions of the tank would be about 6 ft. by 3 ft. 9 in. by 5 ft. deep, and the filter-bed about 6 ft. by 15 ft. by 3 ft. deep. The drawing and specification were expressly made for a small household where no skilled labour would be available, and where the fool-proof tilting-hopper and channels would be suitable.

With a larger house, where skilled attention would be provided to oil and clean the mechanism, it would be advisable to install a self-actuating revolving distributor in connection with a circular filter-bed instead of the tilting-hopper and channels. As to the nuisance arising from flies and smell the relative value of cesspool and septic tank may be summed up as follows:

(*a*) An impervious cesspool, as specified by the printed by-laws of most country districts, is less expensive to build than a septic tank, but it is ruinously costly to empty and clean.

It has a tendency to cause a nuisance by flooding when the cesspool is not emptied promptly, and the smell during the processes of emptying and depositing the contents on the land is a highly objectionable feature of the ordinary cesspool in practice.

The smell of sewer-gas from the cesspool ventilator is also a constant nuisance. The contents of the cesspool are highly poisonous, and must be kept away from sources of drinking-water supply.

(*b*) A septic tank is a cesspool provided with a filter-bed for purifying the tank liquid and rendering it less dangerous to the community. Nuisance by flooding in the house drain is not likely to occur, for a fall has to be provided between the outlet from the tank to the outlet of the filter-bed, but means must be found for disposing of the partially purified liquid.

This is not nearly so offensive as the unfiltered product of the cesspool, and is not so costly to dispose of since it may be freely used in gardening or, if filtered to a suitable degree of purity, it may be allowed to run into water-courses where the final stage of its purification is achieved by dilution and aeration.

Although the final effluent from the filter-bed may be comparatively inoffensive, the tank liquid, which flows into the distributor, is highly poisonous, and where the filter-bed is open to the air the odour constitutes a nuisance. Flies abound on filter-beds and upon the scum of open septic tanks, and fly-proof covers should be provided.

(*c*) Properly arranged leaching cesspools provided with underground filters or leaching pits are far less offensive in regard to flies and smell than either septic tanks or ordinary cesspools built in accordance with the by-laws, but the underground filtration carried out without light and air is imperfect, and the subsoil is admittedly contaminated. The use of leaching cesspools is only permitted as an act of grace in districts possessing a permanently porous subsoil.

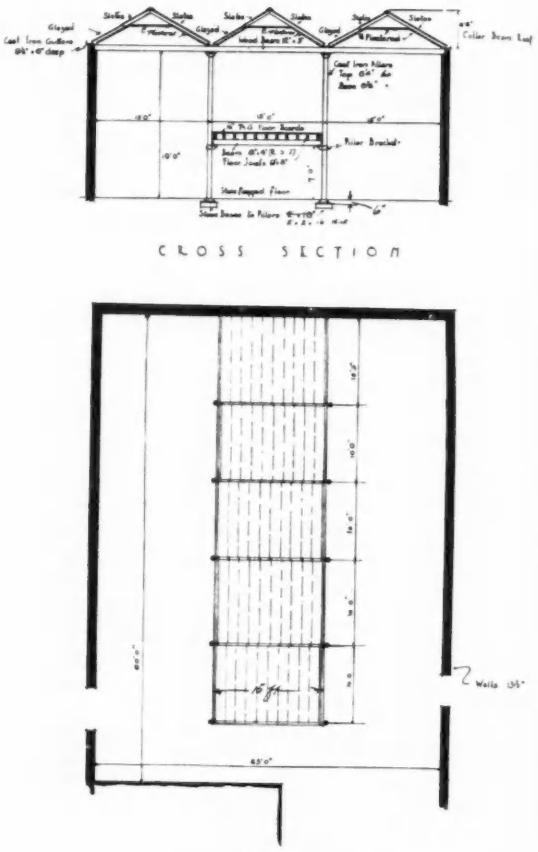
The subject of country methods of sewage disposal is dealt with in my book, "Modern Building Practice," The Architectural Press, 5s. net.

W. H.

THE ERECTION OF A STAGE.

"F." writes: "The accompanying sketch shows a stage proposed to be erected in a works building. The cast-iron pillars are not fixed to the base stone, but simply bear upon it; the top of the base stone being 6 in. below the flag floor. It is proposed to carry the stage on pillar brackets, as shown, clamped by bolts to the pillar, at a height of 7 ft. The stage will have to carry a load of 20–25 tons, fairly equally distributed over the whole stage area. Do you regard this proposal as satisfactory, or can you suggest a better method? I am of the opinion that the stage should be erected independently of the pillars."

—The proposal to carry the new stage as described and drawn is open to the objection that it will place an eccentric load upon each pillar. These are already slender in proportion to their height, and not being fixed at the base, are not well adapted to receive loads of this character. Cast-iron is less suited than mild steel to resist tensional stresses which would be set up in the outer particles of each pillar on its side remote from the point of application of the load. The scheme might be revised to apply the new loads symmetrically upon the pillars by means of double-ended brackets projecting upon both sides of each pillar. Upon these brackets rolled-steel girders would be supported to act as stringers in the direction of the length of the works, and upon these stringers the floor beams would be carried in pairs, one beam on each side of every pillar. Across these pairs of beams the floor joists would be laid in the direction already shown on plan. By this revision the pillars would obtain some benefit from the lateral support of the girders to set off against the extra load of the stage, but no accurate statement of probable gain or loss of strength is possible. Unequal loading or heavy impacts upon the new stage would still be liable to communicate shock to the pillars, though this liability would not be so serious as would be the case with the present arrangement of unbalanced single-ended brackets. The danger of dealing with cast-iron is that it may contain latent flaws, and be subjected already to initial stresses produced through unequal cooling in the process of its manufacture. The alternative method of loading suggested above should, therefore, only be applied if the pillars are known to be solid and sound castings, if the bases of the columns can be adequately fixed to solid foundations, and if impacts of heavy moving loads can be avoided in connection with the handling of goods on the new stage. If there is any doubt about one of these points it would be wiser to keep the stage entirely separate from the old columns.



THE ERECTION OF A STAGE.

(See answer to F.)

W. H.

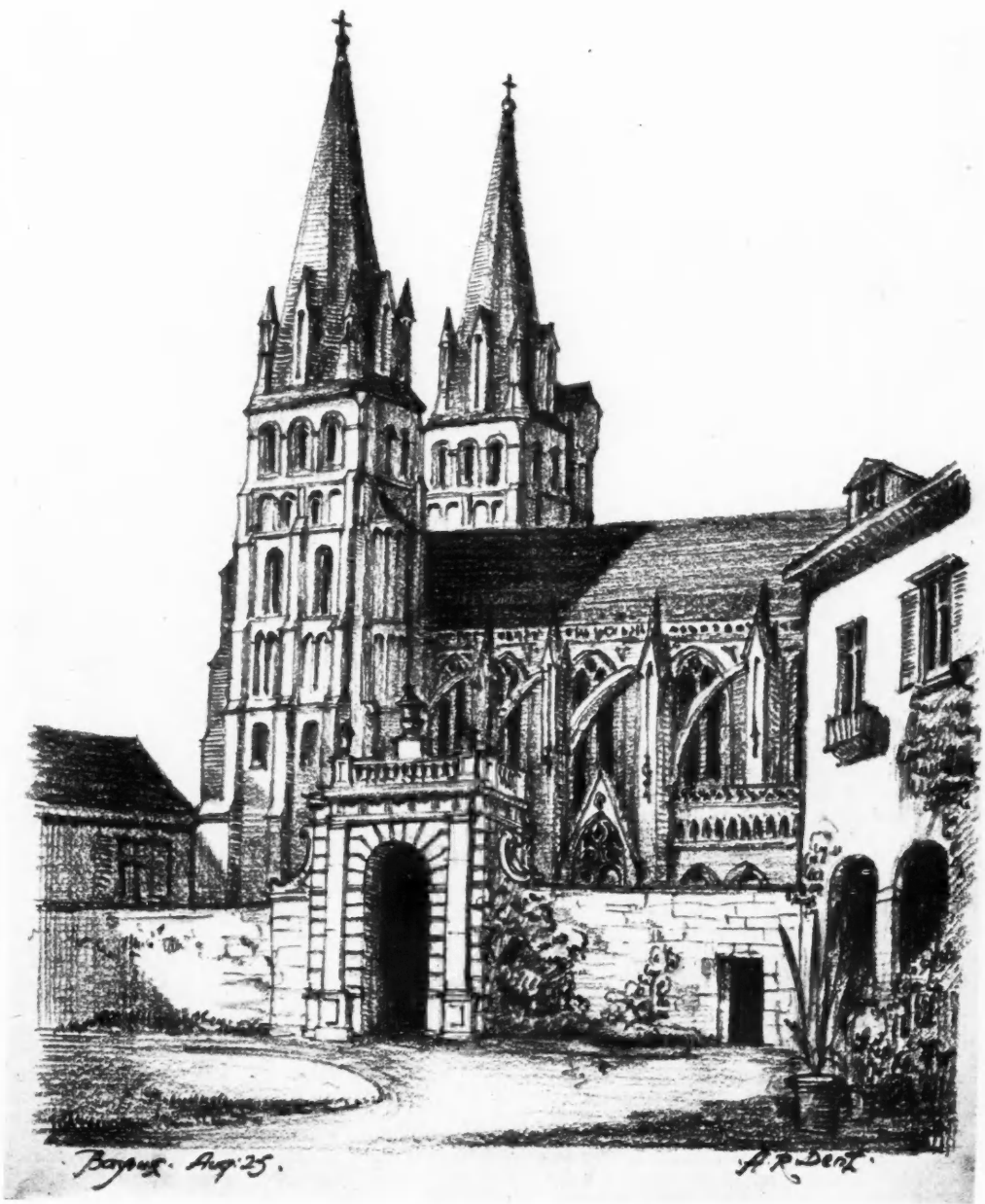
ARCHITECTS' PLANS AND SPECULATIVE BUILDERS.

"H. H." writes: "Has an architect any redress when his plans are copied by speculative builders? I erected a pair of houses under the local Housing Act. The general arrangement took the fancy of a local builder, who actually took measurements of the houses, and has now erected a number to an increased size as a speculation under the Housing Act. The entire features of the houses have been retained, but the area has been increased from 1,000 to 1,250 ft. sq."

—According to English law designs or drawings of an architect are the property of their author or of the client who has paid for their production. It is an actionable wrong to steal, or copy them without permission. The alteration in scale would not absolve the builder. The matter should be placed in the hands of a solicitor.

S. ST. J. S.

Bayeux



(From a Charcoal Drawing by A. R. Dent.)

The Archibald Dawnay Scholarships

The R.I.B.A. Archibald Dawnay scholarships are offered annually by the Royal Institute of British Architects for competition between students of recognized schools, and are intended to foster the study of construction and the logical expression of construction in architectural design.

This year all the scholarships have been awarded to students of the Architectural Association, the awards being as follows :—

The R.I.B.A. Archibald Dawnay Scholarship of £75 for One Year—Mr. J. Breakwell.

The R.I.B.A. Archibald Dawnay Scholarship of £50 for One Year—Mr. W. R. Brinton.

A Special Additional R.I.B.A. Archibald Dawnay Scholarship of £50 for One Year—Mr. R. P. Cummings.

The work of these three students consisted of working drawings based on design-subjects previously set and worked out in the studio as part of the general course, the subjects being: ½ in. detail of memorial chapel (Mr. J. Breakwell); ⅛ in. scale working drawings of cottage for a poultry farmer (Mr. W. R. Brinton); ½ in. detail of centre feature of design for "A School of Music" (Mr. R. P. Cummings). We illustrate Mr. Breakwell's design on page 735.

A.A. Exhibition of Holiday Sketches

One of the charms of the A.A. annual exhibition of holiday sketches is its diversity ; diversity both of subject and of treatment. In the little gallery at Bedford Square the sketches range from seascapes to still-life, from landscapes to genre. Unfortunately there is no catalogue, and as many of the exhibits are unsigned, identification for the purpose of criticism becomes a difficult matter.

Of the water-colours, Mr. Knapp Fisher's are outstanding; they combine softness with precision. For the most part the sketches are not markedly architectural, that is to say, there is little to lead the visitor to conclude that the exhibition as a whole is the work of architects. However, amongst the more distinctly architectural work there are two sketches of the Hardy country by Mr. Percy May, and a delightful drawing—almost Rackhamesque with its touch of grotesqueness—of Devonshire Hill, by Mr. Musman, which are particularly attractive. Mr. Lawrence Dale shows two impressionistic sketches, the one of Venice—is it Venice ? the absence of a catalogue makes for uncertainty—is full of light and colour. Among the pencil sketches the two downland scenes by A. S. K. are vigorous and suggestive. As a whole, the exhibition fails to reach the standard that has been achieved in other years. The fact of the matter is that in these days of time and distance elimination, the camera is ousting the pencil and the brush as holiday companions. It will certainly be lamentable if the younger generation allow the habit of sketching to lapse, and architecture will surely suffer.

Law Reports

Public Health Act—Liability

Harrow U.D.C. v. *Wreathall.*

Chancery Division. Before Mr. Justice Russell.

This action raised a point of liability of the defendant under section 257 of the Public Health Act, 1875, to pay £171 9s. 3d., the sum apportioned to him as a frontager with respect to the making up of Bonnersfield Lane, Harrow.

Mr. Bennett, K.C., for the Council, said if any liability existed it was under the provisions of section 150 of the Act, and the point was whether the lane was, at the time the work was done, a highway repairable by the inhabitants at large. To prove that Bonnersfield Lane was such, defendant must establish that there was a dedication of the road before the Highways Act came into operation on March 20, 1836. Plaintiffs could prove that Lord Northwick was tenant for life of certain land on the south side of the road from 1817 to 1836, and that a rate was levied in respect of the whole road in the year 1852–1853.

After hearing the evidence his lordship granted the plaintiffs the declaration asked for, dismissing the defendant's counter-claim for a declaration that the lane was a public highway. His lordship said that the defendant rightly argued that any dedication must have occurred before March, 1836, when the Highways Act came into operation. He was of opinion that the dedication, if it took place, must have occurred after 1817, the date of the Enclosure Award. It had been established that at intervals the local board did execute some repairs to the lane, and the same was true to a lesser extent of the plaintiff Council, but no repairs had been done by the Council since 1908. The fact that the road authority had spent money on repairs to the road assisted in establishing the fact of dedication, but it was not conclusive. The road authority might have acted wrongly in spending the money, and their acts by themselves would not convert a private road into a public road. The plaintiffs' evidence was to the effect that there could not have been a public highway in Bonnersfield Lane in 1817 because there was no trace of the public highway alleged in the Enclosure Award, and under the Act of 1801 it was the duty of the local authority to set out all highways. A private road in question over the actual site was shown, and plaintiffs had also proved that an owner of property in the lane was assessed for rates in 1851. Notwithstanding the evidence as to repairs, his lordship had no doubt that no highway existed before 1817, and that no dedication did or could have taken place before 1836. That being so, the lane had never become a highway repairable by the inhabitants at large.

User of Land—Question of Acquiescence

Fuller and Wife v. *Dudney.*

King's Bench Division. Before Mr. Justice Finlay.

This was an action by Mr. and Mrs. Fuller, of 14 South Road, Erith, Kent, against Mr. E. Dudney, of 15 South Road, Erith, for an injunction to restrain the defendant from trespassing upon the land adjoining plaintiffs' house, and from pulling down or interfering with the fence erected by the plaintiffs on their land, or in any way interfering with the occupation of the land by the plaintiffs. Plaintiffs also sought for damages.

Plaintiffs held their house and land on a lease, and they alleged that the defendant had entered upon his land on several occasions and pulled down the fence erected by the plaintiffs.

Defendant claimed a right of user across the land, in connection with his market garden in the rear of his premises. He said that therefore the plaintiffs erected a fence. Defendant broke it down as he claimed that he was entitled to a user of the way. Defendant further said that the way was apparent, and that plaintiffs had acquiesced in its user. Defendant counter-claimed for an injunction to restrain the plaintiffs obstructing his user of the land, and for a declaration that he was entitled to a user of the path on the plaintiffs' land.

Plaintiffs, in reply, denied the allegations of the defendant, and maintained that he had wrongly used the land.

His lordship, after hearing the evidence, reserved judgment.

Building—Fall from a Crane

Bordycoat v. *Caswell & Shearing, Ltd.*

Court of Appeal. Before Lords Justices Bankes, Scrutton, and Atkin.

This was an appeal by the defendants, Messrs. Caswell & Shearing, Ltd., contractors, of London Wall, E.C., for a verdict and judgment in favour of Mrs. K. C. Bordycoat, in respect of the death of her husband for £750 damages, who was killed during the erection of Messrs. Woolworth's premises in Oxford Street, in February, 1924. The action was tried in the King's Bench Division by Mr. Justice Finlay and a special jury. Mr. Barrington Ward, K.C., for appellants, said the husband was employed as a signaller to a man who was working a crane, and in order to oil the gib of the crane he was hoisted in a sling. It was alleged that he was taken up at too fast a pace, and that the craneman disregarded a signal. Bordycoat was thrown out of the sling when it reached the top of the crane, and, falling 80 ft., was killed. Respondents' contention was that there was no liability on them because they merely hired the crane to the builders with the workman to work it, and to his negligence, it was alleged, Bordycoat's death was due. He (counsel) submitted that if anyone was liable it was the builders. He further argued, in the alternative, that the doctrine of common employment applied, and that there was no liability on the defendants.

The Court, without calling upon Mr. Thorn Drury, K.C., for the respondents, dismissed the appeal, holding that there was ground upon which the jury would find as they did, and that there was no ground for the Court to interfere with the matter.

Societies and Institutions

Town Planning and Students of Architecture.

On Monday, November 16, at 8 p.m., Dr. Raymond Unwin will deliver a lecture at the R.I.B.A. entitled "The Architect and his City." The main purpose of the lecture is to interest students of architecture in the subjects of town-planning and housing, and it is the special hope of the Council that there will be a large gathering of students from the schools of architecture in the London area. Admission to the meeting will be free, and it is only necessary for those attending to sign their names in the book on arrival.

Restrictions on Tendering.

The R.I.B.A. have sent us the following communication: Several requests having recently been received for advice as to the attitude which should be adopted by an architect when faced with the restriction on tendering which arises from the refusal of contractors to tender in competition with certain "proscribed" firms, the Council of the R.I.B.A. recommend that the architect, when informed by a contractor or firm of contractors that their tender is conditional upon the omission of the names of certain "proscribed" firms from the list of those invited to tender, should convey such information to his clients, and act upon the instructions which he receives.

The American Institute and Waterloo Bridge.

The following communication has been received by the President of the R.I.B.A.:—

DEAR MR. DAWBER,

The ancient and beautiful Waterloo Bridge across the Thames possesses historic and artistic attributes of interest to other nations as well as to Great Britain. Please accept that fact as excuse for this address.

In behalf of the American Institute of Architects, I beg to express to the Royal Institute of British Architects the hope that some means may be found to preserve from destruction this truly national monument.

Sincerely yours,
(Signed) D. EVERETT WAID.
President, the American Institute of Architects.

The late Professor Maxwell Lefroy.

Mr. J. Ernest Franck, chairman of the Science Standing Committee of the R.I.B.A., writing in "The Times," says: The members of the R.I.B.A. wish to pay their tribute of respect to the late Professor Maxwell Lefroy. At the restoration of the roof of Westminster Hall carried out under the direction of his Majesty's Office of Works, Dr. Maxwell Lefroy devised a chemical preparation for preserving the wood in future from the attacks of the wood-boring beetle "Xestobium Tessellatum." We know that this preparation has been of assistance in the preservation of similar structures, and its continued use will perpetuate his memory among the architectural profession. I would suggest that a small tablet commemorating Professor Maxwell Lefroy's work be placed in Westminster Hall.

The Future of Waterloo Bridge.

A conference of the representatives of various societies interested in preserving the structure of Waterloo Bridge was held at the R.I.B.A., under the chairmanship of Mr. Arthur Keen. Several months ago the societies expressed their opinion to the London County Council that the proposed reconstruction and widening of the bridge would not meet the traffic requirements, and that a new bridge should be built at the Temple or at Charing Cross. The London County Council, after receiving Sir Edwin Lutyens's report, requested the societies to give their opinion as to the setting up of a suitable body to investigate the question of saving Waterloo Bridge. They also asked for suggestions as to how the traffic problem could be dealt with most effectually. The following societies, in addition to the R.I.B.A., were represented at the meeting in question: The Town Planning Institute, the Architecture Club, the London Society, the Society for the Protection of Ancient Buildings, the Royal Academy, and a group of engineers. The meeting was held in private, and no report was issued, but it was stated that the conference had prepared a reply to a communication which had been submitted to them by the London County Council.

The Northern A.A. War Memorial.

A war memorial tablet has been placed above the fireplace of the library at the headquarters of the Northern Architectural Association, Newcastle. It contains the names of eleven members who fell in the Great War, namely, G. P. Boyd, C. J. K. Clark, J. B. Cubey, P. G. Graham, I. Henderson, G. E. Hunter, W. R. Isherwood, A. E. Lowes, W. N. J. Moscrop, T. J. Waller, and A. W. Wilkinson. The unveiling and dedication was performed by Colonel H. H. S. Morant, D.S.O., commanding Northumberland Infantry Brigade, and Bishop Welldon, D.D., Dean of Durham, respectively. The tablet was designed by Mr. F. N. Weightman, M.A., librarian of the Association, and executed by Mr. J. M. W. Reid, A.R.C.A., of Newcastle. It is of Hopton Wood stone.

Tees-side Architects at West Hartlepool.

The autumn meeting of the Tees-side Branch of the Northern Architectural Association was held at West Hartlepool under the chairmanship of Mr. T. W. T. Richardson, of Stockton. The chairman was supported by Colonel G. Reavell, of Alnwick, the president of the association, and by Mr. W. T. Jones, of Durham, the ex-president. During the visit the party inspected the restoration work in progress at St. Hilda's Church, and a joinery works.

The Bristol Society of Architects.

The Bristol Society of Architects opened their winter session with the president's conversazione at the Royal West of England Academy. After refreshments had been served, a number of architects and students were addressed by their host, Mr. R. C. James, F.R.I.B.A., who referred with deep regret to the death of Colonel Fry (of Weston-super-Mare), after an operation, and it was decided to send a letter of condolence to Mrs. Fry. Mr. James then touched upon the history of the society, and gave the following figures to illustrate the progress of the past ten years: 1915—Fellows, 32; Associates, 22; students, 11; 1925—Fellows, 58; Associates, 37; students, 33. That result had only been obtained through strenuous work and organization. The latter started with the parent body, the R.I.B.A., and ran throughout the whole of the allied societies. The organization of the R.I.B.A. was truly wonderful, and had achieved, and was achieving, many results of incalculable benefit to the profession. Arising from that organization was the Bristol Architectural School, which was now well established, thanks to the energy of several practising members of the society, among them the president of the Wessex Society of Architects (Mr. G. C. Lawrence). The school was providing a long-felt want, and, as the speaker understood, progressing most favourably under the able guidance of the headmaster, Mr. Gordon Hake, and his assistant, Mr. Button. Mr. James mentioned the benefit accruing to the society through its alliance with the R.I.B.A., and referred with gratification to the great honour bestowed on Sir George Oatley on the completion of the university buildings.

Mr. Gordon Hake, F.R.I.B.A., after his explanatory statement on the exhibits (which included many splendid pieces of work illustrating the various years of the students' training), said that he would like to stress the fact that the school did not aim primarily at the production of fine draughtsmen, but chiefly at giving the fundamental teaching and discipline of the art, science, theory, and history of architecture, which, supplemented by work in an architect's office, would qualify the student for an independent practice of his profession.

A hearty vote of thanks was given to the president on the motion of Mr. G. C. Lawrence, seconded by Mr. Awdry.

The council and officers for the session 1925–6 are as follows:

President.
R. C. James, F.R.I.B.A.

Vice-President.
W. S. Skinner, F.R.I.B.A.

Fellow Members of Council.
Mowbray A. Green, F.R.I.B.A., R.W.A. — W. J. Stenner, A.R.I.B.A.
G. C. Lawrence, F.R.I.B.A., R.W.A. — B. F. G. Wakefield, F.R.I.B.A.
Sir George Oatley, LL.D., F.R.I.B.A., R.W.A.

Associate Members of Council.
B. F. Brueton, A.R.I.B.A. — C. H. White, A.R.I.B.A.

Honorary Treasurer.
T. A. Skinner, A.R.I.B.A., 27 Orchard Street, Bristol.

Honorary Secretary.
G. D. Gordon Hake, F.R.I.B.A., 1 The Paragon, Clifton, Bristol.

Zone Planning in England.

Mr. G. Topham Forrest, F.R.I.B.A., chief architect to the London County Council, in a lecture at the Bishopsgate Institute on City Development in the United States said that his tour of the principal American cities had left a maze of impressions on his mind. He said that so far as the majority of American cities were concerned, there was to be no more haphazard growth and development as in the past. Everything was to be made to contribute to the general welfare, to the health and happiness of the people. The Americans were looking far ahead. As regards zoning, the time was without doubt rapidly approaching when we should be compelled to adopt such laws as exist in America. Under the New York zoning laws, he said, the restrictions imposed governed the height of buildings, the extent to which buildings may cover any particular plot, and the use to which the buildings might be put. The bulk of the American city population was altogether in favour of zoning. It saved their home districts and at the same time stabilized building values.

In addition to the more obvious advantages of town planning, the adoption of the principles of zoning in the inner areas of London would give a further advantage inasmuch as it would prevent areas, at present healthy and open, being congested by the interpolation of additional buildings which might possibly be of an entirely unsuitable character.

It might be added, concluded Mr. Forrest, that schemes of town planning which have been by no means an innovation even in the early years of the nineteenth century, for certain areas even then were developed on generous lines, as, for example, the Bloomsbury neighbourhood, with its many large squares, which was developed about the year 1800, the Notting-Hill area, and the Highbury Park area, which were both laid out on well-ordered lines, also dating from the early part of last century.

The example of the American cities showed that if we are to obtain effectiveness in our future civic development we must let the principles adopted in those isolated efforts dominate the co-ordinated effort of the community as a whole.

Edinburgh Architectural Association.

Mr. C. D. Carus-Wilson, F.R.I.B.A., of the Edinburgh College of Art, delivered a lecture to the associate section of the Edinburgh Architectural Association on "Modern Masterpieces and their Inspiration from the Antique." In the course of his lecture Mr. Carus-Wilson described and showed lantern slides of Egyptian, Greek, and Roman architecture, and compared them with many of the large American buildings of to-day.

The Association of Architects, Surveyors, and Technical Assistants (Aberdeen).

Under the auspices of the Aberdeen Branch of the Association of Architects, Surveyors, and Technical Assistants, a lecture was delivered by Mr. R. Leslie Rollo, A.R.I.B.A., of the School of Architecture, Robert Gordon's Colleges, on "Some Aspects of Architectural Education." He said that the functions of the teachers of a school were not to cram information into the students, but to direct their studies in such a way as best to use their enthusiasm and energy. The students learned more from each other than from the masters; that was the reason for bringing students together. The failing of the former pupilage system was the separation of the pupils of each employer. Emphatically schools of architecture were preparing students for life, and, however economical some men might be, man liked buildings so arranged that they might give him pleasure—liked buildings to be architectural.

The Institution of Heating and Ventilating Engineers (Incorporated).

We may take it for granted that where the installation of heating plant involves the use of a fair amount of fuel, some kind of instrument should be available to enable the attendant to watch the firing, preferably to record automatically the result of his firing, was the view expressed by Mr. J. J. Lassen, at a meeting of the Institution of Heating and Ventilating Engineers. He said that when examining the performance of any heat-producing plant in detail, a proper thermal or heat balance-sheet must be compiled in order to ascertain the details of the efficiency of the plant, just like one does when making up a business profit and loss account. The economic aspect of carbon dioxide recording was one of interest, but he did not suggest that it was a practical proposition to install a recorder where one had only a small hot-water installation.

The Institution of Structural Engineers.

Sir Charles Ruthen, Director-General of Housing, in his presidential address before the Institution of Structural Engineers, pointed out that the normal annual requirement in new houses in England and Wales was approximately 100,000. For the ten years before the war the average annual output of houses of all kinds and by all agencies was 82,000. For the five years 1915–19, practically no houses were built, except those required for actual war purposes. The output of houses for the year ending September 30, 1923, was 78,558, for the year ending September 30, 1924, 110,000, and for the year ending September 30, 1925, the output would reach approximately 150,000. These latter figures showed that progress was being made to an extent which was exceedingly gratifying. The greatest care must be exercised in approving new methods of house construction. The financial responsibility of the State and local authorities in this matter was heavy, and, further, working men and others who invested their savings in house property must be protected to the fullest possible extent. These houses were the homes of the people, and must be good in all possible respects. Well over 1,000 different methods and systems had been submitted for consideration. Although the result had not been commensurate with the tremendous cumulative effort put forward and the immense amount of money expended by those who had submitted the proposals, much benefit to national housing had resulted, and still further benefit would result in the future. The greatest fault committed by the designers of new methods of cottage building was that their methods required the fullest application of the skilled labour already fully engaged upon the production of houses of normal construction. Indeed, in many systems proposed, a larger use would be made of these essential arms, and by the adoption of such methods the national output of houses would be diminished rather than increased. Although anxious to avoid any statement that would stamp any particular new method of permanent house construction as superior to others, he was prepared to state that there were quite a number of concrete methods which almost entirely complied with the requirements. During the past twelve months or so no fewer than 20,000 houses of various new and alternative methods of construction had been erected in various parts of the country. This indicated that a serious effort had been made and was still being made to supplement the output of brick houses, and he felt confident that the experience gained would be of lasting benefit to national housing as well as to the ultimate benefit of all classes of building work, and all ranks of the building industry.

Waterloo Bridge

Evidence of the world-wide interest in the fate of Waterloo Bridge and the general desire for its preservation in its present form is afforded, says "The Times," by two recent communications from abroad. In a letter addressed to the London County Council, the Svenska Teknologföreningen (the Swedish Society of Engineers and Architects) says: "After reading reports on competent investigations in the matter, carried out in England, the Svenska Teknologföreningen would like to express herewith a sincere hope that the London County Council will succeed in finding some way of preserving Waterloo Bridge, that architectural treasure which is so intimately connected with the picture of the great capital on the Thames as it is known all over the world."

On October 14 the Boston Society of Architects, U.S.A., adopted the following resolution: "It is with regret that the Boston Society of Architects contemplates the suggestion that Waterloo Bridge be demolished and rebuilt. Its architectural merit and its historic importance are incontestable, and should be of paramount consideration." After alluding to the report of societies urging the preservation of Waterloo Bridge, and stating that a considerable number of qualified engineers appear ready to stake their professional reputation upon their opinion that the bridge can be underpinned, the resolution concludes: "These facts are worthy of consideration by the London County Council. The Society of Architects of Boston, being the Boston Chapter of the American Institute of Architects, recognizing both the historical and the monumental character of Waterloo Bridge, both of which are held in respect and admiration by Americans, sincerely hope that the original bridge may be in existence for many generations."

List of Competitions Open

Date of Delivery.	COMPETITION.
Nov. 16	The British Commercial Gas Association are offering the following prizes: First, £200; second, £100; third, £50; ten of £25 each; forty of £10 each; forty of £5 each, for the best essays on "How the Gas Industry benefits the housewife, the artisan, the manufacturer, the city, and the nation." The competition is open to anyone resident in the British Isles, except persons engaged in the gas industry or members of their families. Essays should be about 1,200 words in length, and must not exceed 1,500 words. For particulars, apply the Secretary, Essay Competition, British Commercial Gas Association, 28 Grosvenor Gardens, London, S.W.1.
Dec. 31	The Argentine Government offer prizes of 10,000, 5,000, 4,000, 3,000, and 2,000 Argentine gold pesos for the best architectural designs for a National Institute for the Blind. Apply Enquiry Room, Department of Overseas Trade, 35 Old Queen Street, Westminster, S.W.1.
Jan. 1, 1926	New buildings for Liverpool College on a site at Mossley Hill. Assessor, Sir Giles Gilbert Scott, R.A. Premiums, £500, £300, and £200. Conditions and plan of site can be obtained from Mr. J. H. Lintern, secretary, Liverpool College, Sefton Park Road, Liverpool, on payment of a deposit of £2 2s.
Jan. 14	By the generosity of Mr. Willard Reed Messenger, of New York, engineer, an International competition is to be inaugurated to promote and facilitate the construction of houses for the smaller middle classes and intellectual workers. Mr. Messenger is offering a first prize of 500 dollars, a second prize of 300 dollars, and a third prize of 200 dollars. The competition is to be held under the auspices of the International Federation of Building and Public Works (whose headquarters are in Paris), and which has recently held its International Congress, when forty-two countries were represented. Certain rules regulating the competition have been formulated, and the jury will be composed of eleven members, representing various nationalities. Competitors will be required to send in sketches, descriptive particulars of any new processes of construction proposed, and of schemes intended to reduce costs. Apply Director-General of the International Federation, 17 Avenue Carnot, Paris.
Jan. 30	Erection of a new art gallery and museum within the borough of Birkenhead. Competitors must have been resident or have had an office within twenty miles of the Birkenhead Town Hall during the whole period subsequent to January 1, 1923. Premiums £250, £175, and £100. Assessor, Sir Robert Lorimer, A.R.A., R.S.A., F.R.I.B.A. Conditions of competition, together with a copy of the site plan, particulars of the subsoil, etc., of the site, and photographs, can be obtained on application to Mr. E. W. Tame, Town Clerk, with deposit of £2 2s.
March 31	Australian War Memorial, Canberra. Open to Architects of Australian birth. Apply High Commissioner, Australia House, Strand, London.
July 12	The following architectural competitions have been organized in connection with the Royal National Eisteddfod of Wales, to be held at Swansea next year: Design for a National Parliament House for Wales, prize £100 (no age limit). Design for a street façade to a large stores; prize £25, given by the South Wales Institute of Architects, Western Branch (competitors not to be over 21 years of age on January 1, 1926). Set of Measured Drawings of Architecture; prize £25, given by Mr. Ernest E. Morgan, A.R.I.B.A., Borough Architect, Swansea (no age limit). Entry forms can be obtained from Mr. W. Talog Williams, the general secretary, 24 Goat Street, Swansea, to whom they are to be sent between May 1 and 10, 1926. Drawings to Mr. Ernest E. Morgan, A.R.I.B.A., 3 Prospect Place, Swansea, not earlier than July 5, 1926, and not later than 5 p.m. on July 12, 1926. Mr. Arthur Keen, F.R.I.B.A., is the assessor.
No date.	Conference Hall, for League of Nations, Geneva. 100,000 Swiss francs to be divided among architects submitting best plans. Apply R.I.B.A., 9 Conduit Street.

Competition News

Guisborough Proposed New Hospital.

The following notice has been issued by the R.I.B.A.: "Members of the R.I.B.A. must not take part in the above competition because the conditions are not in accordance with the published regulations of the Royal Institute for architectural competitions."

Housing in New Zealand

How the efforts of the New Zealand Government to overcome the housing deficiency have affected private enterprise is explained by the New Zealand correspondent of the "Times." Writing in that newspaper he says that there are few builders now who undertake the construction of houses except upon contract. No one builds to let, and where the sale is on "easy terms" there is usually a backing of Government money. The builder is not taking the risk. The reason is quite evident—that private finance has been unable to hold its own in the small house trade and compete with the Government, which lends at 4½ per cent. Lack of responsibility for finance has had its ill effects. The builder, with no risk, has not been so keen to erect dwellings, which would be good investments. Nor, when building to order, has he been able to erect blocks of houses of standard design so as to obtain the economy of large-scale operation.

There are other factors which help to account for the deficiency of houses and their high cost in this country. One is that the widespread ownership, instead of tenancy, has led inevitably to a demand for a dwelling of better appearance. "Frills," which a landlord (with his eye on the rent roll and his mind working in percentages) would not permit, are insisted upon by the small owner. Hot and cold water, a gas stove, electric light and heating point, and a porcelain enamel bath, are now accounted the bare essentials of even a cottage home. These things add to the price. Municipalities, which have tried their hands at house-building have found that five or six-roomed dwellings cost £800 to £1,000, exclusive of land. In the larger cities a building section of about one-eighth of an acre may cost £200 to £300 in a reasonably priced locality. Highly favoured localities cost much more, and where the cost is appreciably lower, there is usually some set-off against the saving, such as cost of communication.

Yet the housing position in New Zealand is not without its good features. Possibly in no other country, save the United States, do so large a proportion of the people own the homes they live in, and home-owning, no matter how compassed, makes for good citizenship and some thrift. Then, too, public feeling, gradually awakening to the idea that the Government cannot finance house-building for everybody, is asking that there shall be some serious attempt to discover what is hindering private enterprise.

The Architecture Club Dinner

Mr. J. C. Squire, speaking at the Architecture Club's annual dinner last week, referred to London's monuments, and Waterloo Bridge in particular, and said in view of the difference of opinion among experts it was most important the bridge should not be allowed to come down unless conclusive evidence was forthcoming that it was necessary the structure should be destroyed in order to comply with the requirements of the traffic problem.

He felt that in the next twenty years nearly every decent old thing in London would have disappeared. They had seen the destruction of Regent Street. It might not have been suitable to the modern needs of London, but they might have looked for something less chaotic to take its place.

Regent's Park might go next, and they heard that the Adelphi was threatened, while the Foundling Hospital had been sold. If they did not take care and agitate for all they were worth, the architects of the next generation would certainly have a very good chance of improving things, for the simple reason that everything worth looking at in London would have been pulled down.

Heaven knew there was quite enough bad stuff in London for those who wished to pull down buildings, without destroying anything that should be preserved. Any foreigner visiting London would tell them that there was no other capital city so defaced by advertisement signs of unnecessary size.

Mr. H. Gordon Selfridge said that architecture was the most beautiful of the fine arts. He considered the five most beautiful things in the world were: A beautiful woman; a beautiful child; a beautiful flower; a magnificent sunset; a superb building.

One of the most extravagant things in the world was the continued occupation of valuable land by a poor piece of architecture.

New Art Additions to the Victoria and Albert Museum

The Victoria and Albert Museum has received an important accession to its collections of Medieval and Renaissance art by the bequest of the late Mrs. George Cowell. Her son, Mr. Athelstan Riley, has generously renounced a life interest in the bequest, and the objects are now on exhibition in the Central Court of the museum. Among the Medieval objects are several ivory carvings—a Byzantine relief of the raising of Lazarus, dating from the eleventh or twelfth century; a leaf of a diptych (the other leaf of which is already in the museum) with the death of the Virgin and the adoration of the Magi, and a relief of the Martyrdom of St. Thomas of Canterbury, both French work of the fourteenth century; and a series of fifteenth-century panels mounted as a cabinet, German or Flemish, with scenes from the life of Christ. The centrepiece of an altar cross and a pyx are characteristic examples of Limoges champlevé enamel of the thirteenth century.

The Week's News

York Housing Scheme.

The York Corporation have received the approval of the Ministry of Health to the erection of 406 houses.

Brick Houses for Leicester.

The Leicester City Council have decided to erect 500 brick houses.

One Hundred Houses for Southall.

The Southall Town Council are applying to the Ministry of Health for sanction to build a further 100 houses.

Four Hundred Houses for Ilford.

Four hundred houses are being erected by the Ilford Urban District Council.

Steel Bungalows for Nottingham.

One thousand steel bungalows are to be erected by the Nottingham Corporation.

A New School for Downham.

The London County Council are to build a new school on the Downham housing estate. The cost is estimated at £40,000.

More Houses for Stafford.

On the Littleworth estate thirty houses are to be built by the Stafford Town Council.

Proposed Public Hall for Dukinfield.

The Dukinfield Corporation have appointed a committee to consider the erection of a public hall and municipal baths on land at the rear of the Town Hall.

Retford's Housing Scheme.

The Retford Corporation have agreed to apply to the Ministry of Health for approval to the erection of a further forty non-parlour type houses.

Blackpool's Town-planning Scheme.

It has been decided that the Blackpool Corporation Town-planning scheme be extended to include the adjoining areas of Horobern-with-Newton, Marton, and Carleton.

More Houses for Nuneaton.

The Nuneaton Town Council have decided to purchase a further plot of land at Stockingford for the erection of thirty-eight workmen's houses.

Grove Park Housing Proposals.

The Lewisham Borough Council have entered into negotiations for the acquisition of the 43 acres of land in Grove Park as a housing site.

Famous Natural Arch Demolished.

The centre portion of the natural arch at Ladram Bay has fallen into the sea, owing to coast erosion. The arch was one of the most picturesque features of the Devonshire coast.

Houses for Worksop.

The Worksop Urban District Council have decided to build fifty houses on each of four sites. The Council have also decided to raise a loan of £40,500 to lend to the Wigan Coal and Iron Company for the purpose of building houses.

Leicester Purchases Braunstone Estate.

The Leicester City Council have purchased the Braunstone estate for £115,000. The park in which the hall stands comprises over a hundred acres, and is scheduled under the town-planning scheme as an open space.

The Memorial Church at Ypres.

An appeal has been issued for funds for the erection of the Memorial Church at Ypres. The site selected for the church is on the Rampart on the Bastion, immediately to the west of the Lille Gate. Sir Reginald Blomfield, R.A., is the architect.

Skegby Housing Scheme Approved.

The Skegby Rural District Council have received the sanction of the Ministry of Health to the erection of thirty houses in Skegby under the 1924 Act. The Ministry intimate that when the houses are nearing completion they will be prepared to sanction the building of the other thirty-five, as proposed.

Eastbourne Improvement Schemes.

Several improvement schemes are under consideration by the Eastbourne Corporation, and will, as far as possible, be proceeded with during the ensuing winter. It is proposed to widen Victoria Place, the direct avenue to the sea-front, and one side of which is being converted into business premises.

The late Professor H. M. Lefroy.

Preliminary steps have been taken by the British Medical Association for the institution of a permanent memorial to the late Professor Maxwell Lefroy, who lost his life while experimenting with a poisonous gas to exterminate noxious insects. The proposal is for a Lefroy Laboratory of Applied Biology.

Brighton Aquarium.

Amended plans have been passed by the Brighton Corporation for the reconstruction of the aquarium at a cost of £91,000. The main part of the existing tanks will be retained, and a public hall, a continental café, and a series of terraces accessible from the Marine Parade, are to be provided.

The British Industries Fair.

The Department of Overseas Trade have issued over 50,000 invitations to overseas buyers in all parts of the world for the forthcoming British Industries Fair to be held at the White City, London, and Castle Bromwich, Birmingham. In addition, invitations are to be sent to a very large number of home buyers.

London Dock Extension Schemes.

The Government have agreed to grant financial assistance to the Port of London Authority for the improvement schemes at the Tilbury, and West India, and Millwall Docks. At Tilbury the work includes the construction of a new entrance lock 1,000 ft. long, and a new dry dock 750 ft. long. At the India and Millwall Docks the improvements will enable the largest vessels to navigate an area of over 127 acres.

Big Housing Scheme for Foleshill.

The Foleshill Rural District Council have decided that the following houses are needed in each parish: Ansley and Shilton, 12; Bedworth, 100; Binley, 50; Exhall, 50; Foleshill, 100; Keresley, 12; Stoke and Stoke Heath, 300; Walsgrave and Wyken, 120; Withybrook and Willenhall, 10; a total of 754. The Council have decided to apply to the Ministry of Health for permission to build the 754 houses in two years.

The Kitchener Chapel.

The Lord Kitchener Memorial Chapel at St. Paul's Cathedral will be opened on December 10. The chapel is situated at the base of the south-western tower, near the entrance to the cathedral. The main feature is a group of statuary, a white marble recumbent effigy of Lord Kitchener being placed at the foot of the altar. At the head of the recumbent figure are the soldier saints, St. Michael and St. George, the altar being surmounted by the figures of Christ and the Virgin.

St. Paul's Bridge.

Mr. E. L. Meinertzhagen, at the last meeting of the London County Council, stated that no further negotiations had taken place either with the City Corporation or with the Ministry of Transport as regards the construction of St. Paul's Bridge. He had no information as to any change in the position since the Special Committee on Thames bridges reported on February 24, 1925, that the City Corporation had adjourned consideration of the St. Paul's Bridge scheme pending the report thereon of the London and Home Counties Traffic Advisory Committee.

Housing at Tottenham.

Out of some thirty or forty candidates who answered the advertisement for an architect for the remaining part of the housing scheme, the Tottenham Urban District Council selected six, who recently appeared before them, and Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., etc., of Finsbury Pavement House, 120 Moorgate, London, E.C.2, was successful in obtaining the appointment. There are about 250 to 300 houses still to be erected. Mr. Monson is an Actonian who has had vast experience in housing matters, and he is at present carrying out schemes for the Metropolitan Boroughs of Islington, Finsbury, and Bethnal Green.

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