THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. IX. Copyright, 1881, JAMES R. OSGOOD & Co. No. 277.

APRIL 16, 1881.

Entered at the Post Office at Boston as second-class matter.

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ONE of those interesting documents which the Boston Manufacturers' Mutual Fire Insurance Company now issues after every important fire in which the company suffers a loss, has just reached us. It contains a clear account of the origin and progress of the fire which recently destroyed the Bartlett Mills, and is well worth reading by every architect, whether particularly interested in mill-building or not. The property burned was contained in three structures, one of which, the picker-building, was isolated from the other two by a distance of twenty and thirty feet respectively, communicating, however, with both, by wooden passage-ways, each closed at one end by an iron door, and at the other end by a wooden door covered with tin. The fire caught in the picker-building, apparently from the heat of the main chimney, which passed through it, and was furred with wooden strips; and the flames were first seen issuing from the roof. Two watchmen attacked the fire there, and, as they supposed, extinguished it, but on returning into the building they found that it had burned downwards, and that the cotton was in a blaze. The steam-pumps and sprinklers were put in operation, and there seemed to be a fair prospect of saving the adjacent buildings, had not the public fire-engines appeared upon the scene, and three of them, putting their draught-hose into the reservoir on which the mill apparatus depended for its supply, exhausted it almost immediately, so as to render the sprinklers and interior pumps useless, and while two of the city engines were gone in search of a further supply from the river, the two main mill-buildings became fully ignited, and when a sufficient quantity of water was again obtained, it was deemed advisable to use it only for protecting the houses in the vicinity. It is noticeable that to neither of the larger buildings was the fire communicated from the picker through the wooden passage-ways, the doors of iron and tin-covered wood presenting effectual resistance; in one case it was seen to pass through the windows in the story above the passage-way, and on the other side a box through which a belt ran was the means of communication. It is further to be observed that the furrings around the chimney allowed the flames to get into the roof before being discovered, and this being hollow, they were able to spread downward unobserved while the watchmen were at work above; another lesson, as the circular observes, upon the superiority of flat plank roofs without hollow spaces.

THE Feuardent-di Cesnola disturbance has by no means yet died out, although the character which it gave promise at one time of assuming, as a grave archæological inquiry, is completely changed, and to the outside public the controversy now bears something the aspect of a Donnybrook Fair, where cries of "liar," "drunkard," "falsifier," "dealer," "evil genius," and sounds of blows, take the place of discussion, the strokes of the *Evening Post* being, as before, the loudest. Mr. Clarence Cook has now joined the fray, after the fashion, and much in the same style, that the demigods interfered in the battles of the Greeks, and it is needless to say that the vigor of his thrusts exceeds that displayed by the other combatants as those of the Dioscuri surpassed the efforts of mortal men. No one can doubt Mr. Cook's honesty in whatever he does, and a generous indignation on behalf of the photographer, Cox, whose reputation was left in a pitiable condition by the former investigating committee, seems to have sharpened his pen, but even the New York *Times* seconds him somewhat feebly, and it has been noticed before that those slain by his prowess were apt to revive subsequently. Meanwhile, the Museum, we are glad to see, does not suffer from the broils in which its directors may be engaged. A gentleman of the city, whose name is not made public, has given fifty thousand dollars, with the promise of as much more in a year or two, as an endowment for the support of technical education in art; a fund which will serve to secure the future of the Museum as an indispensable and conspicuous feature of New York in a way which nothing else can.

A PORTION of the citizens' committee appointed to consider the best route for the projected railroad between Cambridge and Boston have made more particular inquiries regarding the cost of a direct line through the most thickly settled portions of both cities, with a terminus in Pemberton Square, and find it to be less than was at first estimated. In their opinion the whole line, including a tunnel eighteen hundred feet long, could be built for one million dollars, and assuming that the new line would carry one-third as many passengers as the present horse-railway which traverses nearly the same route, they estimate that a large return would be made upon the investment. Judging from the experience of the New York elevated roads, the expectations of the Cambridge committee are far too moderate. Not only would the steam line be preferred by nearly all those who now use the street-cars, but the total traffic would increase enormously as soon as the transportation became quick and comfortable. Ten years ago, the Third Avenue horse-railroad in New York was complimented by the newspapers upon its enterprise in despatching a car from the City Hall once in every minute and a half during the busy hours; now a steam train of four cars every minute barely accommodates the through traffic, while the street line is at the same time well employed. The universal experience of railway managers is that time, not expense, is the main element in influencing business. Where transportation is slow and infrequent, people stay at home; where it is rapid and convenient, they find a multiplicity of errands which never occurred to them before, and the theatres and concert-halls of the city, or the houses of their friends, once made easily accessible, the habit of travelling develops rapidly. Another suggestion is made, that if the Cambridge company can secure the Pemberton Square terminus, which is, as a site for such a purpose, absolutely unrivalled, being to Boston about what City Hall Square would be to New York, other roads will be ready to pay, and pay heavily, for the privilege of running over their rails. This is an important consideration, and with so many points in favor of this route, it is not surprising that offers have already been made by capitalists to take the charter, if it can be obtained under these conditions, and build the road at once.

DEMANDS for higher wages have been the rule among workmen in all trades during the past week, throughout the country, and they have been very generally acceded to by employers without struggle or delay, undoubtedly because the men have in most cases had the good sense to give long previous notice of their intention. In a few trades, we are sorry to see, the demand for higher pay has been accompanied with a movement in favor of an eight-hour law. Aside from the contempt which is always excited against an able-bodied American who acknowledges a desire to spend two-thirds of his precious days in idleness, such a movement would be very likely, if successful, to result in disappointment to the workmen who promote it. Every contractor knows that men at high wages do less work in a given time than when their pay is lower, as if from an unexpressed purpose to make their prosperity last the longer, and it is equally well understood, although the cause is not so clear, that men accomplish less in a day of eight hours than in four-fifths of a ten-hour working day, so that an increased rate of wages for a reduced number of hours of less efficient labor would be equivalent to so exorbitant a price for that labor as to destroy the market for it. It would in some respects be a public advantage to have mechanical work, particularly in the building trades, thrown into the hands of organized companies

of ambitious and intelligent workmen, ready to work hard and long for a proportionate reward, who could soon monopolize their business, to the exclusion of the careless and indifferent men who now fill the ranks of the unions, but such an advance in civilization would hardly be accomplished without a struggle, and those who have most to dread from it may do well not to make the difference in value too great between their labor and that of those who work with the encouragement of energy and hope.

The death of one of the most distinguished of modern French architects, Gabriel Jean Antoine Davioud, is just announced. M. Davioud will be perhaps best known to our readers by his connection with the buildings of the Exposition of 1878, but his taste and fertility of design have long been conspicuous in the decorative works which give such a charm to the public promenades of Paris. The buildings of the Pré Catalan, the Fontaine Saint-Michel, the conservatories and other structures in the Bois de Boulogne, the Champs Elysées, the Parc Monceau and the Jardin d' Acclimatation bear witness to his skill in a difficult branch of architectural practice, while many private commissions attested and added to the fame which he quickly acquired. His early training was the best that France could give, and he obtained at the Ecole des Beaux-Arts that distinction which is for French architects the sure, and almost the only road to professional preferment and success.

A novel part appears to have been played by an insurance agent in Keokuk, Iowa, in the building of the new opera-house just completed there. According to the *Spectator*, the structure was designed and built with unusual care on the part of the architect, but in addition to this, the arrangements for heating and lighting were entrusted to the personal direction of Mr. Joseph A. Collins, the agent for the insurance companies which held the risk on the building. Under his supervision all the steam-pipes were kept out of contact with wood-work, bright tin sleeves being inserted where they passed through the floors; and all gas-fixtures were made immovable, and the burners of those placed near curtains or other inflammable fabrics were protected with wire gauze. We trust that Mr. Collins's honest enthusiasm for what is often supposed to be the best interest of the underwriters as well as the public will not get him into trouble with his superiors. Indeed, the theory that insurance companies profit in the long run by occasional appalling conflagrations has already been called in question very seriously, and in the present languishing condition of the business, it may be very much for the interest of the companies to foster modes of building which shall reduce the hazard on the property they insure so far as to leave a profit even in the present rates of premium.

What the newspapers call "a novel art exhibition" recently took place at Sarony's photographic rooms in New York. Invitations were issued to a large number of persons, who assembled in a room of which one end was formed into a kind of stage, concealed by red curtains. At a given signal the curtains were withdrawn, disclosing five artists, one of whom, a professional sculptor, had before him a frame of moulding clay, while the others were armed with charcoal, chalk and tinted paper. "After bowing in return for the applause which greeted them," the gentlemen began work, displaying such agility that in forty-five minutes not only had the sculptor, Mr. Baur, completed a model in bas-relief of Cupid and Psyche, but the other artists had actually finished one set of sketches and begun another. The curtain then fell amid great enthusiasm, and when it rose again a second set of performers appeared upon the stage. To give variety to the spectacle, two of these held in their hands palettes and brushes, and had canvas stretchers before them. The greater difficulty of this medium did not seem to affect the speed of the painters' work, for in thirty minutes Mr. Volkman had "finished" a picture of a duck with her brood of ducklings beside her, while Mr. Piton had painted a landscape, including an old mill, with figures and cattle in the foreground. The other sketchers had produced charcoal drawings of various subjects. All the works were then sold at auction for a charitable purpose; Mr. Moran's forty-five-minute work bringing sixty dollars, while the others were nearly as successful. It seems to us that this performance should be repeated in all places where artists can be found to take part in it. The sight of a painter earning a dollar a minute would be as delightful to the profession as interesting to the general public. Perhaps extraneous means might be used to add interest to the spectacle: moonlight effects might be introduced, or calcium light thrown upon the performers; or matches might be made between them, and trainers stationed beside them with stimulants, sponges, and the other paraphernalia of gymnastic contests.

Our readers will remember Professor Bell's discourse before the American Academy of Arts and Sciences, in which was demonstrated the possibility of reproducing visible images at a distance by means of electricity through the property, possessed pre-eminently by selenium, of transmitting a voltaic current with varying degrees of resistance, according to the intensity of light to which it is exposed. Mr. Bell's own experiments were confined mainly to the transmutation of a visible impression into an audible one, by means of the photophone, a diaphragm vibrating like that of the telephone in response to variations of current produced by the action of light instead of sound; but at a recent meeting of the London Physical Society an apparatus was exhibited by which the luminous impression at the receiving end of the line was reproduced visibly, instead of audibly, at the other. In substance, the apparatus consisted of a great number of selenium elements, each connected by a separate wire with one of a multitude of little shutters, arranged in a screen behind which a light, or an illuminated surface, was placed. A luminous impression of a simple character, comprising only masses of white and black, could by this means be reproduced upon the screen in little squares of light and shade. Simple, almost rude, as this device is, it affords a premonition of wonderful results yet to be attained, and even in its present stage such an apparatus may have many uses, as for instance in displaying telegraphic bulletins at many points simultaneously.

The Reese fusion disk, to which we adverted some time ago, has come rapidly into use for cutting steel bars, but at the same time the theories of its action which were first brought forward, as well as some of the statements in regard to the phenomena which furnished support for these theories, are seriously called in question. The editor of the London *Engineering* describes the action of a Reese disk operated in his presence for cutting a bar, and asserts that no effect whatever was produced upon the bar until it was brought in actual contact with the disk, and that so far from the bar presenting any appearance of having been melted off, the separated portions were torn and ragged, and the fibres violently twisted, evidently by some direct application of force. Another writer, in the *Scientific American*, confirms this statement, saying that in his experience, with several of the machines, the disk was rapidly worn away at the edge, which first became rounded and then crushed outward, producing a burr which increased the width of the "kerf" made by it a sixteenth of an inch or more. It is certain that the passage of the disk through the air, without its actual contact with the substance of the bar to be cut, could not possibly have any such effect as this, and it seems probable that the Reese disk can only be regarded as a circular saw, revolving with immense velocity, and acting by friction instead of by the chopping impact of teeth; or, perhaps we may say, increasing the number of its teeth to infinity, and diminishing their size in corresponding ratio. At the same time, the machine is certainly useful, and it is hardly fair to class it, as does the *Révue Industrielle*, with the Keely motor, and the other devices which succeed well only in the hands of their inventor.

A new and very simple process for protecting iron from rust is said to have been found successful. The process consists in applying to the surface of the iron a wash of some soluble silicate, and after this is dry, heating the article strongly. The silicate is fused, and is said to be "absorbed by the pores of the iron," or rather, we suppose, enters into chemical union with it, forming a dull black coating, unchangeable by exposure, and firmly attached to the metal. Various colors can be given to the coating, by mixing vitrifiable pigments with the silicate solution. For small objects, particularly, this seems likely to be a useful process, but the difference in rate of expansion by heat of iron and any known silicate is so great that the persistent adherence of such a brittle coating to a large mass of metal would be rather surprising.

RECENT BUILDING IN NEW YORK. — II.

COMMERCIAL BUILDINGS.

The architects of the present generation found commercial New York an imitation of marble, either in cast-iron or in an actual veneer of white limestone. They are likely to leave it brick. The "lessons" of the Chicago and Boston fires have been interpreted to mean mainly that cast-iron is not a good material for warehouses, and marble itself has been discredited by the imitation of it. At any rate, Mr. Hunt's two warehouses on Broadway, one of them a reminiscence of Moorish work, and the other a very free classic, and Mr. Sturges's attempt on the same thoroughfare to develop a really characteristic treatment of the metal, are five or six years old, and they are the latest iron buildings of much architectural pretension or interest. Whatever of interest has since been done in business buildings has been done in baked clay, more and more including the use of terra-cotta as well as of brick.

The first of the noteworthy attempts to build in brick alone, and to discard stone, even in the positions in which stone had been accepted as indispensable, was Messrs. Silliman and Farnsworth's Morse Building, which remains one of the most interesting and successful of these attempts. The manufacture of terra-cotta has been much improved in the interval, but there has been no example of brickwork built since in which moulded brick and colored brick have been used with more fitness and sobriety, nor in which a more agreeable and satisfactory result has been attained. The flat roof, over a towering building of which the area is so small compared with the height, is of course the misfortune of the building, and not the fault of the architects. A steep roof, treated with as much intelligence and restraint as the walls, would make the building one of the most impressive objects in the general view of lower New York. Messrs. Silliman and Farnsworth have designed another tall office-building to be built diagonally opposite the Morse Building, in which they have attempted to supply that animation in the sky line the lack of which is the chief defect of their older buildings.

Of the newer brick buildings, Mr. Post's Post Building is distinctly the most interesting. It occupies a trying site, an irregular tetragon at the intersection of three streets, in that part of lower New York which rivals the sinuosities of Boston, and it offers thus three unequal fronts. The most striking feature of the plan is that the interior court which the breadth of the building compels is gained not by sinking a well in the centre of the building, but by a bold recess in one of the fronts, which is thus divided into two projecting wings and a centre withdrawn half the depth of the building. The space thus accruing is unsymmetrical, and the bounding walls meet each other at unequal angles, so that the effect of their junction is rather distressing. The arrangement is honest and expressive, of course, but then it is perhaps fair to say that Mr. Post is not that kind of an architect, and that the overruling of accidental irregularities to beauty is not at all in his way. At any rate, the front thus broken is much the least satisfactory of the three, and the long unbroken front opposite it is much the most satisfactory. Both in mass and in detail, and especially in the relation of mass to detail, this building seems to me to mark a very decided advance upon anything which its architect has done before. Its dominant expression is that of decorum and well-bred ease; and this would hardly be mentioned first among the characteristics of Mr. Post's previous work. The building does not at all lack vigor, but it does not betray a persuasion that vigor consists in the absence of refinement. The basement is a series of piers of blue-stone, the massive blocks of which are channelled in an unaccountable way, in order to indicate joints where no joints are, and with the effect of apparently weakening the piers. Above this is a main story, the great openings of which are divided by cast-iron mullions, and over this is a brick wall of four stories divided laterally by powerful piers treated as pilasters and crowned with capitals. Over these is a story of square-headed openings under the heavy cornice, over which again is an attic composed of a long and low shafted arcade of small openings, the shafts crowned with Ionic capitals. Between the piers of the main wall on the long front, the openings of the office stories are grouped in fours, all the stories similarly treated, and all the openings round-arched. The arrangement of the openings is very effective. It is, however, in the adjustment and in the scale of the detail that the building chiefly shows the progress of its designer. Heretofore Mr. Post's decorative detail has almost invariably been excessive in size if not in quantity. The detail here is carefully subordinated, and its adjustment shows careful and intelligent study. Not the least of the agreeable qualities of the building is its color; above the blue-stone basement it is entirely of yellow brick and yellow terra-cotta, except the capitals of the large pilasters, and these are moulded in terra-cotta of a raw flesh-color which is not at all agreeable. The impost of the arches is enriched with an emphatic and not excessive row of leafage which reappears in the capitals of the small piers between the window-arches, and which is well designed and well moulded. All this work is in yellow terra-cotta, and all is effective. Its effectiveness is impaired, however, by the treatment of the small piers themselves, which project laterally considerably beyond the spring of the arches which they carry, and are apparently projected also beyond the plane of the wall, with the result of making the piers appear appendages rather than integral parts of the wall. The treatment of the iron mullions in the openings of the principal story is not fortunate, nor is the imitation in moulded clay of protuding keystones in the arches of this story. At one point at least the old unregenerate desire to "collar the eye" at all hazards breaks out again, in a huge and swaggering entrance arch. But with whatever shortcomings it may have, the Post Building is a piece of cultivated architecture, and a real addition to the short list of artistic business buildings in New York. Mr. Post is also the designer of another new office-building on Cortlandt Street, next to the Coal and Iron Exchange. This one is in a gray limestone — only a street front of moderate dimensions crowned with gabled dormers which are the only features of architectural interest, and they not of much; but, if it be not interesting, it is at least an entirely inoffensive piece of prosaic work.

Mr. Harney, who took the Queen Anne infection at an early stage of the epidemic, is the designer of a brick and brownstone building on Wall Street, near Nassau, with an L on the latter street, which scarcely aspires to any higher praise than this of inoffensiveness, which, indeed, it carries almost to the point of unnoticeableness. The feature of the building is a crow-stepped gable, and this is the only thing one carries away with him from an inspection of it, except an unexplained entablature across the front half-way up, and some very irrational decoration of the lintels, in each of which is inserted a huge keystone, shored up, as it were, by the central mullion of the window. The scale of the detail is small to minuteness, and the building itself, though not small, was inconspicuous even before its neighbor, the United Bank Building, overpowered it. Not to be noticed is a fate which some architects ought to covet, although those who ought to invite it never do; but Mr. Harney is by no means one of these. How much of the difference between this building and his Gothic building at Broadway and Bond Street is referable to the difference in style may be doubtful; but it is certain that a comparison is at all points very much in favor of the older building, in spite of the unskilfulness of much of its detail; and it cannot be said that the Wall Street building is creditable to the architect of the Brooke Building and of the Stevens House on Fifth Avenue.

One is rather gratified to observe that Mr. Hatch has advanced in the direction of inconspicuousness since he designed the Boreel Building, next to Trinity Building on Broadway. One of the most remarkable of the remarkable things done during the Produce Exchange competition, or rather as preliminaries to it, was the actual passage of a resolution by the Exchange saying that its new building ought to look like the Boreel Building. The Boreel Building, as many of your readers know, has an interesting plan, which is a large glazed court upon which the inner offices open, but is quite devoid of architectural interest, consisting externally of thin walls to which thin strips of pier are applied, and decorated with frames containing either metal painted in imitation of stone, or stone carved to look like metal painted in imitation of stone. A tall building in William Street, near Wall, now finishing from Mr. Hatch's designs, is less conspicuous than the Boreel Building mainly through its color, being built of dark brick and dark brownstone, instead of light brick and Ohio stone, or metal painted to look like Ohio stone. For the rest, the new building is composed of brick piers carrying very high-shouldered segmental arches, and the entrance is signalized by two huge polished granite piers, crowned by spreading Gothic capitals in red sandstone which carry a classic pediment. But for its quieter color it would not deserve to be distinguished from the Boreel Building; nor indeed is the finding of difference between the buildings profitable, although it is not practicable to overlook either.

A brick office-building of moderate dimensions on Cedar Street, by Mr. Lienau, which is several years old is of quite another order. It is a red brick wall of four stories over a sandstone basement, the openings throughout segment-headed, and the sandstone skewbacks carved in foliage. In treatment it recalls the excellent glass-warehouse on Howard Street, erected some years ago from the designs of the same architect, although the newer building is neither so important nor so successful. The grouping of the openings is a real grouping, but has the defect of looking capricious, and the whole front is weakened by the fact that the lateral piers are narrower than the intermediate piers. The porch, too, which consists of two Gothic columns detached from their piers and carrying a gable is weakened by the detachment. The detail is throughout well studied, and the use of moulded brick rational and effective. One of the most successful features is the vestibule, which is vaulted in yellow brick with moulded ribs of red brick.

A brick warehouse on Cliff Street, by Mr. Renwick, has several interesting points of design. Among them, before the top of the ground floor was hidden by signboards, was the treatment of its openings, which are covered by segmental arches in red and yellow brick turned over light bowstring-girders filled with light tracery. The street front is divided by piers into four bays, each of which includes three stories separated by light transoms, and is covered with an arch like the arches of the ground floor. Over this is a low story of square-headed openings covered by flat arches. This disposition is effective and is assisted by the modelling of the parts, but is greatly impaired by the use of color. The two colors of the brickwork are exactly reversed, that is to say, the lighter color is used to emphasize those features of the design which call for emphasis. Very possibly this proceeds from the fact that yellow brick costs more than red, and has therefore been used more sparingly; but the building would have been much more effective if the costlier brick had been omitted altogether, instead of being used with this precision of wrongness. The effect of its employment here has been to produce a negative, so to speak, of a very effective building.

The top of a brick warehouse on Duane Street, which may be seen from the Sixth Avenue elevated road, is sufficiently out of the common to tempt the architectural pilgrim to a nearer and more comprehensive view. It was designed by Messrs. Babb & Cook. One finds that the general disposition which he has seen from afar is the chief thing to be seen close at hand. Three powerful brick piers divide the building and are connected by two very large round arches. The springing of the arch is the level of a mezzanine floor in each of the arches, and the spandrels are also pierced with an elliptical window in each. There are four stories of square-headed openings below the spring of the arches, and one, a range of round arches, treated with absolute baldness, above the pier arches. Over this again is a low parapet of flat wall, opened to the sky with a range of little arches. The only decoration in the building is in the great arches, which are enriched, not constructively, with terra-cotta, and in their supporting piers, which carry panels of the same material in lieu of capitals. The arches and piers have depth and weight, and the general disposition is impressive, in spite of its look of being somewhat forced.

In lower Broadway is a brick office-building by the same architects which is much less satisfactory. It is divided by a brick pier into two unequal parts, the narrower corresponding to the entrance. This division, in a building of only twenty-five feet front, in itself looks frivolous, nor is this characteristic diminished by its treatment. The piers are connected by arches, as in the Duane Street building, with a story over them and with the same pierced parapet wall. But these arches are elliptical arches of slight rise and of a very weak aspect. The actual depth of the bays formed by the piers is ample, but it is to a considerable degree frittered away by the modelling, which consists of successive, shallow, and nearly equal projections of rectangular slices of brickwork, so that the effect is almost of brick battens nailed up and down the piers. The windows of the main story project slightly, and are divided by terra-cotta mullions moulded in imitation of balusters of turned wood.

As you are already aware, Messrs. Peabody & Stearns's Union League Club-House can scarcely be said to have achieved a popular success; but it has not developed anything like the active animosity which was shown in the conversation of persons interested in architecture towards the United Bank Building, by the same architects, during the early stages of that work. The completed building is almost the most conspicuous object on lower Broadway, having a respectable frontage both on that thoroughfare and on Wall Street, with a large entrance arch in the centre of each front running through two stories, although the actual entrance is only in the basement. The basement is of brownstone, the superstructure of red brick relieved by the same stone. It was while the basement and first story only were visible that public feeling was mainly excited, and it is not difficult to understand, even from the completed building, why the lower portion by itself should have produced this result. The angle piers in the basement are of rock-faced stone, alternating in the succeeding story with stone smoothly dressed. The intermediate piers are of sandstone on the Broadway front, and of cast-iron, apparently of as great area as would have been necessary in stone, on the Wall Street front. To each of the piers on the Broadway front are applied coupled and banded pilasters, by way of decoration merely, since they project beyond the face of the wall and stand upon a coved bracket projected to receive them, and decorated with ball-flowers. Between the capitals of each pair hangs a keystone, and the capitals themselves are at once rude and feeble. The confusion of tongues between the classic treatment of the pilasters and the Romanesque of the entrances is not harmonized by any architectural idea which requires both, and the contrast between the aggressive vigor of the stone-dressing and the design, in which vigor is certainly not the most prominent characteristic, recalls the "stentorian blandness" with which Mr. Pecksniff, on a famous occasion, remarked to his first-born "Boh!" Up to this point it is fair to say that the design betrayed no evidence of intention, and it was not wonderful that the prevailing feeling of architects in contemplating it should have been wonder what the designer would do next. Most architects are now probably prepared to acknowledge that what he did next is in itself a simple, vigorous, and agreeable building, although its architectural connection with its own foundation is not at all intimate, nor indeed with its crowning member.

The main division of the building is a series of powerful brick piers, six on the Broadway front, nine on the Wall Street side, running through five stories, and connected by strong and simple arches containing another story. In the lower two stories of the central division the brick is crossed with stone, and the horizontal lines are emphasized — in the first of these stories by a series of heavy lintels enriched with carving, and a moulded belting-course running through above them, and in the upper by a row of trefoiled gablets over the windows. Above this the piers work themselves clear, and proceed as plain masses of brickwork, to which the horizontal lines of the opening are entirely subordinated. The impost of the arches is emphasized by carved capitals of considerable projection over the piers, and also at the Broadway angle by the ingenious device of a griffin "displayed" at the corner with one of his wings folded back against either wall. Above is a spiral angle-shaft terminating ultimately in a flagstaff. The attic story, however, shows the same lack of sequence which was complained of in the Union League Club, and which is so painfully evident in the transition from the basement to the middle division of this building as well as in the basement itself. With the stark and simple masses of the unmoulded piers and with the unmoulded arches which they carry, it seems perfectly clear that this attic story should be the richest and most highly modelled portion of the building. It is in fact the baldest. Its openings are separated by brick piers, and covered with sandstone lintels; both jambs and lintels being entirely without modelling or decoration. Their grouping too, does not correspond to the arches under them and seems entirely capricious, until one discovers that their arrangement ultimately refers to that of the entrance stories. It will be seen, therefore, that while the United Bank Building contains a successful building, if the expression is admissible, it cannot be called a successful building as a whole, for the reason that it does not form a whole; and that of its parts taken separately while some show spirit and vigor, others betrays feebleness and confusion. M. S.

THE ARCHITECTURAL LEAGUE OF NEW YORK.

The Architectural League of New York is a society formed by the younger members of the architectural profession for the purposes, as formulated in its constitution, of stimulating study and design, of supplying the want of social intercourse, and of providing a general club-room at all times at the disposal of the members, a collection of drawings, sketches, photographs, casts, and other material which would aid in architectural study, and the founding of an architectural library; also, it hopes to publish the results of its work in the illustrated reviews, and in course of time to found a travelling studentship. The evening's programme, which is in the hands of a committee on current work, consists of a competition in design or construction; one problem in each being given, the choice of problems being optional. The subjects for each competition are assigned by some established architect of acknowledged ability, whose decision, with a verbal criticism and discussion of each design, is given at the second meeting after the announcement of the competition. Besides these competitions, reading of essays and lectures by different members of the profession or of the League will form an important part of the evening's work.

The League has at present on its roll-call twenty-eight names, and several others are already proposed, and for so young a society promises to be active and successful. The first three meetings were held in the rooms of the Salmagundi Club, on Broadway, but recently a large room has been leased at 23 East Fourteenth Street, between Broadway and Fifth Avenue, and the fourth meeting was held in the new room. The walls were covered with quite a large collection of water-colors and photographs, and at one end were the sketches for the competitions already announced. The first of these, a design for a twenty-five-foot city front, has already been judged by Mr. W. B. Bigelow.

The second competition, a design for a village school, was discussed and criticised during the evening by Mr. George Fletcher Babb, as was also the constructive problem, a plan of a twenty-five-foot city house.

During the evening a paper was read by Mr. Charles Howard Walker, upon the "Use of Architectural Styles." The meetings of the League occur regularly every alternate Tuesday at 8 P. M. The club-room is open for the use of members at all times, and is provided with boards and drawing-table for the use of such members as may desire to work at the room. The following is Mr. Walker's paper: —

THE USE OF ARCHITECTURAL STYLES.

In these days of criticism and analysis, when all seem to demand the right to theorize and determine upon forms of art, when the application of the names of different styles to various kinds of work by editors is startling, and certainly original, when the newspapers are trying hard to be discerning in regard to Renaissance, Venetian, Queen Anne, and Jacobean, and when one and all are urging us to give them a new, a distinctly new and American style, — it is well to see what claims the old styles have to our allegiance, whether a new one is possible, and if it were presented to our friends the critics and the public, whether they would recognize it as such, and whether there is not some common and broad basis to start from, which will allow freedom of design in all directions, without incurring the clash of the different advocates of this or of that *style*.

The word itself has for a long time been an obstacle in the path. There has been a sort of pathetic fear of doing a thing which was not exactly according to the tenets of a style, and yet when a definition is asked for the word, it is a rather intangible thing. The popular form of the definition seems to be that it is the prevailing character of a thing, either distinctly suggested by or copied from something that history has already named. This something being so named because it belonged to a series of somethings which had the same general characteristics. In fact, a certain style is the name given to the nucleus of a combination of forms, lines, or colors, as contrasted with other nuclei of other combinations. It is a word applied rightly only to extremes, and it is just this fact that has bound and limited purists in any style; they have insisted upon only allowing the extreme characteristics of the style to be used, and have so drawn in the lines along which such and such things were allowable as to make the production of certain styles a matter of mere mechanical effort according to a definite formula. Considering the two great parties perpetually warring with each other, the sworn followers of Gothic and the equally strong followers of classic architecture, one side insists upon the pointed arch, the high pitched gable, the other upon the round arch, lintel and pediment — both forgetting to

determine which shall claim the courtyard of the Ducal Palace at Venice, or the old square-headed doorways at Orleans, or the Church at Vezelay, or where the so-called free classic of the reign of James the First and Queen Anne should be placed in their classification. From the very first, when the forms of a building began to appeal to some other sense than that of mere utility, when the desire to impress mass, grandeur, picturesqueness, or beauty upon the spectator began to be felt, from that period up to the present there has been one steady stream of styles that melt and merge into each other: Egyptian, Persian, Greek, Byzantine, Roman, Lombardic, Gothic, Flamboyant, Renaissance, and so on, each fading and dying away into its successor, until it seems like a prismatic spectrum with flickering colors. It is only at the highest intensity that the finger can be placed upon a certain characteristic as belonging to a definite time or people. As in the spectrum it can be said this is blue, this red, this yellow, and the names of the secondaries and tertiaries can be given, but the numberless tints and shades between are beyond the powers of naming, so in the various styles, we can say this is Greek, this Roman, this Gothic, but who shall name the transition periods? We have been trying to do so for centuries and have only succeeded in making confusion worse confounded. So that we seem to be driven to one of two totally opposed attitudes, either to become purists and insist upon the rigid observance of the extreme type of a style chosen, or to allow our fancy unlimited indulgence. Now, a pure example of a style, to be successful, should have the same or similar conditions as the original, and this is rarely possible. It is hardly necessary to argue that proposition, or the fact that, on account of it, strictly adhering to a pure style is usually out of the question. On the other hand, a free field is too much space for most men. There are but few who are sufficiently strong to set their own limits to the exercise of their fancy in direct contrast and sometimes opposition to the fancies of others. The old guiding formulas are missed and regretted, and the work becomes a mass of vagaries, of incongruous whims, strung upon some frail thread of design. Both these attitudes, then, being dangerous, we must look for a golden mean, a position between the two, where there will not be hard, dead formalism upon one side, or unsuccessful eccentricities upon the other. In architecture as in everything else, philosophy, morals, and life, it is a question of balance, and the balance of a thing which is in a state of very unstable equilibrium. A thoroughly fine work should have the elements in it of dignity, simplicity, refinement, and a dozen other virtues in harmonious proportions, just enough of each and no more; and it is in the adjustment and balance of these things that the art consists, not in the choice of style. It is summed up in a sentence which may well be the creed of the new architects: It does not matter *what* is done but *how* it is done, — eclecticism if you have a mind to call it so, but an eclecticism that requires a great deal of knowledge and a judicious mind to use it. If, then, we bestow our allegiance upon all styles and forms of styles, so long as they are well conceived and worked out, and only admit an individual preference to place one in advance of another, what shall guide or govern us in designing? Clearly not a mere preference, for that becomes mannerism, and as clearly, as we have already decided, not an indulgence in the first fancy that presents itself, for that descends into mere eccentricity. The construction need hardly bias us, for except it be wholly iron or glass, any style can be easily constructed, without the construction becoming unduly elaborate. The plan need not especially trouble us, as styles and plans can be easily adapted to suit each other. Traditional usage may enter slightly into the question, in order not to shock the conventionalities of the public, but this can be readily put aside. There are but two things left, climate and the already existing conditions of landscape and buildings. Our climate forces only one or two things upon us,—the necessity of avoiding much delicate work upon exteriors, unless in well-protected places, and the necessity of keeping our buildings capable of being hermetically sealed, which to a great extent forbids open loggias and things of a like character. The climate question settled, the question of surrounding conditions presents itself, and it is a very important question; upon it often depends the insignificance of an otherwise excellent work, or the dignity and impressiveness of an otherwise mediocre work. Harmony with surroundings is a very great point to be gained: picturesqueness is its easiest solution; grandeur, dignity, a work which all the work around it leads up to and accents, is its hardest solution. The result has been gained occasionally, accidentally and by thought, by some few men. These men have in all cases been masters. It is easy to smile at the emphasis Ruskin places upon the following of certain lines of the landscape, and the accenting of certain characteristics by the cornices and roofs of the picturesque groups of Italian building in his Modern Painters. He undoubtedly goes to excess, and sometimes converts fancy into fact, but the fact remains, nevertheless, that a building which does repeat or judiciously contrast with the lines of its surroundings is vastly superior to one that does not. In the country it is comparatively easy to make a good thing, but in the city it becomes a serious problem. Nearly every one knows enough not to put a dwarf building with horizontal lines next to a towering one with perpendicular lines, but few are recognizing the usefulness of carrying through lines of cornices or string-courses, of wisely grouping windows, and of getting some degree of picturesqueness out of roofs.

It has been said that a street of city residences, notably Fifty-seventh Street, looks like an architectural sample-book, and if any one desires a satire upon the use of styles, let him visit that street. But the objection will be raised, "You would not have us repeat or suggest, even in a diluted form, the stupid monstrosities that are everywhere in our cities?" It is not at all necessary; I would only have you take photographs or sketches of those mongrel buildings, and so conform to their general tendency of line as not to accent their lamentable deficiencies any more than possible, and at the same time not to isolate your own design so much as to make it merely a totally different sample. For instance, if the line of your neighbor were strongly horizontal, it would be well to adopt a horizontal treatment which would immediately suggest a classic style or a transition form of Gothic. If the lines were distinctly perpendicular, adopt a perpendicular treatment, which might imply Francis I or different degrees of Gothic. If there are round arches, it would not be well to leave arches entirely out of your scheme, and the same can be said of lintels. In isolated buildings, the surroundings from different points of view determine the treatment. If the building is upon a hill shaped like a truncated cone, it would be well to continue the lines of the cone, as in Mt. St. Michel or the Parthenon, surrounding objects again determining the style.

After obtaining these few lines, the disposition of mass, the form *en silhouette* against the sky, and the position of the openings, all of which are the first and most important things in design, the rest is comparatively plain sailing. It is a mere matter of shading, so to speak, the only thing necessary being carefulness not to strike a note entirely out of harmony with the next one. It would be rather melancholy to see a delicate Moorish design next to a severely classic one on one side, and a Gothic one on the other; but if the Moorish becomes Byzantine, it will harmonize with both. By keeping this fact in view, and restraining one's hand, always aiming for simplicity rather than sumptuousness, refinement but not effeminacy, power but not brutality, a degree of work will be attained which, although it may not be capable of being submitted to the formulas of different styles, will be the expression of that better thing than erratic genius on the one hand, or frigid archæology on the other; — that is, thoughtful, trained, skilful talent, knowing what it means to do and why it is doing it, and then doing it to the best of its ability.

PRINCIPLES OF THE ART OF ARCHITECTURE.[1]

Few, I suppose, can doubt that there are true and false principles in all the arts; but that they are more capable of definition in regard to architecture than to any of the others, is certain — and this because the absolute truth or falsehood of an architectural work is capable of demonstration up to a certain point. But by *principles* you must well understand that I do not mean *rules*. These last have often been laid down, with the result that where they have been obeyed implicitly, all life has been most effectually stamped out. Such, *e.g.*, is the supposed rule of proportion of columns and their entablatures of Greek and Roman temples. This was derived from the measurement of some one example, and the establishment of that as the model for all others; so that, given the diameter of your column, the rest followed, and, in short, the rule was not one for designing a good column, but one for copying exactly a particular column. There is no pretext for believing that such rules ever affected the original architects, and the particular features to which they are applied are so different in their proportions in ancient examples as to prove that, even in the best days, there was great latitude allowed, and that there was none of the insipidity which is the certain consequence of obedience to such arbitrary rules. . . .

The principles of the art of architecture are as eternal and reasonable as the so-called "rules" are arbitrary and ephemeral. It is with the former only that we are concerned to-night. The most indisputable are those which affect construction, and they are of universal application. The construction of a building must be good if it is to be a work deserving of our respect: and by goodness we understand that it must be (1) permanent; (2) exhibited, rather than concealed; (3) natural; (4) suitable to its purpose and material; and (5) it must avail itself of the latest discoveries and inventions where it is clear that they are usable under or consistently with the first four conditions.

A few words only will be necessary on each of these divisions. (1) *Construction must be permanent.* In my last lecture I told you that our respect for old architects was generally in exact proportion to their respect for themselves and their work. No architect would willingly, I suppose, build a wall that was certain to fall; but he is hardly less to blame who knowingly builds one that is sure not to last very long; who makes it too thin, builds it without sufficient foundations, or uses a bad quality or insufficient quantity of mortar or cement. And as it is certain that purely temporary building is not architecture at all, so that is most likely to be architectural which is made to last as it were forever. Now, to be permanent, a wall must be well constructed. It must not only have good and solid foundations, but its weight must be evenly adjusted and duly provided for, and its various openings must be, as far as possible, no cause of weakness to it. But, according to the second principle, that construction should be exhibited rather than concealed, the coverings of these openings ought to be evident and obviously strong enough for their place. A lintel is a good thing to use if you can be quite sure that it is strong enough not to break in two, but it is not a good thing if it really does no work, but is relieved of all weight by a hidden lintel of iron, or by an arch concealed in the wall above it. So, also, in good work,

[1] Portions of the second lecture, delivered on Thursday, Feb. 17, to the students of the Royal Academy, by Prof. G. E. Street, R. A.

the construction of the exterior should, as far as possible, show the arrangement of the interior, and you ought at once to know something about the positions of the floors, the shape of the roofs, and the sizes and uses of the principal rooms, merely by examining the exterior of a building. The next principle that I have laid down is that the design must always be natural; that is, proper to the place, as simple as the case allows, and not strained or eccentric in its character or detail for the mere sake of producing effect. . . .

The natural treatment of the general design of a building is therefore that which you should always aim at, providing for the requirements of the building without any violent sacrifice for the sake of mere architectural effect. But such a principle as this has, of course, its limits. There is a sort of scenic effect which is not to be obtained so easily in any other way as by elaborately symmetrical arrangements of plan and building. Few finer examples of this can be pointed to than Greenwich Hospital, where, save for the blank absence of any central object to which the rest may lead up, the effect is unquestionably stately and impressive in a very high degree. Another example of the same class is Bernini's really grand quadrupled curved colonnade, leading up with a vast sweep to the front of St. Peter's at Rome. Its scale is grand and its extent magnificent, but it overwhelms the building to which it leads, and, grand as the idea is, the effect is not perfect, solely, as at Greenwich, because the central object is not in itself worthy of such a noble approach. In the late Genoese palaces you will find good illustrations of the same sort of scenic architecture, dependent for its effect on stately arcades leading from terrace to terrace, and in many of the French and English houses of the Renaissance there are somewhat similar arrangements. One wing corresponds with another; there is a central porch; and the garden is arranged in regular terraces, with pavilions or summer-houses at proper intervals. But if you compare one of the finer buildings of this class — as, for instance, Montacute House or Barrington Court — with the design of, say, Haddon Hall or Magdalen College, Oxford, where every portion of the building tells its own story, and is differently treated accordingly, it is impossible to deny that the love of stately balance and symmetry may be satisfied at too great a cost, and that a far better artist is generally revealed in the less formal work of the two. However much one may appreciate scenic architecture, it is necessary here to be rather discouraging as to its common introduction. For a long time the student has been taught that the only possible good arrangement of a large building is one founded on this principle. It has been assumed that all buildings must have a centre and wings corresponding exactly. If the stables are built in the guise of a wing connected with the mansion by a colonnade, then some use must be found, at all risks, for a corresponding colonnade and wing on the opposite side. So, a chapel and kitchen having to balance each other, neither can be allowed to tell its true story on its face, and in the end, the scenic effect is the one thing that seems to be thought of. This is not convenient building, and is consequently not good art, and the cases in which it can be ventured on must always be rare and exceptional in their opportunities.

The next rule is that the design should be suitable for the material which has to be used. This is a practical rule which involves the wise adjustment of the means to the end. No architect should ever quarrel with his materials as long as he can ensure their being the best of their kind. His sole business is to take care that his design is suitable to the material, and usually to that which is nearest to his hand. Where means are unlimited, or the object to be attained is one of monumental character, then it is right to go far afield at any cost to obtain the best and most magnificent material; for the first step to be taken, if a building is to be sumptuous, is that the material should be worthy of the labor that is to be expended on it. And to some extent the material that is to be used settles the design of the work. A quarry which produces enormous blocks of granite has scant justice done to it if the architect who uses it confines himself to small blocks of stone. It leads almost naturally to the use of great monoliths, than which nothing is more impressive, though there may be no art in the mere magnificence of size. Again, a design suitable for a stone country would be wholly unfit for one in which brick alone could be used; and wherever many marbles could be obtained, the design, to be natural, must be in every respect quite unlike anything that could be built in a country where nothing but a fine and easily worked oölite existed, or in one where the only material was a hard and untractable limestone. Natural use of his material is, indeed, one of the first aims of a good architect; and this not only in the selection of the stone to begin with, but equally in the way in which it is worked. If you use a fine marble for the face of a wall, it must be wrought very finely everywhere, and polished for the best part of the work. If, on the other hand, you use a freestone, you may confine yourself to working the elaborated architectural features, only leaving the body of the wall rough; but you must remember that if your architecture is to be good or elaborate, you must begin by working the face of the wall, so that the whole may be of one harmonious texture. The size of the stones and their jointing is equally to be thought of. As a rule, large stones are only to be used in large buildings; for the apparent scale of a wall depends much on the size of the stones that are used in it. The same is true if the available materials are brick or timber. With either of these the whole structure, every moulding and every detail of ornament, ought to be different from what they are in stone. Every material has its own capabilities, and the architect is bound to use each in its proper fashion. And here, on this point of making the best possible use of common materials, I may give you a quotation from Sir Henry Wotton, in the conclusion of which I think we may all very heartily agree: —

"It will, perchance, be said that this doctrine [which he had been laying down] touching the five orders were fitter for the quarries of Asia, which yielded one hundred and twenty-seven columns sixty feet high to the Ephesian Temple, than for the Spirits of England, who must be contented with more ignoble materials. To this I answer that this need not discourage us. For I have often at Venice viewed with much pleasure an anti-porch after the Greek manner raised by Andrea Palladio upon eight columns, the Basis of Stone without pedestal, the Shafts of meer brick foot and half thick and consequently thirty-five foot high, than which mine eye hath never seen more stately of stone or marble."

Finally, the architect must avail himself of the best as well as of the latest discoveries and inventions in construction. It cannot be right to build one day with arches everywhere throughout his work, and on the next to assume that no such convenient servant as the arch had ever been discovered. Nor is it reasonable to say, "I will use a round arch because I like it; but though I know that a pointed arch is more convenient, and, in some positions, far stronger, I dislike it so much that nothing shall persuade me ever to adopt it." . . .

In modern buildings the greater part of the construction is concealed, and there is a consequent temptation, only too often acquiesced in, to make it subservient entirely to supposed convenience. A common instance of this is the free use of iron as a concealed support in place of masonry. Our forefathers knew nothing of such aids to easy planning. When they made the plan of one floor they involved themselves in accepting the same plan for the floors above and below. Walls came above walls, and no little skill was required, therefore, so to plan the various floors as to make all the arrangements convenient, and yet subject to good and sound structural conditions. In our own time the temptation to carry walls on iron girders over voids is too often accepted as a matter of course; the ingenuity exercised in planning is diminished, and the structure is less permanent, for a flaw in the iron, its decay, or the accident of a fire may involve the ruin of a whole building, where, under the old conditions, the walls might have stood unharmed by such catastrophes. I do not, therefore, recognize such aids to construction as these as being real and genuine. They are rather temptations than anything else, and ought only to be adopted when it is clear that their use is not opposed to the principles already laid down. The architect who attempts by concealed construction to imitate a wholly different sort of work must inevitably fail, for sincerity is of the essence of good art, and the detection of insincerity is certain. Even untutored men will surely perceive that a deception has been practised, and will resent it. If you have such magnificent material that you can obtain it in masses of sufficient bulk, I can conceive no reason for objecting to the employment of trabeated systems of architecture. The vast bulk of the horizontal block or lintel is in itself impressive, and if it rests upon blocks of corresponding magnificence, in the shape of monolithic columns, there are few modes by which the imagination can be more surely excited. But the same sort of design, executed with small stones or with bricks covered with plaster, never impresses us in the same way, because the slightest attention discloses the fact that some unseen mode of holding the work together has been adopted, without which the whole must certainly at once collapse. . . .

So far I think you will see that the principles which are necessary in all good architecture are almost beyond dispute. It may be said by some of you that they are mere truisms. Would that they were always so accepted and acted on! It is not too much to say that if they were absolutely accepted and always acted on little more would need to be taught. . . .

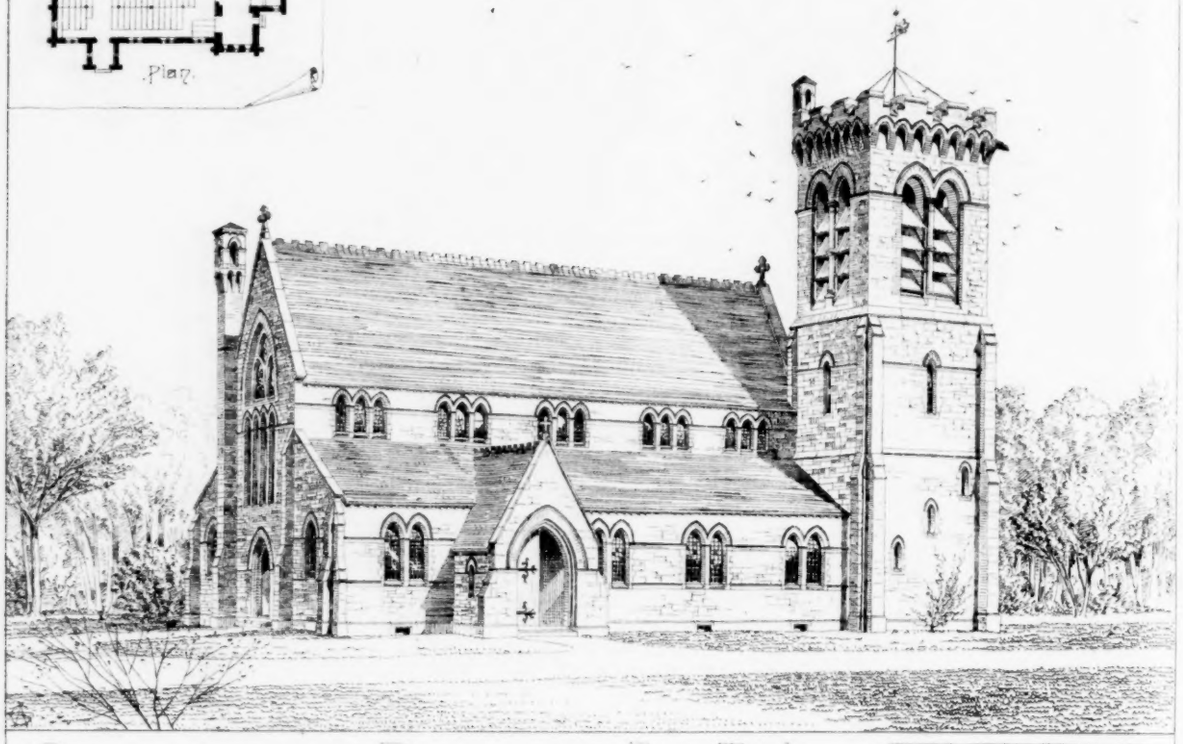
We have next to consider how far, out of the vast array of facts which the student finds in the history of his art, some may be selected which involve the establishment of abstract truths. And to accomplish this we must examine the works of all times rather than of one period only, confident of this, that as all good developments in art have proceeded from the realization of good principles dormant before, so the more these practices are traced home to the causes or theories out of which they rose, the more likely are we to perceive their true bearing.

The first essential of a building is, as we have seen, that it shall be well built. This is not architecture. Architecture is the art of giving "style" to building, and, after this, some or all of the other abstract qualities of rhythm, breadth, scale, light and shade, mystery, repose. . . .

Style in architecture is the perfect harmony between the means and the end, which is found in all the ideas and desires of the highest type of man. Refinement of detail is indispensable; largeness and breadth are its natural forms of expression; but in certain places it may give greater grace to the most intricate and delicate work. It is this noble quality which is essential in good art, and it is as possible to have it in a building as in a man or a beast. The essential condition, you see, is that your style should be a true and sensible expression of simple and abstract principles or requirements. It has nothing whatever to do with styles of architecture, as we call them, for it is possible that every one of these in succession may afford examples of incontestable style. This, at least, is clear, I suppose, to all of you — that a vast chasm exists between architectural designs; that some are vulgar, affected, mannered, whilst others are natural, simple, and dignified; and that whilst the only admiration ever ex-

Perspective View.

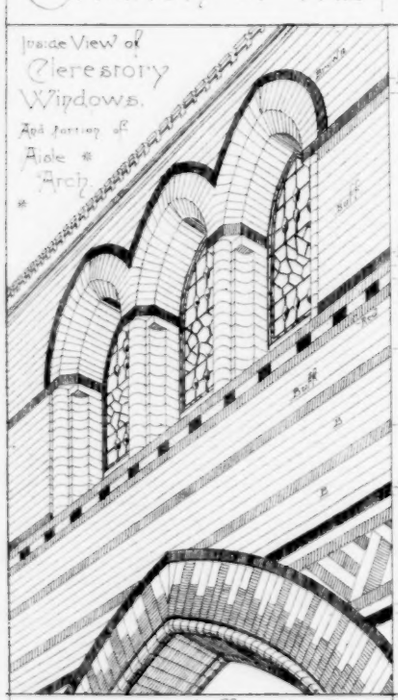
Plan.



CHURCH OF THE REDEEMER Bryn Mawr Montgomery Co. Pa.

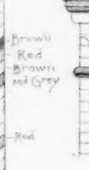
Charles Marquedent Burns Jr. Architect Philadelphia Pa.

Inside View of Clerestory Windows. And portion of Aisle Arch

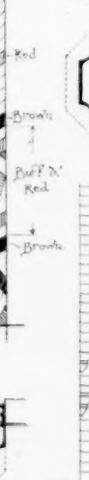


Chancel Pier

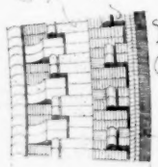
Cap of Pier



Plan of Pier

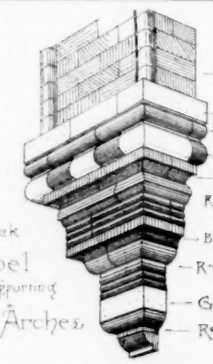


Detail of Chancel Arch.

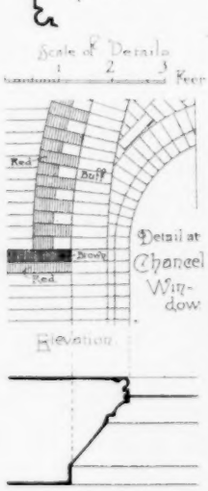


Plan.

Brick Corbel Supporting Aisle Arches.



Scale of Details 1 2 3 Feet

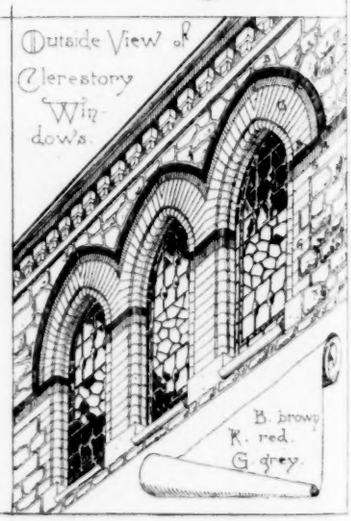


Detail at Chancel Window

Elevation

Plan of Jamb

Outside View of Clerestory Windows.

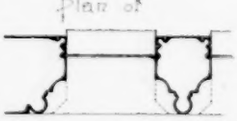


B. brown. R. red. G. grey.

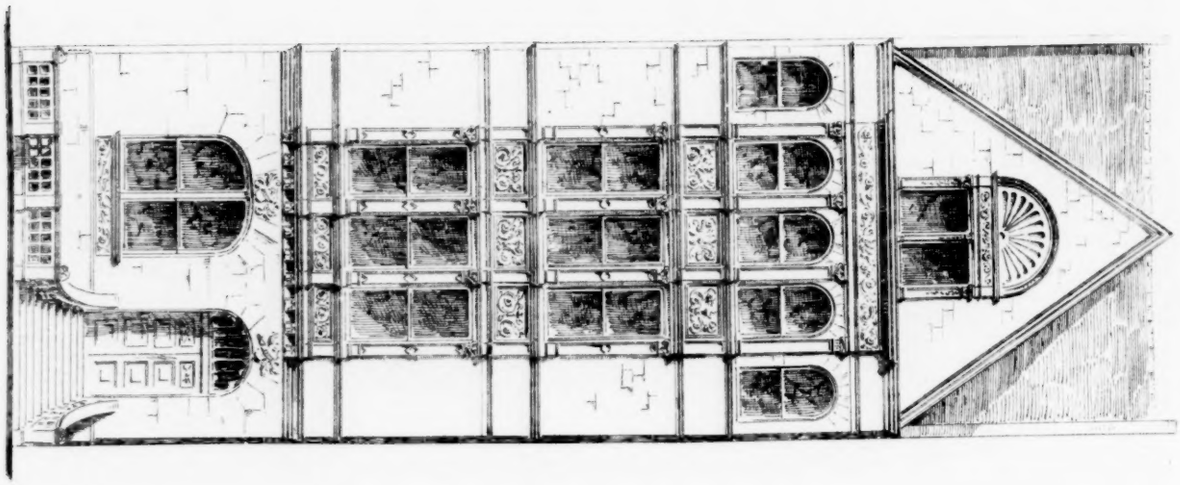
Detail of Brick-Work Bryn Mawr Church

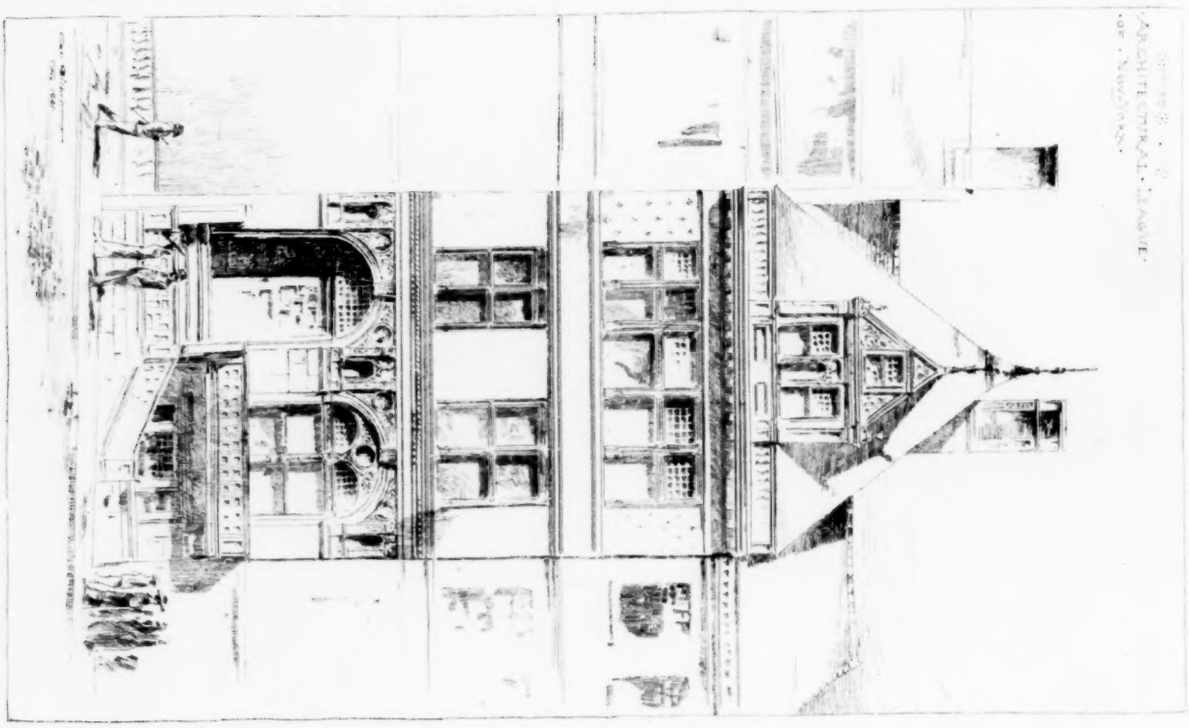
Buff and red in Arch.

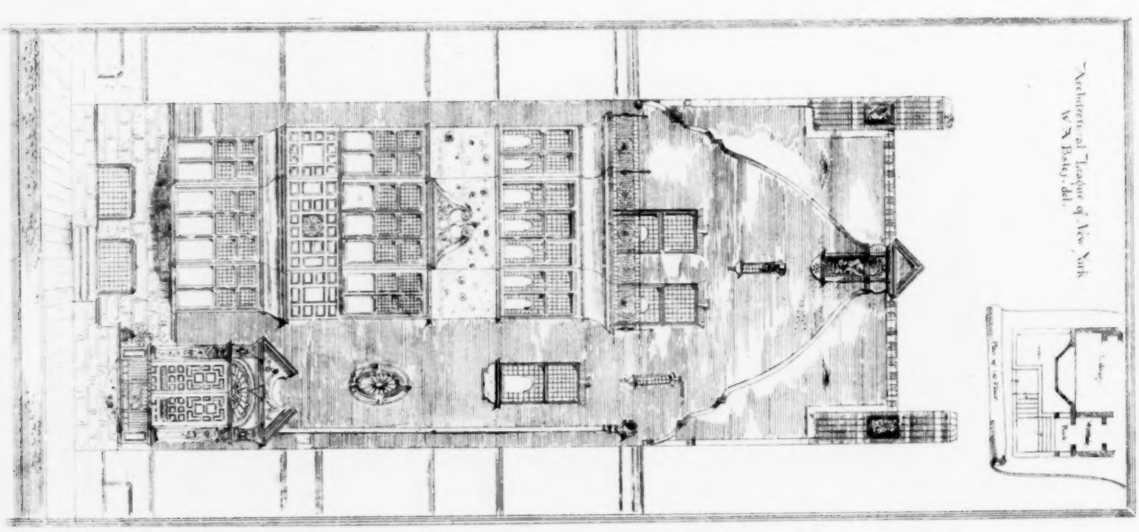
Plan of

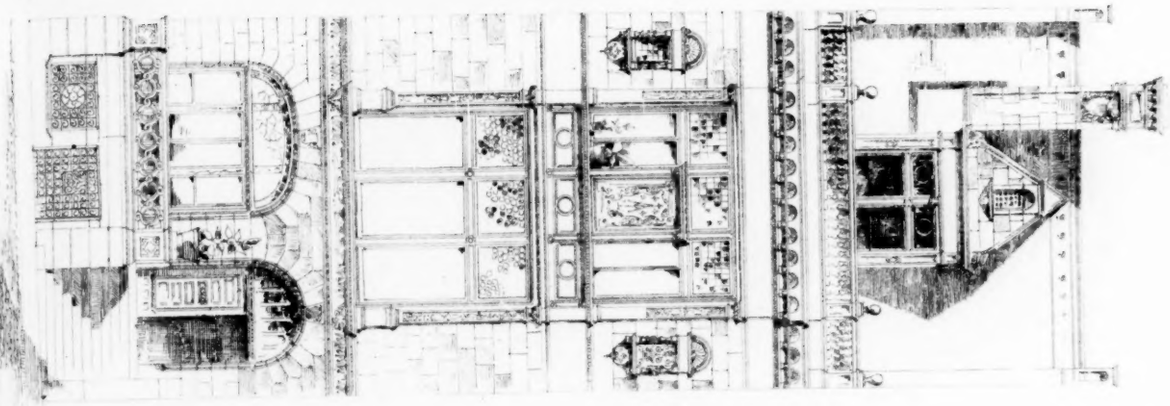


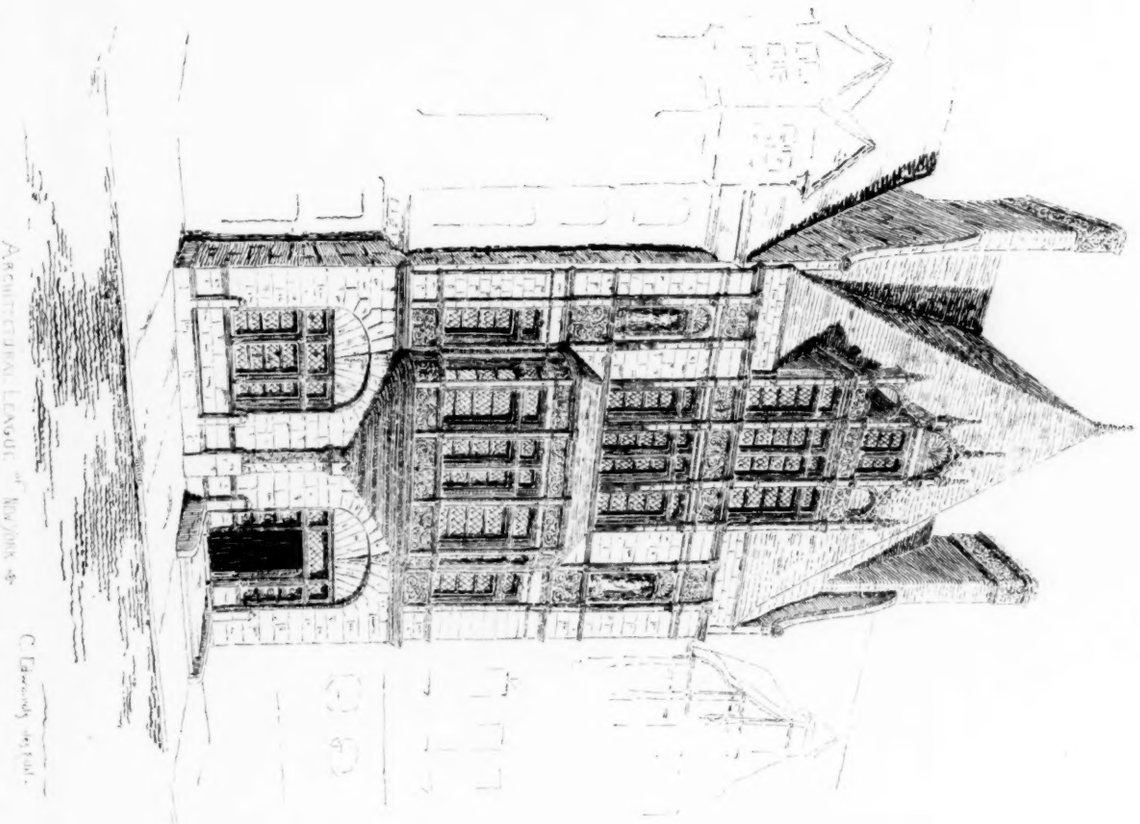
Clerestory Windows. Base.

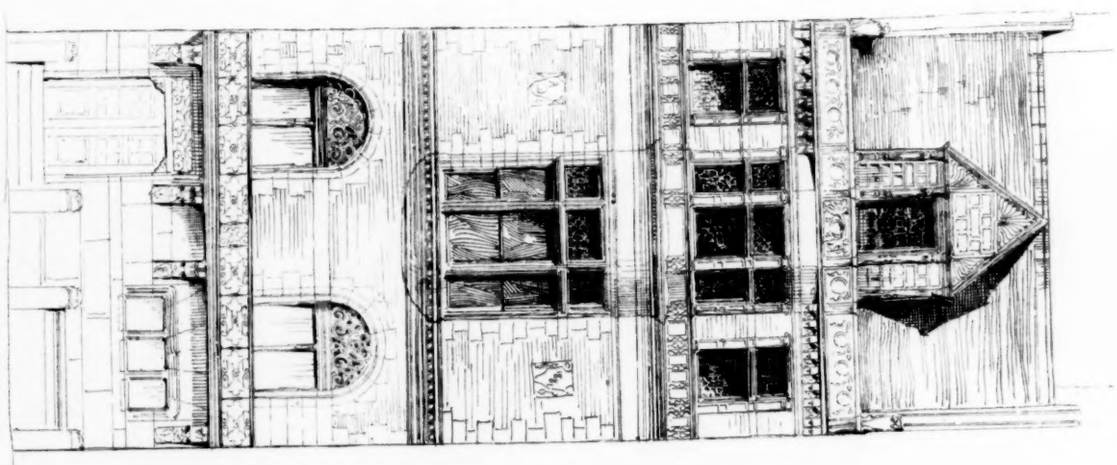


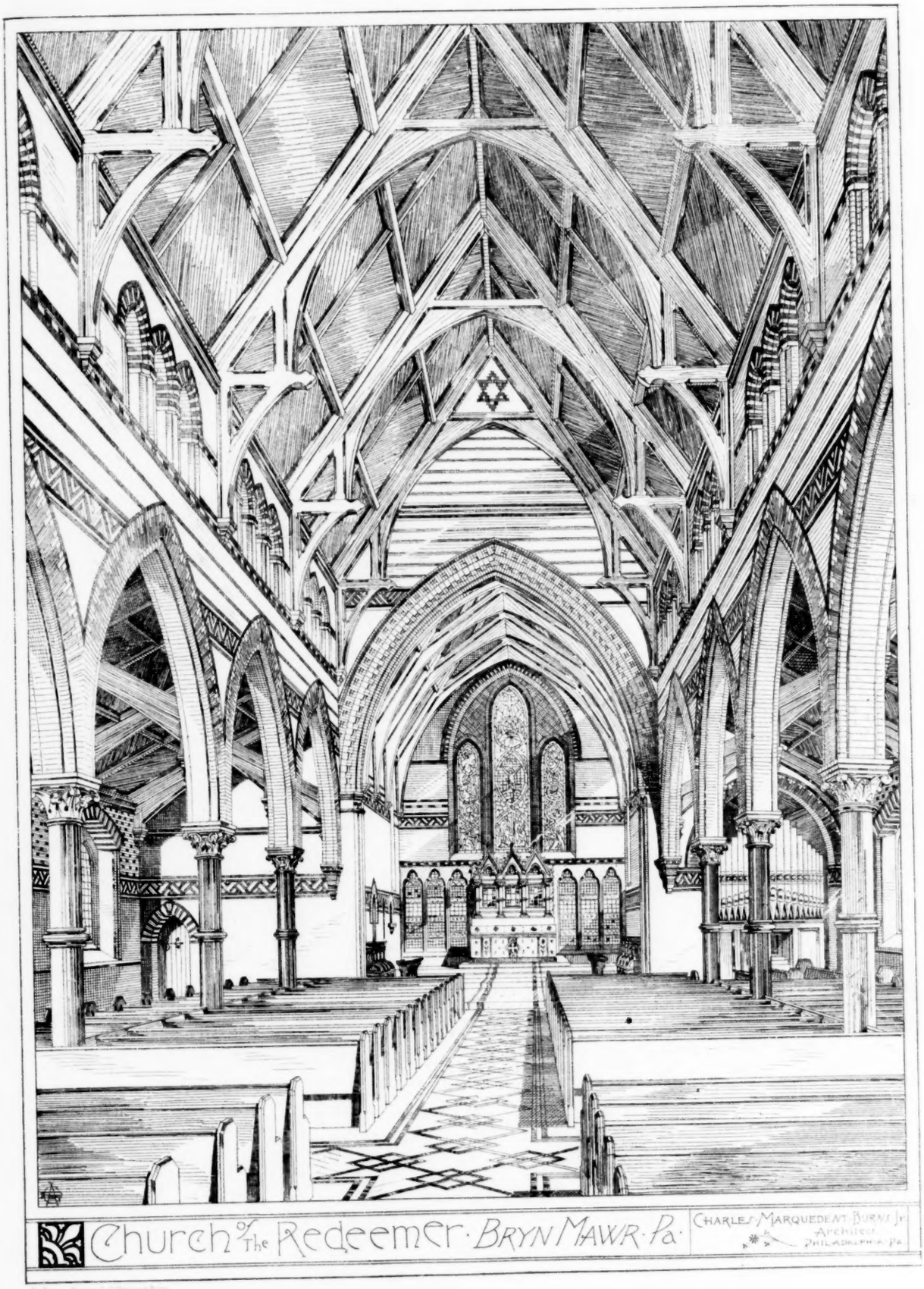












Church of The Redeemer · BRYN MAWR · Pa ·

CHARLES MARQUEDENT BURNS Jr
Architect
PHILADELPHIA Pa

torted for the former is that ignorant love of a new thing which is so evanescent and so little to be respected, the admiration of the latter increases as they grow older, and year by year becomes more certain and universal. The popular voice, which finds something worth loving after an age has passed since the construction of a building, is as unerring in the correctness of its judgment as the supposed approval of a new work is fallible, and to be mistrusted.

The next quality at which we must aim is, like the former, one which is common to our own and other arts. The poet cannot afford to neglect style in his work any more than he can venture to trifle with its rhythm, and a perfect building has its rhythm as well as its style. It is a quality very difficult to describe in words, but in architecture it is an art depending on numbers and proportions. Some expression caught up, repeated, balanced, emphasized in succeeding passages, at intervals which are either regular or regulated, constitutes usually the rhythmical beauty of a work of architecture. No doubt it is sometimes secured by direct application of geometrical figures, at others by that instinct for the beautiful which makes a trained eye go so near to the figures or proportions which might be drawn by rule, but to which the charm is added of something which is fresh, human, and suggestive in its very departure from exactness. Take the simplest case conceivable, that of a Greek portico. Arrange the columns with perfect regularity and without any thought, and there is no rhythm; but arrange them so that a dominant point in the base shall be placed in a certain relation to another, as, *e.g.*, the centre in one of the columns or capitals, or in the pediment, and that the line which connects these two points be one which, if repeated again, connects other marked features, and you at once have a simple and admirable sort of rhythm. Or take another case, to prove the point by a negative. Design a tower, three hundred feet in height, and divide it into twelve equal stages, and you will have an erection which will have no more rhythm than the empty sheet has before the poet has covered it with his rhythmical lines. Yet such a tower may possess all the qualities which I have up to this point included in the conditions precedent of a good piece of architecture. It may be solid, simple, suitable for its purpose, and may even have a certain style, but not having rhythm, it is not architecture at all in any good sense. . . .

Professor Cockerell took much pains, many years ago, to show that William of Wykeham planned the chapels of his colleges at Winchester and Oxford by the aid of geometrical figures, and there is, no doubt, something fascinating in the suggestion of any scheme which shall involve as a certainty a well-proportioned work. Whether laws can be laid down which can be generally applied is open to grave doubt; but Cockerell's words are, in any case, true, and worth quoting: —

"The perception of proportion, the fundamental element of the beautiful in architecture, seems to be the last acquirement of the student instead of the first. We begin by admiring ornaments, details and forms; but it is at a more advanced stage only that we make all these subordinate to that sense of rhythmical proportion and that harmony of quantities which affect the mind like a mathematical truth, and, like a concord of musical sounds on the ear, is perceived and confessed by the eye as obvious and unalterable."

The only fear in such investigations as these is, that any of you should be led to suppose that any system can stand in place of the genius of an artist. The utmost that you will arrive at by such a process is the avoidance of errors of general proportion, it being very manifest that this is possible.

But it would be a calamity if you were led to suppose for an instant that the use of a mathematical formula could or ought ever to be substituted for the cultivation of the eye; that is, of the natural sense of good proportion or rhythm in architecture. It is by the careful observation of cultivated eyes that some of the most delicate, and at the same time most important rules have been arrived at for our guidance. . . .

The other elements that I have named are what we look for in the best work; but they are not so indispensable as those already mentioned, and for this reason: they are elements which may be aimed at, more or less, according to the choice of the architect. He may aim, if he chooses, at breadth of effect; and he will always do well to do so. But he may equally aim at a picturesqueness which sacrifices breadth, and which, if it arises naturally out of the conditions of the case, is by no means to be despised. In all cases, also, the treatment of the design with the object of impressing the eye with a real idea of its scale is important. It hardly admits of discussion whether or no the artist is skilful who makes the scale of his building look smaller than it really is, for it requires much skill so to dispose and proportion the various members as to make each appear to be of the right size for its place, and yet to add to, rather than diminish, the apparent size of the whole. But I think all these points will be more easily dealt with if we go on now to consider, as far as time will admit, the evidences we have in ancient buildings of the close attention which was paid by their designers to subtle principles which it is necessary to master if we are to produce work at all comparable to theirs.

In one point all ancient work agrees. This is, that all parts of a building must be equally well designed. No good work is ever done which is done solely for show. If you really love your work you will make it good all round — as simple as you like; for it would be absurd to make work which can hardly be seen as elaborate as that which is meant for the delight of the eye of every passer-by, but still good in its proportions, and in its detail wherever any is introduced. To how many buildings of the first half of this century would it be possible to go with this impression of an architectural *sine quâ non*? The truth is that only too often men seem to have thought that one elevation of a building would be all that would ever be seen. They have satisfied themselves with handsome geometrical elevations of the principal front, and have assumed that every one would be polite enough not to look at the work in perspective. So you see grand cornices in front, none at all at the ends; stone on one side, compo on the other, and other similar mistakes. For the same reason, no discovery that old architects often indulged in sham fronts to their buildings justifies their erection now. From some point of view the deception is quite sure to be detected, and when found out produces the worst possible effect. Moreover, it is hardly possible to design a sham front which does not at once condemn itself, because it almost always happens that the features, which are used merely because they are pretty, having no corresponding structure behind them, have no structural effect, and thus prove themselves to be unnecessary impostors.

A sham feature is often introduced for the sake of symmetry, and it is worth while to consider how far the symmetry which depends on uniformity is a necessary feature. The uniformity which arises from an absolutely similar requirement throughout a building is natural and defensible. Examples of it may be seen in the repetition of the columns round a Greek temple; in the uniform design of the outside wall of a Roman amphitheatre, where each bay, having similar requirements, is almost identical with the rest; and in the bays of a Gothic cathedral nave, all of which are almost of necessity alike, because each follows exactly from the same construction. Nevertheless, uniformity may easily ruin the effect of a work in which, in the right place, the principle has been admitted to the full. Imagine, for an instant, such a work as Notre Dame, Paris, altered for uniformity's sake by the erection of a choir exactly like the nave, with two eastern steeples corresponding with the grand examples at the other end, and you will see at once how entirely ruinous this sort of symmetry may be.

Repetition of similar features where the requirements are the same seems to me to be the true sort of symmetry to aim at. In this way you gain the required effect without sacrificing convenience or truth. . . .

The mediæval architects have left some most remarkable examples of the extremely small effect that the desire for uniformity had upon them. Of this there is, perhaps, no more convincing example than the façade of Chartres Cathedral. This had a west front, flanked by two steeples, one of which only was completed by the end of the twelfth century with a spire, which, for beauty of design, is not far behind the very best of its period. It was no sooner built than the whole church, save the west front, was rebuilt after a fire, and on a grander scale, so that the new nave roof, reaching to the base of the spire, very much spoilt its effect. Then, in the fifteenth century, one of the greatest men of his time, Jean Texier, was employed to build on the ancient north-west tower a second spire to complete the front. What course do you suppose he adopted? The nineteenth-century answer is, of course, in favor of a steeple exactly like the first, so that, though both would then be too low for the roof, there might nevertheless be that uniformity which is now usually supposed to be the right thing to strive for. Texier did nothing of the sort. He boldly declined to look at the early spire, and simply set himself to work to build the loveliest spire he could design. And his work is a success from every point of view. It is exquisite in itself, properly proportioned for the height of the church, and, though so unlike it, groups well with the other spire, and the result is that we have the pleasure of seeing two *chefs d'œuvre* where otherwise we should have had only one design to admire.

Some of you may perhaps ask whether, after you have done your best to attend to all the principles which I have been insisting on, your work could be worthy of being called really one of architecture, in the absence of all sculpture and painting. Some writers — and they are men of the greatest authority — deny by implication that they can be. But though in my last lecture I told you how strongly I desire to see the three arts employed together, I am not disposed to allow this, and I shall insist upon it now, because I think that for young men the habit of designing without the aid of figure sculpture is very important. A drawing of a poor design may sometimes be made to pass muster by a daintily drawn representation of sculpture, but this is not what is first wanted. At the same time, though it is necessary to be able to dispense with the aid of the sister arts, it is equally necessary that you should know how to avail yourselves of their assistance. The best work is that, as I have before told you, in which all the arts are combined. And no form of architecture can be pronounced to be contemptible in which these accessory arts have been highly developed. The grandest architecture can, however, exist without such aid. It is not absolutely necessary; and if circumstances compel the architect to dispense with it, he is in no degree whatever relieved from the necessity of doing the very best work. . . .

I have now, I think, touched on most of the principles, strictly so called, by which the good architect is bound. You see that they are many in number, but that they all resolve themselves into an observation and obedience to certain and very few first principles. The best Greek architects and sculptors were the best by universal consent that the world has ever seen, and with a few words upon their work

I may well conclude this lecture. Observe, then, that their one object was to secure the utmost refinement, satisfying, at the same time, all the requirements of the best construction. They had the blessing of a sunshine which gave effect to the most delicate lines, and which allowed of their buildings being decorated with a brilliancy of color almost past belief. Nothing so well proves their extraordinary delicacy of observation as their matchless sculpture of the nude. This was the effect of study of life in active motion by the eye, rather than of merely anatomical knowledge. And all the details of Greek art seem to prove that they result from an extraordinarily patient and delicate observation of the influence and effect of light, as well as of the true necessities of construction. If the same men had had to build in Northern Europe, of course they would have modified their style in endless respects to suit so different a climate. But wherever they built, it would have been as worthy of admiration as in Greece, because their work would still have been done with all their heart and all their power; and because they realized (as all of us must, if we are to be good architects) by their actions, if not consciously, that all noble ornament and all good work are an expression of man's delight in God's work, and that without the refinement which we see everywhere in nature no work of our hands is worthy to be called a work of art.

THE ILLUSTRATIONS.

DESIGNS FOR A CITY HOUSE FRONT.

These designs were awarded mentions in the last competitive problem of the Architectural League of New York.

The subject for competition was the design of a city house of twenty-five feet front. No conditions were given other than this, the competitor being permitted to treat the problem as he pleased. About fifteen designs were submitted in accordance with this programme, and were hung upon the walls of the League room for criticism. One of the by-laws of the League provides that all competitions shall be criticised and passed upon by some practising architect; in the present case Mr. W. B. Bigelow kindly accepted the invitation extended and rendered his decision in substance as follows: Six of the designs met the problem very fairly indeed, and received honorable mention. Mr. Gilbert's design was given the first place on account both of the general motive of proportion and of the distribution of the detail. The suggestions of style and detail, as far as the sketchiness of the treatment permitted judgment to be passed upon them, seemed well in the spirit of the programme.

Mr. Bates's design, placed second, was in another spirit; many of the qualities of No. 1, however, it sacrifices more to mere picturesqueness of effect, and would have to be restudied in several points of detail in order to make its execution feasible.

Mr. Johnston's, placed third, is good in general distribution; the first story terrace is a new treatment, and the suggestions of detail are good, — one wonders, perhaps, where the chimney comes in the plan, but the plan formed no part of the competition.

Mr. Willard's, placed fourth, has much the same general arrangement as No. 3, but is less well handled, neither the general proportions nor the indications of the detail being so good.

Mr. Walker's, placed fifth, has a good general disposition, but the relation of the different motives to each other shows want of study; there are differences of scale that hurt the general effect, and the wooden dormer is open to criticism, as also the bay, which passes (in plan) from a segmental to an angular disposition, and ends finally under a rather thin straight cornice.

Mr. Edwards's design was ruled out on account of its want of scale, it being impossible to suppose it executable within the limit of twenty-five feet; it was otherwise commended as a clever study in a style that lent itself well to the conditions of the problem.

The rank of the designs was given: First, on account of the appropriateness of the character it had been sought to express; second, on account of the general disposition; third, on account of the manner in which the solution was presented.

CHURCH OF THE REDEEMER, BRYN MAWR, PA. MR. C. M. BURNS, JR., ARCHITECT, PHILADELPHIA, PA.

LETTER FROM NEW YORK.

THE NATIONAL ACADEMY. — THE SOCIETY OF AMERICAN ARTISTS. — DECORATIVE ART.

New York, April 5, 1881.

Is there anything more indigestible than an exhibition of the fine arts? Fancy yourself at a feast where all the stomachic proprieties are outraged; where *potage à l' italienne* is followed by mince pie *à l' americaine;* where the chill of ice cream is tempered by chow-chow; and where the *charlotte-russe* is garnished with *petit pois.* Fancy, too, the morrow of such a banquet. Yet not dissimilar is the æsthetic symposium offered us by exhibitions. The human intellect, like the digestive organs, has its limit. Many pictures are painted with reference to their surroundings, to the quantity, the quality, and the direction of the impinging rays of light. Just as certain viands have their complementary condiments, so should pictures have their complementary concomitants. As it is, the robes of a saint which we see with one eye may be confounded with the soot of a sweep which we see with the other. A "symphony" in one tone may clash most discordantly with its neighboring "symphony," despite the honest efforts of the hanging committee. Taking all these things into consideration it is not strange that even veteran sight-seers claim their canes or umbrellas from the janitor with a feeling of depression, of distrust of themselves and distrust of the things seen. Exhibitions are part and parcel of our modern artistic baggage, and in many ways are useful to student and exhibitor. But they are not the crucial test of the relative merits of works of art, and have unquestionably been overdone.

The lack of large compositions constitutes the chief difference between European and American exhibitions. For this no blame can be lodged against the artists. Abroad the State gives orders and the State purchases. With us art and politics must unfortunately be divorced, — I say unfortunately, for art received its mightiest impetus and soared its highest under such encouragement. One or two artists have made laudable efforts on a large scale; if their success has not been complete, at least it has not been insignificant. Their courage should command our respect, and the repetition should not be abandoned.

A great fault among the modern men (and the fault is of foreign birth) is the raw, chalky, or better the "painty" quality of the pictures. I think that I can trace the genealogy of this shortcoming. I have remarked to you in former letters that to-day we are enamored of the out-of-door qualities of nature, — with the ring and freshness of open air; with the sparkling, glinting light. Some years ago men discovered that these invigorating qualities — invigorating as crisp air is invigorating — could be admirably rendered in water-colors. Hence the Roman-Spanish school with Fortuny at its head, which revolutionized with its brilliant watery washes, and sharp, fresh touch the old stippled style of "niggled" *aquarelle.* Then these same men transferred their methods to oil, as those may remember who saw Fortuny's posthumous exhibition, and the result was crudity and rawness. In water-colors the gradations in value are gotten by more or less white seen beneath more or less diluted washes of superimposed color, and are consequently transparent. In the oil imitation the gradations are obtained by a greater or less admixture of opaque white with the pigments and are necessarily opaque and chalky. Oils have qualities which are denied to water-colors, and *vice versa.* These qualities should be respected as the property of their possessor. The temptation to paint in this key is all the stronger, seeing that the effect is brilliant, and easily catches the passer's eye, too weary perhaps to notice less garish but more distinguished work.

Modern science is such a leveller of physical boundaries and national characteristics, and has done so much for the propagandism of art, that one can scarcely expect to find in our exhibitions that originality which one might find in more remote and less highly civilized communities. Yet there are several works that bear the marks of strong personality and rare talent. One of these is the production of a fellow-townsman, Mr. George Fuller. His Winifred Dysart is not only veiled in the wonted mystery of his technic, but she has the eternal charm of beauty, so little sought for to-day in the imitative arts. The other works to which I refer are the masterful portrait of Miss Cottier by J. Alden Weir, and W. J. Hennessy's deliciously dreamy and poetical Spring Fantasy, an exquisite specimen of tender, vernal harmony. These pictures would do credit to any exhibition. Messrs. Sartain and Shirlaw are as usual distinguished for what painters call "quality." If any one should care to see something intensely modern, amusing, audacious and clever, let him hunt up an unpretending little canvas by F. S. Church, called A Foggy Day. As several of the above cited names are followed by the initials N. A. or A. N. A., it would seem that the National Academy does not altogether merit the obloquy that has been heaped upon it.

The Society of American Artists may well be proud of its fourth annual exhibition, which would claim attention in any city. In many ways it is an ideal exhibition. The works are limited in number and were admitted solely on their merits. There were no free passes. The limitation of the works is the greatest relief to the spectator. The weeding has been judiciously done for him, and he has nothing to do but protrude his proboscis into the sweetest flowers. Their relative merits can be compared, and their characteristics analyzed, long before satiety ensues, or the brain reels with fatigue. The severity of the jury may, and doubtless has, proved a source of vexation to many artists and their friends; but to the public it has proved an unalloyed blessing. From an educational point of view it is far more judicious to exhibit good alone. Pitch defileth.

To say that the exhibition is thoroughly artistic is to signal its predominant characteristic. It is an epicurean banquet for the initiated, but may be caviare to the public. There is scarcely a popular element in it; no maudlin sentimentalism, no prettiness, hardly an incident. Though much is derivative, and might be dated Paris or Munich, there is nevertheless a modicum of originality. If there be one fault, — both in the decorative and pictorial art, — but a fault out of which good may yet come, it is the apparent striving after the eccentric. Artists apparently have such a holy dread of the commonplace of the old "*bien léché*" technic that they are willing to sacrifice everything, form and nature included, to a brilliant touch, a subtle (though perhaps false) texture. In so doing they not infrequently lose sight of essential conditions. It is not only important that a tree, for instance, should be rendered with taste, feeling, appropriate quality of tone and texture, but it is also important — nay, indispensable — that its identity should be established, that the

public should not take it for a hay-stack. It is very difficult for an artist to be oblivious of his materials. Oftentimes pictures that to me have seemed charming, to the uninitiated have been enigmas, simply because the latter have looked beyond technic into the realms of reality. This combination of the intelligible with the artistic is difficult, but it always has been effected by the greatest, and always must be. Nevertheless, an exaggerated texture, the not infrequent cause of incomprehensibility, is vastly to be preferred to the pseudo water-color painting to which I referred in my Academy notes, and of which there is but little in this exhibition.

If one may judge from their works, any passion that the "American Artists" may have for form, composition, beauty, ideality, or even dramatic power, as yet lies dormant, or at least reveals itself so timidly that the exceptions only serve to prove the rule. Tone, texture and life occupy them to the exclusion of those higher qualities that will doubtless come later. Come they surely will, and through the medium of decorative art, in which as yet little heed has been paid to linear composition and grand draughtsmanship, but which so uncompromisingly demands these attributes that their advent cannot be far distant. The artists of the younger school have made an admirable beginning. Now that they have succeeded so completely in one direction, now that they have solved the toughest technical problems so triumphantly that they have annihilated their seniors, would it be asking too much to request them to turn their eyes upwards and towards higher things, to add to their brilliant handling those grander qualities that immortalize art? One picture bears evidence of noble tendencies, and that is Music, by J. Alden Weir. It is less complete perhaps than some of the other works, has perhaps more technical faults; but for grandeur, simplicity, and inspiration, it is *facile princeps*. The background is indescribably beautiful in tone,— transparent, and mysterious. The pearly figure grows out of it, is not projected on it. The contour of neck, face, and hands seems to be lost in the circumambient darkness. The only fault to be found is with the drapery. Here (as well as in his portrait of Mr. Delano) the artist has troubled himself too much about texture. A franker execution with a little more attention to design would have produced a happier result. But, altogether, it is a noble production and deserves unstinted praise. Less important as a work of art, but absolutely perfect as a picture, is the same artist's Flowers. There is a rotundity to the vase and bouquet, a transparency to the background, a looseness to the touch, a freedom from paintiness (Mr. Weir does not scorn the glaze) that render it the most skilful bit of technic in the room. Mr. Weir's career promises to be an interesting one.

My object in writing has been to notice the general merits and demerits of the exhibitions, as well as the tendencies of American art, rather than to catalogue the pictures according to their deserts; indicating here and there by way of illustration those paintings that excited my enthusiasm. In the exhibition of American Artists almost every work is commendable. Mr. Frank Currier, Mr. Gifford, Miss Emmet, Mr. French, Mr. Warner, — I must draw the line somewhere, — send admirable things, on the success of which they are to be congratulated. If next year's exhibition shows an advance on this year's (and why shouldn't it?) it will be truly admirable.

I cannot close this letter without eulogizing the decorators, who for their daring, originality, perseverance, and despite their manifold shortcomings are entitled to the foremost place in the æsthetic hierarchy of America. On personal grounds it is now impossible for me exhaustively to analyze their productions or to compare their merits. What could be more interesting, however, than to sit in judgment on the four well-known competitors who have just decorated the Union League Club-House, — a sort of artistic stadium, where brave brush has been pitted against brave brush? If it should be said that these men had entirely ignored constructive necessities, or the eternal fitness of things — the primary conditions of sound decoration — one might suppose that their efforts had resulted in failure. (The work of one of the four must be excepted, which if more contained is less original.) But such is not the case. The decorators (as well as the painters) are striving for the new and marvellous. In this pell-mell race for the extraordinary they ignore all that we have ever cherished as wholesome tradition. They have in a measure begotten chaos, but a chaos out of which much good may yet come. They have sacrificed all to sumptuousness, to the magnificence of the material, but the result is certainly gorgeous. Were I obliged to sum up my criticism of the Union League Club-House (as far as the internal decoration is concerned) in two words, those words would be "barbaric splendor." The most brilliant successes have been achieved in the stained-glass work. Objection may be taken to the external appearance of the opalescent glass (which can, however, be modified by doubling the window) but where, either in old times or new, were there ever such superb chromatic effects obtained in this material? It is a real triumph for the inventors. That gorgeousness which is the inherent property of stained glass is less appropriate to mural decoration, and herein I think the success is qualified. Paint can never compete with colored windows, even when the former is reinforced by gold, silver, or iridescent substances. Rays of light transmitted *through* transparent colored media are always richer than rays of light impinging *on* colored bodies. But quite independent of this fact there remain the questions of taste and propriety. Aladdin's cave may have been dazzling, but its freakish ornamentation would scarcely be appropriate to our modern architecture.

PALLISER'S FORM OF CONTRACT.

Messrs. Palliser, Palliser & Co., of Bridgeport, Conn., have published a printed form of building contract for the use of architects, such as they have used in their own practice. Every architect has learned the inadequacy of the ordinary building contracts sold by stationers, and a printed form containing all the provisions which are usually necessary will be of value to many. The attempts which have hitherto been made to supply this want, though numerous, have generally been the work of a single architect, and for his own benefit, or, as in the case of the Rhode Island Chapter of the American Institute of Architects, for a local body; and such publications are not within the reach of the general public.

Of the Messrs. Palliser's contract we may say in general that the plan is excellent; and if we call attention to some omissions, with some deviations from the usual forms, it is quite as much for the sake of inviting discussion upon a document which is likely to be widely used in the profession as on account of any injury which they do to its substantial value.

Following the example of many English contracts, the Messrs. Palliser make the owner of the proposed structure the party of the second part, instead of giving him precedence, as is perhaps more usual. Probably the inversion makes no difference so far as the contract is concerned, but those who use such instruments would find a uniformity of practice in this respect convenient.

The division which the Messrs. Palliser adopt for their form, reciting first the main covenant, that A shall for a certain sum, before a certain day, erect in a certain manner a certain building; following this with the explanatory clauses and conditions, is excellent. A strict critic of legal phraseology might perhaps say that the same meaning could be conveyed in fewer words with advantage, and there is certainly a redundancy of punctuation marks, — those enemies of clear expression; but architects will observe more especially the omission of any provision in this, the most important, and according to some theorists the only binding part of the agreement, for the completion and delivery *of the building*, as distinguished from the work upon it. This phrase, indeed, is not found in any part of the contract form, while another, of at least equal importance, requiring the contractor to furnish scaffolding apparatus and cartage, is only included in the conditions, which being described as a "further agreement," for which no consideration is mentioned, might possibly be difficult of enforcement in an important case.

The other "conditions," or explanatory clauses, as they might better be called, which the Messrs. Palliser have incorporated in their form, are most excellent in every way. The insurance clause, particularly, meets the actual needs of such cases, instead of being simply useless, as is that of most contracts; and the arbitration clause, which in most agreements is worse than useless, is here modified into an intelligible and serviceable provision. The form of bond endorsed upon the contract is also a valuable addition.

CORRECTION OF ERROR.

Boston, April 6, 1881.

To the Editors of the American Architect: —

Dear Sirs, — By some typographical accident, the letter "*c*," which should form the left-hand member of Equation 2, in my article on the Strength of Fire-Proof Floors in the last monthly number of the *American Architect*, disappeared after the proof was corrected. If your readers will please make note of it, it will, perhaps, save trouble in discovering what Equation 2 represents. F. E. Kidder.

[The letter in question was broken out in casting the stereotype plate, after the last proof was read. — Eds.]

THE SALTPETRING OF BRICKWORK.

March 4, 1881.

To the Editors of the American Architect:—

Dear Sirs, — Will you kindly give some information regarding the prevention of the white saline substance that sometimes appears on brickwork, or advice on the best way to remove it when it does appear? Yours, etc., B.

[The "saltpetring" of brickwork can generally be prevented by adding oil to the mortar, at the rate of a gallon to the cask of lime. If cement is used in the mortar, an additional gallon of oil must be allowed for each cask of cement. Linseed oil is generally employed, but any kind which does not contain salt will answer. The incrustation, once formed, can be removed with hot water, or by the muriatic acid generally used for cleaning down brickwork, but it will reappear again by exudation from the interior of the wall, and usually leaves a permanent black or brown stain. — Eds American Architect.]

THE ORDERS APPLIED TO INTERIOR DECORATION.

Cleveland, O., April 5, 1881.

To the Editors of the American Architect: —

I would like to make a quotation from page 83 of Fergusson's History of Modern Architecture, which seems to me to be peculiarly applicable to the standpoint from which the criticisms upon the interior decoration competitions are taken.

"The real fact is, however, everywhere apparent, that the orders are intractable for purposes they were never designed to subserve; and when an architect is bound to use only pillars of ten diameters, and to use these for all purposes of internal and external decoration, he has forged fetters for himself from which no ingenuity has yet been able to set him free."

I do not mean to say that I think that this is strictly applicable to the spirit in which the criticisms are written, but in general purport I do. Respectfully, X.

BOOKS ON MEASURING.

88 Fifth Avenue, N. Y.

Will the editors of the *American Architect* please recommend to a subscriber a good work on quantities and measurements, with rules for abstracting and hints for preparing bills of quantities, etc., and oblige Henry O. Avery, Architect.

[The most complete work on the subject in print is Mr. Banister Fletcher's "Quantities," published by B. T. Batsford, 52 High Holborn, London. There is also a little English work in Weale's (Lockwood's) Series. Of American books there are very few. Vodge's Handbook contains perhaps as much relevant matter as any, but the practice of our surveyors in regard to allowances for angles, circular work, openings, mitres and so on, which forms the more recondite part of their business, varies almost with every town. If all architects were of the same mind as ourselves, they would try to discountenance all these arbitrary, perplexing, and unsafe rules for estimating one kind of work in terms of another, and would, for instance, describe a plaster cornice containing twelve mitres, and eight feet of circular work, together with sixty feet of plain run, in those terms, instead of lumping it as eighty-eight feet of straight work, as some surveyors would, or as a hundred and eight feet, as is the custom in other places. The tendency is now unquestionably toward the French mode of itemized descriptions of work, free from arbitrary "allowances," and architects will, we think, do well to promote that tendency so far as they have occasion. — Eds. American Architect.]

NOTES AND CLIPPINGS.

Hydraulic Jacks. — A successful operation has lately been effected by means of hydraulic jacks. The foundations of the lower pillars of the basement of a sixty-thousand-spindled mill at Bolton, England, were lately discovered to have subsided, and the pillar bottoms to have seriously shifted, so much so that the whole of the five floors were ascertained to have settled down to a depth in all of at least five inches, owing partly, it is believed, to the presence of a previously unsuspected coal-seam. It was found that it would be necessary to raise six of the pillars, and to bottom and concrete the seam of coal, the operation being rendered the more difficult as the weight to be lifted could not be arrived at accurately, the floors of the mill being constructed of wrought-iron and concrete, and having arched downwards in subsiding. It was, however, estimated that the resistance could not be less than one hundred tons upon each pillar. Six fifty-ton hydraulic jacks were applied, two to each pillar, and three pillars were lifted at the same time. The work had to be carried on slowly to guard against cracking the floors when raised. The jacks held the enormous weight for about a week in each case whilst the foundations were excavated and the concrete put in. The job was successfully carried on, the jacks sustaining the loads without giving way in any degree. The jacks employed were Messrs. Tangye's. Recently, also, a large chimney-stack at one of the South Staffordshire iron-works having got dangerously out of perpendicular, it was successfully restored, having been sustained by the jacks whilst the foundations were excavated and renewed. — *The Architect.*

Inlaying Wood. — Some novel features are, says the New York *Tribune*, claimed for the following process: A veneer of the same wood as that of which the design to be inlaid consists — say, sycamore — is glued entirely over the surface of any hard wood, such as walnut, and allowed to dry thoroughly. The design is then cut out of a zinc plate, about one-twentieth of an inch in thickness, and placed upon the veneer. The whole is now subjected to the action of steam, and made to travel between two powerful cast-iron rollers of eight inches in diameter, two feet long, two above and two below, which may be brought within any distance of each other by screws. The enormous pressure to which the zinc plate is subjected forces it completely into the veneer, and the veneer into the solid wood beneath it, while the zinc curls up out of the matrix it has thus formed, and comes away easily. All that now remains to be done is to plane down the veneer left untouched by the zinc until a thin shaving is taken off the portion forced into the walnut, when, the surface being perfectly smooth, the operation will be completed. The result of this forcible compression of the two woods does not leave a ragged edge, the joint being so perfect as to be inappreciable to the touch.

A New Use for the Baths of Diocletian. — It is proposed at Rome that a great historical ethnological museum shall be built from the ruins of the Baths of Diocletian, which shall unite the contents of the Tiberine and Kircher Museums in one grand cosmopolitan collection. The portico and Church of Michael Angelo is to form the entrance, and the later constructions that conceal the outlines of the Baths are to give way to work still more modern. The objects found in the bed of the Tiber begin already to overflow the Tiberine Museum.

An English Critic on W. M. Hunt. — In conclusion, we may sum up the exhibition by saying that it perhaps interests us more in the painter who executed the pictures than in the pictures themselves, for it seems to show genuine artistic genius struggling, despite much admiration of other men's work, to beat out an individual path of its own, and only failing because its possessor saw too clearly the merits of too many people. Mr. Hunt wanted to be Couture, Delacroix, and Millet rolled into one, and he ended by being — and it was no small achievement — a Vermont Ruskin. — *The Spectator.*

Millet's Signboards. — The enormous prices paid for pictures by the French peasant-painter Millet, in the recent Wilson sale, naturally suggest the question what has become of the signboards of which Millet painted so many at various times. Thus he painted "a little milk girl" for a linen-draper, a horse for a veterinary surgeon, woman and child for the sign of a *sage-femme*, a sailor for a seaport sailmaker, and numerous others. He even supplied, on one occasion, a travelling showman with "a scene from our campaigns in Africa."

Analyzing the Atmosphere. — Dr. Angus Smith, F R. S., says in a report to the British Parliament, that he believes he has discovered "a new mode of analyzing the atmospheric conditions under which we live in manufacturing towns." He expects to be able to show "how much a town or a county suffers loss of light, and to find how much this loss affects the health of plants, and it may be of animals and of man." The test is a chemical one, and rests upon the fact that when iodide of potassium in solution is treated with a small quantity of nitric acid a change takes place when the mixture is brought to the light, and the amount of iodine that is set free can be measured with great exactness. This is the germ of a process for measuring light, which the scientists will call a photometric process, that may be developed in time into a valuable agent for the examination of climate. There can be, Dr. Smith suggests, no real progress in sanitary economy without the full knowledge to be obtained by the examination of the air. He has found ammonia upon every object he has examined, indoors and out of doors, in the town and in the country. Ammonia, it is believed, may be an index of decayed matter. By suspending a piece of glass anywhere, and after a while washing the outer surface with pure water by means of a spray bottle, and applying a Nessler solution to the washing, the presence and quantity of ammonia are ascertained. This Dr. Smith hopes to make "a ready popular test for air, a test for sewer-gases, for overcrowding, for cleanliness of habitations, and even of furniture, as well as for smoke and all the sources of ammonia." In a part of the report dealing with the effect of gases upon vegetation, he quotes a German man of science named Mohr as saying that thirty-six years had done more to destroy the Luxor obelisk in Paris than as many centuries in Egypt, and that the climate of London will be still more destructive to Cleopatra's Needle. "This," adds Dr. Smith, "we may readily agree to, as we see already a change, so far as color is concerned, and the black always contains the acid" (sulphuric acid). In the conclusion the professor speaks of the "enormous value of the ammonia obtainable from the coal made now into coke, if the process said to be so successful at Besseges should be found successful here. If we were to treat all the coal used in the country in the same way, we should have above six times as much ammonia, which would be capable of increasing our crops by fifty millions sterling of value."

Mountain Mahogany. — This wood is indigenous to Nevada. The trees do not grow large; one with a trunk a foot in diameter is much above the average. When dry the wood is about as hard as boxwood, and of a very fine grain. It is of a rich red color, and very heavy. When well seasoned, it would be a fine material for the wood-carver. In the early days it was used in making boxes for shafting, and in a few instances for shoes and dies in a quartz battery. Used as a fuel it creates intense heat, it burns with a blaze as long as ordinary wood would last, and is then found (almost unchanged in form) converted to a charcoal that lasts about twice as long as that of ordinary wood.—*Timber Trades Journal.*

Obituary Advertising. — From a Spanish paper is gathered the following: "This morning our Saviour summoned away the jeweller, Siebald Illmaga, from his shop to another and a better world. The undersigned, his widow, will weep upon his tomb, as will also his two daughters, Hild and Emma, the former of whom is married, and the latter is open to an offer. The funeral will take place to-morrow. — His disconsolate widow, Veronique Illmaga. P. S. — This bereavement will not interrupt our employment, which will be carried on as usual; only our place of business will be removed from No. 3 Lessi de Leinturiers to No. 4 Rue de Missionaire, as our grasping landlord has raised the rent."

A Museum of Laurel-Root Carvings. — A writer in the *Co-operative News* says: "While at Philadelphia I paid a visit to the Maple Spring Hotel, of Wissahickon, occupied until his death by Joseph Smith, the 'sheep-maker.' Mrs. Smith and her family still occupy the hotel. It was midnight when I entered it. Though anxious to see his museum, it was not until next morning that I cared to do it. The objects in it were carved by his own hand out of laurel-roots, which abound on the banks of the sparkling Wissahickon, before which his hotel stands. I expected to find his museum commonplace and pretentious, whereas I found the various rooms bearing the appearance of a forest of ingenuity which a day's study would not exhaust. There was nothing tricky about it. Noah's ark never contained such creatures. Doré never produced a Wandering Jew so weird as the laurel Hebrew who strode through these mimic woods. Scenes from the Old Testament, groups of American orators, statesmen, and railway directors started up in the strange underwood or held forth in the branches of trees. Dr. Darwin would require a new theory of evolution to account for the wonderful creatures — beasts, birds, and insects — which confront you everywhere. An American Dante, if there be such a one, might find ample material for a new poem in this wooden Inferno. The mind of man never conceived such grotesque creatures before, yet this was the work of an old agitator, executed between his seventieth and eightieth year, with no material but roots of trees, with no instrument but his pocket-knife and a pot of paint, and no resource but his marvellous imagination."

Walnut-Tree. — The *Juglans regia*, the royal, common, or European walnut. Three species of this tree are natives of the United States, viz., the black-walnut, the butternut, and the ash-leaved walnut; several species of the carya, or hickory, are also known in America by the name of walnut. It is said that the walnut-tree thrives best if the nuts are beaten off with sticks, and not gathered. Hence Fuller says: —

"Who like a nut tree must be manured by beating, or else would not bear fruit." (Bk. II, ch. 11.)

The saying is well known that —

"A wife, a spaniel, and a walnut-tree,
The more you beat them the better they be."

BUILDING INTELLIGENCE.

[Reported for The American Architect and Building News].

[*Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.*]

BUILDING PATENTS.

[*Printed specifications of any patents here mentioned, together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for twenty-five cents.*]

239,599. HOUSE-MOVING TRUCK. — John Brown, Loran, Ill.

239,603. APPARATUS FOR DRYING WALL-PAPER. — Culver S. Clark, New York, N. Y.

239,607. JOINT FOR CEMENT ILLUMINATING TILES. — William J. Fryer, Jr., New York, N. Y.

239,608. MACHINE FOR CUTTING CYLINDRICAL FORMS FROM STONE. — James Gazeley, Watervliet, New York.

239,611. BRICK-MACHINE. — Lewis B. Kennedy, Keokuk, Iowa.

239,620. TRANSOM-FIXTURE. — Francis V. Phillips, Chicago, Ill.

239,639. AUTOMATIC FIRE-EXTINGUISHER. — Chas. Barnes, Dayton, Ky.

239,646. HOD-ELEVATOR. — Geo. W. Brown, New York, N. Y.

239,654. ROTARY PLANING-MACHINE. — E. F. Gordon, Concord, N. H.

239,667. STRAINER AND STOPPER FOR WASH-BASINS, ETC. — Chauncey C. Parker, Brooklyn, N. Y.

239,669. CONSTRUCTION OF BUILDINGS. — James Milner Peck, Flushing, N. Y.

239,636. COMBINED ANVIL, VISE AND DRILL. — Joseph L. Ware and W. Scott Fleming, Pine Island, Minn.

239,696. SASH-FASTENER. — Edwin L. Barber, Larwill, Ind.

239,698. REAMING-SAW. — Ludwig Barthelmes, Astoria, N. Y.

239,703. HAND CIRCULAR-SAW. — Albert A. Bennett, Harveysburg, Ohio.

229,705. WATER-CLOSET. — William Blackwood, Jr., Detroit, Mich.

239,710. CROSSCUT-SAW. — Eben Moody Boynton, West Newbury, Mass.

239,724. HOT-WATER GENERATOR. — James D. Carmody, Evansville, Ind.

239,727. EXTENSION-LADDER. — Edward Cauble, Salisbury, N. C.

239,739. HINGE-JOINT, ETC. — James M. Dodge, New York, N. Y.

239,741. STENCH-TRAP. — Patrick W. Doherty, Boston, Mass.

239,762. SHINGLING-GAUGE. — Edward R. Gay, Nevada, Tex.

239,769. AUTOMATIC FIRE-EXTINGUISHER. — Frederick Grinnell, Providence, R. I.

239,787. HOT-AIR FURNACE. — G. E. Hopkins, Philadelphia, Pa.

239,822. CROSSCUT-SAW HANDLE. — Irving W. McIntyre, Mount Pleasant, Mass.

239,824. SHUTTER-FASTENER. — John B. Morris, Cincinnati, Ohio.

239,846. PORTABLE FLOOR. — Jacob Ring, Brooklyn, N. Y.

239,852. FASTENER FOR MEETING-RAILS OF SASHES. — Leicester Sargent, New Haven, Conn.

239,866. HOD-ELEVATOR. — James Smith, Philadelphia, Pa.

239,880. EAVES-TROUGH HANGER. — John Stricker, Laura, Ohio.

239,881. MORTISING-MACHINE. — Chas. C. Strong, Chas. Seymour, and David B. Turnbull, Defiance, Ohio.

239,897. SHUTTER-WORKER. — Theodore Wagner, San Francisco, Cal.

239,898. FISH-PLATE. — George H. Waring, Indiantown, New Brunswick, Canada.

239,903. VENEER CUTTING-MACHINE. — Fitzland L. Wilson, Saginaw, Mich.

239,906. DRYER FOR LUMBER, ETC. — Edwin V. Wingard, Vincennes, Ind.

239,909. FOOT-REST FOR REGISTERS. — George W. Woodward, Brooklyn, N. Y.

SUMMARY OF THE WEEK.

Baltimore.

FACTORY. — The Patapsco Chemical Company is building a large three-st'y factory, 60′ x 160′, and several out-buildings, on Fort Ave.; boiler-house 40′ x 40′ one-st'y high; drying-room 40′ x 60′, two stories high; cost, $15,000; Mr. Wm. F. Ferguson, contractor.

WAREHOUSE. — Mr. James H. Rieman is building a three-st'y brick warehouse, 16′ x 56′, on Clay St., near Park Ave.; cost, $4,000; Mr. Wm. F. Ferguson is the contractor.

Boston.

BUILDING PERMITS. — *Brick.* — *Newbury St.*, near West Chester Park, for Eugene Van R. Thayer, stable and dwell., 22′ x 81′, two stories; Webster & Dixon, builders.

Commonwealth Ave., near Gloucester St., for Chas. A. Kidder, dwell., 26′ x 70′, three stories; Standish & Woodbury, builders.

Nos. 238 and 240 Marlborough St., for Henry Whitewell, 2 dwells., 25′ x 55′, three stories; Keening & Fellows, builders.

High and Oliver Sts., Edw. A. Abbott, store, 60′ x 99′, four stories; T. J. Whidden, builder.

No. 74 West Rutland Square, for Josiah Noyes, dwell., 21′ x 42′, three stories; M. S. & G. N. Miller, builders.

Kneeland St., cor. Utica St., for Boston & Albany R. R. Co., train-house, 118′6″ x 444′; A. H. Glover, builder.

Lehigh St., near Broadway Bridge, Estate of W. D. Perry, factory, 60′ x 120′, five stories; Vinal & Dodge, builders.

Gloucester Place, from 377 Harrison Ave., Estate of James Parker, family hotel, 31′ x 60′, three stories; Jabez H. Sears, builder.

Nos. 18 and 20 Central St., Barney Corey, store, 22′ x 48′, four stories; Albert Currier, builder.

Blossom St., opposite McLean St., Massachusetts General Hospital, lodge, 24′ x 41′; Benj. F. Dewing, builder.

Wood. — Dorchester St., No. 285, for Wm. Peard, dwell. and store, 25′ x 36′, three stories; Wm. Peard, builder.

Nos. 665 and 667 East Sixth St., for Wm. T. Eaton, 2 dwells., 18′6″ x 32′, two stories; Wm. T. Eaton, builder.

Unnamed St., off Harvard St., Thomas W. Bicknell, dwell., 31′ x 31′, two stories; Manuel Silva.

Old Harbor St., near Telegraph St., for Geo. H. Bond, 2 dwells., 16′ x 36′, two stories; Locke & Nolan, builders.

Nos. 311 and 313 West Third St., for Wm. Priesting, 2 dwells., 18′6″ x 56′, two stories; Wm. Priesting, builder.

Nos. 685 and 687 Parker St., John Brainard, 2 dwells., 23′ x 26′, three stories; Robert D. Ward, builder.

Buffalo.

HOUSES. — *North St.*, near Delaware St., brick dwell., with sandstone and terra-cotta finish; cost, $30,000; owner, Robert Keating, Esq.; architects, Holmes & Little.

Delaware Ave., nr. North St., brick residence; cost, $25,000; owner, E. L. Hedstrom; architects, Holmes & Little.

Delaware St., cor. Edward St., double brick house, 56′ x 90′, with brownstone trimmings; cost, $20,000; owner, O. P. Ramsdell, Esq.; architect, F. W. Caulkins.

Mr. J. G. Cutler, of Rochester, N. Y., has completed plans for a dwell. for Mr. J. C. Henry, to be built on Delaware Ave., near Delaware Place; cost, $10,000.

The Stover Bros. will build twin dwells. on Pennsylvania St., near Eleventh St.; cost, $7,000. The architect is Mr. B. W. S. Clark, of this city.

A large block, 68′ x 183′, is to be built, cor. Ellicott and Seneca Sts., for Mr. J. M. Richmond, by Mr. F. W. Caulkins, architect.

STORES. — *Seneca St.*, nr. Washington, brick store; cost, $20,000; owner, J. B. Pierce; architects, Holmes & Little.

Seneca St., nr. Louisiana St., block of stores, 38′ x 60′, to be known as the "Danaha Block;" cost, $12,000; architect, C. B. Cook.

Niagara St., nr. Morgan St., stores with sandstone trimmings; cost, $15,000; owner, Geo. R. Potter; architect, C. B. Cook.

Brooklyn.

BUILDING PERMITS. — *Oxford St.*, e s, 150′ n Flushing Ave., two-st'y brick bakery, stable and dwell.; cost, $6,000; owners, Dahn & Co., Myrtle and Carleton Aves.; architect, R. B. Eastman; builders, R. Carlin and Long & Barnes.

Myrtle Ave., n w cor. Tompkins Ave., three-st'y brick store and dwell.; owner, Robert Porterfield, Cumberland St., cor. De Kalb Ave.; architect, M. Thomas; builders, C. King and M. C. Rush.

Verona Place, w s, 110′6″ s Macon St., 2 two-st'y Connecticut brownstone dwells.; cost, $6,000; owner and builder, David H. Fowler; architect, Chas. Werner.

Macon St., s s, 100′ w Verona Place, 2 two-st'y Connecticut brownstone dwells., 19′ x 42′, tin roofs, wooden cornices; owner and builder, D. H. Fowler, 355 Lewis Ave.; architect, C. Werner.

Hall St., w s, 51′6″ n De Kalb Ave., two-st'y brick stable, coach-house and dwell.; cost, $5,000; architect, Chas. Werner; builder, D. H. Fowler.

Monroe St., n s, 185′ w Marcy Ave., and Monroe St., s s, 200′ w Marcy Ave., 7 two-st'y brownstone dwells.; cost, each about $4,000; owner, F. C. Vrooman, 444 Gates Ave.

Monroe St., n s, 125′ w Marcy Ave., 3 three-st'y brownstone dwells.; cost, each about $5,000; owner and builder, F. C. Vrooman, 444 Gates Ave.; architect, F. DeW. Vrooman.

Twelfth and Thirteenth Sts., about 385′ e Seventh Ave., five-st'y brick shop, 50′ x 200′; cost, $45,000; owners, The Ansonia Clock Co.; architect, S. Curtiss.

Twelfth St., s s, 225′ e Seventh Ave., one-st'y brick foundry; cost, $5,000; owners, The Ansonia Clock Co.; architect, S. Curtiss.

Thirteenth St., n s, 300′ e Seventh Ave., two-st'y brick varnishing shop; cost, $7,500; owners, The Ansonia Clock Co.; architect, S. Curtiss.

Court St., n w cor. Remsen St., seven-st'y brick office-building; owner, A. A. Low, Montague St. and Columbia Heights; architect, J. C. Cady; builders, W. and T. Lamb, Jr., and E. Snediker.

St. Johns Place, n s, 344′ e Seventh Ave., 3 three-st'y dwells.; cost, $7,000 each; owner, Wm. Gubbins, 20 Seventh Ave.; architect, Thos. F. Houghton, 340 Fulton St.

Morgan Ave., e s, between Ten Eyck and Stagg Sts., two st'y factory, boiler-house, and engine-room; cost, $14,000; owners, L. Waterbury & Co., on premises; architect, A. Montgomery; mason, John McQuaid; carpenters, Jenkins & Gillies.

Chicago.

BUILDING PERMITS. — H. Hausske, three-st'y brick dwell., 22′ x 50′, 146 Hurlburt St.; cost, $3,200.

Mrs. Menzel, two-st'y brick dwell., 21′ x 75′, Wentworth Ave., near Thirtieth St.; cost, $5,000.

F. Deppe, four-st'y stores and dwells., 30′ x 75′, 545 and 547 Sedgwick St.

Anderson Pressed Brick Co., factory, 170′ x 230′, Webster Ave.; cost, $5,000.

H. K. Elkins, two-st'y brick dwell., 41′ x 67′, Indiana Ave., near Seventeenth St.; cost, $15,000.

Dake Bakery Co., four-st'y brick stores, 65′ x 180′, 189 Adams St.; cost, $40,000.

HOUSE. — Mr. C. S. Luce, of Boston, Mass., is the architect of a house for Alex. J. Lieth; cost, $50,000.

Cincinnati.

BUILDING PERMITS. — Since our last report the following permits have been issued:—

David Sinton, two additional stories on top of present four-st'y store; cost, $5,000.

David Sinton, three-st'y brick dwell.; cost, $4,500.

Geo. F. Otte, 3 two-st'y brick dwells.; cost, $15,000.

H. G. Stebel, three-st'y brick; cost, $7,000.

Mrs. C. L. Anderson, six-st'y brick; cost, $20,000.

J. J. Kennedy, two-st'y brick; cost, $4,000.

Gro. Kampmiller, 2 two-st'y brick; cost, $5,000.

Henry Kaiser, 2 three-st'y brick; cost, $6,000.

Henry Cardes, three-st'y brick; cost, $5,000.

Thos. Emery's Sons, five-st'y brick, s w cor. Ninth and Race Sts.; cost, $10,000.

Thos. Emery's Sons, five-st'y brick, s w cor. Ninth and Elm Sts.; cost, $12,000.

STRIKES. — The carpenters, brick-masons, and free-stone-cutters are all out on strike. The carpenters and freestone-masons have quitted work, and the brick-masons will do the same on the first of May unless their demands are acceded to. The strike of the freestone men is for $3.00 per day, and to have no men of less pay. The bosses will give the $3.00 per day, but demand a $2.50 per day grade, as some men are not worth as much as others. The "jours" rejected this proposition, and say that after the 1st of May the strike will be for $4.00 per day unless the matter is sooner accommodated. The organizations of both the "jours" and the bosses are strong, and each are determined to hold out, and so lively times are looked for.

The strike of the carpenters is for 25 per cent advance. The bosses offered 25 cents advance, but this was rejected. This strike is not so formidable as that of the freestone men and will probably be easily compromised.

No trouble is anticipated at present from the other branches.

New York.

BUILDING PERMITS. — *Fortieth St., No. 216* e, three-st'y brownstone fire-engine house; cost, $12,000; owner, City New York, 155 and 157 Mercer St.; architects, N. Le Brun & Son.

Oliver St., No. 35, five-st'y brick tenement; cost, $13,000; owner, John Meyer, on premises; architect, W. José.

One Hundred and Third St., n s, 82′ e Third Ave., four-st'y brick tenement; cost, $6,000; owner, Peter Asten, 208 East Thirty-Second St.; architect, Bart. Walther.

Kingsbridge Road, cor. One Hundred and Fifty-Seventh St., two and one-half st'y frame dwell.; cost, $5,000; owner, W. W. Mills, Tenth Ave. and One Hundred and Fifty-Sixth St.; architect, C. Baxter.

Sixty-First St., s s, 250′ w Ninth Ave., 3 four-st'y brownstone tenements; cost, $15,000 each; owner, John Moloy, 213 East Forty-Ninth St.; architect, A. B. Ogden.

Thirty-Second St., Nos. 165 and 167 w, three-st'y brick storage building; cost, $5,000; owners, E. Martin & Son, 168 West Thirty-Second St.; architect, J. M. Dunn.

Lexington Ave., cor. One Hundred and Second St., 4 four-st'y brownstone tenements; cost, $12,000 each; owner, Michael Duffy, 156 East One Hundred and Second St.; architect, A. Spence.

Fifty-Eighth St., n s, 150′ e Second Ave., five-st'y brick-and-brownstone tenement; cost, $18,000; owner and builder, John Livingston, 304 East Fifty-Eighth St.; architect, Wm. F. Burroughs.

Eighty-Third St., n s, 101′8″ w Second Ave., four-st'y brick-and-brownstone tenement; cost, $15,000; owner and builder, John Livingston, 304 East Fifty-Eighth St.; architect, Wm. F. Burroughs.

Fifty-Ninth St., s s, 400′ w Seventh Ave., seven-st'y brick-and-stone apartment-house; cost, $100,000; owner, John C. Mott, *et al.*, 118 Warren St.; architects, Hubert Pierson & Co.

Eighty-Ninth St., n s, 210′ w Fourth Ave., two-st'y Ohio stone dwell.; cost, $18,000; owner, Miss C. Talman, 34 West Twenty-Seventh St.; architect, H. M. Congdon; builders, Jeans & Taylor.

Broadway, No. 623, rear through to No. 190 Mercer St., five-st'y iron-and-brick store; cost, $70,000; owner, Thomas Lewis, 582 Lexington Ave.; architect, J. B. Snook.

One Hundred and Nineteenth St., n s, 398′ e Ave. A, three-st'y brick factory; cost, $13,500; owner, C. W. Hochstaetter, Pleasant Ave., n e cor. One Hundred and Twentieth St.; builder, Wm. Fernschild.

Twenty-Third St., Nos. 28 and 30 w, *and 19 and 21 West Twenty-Second St.*, six-st'y brick store and dwell.; cost, $134,000; owner, Jas. F. Sutton, 6 East Twenty-Third St.; architect, N. M. Cutter.

Fifty-Second St., No. 112 e, two-st'y brick-and-brownstone stable; cost, $5,000; owner, W. B. Baldwin, 119 East Fifty-Seventh St.; builder, E. Corbett.

First Ave., s w cor. Seventieth St., four-st'y brownstone tenement; cost, $16,000; owner, Andrew Kelly, 1530 First Ave.; architect, J. C. Burne.

First Ave., w s, 25′ s Seventieth St., 3 four-st'y brownstone tenements; cost, $15,000; owner, Andrew Kelly, 1530 First Ave.; architect, J. C. Burne; builder not selected.

Seventieth St., s s, 78′ w First Ave., four-st'y brownstone apartment-house; cost, $17,000; owner, Andrew Kelly, 1530 First Ave.; architect, J. C. Burne; builder, not selected.

First Ave., Nos. 261, 263, 265, 267, and 269, three five-st'y brick stores and tenements; cost, each $10,000; owner, L. M. Rutherford; architect, Wm. E. Waring.

Fifty-Ninth St., No. 313 e, four-st'y brick factory, 34′2″ x 85′; cost, $10,000; owner, Thomas Crimmins, 252 East Sixtieth St.; architect, W. Schickel.

Fifty-Eighth St., s s, 350′ w Sixth Ave., 7 four-st'y brownstone dwells.; cost, each $14,000; owner, John Coar, Ashland House; architects, Thom & Wilson.

(*Continued on next page.*)

Publishers' Department.

The American Architect and Building News.

PUBLISHED EVERY SATURDAY BY

JAMES R. OSGOOD & COMPANY

211 Tremont St., Boston, Mass.

New York Office, 21 Astor Place.

An Illustrated Journal of Constructive and Decorative Art, devoted to the Interests of Architects, Builders, Decorators, etc.

15 cents per copy; $7.50 per year; $6.00 in advance; 12 Monthly Numbers, with Detail Sheet, $1.75.

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BUILDING INTELLIGENCE.

Thirty-Third St., Nos. 252 and 254 w, 2 five-st'y brownstone apartment-houses; cost, each $16,000; owners, Julia Ungrich and R. Remmert, 160 West Thirty-Third St.; architects, Ungrich & Walgrove.

Third Ave., e s, 25' s One Hundred and Twenty-First St., four-st'y brick store and dwell.; cost, $15,000; owner, James Wood, 347 East One Hundred and Sixteenth St.; architect, C. Baxter.

One Hundred and Fourteenth St., s s, 80' e Second Ave., four-st'y brick apartment-house; cost, $9,000; owner, Rhinelander Estate, 155 West Fourteenth St.; architect, Jas. E. Ware.

Spring St., cor. Green St., six-st'y iron-and-brick store; cost, $30,000; owners, trustees of C. L. Wolfe, 3 Mercer St.; architect, J. B. Snook.

Chrystie St., *Nos. 8 and 10*, cor. Bayard St., 2 five-st'y brick tenements; cost, $8,000 and $12,000; owners, J. and H. Stemme, 11 Bowery; architect, Wm. E. Waring.

Bank St., n s, 101'5" w West St., one-st'y brick foundry; cost, $6,000; owner, G. R. Hoffman, 261 Bowery; architect, J. B. Snook; builders, Robinson & Wallace and D. Hepburn.

Canal St., n w cor. Greene St., five-st'y iron and Dorchester stone store; cost, $35,000; owner, Adrian Iselin, 48 Wall St.; architect, J. B. Snook.

Third Ave., s w cor. One Hundred and Eighth St., 3 four-st'y Connecticut brownstone stores and tenements; cost, $14,000; owner, Israel Caspar, 206 Broadway; architect, Chas. Baxter.

One Hundred and Eighth St., s s, 75' w Third Ave., four-st'y Connecticut brownstone apartment-house; cost, $12,000; owner, Israel Caspar, 206 Broadway; architect, Chas. Baxter.

Twenty-Third St., s s, 150' w First Ave., four-st'y brick stable; cost, $11,500; owner, J. M. Horton, 305 Fourth Ave.

Alterations.—*Vestry St., Nos. 51 and 53*, four-st'y brick extension, 35' 8" x 40'; cost, $6,200; owners, W. J. Wilcox & Co., 41 Broad St.; builders, W. A. & F. E. Conover and E. Gridley.

Wall St., No. 88, raised to six stories, interior alterations; also new elevator and steam-heating apparatus; cost, $20,000; owner, P. J. O'Donohue, 88 Front St.; architects, Duckworth & Dunham.

Second Ave., Nos. 1148 and 1150; cost, $4,500; owner, Joseph Kopetzsky, 1148 Second Ave.; architect, B. W. Berger; builders, Murphy & McGinty and J. J. Smith.

Madison St., No. 164, raised one story, five-st'y brick extension; cost, $5,000; owner, D. A. Clapp, 27 Madison Ave.; architect and carpenter, L. Sibly; mason, W. Potterton.

Second Ave., No. 80, raised one story, also five st'y brick extension; cost, $6,000; owner, George Boll, 151 East Fourth St.; architect, J. Boekell.

Broadway, Nos. 1476 and 1478, front alteration, etc.; cost, $3,000; owner, Orlando B. Potter, 27 Lafayette Place; architect, G. B. Pelham; builder, S. Weir.

Stores.—On the n e cor. of Houston St and Broadway a six-st'y building is to be built from plans of Messrs. H. J. Schwarzmann & Co. It will have a frontage on Broadway of 110' and on Houston St. 200'; iron front 35' return, the rest Philadelphia face brick; cost, $300,000.

On Grand St., near Broadway, for the Astor Estate, a store, 65' x 100', of brick, stone and iron, is to be built from designs of Mr. Thos. Stent, at an estimated cost of about $175,000.

Office-Buildings.—Messrs. D. & J. Jardine have prepared the plans for an office-building, 40' x 175', Nos. 44 and 46 Broadway, and 45 and 47 New St. It will have an iron front, be eight stories high, and cost about $100,000. Col. Stevenson, President of the Real Estate Trust Co., is the owner.

Houses.—On Fifty-Eighth St., between Sixth and Seventh Aves., 5 houses, varying in size and style, and together covering a lot 55' x 100, are to be built from designs of Messrs. D. & J. Jardine, who, with Mr. Jno. H. Deane, are the owners.

Messrs. Jardine have also drawn the plans for a first-class dwell., 25' x 50', on Fifth Ave., between Sixty-Sixth and Sixty-Seventh Sts. It will cost about $50,000. Messrs. Jardine are interested in this case with Mr. Alvin J. Johnson.

On Sixty-Eighth St., between Sixth and Seventh Aves., a brownstone house, 20' x 55', to cost about $20,000, is to be built for Mr. Jos. D. Oppenheim, from designs of Messrs. D. & J. Jardine.

Church.—Mr. R. H. Robertson has been appointed architect of the Church of the Holy Spirit, to be built on Madison Ave., cor. Sixty-Sixth St. The church, which is to seat about 750 people, will cost about $40,000.

Additions.—Messrs. H. J. Schwarzmann & Co. have prepared plans for a picture gallery, to be added to No. 37 East Thirty-Eighth St., to cost about $5,000.

The same gentlemen have designed a Music Hall, to be added to the New York College of Music, 163 East Seventieth St., which will cost about $5,000.

Store.—A large store is to be built on the north side of Franklin St., between Varick St. and West Broadway. It will be of brick, nine stories high, and will cost about $130,000.

Church.—The corner-stone of the Church of the Holy Spirit, cor. Madison Ave. and Sixty-Eighth St., will be laid May 26.

Philadelphia.

Building Permits.—*Christian St., No. 1632*, three-st'y dwell., 16' x 60'; Ernest & Eakin, contractors.

Carlisle St., n York St., 15 two-st'y dwells., 14' x 40'; Jos. N. Pattison, owner.

Fifth St., n Cumberland St., three-st'y dwell., 15' x 40'; Chas. Martin, contractor.

Bodine St., n Jefferson St., 3 two-st'y dwells., 12' x 37'; W. Comfort, contractor.

Nicetown Lane and Twenty-First St., three-st'y alteration and dwell., 16' x 50'; Jas. Howard, owner.

Lehigh Ave. and American St., three-st'y foundry, two one-st'y foundries, 45' x 130'; R. Whitesides & Son, contractors.

Callowhill St., w Ninth St., one-st'y store house, 53' x 80'; Cook & Furman, contractors.

Tasker St., e Eighteenth St., 2 two-st'y dwells., 16' x 50'; Geo. Eastlack, owner.

Main St., No. 4337, Man'y'k, three-st'y dwell., 16' x 51'; Caroline Singer, owner.

Pechin St., between Shurs Lane and Hermit St., three-st'y dwell., 40' x 50'; S. Schofield, owner.

North Seventh St., No. 1922, three-st'y dwell., 21' x 66'; Chas. Bossert, contractor.

Dickinson St., w Twentieth St., 9 two-st'y dwells., 16' x 28'; A. Wilson, owner.

Main St., n Penn St., three-st'y store and dwell., 16' x 54'; Jno. Rufe, contractor.

Tulip St., between Pepper and Wreken Sts., 6 two-st'y dwells., 18' x 33'; Thos. L. Kelley, owner.

Second St., n Berks St., 3 three-st'y dwells., 16' x 50'; E. J. Devlin, owner.

Lehigh Ave., between Braddock St. and Frankland Road, 2 two-st'y dwells., 15' x 46'; Dickson Bros., contractors.

Diamond St., w Seventh St., 27 three-st'y dwells., 16' x 49'; Edw. H. Flood, contractor.

Tenth St., s Diamond St., three-st'y store-house, 18' x 75'; Elkins Manufacturing Co., owners.

Third St., s Buttonwood St., three-st'y hotel, 47' x 50'; C. Mullershon, owner.

Arch and Fayette Sts., five-st'y store, 18' x 148'; W. C. McPherson, contractor.

Elwyn St., e Tenth St., four-st'y addition to college, 47' x 48'; Essick & Co.

Marshall St., s Diamond St., one-st'y foundry shop, two-st'y office and two-st'y stable, 48' x 78' and 16' x 25'; Stewart & Eldridge, contractors.

Thirty-First St., s Master St., two-st'y ice-house, three-st'y brewery and store-house, 40' x 65' and 40' x 55'; Jno. Kramer, contractor.

Allen St., n Frankland Road, 3 two-st'y dwells., 16' x 30'; E. M. Daniels, contractor.

Wayne St., w Coulter St., three-st'y dwell., 40' x 50'; M. McConnell, contractor.

Orthodox St., e Melrose St., three-st'y dwell., 16' x 46'; E. S. Lewis, contractor.

Bainbridge St., between Penn and Swanson Sts., five-st'y retort-house, 35' x 35'; Harrison & Co., owners.

Ridge Ave., e Bridge St., three-st'y hotel and dwell., 22' x 62'; C. Linnahan, contractor.

Sixth St., s Norris St., 2 three-st'y dwells., 18' x 42'; W. P. Maires, contractor.

Sydenham St., s Montgomery Ave., 10 three-st'y dwells., 14' x 46'; Jos. S. Albright, owner.

Oregon St., w Thirty-Ninth St., 17 three-st'y dwells., 16' x 50'; G. W. Thompson, owner.

Cor. Amber and Dauphin Sts., three-st'y dwell., 18' x 50'; Jas. McCartney, contractor.

Cor. Howard St. and Lehigh Ave., five-st'y factory, 43' x 109'; Jas. McCartney, contractor.

Cor. Hancock St. and Montgomery Ave., one-st'y corroding-house, 86' x 104'; H. A. Miller, contractor.

Ruhl St., between Fourth and Fifth Sts., four-st'y factory, 30' x 120', and two-st'y stable, 12' x 45'; A. M. Green & Co., contractors.

Fifth St., s Clearfield St., three-st'y dwell., 18' x 30'; C. H. W. Keyser.

Cor. Penn St. and Patton Ave., three-st'y store and dwell., 54' x 56'; J. W. Thewlis.

Otis St., Nos. 1223, 1225, 1227, and 1229, 4 three-st'y dwells., 15' x 53'; C. G. Harris, contractor.

Sixteenth St., n Bainbridge St., 3 three-st'y dwells., 16' x 49'; Thos. McCouch, owner.

Mt. Pleasant Ave., e Germantown Ave., three-st'y dwell., 21' x 36'; A. L. Kohl, contractor.

Cor. Lafayette and Adam Sts., 2 two-st'y dwells., 15' x 44'; McLaughlin & McNamara.

Cor. Tenth and Taylor Sts., three-st'y office and warehouse, 24' x 29'; Chas. Stewart, contractor.

Westminster Ave., 6 three-st'y dwells., 16' x 36'; Andrews & Coulston, owners.

(*Continued on next page.*)