PAGES

MISSING

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The Canadian Architect and Builder

VOL. XV.—NO. 171. MARCH, 1902.

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" S. H. TOWNSEND, " "
" FREDERICK G. TODD, Landscape Architect, Montreal.
" W. H. ELLIOTT, of Messrs. Elliott & Son Co., Toronto.
" J. C. B. HORWOOD, Architect Toronto.
" A. F. DUNLOP, R.C.A., Architect, Montreal

The Safety of Theatres.

Adverting again to this subject, to which some attention was given in our February issue, the important suggestion was recently made by a Mr. Mulholland in a paper read before the Playgoers Club of London, that a portion of the roof over the stage should be of glass, the breaking of which in the event of fire would draw off the smoke and flames from the auditorium. The advantage of this method of construction was proved in connection with a fire in the Grand Theatre, Islington. One of the greatest dangers to which an audience is exposed when a fire occurs in a theatre is from suffocation by smoke, hence the value of the above suggestion.

An Out-of-Date Building By-law.

The City Engineer of Johannesburg, South Africa, recently made request of the City Engineer of Toronto for copies of regulations governing the use of iron and steel in building construction. The City Engineer of Toronto in his reply was compelled to make the humiliating confession that the Toronto Building By-law makes no reference to or provision for this form of construction. It might with equal truth have been stated that the by-law is in a hundred other particulars twenty years behind the times, and that the only effort to bring it up-to-date was made, not by the City Council, but by an outside body, the Ontario Association of Architects, the result of whose labors in the form of a draft by-law submitted to the Council, was pigeonholed some eight or ten years ago, and has never been heard of since.

Shingling Brick and Stone Walls.

The walls of some new houses now under construction in Toronto will be covered with wood shingles down to the level of the first floor. The shingles are nailed to strips of wood inserted for the purpose in the joints of the brickwork. The architect has two purposes in view in using this method of construction—first by means of horizontal lines to reduce the apparent height of the buildings and secondly to secure warmth and dryness. As regards the first of these, he is of opinion that a fault in the design of most of our residential buildings is their too great height, largely due to the free use of vertical lines. The use of shingles on brick and stone walls as a means of protection from wind and rain, has long been common in some of the country districts of the province of Quebec, as well as throughout the provinces of New Brunswick and Nova Scotia. In Quebec the north and east sides only of dwellings are frequently protected in this manner. In some cases outside stone walls are plastered with cement without the use of furring, the cement being put on with a trowel,

Women Practising Architecture

The first paper ever presented by a woman before a society of British architects was read by Miss Ethel M. Charles at a recent meeting of the Architectural Association in London. The paper was entitled "A Plea for Women Practising Architecture." The author has taken the student's course and passed the examinations of the Royal Institute of British Architects. She cleverly marshalled arguments in support of her contention that women possess equally with men the essential qualifications necessary to success in the practice of architecture. She instanced the fact that women are employed in the heavy work of chain-making and in the harvest fields as a proof of their ability to withstand physical strain. While not admitting their inability to climb ladders, she suggested as a means of overcoming the possible objection to them being seen climbing ladders, that women architects should, like Christopher Wren, be hoisted up in a basket. The achievements of women in the universities even in such subjects as mathematics and logic, were cited as evidence of their mental ability to deal with matters of a scientific and practical nature. On the artistic side it was claimed that their natural qualifications are superior to those of men. It was contended that a practical training in the workshop has ceased to be a necessary part of the training of an architect, intellectual activity rather than manual skill being the sine qua non of success. The lack of creative power in women was admitted, but the increasing self-reliance of the sex gave foundation for the hope that this power, long dormant, might be roused into activity. In the discussion which followed the reading of the paper, most of the speakers doubted the ability of women to successfully perform all the duties of an architect, especially to deal with contractors. At the same time there was manifested a disposition to give them the opportunity to try. The adaptability of women for office work, for the planning of domestic buildings and for work of a decorative character was fully recognized.

The Beautifying of Cities.

THE movement for the beautifying of cities is rapidly extending. It is gratifying to note the remarks of Mr. A. E. Ames, President of the Toronto Board of Trade, on the necessity of a definite plan for the improvement of Toronto. Mr. Ames suggests the expenditure of a reasonable sum by the City Council to secure the services of a competent person to prepare a comprehensive plan for the beautifying of the city, this to be followed by the procuring of legislation authorising the appointment of a commission to adminster funds for carrying out the plan adopted. Mr. Ames is quite right in his opinion that such a plan would secure better results than the present method of sectional improvement. The Ontario Association of Architects has been asked to support a movement to have plans prepared by an expert for the beautifying of Toronto Island. A great improvement has been effected on the Island in recent years by the efforts of the City Commissioner and Park Commissioner, but these improvements would be greatly enhanced by the preparation of a definite and comprehensive scheme to the completion of which all future efforts should tend. Every scheme for the beautifying of cities should include the architecture of at least the principal thoroughfares, and especially buildings of a public character. An important step in this direction has just been taken in New York by the introduction of a bill, drafted by the New York Chapter of the American Institute of Architects, in the New York Legislature, providing that the Mayor of New York shall, before the 1st of June next, select from a list of 100 names, presented by the Fine Arts Eederation, 50 architects who shall be declared to be "eligible architects for municipal work" and who shall carry out all architectural work undertaken by the city in the future. Provision is made for increasing the list to 100 names, after which vacancies will be filled only as they occur. The selection of architects for this list is not restricted to members of the profession resident in New York, but may include architects of standing in any part of the country.

Toronto Building By-law.

In June of last year some amendents were made to the Toronto Building Bylaws. The following section numbered 13a. was added to By-Law No. 2468 :

13a. As soon as all buildings in process of construction are up one storey high, and joists on, the said joists shall be covered or floored temporarily, or otherwise with inch boards, as each storey is built ; in cases where joists are over sixteen inches up to four feet centres, one and a half inch plank shall be used ; and where joists or beams are over four feet up to six feet centres, then two inch plank shall be used, or else two one-inch boards laid one on top of the other. In case of steel structures where the girders are twelve feet centres, two-inch plank shall be used with sufficient support in the centre."

The City Commissioner has recently notified the city contractors that compliance with this section of the By-Laws will be enforced, and that those who fail to comply with the provision will be summoned to the Courts. It will be noticed that the By-Law does not stipulate by whom the temporary floors are to be constructed. By request of the Builders' Exchange, the Toronto Chapter of the Ontario Association of Architects have appointed a committee to discuss with the builders in what way compliance with the By-Law should be made. It is clear that a temporary floor must be provided by someone. The question is whether the carpenter or bricklayer will put down the floor. The absence of a definite understanding on this point would, the builders claim, result in each of these contractors feeling under obligation to furnish the floor and charge the cost in his tender. The suggestion has been made that architects should in every case specify double floors. This is said to be the practice in the United States. We imagine, however, that architects would hesitate to saddle their clients with this extra expense, which, in the case of large buildings, would amount to a large item. Judging by the record of accidents in recent years, this amendment to the By-Laws does not seem to be necessary, and the results in the direction of increased safety to workmen are not likely to be commensurate with the trouble and expense involved. At the urgent request of the Trades and Labor Council, a city scaffold inspector was recently appointed, and it may be that this and other amendments are necessary to provide this official with employment. The amendment in question serves to illustrate the unwisdom of fragmentary changes of this character in the By-Laws. What is required is a careful revision of the regulations as a whole.

PRINCIPLE AND METHOD.

The paper on the Field of Decorative Art, printed on another page, and the discussion which followed the paper, suggest a great want in the literature of architecture. Book upon book has been written upon the historical development of architecture, but always regarding it as a historical document. The sequence of styles is perfectly established, but to whom is it of real use except to historians ! Architects value books on the subject chiefly for their illustrations, and use them, not for the purpose with which the book was written, but to help themselves in some way to design modern work. In other words every man, unconsciously or half unconsciously, makes for himself, according to his light, rules founded upon the principles of beauty, that is to say the causes of attractiveness, in the buildings he is studying, in order that he may bring into being, not the same design, which he knows to be impossible (if he is experienced), but the same attractiveness, and for the same reason, in his own work. It is needless to say how slow this process is and how ineffectual in many cases, where nevertheless the beauty of the building studied obtains full appreciation. A mind capable of conception is very often not strong in analysis. It wastes time and energy in feeling its way to the results. What is necessary to enable it to work rapidly and surely is a framework of principles and method supplied from without. This is the real use of the architecture of the past to the architects of the present—as architects; to supply models from which the causes of beauty may be deduced. It is only upon some such scientific basis of design that it is possible to invent with ease. No man can mass design by accident, and it is in massing that design really consists. As all design consists in this, all ages supply matter for its illustration. Yet how little has been said about it. We learn in works on architecture that the Greek pediment was low in pitch, that the Romans pitched their pediments higher and the Gothic designer's gable was highest of all ; but no lesson in design is drawn from this. We learn in every case merely what the designers of a period did ; and, so far as construction in design is conveyed at all, we are taught only how to carry out historical unity in design. Experience teaches that there is more in preserving historical unity than the mere avoidance of offence to the eye of the educated. We avoid also offence to the educated eye. A mixture of different historical characteristics is fatal to the harmony of design. Knowing this, but not knowing clearly what is essential and what is not, the wise man goes by his book ; and as he becomes skilled in the styles, comes, as all men do, to enjoy his skill, and love correctness for its own sake. That is to say from hatred of solecism he commits a wholesale solecism every time he builds.

This is not much to show for a faithful study of architecture. There must be more to be got out of it than that, the lesson of the history of architecture should be, not what the past designed, but how it was designed. The beauty of every great example has a reason. To return to the three classes of gables--there is reason, as shown by John Beverley Robinson, for the varying pitch. The Greek front, solid widely spread, is suitably finished with a low pitched gable, while the Roman, more slender and vertical, naturally cocks it up and the Gothic more again. This is the kind of truth we should learn from the history of architecture. To know how to be Greek or how to be Roman or Mediaeval is merely to put one's self in fetters. To know why all three were good is to give one's self the freedom of design in any age—even in our own.

Mr. H. G. Wells, who is so fond of carrying his scientific observations into the future, has, in his new book of "anticipations" about the state of the world in the year 2,000, some speculations about the conditions of building. He is of course heartlessly scientific and says, (I quote at second hand) that he expects the engineers of the future to be the great men of their time, but the architects to be opposed to progress, because they are "too highly cultured and not sufficiently educated." By "cultured" he evidently means trained in precedent, and by "educated" trained in science. Making allowances for his scientific point of view, and the probability that his idea of an architect's education is limited to a study of the properties of iron and concrete and sewage, the accusation, whether it is likely to be justified, or not, gives a judicious pointer as to the need of more scientific education for architects in the future ; an education which shall be scientific in all directions ; in design as well as in construction. The constructor has become inventive ; the designer must become inventive too. I am well aware of the horror of lean iron forms, and of the necessity of forming new ideas of beauty, that the idea of architectural invention brings before a well regulated mind. But surely to study the principles of design is the very way to prevent the realization of this horror. There cannot be more than one set of principles of beauty in this world, even if it is possible to conceive of there being another set in any other world. It looks therefore as if to take Mr. Well's advice and devote ourselves more to "education" and less to "culture" is the surest road to making beauty keep company with the necessity that is coming to us of keeping design abreast with construction in our own times.

But a new departure in design is not what this article is about. It is clear that principle and method are the only road to such a departure when it becomes necessary. Culture, in Mr. Wells sense, has already met a Waterloo in the tall buildings of New York. In their case, it is not until the dusk comes on, to obliterate

their architectural treatment, that a consciousness of their greatness is not obscured by a perception of their littleness. It must be possible to make more of such opportunities than that, and it is clear from the failure of the early efforts in this kind of building that Vitruvius is out of it this time. A study of the principles of design is particularly necessary for these problems which therefore bear essentially upon the argument; but the purpose of this article is to advocate the acquisition of familiarity with principles and facility in method for the purposes of ordinary design. All design requires it, the simple as well as the stylish; and the most affectionate adaptation of old work would be better done if the principles at the bottom ot the original were open to the eye as well as the result.

Where then are these principles to be found that we may acquire them? That unfortunately is the difficulty in this matter. That is the want spoken of above, in the literature of architecture. They exist, there is enough evidence to show that. And the definition of many of them exists too, scattered here and there through the works of writers on art. Every architect has found out some for himself, and if he turns his attention particularly in that direction, will find out more. Gwilt enters into the elusive question of proportion. So does Viollet le Duc in his Lectures on Architecture. One can hardly come out of a study of these investigations without some serviceable addition to method in setting up a design. There are suggestions for practice to be gleaned from H. Heathcote Statham's Architecture for General Readers. But the most enlightening and serviceable attempt is that of John Beverley Robinson in his Principles of Architectural Composition; which he describes in his subtitle as "An attempt to order and phrase ideas which have hitherto been only felt by the instinctive taste of designers." With these books at hand. and particularly the last, we have not such a bad showing for our purpose after all. The books are all in the library of the Ontario Association of Architects.

The papers read before the Royal Institute of British Architects are very often concerned with principle and method, and a useful collection might be made from them of the opinions of practising architects upon these points. It would be even more useful if our own architectural associations devoted themselves to putting together their ideas in the form of papers upon this subject. An original paper of any kind blesses him that gives as well as him that takes. To set in order what he knows, or to classify and arrange what he can glean from books, or even to boil down John Beverley Robinson for his own personal use, is an exercise which would well repay the time expended upon it by an architect, and would be a useful contribution to the proceedings of his association.

No doubt something to this purpose can be gathered from Ruskin's architectural works; but, as the investigations of the Stones of Venice are directed towards the evidence of character in architecture as found in the detail, his principles are concerned more with conception and character in architecture and beauty in detail than with the composition of masses. In Ruskin's Elements of Drawing, the composition of landscape is considered and these rules are of course of general application—for any one who is capable of applying them.

It is this capability which we may expect to be the fruit of studying the principles of beauty in architectural composition and practising methods for their scientific application in design. The adoption of John Beverley Robinson's rules in something of the rule of of thumb manner will keep a man from being a fumbler; but, to be at home with the principles of beauty, and to have an instinct for method so as to compose with ease, one must look for these principles in all kinds of composition and study every method that holds out the hope of putting them together with some approach to geometrical certainty.

W. A. Langton.

BRITISH, CANADIAN AND UNITED STATES ARCHITECTURE.

An English architect who visited Toronto recently expressed appreciation of the merits of much of the domestic work under construction and recently completed in that city. In view of the proximity of Toronto to the United States, he was surprised to find the modern architecture based so largely on English instead of American lines. Even American architects, he thinks, are following, to some extent, British precedent, especially with regard to planning. In buildings of a public character, however, Americans are largely influenced by the traditions of the Beaux Arts School at Paris. They have sufficient invertiveness, however, to impart originality to the style, and to adapt it to the requirements of this Continent. In buildings of this class the English architect, as a rule, is less successful. This is believed to be due to the limited size of the sites and buildings with which he has principally to deal. Not only are the sites in most instances very limited in area, but very irregular, so that it is not possible to give to the buildings the bold treatment which is so characteristic of large buildings in the United States built on rectangular sites. Even the Germans, who have little to say in praise of English architectural design admit the skill displayed by English architects in planning. This skill is largely the result of the necessity of adapting buildings to irregular sites, while the regularity of the sites of the majority of large buildings in American cities renders planning of such structures comparatively easy. Another hindrance to broadness of effect in English street architecture is the fact that nearly all the land is leasehold. Leases belonging even to the same estate, expire at different periods, thus preventing the carrying out of any general scheme of improvement of the street frontage. Such improvements as may be made are usually arranged for when the lease of the land on which the building stands runs out. The improvement thus relates only to the individual building and uniformity of design and effect is not obtainable.

Mr. J. Wilson Gray, architect, has removed his offices from the 3rd to the 6th floor of the Confederation Life Building, Toronto.

Messrs. Burke & Horwood, architects, suffered heavy loss in books, drawings, etc., by the fire which partially destroyed the Union Loan Building, Toronto, on the morning of the 3rd inst. Fortunately their drawings of current work had been placed in the vault, and thus escaped injury. Messrs. Burke & Horwood have temporarily removed their offiees to No. 15 Toronto street. The Toronto Chapter of Architects, of which Mr. Burke is chairman, passed a resolution expressing the sympathy of that body with Messrs. Burke & Horwood in their misfortune.

ONTARIO ASSOCIATION OF ARCHITECTS.

At a meeting held at 94 King street west, on 27th February, 1902, the president, Mr. W. A. Langton, in the chair, the minutes of the last meeting having been read and confirmed, the chairman said :

The business we have before us to-night is to hear Mr. Lemasnie read a paper on "The Field of Design." Mr. Lemasnie requires no introduction though he has been here but a short time ; but as you have perhaps not all had the opportunity that I have had, of looking over a portfolio of Mr. Lesmasnie's drawings, I think I ought to let you understand in advance that we shall be listening to a person who is an expert designer.

Mr. Lemasnie then read his paper.

THE FIELD OF DESIGN.

Mr. Chairman and Gentlemen ;—

In dealing with a subject whi ch is at once comprehensive and inexhaustible, in nature a first principle, in the abstract all pervading, in the concrete indispensable, embracing all things useful and beautiful, I am fully alive to the fact that my few years of experience entitles me to say very little and to say my little very seldom.

In this paper I will consider from a general point of view and if time allows I will give particular attention to one or two principles.

Historically we have a consecutive selection as old as the human race—styles, periods, transitions, subdivisions, revivals and echoes—these in turn are played upon by climatic, racial, social conditions—national temperaments, local temperaments. The philosophic nation, the emotional nation, the passive race and the warlike, the ages of reason, of faith, of decay, all have set down intensely and indelibly their ambitions, triumphs and weakness, in the book of historical design.

The ruins of Karnac cannot fail to impress us with the dignity and learning of the old Egyptians. Who can misread the expression of the Greek Doric order ? the symbol of a cultured race—supported and consoled by a divine philosophy.

And the Gothic ? Well, we all have our dreams of some grand old minster and its expression of faith.

The Queen Anne, that age of bric-a-brac, the Louis styles, with their vulgar displays of meretricious ornament and violations of structural conditions, surely tell their story well. What a medley of beauty, philosophy and conceit !

And what will become of the student who attempts undirected to read, mark, learn and inwardly digest as much of this history as his poor brain can safely bear. I am afraid he will be in the position of the farmer who read through Dr. Johnson's dictionary and failed to discover the plot. It would seem that his best method is to aim at thoroughly mastering one of the two great styles—Classic or Gothic—selecting a period with which he feels most in sympathy—preferably what the consensus of the best opinion acknowledged to be the purest. At the various phases let him cast a glance—at the doubtful phases seldom—and then, when he has become a scholar with strength and individuality of his own, it may do him no harm to indulge in such indiscretions as say the Pompeian wall decorations or the Rococco ceilings.

At the present time far too much attention is given to what one may term nondescript styles. I would instance the fondness of the United States architects for modern French work. Again, what is known by the vague title "Colonial" has far too strong a hold upon a large number of the architects of this country. In many instances the reason is that these two styles adapt themselves more readily to the requirements of to-day than do others of more lasting, more scholarly and purer treatment. And yet with all this learning on one or two styles, there seems to be a sad lack of unity in the streets—main and residential—of the cities I have had the pleasure of seeing on this side. Indeed the buildings occur to me as a motley collection of little architectural personalities, peeping forth from Colonial porches, Yankee romanesque houses, Swiss toys and other odds and ends. Here we may find an exterior designed apparently by a cabinet maker who has no conception of mass or anything larger than a sideboard. Then we have the romanesque fellow with his weighty, ill proportioned piers, arches and rude carving. Inside things are on a par. We find the architect has foisted his Tuscan or other order upon the wondering housewife. The lay out is formal, severe, unkind—nothing plastic—nothing human,—and the colour scheme seems to have been quite an after-thought.

The modern English style, L'art Nouveau and other stuff of the same kidney appeals to me as empty and idle—with rare exceptions.

I have had the honour of sitting in modern English rooms and there were times when I regretted not having provided myself with a rule so that I might make certain that the edge of my chair was parallel to the wall—the table and the hostess, all seemed superbly exact and all took part in a decorative whole. A solitary black cat stalked in, quite conscious that she had her place in the colour scheme—sat down in some regulation spot and decoratively purred at an impossible bird on the frieze opposite. Here however, is an honest recognition of the laws of construction, but when we turn to L'art Nouveau—the new art—and it please you—we are confronted with all manner of violations of absolute laws and sound construction. A deceased egotism has been inspired, it seems by human bones, has stretched them, squashed and bent them, applying the result to furniture, mural decoration, jewellery, and the industrial arts generally, and intelligent people couple these designs with dyspepsia, insomnia, or a split in the brain pan.

Dared speakers to speak, writers to write, or these designers design, they would promptly and rightly be put carefully away in prepared places.

In England, we have to be grateful for a group of men who are splendidly isolated from this "quaint," "simple," "original" work—I mean such men as Norman Shaw, Reginald Blomfield, Aston Webb, Professor Lethaby, and we ought not to forget while speaking of the best English architects to include the late John Sedding, W. Eden Nesfield, and H. M. Brydon.

For practical reasons, perhaps, some of the most successful buildings we indulge in are the commercial structures of many stories, but these seldom go any further than mere utility with any degree of satisfaction. Still, this unloveliness is largely due to the conditions to which architects must subscribe rather than the fault of the architects.

In the foregoing apprecation of modern English and L'art Nouveau there are things said which may be misconstrued by the indignant creature who is yearning, striving for originality. I shall be accused of having spoken slightingly of his pet idea. Please let me remove such a thought. It is of the painful efforts and feeble results that I have spoken so wickedly. Originality cannot be taught, bought or borrowed. A man either has or has not this faculty. An artist, I mean the word in its broadest sense, so endowed, vibrates with energy and character, and a loyal devotion to and study of the work of the old masters cannot possibly injure or put aside his dreams, and if a man is outside the pale of study of and faithfulness to recognized right things, will keep him from going astray. Originality may evolve slowly or suddenly occur, we do not know, but this we are quite sure of —there is no use in "trying" to be original. In so doing the student will be following a chimera.

To divert—It is final, that if we would produce anything of use and beauty that we shall consider and apply the laws of construction, fitness and proportion to our task, and that we shall be alive to the limitations of our material and treat it honestly. If the material be one of natural beauty this should be made a feature of. How unreasonable it is to carve and mould to death a fine piece of mahogany, adding to the client's account and wasting the craftsman's time. As to construction it will, if allowed to be frank, go a long way towards building up a successful design. A proper understanding of the function of the thing we are treating with will further the success, but these two alone will not suffice. It is now that we play upon it with proportion—legitimate proportion— ending, we would like to hope, with a thing of lasting use, splendour in its own particular sphere. As for decoration—so often a confession of weakness in the designer—we should go warned and slowly, or the result will be poor and vapid, so jealous is the simple thing. Chippendale too often transgresses in this way when treating his chair backs.

On the other hand broad and simple effects are not necessarily dependent on the absence of detail, the Moorish work we illustrating how it is possible to get breadth and even repose and yet to cover nearly every available space with intricate detail. Projections and hollows that cut up the surface seem to be the enemies of breadth.

One of the root principles of much that is really beautiful in

certain types of design is counterchange. The Saracens and Italians knew the value of this, as can be seen by their arrangement of voussoirs for example. We can trace this motive too in some of Norman Shaw's most delightful work, and also it is very much in evidence in Bentley's masterpiece at Westminster. It affords an opportunity not otherwise offered for peculiarly beautiful " binded " expressions and for color proportions.

One of the most important principles of design is that known as composition of line. It is ever recurring in nature and in all things good that man has done, and within this principle lies a second—that of radiation. Somehow the judicious introduction of radiation nearly always serves to give verve and sparkle as far as I can tell, to one's work. Most of the old men felt this, and it is abundantly set forth in their work. Remember then, this idea of composition—keep your masses compact, pure and serious in outline—refrain from anything ragged or vague. Read Ruskin on the composition of rocks, clouds and leaves in Vols. IV, V, of Modern Painters. Hang up a piece of drapery and sit down and draw it faithfully and then make an analytical drawing of it.

I think all artists should be constantly making notes from nature and history. I think two drawings should be made when studying actual things—a faithful drawing depicting all the accidents of light and shade and rendering the color values —and a second drawing in which is shown all the constructional peculiarities—this will be the most helpful for the purpose of design.

We hear it sometimes said that a good draughtsman makes a poor architect, an altogether unfair statement, which is contradicted again and again by shining examples, Ernest George Blomfield, etc. It is the man who is bent on making catchy, effective drawings with bits of dark here, light there, and so on, this is the man who is in danger of not fulfilling the promise of his drawing. But if he is an honest draughtsman and knows enough of practical work to foresee results, I cannot for the life of me see why his drawing should hamper him. Says Ruskin, " People can hardly draw anything without being of some use to themselves or others." We know of course that he meant absolutely faithful draughtsmanship—not effective, for he says, " The function of art is to state a true thing, or to adorn a serviceable one."

At any rate, there is no reason why those who disagree with me should go out of their way to be bad draughtsmen, and it seems as if some did. We will decide then to buy a well-bound note book made of paper of a pleasing texture and to take home a leaf or sprig and there and then to carefully and loyally translate it—all such work helps to make life richer, infusing reasoned ideas, harmony and poetry with our work. There are cottages and windmills to be drawn, stretches of meadow, rolling clouds and gleaming rivers ; we should not be ever seeking material and ideas that will be of direct use to us—that can be forthwith applied to our daily problems—rather should we be content to dream a little, to while away a peaceful hour in the garden of romance and song. As artists, as craftsmen, as honest workmen, we all might unify our ideals by the association with and culture of the highest poetry and prose with which our literature is permeated. I hold that it would be well for every one of us were we to carry one of Shakespeare's plays in our pocket. The power of ideals is of tremendous importance in the realms of art. It cannot be over-estimated.

I cannot understand the designer who likes not poetry, any more than I can the poet who cares nothing for design. "Is it of any practical value?" asks the architect who on this point is hand in hand with that inevitable fellow, the Man in the Street. Yes, of immediate value, we say—a beautiful line will sometimes arouse a series of delightful ideas hitherto dormant in the imaginative mind—a lesson in design may be gathered from Gray's noble and refined lines,

" Some mute inglorious Milton here may rest ;
Some Cromwell guiltless of his country's blood."

And is there not a superb feeling in the line,

" The stretched metre of an antique song"?

Of colours I have said nothing because it is impossible to talk of color in the air. Examples of right and satisfying colours are difficult to find. I would only suggest that those who confine themselves to greys, grey red, grey blue and so forth, and who think they have hit the artistic (how I hate the word) side of the problem are apt to be often mistaken. The brightest and what may seem the crudest of colours can be harmonized or contrasted by those who have a true feeling for colour. A very learned Frenchman of unquestionably right taste once said to a friend of mine that he thought the English sense of color was righter than that of any other country today, which he ascribed to two reasons—the green of the fields and the color of the girls' cheeks, showing that we ought not to be narrow on the subject of color.

I would like to see the students of Toronto wax enthusiastic over their work and their profession. I would like to know that the architects were enthusiastic over their students and their architectural education.

To conclude, this paper is a plea for something simple, fresh, national and rational by way of architecture ; a plea for the recognition of the truth that architecture is not merely a practical profession but enters largely into the realms of imagination. Let us not fall into a state of apathy with regard to the imaginative side of architecture, lest we become mere machines, sordid disinterested things, and our offices mere plan factories. Rather let us refresh our reason with music and song, with green fields and poetry, lingering in our moments of imagination on unattainable ideals, unrealized hopes—an unseen sequence of peace, and usefulness and loveliness.

Swinburne has said much that we must feel in his magnificent lyric "The Garden of Proserpine." I leave you with the opening lines :

"Here where the world is quiet,
Here where all trouble seems
Dead winds and spent waves riot
In doubtful dreams of dreams ;
I watch the green fields growing
For reaping folk and sowing
For harvest time and mowing,
A sleepy world of streams."

DISCUSSION.

Mr. Gouinlock : Mr. Chairman, in listening to the paper read by Mr. Lemasnie, it occurred to me, or rather what did not occur to me was where the curves and lines which he has been describing would apply to architecture or, more particularly apply to the members here present this evening. I have risen to have the pleasure of moving a vote of thanks to Mr. Lemasnie, but I beg to take an architect's standpoint. If we were sculptors or modellers this paper would affect us directly, but I fail to connect it with our actual work. Referring to the notice card, I observe that decorative design is mentioned but I have been told that the drawings made have a good deal to do with architecture. As most buildings are erected on perpendicular and horizontal lines, I fail to connect the curvilinear lines to which attention has been drawn this evening, with the lines of our work.

Mr. Gregg : I think Mr. Gouinlock has not fully grasped the importance of the remarks that Mr. Lemasnie has made. It seems to me that the principles which Mr. Lemasnie has impressed upon us to-night are such as we can make use of in our every-day practice. The architect that was shewn a plate of an old building and who said " It is of no use for this country," I think represents the type of architect that really has not grasped the possibilities of his art, and who is not working on right lines. The question at issue, as I understand it, is whether the study of architecture does not involve the study of the same principles of beauty as the other arts. We are apt to confine our attention to the study, I might almost say the memorizing, of concrete architectural examples—to precedent. Yet even in that most precedented and concrete example the curved broken pediment, I have seen results very different reached by two men working side by side. Anyone who has thought of the beautiful curves that he sees in nature, and has studied and drawn them, when this problem, the beauty of which depends upon its curves, is put before him, instinctively incorporates in his design, the quality of beauty

he has trained his eye to enjoy by the study of nature.

Mr. Aylsworth : Mr. Chairman, I hardly feel like Mr. Gouinlock does. To my mind, this has been one of the most interesting addresses or papers that we have had. It is, in the first place, a rare treat to get away from buildings and architecture in meetings of this kind, and it seems to me that Mr. Lemasnie has opened up a field that is well worthy of our study. It not only helps us as designers to study decorative art, but it broadens our minds, and leads us away into new ideas. I have never paid much attention to decoration, but I see in the matter of drawing, the first principle is to outline an harmonicus form and make the fignre come within its lines. I had been asked to draw a rooster, I do not suppose I should have started with the egg as Mr. Lemasnie has done. (Laughter). And the same with the beetle. I do not think I should have started to draw a beetle by making a cross and enclosing it within an oval, and yet you see that is the right method. So that surely we have learned something useful, whether we apply it to buildings directly or not. As architects, we should be students of all the arts, and should broaden our minds as much as possible, and in this case we are having the pleasure of recreation at the same time. As Mr. Gouinlock moved a vote of thanks, I take very great pleasure in seconding it. Before I sit down, I should like to continue on one point. The speaker referred to Mooresque decoration. I have thought more and more that we have made a mistake, perhaps, in not utilizing that sort of work. For my own part, I cannot say that I ever enjoy seeing reproductions of natural objects, especially of animal and flower forms and the like, in architecture. I think the Japanese are perhaps ahead of us in that respect. I do not think they copy anything exactly as in nature, as our artists do, but illustrate their idea by something grotesque, something that has never been seen in the heavens above or on the earth beneath. In decorations, I think we might do a great deal more with geometrical figures and lines instead of with leaves, and flowers and vines, and that sort of thing. As I sat here looking at the Ionic capital of our lectern, for instance, I could not help but think that it is the more pleasing because there is nothing in it imitating any particular natural object. To my mind that is much more pleasing than a Gothic capital decorated with leaves and foliage. I noticed recently, in a shop on King street, a number of little earthenware articles, probably to put flowers in, and yet they were decorated with flowers on the sides. That is a thing that always offends my sense of suitability in such things. I think that a jardiniere, or anything of that sort which is to contain plants or flowers, should be decorated with something entirely different. A Japanese pot would probably have a dragon run around it. None of us ever have seen a dragon, but I think that would be an improvement in decoration. I think it would be better to utilize lines and figures composed of lines, than to use figures representing natural objects. I do not know whether or not the speaker will agree with me in the matter.

Mr. Simpson : It seems to me that the lecturer has struck the key-note to the importance and applicability of his lecture to architects when he said, if we would draw that beetle from nature it would be as good as subscribing for the American Architect for a certain period of time. What struck me was that to draw objects of the kind the lecturer has shown with care and attention will whet the edge of our faculty for design so that we shall be much better able to design in proportion and on artistic lines. (Applause).

Mr. Gregg, the Secretary : Mr. Chairman, I would simply say that I support the motion. I would respectfully suggest that we leave Mr. Gouinlock in the minority of one in his remarks on the subject.

Mr. Gouinlock : My remarks seem to have been misunderstood. I have no desire to detract from the value of the paper, but as I have raised the question as to its applicability to architecture, I seem to have aroused the ire of the members. I failed to see how the curvilinear lines which have been described tonight apply to architecture. If they do apply I would like to be set right.

Mr. Langton : I think Mr. Gouinlock intends to be complimentary to Mr. Lemasnie in raising this question. Mr. Lemasnie is not very long out from England and I notice that when an R.I.B.A. paper is read, somebody promptly rises and contradicts the statements in the paper. Mr. Gouinlock is only trying to make Mr. Lemasnie feel at home. As a matter of fact, this was a lecture upon Decoration, and the lines in question were intended to aid decorative design. That curved lines merely considered as curved lines are not always out of place as a guide to building design is shown by the drawing of the windmill in which the curved outline has an important effect in setting the building on the ground with a grip comparable to that shown in the drawing of a foot—a feeling which is peculiarly suitable for the foundation of a tower of this kind. The use of lines in general as a guide to design is, I think, shown in the case of the beetle. This boundary line has a great effect in making a design of the beetle. If you draw the beetle as a natural object, it is not a decorative object, but it is here made a decorative object by making an imaginary line bound the excrescences, the limbs of the figure, so that there is nothing ragged. As Mr. Lemasnie says a decorative design is not ragged ; he therefore draws the line and keeps the legs within that line, bending them in any shape not out of harmony with the beetle and yet in harmony with his design. There is no reason why we should not do that sort of thing in a building. A building is also a natural object. Our business is to keep it from being ragged. The requirements of a building crudely plotted out will not make a composition. It is our business to arrange them so that they will ; and it will be found that when a composition is made it comes within lines which enclose a figure having itself some regularity of form or balance of parts. If Mr. Lemasnie would kindly draw for us St. Paul's Cathedral on the blackboard, we should see that it is composed within a triangle. The habit of drawing from objects which are not architectural, like hens or beetles, twigs or flowers, will minister to the mind in a way that will help us more readily to see the composition within lines. And it seems obvious that the habit of discovering possibilities of composition in this way in common natural objects, must have an important effect in fitting us for original composition in our own work. I have great pleasure in giving Mr. Lemasnie the vote of thanks. We have all been exceedingly interested in the lecture, not merely as a lecture on decorative work but also as being sugges-

tive ; and it has been most interesting to me to see the designs grow under Mr. Lemasnie's fingers.

Mr. Lemasnie : Mr. Chairman and gentlemen : I am beginning to feel quite sorry that I cannot take my side with Mr. Gouinlock so isolated is he. I think I said something in my paper about not having selected subjects and drawings which would be of direct application; I think I made that apology in the first instance, I am sure I did, and I thought that would explain away the architectural deficits, so that something else should have been looked for. I do not think it would have been so interesting, had I given you a discourse which you could find in Gwilt, or some of those old books, so much better than I could have stated it. As regards the non-application of the principles shown in the drawings, I do not agree with Mr. Gouinlock. I want to know why an architect should be ever seeking ideas and motives of direct architectural character. I want to know why, for instance, a study of Hamlet should not help an architect. Apparently Mr. Gouinlock cannot see that, or if he can, I do not see why he cannot see the usefulness of such study and work as that which has been under discussion this evening. Much of my paper hinted at the value of imagination. We are afraid to recognize the poetical side. There is of course a danger of going about with long hair and looking like superfluous asses, and we do not want to do that, but at the same time there is an opportunity, for an infusion of higher types and ideas, to be obtained, I think, by studying other things entirely outside of practical architecture. The greatest architects, as far as I know, have appreciated art and studied and enjoyed things entirely outside of their profession. Many of them have been great musicians in their small way, with excellent taste. Intense interest in all things beautiful cannot possibly be outside the limits of this or any profession, and although the architect may not immediately and directly see what he has gained I am sure the refining influence so brought about must tell in a hundred subtle ways. The hints at composition thrown out in the course of this paper and the few relative illustrations may serve to remind us that nature and art are co-incident with reason and principle and harmony. The laws of composition show that a thing should be simply seen—as a whole—that the parts should be subservient to the mass, each and all helping towards the final ordonnance. (applause)

The president then declared the meeting closed.

EXPANSION OF CONCRETE.

Experiments recently made to determine the coefficient of expansion of concrete have developed the conclusion that this coefficient is about 0.0000055 per deg. Fahr. This, says The Quarry, is for the concrete made with broken stone, gravel concrete giving 0.0000054, while for a bar of stone of the kind used in making the concrete the coeffecient was 0.0000056, or practically the same as that of the concrete. In making the experiments, a concrete bar 4 ins. diameter and 3 ft. high was set in a steel cylinder having double walls side and bottom to form a complete steam chamber. A standard steel bar—or copper bar in some experiments—was placed beside the concrete bar, and on the two bars rested an optical lever or plate carrying a vertical sighting mirror, which was opposite a glass window in the cylinder. The mirror reflects the reading of a levelling rod placed beside a transit theodolite 30 feet away. If the concrete and metal bars expanded equally, the mirror would simply move upward vertically and the target reading would not change. With an unequal expansion, however, one end of the lever rises more than the other, and the angular movement of the reflected ray is double that of the mirror or the level plate to which it is attached. The first readings were taken with the cylinder open and the room cooled. Steam was then admitted to the double shell, and readings were taken at intervals by the instrument.

NOTES.

The Don Valley Brick Works present in this number an announcement, the interest of which is enhanced by the special architectural design.

Prof. S. H. Capper, of McGill University, recently delivered an instructive lecture on Westminster Abbey, before the Women's Art Association of Montreal. The lecture was illustrated by numerous lantern slides of the exterior and interior of the famous building.

The Metallic Roofing Company, Limited, of Toronto, manufacturers of architectural sheet metal building materials, recently issued a very neat and attractive catalogue, illustrated in a way that is seldom found in advertising literature. In Catalogue S. will be found a complete description of this company's productions.

The March Country Life in America heralds the coming of spring, and, with added pages, offers a profusion of superb pictures relating to all sorts of wild and domestic life of the woods, the fields and of country places. The estate feature this month is the "New England Garden Home" of Mrs. Jack Gardner, showing the Italian and Japanese landscap architecture.

The Ontario Society of Artists have elected the following officers for the current year : President, C. M. Manly ; Vice-President and Treasurer, Gustav Hahn ; Secretary, R. F. Gagen : Auditors, J. Smith and C. E. Nourse ; Executive Council, G. A. Reid, Laura Muntz, W. D. Blatchley, F. McG. Knowles, F. M. Bell-Smith, O. P. Staples and J. W. L. Forster ; Industrial Exhibition Representatives for 1903, F. McG. Knowles and Robert F. Gagen. Miss Florence Carlyle's picture, "The Tiff," was awarded the Ontario Society of Artists' prize of $200.

A new and valuable addition to the literature on the laws affecting and governing contracts has recently been prepared by Mr. Frank W. Macey. The book consists of 278 pages, and is published in London by Messrs. Sweet and Maxwell, Limited, 3 Chancery Lane, W.C., and B. T. Battsford, 94 High Holborn, W. C., and in Toronto by the Carswell Co., 40 Adelaide St., E. The work treats almost exclusively upon the conditions of building contracts only ; and but incidentally touches upon conditions of building agreements. A large number of legal cases are cited and extracts given of decisions in building cases.

It is to be hoped that some advantageous results will follow the recent recommendation of the City Engineer of Toronto that the appropriation for the more frequent flushing and cleaning of sewers be increased, and that dead ends in sewers be done away with. The Engineer further recommends that where manholes are found to be offensive, ventilating shafts be erected alongside the buildings, if the consent of the owners can be obtained. He expresses the opinion that the abolition of traps in house drains would secure a more perfect ventilation of the sewers, but, judging by the opinions of architects and engineers on this subject, as expressed in these columns some time ago, there is strong objection in the minds of many who have studied this question, to the adoption of such a radical change.

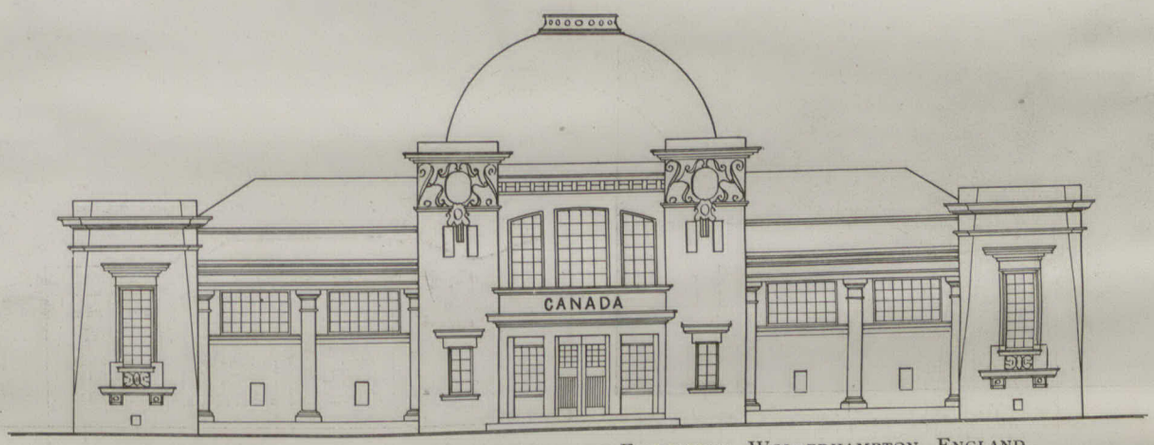
Mr. Alex. Manning, who is the owner of some valuable paintings, has recently offered to present to Toronto a picture by the late Paul Peel. It is to be hoped that the owners of other private collections will follow Mr. Manning's example, and that in a few years the city will be the possessor of an interesting and valuable collection. It is gratifying to learn on the authority of Mr. E. F. B. Johnston, K.C., that sufficient funds are now in hand to warrant work being commenced at an early date on the erection of the proposed Art Museum. The Committee in charge of the enterprise are looking about for a suitable site, and when this is secured, the undertaking will be proceeded with. At present the city has no suitable building in which to house a collection of pictures, but the building of the Museum will supply this deficiency.

THE PARK AVENUE HOTEL FIRE.

To the Editor of the CANADIAN ARCHITECT AND BUILDER:

Sir,—It pertains to you, through the columns of your now widely circulated journal—to you, say, the exponent of architectural requirement in Canada or elsewhere to abet me in endeavoring to obtain such compulsory legislation as will put an end to these ever-recurring fatalities.

I petitioned the U.S. government and that of Canada in January, 1901, to do the needful, when they both replied that it pertains to the several states of the union, and to the several provinces to legislate on such matters; while the requirement being the same it would be so much more simple and expedient for the central government to enact a law for the purpose.



CANADIAN BUILDING FOR THE WOLVERHAMPTON EXHIBITION, WOLVERHAMPTON, ENGLAND.

The architect has solved his share of the problem, it pertains now to the government to enact under penalty that what is suggested be carried out.

The system was exhibited in Paris in 1900 and reproduced by the Scientific Journals of that city which admitted it to be as set forth in the heading to the exhibit, the only sure, simultaneous and instantaneous mode of escape from the upper floors, dormitories, etc., of convents, colleges, hospitals, lunatic and other asylums, hotels, theatres, etc., for old or infirm men and women, children, the sick, the demented. By means of a walled-in stairway to reach and enter which one must go out on to a balcony communicating therewith. At foot of stairway, a fire-proof corridor reaching through the building to an exit at street level. The stairway situated at rear of building so as not to enroach on more valuable space on the street front, and the corridor raised over head or to the ceiling of the ground floor or story, that is the principal floor or "Rez de-chaussee" so called by the French; in a way that it may be passed under so as to interfere in no manner with the interior economy of the building, or circulation of the public on said floor.

CHAS. BAILLARGE,
Architect and Engineer.

Quebec, March 3rd, 1902.

FIRE-PROOFING MATERIALS AND METHODS.

Mr. Edward Atkinson, the well-known insurance expert of Boston, has addressed to the Manufacturers' Mutual Life Insurance Co., the following:

A few months since, before my recent visit to England, I made an effort to secure materials and contributions for a thorough test of so-called fire-proofing materials, floors and the like, mainly devised for the protection of steel from heat. This effort was not sustained to any considerable extent by the promoters of various types of construction nor by the makers of concrete. I therefore dropped the subject for the time.

On my recent visit to London, in consultation with the architects and engineers who constitute the British Fire Prevention Association, I was confirmed in my distrust of some of the materials which have been commended for the protection of iron and steel used in construction. The attention of that Association is mainly given to what is called "fireproof construction," not only in city buildings but in factories and workshops as well.

Our attention has been mainly given to the slow burning construction of brick and timber, and we have not yet been called upon to deal in any large way with steel construction. In anticipation of such demand upon us it is necessary for us to know the present state of the art.

In Great Britain it is said to have been proved that many of the concretes, some of which are there called "breeze," of which coal ashes are the principal component material, are very destructive to iron and steel. These ashes come from coals containing a good deal of material which may cause corrosion, and the long-continued contact even of dry ashes with iron and steel beams, wire or thin plates, imbedded in them, is said to oxidise them. This may come however from the avidity with which ashes absorb humidity from the atmosphere and may be attributed to that rather than to any other fault in the ashes.

Any concrete or any material containing plaster of Paris (sulphate of lime) is known to be somewhat dangerous if not destructive, and there may be other causes of corrosion as yet unknown to us. We know of some cases in which corrosion has set in very rapidly on gas pipes and on cribs of rails intended for foundations, owing to corrosive qualities in the concrete in which they were imbedded. We are aware that many investigations and reports have been made by the representatives of special methods, but we are not informed of any general report or conduct of tests corresponding to those now being made by the architects and engineers who have organized the Fire Prevention Association of Great Britain. We therefore address the following questions to you:—

1st. What attention have you yet given to causes of corrosion other than ordinary humidity which may get through minute cracks in any kind of veneer or covering for steel members? In other words, what causes of corrosion have been developed in your practice other than those arising from dampness?

2nd. What precautions have been taken to meet this hazard?

3rd. What general or special information has been printed upon this subject? Who are the authorities and what printed material can be found and where?

4th. What studies are you yourselves making in this matter?

5th. What knowledge have you of active corrosion from dry materials coming in contact with the iron or steel frames, posts, or other members of any building, or iron used in foundations?

6th. To what extent do you depend, if at all, upon angle irons, wire or sheet metal imbedded in concretes for floors or arches, for the stability of the floor after the cement or concrete has become permanently set?

I have asked these questions with the intention of making arrangements for an exhaustive study of this subject and for such tests as may be possible of each and all the various coverings now upon the market for protecting iron and steel; the concretes, the fireproof floors, and all other matters in which corrosion from any cause may be a source of danger."

FREE HOSPITAL AND COTTAGES IN CONNECTION WITH THE SANITARIUM FOR CONSUMPTIVES AT GRAVENHURST, ONT.

APPORTIONING THE COST OF PERMANENT PAVEMENTS.

Alderman Crane, of the Toronto City Council, has given notice of his intention to move that the city engineer be instructed to report to the Council the class of pavements which he considers (taking into consideration the locality where the same is laid) to be permanent pavements, and that the Council determine the class of pavements which shall be deemed permanent, and that thereafter the local improvement or other by-laws affecting the same be amended so as to provide that where a permanent pavement is once laid as a local improvement, the same shall be kept in perpetual repair out of the general funds of the city. This action on the part of Alderman Crane is in the right direction. The local improvement system, as it at present exists, is, in some respects, very unfair to property owners. The persons who are most benefitted by permanent pavements are owners of departmental and other stores who use a large number of vehicles for the delivery of their goods. These companies effect a large saving yearly in horses and vehicles by reason of the improved pavements which have been put down in recent years, the cost of which has been charged, to a large extent, against the property owners on the various streets. We refer now more particularly to the residential streets where, it is safe to say, the pavement is least used by the owners of the property fronting on the street. This being the case, it is manifestly unfair that that the property owners should be called on to bear so large a proportion of the cost of improved pavements. While it is no doubt true that the value of property is, to some extent, enhanced by the putting down of good pavements, it is also true that increased assessment invariably follows, so that the net advantage is small. A larger proportion of the cost of such pavements should in future be borne by the taypayers as a whole, while if means can be found of placing a considerably increased assessment for this purpose on the shoulders of the owners of delivery wagons, it ought to be done.

SANITORIUM FOR CONSUMPTIVES AT GRAVENHURST, ONT.

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(With a Weekly Intermediate Edition—The CANADIAN CONTRACT RECORD).

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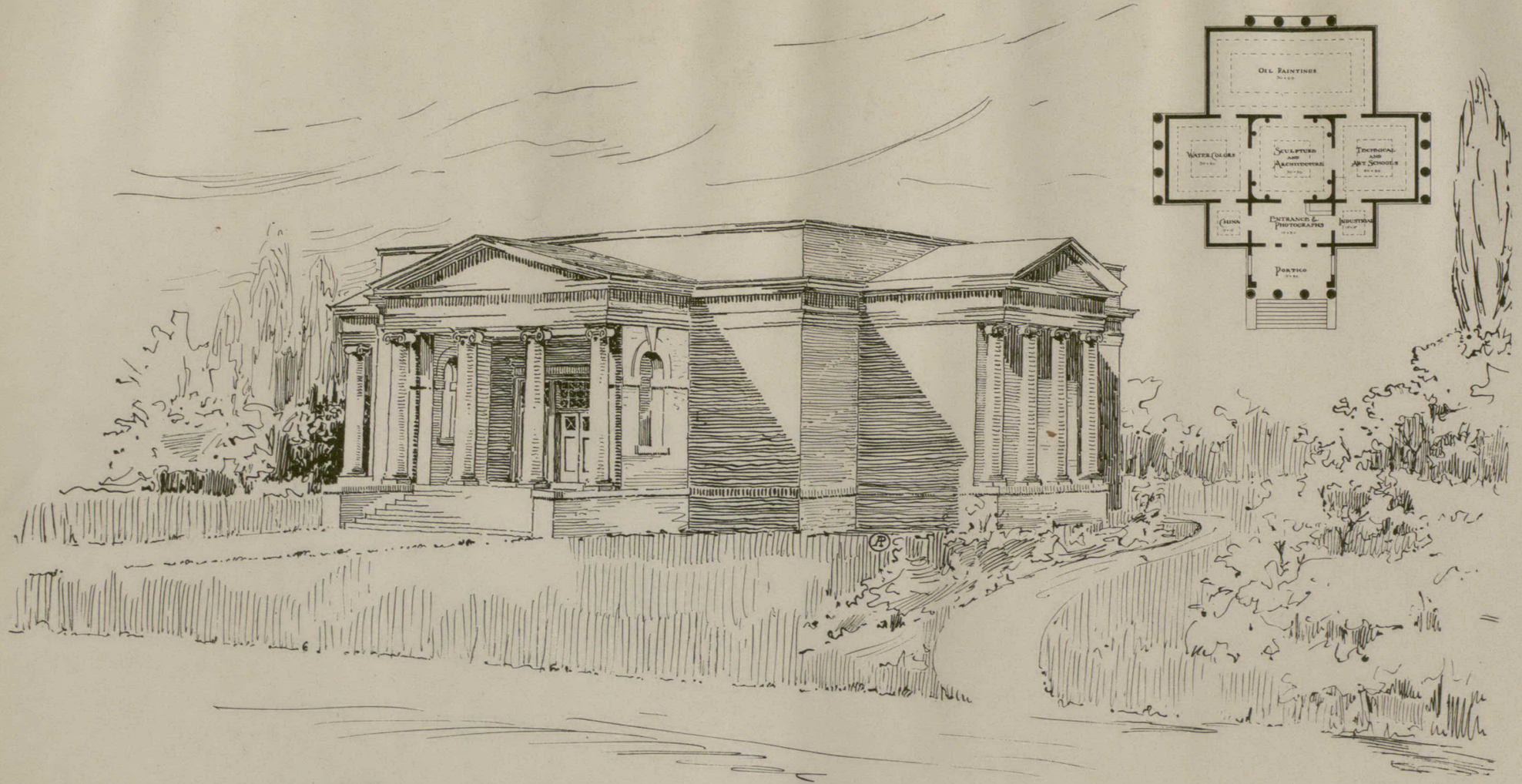
NOTES.

Mr. O. G. Carscallen, Vice-President of the Gurney Tilden Company, of Hamilton, was recently presented by the travellers of the company with a gold-headed cane.

Professor Galbraith, Principal of the School of Practical Science, Toronto, was the guest of honor at a dinner held on Feb. 28th by the S. P. S. graduates resident in Pittsburg.

The outcome of a lawsuit at Cleveland over a party wall dispute, has led to the giving of positive orders to the city engineering and building departments, to carefully survey property on which business buildings are to be erected in future and establish beyond question the lines of the lot or plot of ground on which such improvements are to be made. This will prevent a repetition of this case. Other large cities might profit by Cleveland's experience.

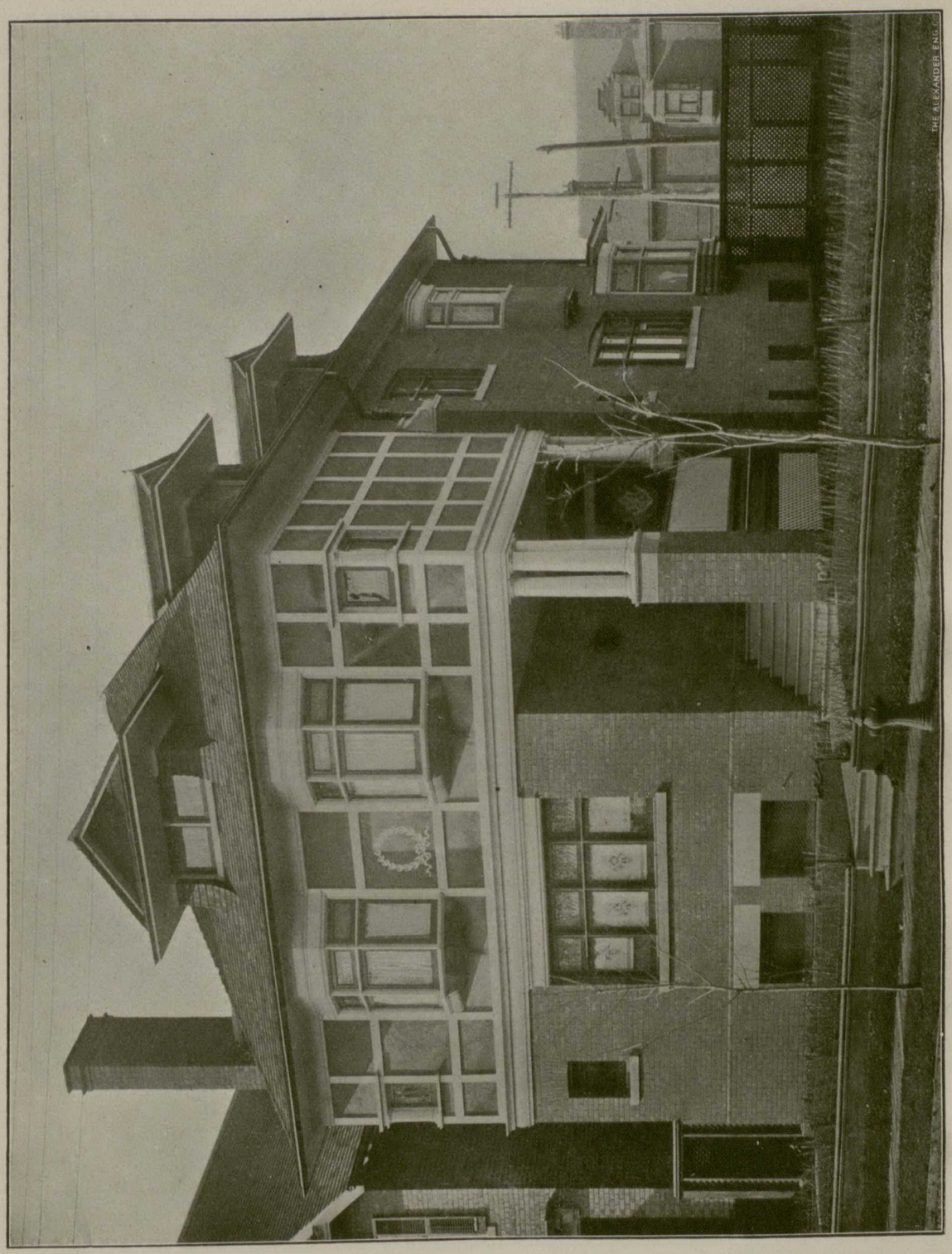
Analysis of the incrustations taken from the Portland stone balustrade round the base of the dome of St. Paul's Cathedral, shows them to be composed chiefly of hydrated sulphate of lime associated with some siliceous matter and minute particles of carbon in the form of soot. The solvent action exerted by rain charged with sulphurous and sulphuric acid derived from the gases and smoke of innumerable chimneys of the surrounding buildings, has, after the lapse of two centuries, transformed the original carbonate of lime of the Portland stone into sulphate of lime, which in a more or less soluble condition has been carried by water action and gradually deposited as calcareous tufa or stalagmite on the underside of the coping-stone.



ACCEPTED DESIGN FOR ART GALLERY, TO BE ERECTED ON THE TORONTO INDUSTRIAL EXHIBITION GROUNDS.

BEAUMONT JARVIS, ARCHITECT.

SUPPLEMENT TO
CANADIAN ARCHITECT AND BUILDER
MARCH, 1902



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BLICKLING HALL.—PRINCIPAL STAIRCASE.

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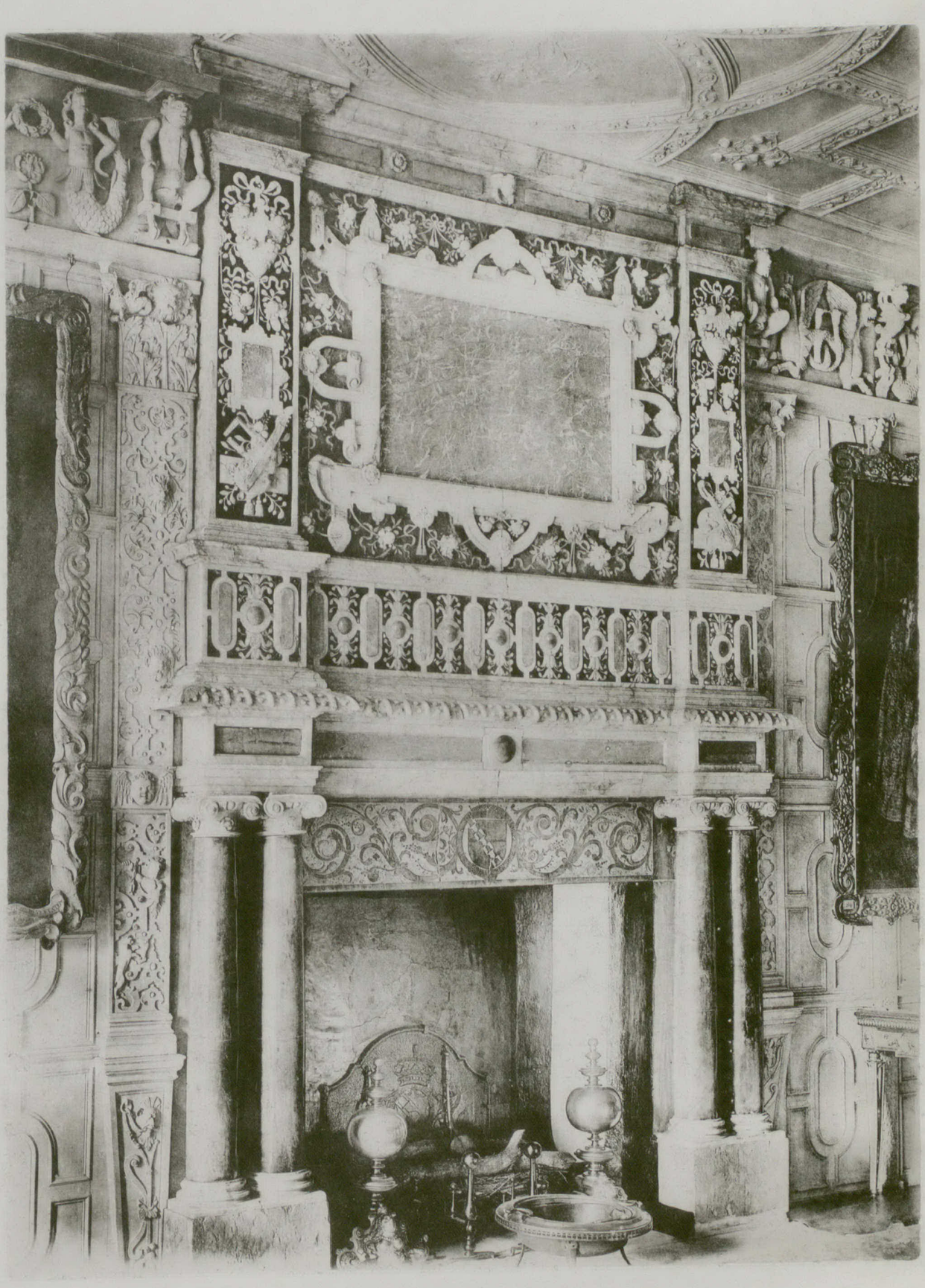

KNOLE HOUSE.—CHIMNEY PIECE IN BALL ROOM.

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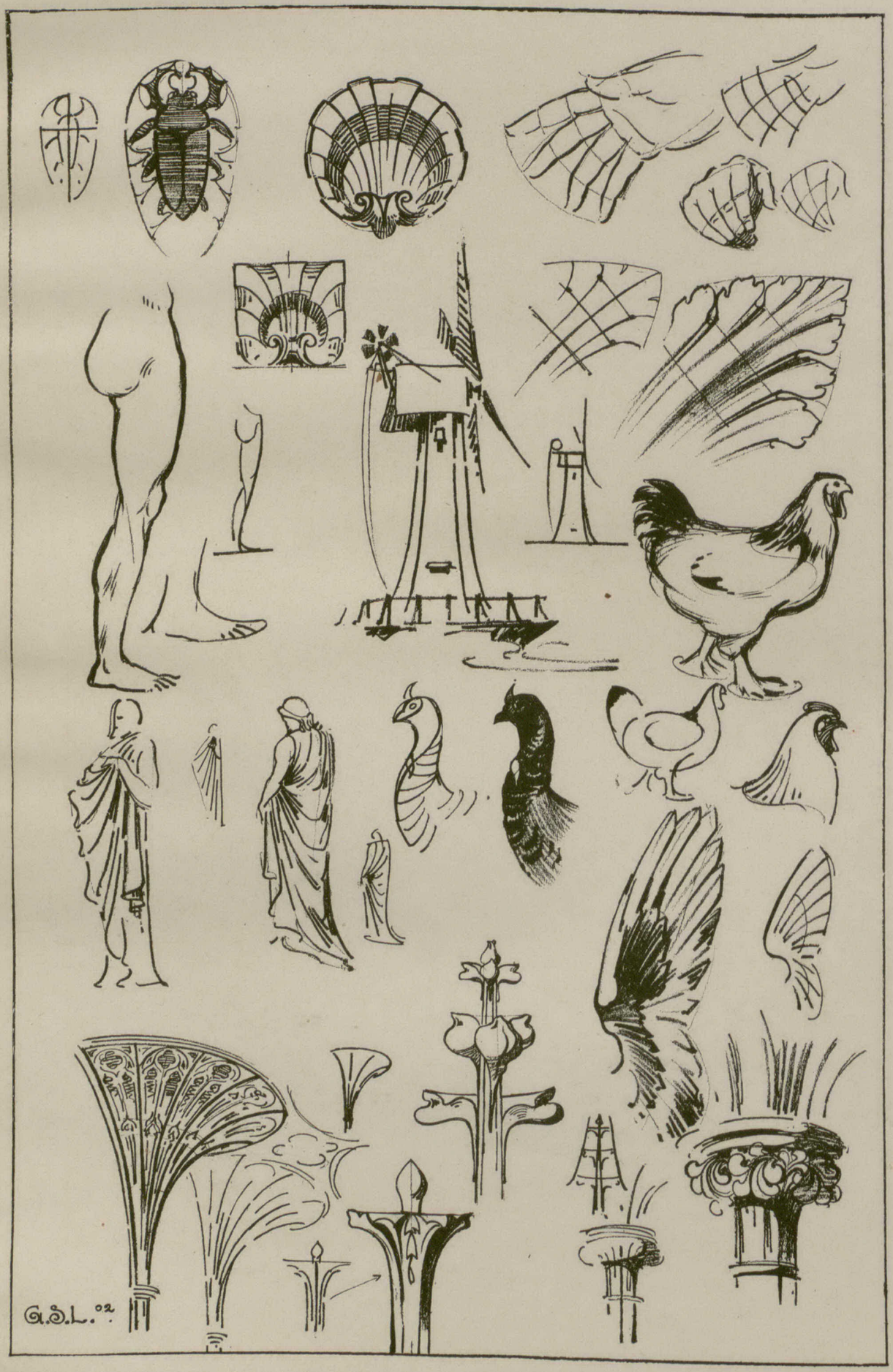
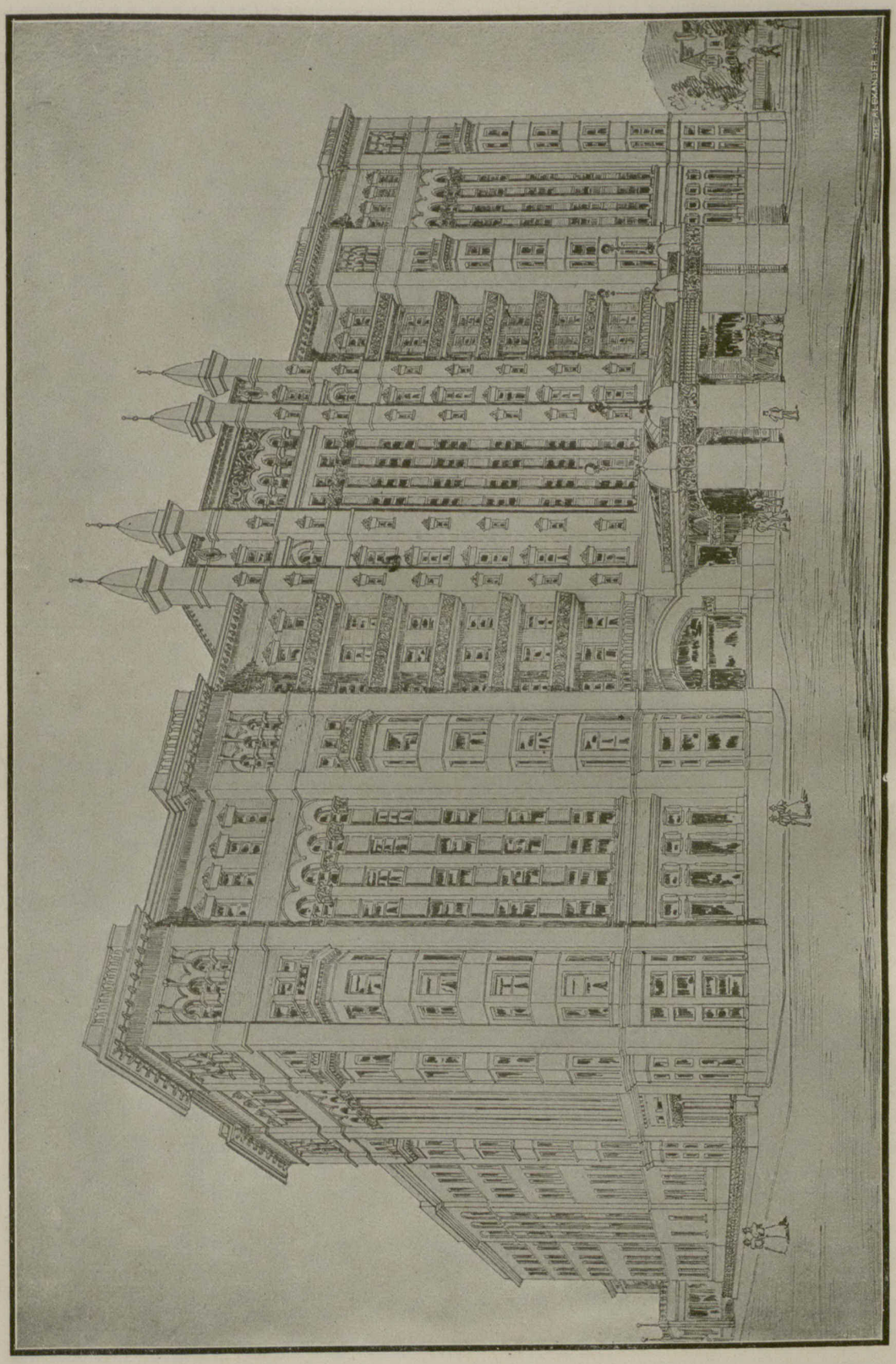


"Both Nature and Art Subscribe to the Principles of Composition."

[See Mr. Lemasnie's Paper in this Number].



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MARCH, 1902

PAGES

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STUDENTS' DEPARTMENT.

PROPORTION AND PRINCIPLE.

There was much sound sense in the address to students of the president, Mr. W. Emerson, read at a meeting of the R.I.B.A. Mr. Emerson touched on "proportion" in connection with the practice of the art of architecture, a word whose value and meaning, as he remarked, may easily be lost sight of. To the architect's mind may probably immediately be suggested the comparative relation of one architectural detail to another and to the whole composition. But besides the objective symmetry and harmonic degree of form or size, proportion may be considered by the architect in other ways. Of course, proportion in this sense is the very first essential of fine architecture. It should be an inherent faculty in the architect and artist but it may be cultivated. And proportion must descend also to the smallest details. Proportion in color is also a most important factor in the excellence of artistic work. The study of nature is the guide as to how much of any one color will harmonize with another. There is also a proportion in architectural work which requires to be maintained between coarseness and refinement. This is a very subtle point in all good work. Too much refinement in architectural work tends to weakness of effect and deprives it of its masculinity. At the other extreme, "muscular" architecture, as it has been termed, may degenerate into coarseness. It is the carefully balanced proportion between these that avoids either extreme. The effect of all the finest architecture has been attained by a combination of strength and power with refinement of well-proportioned and beautiful detail. Too much care cannot be bestowed on the proportion that sculptured and other decorations bear, first to the whole composition and secondly to each other. In all this the architect's should be the guiding spirit, however much may be done by the craftsman or sculptor.

Then, he continued, there is the necessity for a proper proportion being maintained between work and rest. There is such a thing as staleness. The want of recreation makes a man dull, unfit for companionship or sympathetic mingling with or interest to his fellows; and his work suffers in consequence. Also, there must be margin for reflection and thought. Great achievements usually germinate in quiet moments. Of much importance in connection with the practice of the architect, as in all other businesses in life, there is another thing that must be borne in mind, and that is right principle. This in architecture will mean an avoidance of shams and false construction, which somehow always manage to look wrong, even though worked on such a grand scale as the external walls of St. Paul's, or the impudent ugliness of our shops with stone facades, apparently standing on nothing. Truth makes work look consistent and correct; lack of it offends good taste. Palatial decorations in offices, ecclesiastical embellishments in restaurants, the affectation of cottage simplicity in a palace, or vice versa, imply a want of appreciation of the fitness of things, and are wrong in principle; and this element of truthful principle in architectural art should be carried down to the smallest detail if the work is to live. Then there should be right principle in your motive of action; and this is the most important point if you desire not only your personal position to be respected by others but also wish to uphold the dignity and status of your profession generally. Professional respect must ever depend on the character, conduct and aims of the units in the profession. The architect should, on principle, enrich his mind and render himself proficient in all branches of his work, as his duty to his clients, and should deal fairly and avoid harshness in dealing with those over whom he is set as a supervisor.

ANCIENT METHODS OF LIFTING HEAVY STONES.

Of all the problems associated with the Egyptians none is more interesting, says a writer in the Quarry, than that summed in the question, How were the Pyramids built? The land of the lotus is ever a mystery to us, the civilization of its ancient people an enigma, its colossal ruins awe-inspiring, wondrous and unique in the history of the world. Our knowledge, however, of their aims and achievements is slowly growing in extent and lucidity, thanks to the painstaking investigations of archæologists, scientists and engineers, and we now know for certain that the Egyptians were a most scientific and mechanical people. Nebka, a king who lived nearly six thousand years ago, was "skilled in the art of erecting solid masses of hewn stone," and the practice continued for thousands of years, the passion for building colossal structures being most predominant between B. C. 1600 and 1200. Cheops, in his great pyramid, was content with stones weighing about fifty tons each, but stones twenty times as heavy were used in the two huge statues of Amenhotep III. on the plain of Thebes. Solomon put a 90-ton stone in the outer wall of Temple Hill at Jerusalem 100 feet from the ground, while the portal of the treasury of Atreus is covered by a stone weighing 130 tons. Then, again, coming to later times, we find stones 40 feet long, 10 feet thick, and no one knows how wide, in the castle wall at Osaka in Japan, and even if they are only 10 feet wide they would each weigh 300 tons. It cannot be denied, as Commander Barber says in his recently-published book on "The Mechanical Triumphs of the Ancient Egyptians," that a huge solid statue is more imposing than anything built up in small pieces. What are the Goddess of Liberty (150 feet high) at the entrance to New York harbour or the Sleeping Buddah of Bangkok (160 feet long), both hollow, in comparison to the granite statue of Rameses the Great! "They need care to prevent decay, and they will never remain of themselves an everlasting monument of the Godlike power of a king." But the problem is, How did the Egyptians erect such wonders? There have been a great number of theories expounded, but after all the old one of the inclined plane is the one most probable and the most satisfactory.

The Chicago City Council has rescinded the by-law limiting the height of buildings.

The Gurney Tilden Company, of Hamilton, have recently established a branch of their business in British Columbia in charge of Mr. C. A. Godfrey.

By a great blast at Bonawe quarry, in Argyllshire, in which 20,000 pounds of gunpowder were used, upwards of a quarter of a million tons of granite were displaced. The mine was driven into the centre of the quarry face for 70 feet with two arms each reaching 30 feet. It was the first attempt in any of the granite quarries to pierce by rock drills and compressed air, and was carried out in the short time of ten weeks.

UNITED STATES COMPETITION.

The Canadian Manufacturers of Portland cement are taking concerted action with a view to endeavoring to induce municipalities to use only Canadian cement, and have also interviewed the Government to urge a readjustment of the duty. The rapidly increasing capacity of cement manufactories in the United States, and the consequent keenness of competition has resulted in directing the attention of these manufacturers to the Canadian market. Of late a large amount of cement from the United States has been sold in Canada at low prices. The manufacturers here claim that the capacity of the Canadian mills is now about 1,000,000 barrels per annum, and that this quantity is sufficient to supply the home demand. We notice that the city of Hamilton, to which an appeal was made to use only Canadian cement, accepted the tender of a United States firm which was the lowest submitted. This no doubt indicates the course which is likely to be pursued by municipalities generally. The only hope of relief to the manufacturers, therefore would seem to be from a readjustment of the duties. In connection with this it may be said that manufacturers in other lines are feeling keenly the effect of competition from the United States, and a thorough revision of the tariff, at an early date, would seem to be desirable. If United States manufacturers desire to share in the benefits of Canadian business, they should as far as possible, be compelled to produce their goods in this country. Even under the present moderate tariff many United States manufacturers are finding it to their advantage to establish branches in this country, and if our tariff was carefully revised and readjusted, many more would establish themselves here, thereby increasing the opportunity for employment and adding to the national wealth.

A CORRECTION.

MONTREAL, March 4th, 1902.

To the Editor of the CANADIAN ARCHITECT AND BUILDER:

SIR,—In the last issue of the architects' edition of your paper, are two views of Christ Church Cathedral, in this city, the architect for which is stated to have been "John Wells."

The man who designed the cathedral here, and also the one at Fredricton, N.B., was named "Wills," and he died in the General Hospital here before the work on Christ Church was begun.

The building with all its details, was carried out by the late Thomas S. Scott, who was afterwards Chief Dominion Architect.

John Wills was a practicing architect here over 50 years ago. He designed and carried out the Bank of Montreal, with its noble Corinthian portico, the Bank of British North America, and many other buildings both public and private.

JAMES NELSON.

COMPLIMENTARY DINNER TO MR. D. B. DICK

On February 27th last the members of the old Architectural Guild of Toronto dined together in honour of Mr. D. B. Dick upon the occasion of his going away for a long holiday in Europe. As was truly said at the dinner a more extended body of entertainers would better represent Mr. Dick's well-wishers in the profession; but the entertainers on the present occasion were the smaller body of more intimates associates whose relations with Mr. Dick have been personal. Since the days when the Architectural Guild first brought members of the profession together Mr. Dick has been a leading member of the architectural societies, listened to with the respect that a right opinion and a courteous manner always command. But a great source of Mr. Dick's influence has been the knowledge that he has had personally nothing to gain by promoting the objects of the Association of Architects and nothing to lose if it failed to attain them. He has thus become a type of the ideal member of an association founded for public ends, and has helped much to establish the large minded and public spirited points of view so essential for an association of this kind. We wish Mr. Dick a prosperous holiday and a safe return.

Mr. F. S. Baker, F.R.I.B.A., of Toronto, recently registered at the Canadian Government offices in London.

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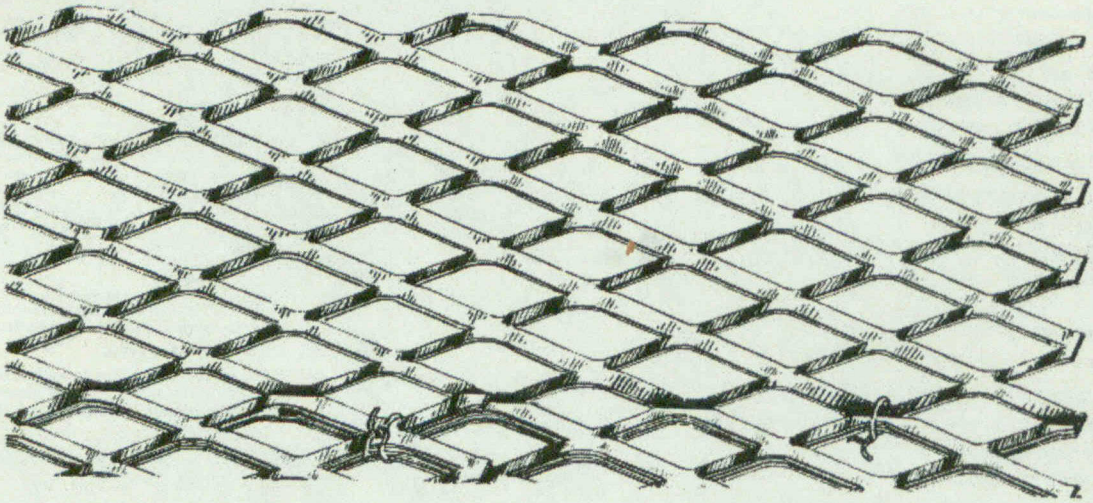

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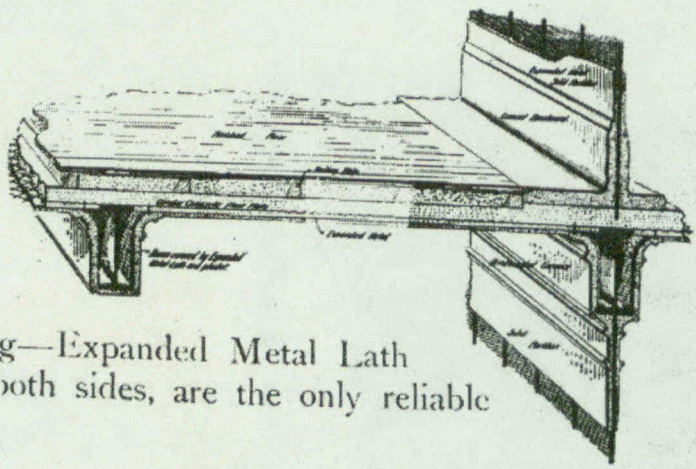

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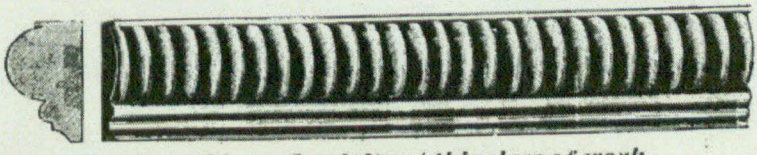

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