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ARCHITECTURE

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OCTOBER 15, 1898.



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WE hope that none of our readers who are within reach will fail to visit the exhibition of the Massachusetts Charitable Mechanic Association, in Boston, for the sake of examining the drawings sent in in competition for the Shattuck Prizes. Although the number of competitors who finally submitted drawings was not as large as was expected—about half the firms who filed applications for space having, for one reason or another, failed to finish and send in their drawings—still, the solutions of forty or fifty competitors are hung, and there is scarcely one of them that does not deserve attentive study. Curiously enough, the drawings submitted in the open competition, the programme for which was held to be the less attractive of the two, prove to be of great and unexpected interest and value, and it will be a matter of surprise if more than one of the competitors—in both competitions—do not hear from their effort in the way of commissions from intending investors in the class of property which formed the subject of both competitions—dwellings for working-men. One result was very noticeable, and that was the evident interest that the designers had felt in the problem they were dealing with. Every competitor seems to have relished the freedom from restraint which the unusual terms of the programme afforded him, and the result is that each man seems to have done his work thoroughly *con amore*.

SOME tests of framing in hard-pine timber have recently been made in the Engineering Laboratory of the Massachusetts Institute of Technology which have a considerable interest to architects and builders. In one set of tests, framed floors, consisting of hard-pine headers, six by twelve inches, and seven to ten feet long, framed at each end into trimmers of the same scantling, and carrying tail-beams, three by twelve, sixteen inches from centres, framed-in with tenon and tusk, and pinned, were strained to the breaking-point by loads equally distributed on the tail-beams. As the object was to test the headers, rather than the tail-beams or trimmers, the latter were made short, the clear span being only three feet. In the first division of the tests the headers were framed into the trimmers with double tenon and joint-bolts; in the second division the headers were hung to the trimmers with stirrup-irons. Failure, in every case, took place by the splitting of the header through the line of the mortises for the tail-beams, and it is remarkable that the headers hung in stirrup-irons showed no more resistance than those framed into the trimmers. In fact, in two cases the headers hung in stirrups failed under a load considerably less than timbers of the same size mortised

into the trimmers, and in one case only did the stirrup-hung header resist a little longer than that framed with tenons. Tests of heavy timbers notoriously show great variations in their results, but these experiments indicate that the mortised framing, which is much to be preferred in regard to the effect of shrinkage upon it, is little, if at all, inferior in strength to that put together with stirrup-irons.

BESIDES the tests of floor framing, a number of hard-pine trusses, consisting simply of a pair of rafters and a tie-beam, but made with heavy timbers, and put together with joints of various kinds; were tested to breaking. The timbers were too large, and too short, to suffer from bending, but the tension on the tie-beams, under a load of twenty-five to fifty tons, was sufficient, in some cases, to tear it asunder. In most instances, however, failure took place by the bending and rupture of the bolts or straps used to hold the foot of the rafters to the tie-beams. The usual notching of the rafter into the tie was of little practical use, as the strain soon bent the bolts, allowing the rafters to spread, and shear off the portion of the tie-beam beyond their feet, thus leaving the joint wholly dependent on the bolts. Iron shoes, notched slightly into the tie-beams, and bolted independently, were more useful, but were soon dragged out of their notches; and the broad straps, which were once regarded as affording the best framing for rafter-feet, readily yielded to the strain caused by the wedging of the rafter-feet under them. On the whole, the plain, bolted joint seems to have been the most satisfactory. The element which, in practice, is introduced in the study of the strains on wooden trusses, by the shrinkage of the timbers, and the consequent loosening of the bolts, does not seem to have been considered, but it may well, at some future time, be made the subject of the careful inquiry for which the Engineering Laboratory of the Institution is noted.

A DECISION on trades-union matters, involving a point a little different from any other that we know of, was rendered by a Wisconsin court the other day. It seems that the Milwaukee Brewers' Association made an agreement, some months ago, with the Building Trades' Council, of Milwaukee, that union labor should be employed exclusively on buildings erected or repaired by any of the brewing firms connected with the Association, and agreed, also, to the Council's schedule of wages and hours of labor. In January of this year, the Joseph Schlitz Brewing Company, which was a party to the agreement, as a member of the Brewers' Association, contracted with a Milwaukee builder for certain work in a hotel building, to be erected in the city of Waukesha, some twenty miles from Milwaukee. In this contract the stipulation was inserted that union labor should be employed, if there should be such labor. The contractor employed local carpenters, who were not union men—no Carpenters' Union existing at Waukesha—paying them two-thirds the wages agreed upon by the Brewers' Association and the Building Trades' Council. The officers of the latter organization heard of this, and sent an agent to Waukesha to remonstrate with the contractor. The latter, who believed that his contract entitled him to employ non-union men in a city where there was no union, but who wished to avoid a controversy, discharged his local carpenters whenever he expected a visit from the Council delegate, but hired them again as soon as the delegate's back was turned. This went on for a few weeks, when the delegate made his appearance at Waukesha, with a party of union carpenters from Milwaukee, and ordered the contractor to employ them on the hotel. The Waukesha carpenters objected, very naturally, to the compulsory importation of Milwaukee men to take their places, and the delegate threatened them with a "fight," and with the militia. Thereupon the Waukesha men procured the arrest of the delegate, under the statute forbidding the use of threats or intimidation to prevent any person from pursuing lawful work or employment, and he was convicted, and compelled to pay a fine, with heavy costs. The judge, in his charge to the jury, observed that the Waukesha carpenters were, of course, not bound by the contract between the Brewers' Association and the Building Trades' Council, but that there might be, in the minds of the jury, a doubt as to the rights of the delegate in his efforts to have that contract carried

out by the Schlitz Brewing Company, and he explained that the unions, or their delegate, had no right to try to enforce their contract with the brewers by intimidation or coercion of any kind, directed against the non-union men employed in the building. "When the State," the Court said, "gave its generous sanction to the formation and amalgamation of associations of this character, it did not mean that the promotion of the welfare of labor was to be secured by making war upon the non-union laboring-man, or by any illegal interference with his rights and privileges." On the contrary, it required that the powers of such associations should be used "with prudence, moderation and wisdom, so that labor in its organized form shall not become an instrument of wrong and injustice." It is seldom that the distinction between the lawful and the unlawful use of the powers of labor organizations is more happily stated, and non-union men in Wisconsin will, we hope, derive from the decision comfort and courage.

THE annual exhibition of the T-Square Club will, as usual, be held in conjunction with the exhibition of the Pennsylvania Academy of the Fine Arts between January 14 and February 2, 1899, and entry-blanks can be had on application to Mr. Albert Kelsey, 931 Chestnut Street, Philadelphia. The exhibition of the T-Square Club is generally the first public showing of architectural work done during the preceding year, and this fact in combination with its intrinsic worth makes it a very equal rival of the exhibition held later by the Architectural League of New York. These two associations of allied artists have in the past met with a deserved success in most of the undertakings they have attempted, but we have a feeling that the T-Square Club exercises upon the community that surrounds it a more vital effect than does the Architectural League. This difference in effectiveness, if any such difference really exist, is probably due in the main to the multiplication of artistic societies in New York, which has occasioned in the general public a sense of bewilderment when they are asked to weigh and act upon the suggestion of one or another of these organized bodies, each seemingly competent to give advice. Owing to the fact that the T-Square Club ranks high amongst the few artistic associations in Philadelphia, its advice is respectfully listened to when volunteered, and sometimes it is sought when some public improvement is under consideration, while it is keen to keep itself posted as to what is happening in Philadelphia, so that it may act intelligently when occasion arises. Thus it recently brought itself into connection with the civic committee charged with the decoration and illumination of the city during the impending Peace Jubilee celebrations, and though this matter has not been placed wholly in the Club's charge yet its advice will have some effect on the preparations actually to be made. In like manner the Club has been promised by the Grand Army of the Republic that the decorations of the line of march next year shall be placed under its control.

TIMES do change and, of course, we must make our manners and practices keep step with them, even the most sedate and conservative of us; but it is rather startling to learn that the British Museum is about to provide accommodations for the hundreds of bicycles that during the last year have stood daily in the Museum yard to the number of four or five hundred for hours at a time. If so conservative an institution as the British Museum takes this step, it is plain that no self-respecting modern library, museum or gallery can avoid providing stable-room for these vehicles, and architects must enlarge their future plans to meet this acknowledged need. But it is not unlikely that this first step may make obligatory another more difficult and more costly one. If the British Museum readers who use the wheel are now to be provided for at the Museum's charge, must not the authorities provide, in the course of a few years, storage-room and care for all sizes and makes of automobile vehicles which readers may, by that time, have adopted for their own convenience? and must not the Museum hold itself responsible for any steam, gasoline or vapor vehicle which, for want of care, may blow up while left in the Museum's stable?

UP to the time when dynamos run from a central station were introduced, we thought we foresaw a time when through a city's streets should be run one more vast system of subterranean ducts of which the useful purpose should be the abolition of the obnoxious smoke-laden atmosphere of

the town. It seemed to us that not enough use was made of the down-draught, for one thing, and too great forbearance was shown to the users of soft coal, for another, and that if the cost of the future great factory chimney-stacks should be pooled the sum would go an appreciable way toward defraying the cost of underground systems, whereby, through the aid of fans, the smoke should be pulled down and discharged somewhere out of town, after it had parted with its hydrocarbons and unconsumed carbon, which could be availed of in some way as commercially valuable by-products. The advent of the dynamo makes the introduction of some such system less necessary, but an account given in the *Manufacturer* suggests that more use can be made of the fan than hitherto, and in such a way as to lessen the smoke nuisance. Except in the case of chemical works, the tall chimney is built, not to discharge the smoke where it will be least obnoxious, but solely to create a draught properly proportioned to the grate-surface of the boilers. Now a certain shop-owner, having to rebuild his plant, thought the natural draught of a high chimney could be efficiently replaced by the artificial draught from a fan, so, having a surplus of power, he mounted above his furnaces a fifty-four-inch fan run by a small engine and from his furnaces carried a short iron stack just above the roof of his shop. As his three boiler-furnaces consumed 1,624 tons of coal per year, it can be seen the experiment was made on a sufficiently large scale and the resulting saving of the net sum of \$751 on his annual coal bill is proof that his argument was not fallacious. As the fan draught was always under control and could be increased or diminished at will, it was found possible to use "yard screenings" mixed, half-and-half, with the Cumberland coal that had previously been burned and by this mixture secure a saving of eighty-three cents per ton. An experiment so conspicuously successful as this indicates that, in a populous manufacturing town, it might be possible, instead of installing individual fans, to supply air under pressure from a central station, for the purpose of increasing draught. The cost would be small, and the advantages many.

ARCHITECTS who use a bicycle will be interested in some practical suggestions, made by Dr. C. Bourlet in *Le Génie Civil*. This expert, who seems to have made an extended study of different machines, says that the safest, most stable, and most easily directed wheels are, other things being equal, those which are short and high. A short bicycle has greater mobility, and for that reason, as well as on account of the greater strength of small wheels, the diameter of the wheels should not be too great, twenty-six inches being sufficient for an average rider. The frame should be made of large tubes, with long joints, and an extra weight of two or three pounds should not be considered in choosing a machine for use on the road. The large pneumatic tires which were in fashion a few years ago are much to be preferred to the smaller modern ones, and should be used wherever the width of the forks of the frame will admit. For riding over a good road, hard and dry, the tire of the rear wheel should be inflated to its limit, while that of the front wheel should be inflated only to such an extent as to save the rim of the wheel from shocks; while, for riding over pavements, or on muddy roads, both tires should be very moderately inflated. Dr. Bourlet thinks that there is little to choose between machines with and without chains, both being presumed to be by first-class makers. It is desirable to furnish the pedals with toe-clips, but these should be fitted to the rider, so that the axis of the pedal will come just under what anatomists call the "forward heel," that is, the point at the end of the first metatarsal bone, about one-third the length of the foot behind the tip of the great toe. If the feet are well placed, and used without too great stiffness, following gently the movement of the pedals, sixty or seventy per cent of the power employed is utilized; while a rider who bears heavily on both pedals at once utilizes hardly thirty per cent of the power expended. As a test of the mastery of the rider over the difficult art of pedalling, Dr. Bourlet says that, with a chain machine, the upper portion of the chain should be at all times uniformly stretched. So far as possible, every machine should be fitted to its rider, and the latter, if he wishes to make long journeys with safety and comfort, should practice a good position of the body, with shoulders thrown back, the saddle firmly held by the legs, and the feet resting easily on the pedals, and should not forget to provide himself with an efficient brake, preferring those which clasp the axle of the rear wheel.

RAPHAEL'S PALACE AT ROME.

THE site and architecture of Raphael's dwelling at Rome, called in contemporary documents, and indifferently, "palatium," "domum," "palazzo" or "casa," have been lost and forgotten for two hundred years.

M. Müntz, the famous French archaeologist and authority on the arts at the Papal courts of Avignon and the Vatican during the Renaissance, writes of it and laments "the destruction of that sanctuary by the vandals of the seventeenth century."

Murray, in the last edition of his "Handbook for Rome," dated 1894, says: "Farther on in the Borgo Nuovo, at the extreme end of the street, is the Palazzo Accoramboni, close to which stood the house of Raphael, designed by Bramante, but destroyed when the piazza was enlarged in 1661."

To-day the researches of Gnoli and Rossi and the report of the architect appointed by the Roman municipality for its examination enable all lovers of art to state and prove that Raphael's palace, where he painted his masterpiece, the "Transfiguration," still stands; sadly altered and sorely mutilated as to its external appearance, but preserving intact all the original boundaries and dimensions of its premises, and some of its rooms but little altered. It forms a part of the mass of building called the "Palazzo dei Convertendi," now owned by the corporation of the Hospice of that name, and consists of that portion occupying the western side of the Piazza Scossa Cavalli and running thence along the Via del Borgo Nuovo to, and including, the fifth window on that street.

The national and municipal archives of Rome and those of its corporations and notaries contain the unbroken title to Raphael's house, from the date of his purchase of it to the present moment.

That portion of Rome which includes the Vatican Palace, St. Peter's Basilica and the whole Leonine City, or City of the Popes, was anciently under the exclusive ecclesiastical jurisdiction of the Papacy and formed no portion of the Roman municipality until late in the seventeenth century. It was called for ages the "Borgo," or suburb of Rome. The original deed of sale of certain premises therein situated, from the Caprini brothers to Raphael Sanzio of Urbino, is dated Oct. 17, 1517. The price paid was "3,000 golden ducats of the Papal mint," more than \$30,000 of our present currency. This deed refers to another document, not yet found, containing the boundaries and description of the real-estate thus transferred. Happily this information can be supplied:—

In 1520, after Raphael's death, Pope Leo X issued a brief confirming the sale of the above-mentioned dwelling in the Borgo by the great painter's executors and freeing the property from certain ecclesiastical dues. In this brief it is described as "the house of a certain Raphael Sanzio of Urbino, a layman, situated on the Via Alexandrina on the one hand, and on the Via Sacra on the other, stretching along the piazza called after our good lord the titular of St. Clement's, running on one side to the premises of our cherished son [dilecti filii] Zon, and on the other to those of our cherished son di Rovere."

The ancient way leading from the bridge and castle of St. Angelo, used for centuries by all pilgrims and travellers to St. Peter's cele-

brated shrine, was, in 1520, appropriately called the Via Sacra and is now the Via del Borgo Vecchio.

In 1499 Pope Alexander VI, Borgia, wishing to make access to St. Peter's and his Vatican palace more easy for the Jubilee of 1500, cut a straight broad street through houses and vineyards from the castle of St. Angelo to the Vatican and named it Via Alexandrina. "Via Alexandrina" is still legible on the corner of the Palazzo dei Convertendi, above mentioned, but the street is now the Via del Borgo Nuovo. The piazza of St. Clement, now called that of Scossa Cavalli, was, until modern times, named in turn after the titles of the various cardinals, St. Clement, di Trenti, and others, who, in succession, owned the palace on the eastern side of the square now called the Collegio dei Penitenzieri. The following inscription still runs across its front:

DO. ROVERE. CAR. S. CLEMEN.

Raphael's house was therefore bounded on the north by the Via del Borgo, on the east by the Piazza Scossa Cavalli, on the south by the Via del Borgo Vecchio and on the west by the premises of the Zon

and di Rovere families. Deeds still in existence show that Cardinal Bernado Accolti bought Raphael's house of the artist's executors and also the Zon property, which lay between the prelate's own palace and that of the celebrated painter, thus becoming the owner of the ground and buildings altered at different and subsequent periods into the mass now forming the Palace of the Convertendi, namely, the Accolti palace, forming its extreme western limit on the Borgo Nuovo; the Zon house, adjoining, and lastly Raphael's premises, standing on the corner of the Via del Borgo Nuovo, including seventy-five feet fronting on that street and, with its loggia, stretching along the whole western side of the piazza.

Cardinal Accolti left his possessions to his nephew Benedetto. The real-estate then passed, in succession, to Cardinals Strozzi and Commendone, to the Spinoli, and finally to Cardinal Guastaldi, who, dying in 1685, left his property, by will, to the trustees of the Hospice of the Convertendi, by whom it has ever since been held.

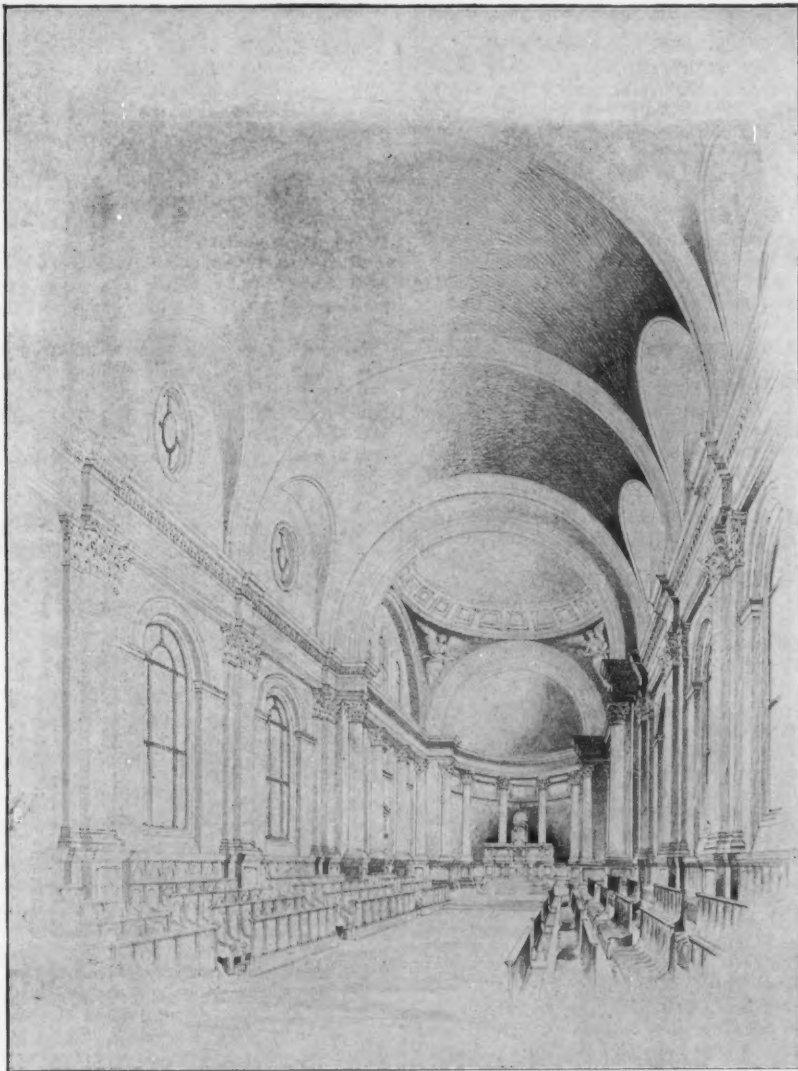
This palace of the Convertendi, although it has now externally the appearance of a

single edifice, is, internally, divided by the original party-walls of the ancient buildings of which it is composed. The outlines of graffiti can still be traced on the Accolti front. The Raphael and Accolti premises still preserve their separate entrances and courtyards; between the two, marking the Zon front, a handsome marble balcony projects over the street, giving effect to the whole elevation. This balcony has often been copied and attributed, without sufficient authority, to the skill of Peruzzi.

The story of the original building of Raphael's palace and of its gradual transformation into its present aspect is as follows:—

Vasari in his "Lives" says: "Bramante designed a palace in the Borgo which was that of Raphael of Urbino, of brick, and concrete cast in wooden moulds, the columns and rustication of the Doric order—a fine work done after a new manner of making concrete."

A rare engraving of an elevation of the front of a palace bears this legend: "Raph. Urbinat ex Lapidis Cocillis Romæ exstructus, A. Lafreri Romæ 1549." The scale marked thereon shows that the front of Raphael's house was about seventy-five feet wide. An



Chapel for St. Mary's Seminary, Baltimore, Md. Baldwin & Pennington, Architects.

arcade of five round-headed arches springing from square piers forms the ground and mezzanine floors, the latter lighted by alternate round and square openings in the tympana of the arches. The masonry of these two stories is deeply rusticated. The central opening, up to the springing of its arch, forms the main entrance to the building. The other arcades form shops opening directly on the street at its level. The uniformity of this mass is relieved by a heavy string-course, square in section. Upon this is placed the "piano nobile," or main story, lighted by five equidistant windows, each placed between two coupled Roman Doric columns carried on square pedestals of the same height as the balustrades of the windows, which open to the floor. The jambs and lintels of the windows are deeply moulded, the latter being surmounted by angular, moulded, projecting pediments. An entablature with Doric triglyphs and a heavy moulded cornice crowns the design.

A drawing by Palladio marked "Raphael's palace" and dated 1545 is a repetition of the Lafreri elevation save that it represents the piazza front and the angle formed by the Via del Borgo Nuovo; that a heraldic shield is placed over the apex of each window pediment and that square openings in the metopes of the frieze indicate an additional story.

Comparing Palladio's and Lafreri's designs with the façade of the Convertendi palace, it is difficult at first sight to detect any present trace of the original appearance of Raphael's house. The building has been externally altered and remodelled at intervals during many years. The inundations of the Tiber compelled repeated repairs, the last in 1870; but that the original edifice was never pulled down during all its alterations can be proved by the following facts:—

1. The original elevation by Lafreri shows five windows on the Via del Borgo Vecchio. That part of the present building which, counting from the Piazza Scossa Cavalli, includes five windows, forms a separate house with its own court-yard and party-wall.

2. Lafreri's elevation is drawn to a scale marked thereon, making its width twenty-three metres, corresponding exactly with the width, by measurement, of the above-mentioned portion of the Convertendi front, taking the middle of the street-door as the centre. Its five windows are equidistant; the space between the next two is greater than between any of the first five. If an elevation of this section of the Convertendi front be drawn to the scale of Lafreri's design and superposed both will correspond perfectly: the dimensions of the ground and mezzanine floors, the numbers and width of its shops, doors, windows and partition-walls; the height, position and width of the main story and its windows are all identical. Moreover the window-openings, which are now round-headed externally, are internally square-headed, showing that the original walling was not torn down but thickened.

3. Alfani, a painter and sculptor of Perugia, visited Rome in 1581. Two volumes of his sketches and designs are preserved in the public library of his birthplace. One of them is marked: "The house of Raphael of Urbino, in the Borgo at Rome, on the corner of the Piazza San Giacomo, or di Trenti, now included in the splendid Palace of Cardinal Commendone." This shows one bay of the piazza front. The sketch is roughly executed but corresponds exactly with Lafreri's and Palladio's elevations, except that the rustication of the lower stories is not indicated, and that a blason is very distinctly sketched on the shield above the window pediment. This blason is elaborate in another drawing inscribed: "The coat-of-arms of the most famous and distinguished painter, Raphael of Urbino, whose name and fame are world-wide." This coat is heraldically: Party per dexter et sinister, undy, arg. and gules; over a fess of the 2nd a chief or, and is of German origin. If not assumed by Raphael, it may give a clue to his ancestry. Alfani calls the present Piazza Scossa Cavalli that of San Giacomo, from the church of that name still standing on the southeast corner of the square, and di Trenti, for reasons already given.

An anonymous and undated drawing represents Raphael's house with an added upper story as now existing, except that it is ornamented with Ionic pilasters between the windows. Cardinal Commendone probably made what Alfani calls "un bellissimo palazzo," by continuing this upper story over the whole of his property, thickening and repairing its walls, suppressing its columns and other decorative features and reducing the whole to its present external uniformity. This must have been done within a very few years after Alfani made his sketch, because a fresco in a loggia of the Vatican, above that called Raphael's, and which cannot be of a later date than 1590, represents the Convertendi palace as it stands to-day and as it stood during the processional transfer of the relics of St. Gregory Nanzianzen to St. Peter's Basilica.

The foundation and cellar walls of Raphael's palace have been thickened and repaired, but in one of its cellars the original concrete masonry has been exposed. All its walling above ground has also been thickened, but, in plan, it remains as originally built, the door and window openings occupying their primitive positions. Two of the original bosses of its rustication have been found, showing that they, as well as the string-course of the main story and all the concrete-work, were chiselled to imitate stone. The columns of the façade and the window-balustrades were probably of travertine, for an angle of one of the latter, worked in that material, remains *in situ* in the court-yard.

On the inside the rooms show no trace of their original decoration except in one; they are all vaulted save this one, which occupies the northeast angle of the building, having windows opening on the

piazza and on the Via del Borgo Nuovo. It is a noble room, now divided by a modern partition, and has a fine wooden ceiling of nine panels ornamented with bosses and carved mouldings. The cornice is carried by consoles and decorated with rosettes and intaglios. The woodwork of the doors and windows is of fine Italian walnut now unhappily covered by coats of modern house-paint. The whole is early sixteenth-century work, undoubtedly of the time of Bramante, and in striking contrast with that in the added story above. There the ceilings, though rich, can not compare with that in Raphael's room, and are evidently of the time when the outside of the palace was remodelled, late in the sixteenth century.

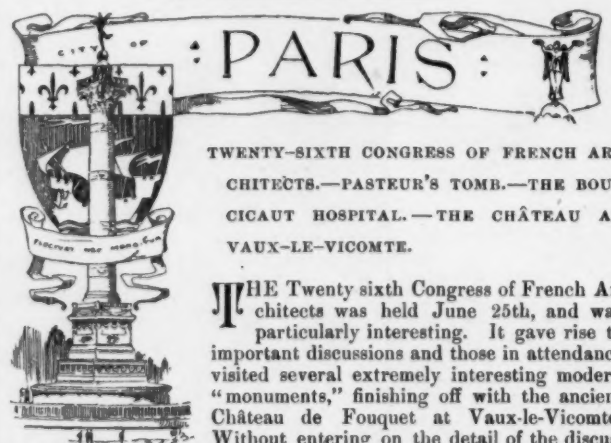
From the great room a door opens on what was once a loggia running along the remainder of the piazza front to the Via del Borgo Vecchio. It has six travertine pilasters, like those of Raphael's loggia in the Vatican. Its arches are now blocked-up and the interior is partitioned off into chambers. The flooring has remains of its original majolica tiling and modern whitewash probably covers the original painted decoration of its ceiling.

The whole palace was designed on an ample and dignified scale, worthy of one who was a renowned artist, "prædices" and "who lived like a prince." The tradition runs that the loggia was built by Raphael himself; he may have occupied the house before he bought it. It is certain that he painted the "Transfiguration" in the great corner room, for no other in the palace could house that immense canvas, and we know that Raphael, like Titian, painted in his own dwelling.

Standing under the beautiful ceiling just described, it is impossible for the visitor not to feel some emotion as he remembers that here, at the foot of his last and noblest work, lay, in state, the body of one of the greatest artists the world has ever known: the incarnation of Italian art at its best.

The Roman municipality has been petitioned to demolish and clear away all the buildings between the Via del Borgo Vecchio and the Via del Borgo Nuovo in order to give an easier access and a more imposing approach to St. Peter's Basilica.

Meanwhile, let each pilgrim and traveller from distant America who journeys to St. Peter's shrine by the usual road over the Bridge and past the Castle of St. Angelo remember that he must pass under the very windows from which the "pictor pictorum" has often looked out upon thousands bound upon the same artistic or religious errand and pause long enough to pay his devotions at that other "sanctuary" of art which has not yet been destroyed.



TWENTY-SIXTH CONGRESS OF FRENCH ARCHITECTS.—PASTEUR'S TOMB.—THE BOU-
CICAUT HOSPITAL.—THE CHÂTEAU AT
VAUX-LE-VICOMTE.

THE Twenty sixth Congress of French Architects was held June 25th, and was particularly interesting. It gave rise to important discussions and those in attendance visited several extremely interesting modern "monuments," finishing off with the ancient Château de Fouquet at Vaux-le-Vicomte. Without entering on the detail of the discussions, which would consume much space, I would say a few words of the seance whereat was examined one question which is so interesting to France—the regulation of frontage on the public ways. Everybody knows how much fault is found with architects because of the uniformity and monotony given to the aspect of our streets by the hard-and-fast lines of their house-fronts. People do not ask sufficiently often why these same architects succeed so well with those charming little suburban villas or the fine private hôtels. The reason is, in the case of the latter constructions, that they can, without regard for the laws governing the public ways, give free rein to their imagination and allow themselves breaks and juttings which severe administrative laws do not tolerate in the cities. But to-day, when the streets are wider, the administration itself is engaged in revising certain articles of the ancient regulations, and a commission has been appointed to study the possible modifications which can be made in the existing laws governing public ways. This very important question was the order of the day for the Congress of Architects, and M. Duchâtelet, president of the Commission of Public Ways of the Société Centrale, and member of the prefectural commission, charged with the same matter, opened the discussion with a very interesting study. He examined the question of projections as well as that governing the height of buildings and the dimensions of courts and court-yards. At the present time, the height of buildings is determined by the width of the streets, and through a system of series, or steps [*échelons*], which, in consequence of a few centimetres' difference in the width of the streets, give rise to exaggerated differences in the heights of the buildings severally upon them. Thus, on a street less than 7.8 metres wide, the height of a building can be

but 12 metres; on one between 7.8 and 9.74 metres in width the height can be 15 metres; between 9.74 and 20 metres' width the height can be 18 metres; while on a street more than 20 metres wide the height may be 20 metres; so that, as M. Duchâtelet remarked, there is only need of a mere centimetre to pass from one category into another. On a width of 7.79 metres one can build only to the height of 12 metres, but with a width of 7.80 metres one can build 3 metres higher, the heights being invariable for each category; and the streets that measure between 9.74 and 20 metres being in Paris, at least, in the great majority, it follows that almost all the buildings are 18 metres in height. Would it not be preferable that the height of the buildings should be proportional to the width of the streets? This custom exists at Berlin, St. Petersburg, Rome, Frankfort, Brussels and so on. In France, the city of Marseilles, in March, 1897, adopted this principle by a decree providing that buildings facing on public streets cannot exceed a height equal to twice the width of the streets, with a maximum of 25 metres and a minimum of 12.5 metres. This proportional system, suggested by the Commission de Voirie de la Société Centrale, has not been adopted by the Commission de l'Hôtel de Ville, and we are as yet ignorant what may be the future regulation. The Congress of Architects did not desire to take the initiative in this matter. A regulation affecting all places in France would be absurd, since one should take account of local customs and climatic conditions; but M. Duchâtelet proposed to the Congress to express the following opinion: "That the laws which determine the height of front walls and roofs, as well as the projections, whether fixed or movable, be revised in a more liberal and rational spirit, which shall permit architects to give a greater variety and movement to the façades of modern dwellings." The applause which greeted this suggestion proved the unanimity of all French architects upon this question. We shall certainly have occasion hereafter to return to the matter, when administrative decision has been reached.

Among the interesting conferences which took place at the Congress this year must be particularly mentioned that of M. Larroumet, perpetual secretary of the Académie des Beaux-Arts, who held his hearers in close attention while speaking of Byzantine architecture in Guyenne and Languedoc. M. Larroumet exhibited in a very interesting manner the origin, so often discussed, of pointed architecture in France, supporting himself on the discovery of a slightly pointed arch in the Church of St. Front at Périgueux, at the time of its restoration (the arch is now destroyed), seeing in it the first manifestation of the French art of the Middle Ages. Other conferences were held, by M. Lucien Magne, on the arts of the potter and glass-maker, examining into the successive stages of manufacture, also by M. Guadet, who, in a notice full of feeling, retold the noteworthy career of M. Léon Ginain.

The afternoons were devoted to visiting monuments and modern buildings. Visitors were particularly interested in the magnificent crypt which, at the Institut Pasteur, serves for the sepulchre of the great French *savant*. In truth, it is one of the finest jewels which we possess at Paris, from the standpoint of funerary decorative art. Its character, imposed on the architect, recalls the mausoleum of Galla Placidia, at Ravenna. M. Girault conformed to the desire which had been signified to him, but at the same time added a lofty note of his personal artistic feeling. The general appearance of this crypt has extraordinary richness; it recalls the finest specimens of Byzantine art, with its columns of granitic porphyry of a greenish-gray tone, capitals and bases of white marble, its string-courses of green marble, and its marble panelling. The vaults, all of Venetian mosaic on a gold background, have a great brilliancy and are resplendent with color. The springings of the arches are decorated with subjects composed by M. Girault himself, who drew his inspirations from Pasteur's discoveries, conceiving motives wherein we find the animals and plants which served for the studies of the illustrious *savant*, and the entire structure bears the imprint of feeling which is at once archaic and modern, and so does great honor to the artist. All of the decoration is in mosaic, as well as the four angel figures which decorate the dome and which we owe to the talent of M. Luc-Olivier Merson. The centre of the crypt is occupied by a superb sarcophagus of black porphyry; while at the back rises an altar of white marble. The crypt is reached by a staircase of nine steps of black marble, to which the entrance is closed by a magnificent grille of wrought-iron work.

In quite another class comes the Hôpital Boucicaut, built by MM. Legros, father and son, and this won the admiration of the visitors. This luxurious hospital has been studied with care from the point of hygiene, comfort and light being combined with beauty. In very truth, the sick here are cared for in vast halls, well lighted and adorned, while at their ends verandas decorated with plants give them an appearance of gayety and the air of a garden in winter, which is well adapted to charm and console the sufferers. Pavilions, isolated in a veritable garden, are connected by a great underground gallery which allows the attendants to do their service without entering the wards, in such a fashion as to wholly avoid the danger of infection. The impression which one gathers on entering this hospital is rather one of a house of rest, or a water-cure, than of a place of pain and suffering. For the general arrangement, the readers of the *American Architect* may refer to an article which appeared in its issue for October 21, 1893, where, apropos of the competition, I analyzed the programme and scheme of MM. Legros, father and son, the main lines of which have not been modified during execution.

The visit to the works now going on at the Opéra Comique gave rise to some inquietude as to the possibility of opening the theatre during the current month of October. Now, the lease arranged with the city for the hire of the hall on the Place du Châtelet expiring at this time, it is in the highest degree necessary that the troupe and the personnel of the theatre should not find themselves thrown out into the street. The work at the new theatre was not very far advanced at the time of the visit. All the heavy work was finished but nothing was ready inside. The hall was filled from top to bottom with scaffolding, for the mosaic was being fixed upon the inner surface of the dome, consequently all fittings were still lacking. As to the stage, the machinery was not even begun, and nowhere had anything been done in the way of decoration. A large portion of the work could evidently be prepared outside of the works at the site, but many details must be finished in place. Nevertheless the architect, M. Bernier, gave assurance that everything would be ready at the time agreed upon. We shall watch the opening to find out if in truth, as we fear, the hall shall prove too small and the stage too narrow for the display of the scenic effects demanded by modern operas. Upon this subject the musicians already express their fears and voice their discontent. The visitors, at the time of the Congress, were not sufficiently convinced that these inquietudes did not have good foundation.

Generally, the organizers of a congress devote a day to an excursion to some of the environs. This year it was the château at Vaux-le-Vicomte, six kilometres distant from Melun, which was the object of the excursion. A special train carried the visitors as far as Melun, where a number of brakes and carriages met them and carried them on to Vaux. This princely residence was built about 1660, by Fouquet, Grand Intendant of Finance under Louis XIV, who, having acquired a considerable fortune and drunk with pride, desired to create a dwelling surpassing anything that any one could imagine. Pushing pride and vanity to the point of maladroitness, he had the unfortunate idea of wishing to show to the king this gorgeous residence, and this was his ruin. Louis XIV caused him to be arrested and shut up in the citadel at Pignerol, where he died. He had expended eighteen million francs on the château at Vaux-le-Vicomte. This château, in the opinion of archaeologists, is, perhaps, the only specimen which remains to us of the transitional style between those of Louis XIII and Louis XIV. At any rate, it is in the château at Vaux that the great king conceived his first inspiration of the palace at Versailles, at the time when he transformed the hunting-lodge of Louis XIII into a royal residence. It is at Vaux that he got his idea of those grand *parterres* and basins decorated with nymphs, and those grand water effects, only he made them still more grandiose and imposing. He called to his aid the same artists — Leveau, who prepared the plans of the château at Vaux, Lebrun, who decorated the friezes and ceilings, and Lenôtre, who had planned and built the gardens and the fountains. He did a larger work so far as area is concerned, but from the point-of-view of the *ensemble* the château at Vaux, with its surrounding gardens, is superior, being less cut up. The interior decoration, of an equal richness, is in the best taste in its magnificence; the *salons* and chambers are decorated with paintings signed by Lebrun, amongst others a ceiling representing the apotheosis of Hercules; here also paintings by the school of Van der Meulen recall the victories of Villars, who, after Fouquet's disgrace, became the owner of the château. After him, this residence was inhabited by his son, the Duc de Villars, and then by the Praslin family. In 1877 it was acquired by M. Sommer, the great refiner, who still owns it and has spent several millions in repairing the ruins and restoring it to its original aspect. It is he who did the honors of the château and its dependences to the visiting members of the Congress, and his reception, at the same time lavish and cordial, contributed a good part of the pleasure of this excursion for those who had the good fortune to take part in it, and made it the principal feature of this year's Congress.

CHARLES GARNIER.

I could never think of Garnier as an old man, yet he attained the age of seventy-three years. His toughness was extraordinary, and yet he had never really good health. His life from the time he was engaged to build the Opera-house was brilliant. He was pushed by circumstances to a front place everywhere, but he never sought to advertise himself. Garnier belonged to a brilliant generation. Among the leading members of that generation he was a kind of leader, and entirely owing to his personal worth. He afforded Baudry that splendid field for his pictorial talents, the ceiling of the foyer at the Opera-house. Garnier was "self-made." His mother, whom I knew, sold vegetables in the streets. She came late in life into a fortune, and worshipped her son, who returned her love with interest. I hear she is still alive. I heard him say that he had no Jewish blood, so far as he knew, but he had jet-black ringlets like Disraeli, ardent black eyes, and a very pronounced aquiline nose. He was a warm-hearted, lovable person.

Garnier's edifices often remind me of Disraeli's novels. He loved bright colors. The polychrome internal decoration of the Opera-house was a good deal criticised. So were those low-browed corridors, and the inconvenient way from the pit and boxes to the foyer. The disproportionate height in regard to the other dimensions of the foyer was also criticised. The faults were due to Garnier knowing nothing about box-tiers at grand theatres when he competed for the

task of designing the Opera-house. He was then an obscure sub-inspector of Paris buildings, on a salary of less than £80 a year. Had he gone to the Italian Opera-house, Place Ventadour, he would have designed different corridors. But the stairs of the Opera-house are very fine. They were intended to be a stage for the display of the Empress Eugenie's trains. The steps of the Madeleine are not, in fine weather, more favorable to a clothes show. Garnier made his way up by competing for prizes. The Prix de Rome, won at the age of twenty-three, enabled him to study in Rome and Athens. In 1861 he competed for and was intrusted with the task of designing the Opera-house. He spent fifteen years over it. While the work was going on he formed the present generation of architects. He never had pupils in his studio — only on scaffoldings. There never was a less despotic master. He taught his pupils to seek inspiration in themselves, in the circumstances and conditions of the time and the materials at hand. Garnier designed the Casino at Monaco, M. Bischoffsheim's house and observatory at San Remo, and the Cercle de la Librairie in the Boulevard St. Germain. Recently a message of condolence from the President of the Republic was received by the family of the deceased.

Garnier was all his life a poor man. He would never build one of those barracks — houses in flats. He called them *cages à locataires*, or tenant-cages. A million of francs, he said, would not pay him for the disgust felt in designing anything so frightful. He had the simple taste of one who grew in poverty and hard work. His gay disposition made a little money seem to him a fortune. Had he not been an architect he would have been a *chansonnier* at Montmartre. People who did not know how indifferent he was to wealth wondered to see him live in the almost humble flat in the Boulevard St. Germain. His good-humor was unflinching. The *gamin de Paris*, the *gavroche* never wholly died out of him. Nobody had a better right than Garnier to say: "My mind to me a kingdom is." He was very poetic, and, like most poets, vastly enjoyed his own company. This did not, however, take from his sociability.

Garnier was thinking of taking up light theatrical literature as a profession when he died. There was a freshly written operetta in his papers. He read passages to friends who came to see him in his last illness. M. Sarcey said, "Charles Garnier is prouder of his operetta than of his Opera-house." Garnier had a villa near San Remo, and he lived there as long as he could each year. To be able to do so he counted as health, wealth and happiness. He was probity itself, and had a deal of sturdy, honest pride. Garnier was recommended behind his back to the Archbishop of Paris for a place on the scaffoldings of the Basilica of the Sacré Cœur. He was named inspector, but finding he was to draw a salary of 500 francs a month and to do no work he resigned. He wanted the money; but, as he said, a man who once thought himself rich on £80 a year could do without it.

Garnier belonged to the parish of St. Séverin, but he did not care for the old church to which Huysmans has called attention. Gothic architecture did not go home to him. He revelled in that of the Renaissance. He liked to express wealth, ease, hospitality and fancy in his edifices. The fancy ought often to run into color. The architect ought to call in the sculptor and painter. Though Garnier often went into "kinks" of laughter in thinking of artists' quarrels at the Opera-house, they were not, he thought, as absurd as those of the great composers. He wanted to have busts of the latter used ornamentally there. Some objected to their busts being simple accessories. Each wanted to choose his sculptor, and each objected to the others. Rossini stood out against Meyerbeer and Weber. He did not see the use of Mozart, who was not of the German school, and only an Italian of Austria. "But don't you think the Germans have musical genius?" remarked Garnier. Rossini took a pinch of snuff, and said, "They are such infernally bad cooks." — *Paris correspondence of the London News.*

VALUE OF THE GERMAN WORKINGMEN'S INSURANCE SYSTEM.

TIME is proving the practical value of the German workingmen's insurance system. If I return to the subject again, it is because I believe it to be one deserving a great deal of attention. The social and economic influence of so gigantic a system must be very great.

The object of the system is to alleviate the sufferings of workmen and their families: (1) In cases of sickness (sick insurance); (2) in cases of accidents incurred at work (accident insurance); (3) in cases of feebleness, wasting diseases, decreased capacity to work, and old age (invalid and old-age insurance).

In cases coming under No. 1 there is given free medical treatment; sick money — that is, money during period of sickness with which to obtain medicine, nourishment, etc. — or, if desired, free treatment in a hospital and support for the family; and money, in case of death, is supplied the family. The fund is furnished by employers and employed — the former paying one-third, the latter two-thirds.

In cases of accident insurance the parties receive support during convalescence, from the fourteenth week after the accident happens. Money is given the wounded person from the fifth week. Rents are paid from the first day of the fourteenth week after the accident. The rents amount to two-thirds, and in some cases to three-fifths, of the workman's yearly salary.

The fund for burial expenses is furnished by the employers. In cases coming under invalid and old-age insurance, the parties receive rents from the time they are unable to work, without regard to age; old-age rents, from the seventieth year, even if they can work and do not draw invalid rent; and assistance against disease so as to prevent incapacity. In case of his death or marriage, the full sum paid by the party is returned.

The following amounts were paid out in the years given: —

Year.	Sick Insurance.	Accident Insurance.	Invalid and Old-age Insurance.
1885-86.....	\$23,905,005	\$460,625	
1887.....	13,138,099	1,412,030	
1888.....	14,651,637	2,304,173	
1889.....	16,892,097	3,442,503	
1890.....	20,013,420	4,835,041	
1891.....	21,243,594	6,289,483	\$3,643,089
1892.....	22,433,499	7,696,967	5,344,742
1893.....	24,269,264	9,082,984	6,700,509
1894.....	23,702,063	10,539,044	8,332,475
1895.....	24,947,731	11,929,940	10,221,647
1896.....	26,114,026	13,602,747	12,293,533
1897.....	26,207,417	15,252,301	14,161,000
Total....	\$257,517,856	\$86,847,842	\$60,696,997

During the years from 1885 to 1897 employers had paid in 1,337,741,176 marks (\$318,382,399), and workmen 1,173,449,805 marks (\$279,281,053), a total of 2,511,190,981 marks (\$597,663,452). Of this amount 1,702,184,100 marks (\$405,121,816) have been paid out. Thus the workmen have already received 528,700,000 marks (\$125,830,600) more than they have paid in.

The annual amount paid out is increasing at the rate of 15,000,000 marks (\$3,570,000) per annum. The reserve fund at the end of 1897 was, in round numbers, 850,000,000 marks (\$202,500,000).

For every twenty persons of the Empire's population, one has been paid insurance.

Besides this system, there are others by which workingmen are aided. There are State and private insurance and pension systems. One alone, the Miners' and Smelters' Union, paid out in the years 1895-1897, inclusive, 320,000,000 marks (\$76,160,000). From 1900 on, the annual amount to be paid out will be upwards of 300,000,000 marks (\$71,400,000), or 100 marks (\$23.80) for every working-day in the year. Whether a system which makes so much for paternalism is one to commend, I cannot say. Its effects here have been anything but bad. Poverty, in spite of poor wages, is practically unknown.

J. C. MONAGHAN, U. S. Consul.

CHEMNITZ, June 6, 1898.



THE June number of the *Architectural Review* finishes up the monograph upon the great French sculptor and potter, Jean Carriès, by Mon. Emile Hovelagne. Why so many writers in English, bookmen and journalists, abbreviate Monsieur by Mon. it is difficult to say, and there is not a doubt that a foreigner writing Mister for Mr. would meet with a large amount of ridicule — indeed French novelists have always been laughed at for writing *Mistress* So-and-so. Yet this is not one whit more ignorant than our Mon., Madme and Madlle, which one so frequently sees written for M., Mme, and Mlle.

Carriès was a great artist, equally successful in portraying the rugged features of an old beggar and the sleepiness of a small baby. He was a portraitist — witness his characteristic "Velasquez and Frans Hals" — an idealist (the "Christ and the Maiden") and an intense realist. And he was the ideal workman, so jealous of his reputation, or rather of his success as an artist (not mere financial success), that he would break up a clay figure or bust rather than have to look at, or sell, what he considered to be a failure. His whole heart and soul were in his work: "*Travailler ici toute la journée, pieusement, comme un bon petit ouvrier, voilà tout ce que j'aime.*" He found his inspiration in his early days in the Renaissance sculpture in the Louvre, and he kept faithful to this school of art all his life. To him the Burgundian tomb of Philippe Pot expressed much more than did the cold regularity of a Greek sarcophagus. His "Guerrier" has all the force of Verocchio or Donatello; his two busts of women, called "Mme Hals" and "Loyse Labé," are of the same class of realistic work as that of the great Lorrain sculptor of the sixteenth century, Ligier Richier.

Through Mr. John Sargent, Carriès became acquainted with the Princesse de Scey-Montbéliard, from whom he obtained the patronage which became, later on, his white elephant. The Princess commissioned him to make a portal in *grès* for 60,000*f.*, and, like many another true artist, he thought more of the art and the consequent success than of the labor — it was the story of the great sculptor Alfred Stevens and the Wellington Monument over again. Both

¹ Published by Horace Cox, Bream's Buildings, London E. C. 6*d.* monthly.

men aimed at absolute perfection; each was equally ready to sacrifice work which had satisfied him, when the power to improve upon a success was given him. Carriès only worked for his own satisfaction—the praise of others was of no account to him. He labored four years at the portal, spent 150,000*f.* out of his own pocket upon it, alienated his patroness, ruined his health, died in the struggle, and left the work unfinished. Not only had he to build *ateliers* and kilns, but he made his own zinc moulds from the clay models and did all the firing himself. "To succeed in enamelling and baking into *grès* 700 bricks without distorting them—statuary, architecture, and all, more or less extraordinary in form—and keep them harmonious, make them all fit in as if by enchantment; ah! 'tis hard. . . . My work is eating into my very flesh. . . . It's permanent anxiety between every baking. Nothing can be more harassing than waiting nine days to see how the firing has succeeded. . . . As I never enamel three consecutive pieces with the same enamel, for 200 pieces I sometimes have to compose 80 new and different formulas." Such was his laborious task, and to enable him to bear the expense he made vases and pots of various types and forms, besides portrait-busts and statuettes. At the Champ de Mars Salon of 1892 he scored a great success by the originality and novelty of the specimens of the Montriveau portal which he exhibited. All the Parisian sculptors hailed him with the generosity so frequently shown by French artists to talented comrades. But the man's nature prevented him from making a fortune, for he was never satisfied unless he did all the work himself. To sell to a founder any of his cherished models, for multiplication, was against his conscience. Nor did he trouble himself to follow up his successes. His last work was left unfinished: "The Martyrdom of S. Fidele." He died after an illness of some months, tenderly nursed by a dear friend, and holding in his hand a vase which he frequently caressed for its beauty, begging his friends to admire it, and dreaming of others which were to surpass it—a true artist to the very end. "That which thy hand findeth to do, do it with thy might."

Carriès's mind had a grotesque corner, shown by his frog men and various humorous masks and busts; but, at the same time, he would model heads of men, women, youths and children with the utmost refinement of style and beauty of expression.



NEW YORK SKETCH-CLUB.

THE regular monthly meeting of the Sketch-Club of New York was held at the Hotel Avellanet on the evening of October 1st.

The principal business before the Club was the proposed amendments to the Constitution as follows:—

"Members are to be of six classes: resident, non-resident, associate, privileged, patrons, and honorary.

"Associate Members to consist of those who because of associations and interest in the Club make them desirable associates.

"Any person may be an Honorary Member of the Club who shall be elected as such because of interest manifested in the same.

"Privileged Members, Patrons, and Honorary Members shall have all the privileges of the Club except that of voting and holding office.

"Initiation fees of Associate Members shall be \$5, and quarterly dues, \$3.

"Yearly dues of Privileged Members shall be \$50.

"Yearly dues of Patrons shall be \$100."

Several new members were introduced.

N. HAUSMAN, *Recording Secretary.*

PHILADELPHIA T-SQUARE CLUB.

THE T-Square Club held its first regular meeting of the present season on Wednesday evening October 5th, at which a large number of members were present.

The President, Mr. Edgar V. Seeler, opened the meeting with a short address outlining the work to be done by the Club during the coming year, in which he announced that preparations were under way for the Third Annual Exhibition of the T-Square Club in conjunction with the Exhibition of Paintings and Sculpture to be held at the Academy of Fine-Arts. The Jury of Selection and Hanging Committee for the Architectural Exhibit will be composed of Mr. John Galen Howard of New York, Mr. C. Howard Walker of Boston and Messrs. Edgar V. Seeler, Adin B. Lacey, Herbert C. Wise, Horace H. Burrell, David K. Boyd, James P. Jamieson and Wm. L. Bailey of Philadelphia. It is the hope and aim of the Committee to make this Exhibition and the Catalogue of exceptional interest. The subject for competition at the meeting was "Sketches made by Club Members during the past Year," and the mentions were awarded as follows: First Mention, John J. Dull; Second Mention, Oscar M. Hokanson; Third Mention, James P. Jamieson. GEO. B. PAGE, *Secretary pro tem.*

SLIM WAGES FOR HARD WORK.—The cartmen who haul sand to Rome for builders work nineteen hours a day for thirty-five cents, and sleep in the stables with their mules.—*N. Y. Evening Post.*

ILLUSTRATIONS

[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

THE EMPIRE BUILDING, BROADWAY AND RECTOR STREET, NEW YORK, N. Y. MESSRS KIMBALL & THOMPSON, ARCHITECTS, NEW YORK, N. Y.

[Gelatine Print, issued with the International and Imperial Editions only.]

SOUTHWEST FRONT OF THE NEW YORK STATE CAPITOL, ALBANY, N. Y. ARCHITECTS: MESSRS. T. FULLER; L. EIDLITZ; H. H. RICHARDSON; I. G. PERRY.

THE WASHINGTON LIFE BUILDING, BROADWAY AND LIBERTY STREET, NEW YORK, N. Y. MR. C. L. W. EIDLITZ, ARCHITECT, NEW YORK, N. Y.

SECOND PRIZE DESIGN FOR THE CLUB-HOUSE OF THE COLUMBIA CLUB, INDIANAPOLIS, IND. MR. ALBERT W. SWASEY, ARCHITECT, ST. LOUIS, MO.

[The following named illustrations may be found by reference to our advertising pages.]

DWELLING-HOUSE AND STORES, 23 INVALIDENSTRASSE, BERLIN, PRUSSIA. MESSRS. ERDMANN & SPINDLER, ARCHITECTS.

This plate is copied from *Architektonische Rundschau*.

MISCELLANEOUS BUILDINGS.

[Additional Illustrations in the International Edition.]

THE PALM-GARDEN: DELMONICO'S, NEW YORK, N. Y. MR. JAMES BROWN LORD, ARCHITECT, NEW YORK, N. Y.

[Gelatine Print.]

WEST FRONT OF S. PAOLO, MILAN, ITALY.

[Gelatine Print.]

THE convent of San Paolo, of which this church formerly was a constituent part, was founded A. D. 1553, by Countess Lodovica Torelli. Tradition has it that Galeazzo Alessi drew the designs for the edifice. But of the completed structure only the orders of the north and south façades, and possibly the general outlines of the west façade, can be justly ascribed to him. The detailing of the west front was carried out at a much later date, and was probably influenced by Richini. At any rate, the great similarity of the detail in the treatment of the openings with that of the portals of the Milan Cathedral, which we know to have been the work of Richini, is unmistakable, although the somewhat more severe treatment of the latter is probably due to the design of Pellegrino Tibaldi, on which the work was originally based. The sculptures here, as in the case of the cathedral front, were executed from designs by Crespi, alias Cerano, a noted painter. As the sculptors of the armorial panels between the engaged columns of the lower story, the archives mention the names of Andrea Biffi and Giovanni Bono, as the sculptor of the relief over the doorway, representing the conversion of Saul, Gaspare Vismara, and as the sculptors of the crowning statues above the pediment, Pietro Lasagni and Prevosti. It will be noticed that these artists are the identical ones to whom the work of executing the cathedral portals was entrusted. In both cases, therefore, we encounter a similar richness of ornamental detail in conjunction with a vigorous, yet at the same time carefully-studied, architecture.

REREDOS, KINGSTON VALE CHURCH. MR. G. F. BODLEY, R. A., ARCHITECT.

"THURSTONVILLE," BECKENHAM, ENG. MR. FRANCIS HOOPER, ARCHITECT.

COMMUNICATIONS

[The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.]

THE DESTROYED FRIEZE OF THE MASS. INSTITUTE OF TECHNOLOGY.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Apropos of your editorial on the subject of the frieze around Huntington Hall, in the Rogers Building, M. I. T., it

¹ See Plate in No. 1180 of *The American Architect and Building News*.

may interest some of your readers to know further facts in connection with its origin.

When I built the Rogers Building, in 1865, funds were lacking for its entire completion and the hall was left in the rough, unplastered and with only an under floor. Subsequently Mr. Ralph Huntington, who then lived on Boylston Street, subscribed a generous sum for the completion of the hall and other purposes of the Institute, and his name was given to the hall.

Professor Ware then had charge of the architectural department of the school, and the interior finish of the hall was designed by Ware & Van Brunt, who desired to produce an example of mural decoration appropriate to the objects of the Institute, there being then nothing of the kind in the city.

Mr. Paul H. Nefflen, a young artist, was called in and prepared sketches and subsequently cartoons for filling the panels forming a frieze about the room.

He executed them (as they stood until destroyed this summer) in a singularly simple, appropriate and effective style, outlining the figures in dark red and filling-in with a flat tint, but slightly differing from the backgrounds.

The panels took as subjects the trades and professions allied to science and the arts and were treated in the broadest and simplest manner, the drawing and action being remarkably well expressed in few, bold lines.

Mr. Nefflen subsequently became connected with a banknote company in New York and died four years ago.

His widow informs me that the cartoons are destroyed, but that she has in her hands all the original sketches.

It is a pity that the funds cannot be procured for again reproducing from them the admirable series of designs which graced the hall. They were an object-lesson in mural decoration to the thousands in the audiences constantly attending lectures there, and gave those awaiting the opening hour food for thought, in place of vacant musing.

WM. GIBBONS PRESTON.



LORD LEIGHTON'S HOUSE.—The English Commissioners for Public Libraries will soon take over as a national possession the house in London of the late Lord Leighton. Over 2,000 of his drawings and studies have been given by his friends; and the building will contain a museum of art, a free art library, and musical and literary guilds. The most remarkable room is the Arab Hall, which is described as a "domed kaleidoscope of burnished copper and blue Oriental tile-work, lit through Cairene lattices and ancient Damascene glass." — *Boston Transcript*.

BRITISH RAILWAY ACCIDENTS.—The following statistics have a bearing on what we said last week as to the relative mortality of vertical and horizontal travel. "During last year the number of passengers killed in train accidents was eighteen, which is a large increase on the numbers for the two previous years, in both of which the number was only five. Of these ten were killed in an accident at Welshampton, on the Cambrian Railway, and three in an accident at Rothbury, on the North British. Both of these accidents were caused by trains leaving the rails. On the other hand, the number of injured in train accidents was 324, as against 388 in the previous year. The total number of accidents to passengers from causes other than accidents to trains reported in 1897 was 115 killed and 1,315 injured, as against 88 killed and 1,198 injured in 1896. When all classes of accident on railways are taken into account, however, only one passenger is killed in 7,747,520 passenger journeys, and only one in 628,688 is injured. Season-ticket holders' journeys are not included in these figures, because the number of them cannot be estimated. Unfortunately the numbers of railway servants killed (510) and injured (4,129) during shunting operations continue to be very large, and steps are being taken to ascertain whether there is anything in the practice adopted on Canadian and American railway systems with regard to the control of shunting operations which could usefully and properly be adapted to the requirements of the United Kingdom." — *London Telegraph*.

HOLLAND HOUSE.—Englishmen have no idea of society in the Continental sense. Banquets, balls, and parties, public and private, have always formed an accompaniment to the Parliamentary session; but the select coteries which meet almost daily in Paris—in the informal gatherings termed *salons*, where friendships are cemented with that mixture of grave and gay conversation in which our mercurial neighbors excel—are foreign to the English life. In its records, as well as in its surroundings, Holland House stands out a brilliant exception in this respect. It is unique among English homes, standing, as it does, in its own lovely gardens, surrounded till lately by the fields of Kensington, now in the middle of a densely populated district, and within a walk of the centre of London. It has ceased for half a century to be a country home, and though it has changed hands repeatedly, its treasures remain intact. Its architecture is characteristic; its portraits and busts recall all the most interesting personages who have lived in it. Every room is filled with rare objects and historical relics; it has neither been robbed to pay death duties nor spoiled by vandal taste. It possesses, moreover, a special interest as the centre round which revolved for nearly half a century all that was brightest and most intellectual in an age of strength and great achievements—those whose influence so profoundly affected the political events of the day. — *Pall Mall Magazine*.

WASTING PUBLIC ILLUMINANTS.—An example of wanton waste in public administration is pointed out by the *Philadelphia Ledger*, in the use of the electric-light in the city-hall in that city. The current is supplied by the Public Buildings Commission, but this body has no control over its use in the various departments, and those responsible are indifferent. It is not at all uncommon, the *Ledger* reports, to see the finance-committee's room with every lamp in its starry ceiling ablaze with light, and not a person in the room. The great audience-room of the mayor is not infrequently seen with its 180 lamps shedding their radiance solely for the delectation of the colored messenger, who has, perhaps, an hour before, thrown on the switch to show the room to some visitor. Room after room in which the sun's rays are so fierce as to compel the inmates to drop the window-shades will have the electric-lights all burning. In other rooms the sun's rays beat upon burning lamps. The size of the leak has nothing to do with the immorality of it, but, as figured up by the *Ledger*, it would be enough to provide school room for many of the hundreds of children who are now deprived of their rights in the matter of an education. It is a moderate estimate that one-third of the electric current furnished is wasted. When all the departments are in operation one-third the current produced for the six hours during which the offices are occupied daily would, at the rates paid to the electric companies, cost not less than \$60 a day. That is not the full measure of the loss, however, as a large number of the lamps burn uselessly twenty-four hours in the day. — *N. Y. Evening Post*.

GLAZED BOOK-PAPER BAD FOR THE EYES.—The effect of glazed papers on the eyesight has recently occupied the attention of some German doctors. One authority examines the causes of the changes in the general reading and writing habits of the nation, and explains that in the earlier part of the century the old rag papers then in use, both for writing and printing purposes, were mostly of a dull-gray or blue color, and were coarse-grained, so that thick letters had to be used by writers with quill pens or by printers on their old slow presses. With the introduction of more modern fibres, paper received a smoother surface, steel pens could be employed, and the printing-paper could travel over quicker printing-presses. The fashion for brilliant colors and elaborate type-setting has been carried to such a state of perfection that a reflection is often created which could never arise from the rougher surface. Now, what is the effect upon the reader's eye? In the old books or letters, with a mild and soothing light, the surface contrasted easily from the thicker and darker type or writing characters; now the highly-glazed surface offers reflections of the light which, with the more elaborate and thinner type, produces a lot of shades and lights that are most trying to the eye. The paper has often to be turned in various directions to be seen more clearly in order to distinguish the gray (or, may be, other shades) of the type from the shining white of the paper. This is similar in effect as to the result of trying to decipher writing in the dusk. An experiment would soon prove this. Take an old edition, say, of Shakespeare, and a new magazine on highly-glazed paper, and compare the sensation in the eye after half an hour's reading. The doctors, therefore, propose that the public inspectors of schools should order the use of sanitary paper for the eyes, by which they mean that a glazed or highly-polished surface should be avoided, and the colors chosen should rather be gray or light blue, but no white, and, in fact, no brilliant colors at all. The type should be clear and simple, and not too thin. The children, whose eyes require protection, and through them the parents, should be taught to demand their favorite books and papers to be printed in the right style, and the excesses of a falsely-guided taste should be avoided. It is suggested that a few years of such policy would soon improve the eyesight. — *Invention*.

WIND-PRESSURE.—It was right on the part of Sir J. Wolfe Barry to draw attention at Bristol to the unnecessary cost which is imposed on those who have to erect large structures in order to meet the requirements of the Board of Trade in providing for wind-pressure. Tredgold ascertained that the pressure was equal to 40 pounds per square foot, and was similar with areas of all dimensions. But when at Christmas, 1879, the Tay Bridge broke down, owing, as was supposed, to wind-pressure being more than 40 pounds a foot on the exposed surface, the Board of Trade enacted that all railway bridges and similar structures should be made able to resist a pressure of 56 pounds. There was a belief that small-gauge experiments were not to be relied on. It was found by experiments at the Forth Bridge on two wind-gauges, one of 300 square feet and the other of 1 1-2 square feet, that with an increase of area the unit of pressure fell off in a very marked degree. Under the same conditions of wind and exposure the larger gauge registered a pressure 38.7 per cent less per square foot than the smaller gauge. Sir J. Wolfe Barry instituted experiments at the Tower Bridge by observing the pressure on the surface of the bascules of the bridge as evidenced by the power exerted by the actuating engines. In that way a wind-gauge of some 5,000 feet in area was obtained, and it has been shown that, while small anemometres placed on the fixed parts of the bridge, adjoining the bascules register from 6 to 9 pounds per square foot, the wind-pressure on the bascules is only from 1 to 1 1-2 pounds per square foot. The amount fixed by Tredgold was therefore more than sufficient. "It is difficult to imagine," said Sir J. Wolfe Barry, "the amount of money which has been wasted in unnecessary provision against wind-strains of 56 pounds per square foot on large areas in consequence of this hurried generalization from insufficient data. I know something of what the provision for 56 pounds on the square foot for wind cost at the Tower Bridge, and I do not wish to mention it; but if the public had been told that the dictum of experts, arrived at however hastily in 1880, was to be set aside in the construction of that bridge, all confidence would have been beforehand destroyed in it, and I suppose no committee of Parliament would have passed the Act." It is well occasionally to make assurance doubly sure, but in construction excessive strength imposes other charges besides those of cost. — *The Architect*.



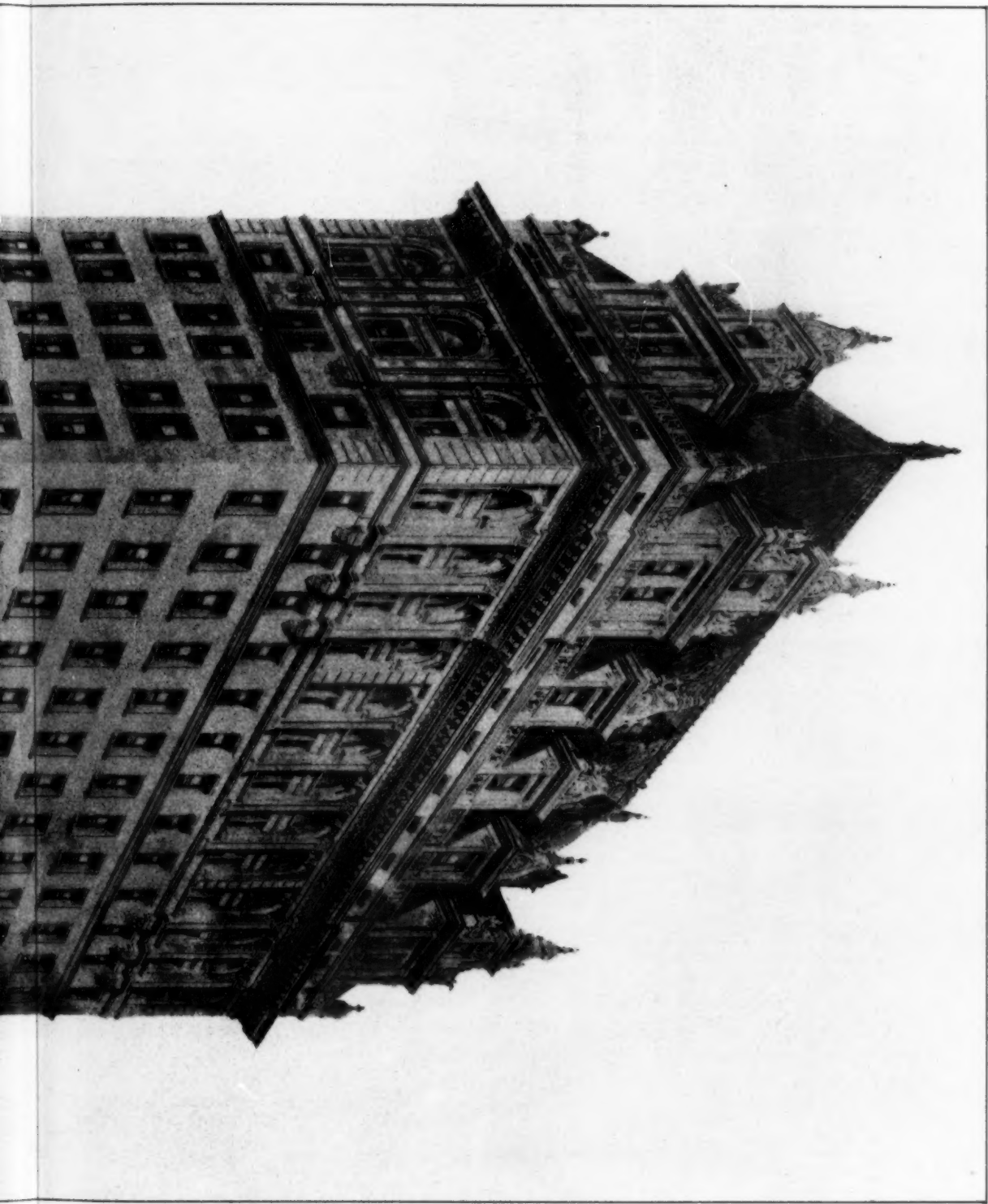
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C. L. W. EIDLITZ, ARCHITECT.

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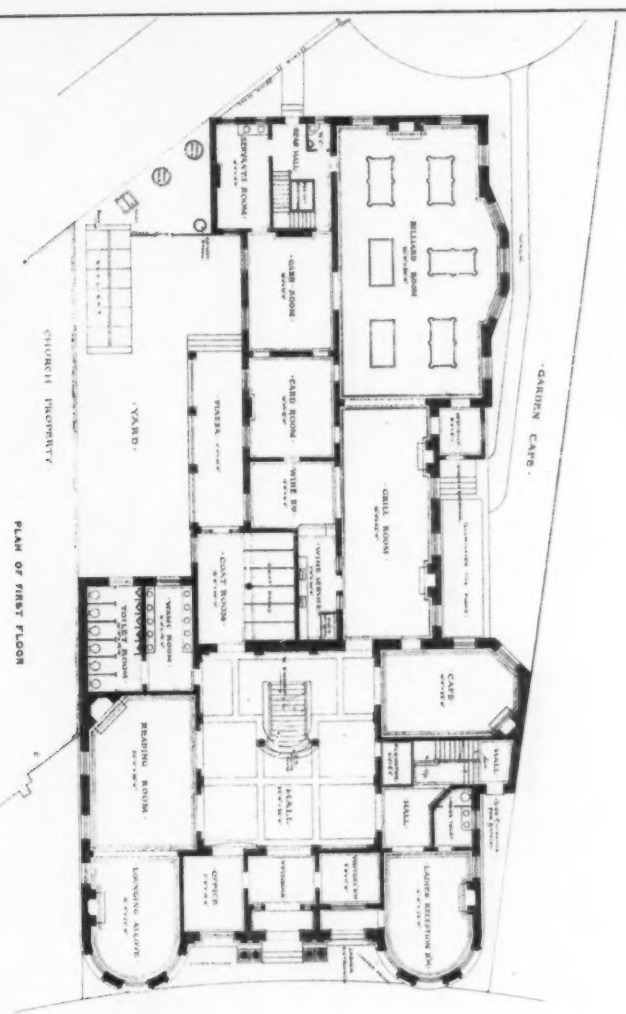
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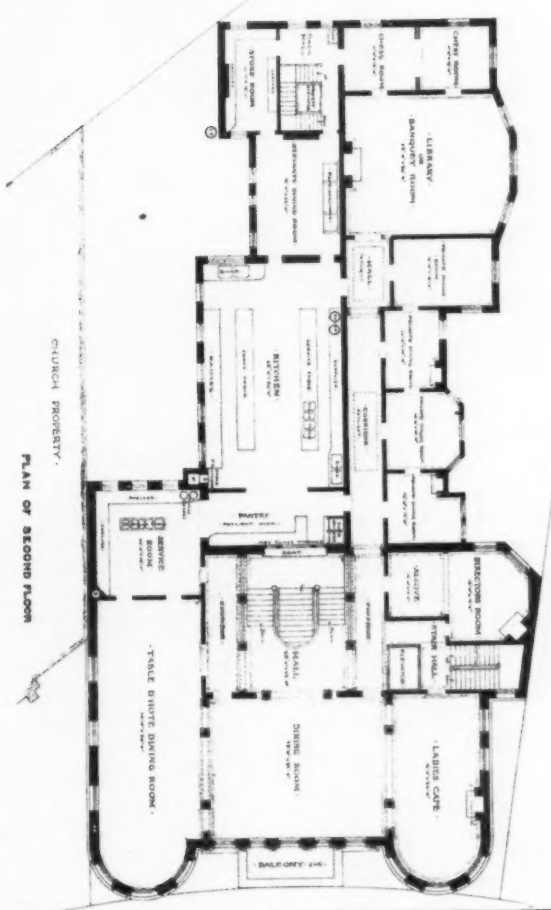
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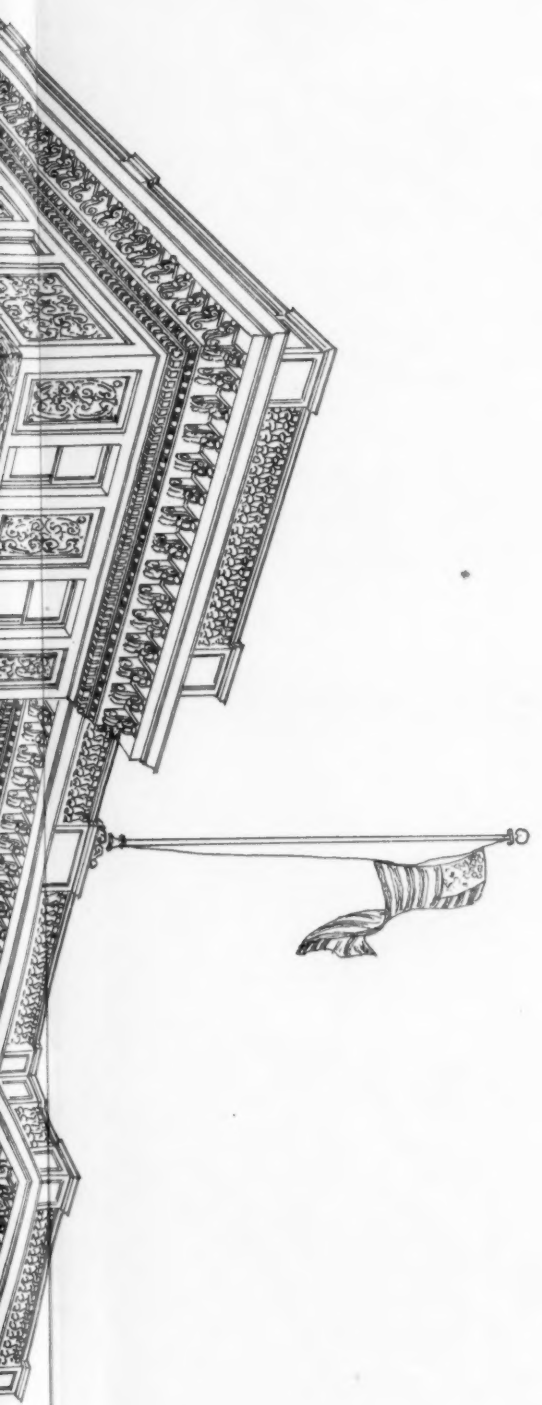
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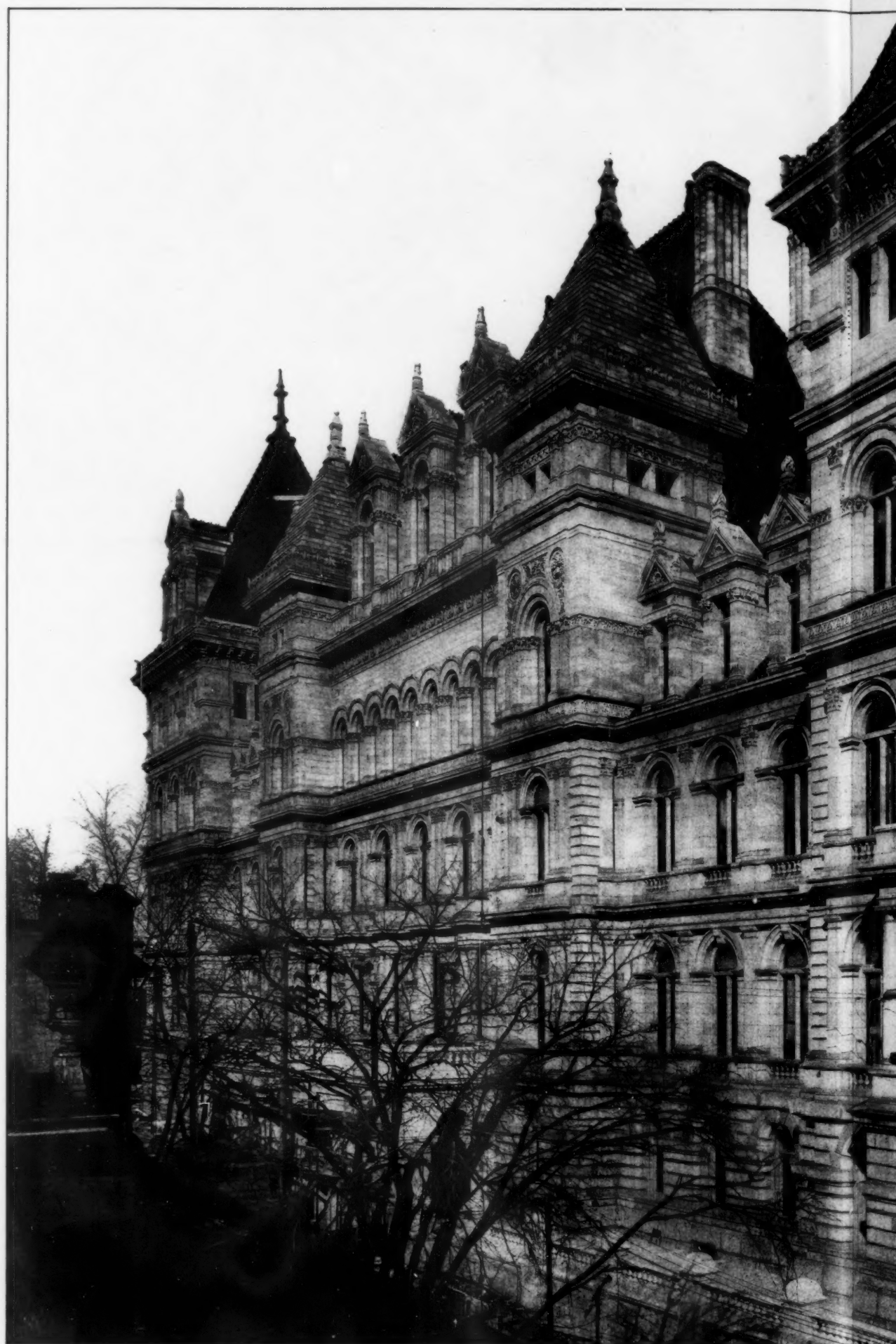


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