Wednesday, June 18, 1924. Vol. LIX. No. 1537.

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

FROM AN ARCHITECT'S NOTEBOOK.

THE FITNESS OF GOTHIC

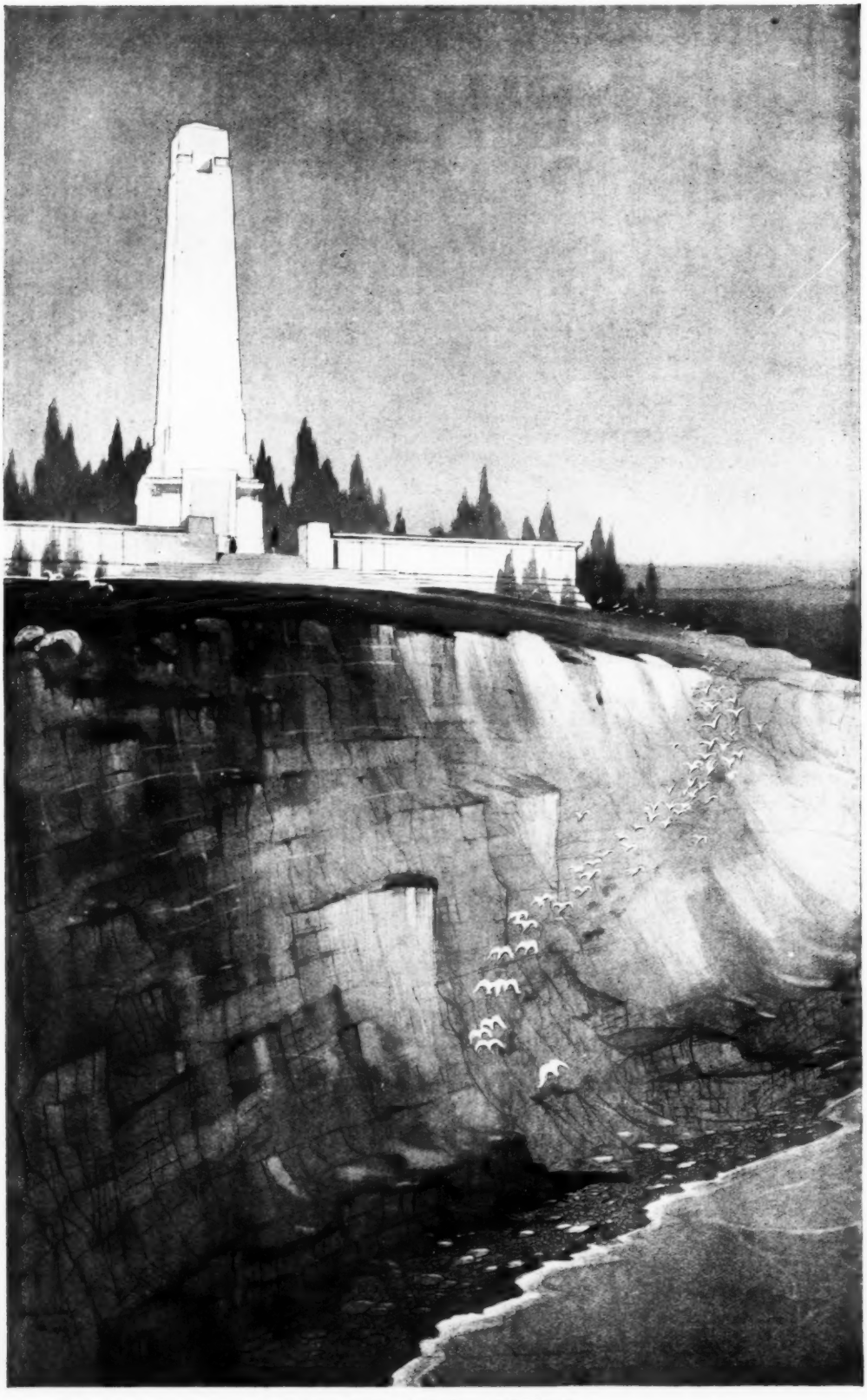
— a style of Architecture which, to me at least, is, in comparison with all others, the most beautiful, and by far the most in harmony with the mysteries of religion.

THE REV. JOHN KEBLE:
Lectures on Poetry: Lecture 3.

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

Cape Helles War Memorial, Gallipoli

Sir John J. Burnet, A.R.A., and Partners, Architects



(From the Royal Academy Exhibition.)

THE

ARCHITECTS' JOURNAL

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

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Mr. Wheatley in Wonderland

THE cascade of arguments, vituperation, and panaceas that is flooding Press and Parliament concerning the housing problem reminds one of the only problem recorded in history which could so conclusively be solved in so many ways. It being desirable to remove the head of the Cheshire cat, which was grinning at the party in the air above them, the executioner argued that you couldn't cut off a head unless there was a body to cut it off from. The King argued that anything that had a head could be beheaded. The Queen said that if something wasn't done about it in less than no time, she'd have everybody executed all round; almost exactly the arguments we hear every day from private enterprise, State housers, and the public. The cat problem (as we all know) remained unsolved, and it looks as if housing is going to copy the cat.

There seems to be only one fact not now in dispute: it is that private enterprise cannot build houses for the lower paid workers at economic rents, and will not be able to do so for many years; to this we may add a pious rider, to which everyone would subscribe—that it would be nice if people could be housed decently. Some would like the State to do nothing, and leave the law of supply and demand to operate freely, but the suggestion can be ruled out, because the country will not stand it. Granted, then, that we are going to subsidize something; what are we going to subsidize? Here there are two divergent possibilities. You can either subsidize the erection of houses for those most nearly able to pay economic rents, knowing that by a process of infiltration the lower paid workers will find their way into the second-hand houses thus vacated. This was the principle virtually adopted by the late Government, who inexplicably coupled the scheme with a refusal to recognize State responsibility for the standard of housing in State-aided schemes. The other alternative is to subsidize small houses so heavily that the lowest paid tenant can inhabit them at the expense of the rest of the community. This is the principle now under consideration, and it seems, if carried to its logical conclusion, to contain the seeds of disaster, for it will create an artificially protected class of tenant at exorbitant cost to everyone else. It seems absurd to treat a man's ability nearly to pay for a house as a reason why he should not have one. Also, there can be nothing constructive in encouraging letting at the expense of sales.

Leaving these points, we may ask generally whether it is desirable that private enterprise should ever again provide houses for the lower paid workers. We can take a choice of three answers:—

Yes. Industry must eventually bear its own burdens, and private enterprise can build more cheaply and efficiently than any other agency.

Yes. But only if private enterprise entirely revises its scale of values and shows its readiness to cease spoiling the country with ugly and tasteless building (see article "Joking Apart," in THE ARCHITECTS' JOURNAL of June 4).

No. It is a State responsibility, like education, and the State is the only agency that can carry it out as a whole. It must be a permanent State service.

Many would incline towards the second possibility, but private enterprise seems to be so ignorant and consequently so much wedded to ugliness and bad architecture that its redemption is improbable for some decades.

Turning now to the conditions that Mr. Wheatley should impose upon State-aided houses. They must be cheap, and therefore labour and materials must be cheap and plentiful. To this end ca'-canny must be exorcised, increased apprenticeship introduced, and profiteering stopped; a measure of dilution may also be necessary. The labour difficulties are due principally to the fear of future unemployment, a fear that can only be removed by a guaranteed building programme covering a period of years. As to materials; besides legislation to stop profiteering, some assistance may be necessary to enable disused brickfields to be reopened in the home counties. It is no less important that the houses should be adequate to accommodate a healthy and contented people, therefore State-aided houses should be subject to restrictions as to accommodation and density, and they ought to be creditable in lay-out and design. It should therefore be urged that architectural opinion be consulted on all assisted schemes. One might continue the train of thought in the form of question and answer:—

Is there any danger of forming a protected industry that will take advantage of the emergency if the committee's report is acted upon and a fifteen-year programme instituted?

Yes. But it would seem to be a danger that must be faced if sufficient houses are to be built. Full publication of every detail of the cost, drastic supervision, and, if necessary, the taking over of works, and the fining and imprisonment of offenders may ward off the dangers inseparable from guaranteeing work for a long period. But hand-in-hand with this must go an absolute certainty that labour means business.

Is it possible for the Government to guarantee a building programme for fifteen years, seeing that the cost cannot accurately be estimated beforehand, and when everyone knows that the next Government may pass an Act repealing the whole thing?

The last eventuality is always possible, and something like it has happened before. But apart from this, although there may be conditions as to the houses being forthcoming, if the houses do not forthcome everyone will blame every-

one else, and the Government of the day will be blamed for another betrayal; so it is doubtful whether any satisfactory guarantee can be given, although necessity demands that the Government should do its best to give one, subject to every possible assurance that labour will play its part to the full, especially in curbing the local demagogue's bullying and red tape.

Further important side-issues concern the remodelling of the by-laws (and here one can pause to wonder why the model by-laws for rural districts should demand rooms 8 ft. 6 in. high when we want cheap cottages); and the possibilities of new and traditional methods of construction, a vast number having been examined, reported upon, and built under the Addison scheme.

The only thing that really matters is that good houses should be built as cheaply as possible. It is a pity that the average conservative should fall down and worship Baal—in the form of the ugly and over-crowded house—because as representing the better educated section of the community he at least should know the difference between good and bad work, and as it is he is the most ignorant of all. It will, however, be equally unfortunate if the labour man forgets that the middle-classes also want houses, and that the less the State has to pay the more houses will be built. A hundred houses accommodate a hundred families, and to that extent ease the shortage in the country as a whole.

Mr. Wheatley cannot be congratulated too much upon the real attempt he has made to reconcile conflicting interests and to enlist the co-operation of the whole building industry. His scheme runs serious risk of failure because he is trying to build for the poorest class first, instead of for that class that can most nearly afford the rent, and the cost and trouble arising from interfering so severely with natural conditions are likely to prove fatal. A scheme to be successful would have to aim at producing the greatest number of good houses at the cheapest rate, regardless of who inhabited them; and the lowest paid would soon find relief if their better paid brothers were moved into new houses. One can sympathize with the desire to house the poorest first, indeed, it is natural to concentrate help upon those who need it most, but if this scheme fails everyone will suffer equally. The only possible salvation for Mr. Wheatley's plan lies in an extra generous and determined effort on the part of labour, assisted, of course, by the hearty co-operation of every other party concerned.

MANNING ROBERTSON.

Mr. Wheatley: An Impression

Prior to the present Party coming into office, Mr. Wheatley was known in the House of Commons as a rather strident figure in opposition, but it was quite impossible to foretell his success as a front-bench speaker and administrator. There is little evidence in his speeches that, like some other Labour Ministers who are less successful, he has tried painfully to acquire a "House of Commons manner," but he holds his own none the less with the most experienced debaters of the House. He is one of those speakers who refuse to be worried. He may flush under the gibes of the opposition, but he will not turn aside to retort. In the first months of his Ministry, the present writer was given the opportunity of accompanying him to the House and of there listening to what were the first words of his housing policy. Slow of speech, but unhesitating, his phrases unpolished, but having much emphasis and force, quiet and thoughtful in manner without being tedious or dull, he impressed one as having that hard-headedness which one expects in a man from north of the Tweed. He probably understands more about building than architecture, but from the short talk the writer had with him, he gathered that the things he knew nothing about he was willing to leave to those who did, and he said that he was determined that, whatever pressure might be brought to bear upon him, and from whichever quarter, he would sanction the building of no slums.

Painted Signs for London Shops

Mr. John Beresford has written to "The Times" pointing out that, among the many proposals for making the streets of London more gay and beautiful, there has not been one that each shop should have a painted sign. "Why should we not return to the wise practice of our ancestors in this matter?" he asks. Originally, it was necessary to distinguish each house, shop, and inn by a painted sign for the benefit of the vast majority of persons who were unable to read. Doubtless Macaulay did not exaggerate when, in describing the London of some two centuries or so ago, he referred to the walk from Charing Cross to Whitechapel as lying "through an endless succession of Saracen's Heads, Royal Oaks, Blue Bears, and Golden Lambs." Why should not the walk, for instance, from Oxford Circus to Marble Arch be made as charming as the old walk from Charing Cross to Whitechapel? It is the misfortune of the Industrial Age of the last century and a half that it has introduced an entirely unnecessary drabness and uniformity into numberless spheres of life and expression. There are, indeed, signs of a sort in Oxford Street to-day, but how unsightly they are anyone who mounts an omnibus can see for himself, the reason being that these signs are merely advertisements in bad lettering, not, as they might be, far better advertisements in picture and design. "If the owners of shops in Oxford Street, the Strand, Regent Street, and Piccadilly, for instance," urges Mr. Beresford, "were to adopt this suggestion they would advertise their wares far better at little cost; benefit many excellent artists; and turn drabness and vulgarity into beauty and distinction." "The Times" questions whether such ornaments can be restored now that nearly all the premises of the older London have given way to constructions of steel and stone, and suggests that bad art, or something that is not art at all, can hardly be improved by the mere addition of ornaments, however graceful in themselves. "Drabness and vulgarity can be cured only by abolition. We must look to the architects first, and to the growth of the architectural conscience." Let the houses, blocks, and streets have beauty first, and the signs will follow.

To Say Ourselves—As Others Say It

A new dictionary of quotations which recently came into our hands set us wondering why architects had said so little of popular importance concerning their own art. A page and more there were of quotations about "the greatest of all arts," but Wren was the only architect-author—and, we are sorry to say, the least inspired. Ruskin there was—oh, very largely!—Hugo, Goethe, Pope, Longfellow, Hegel, Pater, and the author of that most famous of all architectural quotations—the one about architecture being frozen music—but where were the architects themselves? Perhaps it is modesty on our part that we should have left it to others to say all the fine things (and what fine things have been said!) or perhaps it is not our business. If we are not to mint such golden things ourselves, then perhaps it is next best for us to keep in currency what has been already uttered. And at architectural dinners, at exhibitions, and at the meetings of the R.I.B.A. there is always someone present who can re-issue one of them, and send it off afresh for those to remember who will. At times, in a happy moment, a Sir John Simpson, or a Paul Waterhouse, or a Professor Lethaby, or a J. C. Squire will unearth one of those golden pieces that have lain buried like treasure for years and years—unrecorded by all dictionaries of quotations and seemingly forgotten by man—and give it forth again to the light of day. But, *unlike* other ancient things that are dug up, it will be found not to have lost its lustre, but will seem to glitter the more brightly and strangely by reason of its antiquity and long banishment. It used to be the rule for an Oxford man always to begin his speech with a quotation from Aristotle. What an exercise it would be if it were laid down that all architects must introduce their subject with an epigram of their own.

Civic and Domestic Qualities in Architecture—I

By A. TRYSTAN EDWARDS, M.A., A.R.I.B.A.

THE two chief qualities proper to a house are the domestic and the civic. In the case of detached houses in the country it usually suffices if they have the domestic quality. Where, however, a number of houses are set in congregation they should have the civic quality as well. It is a very common fault in modern town houses that while being truly domestic in character they woefully lack the civic quality, and we shall find, though this second fault is much rarer than the first, that there are dwellings in the town which indeed conform to civic standards, but do not look sufficiently domestic. I shall try in the following pages to analyse these two significant qualities in the design of a house.

It would seem to be the easiest thing in the world to endow a house with its proper domestic character. While it is difficult to give the appropriate note to town halls, post offices, theatres, fire stations, and other public buildings, the ordinary private house, if treated in a straightforward manner, invariably reveals its purpose. One may meet with a few obvious absurdities, such as the mid-Victorian castellated villa, but most country dwellings are quite domestic in character—that is, the disposition of their chimneys, windows, and front door proclaims their domesticity. At least, nobody would mistake these buildings for churches, water towers, granaries, abattoirs, or crematoria. But it does not follow, therefore, that they are beautiful; they may consist of features thrown together anyhow, the top storey may have no connection with the lower ones, the juxtaposition of rough-cast, bright red brick and purple slates may produce an appalling discord. Private houses, however, they undoubtedly are. Few architects can endow a dwelling with beauty, but almost anyone can make it look domestic. I am not, however, here primarily concerned with the beauty of the house, but with the distinction between the domestic and civic quality. Now, as an important element in a house is the plan, an obvious way to make the design expressive of a domestic purpose would be to allow the exigencies of the plan to determine the formal attributes of the building. Yet it is easy to imagine that civic architecture would become quite impossible if each separate building assumed what may be described as a "naturalistic" shape, a shape determined by the free satisfaction of every impulse of the planner. Like all other arts, the art of planning can only reach a high state of development when it is surrounded by restrictions, when the conditions for its expression are complex and severe. A detached country house free to extend a wing here and another protrusion there, and a bay somewhere else, may have a certain charm (though even in this case the informality of the plan will only lead to a pleasing effect if all the sub-divisions of the building have an æsthetic relationship with one another, if the wings and protrusions and bays all belong to the same type and pattern of design and if the fenestration be harmoniously arranged), but when in the vicinity of this house are other houses stretching forth their limbs in the same spirit of ease and nonchalance, no matter how gracefully such freedom may be expressed, there is bound to be a discord between the members of the group. Unfortunately, such discord is more often the result of a deliberate policy than of carelessness. Expression of purpose becomes an end in itself, and the advocates of this architectural "truthfulness" are ready to countenance in the design of groups of houses a degree of social candour and mutual disregard which would be quite intolerable in a community of men. We are all familiar with the kind of play which has for its subject a family stricken with the strange affliction that its members are compelled to speak the truth on all occasions. In the theatre such a lack of manners and civic sense may lead to an amusing comedy, but in real life it would result in a complete stoppage of social intercourse.

What always makes it necessary for there to be an element of discipline in the arrangement of the houses is the presence of the *road*. The houses should take cognizance of the road, and if they make this first concession it generally happens that they will take some slight cognizance of each other as well. In fact, highly informal plans, each of which has a principal front facing towards a road and in a plane parallel to the line of the road, do not produce such a restless and unsatisfactory effect as will plans of geometrical simplicity if these latter be placed all awry.

In Fig. 1 the central diagram shows a type of lay-out which makes impossible any true harmony between the blocks, however well designed these might be individually. This is an example of one of the very worst kind of discourtesy which one building can show to another, and it must be confessed that in modern housing development such an arrangement is extremely common, the lack of relation of the wall planes being generally most noticeable at junctions and convex sides of all bends in the roads. The crudeness of this lay-out has resulted from the idea that as long as the plan was all right, as long as requisite accommodation was provided in a satisfactory manner, nothing else was of much account. These houses might be of identical

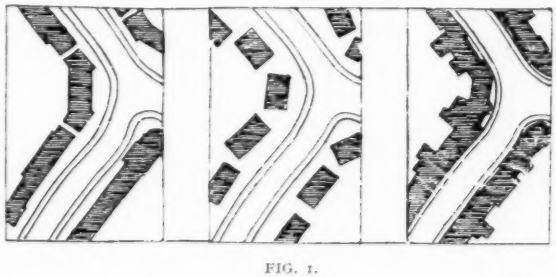


FIG. 1.

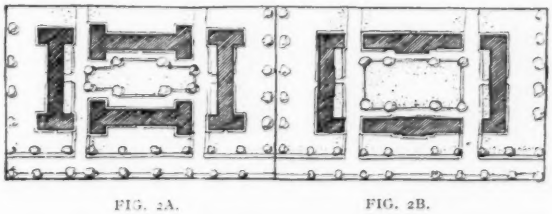


FIG. 2A. FIG. 2B.

SOCIABLE AND UNSOCIABLE TYPES OF PLANNING.

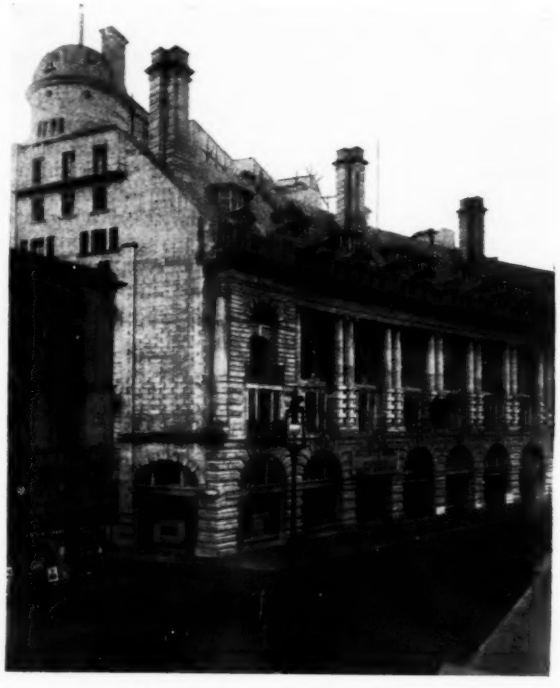
pattern and material, yet at the road junction the architectural discord is most distressing, because the end walls of two adjacent houses are in planes which have no relation either to each other or to the road, and the configuration suggests that its author was completely indifferent to the amenities of civic design. What is to be done, it may be asked, if we are using semi-detached cottages according to a standard plan and wish to align them upon a thoroughfare which happens to bend? In answer to this it may be said that the embarrassment encountered here is not an inevitable one, but it is certainly one of the penalties of adhering too strictly to the principle of detachment. In continuous architecture there is never the slightest difficulty in carrying buildings round the bend of a road, as the diagram in the right-hand side of Fig. 1 shows. Here the backs seem carelessly designed; yet the aspect from the road might be highly attractive because it has the coherence due to a long stretch of wallage, supporting and, in fact, creating the formal identity of the street. But where we have good reason to provide gaps between the houses, it is still possible to arrive at an orderly arrangement, as in the left-hand diagram, where the block facing the road junction has its extremities bent round so that the end walls are normal to the road and parallel to the end walls of the adjacent blocks. When the road has straightened out it would, of course, become quite legitimate to break the continuity as often as other considerations might suggest. The planning of such a block would be a trifle more complicated than that of a plane rectangle, but it can scarcely be said that the difficulties are insurmountable, and the additional cost entailed in the construction of buildings specially designed for curved frontages need not be a very substantial item.

Even when we are dealing with a lay-out which is dominated by right angles, the arrangement of the blocks may give very great offence to one's sensibilities. Fig. 2A gives yet another instance where a preoccupation with the plan of an individual building may lead to a neglect of other important factors in design. Here four blocks of flats of identical design are arranged in a simple pattern, but they show a mutual disregard in that they fail to bring their extremities into relation with one another. Each block seems to be saying to its neighbour: "My own symmetry and internal order are quite enough for me, and I am assuming that in your case also your symmetry and internal order will be your sole concern." This is a disappointing attitude, especially as the blocks in question by grouping themselves around a court have raised in us great expectations of their sociability. Fig. 2B shows how, by quite simple means, these buildings could form a far more intimate and genial company, for here the extremities of each block are provided with terminal features which take cognizance of corresponding terminal features in the adjacent blocks. It is true that in this instance the same plan cannot be repeated four times, but so much the better, both for the architect who has the opportunity of proving his skill in two directions instead of only one, and for the tenants who are thus offered a greater variety of accommodation.

The expression of the plan may just as often fail through baldness as through complication. So the idea that in cottage planning we ought always to aim at a plain rectangular form is quite erroneous. A simple general disposition and a certain obviousness of lay-out will characterize the good plan, but a most subtle modulation of the parts is necessary if these are to be formed into an harmonious unity. Crude and bad-mannered as may be a miscellaneous group of plans of irregular outline, it has been shown that the juxtaposition of the most elementary forms (such as the blocks of semi-detached cottages shown in Fig. 1) may easily result in a configuration which is cruder and worse-mannered still.

Supposing the plan is satisfactory in every respect, that is to say, the necessary accommodation is conveniently provided, and at the same time the individual architectural units, whether these be large or small, pay formal deference to one another, there are yet other elements in the composition which may tend to mar the effect. The *roof* may have the domestic quality, but not the civic quality, and the chimneys may also cause affront. Here, as in the case of planning, right practice is hampered by wrong theory. We found that the principle of self-expression, although it holds good within certain limits, cannot be allowed to sanction a form of planning which violates the proprieties of civic design. In the case of roof design the offending theory is that which declares the shape of the roof to be entirely conditioned by climate. Of course, climate is an important factor in the design of roofs, and no one would dispute that a house should be adequately protected against wind and rain. But just as a good planner can satisfy his client's needs in a house, the outward pattern of which acknowledges a measure of formal discipline, a good constructor can choose his own shape of roof and make it watertight.

It is difficult to exaggerate the injurious architectural effects which may result, and, in fact, have resulted from an erroneous theory of the influence of climate upon the forms of building. The idea, so sedulously propagated by the Gothic revivalists, that no roof which was not of steep pitch could possibly be suitable for the English climate, was largely responsible for the decay of the noble tradition of building which was established by our forefathers of the Georgian era. The steep gables and hipped roofs so characteristic of the domestic architecture ever since mid-Victorian days are defended on the ground that their form is determined by considerations of climate. Yet during the eighteenth century roofs of low pitch were universal and perfectly adequate for their utilitarian purpose. Moreover, this treatment of the roof was a necessary consequence of the desire to give buildings an urban quality. And even in mediæval times the tendency towards roofs of low pitch was clearly manifested, as in the "Perpendicular" style. The Gothic revivalists, however, took little account of this fact, and seemed to be firmly of opinion that English architecture, national architecture, ought to be steep-roofed. New College, Oxford, provides an extraordinary instance where, in restoring part of the structure, they even raised the pitch of the existing roof, which, apparently was not in their opinion sufficiently "mediæval" in character. Needless to say, the alteration was gravely detrimental to



THE PICCADILLY HOTEL, REGENT STREET: AN EXAMPLE OF CONSPICUOUS CHIMNEYS.

ANOTHER EXAMPLE OF TOO CONSPICUOUS CHIMNEYS.

the appearance of the building. Admirers of King's Chapel, Cambridge, may be thankful that this famous example of Gothic architecture escaped being the subject of similar attentions!

Even to-day there survives a curious prejudice in favour of making the roofs of buildings as conspicuous as possible. Such an architectural policy is quite ruinous to street architecture, for the buildings fail to subordinate themselves to the general scheme if each separate shop or block of offices, as it were, gathers itself together under a prominent hipped roof or displays numerous gable ends and double rows of dormers. The parapet wall is the natural termination to an urban façade, and generally it should be accompanied either by a flat or low-pitched roof or else by a mansard. Any great departure from this treatment immediately gives the buildings an air of rusticity. Even if at any time it had been beyond the technical resources of the architect to render a low-pitched roof water-tight it would have been his urgent duty to leave no device untried until this had been accomplished, for otherwise the concept of urbanity could never have found complete architectural expression. But, as a matter of fact, provided that slates or pantiles are used, this form of roof presents no practical difficulties whatsoever.

The parapet has a great merit, in that it is the means of preventing the chimneys from being too conspicuous. So successfully does it terminate a façade that its use renders it unnecessary for the chimneys to take much cognizance of the fenestration. In this instance an irregular disposition of the chimneys causes us no vexation at all, for in the first place they are kept moderately low, and secondly, they appear as a mere addendum to the building and not a dominating element in its design. Where, however, there is a tall roof of which the base, marked by gutter or cornice, rests immediately upon the façade, the chimneys and the fenestration belong to the same pattern. Unless symmetry in the one is accompanied by symmetry in the other, an obvious discord will be set up. Often the desired harmony can only be achieved at the expense of the convenience of the plan. Moreover, as the chimneys have to be carried to a considerable height in order to overtop the ridge of the roof, they are apt to become almost like factory shafts—ugly and self-assertive. The fact that the fireplaces are situated in a particular part of a building is not of general interest, and belongs to the category of those minor architectural truths which, in an urban society, are best uttered in a whisper.

Modern urban architecture suffers almost more from tall roofs and tall chimneys than from any other cause. The concept of the street can never be properly expressed when every building assumes a form of such prominence that it cannot take its place as part of large composition. The fault is not entirely due to the architects of the buildings in question, for individual architects are generally the last people who ought to be held responsible for the qualities of their works. Not the men who design the buildings, but the men who set up the standards of architectural value are here ultimately responsible. Sometimes, of course, a great practitioner himself creates the new canons by which his works are to be judged, and carries the public with him. But more often he but gives expression to ideals and prejudices first formulated by others. The true cause of aggressive roofs is to be found in the false architectural doctrines which held sway in England during the latter half of the nineteenth century. We owe these particular designs to a cultural stream which originally derived its impetus from a cumulative drip of platitude, half-truth and sophism, a prolonged reiteration of the dogma that "Architectural style is conditional by climate."

But even if the actual forms of architecture may occasionally be modified to take account of an exceptional climate, this modification has nothing to do with architectural style. For it is the nature of style that it embodies a principle which can find expression in every possible type of structure. A "style" that could not be used in both hot and cold countries, that was not equally appropriate for all buildings, public and private, would not be a style at all. It would be just as ineffective and ludicrous as the butcher in "The Hunting of the Snark," who "could only kill beavers."

(To be concluded.)

New Excavations in Rome

The Rome correspondent of "The Manchester Guardian" writes: On April 21 last, the anniversary of the founding of Rome, a beginning was made with the work of excavating the great Imperial market squares in the area of Rome which is bounded by Trajan's Forum, the Forum Romanum, and the Via Cavour; it crowns an aspiration which dates from the Renaissance.

Raphael conceived the idea of an organized restoration of the Imperial fora, but with his death and the succeeding political disturbances his project came to nothing. In the sixteenth century some excavation was begun, but not until the nineteenth century was the unearthing of the Forum Romanum achieved by the efforts of Fea, Rosa, and later, Lanciani and Boni. About 1813 the French extended the excavations in Trajan's Forum, and unearthed part of the neighbouring Basilica Ulpia. Between 1888 and 1890 part of the Temple of Mars Ultor (the Avenger) was excavated in the Forum of Augustus. No work was undertaken in the fora of Julius Cæsar and Nerva.

Some remains of Nerva's Forum are still visible; they are known as the Colonnacce. Much more conspicuous are the ruins of the Forum of Augustus: some Corinthian columns, part of the crypt of the Temple of Mars Ultor, and the cellars where the military *ærarium* was kept. One of the colonnades of the Forum of Augustus is still visible; another is hidden by the little Monastery of the Annunziata, which also conceals from view a portico in which the public hearing of lawsuits used to take place. A grandiose semicircle of Trajan's Forum, in two stories, built of stone covered with little bricks, is almost completely buried by the ruins of old houses; a good view of parts of it may be had from the garden of a little *trattoria* (restaurant) which opens on the Via Alessandrina. The experts believe that this semicircle, which must during the period of the Renaissance have been in a good state of preservation and visibility, was one of the principal models which inspired the classic architecture of the sixteenth century in the majority of the *palazzi* of Rome and Italy.

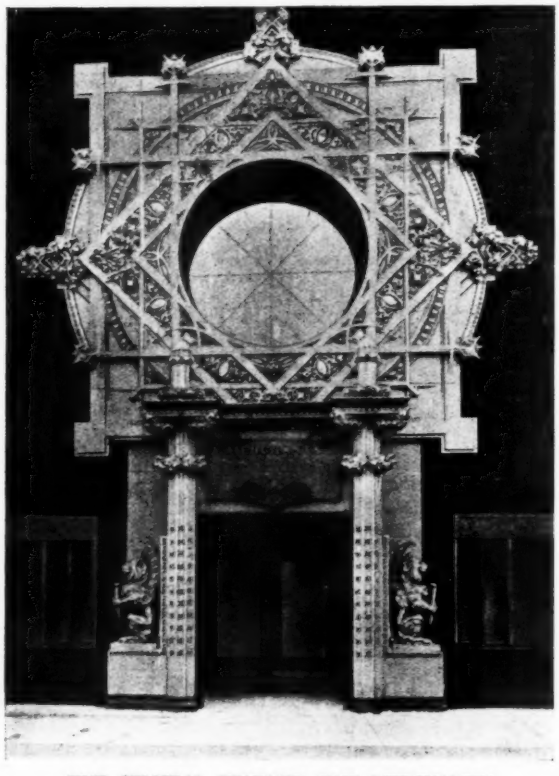
The Work of Louis H. Sullivan

By HOWARD ROBERTSON, S.A.D.G.

BACON, Albro, Pierce Anderson, Goodhue, and now Louis Sullivan. A heavy toll on talent in one year, a loss to America and to the world. All these men were architects of individuality: Bacon as a scholarly classicist, Albro in the gentle mannerisms of his country houses, Anderson as the fly-wheel of a big architectural machine, Goodhue as a warm-blooded virtuoso of design, and Louis Sullivan as an artist who followed ideals instead of systems, who was strong and original enough to practise along the lines of his convictions.

Sullivan's work cannot be drily assessed, for its value lies, not so much in the buildings which he erected, as in the importance of the principles upon which they are based. They are the essence of sincerity in the attempt to carry out the vital idea, to use his own words: "that the function of a building must predetermine and organize its form. . . . He realized that, as one stumbling upon a treasure, he had found that of which he had dreamed . . .—a universal law admitting of no exception in any phase or application whatsoever." If Sullivan's work sometimes fails to please or even excite to sympathy, it must be the result of his human failure to clothe his idea with beauty of expression. Whatever appreciations it arouses, it cannot be ignored, for it is a step in the march of progress in architecture, and it therefore places Sullivan as a master in his art.

Like all pioneers, Sullivan has had to overcome in his career the deadening obstacles of prejudice and conservatism. It is astonishing, considering the period in which he worked, and the strong currents in architectural thought which were then prevalent, that he survived professionally the initial difficulties of public recognition.



THE CENTRAL FEATURE, THE MERCHANTS' NATIONAL BANK.

From 1880 to 1890 there was undoubtedly in the United States a revival in architecture, for these were years in which men like Richardson, Root and Sullivan made their originality felt. But there were immense influences against the freedom of their thought, in the shape of popular Classic and Renaissance revivals, evidenced in the building of the Columbian Exposition, and the "discovery" of their derivative, the so-called Colonial style.

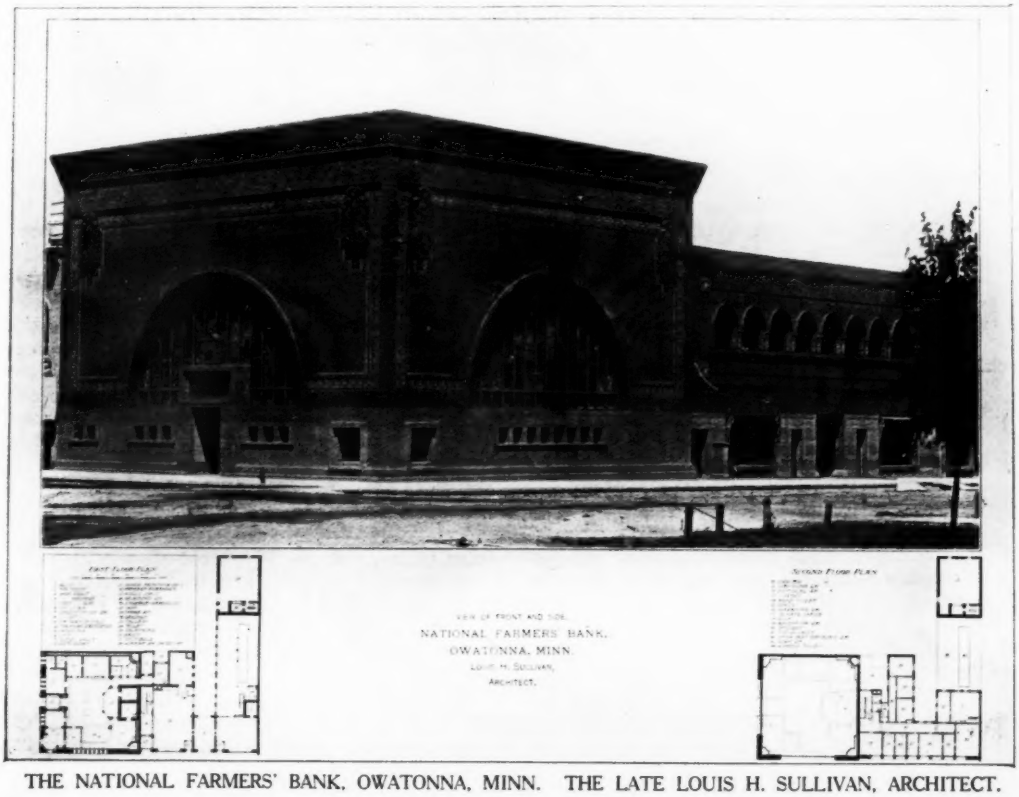
We see, in the Chicago World's Fair of 1893, a sample of the ill-favour with which the prophet Sullivan was regarded. The Transportation Building was his work (in conjunction with Adler), a broad and magnificent conception, fit setting to its Golden Gate. This building, compounded of Byzantine and Moorish influences transformed by Sullivan's own genius, with its great shadows and arched reveals, was used as the whipping boy for all the worst architecture of the exhibition. A correspondent in "The American Architect and Building News" deals out to it an acid sarcasm:—"The Transportation Building is the worst of all, and a doubt may well be held whether it has not purposely been made as hideous as possible in order to be a foil to the others. It is really nothing but a shed—large, spacious, and well lit, as it ought to be, but the architect has tried to make it present externally some new and original type of architecture, with a result that can only be described as a nightmare of bad taste and wasted ingenuity. It is painted dark red, with scrolls of twirligigs in all sorts of other colours, and this bizarre effect is aggravated instead of relieved by huge figures of flat and lanky females with wings, plastered on the walls at regular intervals, all exactly alike, as if done with a stencil plate. . . . The entrance consists of an enormously heavy archway, surmounted by a kind of slab or cap, the object of which is a mystery, the whole arabesqued in a bewildering pattern, and entirely covered with very brassy looking silver. I have never met anybody who could explain what it all means or how such a sanguinary looking blot was allowed to be placed in the White City. I believe it is a piece of native Chicago talent; but every Chicago man I have ever spoken to about it either laughs or swears at it, so there is reason to hope it by no means represents the Western American architecture of the future." Not all critics, however, were so harsh, for in the same journal we read that "The Transportation Building, from a distance, insists upon attention being paid to the little budding tower that the fertile soil of Illinois is causing to sprout through the long and simple roof. If it were not for this eccentricity, which very probably has a rational excuse, the effect of the building with its simple masses would be extremely good." Here we see at least the dawn of an appreciation for a renewed vitality in design.

Long before this time Sullivan had, of course, returned from his studies at the Ecole des Beaux-Arts in Paris, and in partnership with Adler was vying in professional success with the older firm of Burnham and Root. Of Sullivan's impressions of Paris, and his studies under his atelier "patron," Vaudremer, we may read in his "Autobiography of an Idea":—"As time went on, it became clearer and clearer to him what the power of culture meant. He began to realize that Paris was not of a day, but of busy and sad centuries. He studied carefully all its monuments, and each seemed to speak to him of its own time. He attended unforgettable midnight masses at Notre Dame; he spent many hours in the museums; he followed closely the exhibits at the School, especially the exhibits of the second or higher class. He familiarized himself thoroughly with the theory of the School, which, in his mind, settled down to a theory of *plan*, yielding results of extraordinary brilliancy, but which, after all, was not the reality he sought, but an abstraction, a method, a state of mind, that was local and specific; not universal. Intellectual and æsthetic, it beautifully set forth a sense of order, of function,

THE MERCHANTS' NATIONAL BANK, GRINNELL, IOWA. THE LATE LOUIS H. SULLIVAN, ARCHITECT.

of highly-skilled manipulation. Yet there was for him a fatal residuum of artificiality, which gave him a secret sense of misery where he wished but too tenderly to be happy. And there came the hovering conviction that this Great School, in its perfect flower of technique, lacked the profound animus of a primal inspiration." ("Journal of American Institute," May, 1923.) It is easy to discern in the expression of these feelings the germ of the ideas which Sullivan developed in his later life.

It was a little prior to the 1893 exhibition that Adler and Sullivan were engaged in the vast undertaking of the Chicago Auditorium Building, a project of marvellous skill, judged even by present-day standards. This building originated in the intention to build an Opera House finer than the New York Metropolitan, a hall for great choral and orchestral concerts, with a vast ball-room and assembly halls, and combining with it commercial accommodation that would make the undertaking financially self-supporting. This was accomplished by combining with the building a hotel and commercial premises—every square foot of the



THE NATIONAL FARMERS' BANK, OWATONNA, MINN. THE LATE LOUIS H. SULLIVAN, ARCHITECT.

THE CHICAGO AUDITORIUM: VIEW FROM THE STAGE. THE LATE LOUIS H. SULLIVAN, ARCHITECT.

street frontage is thus occupied, and the auditorium itself is buried in the heart of the structure. The building is remarkable in many ways—in planning, acoustically, and for the daring of its construction. The huge banqueting hall is carried on trusses 118 ft. in span, and the whole plan is conceived with a remarkable absence of columns, spans of 36 ft. being common. The vast auditorium of the theatre holds 4,200 people, and by an ingenious arrangement of ceilings which let down and shut off the galleries the accommodation can be reduced to 2,500 seats, making the theatre available for more modest spectacles. To this project Adler had much to contribute, but the influence of Louis Sullivan is unmistakable in the treatment and detail.

Of Sullivan's work in all its phases, space does not permit us to deal. Probably in England he is best known for his remarkable series of bank buildings, and for his domestic architecture, which has had such an influence on the "Chicago school" of men like Lloyd Wright, Burley Griffen, George Maher and Richard Schmidt. The bank buildings have great interest in their perfect function and expression of function. Sullivan, as Mr. A. N. Rebori has stated ("The Architecture of Democracy," "Architectural Record," May, 1916), gave to each architectural problem an extremely careful study of requirements, and did so by means of the most exact and detailed measured memoranda from which he prepared his designs. Every problem which he faced was different, and to each he gave an appropriate solution, so that we find no stale repetition, but only the family likeness arising from the impress of the designer's theories and personality. Only a knowledge of the programmes could explain Sullivan's designs, but what is most obviously evidenced is his manner of handling the forms which his building's function created. These forms are simple and logical. His system of ornamentation, dependent on surface treatment, entails relation of structure and decorative detail. It affords the building but little assistance in modelling, so the architect must inevitably rely mainly upon his building masses, the surface value of the material, and its handling.

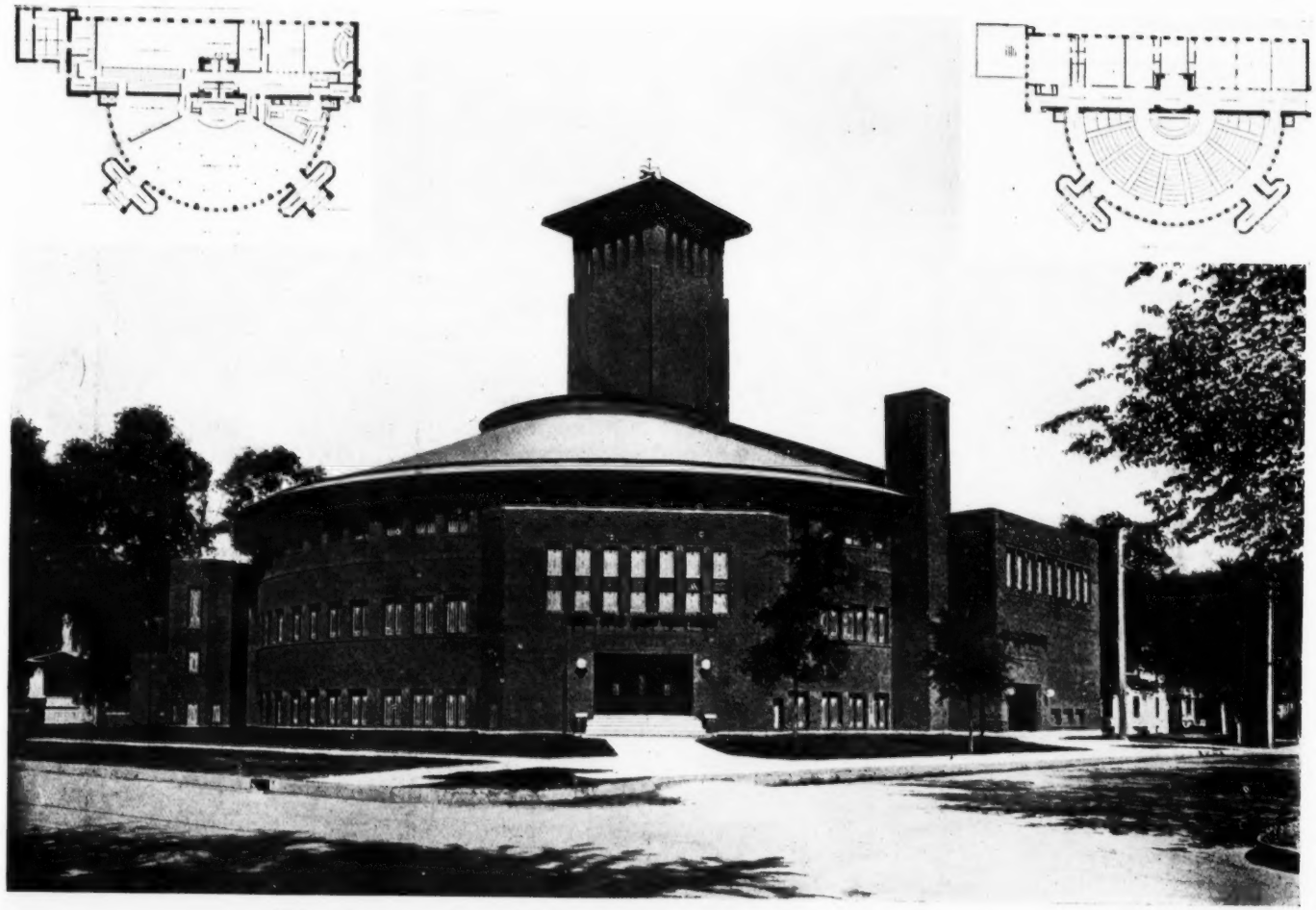
The most noticeable feature of Sullivan's detail is that it is designed and not copied. It is lovingly patterned, and with an obvious joy, but also with a sure knowledge. Brick, terra-cotta, marbles, fine woods, glass mosaic, tinted window glass, and gilding are all employed happily and cunningly, with a successful result which no photograph conveys. But the effect of these buildings is not dependent on the ornament; it lies in Sullivan's creed of "mind over matter," design from within outward, and conceptions like the Farmers' Bank at Owatonna and the St. Paul's Methodist Church at Cedar Rapids are as restrained as the detail of the Grinnell Bank is exuberant.

It is not easy to trace the influences of style which operated in Sullivan. The development of his modernism has little of the flavour of European tradition. He must have been acutely aware of the "New Art" movement, but there is little of French or Austrian "art nouveau," and only a distant trace of Jugend Stil. The work is of course to an extent the product of conditions, the radical desire for a rational and consistent basis for American design, a revolt against the traditional pot-pourri, all this aided by Western freedom in which the client did not insist on aping New York or European remnants, and was content with simpler buildings and furnishings. Sullivan evidently did not desire his buildings to be copied; they are a stepping-stone to further evolutions. His pupil, Frank Lloyd Wright, is carrying on his master's work in this direction, and with his warm approval, as can be read in Sullivan's recent article in "The Architectural Record" on the Tokyo Hotel. But Wright's work is quite readily distinguishable from Sullivan's.

As a writer, Sullivan is both a sensitive dreamer and an active fighter in defence of his ideals. His recent criticisms of the Chicago Tribune Competition bear witness to his power in combat; but all those who are interested in the abstract qualities of his mind should read his "Autobiography of an Idea," which will shortly be published as a book. It will help to an understanding of his buildings, and it certainly creates a deeper respect for his original and imaginative genius.

St. Paul's Methodist Episcopal Church, Cedar Rapids

The late Louis H. Sullivan, Architect



This edifice was partly posthumous, it being modified and completed by William C. Jones.

The Golden Gate of the Transportation Buildings, World's Columbian Exhibition

Adler and Sullivan, Architects

"The Transportation Building was his work, in conjunction with Adler, a broad and magnificent conception, fit setting to its Golden Gate."

Muhammadan Architecture in Egypt and Palestine

MUHAMMADAN Architecture in Egypt and Palestine receives fairer and saner treatment at the hands of Mr. Martin S. Briggs, F.R.I.B.A., than has been meted out to it by many former European writers. It has been too often the fate of this exquisite style to be pronounced "restless," "fickle," or "weak," by critics who have not given themselves the trouble to ascertain its qualities of repose, constancy, and strength, and the innocent art has been visited with the effects of the repulsion which, rightly or wrongly, may have existed between members of different religious communities. It was, by the way, in the course of a theological argument, that the late Professor Thomas Huxley enunciated a theorem that has never yet been given sufficient discussion and which would reverse, could it be proved, the prejudices very generally held to the detriment of Muhammadan architecture. Asked what had the Muhammadan religion ever done for mankind, Huxley is reported to have replied: "It has given us the purest style of architecture ever yet invented"; and though this reply seems to have been allowed to pass as an expression of an extreme point of view, a personal opinion only, it is still worthy of attention. Mr. Briggs, though he nowhere asserts his agreement with Huxley on the matter or affects to consider the style pre-eminently important, yet examines the subject he has chosen to investigate in all seriousness, instead of treating it with amused contempt or the patronizing half praise that has too often been bestowed upon it.

Just what constitutes purity in a style of architecture might seem a little doubtful until it is remembered that Huxley, speaking as a scientist, probably used the word as he would in referring to a chemical substance. Pure architecture is architecture and nothing else; and Muhammadan architecture, which owes nothing to figure sculpture or scene painting, stands or falls by its appeal as architecture alone. The spectator is not invited to sentimentalize over the pleasant, or painful, history of the persons represented in paint upon the walls or carved in marble on the pediment. Human interest exists, indeed, in the provision for the comfort and well being of the men and women who inhabit the houses or worship in the mosques, and this element of convenience is united with the considerations of strength and beauty that make up the sum total of architecture. Ignoring these three fundamental principles which are exhibited in good Muhammadan buildings, as in good buildings erected in the interests of other religious communities, critics have seen in the architecture of Egypt and Palestine only the "superficial" and the "frivolous," and from these attacks no better defence could be imagined than the straightforward description contained in Mr. Briggs's excellent work, where criticism is founded, as it should be, upon an understanding of the purpose for which each building is designed.

The chapter descriptive of the form of worship practised in the mosques is a fitting introduction to their study, and the historical sequence of the development of mosque architecture is well explained in the course of the book.

Without pretending to have discovered the origin of every characteristic detail of Muhammadan architecture, the author recounts the views of former writers in a way that should put the enquiring reader on to the track of the solution of certain vexed questions, and though, in some ways, the book might have gained in emphasis had its author expressed his own personal opinions with greater freedom, the impartial air is certainly unusual in an account of Muhammadan architecture written by an Englishman. It is all the more valuable by contrast with the ill-considered assertions that mar so many former works.

The influence of the religion and of the Muhammadan client upon the nature of the design produced by the,

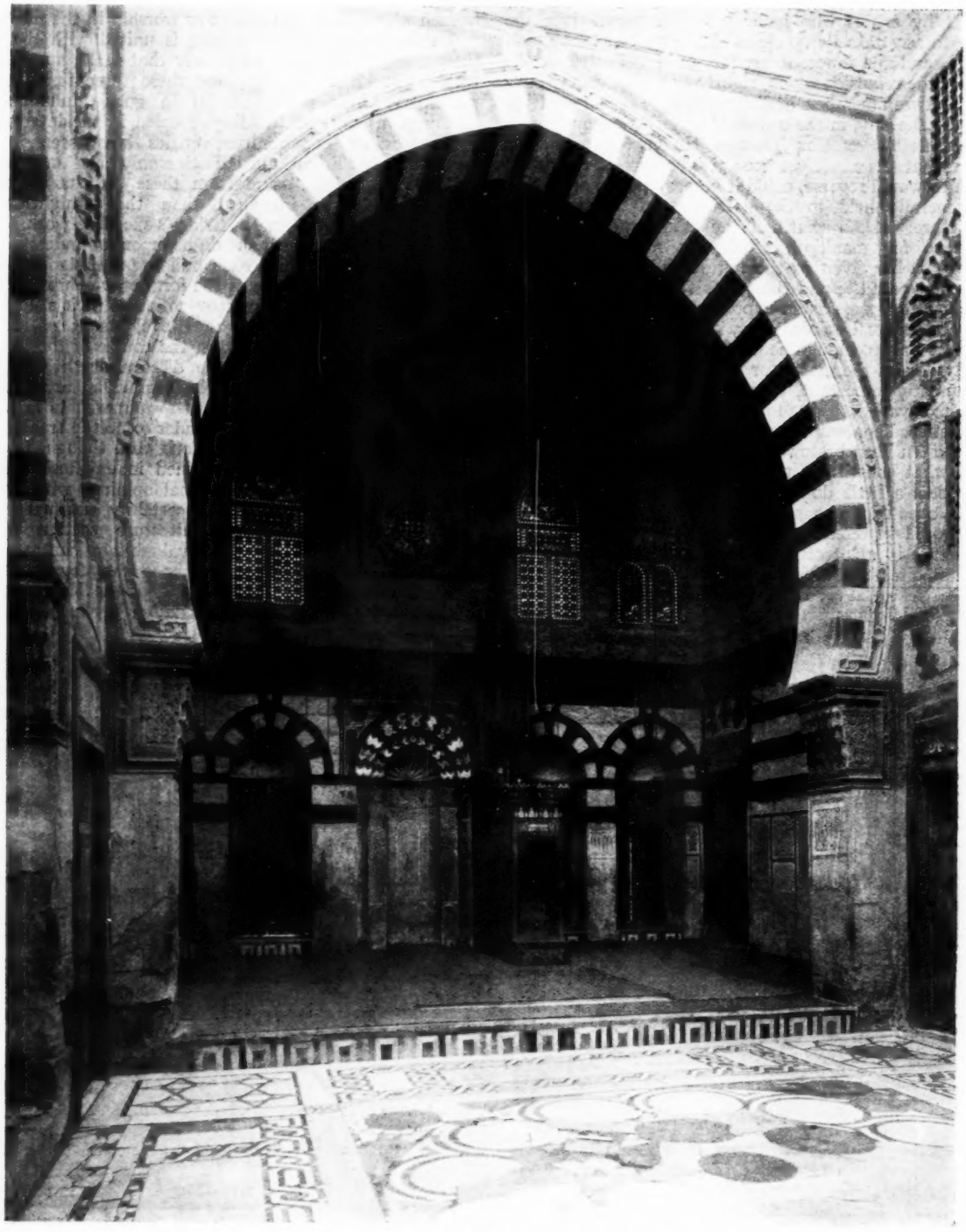
"Muhammadan Architecture in Egypt and Palestine," by Martin S. Briggs, author of "Baroque Architecture," etc. Oxford: at the Clarendon Press, 1924. Price £4 4 0 net.

Photo: American Colony Stores, Jerusalem.

JERUSALEM: THE HARAM ASH-SHARĪF AND THE "DOME OF THE ROCK."
(From "Muhammadan Architecture in Egypt and Palestine.")

supposedly, Christian craftsmen employed by the Arabs in Egypt is revealed from time to time in the pages of the book, and its importance is borne out, of course, in the many charming illustrations, but the astounding improvement in quality of design under Muhammadan rule might have received more notice, since it is a matter that calls for special comment.

Thus, of the Dome of the Rock at Jerusalem, the author writes: "until learned men have finished their squabbles as to the exact relations between Rome, Ravenna, and Constantinople at this period, it does not seem possible to allot the exact measure of responsibility for this 'annular rotonda' plan. It is far more important to know that it was derived from Christian sources, either from or through Byzantium (possibly from Constantine's churches at the holy places), and its remoter ancestry whether Sasanian, Byzantine, Ravennate, or Roman, is not a vital matter here. Neither in the plan itself, nor in the details of construction was there any startling development apparent in the progress of architecture." Again, on a later page: "The earliest examples of Muslim floral ornament, such as some of the mosaics in the Dome of the Rock at Jerusalem, were executed by Syrian, Byzantine, or Coptic craftsmen, and follow fairly closely the existing local type."



CAIRO: MADRASAH OF QĀYT-BĀY *EXTRA MUROS*, INTERIOR.
(From "Muhammadan Architecture in Egypt and Palestine.")

Now, though these statements are quite correct in the obvious sense in which the context shows that they ought to be read, there is a very important difference in proportion, which separates the Dome of the Rock from most contemporary and previously existing buildings. Haphazard methods of setting out have permitted certain slight irregularities in the plan, but the use of an approximately exact system of unit measurements marks the building as a step in advance. In acquiring freedom, Byzantine architecture and building construction had lost something of the precision of classic art and became, in some examples, comparatively bulky and cumbrous, and although the Dome of the Rock is rightly described as "half Byzantine," it should be noted that the Muhammadan influence has contributed something on the side of precision and refinement both in the disposition of the structural masses and of the decoration. The mosaics are wonderfully consistent throughout the whole interior without being merely repetitive or monotonous, and they gain immensely by the elimination of the red-nosed contemporary representations of Byzantine saints and other figure subjects which, except in a few isolated examples, are interesting rather than beautiful. The building belongs to an early period in Muhammadan art, but it partakes of the character which Mr. Briggs rightly discovers in that art in general, and "is undoubtedly light hearted, joyous, and dainty."

Another building which receives and deserves high praise is the Mausoleum of Qalāwūn, Cairo. Of it the author writes: "In matters of detail the interior of this mosque has no rival in Cairo, much less in Damascus or Jerusalem or Aleppo. The walls are lined with marble, the mihrāb has tiers of beautiful dwarf arcading and is lined with turquoise and marble. From the marble floor to the dome, the whole Mausoleum is a blaze of colour, gilding, and stained glass, all in restrained and harmonious tints."

The building was extremely beautiful when I studied in it in 1908, although the restorations were still incomplete; but though the massing is romantic and interesting and the detail exceedingly delicate, the interior can hardly be compared with the Dome of the Rock as a consistently magnificent whole. The exterior of the Mausoleum is divided up by a series of pointed arches enclosing the groups of windows. The pilaster or buttress strips, from which the pointed arches spring, are carried upon columns for what appears to be the height of the lowest story, though, as the interior is really only one large hall, the division of height is a purely arbitrary one. The booths of the coppersmiths (since removed) almost hide the columns in the illustration, their capitals just appearing above the cloths used to protect the stallholders from the sun.

The minaret which may have influenced the design for the seventeenth-century campanile of the Duomo at Lecce, in Southern Italy, as Mr. Briggs suggests, "is in three diminishing stages, the lower two square, the top one circular."

For the benefit of those who regard Muhammadan architecture as flimsy it should be stated that this minaret is solid throughout the whole height of the building to roof level. Above this point it is pierced for a spiral stair, but the walls are still of substantial masonry throughout the two lower stages. The use of a great mass of solid material in the lower part of a minaret is the rule even in the graceful works of later date.

CAIRO: MADRASAH OF QĀYT-BAY *EXTRA MUROS*, EXTERIOR.
(From "Muhammadan Architecture in Egypt and Palestine.")

The great mosque of Sultan Hassan is even more worthy of note as a monument where the majesty due to colossal dimensions is combined with the most exquisite refinement of proportion and with detail so finely adjusted in descending scale that its smallest panels, formed of engraved metal work inlaid with gold and silver, are each one separate jewels yet all kept in key with the whole. The principal Liwan of the mosque is an arch of such huge size that one-third of the length of Westminster Hall could be contained within it and the line of the roof slope would require packing out to fill the haunches of the arch.

The chapters devoted to the description of craftsmanship contain references to the construction of stalactite ornament and to the joggled stonework used in composite lintels and relieving arches characteristic of the style. Also to the geometrical decoration that has received the name of Arabesque on account of its conformity with the Muhammadan ban on the representation of living beings. The book contains a wealth of information upon both the historical and the technical sides of the subject, and is illustrated with admirable photographs and by the author's own clear pen-and-ink sketches, which are patterns of what illustrative drawings should be in that, while they are pleasant to look at, they convey the desired information.

WILLIAM HARVEY.

The Modern School and the Future Race

By G. TOPHAM FORREST, F.R.I.B.A., Architect to the L.C.C.

MR. G. TOPHAM FORREST, in delivering a lecture before the Architects' and Surveyors' Assistants' Professional Union, said: "If we would realize something of the great strides which have been made in general education we could not, perhaps, do better than contrast the buildings of to-day with those of the last century. When the School Board began its great work—and it was a great work—the first need was seen to be that of the provision of suitable buildings. In those days it would appear that almost any kind of building was considered suitable for the purpose.

Contrast with that the elementary school of to-day. In London, and, in fact, in every town in England, you have lofty school buildings which even by their outward appearance suggest the purpose for which they were erected, and if nothing else has been gained as a result of the passing of the Act of 1902, there is surely great gain in having imposing school premises, especially in those districts which are covered by mean and often squalid buildings. The contrast becomes more pronounced when we visit one of the modern school buildings, and even more remarkable when we consider the secondary schools.

The schools are the outcome of experience gained during the previous thirty to fifty years. They were designed by architects who made a life study of their subject; but they are not merely the products of the architect, they are the outcome of the joint experience of the teacher, the medical officer, and the architect. These schools are designed not only for the child—although that is of primary importance—but also for the teacher.

As to the subjects taught in the schools to-day, here again the architect realizes the great advance which has taken place in education. In the early days of the School Board, the one essential was to provide rooms for the most elementary type of education, but to-day the architect has to divide his buildings into classrooms all of which must be arranged in such a way that the children shall have the maximum amount of fresh air and sunlight; he must plan halls suitable for general assembly, singing, and drill; and provide practical workrooms in which elementary instruction in such subjects as science and needlework can be given. This is even more noticeable in the central schools, and still more in secondary schools.

In the secondary schools the training aimed at may be described as :—

1. Humane, on the literary, scientific, and artistic sides.
2. Physical, through organized games, drill, and gymnastics.
3. Practical, in the sense of being a preparation for the pupils' after careers, and
4. Social, through various recreative activities out of school hours.

And in designing secondary schools the architect has to bear this in mind and arrange his buildings in a way which shall assist the teacher in imparting such education and the pupils in receiving it. Then there are technical institutes and schools of art designed for practical and theoretical instruction in professional and manual work.

In London the development of the school may be said to have been continuous, and when the Education Acts of 1902 and 1903 transferred to the London County Council the powers of the School Board, that body, at the earliest possible moment, directed its attention to the problems of co-ordinating and making further provisions for higher education, with the result that in London to-day we have what may well be claimed to be a unified and efficient system of local education.

I may at once be told that the ideal has been by no means reached. The sufficient answer to that is, that the ideal is never reached. It will certainly never be reached in education. There will always be the possibility of better things, of better methods. At the present time, for example, there is a growing desire for open-air conditions in elementary schools. The London County Council has recognized this, and on its new housing estates at Bellingham and Roehampton, elementary schools have been designed of a pavilion type, approximating as far as educational exigencies admit to the lines of a sanatorium. In designing these schools one has had to remember the fact that ideas in regard to education are constantly changing, and it is for this reason that the portions of the buildings more likely to be affected by new ideas, namely, the classrooms, have been constructed in semi-permanent materials, so that they can at any future date be readily altered in size, or even demolished at a minimum of cost.

This broad survey of education during the past fifty years, and this examination of the modern school leads me to say that, at any rate, so far as the architectural profession is concerned there is nothing of which we need be ashamed, but rather a great achievement of which we may be proud. We have helped provide a great opportunity for the children of our country, and I think that will be all the more evident as we apply the test of the future to the school of to-day.

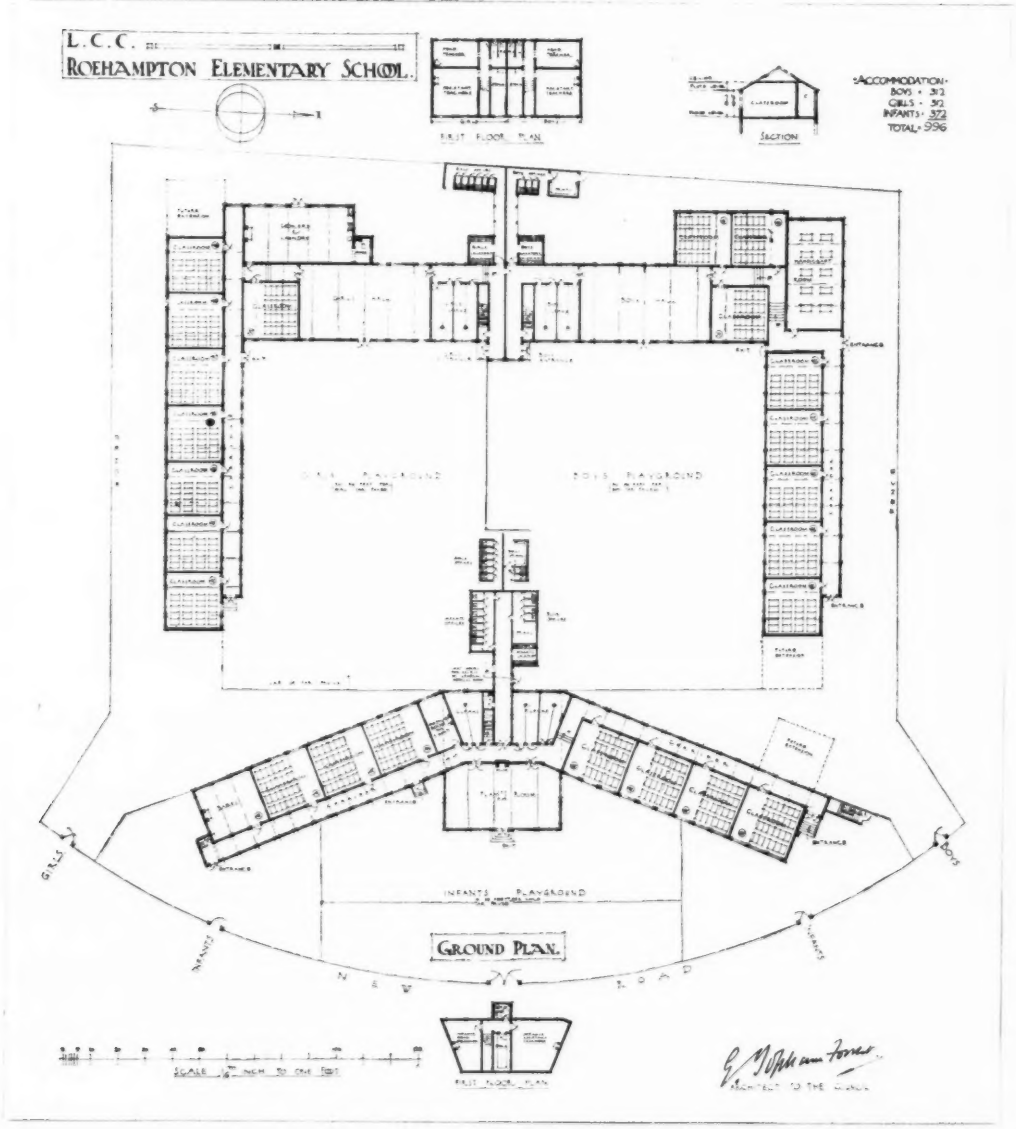
Broadly speaking, I think the State expects and demands of the modern school a threefold return, namely, physical, mental, and moral equipment for those who shall be the men and women of the next generation.

Whatever pessimists may say to the contrary, human life is coming into its own, we are rapidly realizing the value of child life in our midst, and in realizing that, we find ourselves confronted with a great responsibility, as well as a great opportunity. These are the facts which the architect, in designing schools, has always before him. He feels that his buildings must be designed in such a way that they shall prove an important part in the machinery which shall enable the State to reap the results for which it has a right to look, after all it has done for education during the past half century.

Our first test, therefore, is as to whether the modern school ministers to the bodily well-being of the children. We remember only too well, what the medical profession revealed to us during the war as to the physical unfitness of large numbers of the men of this country. There were, no doubt, many reasons to account for that unfitness, but I think that one reason, perhaps the main reason, was that the value of fresh air and good food and physical exercises in the life of the child was not realized until quite recently. Not very long ago such things as gymnasiums and extensive playing grounds and playing fields would have been considered a waste of money, but in designing school buildings to-day these are among the essential things considered.

To-day we insist on games, because we realize that children cannot learn unless they are in a fit state to learn. The whole environment of the schoolboy should be such as to make him fit in this respect, and this fact has been most clearly borne in mind in designing even the elementary schools. My great hope for the future race is that the modern school in all its branches provides an atmosphere and an environment, which may be said to approach that of the home, and in many cases supplies that influence which we associate with home; but which some children, alas! were it not for the school, would never know.

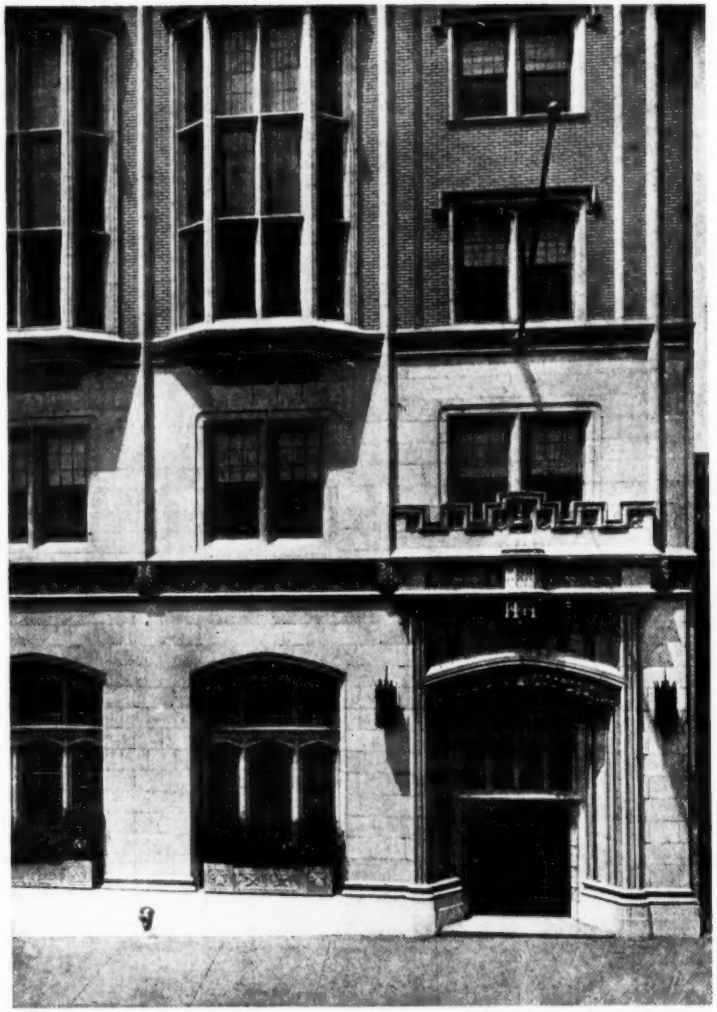
I claim that so far as it is practical to provide such an environment by means of buildings, the modern school well stands the test.



ROEHAMPTON ELEMENTARY SCHOOL.

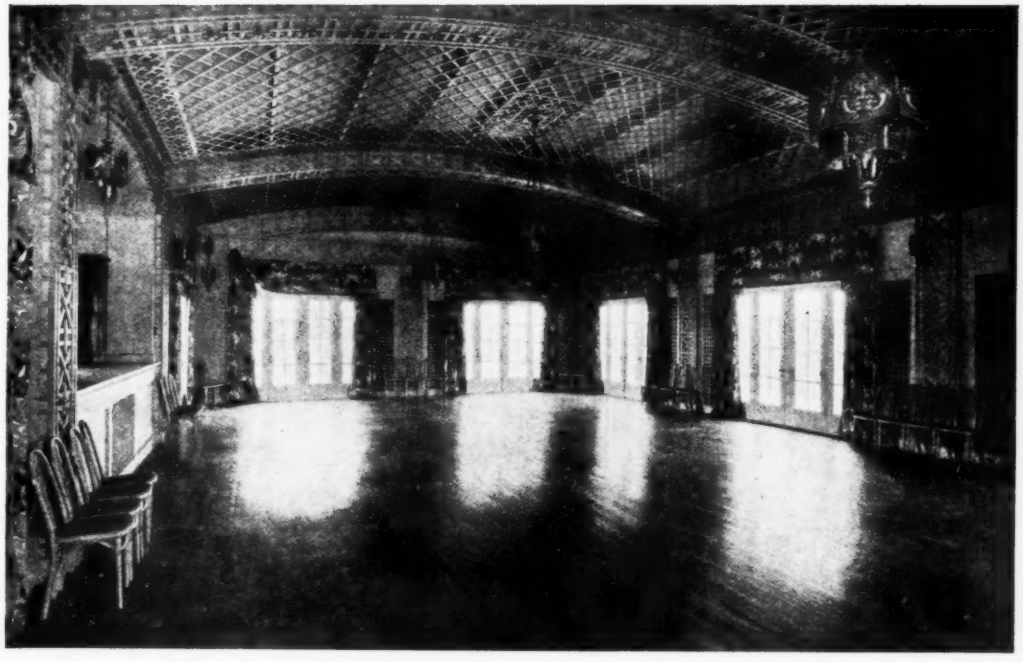
G. TOPHAM FORREST, F.R.S.E., F.G.S., F.R.I.B.A., ARCHITECT TO THE LONDON COUNTY COUNCIL.

A GENERAL VIEW.

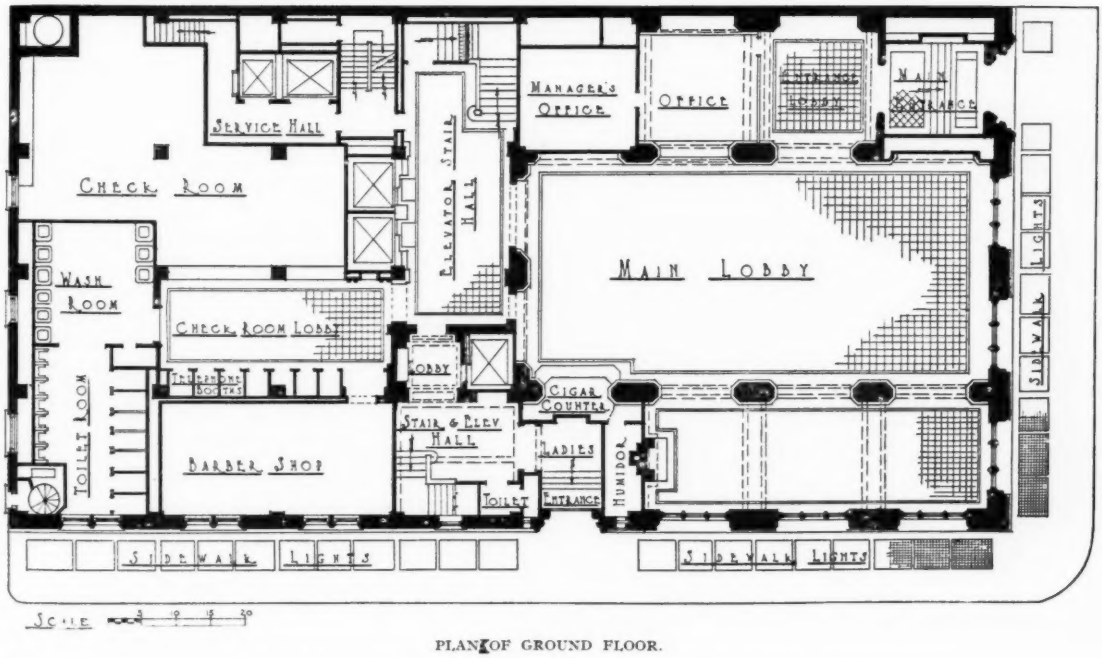


THE MAIN ENTRANCE.

KANSAS CITY CLUB, KANSAS CITY, MO. SMITH, REA AND LOVITT, ARCHITECTS.



THE BALL ROOM AND ROOF GARDEN.

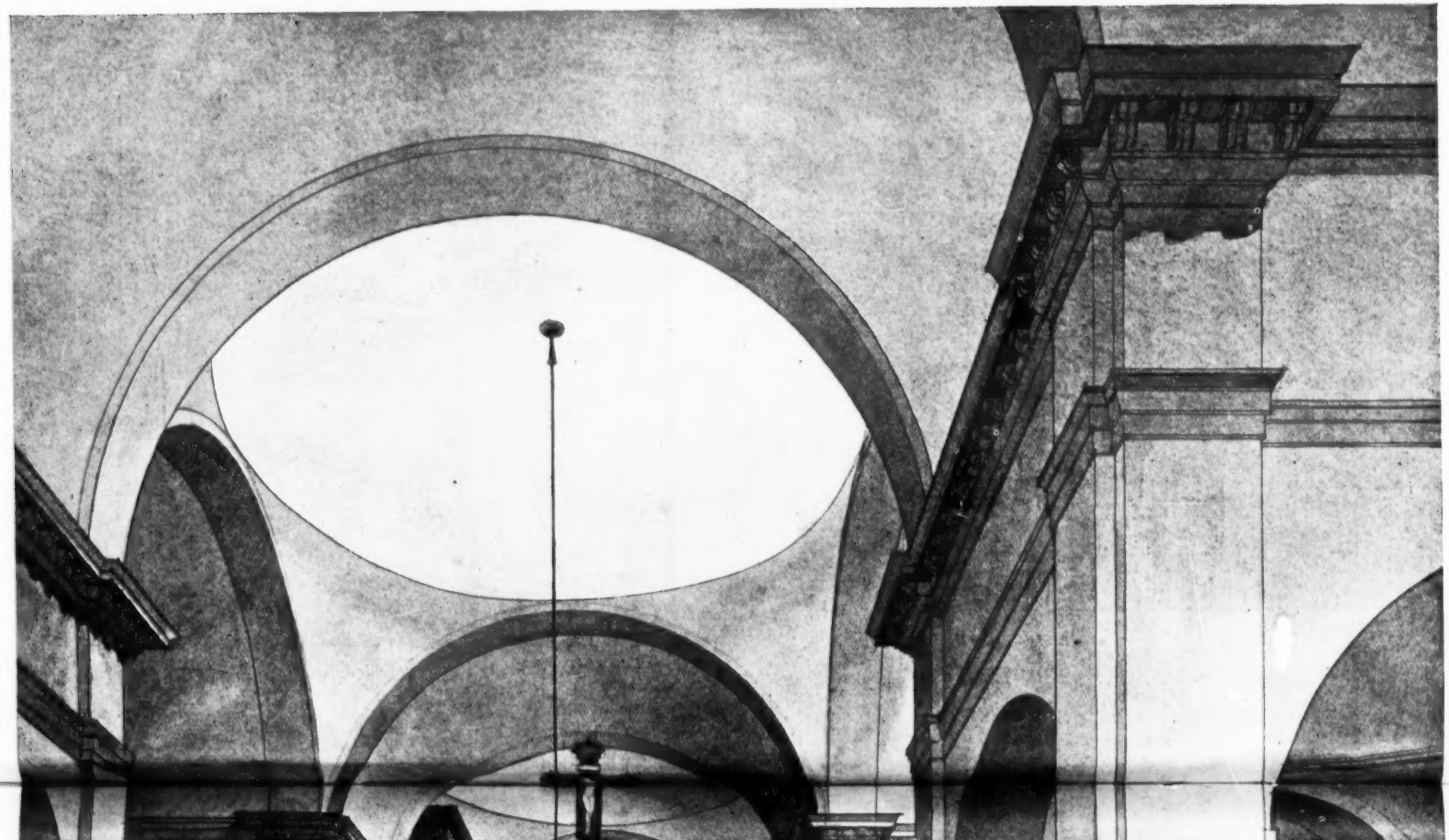


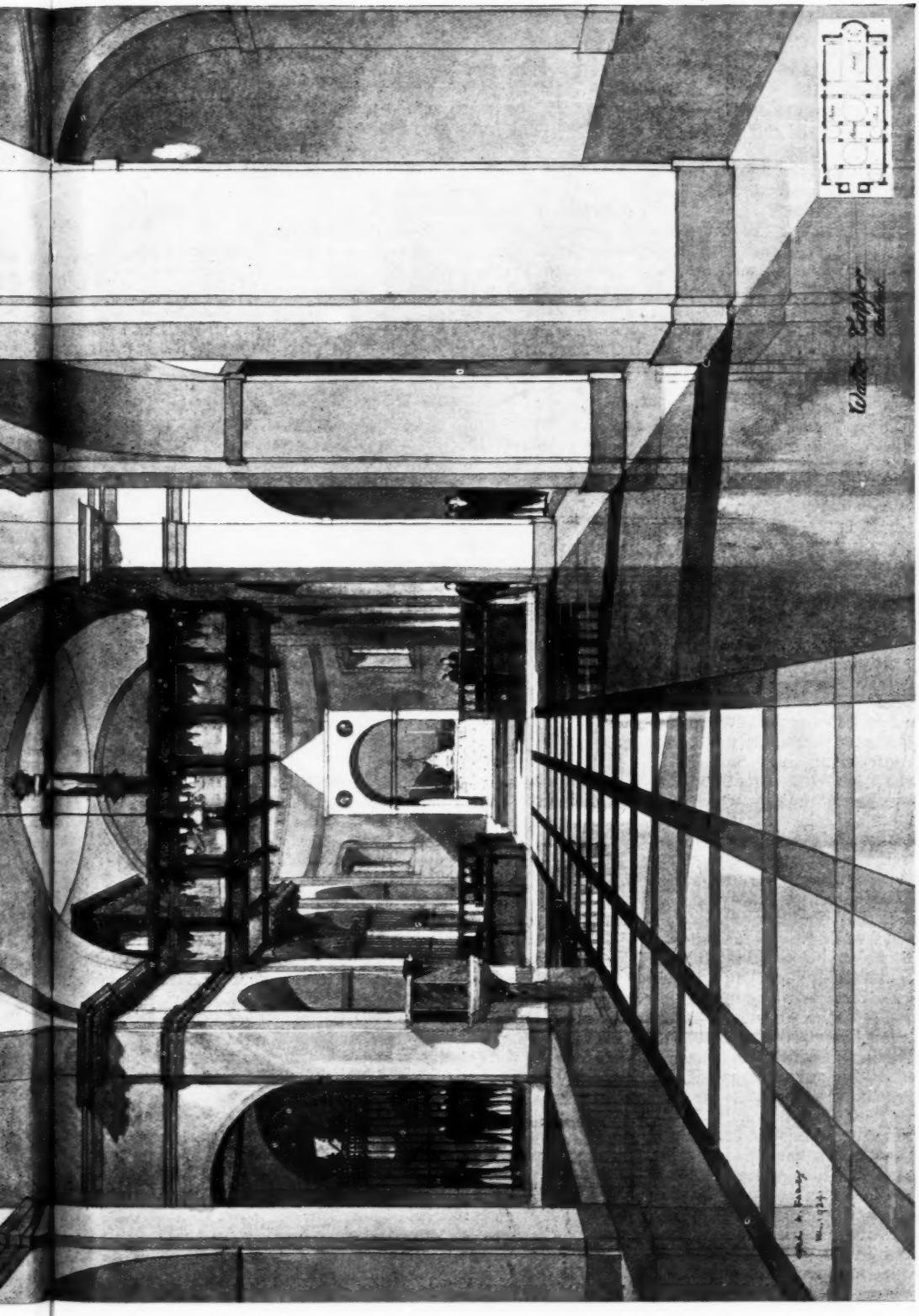
PLAN OF GROUND FLOOR.

KANSAS CITY CLUB, KANSAS CITY, MO. SMITH, REA AND LOVITT, ARCHITECTS.

Interior of Church at Gorton, Lancs.

Walter Tapper, F.R.I.B.A., Architect





(*From the Royal Academy Exhibition.*)

Sound Transmission from the Architect's Point of View

II—Noises Within Doors

By HOPE BAGENAL, A.R.I.B.A.

SOUND within doors is transmitted through partition walls, along continuous floors, and through the beams and columns of the structure.

Partition Walls.

The three different ways in which sounds such as are generated by typewriters and musical instruments are transmitted through a wall may be briefly repeated as follows: (1) by communicating a wave motion to the separate particles of the material, (2) by traversing the air enclosed in the interstices of the materials, and (3) by causing the whole wall to vibrate like a diaphragm and to set up corresponding sound waves upon the other side. Generally all three factors are contributing in serious cases of sound transmission, and in designing the walls of new buildings where silence is desirable all three should be taken into consideration.

Density and solidity in a wall will tend to prevent the sound waves from actually exciting the particles of the material as in case (1) and will also prevent the wall vibrating as a whole, as in case (3). Hence there is no sound-proof partition like an 18 in. wall in cement on good foundations, and generally speaking, our buildings defend us from noise in proportion to their solidity of structure. But where cracks and small holes occur in heavy walls (Case 2), a leakage of sound out of all proportion to their apparent size will take place. For street noises this was noticed in the case of the leakage of sound into board-rooms through ventilation grids, and within doors it frequently happens that the efficiency of a good wall against a neighbouring noise is impaired by inter-communicating ventilation ducts or holes for hot-water pipes, or a badly-fitting door which leave open small airways through which the sound penetrates. Double doors will be useless if the door linings leave gaps extending through the wall which are masked by a dab of plaster and the wallpaper.

These facts apply exactly to the ordinary interior partitions. Partition walls, being lighter and thinner, tend to transmit sound by method (3), that is by the whole wall vibrating like a diaphragm and setting up corresponding vibrations on the other side. To counteract this, solidity and weight is desirable. Other things being equal, a heavy 3 in. block partition will be more efficient than a light 2 in. The common double partition with an air cavity is an attempt to prevent transmission by interposing planes of cleavage between materials of different density and causing inter-reflections between them. But what is gained by absorption due to inter-reflections may be wholly lost by reducing weight and rigidity. Some noises can be better excluded by total mass and rigidity; of this kind are organ notes and deep tones from machinery having long wave lengths able to excite thin partitions like vibrating plates. For these cases a light partition with an air space may be less efficient than a 4½ in. wall in cement. But the former might serve perfectly to exclude footsteps, typewriter clicks, and noises high in pitch. In partitions all cracks and imperfect joints will diminish efficiency. When the air space is employed for its proper purpose it should be as wide as possible. Experiment by Professor P. Sabine has shown 11 in. to be more efficient than 2 in. or 3 in. for sounds of average pitch. It should never be so small as to cause mortar to collect and bridge the gap.

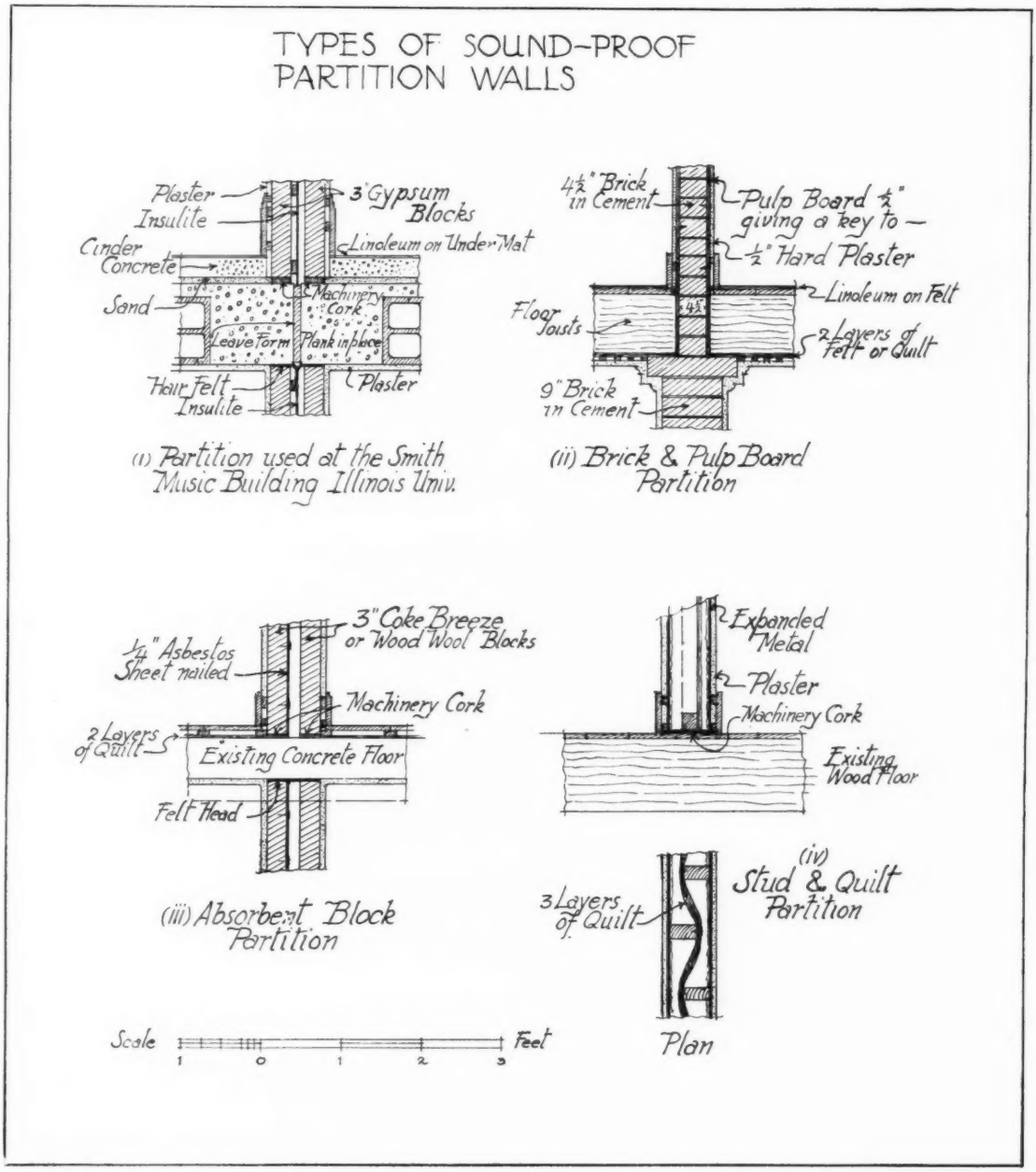
Pugging or filling in the cavity with absorbing materials such as slag-wool, saw-dust or eel-grass will not render a whole partition more solid, but may add to the total absorbing or energy-destroying capacity. But all pugging materials tend to sink under their own weight, and leave upper areas void. Often money spent on pugging could be better spent in other ways. Professor F. R. Watson recommends a wall consisting of two 3 in. gypsum block partitions separated by a 2 in. cavity having an absorbing material nailed to battens on the internal surface of one of the partitions. ("Acoustics of Buildings," 1923, ch. x.) This entails the building of one partition first and nailing over it the absorbing material (felt or quilt), so as to leave no gaps anywhere, and then building the other partition to complete the wall. This type was used successfully to insulate practice rooms at the Smith Music Building, Illinois University. It is shown in the figure in diagram (i).

Necessity of Insulating from Floor and Ceiling.

All these precautions will be useless unless the walls are properly insulated from the floors. This is necessary, as in the case of the double windows, in order to prevent the members acting as diaphragms and picking up sound from each other at the points of contact. The problem equally involves the walls, and the floor above and below the walls. In modern office buildings it is a common practice to build continuous floors and erect partitions upon them later where required. In these cases an anti-vibration course of cork or pulp-board laid first upon the floor is a necessary part of every partition wall. In cases of double partitions, each member should rest on its own course. At the ceiling level felt should be used to insulate from the floor above; the felt should be thick and tightly packed. An anti-vibration course under all partition walls will also serve to limit sounds transmitted by contact through the structure of the building.

In the diagram four types of sound-proof partition walls are shown, and in the three cases where the weight of the partition is carried by the floor, anti-vibration courses form part of the design. Diagram (i) is Professor Watson's partition already noticed: heavy 3 in. blocks are used for the partitions providing solidity and reflection; cracks are guarded against by covering the whole of one inner surface with "Insulite," and the floor is specially thick and rigid. A layer of sand carries the principal of the anti-vibration course over the whole floor so that piano tones shall not be delivered by floor-contacts. Diagram (ii) is a 4½ in. brick wall in cement disconnecting two floors which rest on a 9 in. wall below. The brickwork will give the solidity. The sides are then plugged and covered with a wood-pulp or cane fibre insulating board giving a key (as is frequently the case) to ½ in. of hard plaster. The board should be brought down behind the ends of the joists as shown. The joists should rest on felt or quilt and be covered on their undersides by the same material. Diagram (iii) shows an absorbent block partition formed of coke-breeze or wood-wool resting on an existing concrete floor. One member should be built first, resting on machinery cork, and have nailed upon its cavity side a covering of ¼ in. asbestos sheeting, the sheets butt jointed and nailed through at frequent intervals so as to form a rigid reflecting surface. The joints between the sheets should be cemented over. This reflecting sheet of asbestos must not touch floor or ceiling or it will conduct sound conveyed through the structure, but

must stop upon the cork and at the felt head. Then the other member, also on its cork base, should be built. This wall is designed as the converse of Professor Watson's. Solidity plus absorption is provided by the blocks, and the reflecting and air-tight properties are provided by the asbestos sheet. But since coke-breeze or wood-compo blocks are lighter and less dense than gypsum plaster the total wall is not likely to be as efficient against all tones. But architects will find certain walls more practicable in certain cases, and having learnt the principle will be able to design them themselves. Diagram (iv) shows a double stud partition for an existing wood floor, having plaster $\frac{3}{4}$ in. on wire lath, and within, a double layer of felt or quilt. This partition also should rest on cork. It will be less efficient against deep tones, but its greater lightness makes it available in cases where other types are precluded.



In small houses where continuous thin concrete floors are used complaints about w.c.'s are frequent.

Practice Rooms for Music.

Considerable research in America in the acoustic design of practice rooms has led to the following conclusions. (See "Watson's Acoustics of Buildings," 1923, ch. xi.) The sound-proofing of walls and floors on the lines described must be such as to make each room an insulated unit. Floors, to be efficient, must be concrete 12 in. thick, but may be lightened by the insertion at intervals of hollow tiles, see diagram (i). Doors must be heavy and have special felt

Insulating W.C.'s.

In residential buildings floors should be planned so as not to be continuous between rooms acting as sources of sound and living-rooms, but if possible be planned disconnected as in diagram (ii). This is important in the case of w.c.'s. The brackets of the water-waste preventer should not be fastened direct to plugs in a thin partition wall, but should have rubber washers at the points of contact. The pedestal also should rest upon a cork mat or upon a cork flooring.

stops. The ventilation system requires a separate inlet duct from a supply chamber to each room, and a separate vent duct from the room to a fan chamber. The fan chamber, however, requires special treatment, or the sounds from pianos will travel through it from one duct to another. To prevent this the mouths of the vent ducts within the fan chamber must have cowls padded with felt on the insides, and the whole chamber requires to be padded in order to reduce its reflecting properties to a minimum and prevent its acting as a *junction* for sounds transmitted through ducts. The fan should be a large, slow, velocity fan.

Precautions against transmission by ducts and through doors and windows are necessary in the case of practice rooms *in order to reap the benefit of the sound-proof walls.* It is useless to spend money on the one without the other. The corridor into which a series of practice rooms opens should be carpeted and treated with acoustic plaster so as to reduce sound and not pass it on from one door to another.

Planning.

In planning modern fire-proof office buildings, attention should be paid to ordinary sources of noise. Rooms for noisy duplicating machines should not be placed near board-rooms or committee-rooms. Board-rooms and committee-rooms should also, if possible, be disconnected from loud lifts and from hard-paved public corridors always in use. A top-lighted board-room otherwise silent may be ruined by putting borrowed lights of thin glass in it to light a noisy public corridor adjoining.

A large general office in which all the organs of a business are grouped under a hard plaster ceiling should have that ceiling covered with felt or quilt and screened with canvas. Otherwise the ceiling acts as a sound mirror in which every typewriter has its image, and the larger the office the greater the accumulation of sound within it, and the more of a nuisance will it be to adjoining rooms.

Gangways in offices should be carpeted and public corridors floored with a permanent cork or rubber flooring.

In the planning of halls and churches, the locating of a ventilating fan or of a blower-chamber may cause or prevent trouble in the future. The object should be to remove them as sources of noise from contact with thin walls or ceilings liable to act as diaphragms, and from steel stanchions or water-pipes liable to act as transmitters.

Lifts.

Lifts can emit a whole series of irritating noises, and since they are generally located at the mouths of hard-plastered corridors, they are often the first nuisance in the building. The architect should insist on a quiet motor and drive, and, if possible, doors instead of the common lift gate. The shaft should not be part of the weight-bearing structure of the building. Where cost permits, a brick shaft independent of the building structure and carrying the guides and fittings for the counter-weights should be built on its own foundations. Ordinary lift-shaft frames require to be stiffened by contact with each floor, but the points of contact could be insulated by means of rubber washers and felt bushings.

Noises Transmitted Through Structure.

Internal noises transmitted through the walls, columns and floors of a building are generally from rotating machines, which *with the machine bed and the supporting floor form together a vibrating system.* The proper balancing of the machine and its running at quiet speeds—the work of the engineer—is of first importance. The architect has then to consider the period of vibration of bed *plus* floor. This should be out of tune with the period of vibration of the rotating machine it has to support. The period can be varied by the weight of the bed and its position along the span of the floor. The last factor is important, and can often be illustrated by the case of a piano moved about upon a wood floor: at a certain position in the span of the floor, piano *plus* floor will form a sympathetic system, and tones from the piano will be easily transmitted to adjoining rooms; at another position giving a different stress in the beams the floor will act as a damper and tones will not be transmitted.

Machine beds and floor should be designed to damp out vibrations. Engine beds on the ground can be designed with heavy concrete foundations insulated by machinery cork from the adjacent ground, or on upper floors beds can be used having the patent spring beams now frequently used. The floors should be designed in relation to the type of engine bed. Generally the more solid and rigid the structure of the building, the less will be the amplitude of vibrations transmitted, but precautions should be taken by bedding the steel joists carrying floors on plates of machinery cork. The cork used for this purpose is made capable of resisting the loads. The insulation is not complete owing to bolt contacts, but considerable improvement can be effected by this means.

Vibration and noise are often transmitted from one building to another through foundations. This can be prevented in designing new buildings by anti-vibration courses in the walls and by special mats under the feet of steel columns as described in the last article. Sounds are transmitted from ventilating fans and organ-blowers through ducts by means of metal connections. In such cases contacts should be broken by canvas sleeves, and the sounds lessened at their source by placing the fan on a bed insulated from the floor and walls.

(Concluded.)

[The previous article appeared in our issue for June 11.]

Correspondence

The Bridges: Action at Last

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—I notice in your issue for June 4 (page 932), you still pursue your view that Charing Cross Station should be removed to the Surrey side of the Thames. Do you not think, that inasmuch as most of the gay and business life of London is north of the river, a station in the position of Charing Cross communicating directly to the suburbs and country south, is a boon to those living south, quite apart from any question of convenience for our continental visitors? After all a solution of the problem which deprives us of existing facilities is a poor one. If architects fear their ability to design a beautiful railway bridge why should public convenience be sacrificed to an expensive and doubtful alternative.

READER.

How Not to Approach the Architect

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—Among the works published by the Architectural Press I notice there is one on "How to Approach the Architect." May I suggest that a companion volume, on the subject of how *not* to do so, would be invaluable? Just recently a note has appeared in a trade journal to the effect that I have been fortunate enough to receive instructions to act as architect for a new building, and, during the last few days, my working hours have almost been fully occupied by interviewing or refusing to see travellers. The influx of catalogues is not a serious matter—I have purchased a new and capacious waste-paper basket.

The chief offenders, however, are those who ring up on the telephone, which, besides being exceedingly irritating, wastes time which could be more profitably employed. I think that, if there is one form of advertising which is calculated to make an architect cross these particular firms off his list, this is certainly the most effective.

R. STEPHEN AYLING, F.R.I.B.A.

Little Things that Matter—32

The House and Household Stores, Saving Steps, Used Space or Wasted Space

By WILLIAM HARVEY

UNTIL the practice of housewifery is itself established upon a firmer and more scientific basis there can never be any generally accepted standard of fitness in the planning of a dwelling-house in respect to the accessibility of its household stores. Personal taste and judgment, even personal whim, enter into housekeeping, and though the housewife is thoroughly efficient in the management of certain existing premises, lack of technical training, or of imagination or ability to understand a drawing prepared in accordance with the rules of orthographic projection, may come between her and the arrangement of plan best adapted to her needs when the opportunity presents itself of building a house to suit her own requirements. A spirit of make-believe in social matters may also intervene and induce the client to disguise from the architect the real nature of the proposed methods of household management.

In speculative design and construction, ambiguities such as these are replaced by uncertainty whether the house will be inhabited by folk who send out the laundry or do it at home, who employ a servant or who, on the contrary, take in a lodger, and planning under these nebulous conditions has made the villa-residence of our suburbs the thing of makeshift and mystery it so often is. Attempts to please all parties can only end in failure, and the combination of diffused thinking with the very real compactness dictated by limitation in the matter of cost makes for the type of house in which it is a miracle if intelligent beings can live at all.

For large mansions there is something like an established rule, not without its recognition of economy, in the planning of the servants' quarters. But the idea of extreme stateliness is incompatible with the saving of steps in that part of the house that is adapted for display and even where the service arrangements are thoroughly compact the dual arrangement is not altogether economic in this respect.

Definition in planning separate apartments for state and service is, however, in accordance with an immemorial tradition and will be appreciated as long as the philosophy of front-stair and back-stair is tolerated. At present the division is almost universally accepted not only in respect to mistress and servant, but as between two moods in a single individual. The housewife, working singlehanded, naturally wishes to shut the door upon the scene of her labours, and to spend some part of her day away from the saucepans and scrubbing brushes. Even should she be an enthusiast in housework she welcomes the possibility of change of occupation, and those advocates of the simple life who would abolish all distinctions between work-room and living-room in their campaign against artificiality, find themselves opposed to a natural and wholesome inclination of Martha to assume the rôle of Mary if they insist upon their theory to its extreme point.

The rational planning of household store-places for accessibility is very often practised in large mansions, particularly in America, where the interplay of state and service apartments has been developed by the tradition of nearly two centuries.

The separate service entrance with its provision of suitable space for the reception of goods brought by the tradesmen, the ice-chest provided with a door from the exterior of the building for the insertion of renewed supplies of ice in standard quantities, the service stairs giving access to all floors, are all the results of the application of certain settled ideas in housekeeping to the architectural planning of the house. The servery lobby, sometimes called a pass-pantry, which combines the functions of a passage with those of a work-room and assembling place for the material of meals, is another convenience for the large or moderate-sized house that has been fully worked out in all its details in America.

The vast majority of houses in this country are designed on the basis of a single kitchen sink per house, and closer planning is required in very small buildings where the problem may be visualised as an attempt to make the housewife's labours lighter and brighter while she is at work, and to increase speed in its accomplishment as far as consideration of cost will permit.

The Benefit of Bungalows

It is becoming more and more fully recognized that stairs involve an excessive expenditure of energy, and with the provision of damp-resisting building materials and suitable windows, the old prejudice against one-story buildings in England should gradually die away.

It may be shown in certain cases that the actual distance to be traversed has been shortened by arranging the accommodation upon two floors, but the steps taken in mounting the staircase are laborious, and out of all proportion to those taken upon the level, and the method of comparison on the basis of geometrical distance would not be a fair one.

Whatever the number of stories, the utmost economy in working the house can only be achieved by thinking out the access from room to room, and from back door to store cupboard, very much in the manner of an engineering problem in the flow and return of a liquid in a pipe. The walls of the "pipe" are, of course, the outlines of the fixed objects, furniture, door-jambs, walls, and cupboards that must be passed in the routine of housekeeping.

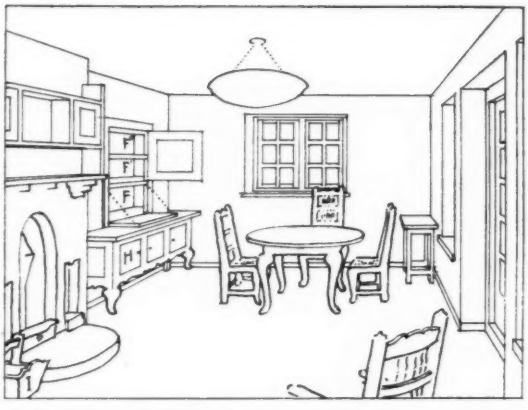
Steps can be saved by the reduction of the size of the whole circuit and making the whole house smaller, but this in turn reacts upon the width of gangway between pieces of furniture which should never be less than 2 ft. 6 in. wherever two persons may be expected to pass one another. An inch or so in excess of this dimension may be preferable, but in a small working kitchen of modern design, it is frequently desirable to have the various pieces of furniture within arm's reach of one another. Greater distance than this means additional labour in fetching and carrying, and in cleaning the house.

Hinged flaps or a movable kitchen table on wheels have been suggested to meet the difficulty of easy access to fixtures at one side or the other at different times of the day, but, unless the site is very restricted, the advantage lies with furniture that remains in a recognizably appropriate position. To enter the kitchen with a heavy box of groceries and find the table-flap hanging demurely against the wall is not satisfactory.

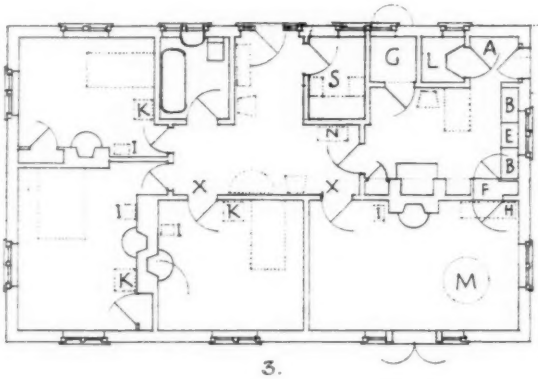
The direction of the ebb and flow of human activity throughout the house is determined by the habits of life of its tenants, and it is necessary to decide at the outset whether the kitchen is to be a living-room or whether it will never be so used except for the meals taken in the house by the daily help. The whole planning of the house for accessibility to stores turns upon this decision. If the kitchen is also the general living-room of the house, it should on no account be given the functions of a passage; if it is the household laboratory, it should possess this function in the highest degree compatible with the processes of cooking for which the room is primarily designed.

Where the housewife works alone or in company with a daily help or a child, the kitchen laboratory is the con-

KITCHEN PLANNED TO SAVE SPACE AND STEPS. STORES ENTER HOUSE AT BACK LOBBY A. FOOD IS PREPARED ON DRAINING-BOARD B. COOKED ON GAS GRILLER C, OR RANGE D, STRAINED AT SINK E & PASSED THROUGH HATCH F. FUEL STORE AT G HAS WELL FITTING COAL BOARDS. RANGE RAISED TO CONVENIENT LEVEL ON BUILT-UP BASE. DAYLIGHT IS IN RIGHT DIRECTION FOR COOKING OPERATIONS.



DINING ROOM PLANNED TO SAVE STEPS & TIME ALL ITEMS OF TABLE SERVICE ARE STORED IN HATCH CUPBOARD F. F. F." & SIDE-BOARD H. THE MEALS ARE TAKEN AT THE END OF THE ROOM NEXT HATCH THE FUEL BOX I STANDS NEAR DOOR OF THE ROOM



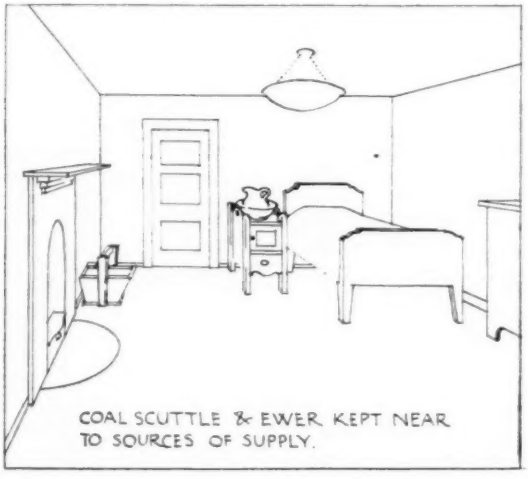
3.

OUTBUILDINGS IN THIS POSITION WILL SHIELD BACK LOBBY FROM N.E. WIND.

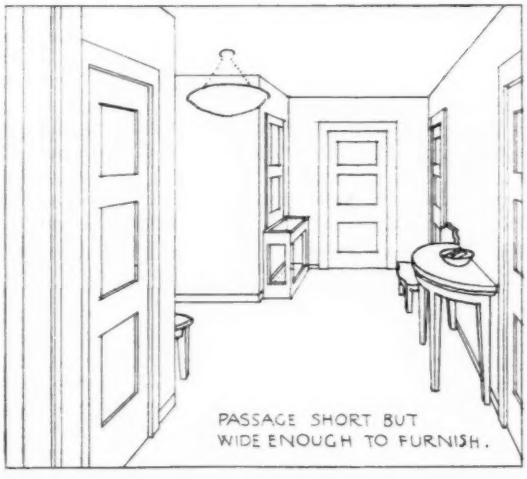
THE STORE ROOM S HAS FLOOR AREA FREE FOR PRAM' OR 'CYCLE BUT HAS CUPBOARDS ON WALLS ABOVE.

'TEE' SHAPED PASSAGE GIVES PLEASANT BROADSIDE LIGHTING ALONG WALL X.X. HATS AT N. BEHIND DR

COTTAGE ON ONE FLOOR PLANNED TO ECONOMISE LABOUR IN HOUSE WORK WITHOUT ABNORMAL EXPENSE. FOOD FROM LARDER L. IS PLACED ON DINING TABLE M. WITHOUT TRAVERSING THE FRONT PASSAGE. FUEL BOXES I. ARE WITHIN EASY RANGE OF FUEL STORE G. WASHSTANDS K. NEAR BATH RM



COAL SCUTTLE & EWER KEPT NEAR TO SOURCES OF SUPPLY.



PASSAGE SHORT BUT WIDE ENOUGH TO FURNISH.

LITTLE THINGS THAT MATTER DIAGRAMS. DRAWN BY WILLIAM HARVEY.

venient nucleus of almost all the household store-places which should be provided within easy reach of it (see Fig. 1). The fuel store should be arranged with its door into the kitchen, not far from the range or hot-water apparatus, with an outer door or window through which the fuel can be shot. An ordinary casement window, 1 ft. 9½ in. in breadth and 2 ft. 8½ in. high, opening to a height of 5 ft. 9 in. from the floor, will permit of the entry of a sack's mouth handled in the ordinary way upon the coal-man's shoulders. A window is better than a shutter, if provision is made for opening it flat back against the wall to protect the glass, as it admits light for stoking operations and for reading the gas-meter generally fixed on the wall of the coal store. Coal boards working in grooves beside the door-jambs are essential to cleanliness and comfort with fuel in this position, and the lack of them has caused critics to fall foul of the whole arrangement—unnecessarily, since the omission can easily be remedied.

The Larder

A position for the larder near the back door permits of foodstuffs being put away as they are received, with the minimum of handling and carriage. The larder should not be far from the kitchen sink and that again should be but a step from the cooking apparatus and the serving-hatch-cupboard, which in the small house may be regarded as the substitute for the pass-pantry (see Figs. 1, 2, 3). The hatch-cupboard should be designed to accommodate a tea tray stacked with crockery on each of its three shelves so that clean ware can be returned to its place in the higher part of the cupboard, and used dishes can be passed from dining-room to kitchen side to be washed up at the adjoining sink. Dry stores of a non-inflammable character may be kept in cupboards adjoining the chimney-breast, oils stowed away under the sink and its draining boards behind doors fitted to enclose these useful spaces.

The airing closet may even be installed in the kitchen beside the fireplace where it obtains the warmth of the cylinder and hot-water circuit at a minimum cost. Often placed in the bath-room, as a matter of course, the airing closet for clean linen is probably better kept out of it to avoid the steam and damp from hot baths, and, failing a special chamber for sorting linen, the kitchen table is as convenient a place as another. The upper part of the serving-hatch-cupboard is used for storing conserves, and adjacent cupboards should be provided for pots and kitchen utensils and for the dry groceries continually needed in cooking.

Laundry is hardly practicable in a house only provided with a kitchen-laboratory of this type, but a workshop-room entered from the back lobby would serve this and many other purposes besides protecting the kitchen from the north-east wind (see Fig. 3).

Access to the bath-room and sanitary conveniences has been the subject of much controversy, and plans of houses are often published which show the various positions for this accommodation favoured by different designers.

In the small house where only one w.c. can be provided the choice of a position to fulfil all requirements is almost impossible. In a house with bedrooms upon the first floor the carriage of water to bedroom wash-basins and the exit of bedroom slops would indicate that the sanitary accommodation should also be on this level. In a one-story building, with the bedrooms disposed in a group at one end of the plan, the sanitary accommodation may reasonably be placed beside the bedroom group and between it and the entrance hall where it is available for access from the bedrooms and from the living rooms of the house (see Fig. 3).

Planning to save space affects the cost of the house as well as its convenience, and ungainly lengths of corridor should be avoided in the interests of expense as they should be on artistic grounds.

With the design of passages on the principle of the flow and return in a pipe the widest space would be given to the passage which has to bear the greatest traffic. This is, presumably, the entrance hall, which should also be wide enough to let light pleasantly into the heart of the building. The remaining passages may be narrower but should be as short as possible and should not run on in a straight line, getting darker as they penetrate the house, or receive their sole illumination from commonplace skylights high up in the roof.

It was a law of illumination well understood formerly, though allowed to lapse during the Victorian period, that rooms should present their broadside to the light to obtain the pleasantest effects. The same applies to passages, if only funds were available to shape them in accordance with it (see Figs. 3 and 5). It is small comfort to possess a well-proportioned sitting-room if the approach to it is by way of a sordid ill-lit passage, and a method of obtaining something of the effect of broadside light without sacrificing half the floor space of the house to the entrance hall is to make it and the adjoining passages in the form of a capital T, giving, if possible, greater width to the passage at the junction of the upright and the cross stroke. Light entering by way of the front door at the end of the entrance passage finds a broad surface of passage to strike upon and is reflected from it into the ends of the branch passages. The habit of thinking in terms of narrow town building plots has led to the assumption that width in a corridor or passage is so much "wasted space," but this need not be the case if the planning for short and wide corridors is set about consistently from the outset. Extra width in a corridor may make all the difference in the possibility of furnishing it appropriately, or even hanging pictures or prints on its walls in positions where they can possibly be seen in comfort.

Where the intending house-owner already possesses suitable pieces of furniture, it is just as important to install them adequately in the entrance hall as to crowd them into bedrooms or sitting-rooms. Space for a side table, a chair or two, and a chest, also for the hat- and coat-pegs, and umbrella stand is necessary in every comfortably planned entry, but whatever furniture is placed in the entrance hall, the preservation of an adequate gangway must be the first consideration.

The Saving of Steps

Saving of steps in the dining-room is very largely a matter of the arrangement of the furniture. The sideboard or service table containing the cruets and silver should be placed under the service hatch to confine the table-setting traffic in one corner of the chamber (see Fig. 2). The fire-place is the effective centre of a sitting-room in this climate, and a saving in the carriage of fuel may be made by keeping the chimney-piece in the same wall as the door. This arrangement of the chimney-stack inside the building instead of upon its outside wall also economizes fuel, since none of the heat is wasted outside the building. The convenience of being able to place the coal-scuttle or refill the log-basket beside the fire without having to traverse the whole length of the room is worth thinking about, for in the case of a dining- or sitting-room where many chairs and small pieces of furniture are likely to be scattered about the floor, the minimum gangway of 2 ft. 6 in. is not particularly likely to have been preserved.

Bedrooms may be made economical of steps by having the bed, the washstand, and the fireplace planned at no great distance from the door of the room (see Figs. 3 and 4). Like fireplaces, beds are best placed against internal walls, so that a double advantage is obtained by this treatment. The dressing-table must be placed in a good light, which ordinarily means setting it near a window, but a bedroom may be all the more comfortable and all the more artistic for the provision of ample clear space between the bed and the dressing-table, with wardrobe and chest-of-drawers arranged to face the clear space. Fitted lavatory basins, with hot and cold water laid on, would make for economy in work in drawing water for the bedrooms, but their cost is prohibitive in the small house erected under the conditions which now have to be accepted as normal in England.

The International Congress

ARRANGEMENTS are now being completed for the International Congress on Architectural Education, which is to be held in London from July 28 to August 2. All Members and Licentiates of the R.I.B.A., and all members of the Architectural Association and of the allied societies are invited to attend the congress, of which the cost of membership has been fixed at 10s. 6d., to include all publications in connection with the congress and the privilege of introducing one lady guest. The headquarters of the Congress will be at the R.I.B.A., 9 Conduit Street, London, W.1. The programme so far arranged is as follows :—

Monday, July 28.

Members will assemble in London.

In the evening, at the R.I.B.A., there will be a reception of the members of the congress by the President and Council of the R.I.B.A. Members will have an opportunity of inspecting the exhibitions in the R.I.B.A. galleries.

Tuesday, July 29.

In the morning there will be a meeting of the members at the R.I.B.A., when papers on architectural education in the past in America, France, Italy, and England will be read and discussed.

In the afternoon the members will assemble at the Architectural Association, 34 Bedford Square, W.C., for a visit to the School of Architecture and proceed thence on a visit to the Bartlett School of Architecture, University of London, Gower Street, W.C.

Wednesday, July 30.

In the morning papers on architectural education in the present in America, France, Italy, and England will be read and discussed.

In the afternoon members will assemble at the R.I.B.A., and will be conveyed to Lambeth Pier, where they will embark on a private steam launch and proceed to Greenwich by river. Tea may be obtained in Greenwich Park. Members will then return by steamer.

The cost of this trip will be 8s., excluding tea.

Thursday, July 31.

In the morning members will meet at the R.I.B.A., when papers on architectural education in the future in America, France, Italy, and England will be read and discussed.

In the afternoon a visit will be paid to the British Empire Exhibition at Wembley. The party will be conducted round the exhibition by Sir Lawrence Weaver, Director United Kingdom exhibits, Sir John Simpson, and Mr. Maxwell Ayrton. Tickets, 3s., including admission to the exhibition.

In the evening the congress banquet will take place at the Hotel Victoria, Northumberland Avenue, S.W. Tickets, 12s. 6d., exclusive of wines; 32s. 6d., inclusive of wines, etc.

Friday, August 1.

The day will be devoted to a visit to Cambridge. Members may proceed to Cambridge by motor or by rail. Luncheon will be served in the hall of Gonville and Caius College. The Cambridge School of Architecture and other places of interest in Cambridge will be visited during the day. Arrangements will be made for tea.

The inclusive charges in connection with this trip will be as follows : Motor, luncheon and tea ticket, 32s.; rail (third class), luncheon and tea ticket, 13s. 11d.; rail (first class), luncheon and tea ticket, 18s. 6d.

Saturday, August 2.

The following conducted visits have been arranged : Westminster Abbey, by Professor W. R. Lethaby; St. Paul's Cathedral, by Mr. Mervyn Macartney; the City churches, by Mr. Arthur Keen and Mr. Arthur Stratton; the British Museum, by Sir John Burnet.

Contemporary Art

Modern British Art.

THE present Goupil Salon is distinguished by the presence of several not unimportant pictures by John S. Sargent, of which "The Cathedral of Arras, August, 1918," is the most interesting, and "Fountain, Bologna," the most charming. There are two nice paintings, "Southwick" and "Off the South Coast," by W. W. Russell, and one of Fred Brown's, "Fishing Boats, High Tide." James Pryde's efficient technique secures the maximum of interest with the minimum of subject in the painting of two pillars in "The Ruin." In "The Bridge" Horace Mann Livens is at his best, as is Lamorna Birch in "Still Noon, Pilfichie Castle."

The rooms devoted to water-colour and other drawings are rich in very delightful works. Davis Richter shows he can make architectural studies in water-colour almost as well as still-lifes in oil in his "Espaly, Rocher St. Joseph," and in his flower-pieces, of which there are several, that he can draw these as well as he paints them in oils. The calligraphic drawing of Walter and H. Greaves of "Cheyne Walk" is matched, and in method surpassed, by the very dainty penline and colour-wash of "Subiaco," by F. H. S. Shepherd, and the same artist's "Church Interior, Verona." Other drawings of buildings are by Horace Mann Livens of "Hampton Court," by A. E. Cooper of "Hare Lane, Ludlow," by Hy. Rushbury of "St. Gervais, Paris," by Chas. Ince of "Boston Market Place," by Walter Bayes of "A Villa Garden, Rapallo," by Gilbert Spencer of "Carsington," by Charles Ginner of "Langham Place," and by Lucien Pissarro's pointillist "All Saints' Church, Hastings." Richard Wyndham's "Cathedral Tower, Amalfi," is treated in the true baroque spirit, and Eric George contributes two good decorative drawings.

Pictures as Decoration.

At the Mansard Gallery a courageous attempt is made to assert the real decorative value of oil paintings in frames by discarding the old idea of frames as containers and substituting that of using them as distributors of their effect. Vernon Blake has done this thing and invited the aid of the furnishings of rooms in order to accentuate the leading motive of his work. Of some seventy pictures two stand out conspicuously as really fine decoration : "Dionysiaque" and "Naught is more prodigious than Man." There are signs of original genius about this artist's work, and although he is of the foremost of the advanced school in his methods, these signs are based firmly upon the solid rock of classical learning and academic surety. It is a very striking exhibition, such as is rarely seen in London, and the enjoyment to be had out of it is of a very exceptional character. With all their other qualities and intentions, it is as well to realize that these works have their roots in a true love and study of Nature.

Pastoral Water-colours.

Nature is largely in evidence at the Walker Galleries. The fresh atmospheric drawings of A. Carruthers Gould give it this note, which is maintained throughout the show until it dies away in the delightful "View from my Window," by George Sheringham. There are some twenty-five exhibitors, mostly belonging to some society or other, but united in this seventh exhibition of what are attractively called pastorals, which include to their advantage here and there some studies of buildings. They are not all English pastorals, but they are all by very accomplished English artists.

Some Eastern Pictures.

Percy R. Craft at the Greatorex Galleries proves himself a good observer of Eastern architecture and humanity. The studies of Eastern types of mankind are excellent, and those of the buildings no less so, and generally the two interests are combined. The artist works sincerely at what he sees, and sets down his impressions in honest, straightforward, unaffected fashion.

The Beaux-Arts Galleries.

Portraits by Monro Mackie exhibited a slick style in the representation of fashionable types, and a cosmopolitanism that was somewhat refreshing after the succession of native work, however excellent. The woodcuts by Allan McNab were equally exhilarating, and served to add one more proof of the vitality of the revival of the art.

In the same gallery some early paintings of Sir William Orpen showed the solid basis upon which the success of his later work is built.

KINETON PARKES.

The Central School of Arts and Crafts Exhibition

The Architectural Drawings of the Students

It is a difficult thing to judge the merits of students' designs, for architecture is not a subject that can be learned in a few years. And again, under our present system of training, students have not much opportunity for thinking in real buildings, but work very much from hearsay—either on what they have learned of their masters or in conversation with their companions. Further, the buildings they design are seldom for sites they have seen, and may be in districts which they do not know. In these conditions it is not fair to consider the results as one would mature architecture. All the work shown at this exhibition is by men in their second year of training, men whose ages are within a year or two of twenty. In these conditions the result is uncommonly good. It shows that the instruction is sound, and sympathetically given.

Most of the designs shown are for a church on a site in the Peak district—a difficult site sloping steeply from the south to the north, with a road at the foot of the hill.

It is interesting to notice that none of the plans follow the English Gothic manner. The tendency is to adopt a modified form of the basilica plan with a wide nave and a small apse or a square recess at the east end. In looking at these plans, too, the layman must consider the finished building rather than the drawing, for some of the latter suggest hard and mechanical workmanship, which is certainly not intended and which is due to a desire to make the drawing keen, and clear for a builder.

The conditions regulating the size of the church and its cost were strict, and they appear to have been closely kept.

In each design the wide nave is covered with a single roof, and with one exception the side walls are low. The chief source of light is usually from a big west window. One of the difficulties of the plan chosen when covered with a wide roof is the junction of the apse or sanctuary with the main building. This, and perhaps the junction of the tower with the nave roof at the west end, may be felt to be a weak point in each design. The best tower is certainly that designed by Mr. E. Dully, but it might be that in a church on such a site, the tower would be better placed within the four walls of the nave and in the north-west corner of it. With regard to the roofs, two of the students, Mr. A. R. Clare and Mr. Milleson, followed Mr. Thackeray Turner's church of St. Anselm, Davies Street, in supporting the timber of their roofs on stone arches used as principals, an arrangement which quite a number of moderns have adopted. To me this mixture of ideas does not seem to be very satisfactory. I think, too, the buttresses supporting Mr. Clare's transverse arches require more abutment; and one wonders why he chose to cope these a foot or more below the projecting eaves. Would it not have been more reasonable to have let the eaves themselves act as the weather-top of the buttresses? Mr. A. R. Clare's work, I think, indicates that he has a sense for the materials in which he designs.

In none of the designs do I find the main constructional idea expressed as strongly as it deserves, and in most I am doubtful whether sufficient consideration has been given to lighting. In churches of this form it is sometimes convenient to place cross gables well up in the roof, with windows in them, and in no case has this arrangement been adopted.

Mr. G. Carter's bungalow is carefully worked out. He has, however, designed for "looks" rather than from construction. The plan covers a considerable area, and in order to keep his roof low he has covered the central part at ridge level with a lead flat, a course that some feel should be avoided. His front doorway is designed to trick the imagination. Its form is derived from a desire to get the appearance of immense thickness of brickwork, a thickness that is in no way needed with low walls. Too many of his rooms are lighted from the end only, and the fireplace in the central sitting-room is badly placed behind the door. The large living-room would be a very pleasant place in use.

Those who visit the exhibition will be impressed and delighted by the finely drawn and richly coloured crescent designed for a dancing hall by Miss Douglas-Sampson. She knows what she wants, and also how to get it. This is an excellent piece of work.

Though hardly so closely connected with architecture I would direct the attention of the visitor to the excellent cabinet-making done in the classes taught by Mr. Charles Spooner.

A. R. POWYS.

R.I.B.A. New Members

At the last general meeting of the R.I.B.A. the following members were elected :—

As Fellows (13).

Cumming, T. T.
Grant, J. P. D.
Knapp-Fisher, A. B.
Langman, H.
Meadows, Captain S. D.
Merriman, H. I.
Mitchell, G. A.
Richards, F. A., M.A.Oxon.
Sheppard, A. W.
Symon, A.
Tasker, A. K.
Williams, F. E.
Wills, G. B., M.C.

As Associates (3).

Arthur, E. R., B.Arch.Liverpool.
Musker, Doris.
Whiteside, W. J.

As Hon. Associate (1).

Faber, Oscar, O.B.E., D.Sc.

As Hon. Corresponding Members (5).

Brummer, C. C., M.A.
Fett, Dr. P. H.
Nordhagen, Professor O.
Saarinen, E.
Slothouwer, D. F.

The Decay of Glass

A joint meeting of the Society of Glass Technology and the British Society of Master Glass Painters was held at University College under the chairmanship of the Earl of Crawford and Balcarres, supported by Colonel Halse, C.M.G.

Dr. Ethel Mellor, in a paper entitled "The Decay of Window Glass from the Point of View of Lichenous Growths," gave an account of the acceleration of the decay of glass in ancient stained-glass windows by the growth of lichens, which made their habitat on the glass. Numerous specimens of these were exhibited, and the paper was illustrated by a number of slides.

Mr. Noel Heaton contributed a paper on "The Decay of Mediæval Stained Glass." He referred to the wide variations in resistance to decay found in mediæval stained glass. He considered that this was to be attributed mainly to variations in the composition and physical structure of the glass used. Window glass, he said, was introduced by the Romans, who arrived at a very sound composition, and their glass was remarkably durable. Analyses of glass of different periods revealed the differences in composition which resulted from a departure from the Roman tradition in mediæval times. The resulting loss of durability was illustrated by a series of slides. The lowest ebb was reached about the end of the fourteenth century, one of the most notable examples being the glass of York Minster, which was in such an extreme state of decay as to require the most careful supervision in its repair. In the process of decay two causes operate simultaneously: surface weathering due to atmospheric action, and well-defined pitting due to the structure of the glass. The variations found in stained glass of the same period was attributed mainly to primitive methods of manufacture, with certain affecting causes. It was characteristic of mediæval glass that the painted portions resisted decay better than the glass itself, which may be attributed to the lead silicate used uniting with the glass to form a more durable composition. The reverse was the case in later times, the enamel often perishing whilst the glass remained sound.

The last paper was "The Weathering and Decay of Glass," by Professor W. E. S. Turner, D.Sc. Ancient observers attributed the decay of glass to various causes, some to the moon, others again to the sun. Even as recently as 1879 James Fowler, in his well-known treatise on this subject, made a minute examination of the decay of glasses of different epochs without being able to come to any precise conclusion. But the nature of the corrosion of glass had been methodically studied by the physical chemist, and the principal causes were now fairly well known. The chief agent of the action of the atmosphere was moisture. All glassware absorbed moisture to an extent dependent in the first place on its composition, but partly also on the manner in which it had been treated by the workman. Glasses with little stability were those which contained excessive proportions of alkaline oxides, whether of sodium or potassium. Glass of the type silica-soda-lime (such as window glass and ordinary sheet glass) which contained more than 18 per cent. of sodium oxide too readily decayed; at the same time the presence of at least 2 per cent. of potassium oxide permitted the total alkaline oxides to be increased to 20 per cent. without serious danger. The components which increased the resistance to decay of ordinary glasses were silica, lime, alumina, and magnesia. Boric oxide was also very beneficial in a proportion of less than 12 per cent. The eventful following out and the furrowing of glass in process of decay were associated with the mechanical treatment it had received.

An "Ancient Monuments Society" for Manchester

An ancient monuments society was formally constituted at a meeting in Manchester. The proposal to form such a society has been under discussion for some time, and the meeting was called to approve a constitution and set up a council and advisory committee. As defined in its constitution, the society's object is to encourage the study and conservation of ancient monuments and craftsmanship in the north-western counties of England and North Wales. Sir Henry Miers, vice-Chancellor of Manchester University, presided over the meeting, and Professor T. F. Tout explained both the need for such a society and how best it might operate.

Professor Tout suggested that the society's utility would be most effective in dealing with minor antiquities and antiquities of comparatively recent date. The big antiquities had either gone or looked after themselves. There were minor antiquities, each one of which might be regarded by some people as not mattering very much and which could be pulled down in a week while nobody was looking. Anything that was over one hundred years old was an antiquity from his point of view. The early nineteenth century produced a classical revival which had some hideous churches to its credit and some better buildings of a secular kind. Manchester's old Town Hall was one of the latter; the Art Gallery was another. The Town Hall had gone, and they must carefully watch that the Art Gallery was not also swept away in the interests of money-making. Hough End Hall was still a going concern, but its owner, if he pleased, could pull it down in a week. Agecroft, he was told, was seriously threatened.

There were many ancient Nonconformist chapels in Derbyshire and Cheshire in which few prople took any interest and which were of great historical value. Many of them had already been superseded by neo-Gothic abortions now that Nonconformity had become troubled with wealth. Such of these ancient chapels as remained ought to be preserved. The great country houses of the landed aristocracy were also threatened in these days, and a watchful eye ought to be kept upon them.

"Whether," concluded Professor Tout, "the ancient monument is a Roman camp, a Queen Anne house, or a neo-classical building of the early nineteenth century they have all had their part in the history of this country, and, preserved, they all tend to diversify the monotony of modern life, and ought at all costs to be saved."

Mr. A. R. Powys, secretary of the Society for the Protection of Ancient Buildings, and on behalf of that organization, welcomed the formation of the new society.

Parliamentary Notes

[BY OUR SPECIAL REPRESENTATIVE.]

Mr. Wheatley, the Minister of Health, after the money resolution on which to found his new Housing Bill had passed through the Committee and Report stages, introduced the Housing (Financial Provisions) Bill, which was read a first time. On the same day he also introduced a Bill to prevent excessive charges for building materials and to make provision for securing an adequate supply of such materials. This measure was also read a first time.

In the course of the second reading debate on the L.C.C. (Money) Bill, Sir Cyril Cobb, replying for the London County Council, agreed that the time had come when a Commission should be set up to go into the question of London bridges. With regard to Waterloo Bridge, the engineer had informed the Council that within three or four weeks it would be possible to reconstruct the 1,400 ft. which had been taken out of the centre of Waterloo Bridge, and to make a temporary roadway for pedestrian traffic. Very soon, perhaps in a month or two, it might be found possible to re-open the bridge to vehicular traffic. The weight of the bridge had been too much for the foundations. The weight on one of the piers which had been sunk was 11,000 tons, whereas the weight of the traffic at its maximum on the bridge was 5,000 tons. They had reduced the weight on that particular pier by 1,450 tons, and as soon as they got 500 or 600 tons off the sinking movement ceased.

At question time Mr. Wheatley informed Mr. T. Thomson that the number of men engaged in building houses under State-assisted schemes at given dates was :—

	Number of Men.	
Date.	Skilled.	Unskilled.
June 30, 1920 ..	15,100 ..	18,092
December 31, 1920	40,270 ..	41,093
July 1, 1921 ..	79,908 ..	69,946
Jan. 1, 1922 ..	67,987 ..	49,792
July 1, 1922 ..	40,248 ..	29,675
Jan. 1, 1923 ..	12,971 ..	10,276
July 1, 1923 ..	5,420 ..	3,816

Asked by a number of hon. members as to the supply of bricks, Mr. Wheatley said that if he found that the production of building materials was hampered by landowners, he should consider submitting a short Bill to the House. He had no intention of interfering with the free importation of building materials.

In reply to Mr. A. Henderson, Mr. Wheatley stated that 4,540 houses had been erected by public utility societies with the aid of the subsidy payable to societies under the provisions of the Housing Acts, 1919 and 1923, namely, 50 per cent. of the annual loan charges until 1927, and 40 per cent. of the annual charges during the remainder of the period of the loans (fifty years). He was proposing that provision should be made enabling increased assistance to be given to societies who built houses for the working-classes, subject to special conditions as to their letting and to the amount of rent to be charged for them.

The House of Commons adjourned for the Whitsuntide recess on Friday, June 6, and reassembled on Monday, June 16.

The Housing Bill

A correspondent in "The Times" writes : The proposal to form a National House Building Committee, with statutory powers, which was made by the Government Joint Committee of Employers and Operatives, has been abandoned. In building circles this week there has been much discussion concerning the new Housing Bill which was published on the eve of the Whitsuntide holidays. The Bill, which has therefore not been scrutinized by the House of Commons, contains no mention of giving statutory powers to such a committee. Local authorities, who were consulted by the Minister of Health at a conference held before Whitsuntide in regard to the Government's housing proposals, were strongly disinclined to deal with any third parties. Accordingly Mr. Wheatley now proposes that the building industry itself shall set up two technical committees, one to deal with the supply of labour and the other with the supply of materials. These committees will be essentially different from the production committees established by Dr. Addison under his scheme.

The two new committees, the *personnel* of which has not yet been settled, will be advisory so far as the State is concerned, but will have executive functions within the building industry itself.

Law Reports

An Oldham Ancient Light Action

Joel Foster v. *Oldham Corporation.*

June 2. Manchester Assize Court. Before the Vice-Chancellor of Palatine Chancery Court.

At the Manchester Assize Courts the Vice-Chancellor of the Palatine Chancery Court, Mr. R. B. Lawrence, K.C., gave his judgment in an action brought by Joel Foster, the owner of eleven houses in Churchill Street East, Oldham, to recover from the Oldham Corporation £550 as compensation for his property having been deprived of light by the extension of buildings used for the purposes of the municipal electricity undertaking. Mr. J. M. Easton appeared for the plaintiff, and the Corporation were represented by Mr. C. E. R. Abbott.

The Vice-Chancellor said the houses each had three windows overlooking Churchill Street East, which were ancient lights. One admitted light to a sitting-room on the ground floor, the second one was in a bedroom above, and the third was a fan-light over the front door. In and subsequently to 1921 the Corporation raised considerably a building on the opposite side of the street, and the plaintiff alleged that these alterations diminished the light coming to his houses so as to create a nuisance, and materially reduced the value of the property. The defendants did not deny there had been some diminution but said it was not sufficient to give the plaintiff any cause of action.

The principles applicable to the issue thus raised appeared in the speech of Lord Davey in Colls *v.* Home and Colonial Stores, Ltd. (1904 A.C.), and in Kine *v.* Jolly (1907 A.C.). Lord Loreburn stated the law on the subject. He said the owner of the dominant tenement "does not obtain by his easement a right to all the light he has enjoyed. He obtains a right to so much of it as will suffice for ordinary purposes of inhabitancy or business according to the ordinary notions of mankind having regard to the locality and surroundings." In effect the obstruction must be a nuisance in order to be actionable. Here the houses were in an area which was largely devoted to industry, but his conclusions did not depend on the nature of the locality and surroundings; it would have been the same had this been a purely residential suburb.

The evidence established that the occupiers were in the habit of adjusting the blinds so as to cover the top part of the ground-floor window some 12 in. to 18 in., and the curtains were draped to cover a large portion of the rest. He was satisfied by the evidence of Mr. P. J. Waldram that this arrangement diminished the light to a very considerable extent. By reason of his technical and scientific knowledge and experience Mr. Waldram was highly qualified to give expert evidence on matters relating to light, and he had given it with great lucidity and fairness. He expressed the view that any point in an interior which receives one per cent. of the light falling upon an unobstructed window-sill is a remarkably well-lighted place, and that the point at which an ordinary reasonable person begins to grumble is the point at which the percentage of unobstructed sill light falls below 0·4 per cent. These views were confirmed and elucidated by the judgment of Mr. Justice Eve in Semon *v.* Bradford Corporation (1922, 2 Chancery). Mr. Waldram obtained results by photometric measurement, and found that the centre of the sitting-room of one of the houses received 1 per cent. of the light of an unobstructed window-sill. In his opinion if the windows were not unnecessarily obstructed there was an ample sufficiency of light for all purposes.

The evidence given by the plaintiffs' witnesses did show that the staircase was so dark as to be dangerous except when the bedroom door was open, but it was not proved that the staircase was substantially darker or more dangerous than before the defendants altered their building. The main reason was that no arrangement was made to give it a light at the top, such as a glass panel over or in the bedroom door. If such a device had been adopted any subtraction from the small quantity of light which found its way to the bottom of the stairs could have made no appreciable difference. Therefore any diminution caused by the defendants in the light which found its way to the staircase was not actionable.

The measure of the light to which the tenants were entitled was that which they could, if they chose, receive through windows, not that which they actually received after diminishing it with blinds and curtains. Counsel for the plaintiff contended that the practice of arranging the blinds and curtains in this way was so common in houses of this type that it had the force of custom, and that sufficient light should be left to make the sitting-room comfortable even when the blinds and curtains were arranged in accordance with the custom. But that argument was untenable. Such a practice would merely show that the occupiers valued a good light so little that their comfort was not substantially interfered with by the room being rendered dark and gloomy; they were willing it should be so chiefly for the sake of the decorative effect given to the windows. In part it might be due to the more reasonable wish for privacy, but the arrangement of the blinds, which was more harmful than the curtains, was quite unnecessary to secure privacy. Nor could he regard it as a universal practice though it was admittedly very common. It was hard to believe that the occupiers would not pull the blind up to the top when they felt the need for a better light.

He came to the conclusion that though there had been some interference with the light, and the plaintiff's property had probably suffered some little depreciation in value, it was not substantial enough to entitle him to relief. Therefore the action failed and would be dismissed with costs.

A Chiswick Ancient Light Case

Jones v. *Bennett and others.*

June 2, 4, and 5. Chancery Division. Before Mr. Justice Russell.

This was an action brought by the lessee of a house in Chiswick Park, to restrain the defendant from erecting a back addition in such a manner as to darken the plaintiff's kitchen. The joint landlords of the parties were joined as co-defendants, they having declined to withhold their consent to the proposed addition. An allegation of trespass was not pressed.

Evidence for the plaintiff was given by Mr. P. J. Waldram, F.S.I., who produced plans showing the extent of good, adequate, and inadequate light in the kitchen under the original and under the threatened conditions, and of the loss of sunlight; and by Mr. F. W. Burr, F.S.I. Evidence for the defendant was given by his architect, Mr. Shepherd, by Mr. J. D. Scott, A.R.I.B.A., and by Mr. Ellis, of Messrs. Farebrother, Ellis & Co.

In giving judgment Mr. Justice Russell said: This is an action brought to protect ancient lights of the plaintiff. The plaintiff is the occupier and lessee of a house called "Claremont," No. 7 Hartington Road, Chiswick. It was in 1917 that the plaintiff became lessee of that house, he taking an assignment of a lease granted on December 5, 1901. The defendant, Bennett, on October 2, 1923, became lessee of the adjoining premises known as "Highclere," No. 9 Hartington Road, Chiswick, as the assignee of a lease granted in March, 1901. The reversion expectant upon the determination of those two leases of the two houses "Claremont" and "Highclere" became in August, 1902, vested in the three other defendants to the action.

I will first deal with the cause of action against the defendant Bennett. The cause of action against him is the ordinary cause of action for an obstruction to the plaintiff's ancient lights—and the ancient lights are not in dispute. The ancient lights which are alleged to be obstructed are the two windows which light the kitchen of "Claremont," the kitchen being situated on the ground floor.

The condition of things which prevailed, before the proposed new building started, was as follows: the two windows in question opened out on to a narrow courtway not quite 4 yds. wide, on the other side of which was the tall flank wall of the defendant Bennett's house. It is not in dispute that those two windows received no direct light, although the light that they received was two-fold.

There was, first of all, the reflected light that they got off the flank wall of Mr. Bennett's house, 4 yds. away. The only other source of light—and, I think, I may say the most important source of light—was light which came directly to the windows from, roughly speaking, W. of N.—roughly, about N.W. Until the proposed new building was contemplated there was nothing to intercept that light, with one exception. At the back of the defendant's house there was a bay window built up and beyond that bay window again there was a conservatory. The total projection of those two was 11 ft. 11 in., and they were mostly made of glass. The roof of the bay window and the roof of the conservatory sloped down over that 11 ft. 11 in. from a height of roughly about 14 ft. to a height of about 8 ft. The bay window and the conservatory having been pulled

down, they standing some little distance from the party fence dividing the two properties, it was proposed to erect an opaque building, the height of which, according to the contract plan, would be some 14 ft. 6 in. That is to project 21 ft. from the house instead of 11 ft. 11 in., and it is to come substantially right up to the party fence. Therefore, it would not only be very much greater in height and very much longer in projection, but it would be nearer to the plaintiff's premises, and it would be an obstruction not on a slope, but with a level top.

I have no hesitation whatever, upon the evidence before me, in saying that the proposed new building would cut off a very substantial amount of light coming to the plaintiff's kitchen window from that direction—it would cut off the bulk of it—the bulk of the most useful light the plaintiff is getting. The evidence shows that at certain periods of the year sun does penetrate into this room at certain times in the evening, but that direct sunlight, such as it is, would be entirely cut off now by the proposed new building. In those circumstances I have to ask myself whether this is a case to which the principles of Coll's case (1904 Appeal Cases, page 179) apply. It is common ground that the plaintiff's kitchen before the proposed new building was started was not a well-lighted room. There has been, in this case, the usual difference of expert testimony as to what the effect of the proposed new building will be upon that room. The plaintiff's evidence is to the effect that the amount of light taken away will be so great that the room will be so seriously affected that it will no longer be a room able to be used as a kitchen, and enjoyed in accordance with the ordinary use of mankind. On the other hand, the expert evidence called for the defendants puts a much more rosy complexion upon the position. . . .

I am quite satisfied that the proposed new building, if erected, would constitute an actionable nuisance within the decision in Coll's case. Therefore, as against the defendant Bennett, the plaintiff is, in my opinion, entitled to an injunction.

It was argued by Mr. Courthope Wilson that this was a proper case in which, if I thought the plaintiff was entitled to succeed, that I should refuse to grant an injunction, but grant the plaintiff damages. In my opinion, that is not so. Mr. Courthope Wilson argued that it was simply a question as to how much extra artificial light would have to be consumed in this kitchen, and that the question was what the extra cost of that would be. But the matter goes far beyond that. A kitchen, after all, is entitled to light just as much as any other room is. A kitchen is a room in which operations of a somewhat delicate nature have to be performed—and also, in this particular case, this kitchen is the sitting-room and living-room for all the servants in the house. In my opinion it would be no compensation for the plaintiff in the case, for the injury which has been done to him, by awarding him a nominal sum of damages in respect of his increased electric-light bill. In my opinion this is a case in which, in the exercise of my discretion, I ought to grant an injunction, the plaintiff having come in ample time for that purpose. I, therefore, accordingly grant an injunction as against the defendant Bennett. He must, of course, pay the plaintiff's costs of the action, but these ought not to be increased by costs in regard to claims which were not gone into at the trial.

His lordship then considered the case against the trustees of the common landlord, and, after an exhaustive survey of the legal authorities, decided that an obstruction of light is not a breach of the covenant for quiet enjoyment. He gave judgment for the trustees on two grounds :—

1. That the threat to give permission had not been established.

2. That if it were, and had been carried out, it would have been no breach of the quiet enjoyment covenant.

An Unusual Covenant—Refusal to Accept Lease

Allen v. *Smith.*

June 2. Chancery Division. Before Mr. Justice Eve.

This was an action by Mr. M. J. Allen, builder, of Shepherd's Bush, against Mrs. L. M. Smith, for specific performance of a contract of September, 1923, for the granting to her of a house in Batson Street, Shepherd's Bush, where she now lived. In the alternative plaintiff asked for the forfeiture of the deposit paid. Defendant counter-claimed for the £327 10s. deposit paid, and the recision of the agreement.

Mr. Clayton, K.C., appeared for the plaintiff, and Mr. Gover, K.C., for the defendant.

Mr. Clayton said the premium for the house was £527 10s., and the ground rent six guineas a year, the term being ninety-nine years. The defendant had paid £327 10s. as part purchase money, and the titles were accepted by the defendant after signing the contract. She now objected to the following covenant on her part, pleading that it was submitted to her some days after she had entered into possession : "And also will pay all costs, charges, and expenses (including solicitors' costs and surveyors' fees) incurred by the lessor for the purpose of or incidental to the preparation and service of a notice under section 14 of the Conveyancing Act, 1881, requiring the lessee to remedy a breach of any of the covenants on the part of the lessee herein contained notwithstanding forfeiture for such breach shall be avoided otherwise than by relief granted by the court." Defendant pleaded that the covenant was unusual and oppressive.

Counsel contended that the covenant was not an unusual form. Defendant said that a building society objected to making an advance on a lease containing the clause, but, counsel commented, other building societies had granted advances, and they could get a building society to make an advance.

Mr. Gover said his submission was that the clause in question was neither a usual nor, in the legal sense, an ordinary clause. He further said that it was the duty of the lessor to disclose such a clause before the contract was entered into, or to give the defendant an opportunity of seeing the form containing the clause. He did neither.

His lordship held that the action failed. He assumed that defendant would accept a lease omitting the covenant. If he did not grant such a lease the action would be dismissed with costs. As to the counter-claim he held there was a misstatement of an existing fact, and defendant was entitled to judgment with costs for rescision and repayment of the deposit with interest. Defendant would have to pay rent whilst she was in occupation.

Dealing with the facts of the case his lordship said defendant was prepared to take the lease if the covenant in question were struck out. Defendant said that the building society which had provisionally agreed to make an advance would not, in common with other societies, grant money on property the lease for which contained that particular covenant. She also said that the covenant was onerous, that its existence was not disclosed, and that the lease had been described to her as an ordinary form of lease. With regard to the nature of the lease he was certainly not prepared to say in the case of short leasehold property, where there might be a call for considerable repairs and which might involve the lessor in a good deal of supervision, that it would not be reasonable on his part to insist that if notice were given to execute repairs he ought not to be out of pocket for expenses incurred by him in relation to such notice. But a very different state arose when a house was let for a term of ninety-nine years at a moderate ground rent and when the lessor himself was not likely to be seriously affected by any breaches of the covenant to repair. From his lordship's point of view it ought not to be regarded as an ordinary or even a reasonable covenant for a long lease as in that case. He came to the conclusion that it was an onerous covenant and gave judgment as stated above.

Covenant—Effect of Excusing Clause

Brandon v. *London, Singapore and Java Bank.*

June 3. Chancery Division. Before Mr. Justice P. O. Lawrence.

This was an action by Mr. J. Brandon, residing in the Upper Richmond Road, Putney, against the London, Singapore and Java Bank, Ltd., now the London and General Trade Bank, Ltd., claiming damages or specific performance of a covenant on the part of the defendant company contained in an indenture of a lease dated May, 1914, whereby the bank covenanted with the plaintiff to renew the lease of the premises demised by the said indenture, or to grant to plaintiff a further lease for twenty-eight years from June 24, 1920, on the same terms and conditions.

The premises in question consisted of the first floor of 3 and 4 Suffolk Place, and the second and third floor of No. 3 Suffolk Place, with the exclusive use of the entrance passage and staircases of No. 3 Suffolk Place. By clause 13 of the indenture the defendants covenanted that they would "as soon as may be renew the present lease of the premises (or grant a further lease) for twenty-eight years from the termination of the present lease . . . unless the lessors should be unable to obtain a further lease or renewal of the existing lease."

Plaintiff further said that in 1919 the defendant bank was offered a new lease of the site and buildings, and refused to

accept it, and that a new lease had been granted to other people, and plaintiff had been obliged to take a sub-lease on terms considerably more onerous.

Defendants said in reply that the Commissioners of Woods and Forests asked such a prohibitive rental for a renewal of the lease that they could not accept it.

Mr. Jenkins, K.C., appeared for the plaintiff, and Mr. Grant, K.C., for the defendants.

Mr. Jenkins said the point concerned mainly in the action was the interpretation of the covenant. He said he admitted defendants could not get a twenty-eight years' lease at the time, but he contended the bank was not discharged of liability unless they could show they could not get any other lease at all.

Mr. Grant, K.C., submitted that on the true construction of the covenant his clients were to grant a renewal for twenty-eight years if they were able to do it. Being unable to do that, even if they had taken a seven years' lease offered them, that was a complete answer to the claim. The contract was for twenty-eight years or nothing.

For the defence, Mr. John Murray, Crown surveyor, and Mr. F. C. Clarke gave evidence.

His lordship held that the action failed and must be dismissed with costs. He said the defendants' interpretation of the covenant was that the excusing clause came into effect if they were unable to obtain a further lease or a renewal of the existing lease for a term which would enable them to grant a sub-lease for twenty-eight years. On the other hand plaintiff said that the excusing clause only came into operation if and when it was proved that the lessors were unable to obtain a further lease or the renewal of the existing lease at all. That was to say, it would not come into operation if they were able to get a further lease or a renewal of the existing lease for any term of years, such as seven years, or any other term.

He thought the proper construction was that placed upon it by the defendants. He thought the probable explanation of the excusing clause being worded in the general terms it was, was that neither party contemplated the Crown would refuse to grant a lease for a term which would amply cover the twenty-eight years' term. It appeared at the time that for occupation leases the usual term was sixty years, and for building leases eighty years, if not ninety-nine years.

Seeing this was his interpretation, it was clear on the evidence that the lessors were unable to obtain a further lease or renewal of the existing lease within the meaning of the excusing clause. The lessors negotiated with the Commissioners of Woods and Forests through Mr. Murray for a renewed lease, but they refused the terms Mr. Murray offered because they were too onerous. The offer was for a lease only of seven years, and Mr. Murray had told the court that the Crown would not have entertained a lease for a longer term than seven years at that date.

It was clear from the evidence that the lessors could not obtain a lease for a term to enable them to comply with the covenant and renew plaintiff's sub-lease for twenty-eight years. The action therefore failed, and with costs.

The R.I.B.A. Visit to the Fletton Brickyards

The special visit to the Fletton brickyards arranged by the Science Standing Committee of the Royal Institute of British Architects took place on May 31, when some fifty members of the Institute availed themselves of the opportunity provided by the directors of the London Brick Company and Forders, Ltd., to study at first hand the processes of manufacturing Fletton bricks in operation at several of the company's works in the neighbourhood of Peterborough.

Mr. Vernon Crompton, F.R.I.B.A., chairman of the committee, who acted as the representative of the Institute on the occasion, was in charge of the party, which was received at King's Cross by Major John E. Hill, director of the London Brick Company and Forders.

On arrival at Peterborough, at 11.30 a.m., the visitors were conveyed by motor to see the immense pit which yields the clay used for the well-known "Phorpres" Fletton bricks. The pit, which is from thirty to forty acres in extent, is worked by two steam shovels. One of these strips the "overburden," while the other digs out the clay for manufacture at the rate of 4,800 tons per shift of forty-eight hours, which is approximately equivalent to 1,200,000 bricks. By means of an ingenious device the overburden is conveyed clear of the pit workings, and deposited again in the worked-out portion of the pit. The replaced overburden takes the form of a succession of parallel ridges of great length, which gradually become covered with vegetation.

The clay bed itself, which belongs to the lower Oxford strata, is of a dark green hue, and varies from 20 ft. to 60 ft. in depth. This gigantic deposit—once an ocean bed—presented a most impressive spectacle as seen from the edge of the worked-out pit at right angles with it. Being of a shaley character, and containing a definite proportion of oil, the clay is readily ground, and as it is free from impurities—except for an occasional fossil—it does not require to be subjected to any further processes before being made into bricks.

Some time was spent by the party in watching the constant succession of wagons—after being filled with clay by the steam shovel at perfectly timed intervals—resume their journey along a cabled rail track to a far distant point from which they diverged to the group of works fed by the pit. The junction where the wagons separate is a complicated affair, but with the aid of automatic clips for gripping the cable, and a series of cleverly arranged gradients, one youth is sufficient for its control.

Proceeding to the machine sheds, the visitors were shown how the clay is ground, screened, and distributed. Here it could be seen passing through the perforated plates of the grinding pans, then being elevated to a series of electrically vibrated plate screens, and finally conveyed by spiral worm distributors to the various machines. The actual manufacture of the brick is accomplished by means of a single-unit press, which exerts four distinct pressures and thus produces that smoothness of surface and texture so characteristic of the Fletton brick. On leaving the press the bricks are taken on transfer cars to the continuous kilns, where they remain for from fourteen to sixteen days during the process of drying, burning, and cooling.

Having witnessed all these operations the party inspected the wagon-building works, foundry, and engineering shops of the company, and also the very fine power plant in the No. 3 works, consisting of a 450-h.p. Marshall engine to which is coupled a 250-h.p. generator.

Much interest was shown in the very large quadruple machines employed—together with special automatic feeding in the pans—at the company's Crown Works, where also a most striking contrast in clay extraction was seen in the pit, in which the work is here performed by hand.

At the company's No. 2 works—recently taken over from the New Peterborough Brick Company—the visitors were able to inspect the very latest type of plant there installed. This included special arrangements for the storage of raw material, which enable the works to continue even when bad weather suspends digging operations in the pit. A number of other improvements were explained, all of which demonstrated the highly scientific methods adopted in modern brick manufacture.

The writer ascertained by enquiry from a member of the company's technical staff that no other bricks than Flettons were employed in the construction of the kilns, chimney shafts, and even the numerous wells which serve the various works owned by the company. The fact is of great importance, and affords the best possible proof of the inherent powers of resistance to both heat and moisture possessed by these bricks. It also disposes of the old fallacy that they are unsuitable for use below ground. Some of the works were erected over thirty years ago, and of the forty or fifty chimneys—of varying height up to 220 ft.—there is not one in which the Fletton brick has failed to take the strain.

At the conclusion of the lunch to which the members of the party were entertained at Peterborough, Mr. Vernon Crompton proposed, and Mr. Davidge seconded, a hearty vote of thanks to the directors of the company, not only for a most instructive outing, but for the hospitality which had been shown them. In acknowledging the compliment Major Hill expressed on his own behalf and that of his fellow directors the pleasure they had derived from welcoming so many members of the R.I.B.A., and was happy to think that the visit had proved of interest to them.

F. C.

The Week's News

Leicester's Housing Needs.

Ten thousand houses are required in Leicester to meet the shortage.

Rotherham's House Shortage.

At the last meeting of the Rotherham Corporation it was stated that the town was in urgent need of 1,000 houses.

A New School for Teddington.

The Middlesex County Council are to build a new school for 400 girls at Teddington at an estimated cost of £13,584.

Harwich Floating Bridge Scheme.

It is proposed to construct a floating bridge to link up Harwich and Felixstowe.

Improvements to the Albert Hall.

Efforts are being made to raise £20,000 to carry out improvements at the Albert Hall in the precautions against fire.

More Houses for Bristol.

At the last meeting of the Bristol Sanitary Committee plans were passed for thirty-nine houses.

Bakewell Urban Housing.

The Bakewell Urban District Council propose to obtain a loan of £10,000 to defray the cost of erecting twenty houses.

Stafford's New Housing Scheme.

The Stafford Town Council have decided to erect 100 houses to complete the Lammascote estate scheme.

Cannock Housing Progress.

Land is being acquired in the Cannock Urban District for the immediate erection of 120 houses, and negotiations are pending for other sites for upwards of 200 more houses.

Liverpool Improvement Schemes.

The Liverpool City Council propose to erect a new abattoir, provide a new cattle market, and continue the widening and remodelling of Water Street.

A New Park for London.

Sir Henry Lennard, of Wickham Court, has offered the City of London thirty-six acres of land at Spring Park, West Wickham, Kent, for the use of the public.

The Widening of Hendon Railway Bridge.

The Ministry of Transport are to contribute £7,500, and the Middlesex County Council £3,750 towards the cost of widening the Hendon railway bridge. The total cost is £15,000.

A Big Housing Scheme for Liverpool.

The Liverpool Corporation Housing Committee have adopted a scheme for the erection of 6,000 houses on land at Walton at an estimated cost of between £3,000,000 and £4,000,000.

A New Library for York.

The scheme for a new public library for York has been sanctioned, and will be carried out subject to the grant from the Carnegie Trust. Messrs. Brierley and Rutherford are the architects.

A Southwark Church in Danger.

A church made famous by Dickens—St. George-the-Martyr, of Borough High Street, Southwark—is in danger. Traffic vibrations have made necessary repairs to coping and windows. It is first mentioned in a charter of 1122.

Wooden Houses Proposed for Leicester.

The Leicester City Council have secured permission from the Director of Housing to prepare a temporary housing scheme. One of the schemes suggested is for the erection of 500 wooden houses.

A Regent Street Arcade.

A new shopping arcade is to be formed in Regent Street from the designs of Mr. S. Gordon Jeeves, M.S.A. The site, that of Messrs. Peter Robinson's old premises, is bounded by Regent Street, Argyll Street, and Little Argyll Street.

A Church Hall for Eton.

Eton College has given a site for a Church Hall at Eton. Recent occupants of the site have vacated it, and one appeal from the vicar of the parish to the old Etonian Association has already produced a sum of £800, with preliminary expenses paid. An anonymous Old Etonian has promised another £500, and the local council needs only some £400 or £500 more before the plans are begun.

New Schools, etc., for Glamorgan.

The Glamorgan County Council have decided to apply for sanction to the following loans: £60,148 for new elementary schools, £88,467 for secondary and intermediate schools, and £76,660 for roads and a bridge.

A Brighouse Architect's Estate.

Mr. Robert Flather Rogerson, of 14 Henry Street, Brighouse, architect, who died on April 11, aged seventy years, left gross estate of the value of £8,485 12s. 8d., with net personalty £5,721 3s. 8d.

The Birthday Honours.

Mr. John Sulman, F.R.I.B.A., of Sydney, chairman of the Canberra Advisory Committee, was honoured with a knighthood in recognition of his services to the Commonwealth of Australia, and Mr. Walter Peacock (Honorary Associate) created a K.C.V.O.

Eastbourne's New Retreat.

At a cost of over £15,000 the Eastbourne Corporation have extended the western sea wall nearly 200 yds., and have erected above it forty bathing chalets. A disused chalk pit has been transformed into a picturesque retreat containing lawns and rose-covered pergolas.

Houses for Leicester's Disabled Men.

Twenty-five or thirty houses are to be erected by the Leicester and Leicestershire Disabled Warriors' Funds for the benefit of men totally disabled during the Great War. No rent will be paid for the houses, whilst an allowance will be made to the occupants for the paying of rates.

The Birmingham Hall of Memory.

Considerable progress has been made with the building of the Birmingham Hall of Memory on the Easy Hill site, at the corner of Broad Street. It is hoped that the constructional work will be completed so as to enable the official opening to take place in the autumn, possibly some time in October.

Housing at Birkenhead.

The Birkenhead Corporation has received the sanction of the Ministry of Health to the erection of a further 100 houses in Hoylake Road. A layout plan for the erection of 193 subsidy non-parlour houses at Derby Park has been approved by the Corporation.

The Fitzwilliam Museum Extensions.

The chief celebration this summer at Cambridge will be the opening, to-day, of the two galleries built to house the pictures and other works of art bequeathed to the Fitzwilliam Museum in 1912 by Mr. C. Brinsley Marley, of Trinity College, and other celebrations in which art will play a large part.

Street Improvement Scheme for Leeds.

The Leeds City Council have decided to undertake a big street-widening scheme in the centre of the city. The project is to throw back a number of existing streets in a straight line from the Town Hall to the bottom of Lowerhead Row and beyond, linking up this broad thoroughfare, which will be 80 ft. wide throughout, with a new road through the Quarry Hill district, thus relieving the congestion of North Street traffic. The cost is stated to be £500,000.

Manchester and Higher Buildings.

"The time is not far distant when the Manchester Corporation will have to agree to the erection of higher buildings," said a member of the Improvement and Buildings Committee after a meeting at which plans for a new 100-ft. building in Cross Street were approved. "We cannot have the price of land going up in the central area of the city without expecting people who are building on it getting a return in some way for their money. The only way they can do that is to be allowed to go farther skywards with new buildings."

More Concrete Houses for Edinburgh.

Warrants have been granted by the Edinburgh Dean of Guild Court for the erection of ninety-two houses at Lochend. Interim warrant has been granted for the erection of fifty-six blocks, comprising 224 houses, two stories in height and of three apartments each. Interim warrant has been granted for the excavation of the foundations of the remainder. The main walls of the houses will be of hollow concrete, and each house will be equipped with bath, water closet, scullery, and other conveniences.

The Week's News.—*continued*

A New Exhibit for the Victoria and Albert Museum.

The Victoria and Albert Museum have purchased, with the assistance of a grant from the National Art-Collections Fund, a writing cabinet, signed "Samuel Bennett, London Fecit." It is a distinguished example of English furniture of the early part of the eighteenth century marked by high quality of workmanship. The fact that it bears the signature of the maker (inlaid on the inner surface of the door) makes it of particular value as a record, for it was not the usual practice for cabinet-makers in England to sign their furniture. Two other signed examples of the work of Samuel Bennett are known, one of which further shows that he lived in Monmouth Square, London. The cabinet is at present exhibited in the west hall of the museum, near the main entrance.

York Minster Stained Glass.

The Dean of York, speaking at the annual meeting of the York Minster Window Fund, alluded to Mr. Noel Heaton's recent statement to the London Society of Glass Technologists that the treatment given to York Minster windows, in an endeavour to preserve the mediæval glass, was too drastic. The Dean said this could not go unchallenged. There was no treatment of their glass more drastic than its immersion in a specially prepared bath of warm water. There was no soda in the water, no chemicals, and no hard implement was employed in cleaning the glass, which was allowed to lie and soak in warm water. He could testify to the care with which each piece of glass was afterwards treated by their workmen.

A Competition Result

The design of Messrs. Hays and Gray, AA.R.I.B.A., has been placed first in a limited competition for the Brancepeth Miners' Welfare Scheme at Willington, Co. Durham. The cost of the scheme, which is a very complete one, is approximately £18,000.

List of Competitions Open

Date of Delivery.	COMPETITION.
July 4	The Glasgow Corporation invite competitive plans of a public hall to be erected on a site near Bridgeton Cross. Estimated cost £25,000. Premiums £150, £100, £75 and £50. Apply Office of Public Works, City Chambers, 64 Cochrane Street.
Aug. 23	The United Grand Lodge of England invite designs for re-building the Freemasons' Hall in Great Queen Street, Kingsway, London. The competition to be conducted in two stages. A first or sketch competition, and a second or final competition. Not fewer than six designs will be selected from those submitted in the first competition, the authors of which will be invited to submit detailed plans in the second or final competition. Each of the architects submitting a design in the final competition will receive an honorarium of £500. The assessors are:—Sir Edwin Lutyens, R.A., F.R.I.B.A., Mr. Walter Cave, F.R.I.B.A., Mr. A. Burnett Brown (Grand Superintendent of Works), F.S.Arc., F.S.I. Apply, with deposit of one guinea, to the Grand Secretary, Freemasons' Hall, Great Queen Street, London, W.C.2. The envelope should be marked "M.M.M. Competition."
Sept. 1	Entertainment hall for the Bexhill Corporation. Premium £50 and £25. Apply Town Clerk, Bexhill. This competition is open only to architects in the district.
Sept. 30	The Hamilton War Memorial Committee invite designs for the proposed war memorial to be erected in the Public Park. The estimated cost of the memorial will be £2,000. Premiums £60, £40, £20, and £10. Mr. G. A. Paterson, President of the Glasgow Institute of Architects, will act as Assessor. Apply, with deposit of £1 1s., to Mr. P. M. Kirkpatrick, Town Clerk, and Clerk to the Committee, Hamilton.
Sept. 30	Designs are invited for a statue in bronze and a pedestal (at a cost of about £5,000) in honour of the late Sir Ross Smith, K.B.E. Apply The Agent-General for South Australia, Australia House, London.
Sept. 30	Competitive designs are invited for a Memorial Club House and Pavilion to be erected on the ground of the Glasgow High School Club at Anniesland, Glasgow. The competition is confined to former pupils of the High School of Glasgow, and will be conducted under the R.I.B.A. Regulations for architectural competitions. Mr. John Keppie, F.R.I.B.A., Glasgow, has consented to act as Assessor. Particulars of the competition, with instructions to competitors and a plan of the site, may be obtained on application to Mr. Hugh R. Buchanan, Hon. Secretary, Glasgow High School War Memorial Committee, 172 St. Vincent Street, Glasgow.
Sept. 30	The Committee of the Harrogate Infirmary invite designs for the extension of the infirmary by the addition of 67 beds. Mr. Sydney D. Kitson, M.A., F.S.A., F.R.I.B.A., is Assessor. Premiums, 150, 100 and 50 guineas. Applications for conditions of the competition, accompanied by a cheque for two guineas, should be made to Mr. Geo. Ballantyne, Secretary, The Infirmary, Harrogate, not later than May 31.

Societies and Institutions

Honorary Degree of Master of Arts for Mr. J. Alfred Gotch.

The Honorary Degree of Master of Arts of the University of Oxford will be conferred upon the President of the R.I.B.A., Mr. J. Alfred Gotch, F.S.A., on June 19.

The R.I.B.A. and the Society of Architects.

The poll of Licentiates on the Council's proposals for the Registration and Consolidation of the profession has been completed; 881 replies have been received. Of these 859 are in favour of the Council's proposals and 22 against.

York and East Yorkshire Architectural Society.

Members of the York and East Yorkshire Architectural Society paid a visit to Helmsley Castle, Rievaulx and Byland Abbeys, where restorations are being executed by H.M. Office of Works. Though the work in places is being repaired and strengthened by the insertion of reinforcements which cannot be detected, none of the feeling of consecratedness imparted by the original craftsmen is being violated. At each building are museums, where many of the wrought stone, carving or tiles and other rare things dug up are on view.

The Use of English Oak.

Speaking at a luncheon given by the Federated Home-Grown Timber Merchants' Association at the British Empire Exhibition, Mr. J. H. Green, the vice-president, said that in the past some of our most valuable oak trees had been used for wagon scantlings, at a price of about 6s. a foot, while Austrian oak, used for panelling, cost about £3 a foot. It would be better to use English oak for panelling and the Austrian oak for the wagons. Referring to the custom of putting oak beams into houses, he said architects, although anxious to use English oak, were handicapped by not knowing where to obtain it. The Federation existed to supply such information. Mr. Edwin Hayes said the use of home-grown timber would encourage afforestation, which was a matter of national importance. In no part of the world now were there any large reserves of timber except in Northern Europe.

The Restoration of Lincoln Cathedral.

Sir Francis Fox, while conducting an engineering society over Lincoln Cathedral said he hoped the present repairs would be finished some time in 1926. Work on a cathedral like that could never be finished, but, at any rate, it would be stable after grouting. It would never be possible to let it alone altogether, but Winchester Cathedral had been made safe for another 500 years at least, thanks to jack hammers and delta-metal ties. Mr. R. S. Godfrey (clerk of the works of the cathedral) gave some interesting details of the extent of the grouting operations to date. These, he said, were commenced on March 11, 1922, and up to May 28 last 14,366 holes had been bored, with a total length of 36,929 ft., over 6 miles 7 furlongs, and 26,524 gallons of grouting had been forced into the walls, and 5,545 delta-metal cramps had been used, weighing over 6 tons 7 cwt. In making the grouting 583 tons of cement and sand had been required.

The Future Development of Central London.

The London Society has for the past two years been preparing a plan for the future development of Central London, as a complement to the development plan of Greater London, which was carried out by the Society during the war. This latter plan is acknowledged to have been of considerable value, especially to those engaged in laying down the lines of the new arterial roads, etc. It will be realized that before anything can be done for a plan of London of the future, a complete scheme of existing conditions must be laid down. The Society, through the generosity of the committee controlling the war-relief funds of the R.I.B.A., and with help from its own funds, has been able to employ several draughtsmen on this work, and has now almost completed the necessary preliminary plans at a cost of nearly £1,000. The funds, however, are exhausted, and the work will have to come to a standstill within the next few weeks unless a sufficient sum is forthcoming to continue it. The Council and Vice-Presidents of the Society have contributed £100 to keep the work going until this appeal could be circulated to the members of the Society.

Such a plan has never yet been prepared for London, and the information which the Society has collected should prove of the utmost value when embodied in this comprehensive plan of Central London. A sum of £1,000 will be required during the next twelve months to complete the work, and all friends interested are asked to help in this matter. Subscriptions should be sent to the secretary, the London Society, 27 Abingdon Street, Westminster, S.W.1.

The Cost of Building Material

Manufacturers' Statement

THE Building Materials Manufacturers' and Suppliers' Committee—formed at a conference of building materials' manufacturers and producers convened by the Minister of Health on February 19—"desiring to correct erroneous impressions widely held with regard to increased costs of building materials," have issued a statement from which we give the following extracts :—

"There appears to be a widespread impression that since the present Government came into power the manufacturers and suppliers of building materials have seized the opportunity of the new housing proposals to put up prices and increase their profits. What are the facts? A Government Committee was appointed by the Conservative Government in April, 1923, 'to survey the prices of building materials,' and this committee reports monthly on price variations, basing its reports upon information received from representative centres as to the prices of all classes of housing materials. Comparing the figures contained in the reports for January, 1924, and April, 1924, it will be found that out of 342 items scheduled in each, 240 show no advance in April. Of the 102 which show advances, 69 are items over the price of which the British manufacturer has no control, the price being entirely governed by import cost, viz. :—

Lead, including white lead	42
Timber and laths	11
Linseed oil and turpentine	14
Imported cement	2

The remaining 33 items which show advances are divided as follows :—

Bricks and tiles	14
Slates	3
Ballast and sand	2
Cement	3
Lime	6
Light castings	4
Glass	1

"The organized brick manufacturers, in common with the manufacturers and suppliers of all other classes of building materials, gave the Minister of Health on February 19 a definite assurance that they would not make any advances in prices which were not justified by increased wages or other costs. They have loyally carried out this undertaking. No instance is known of organized manufacturers having advanced prices unless the advance could be fairly warranted by increased wage and fuel costs. . . .

"Building materials are blamed for every enhancement of housing costs. We see newspaper headings, 'Prices Soaring Sky High,' and we are told on all hands that the housing scheme is doomed to failure owing to the profiteering of the manufacturers. Take Wandsworth as an instance—and it is typical of many other reported cases. The new tenders were £113 per house more than the cost of the previous ones, and it is inferred that this is due to the increase in price of materials. The only advance specifically referred to was in bricks, which had increased 4s. 6d. per 1,000. This represents about £4 per house, but apparently the poor brickmaker is blamed for the whole of the £113 extra cost.

"A calculation has been made from the official bill of quantities for an A3 house to show the total extra cost of all materials in April as compared with January in every district from which the Government Committee derives its statistics, and it is found that the maximum increase (i.e., at Swansea) does not exceed £9 12s. 6d. per house, which is equivalent to about 4 per cent. on the total value of the materials, or less than 2½ per cent. on the total cost of the house. In many cases the increase is not equal to 1 per cent. on the cost of a £400 house."