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ARCHITECTURE

ENGINEERING

DECORATION

TICKNOR & COMPANY

CONSTRUCTION

BOSTON MASS.

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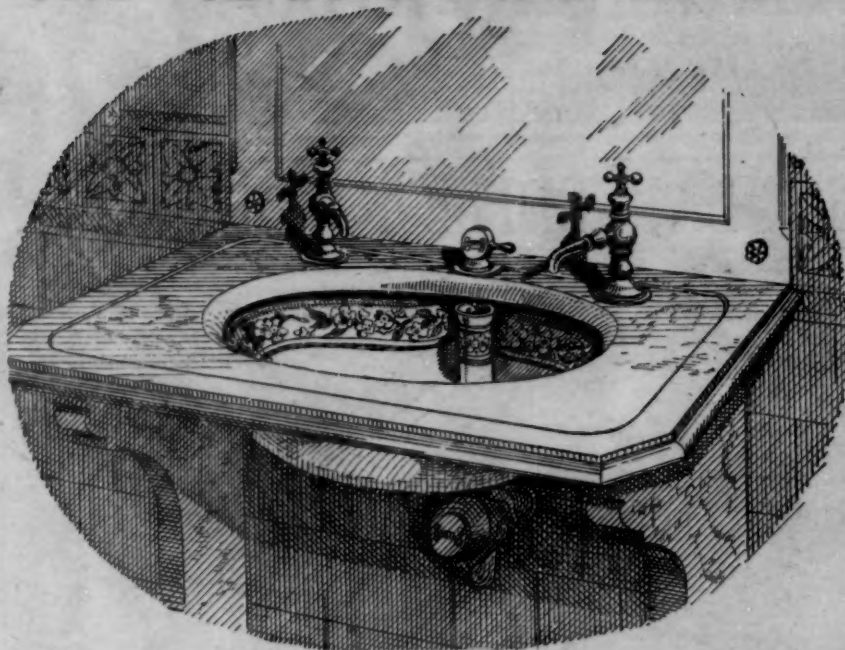
ALLEGHENY COUNTY COURT-HOUSE AND JAIL, PITTSBURGH,  
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HOTEL AT BIG STONE GAP, WISE CO., VA.  
SKETCHES BY A ROTCH TRAVELLING SCHOLAR.  
TOWER OF THE MEMORIAL CHURCH OF THE ANGELS, LOS  
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VOL. XXVIII.

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MAY 24, 1890.



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THE city of Shreveport, Louisiana, according to the *Engineering and Building Record*, has entered into a contract with a private firm, Messrs. Samuel Bullock & Company, under which the latter agree to construct and maintain at their own expense, not only a system of water-works, but also a system of sewers. The firm, by its contract with the city, enjoys for thirty years the exclusive right to supply the inhabitants with water and sewerage, and prices for each service are fixed in the agreement. The prices for water are certainly low, the maximum rate for a ten-room house being six dollars a year, for a stable for one horse four dollars a year, and so on, so that the citizens do not need to complain of the monopoly, and at the expiration of the thirty years term the municipality has the right to purchase the works, at a price to be determined by three appraisers, one chosen by each party to the contract, and the third by the other two. The inhabitants are not compelled to make use of the public water-supply at present, but the city agrees to rent one hundred and six fire-hydrants during the term of the agreement, at the rate of fifty dollars a year for each hydrant. The contractors, in return for this payment, furnish not only water to the hydrants for extinguishing fires, but supply water, free of charge, for flushing sewers, and for all public parks, fountains, schools and other public buildings; and, if the city should wish for additional fire-hydrants, they are to be furnished and supplied with water for forty dollars a year each.

THE sewer agreement covers the construction of two trunk-lines of sewers, with laterals, which are to penetrate into all portions of the city supplied with water by the contractors, and are to be extended with the extension of the water-supply system. The sewers are for house-drainage only, storm-water being excluded, and are to be all pipe-sewers, automatically flushed, after the Waring system. The city makes no provision for compelling the inhabitants to pay for connecting their houses with the sewers, but, in place of this, agrees to pay the contractors thirty-five hundred dollars a year in return for the privilege of connecting and draining all the public and private buildings into the system shown on the plan which forms the basis of the agreement. If any extension of the system is made, the city agrees to pay seven per cent a year on the net cost of the extension, in return for the privilege of using it to drain the buildings near it. To protect the

contractors' property, special ordinances are established, making it a misdemeanor to place obstructions in the sewers, and the use of cesspools for the disposal of house-wastes is prohibited. Altogether, the arrangement seems fair to both sides, and likely to be profitable both to the city and the contractors. As every one knows, the construction and maintenance of water-works is one of the safest and most steadily profitable investments of money that can be made, and there seems to be no reason why the establishment of sewers should not be equally certain to bring a good return. In fact, an investment in properly-built pipe-sewers is safer than in water-works, as a drainage system is much less liable than a supply system to accident by bursting of pipes, failure of dams or reservoirs, and so on; while people who have been put to the endless torment and expense incident to the attempt to dispose of wastes, in a house with public water-supply, by means of a cesspool, may be relied upon to use the sewers as fast as they can be extended to them. The connection from the house to the street sewer would rarely cost as much as a cesspool with the drain leading to it, and, at the price which the city of Shreveport agrees to pay for the use of the sewers, the cost per head is only a fraction of a dollar per year—a mere trifle in comparison with the cost of pumping out cesspools.

IN a very large number of our towns, even where the water-works are in the hands of the public authority, we believe that sewers might be built and maintained by private enterprise, where the cost is beyond the reach of the city finances, to the saving of hundreds of precious lives, and the infinite benefit of the citizens. The two principal difficulties in the way are the necessity, in many cases, of seeking an outfall for the main sewers through the territory of a neighboring, and perhaps unfriendly, town, and the legal quibble about the right of a town to give any person or corporation a monopoly in its streets. If these could be overcome, which could most readily be done by an Act of the Legislature, explicitly empowering towns to acquire rights of way through other communes, and to convey franchises for sewerage systems, we have long been convinced that the money would be raised without difficulty, or rather, that capitalists, large and small, would rush to avail themselves of every opportunity for an investment so solid, so near at hand, and so surely profitable. Just at present, the most favorable place that we know of for such enterprises is in the district served by the Metropolitan system of drainage, the construction of which has just been begun in Eastern Massachusetts. This Metropolitan system provides an outfall, and one main sewer, for each of the towns in the Charles and Mystic River valleys, but nothing more, and, in order that the sewer may be of the slightest use to the towns through which it passes, they must build their own drainage network to connect with it. For most of the towns, this is a financial impossibility, since, even if the money could be borrowed, the rate of taxation, which is already very high in the towns about Boston, would have to be raised so much, to pay the interest on the borrowed funds, as to drive the well-to-do inhabitants away, leaving the town poorer than ever. In this dilemma, the intervention of private capital would not only be a great relief to the towns, but would enable them to secure at once the advantages which the Metropolitan system was intended to afford them; and, under an arrangement similar to that at Shreveport, enough capital could be raised in Boston in a few days, as we think, to carry out complete drainage works in the closely-settled portions of the whole Metropolitan district. Most of the inhabitants of the district are tolerably well-to-do; they all have the use of a public water-supply, and nearly all of them have to pay from six to twenty dollars a year for having their cesspools emptied. We know of an instance in the district where a householder had to pay the public cesspool-cleaner twelve dollars for pumping out his cesspool, and had to have it done every two weeks, to prevent its contents from overflowing back into his cellar. This, which was at the rate of more than three hundred dollars a year, for a house of quite moderate size, was undoubtedly an extreme case, but the opportunity for securing sewer drainage at a cost of two dollars a year per house, which is about the Shreveport average, would be hailed with delight throughout the district; yet at that rate the Shreveport Sewerage Company receives an excellent return upon its investment. In the Massachusetts Metropolitan

district the outfalls for the local systems are excellently provided for by the Metropolitan system itself; and if the towns could be authorized to grant franchises, and would do so judiciously, they might have their sewers built, their population, and the value of their real-estate, materially increased, and their public health greatly improved, without the expenditure of a dollar from the city treasury, simply by forbidding the use of cesspools, and authorizing the Sewerage Company to collect, for the privilege of drain connections, an annual assessment, which would, in most cases, be far less than the yearly present expense of emptying the cesspools and vaults.

**T**HE unfortunate Commissioners who have in charge the erection of the Lowell City-hall appear to be in hopeless trouble. It will be remembered that on the day before the contracts were awarded, and after the bids were all in, one of the bidders "discovered an error" in his figures, the correction of which brought his tender a little below any of the others, and he was awarded the contract. The successful bidder was a man from another town, who was reported to be intending to employ outside mechanics to do the work; and the local voters exercised, in consequence, so much pressure against him upon the City Council that the latter voted not to appropriate the money necessary to carry out the building; and the Commissioners, finding that there was no hope of getting the city to carry out its part of the agreement, voted to rescind its previous action in awarding the contract, and to have new plans prepared, for a building which could be erected for the sum available without a new appropriation, and invite tenders again. The bidder to whom the contract had been awarded, however, thought, with reason, that to rescind the vote, and take away his contract, without his consent, was not so simple a matter as the Commissioners appeared to believe; and he announced his intention of requiring that the agreement with him should be fulfilled, and gave notice, in the usual form, that he was ready and willing to perform his part of the contract which had been entered into with him, and should claim the performance of the other part. What will be the result of the affair can hardly be predicted, but it is safe to say that all the blame of whatever happens will be thrown on the Commissioners, who seem to have done simply and exactly what was required of them, that is, to procure plans and proposals, and to accept the lowest tender; and who, in carrying out their duty, have been already made to appear accessory to a questionable tampering with the bids and principals, in an unpatriotic attempt to take the work from citizens of Lowell, and give it to foreign mechanics; and will now have to bear the additional charge of having involved the city in a serious lawsuit, without having advanced in the least the work which they were appointed to carry out. If the head that wears a crown lies unhappily, what shall be said of the heads that wear the honors of municipal appointments?

**FIRE AND WATER**, in answer to our protest against its assertion that "some architect" was probably responsible for the building of floor-beams into flues, which caused the destruction of the palace at Laeken, very graciously retracts its opinion, and concludes that, after all, it must have been the builder and his men, and not the architect, who put the timbers into the flues, and that the architect probably provided in the contract that they should not be put there. Simple as this seems, we believe that it is the first time that we ever saw in any public print an admission that, when a builder violates his contract, and fills his pockets by so doing, it is he, and not the architect, who does the bad work. A few days ago the newspapers set up a terrible moan about a lunatic asylum that was burned, and wondered "when architects would learn how to make such structures incombustible." The trifling circumstance that there is not one decent architect in Canada or the United States who does not know perfectly how to make lunatic or other asylums fire-resisting up to any desired point, and the additional one that real architects seldom have anything to do with public asylums, were not even mentioned; and, of course, the readers of the papers concluded that architects, as a body, were not possessed of the rudiments of the art of construction, and they must, in consequence, be an ignorant and incapable lot. Much as the profession dislikes to make claims for itself, it is time, in the interest of the public, that a distinction was made between the builder and the architect, and between the real architects and the ignorant rascals,

smuggled in by bribery, favoritism, or political influence, who do so large a proportion of public work.

**T**HE architect's business, it cannot be too often repeated, is to design and plan, with reasonable skill, the buildings which are intrusted to him, and to write, with reasonable care and knowledge, the specifications on which the contract is based. He has also, as part of his full service, to visit the building often enough to direct in difficult or unforeseen points of construction, and to keep in hand the general guidance of the work, so that the owner may not suffer through the lack of provision for the due sequence of the different portions of the complex undertaking. Beyond this, the architect assumes no responsibility whatever. If the builder violates his contract, he does so at his own risk, and he is legally and morally bound to rectify his fault, whenever discovered, no matter what may be the trouble and expense which he must incur to do so. This would hardly seem to need explanation, were it not that dishonest builders find it exceedingly profitable to disseminate the impression that the architect guarantees their work; and that, when they commit some outrageous cheat, if the architect does not leave his proper business, and lay hands on them before they get the fraud covered up and concealed, he, and not they, must pay for having their botched work subsequently made good. The convenience, to the thieves, of a theory by which, if a pickpocket could transfer another's wallet to his own possession, without being detected in the act, he would be entitled to keep the money, while the judge of the court in whose jurisdiction the transfer took place would have to reimburse the loser out of his own pocket, is evident; and it is simply an extension of this principle which is, in this country, enriching the cheats in the building trades, at the expense of the architects and the honest builders, and is depriving the community of the most valuable part of the service which architects are, by training and experience, qualified to render, by keeping them, under terror of confiscation of their slender earnings, constantly employed in police duty, when they might be carrying the science of construction, and the beautiful art of architecture, to a height such as neither of them has yet reached.

**T**HE official deliberations of the French Commission for the study of a question of a diploma for architects have resulted, after five meetings, in the rejection, by a vote of fifteen to three, of the proposition to require architects to obtain, by examination, a diploma before engaging in practice, and the rejection, by a vote of eleven to six, of the idea of instituting a voluntary examination for a diploma. The discussion was carried on very earnestly, and there seems to be no doubt that several who would have voted for the obligatory diploma at the beginning changed their opinion through the force of the arguments presented by the other side. Quite unexpectedly, the discussion brought out the fact that nearly every member of the Commission had at heart the wish to see provincial schools of architecture established, and, on the dissolution of the Commission by its official head, the Minister of Fine Arts, it was immediately reconstituted as an informal assembly, and, meeting a few days later in this capacity by invitation of the Minister of Fine Arts, it voted unanimously "to request the provincial societies of architects to study, in concert with the public authority, the means of developing or creating schools of architecture." We are sure that every architect will be pleased at this unforeseen termination of the work of the Commission. After all, education will do more, both for architects and the public, than diplomas, and no more effective means of promoting true progress in art could be devised than the establishment of several good schools of architecture, acting in friendly rivalry.

**T**HE contents of the Castle Museum at Nuremburg, which belongs to the city of Nuremburg, are to be sold at auction in Cologne on the 9th of June and the succeeding days. It is hardly necessary to say that the collection is one of the most remarkable in Europe, and, while it contains, perhaps, no very beautiful objects, it is probably unrivalled in curiosities of historical interest. Tourists will remember well the collection of instruments of torture, particularly the "Maiden," with its lining of spikes, which would make a fine piece of bric-a-brac for an American country-house; but there are also curious old manuscripts and other objects.

RELIGIOUS ARCHITECTURE.<sup>1</sup>—VII.

III. RELIGIOUS ARCHITECTURE OF ANTIQUITY.—GREECE.

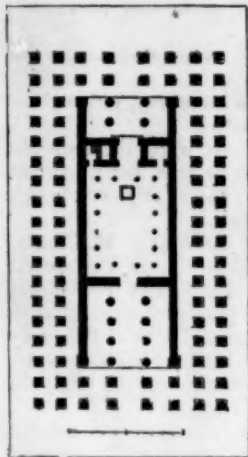


Fig. 3. Plan of the Temple of Diana at Ephesus (6th Century B. C.).

be remembered that, in questions of this nature, the term origin is employed to designate the moment when an art, or a style, first manifests itself under complete and definitive forms. Up to this point, partial trials have been made, and each day has brought an added degree of perfection or some modification here and there. But none of these partial trials has made it possible to declare that this art, or style, originated at such an exact point, or at such a precise date. Endless discussions would arise were we to go into the minute and, after all, groundless researches on this subject. We shall have occasion hereafter to repeat this observation.

The probability is, in fact, that when Chersiphron and Metagenes built the great temple, at Ephesus, they were able to erect a beautiful, complete, and already perfect example of an order which was afterward universally adopted because it had grown out of the very human need to find something new to revive the artistic impressions.

Did this order, which the ancients termed feminine in contrast to the masculine Doric order, originate wholly on Greek soil? May not some distant prototypes of it be discovered in the countries with which Greece held constant intercourse at this period? Without entering too deeply into details, we will admit, with a large body of archaeologists, that the enamels and ivory carvings of Nineveh furnish examples of ornaments, of roses, palmettes and volutes which were features of the Greek style; that the bas-reliefs of Sargon's palace, built in the eighth century B. C., exhibit columns with base and volutes, and bearing quite an important resemblance to the Ionic column; that M. de Saulcy discovered in the Moabite country a capital, of an evidently barbarous epoch, wherein the likeness is striking; and that the pilasters of Thera in Phœnicia display the same characteristics. These facts are all interesting, but they in no way modify the view, which has obtained from earliest times, that it was only on Attic soil that the Ionic order attained that degree of grace and perfection without which it is nothing.

We shall not insist here on the forms and proportions of this order, which can be studied under special subjects, but will merely point out the chief features which differentiate it from its predecessor. In the temple of Nike Apteros, which dates from the age of Pericles, the column including base and capital is 8 diameters high; now, we have seen that in the

BY the side of the ancient edifices noticed above were numerous temples built on a different model, which has been designated under the name of the Ionic order. Though no precise date can be assigned to the origin of this order, it is universally conceded that it appeared later than the Doric. It has already been pointed out that the column, which was made heavy and short by the timid architects of early times, continually increased in height and slenderness as the processes of construction were perfected, and this fact alone would suffice to establish the priority in point of time of the Doric order over the Ionic.

According to Vitruvius and Pliny, the Ionic order appeared for the first time at Ephesus, in the great temple of Diana. It must

sixth century B. C. the Doric column was only  $4\frac{1}{2}$  diameters high; the temple of Theseus, at Athens (Figures 4, 5), which was exactly contemporaneous with the Nike Apteros, marked a considerable progress in the matter of proportion, but the column did not yet exceed  $5\frac{1}{2}$  diameters. The intercolumniations of  $1\frac{1}{2}$  diameters in the Doric became 2 or even  $2\frac{1}{2}$  in the Ionic. The bases and capitals are calculated to soften the crudely expressed contrasts of the Doric; the architrave, with its divisions gives greater variety. To sum up, it may be said: "The Doric is short, thick set and powerful; the Ionic is slender, elegant and delicate; the Doric is bare and severe, the Ionic ornate and reaching out for decoration. In its nudity the Doric displays its innermost elements, its framework and fastenings, as the sculptures of Phidias reveal all the bones and muscles of his figures; the Ionic conceals all projections; it clothes its framework in soft, smooth, harmonious forms, as Praxiteles clothed his statues."

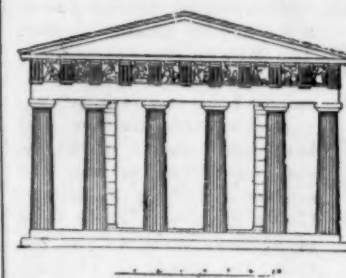


Fig. 5. Façade of the Temple of Theseus at Athens (5th Century B. C.).

Are other proofs required to demonstrate that the Ionic belonged to a more refined and, consequently, to a later civilization than the Doric?

We have enumerated above the chief edifices which mark, in the sixth century B. C., the rise and growth of Greek art; it reached its zenith in the fifth century B. C., the age of Pericles. It is to this period of full flowering that we must assign, for the Doric order, the temple of Theseus (Figures 4, 5), the Parthenon (Figures 6, 7), and the Propylæa, in which the proportion was  $5\frac{1}{2}$  diameters.

Later, under Macedonian supremacy, the columns were loftier, as in the temple of the Nemeian Jupiter, near Argos, where they were 6 diameters high. To this same epoch belong also, in the Ionic order, the Erechtheum (Figure 8) and the temple of Minerva Polias at Athens. The Ionic proportions have also varied considerably, for in the temple of Minerva, at Priene, the columns were 8 diameters high only, as in the temple of Diana at Ephesus; in the small temple on the banks of the Ilissus the ratio was  $8\frac{1}{2}$ , in the temple of Juno at Samos it was  $8\frac{1}{2}$ , and in the temple of Apollo at Didymi, the temple of Minerva Polias and the Erechtheum at Athens it reached 9.

Such were the two orders constantly employed by the Greeks. The Corinthian, which was more recent, seems, nevertheless, to have been of quite a remote origin, if traces of it are to be found in the tombs of Theira, in the ruins of the temple of Apollo at Bassæ, and in the temple of Apollo at Branchidæ. It was Callimachus who, in the fifth century

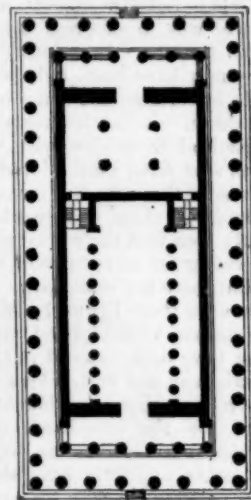


Fig. 6. Plan of the Parthenon at Athens (5th Century B. C.).



Fig. 7. View of the Parthenon at Athens.

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<sup>1</sup> From the French of P. Planat, in Planat's "Encyclopédie de l'Architecture et de la Construction." Continued from page 97, No. 751.

B. C., gave it its final form, such as it appears in all its perfection in the Choragic monument of Lysicrates at Athens. The temple of Ceres and Proserpine was likewise of this order; but the Roman period was reached before it came into general use. Its pomp and wealth must have been especially suited to Roman taste.

It remains to note, as of quite rare occurrence, the Persian order, in which the shafts of the columns were replaced by Persian slaves, and the Caryatic order in which the slaves were replaced by female figures. The Pandroseium at Athens furnishes a very beautiful example of this last variety.

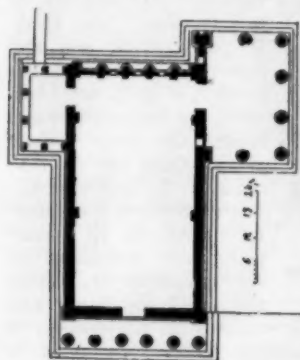


Fig. 8. Plan of the Erechtheium at Athens (5th Century B. C.). Scale of 0.002 per metre.

A few words must be said here concerning a much disputed question, to wit, the manner of lighting the ancient Greek temples. There were no windows in the walls of the cella; the temple of Theseus, the Parthenon and the temple of Agrigento, like the more recent temple of Nîmes, have preserved these walls intact to the very summit; no opening to admit the light is seen in any of them. The few rare exceptions in no way invalidate the rule; the apertures in the Erechtheium are into a dark corridor, and those of the temple of Concord are on the staircases. As a general rule, then, the ancient temples received no light from without.

When light was to be obtained through walls the usual course was to suppress the façade, as in the temple of the Nike Apteros. In ordinary structures, however large or deep they may have been, light was admitted only through the door.

It is certain that some of the temples were wholly closed overhead. It is also certain that in the large edifices the hypæthral disposition, with three naves—the central one *sub divo, sine tecto*, that is roofless, as indicated by Vitruvius—furnished the necessary means of lighting. Although sufficient remains of their framework do not exist, it is, nevertheless, easily seen that their arrangement might be very simple, while providing for an open court in the interior.

But there are some large edifices that were not hypæthral; how were these lighted? Moreover, in the hypæthral temples, the statues, valuables and tapestries arranged around the naos must have been exposed to all the inclemencies of the weather, to rain, sun and dust, which would soon deface them.

Archæologists have fought many hard battles over this subject. On the one hand, a bit of interior cornice with a corona, found at Paestum, would point to an inner open space; but other explorers have shown that this temple must have been entirely covered. Small glazed lanterns have been suggested as a possible solution of the vexed question, as well as windows in the roofs; panes of glass 11½ inches broad have been discovered. There has been talk of talc and of specular stones furnishing large transparent flags; and many other solutions have been hazarded. The real conclusion of the whole matter is that nothing is certainly known about it, that as yet there have been no discoveries that can settle the debate, and that for the present it is prudent to leave it in the hands of archæologists.

Another question, which has been just as heatedly discussed, has at least the advantage of having found an almost universally accepted solution. We refer to the question of polychromy in the temples. As regards the interiors, the debate was long ago brought to an end by the unearthing of the Pompeian structures, which proved the constant use of painting among the ancients for interior decorations. But when Hittorf first proclaimed in 1824 the theory that the exteriors of the temples were also painted and stuccoed, the proposition was received with protests not unmingled with expressions of horror. The unanimity of the results now obtained from manifold researches shows that Hittorf's theory was not merely dependent upon chance exceptions for its support, but that polychromy was in general use in ancient times. Ancient texts and the colored representations on antique vases, moreover, corroborate the conclusions which have been generally accepted. It remains only to determine whether beautiful marbles, such as the Pentelic, were coated and painted like common stone. There is little room

for doubt in the matter; it may, however, be assumed that, in order not to detract from the beauty of such material with its clear cut lines and pure natural tone, a sort of encaustic was employed which had the advantage of preventing the defacement of the surfaces by sun and rain.

The temple floor was often made of colored stucco; at Ægina it was vermillion.

The steps were perhaps faced in the same way, although no very direct evidence of this has been found.

From the sixth century, the columns were painted. At Corinth the revetment stucco is still to be seen, but it has lost its color; at Metapontum it is yellow, and at Ægina it is of a very pale hue, apparently a light yellow.

The capitals were likewise painted. At Ægina, M. Charles Garnier discovered a deep yellow ochre tint in the stucco, which he thinks was obtained from a primitive red slowly united with the gills. At Paestum the palmettes were colored.

The triglyphs of the frieze were painted blue. This may be seen in the Parthenon, as well as in the Sicilian temples and at Ægina. The band, or tenia, connecting the triglyphs was red; the guttæ were blue like the triglyphs.

When the metopes were carved, the foundation was painted red; this can be seen at Selinus. When there was no carving it is uncertain whether the marble was left white, or was colored to bring out the triglyphs.

The mutules of the cornice were always tinted blue; the spaces between them were red, as was also the fillet underneath. The guttæ were left white or were painted yellow. The corona was red; on this background there was perhaps a palmette pattern with leaves alternately upright and reversed, alternately green and blue.

The bird's beak of the rampant cornices and of the antæ capitals was decorated with alternately red and green, or red and blue, leaves; sometimes they were red and brown. Their edges were originally white, but were afterward gilded.

The pediment was blue. On its cyma was a leaf and dart pattern; the darts were blue, while the leaves were painted red or green.

The crowning ovolo of the cornice was in two shades of terra-cotta.

The tiles, the acroteria and the antefixæ were of a brilliant yellow or red. A very peculiar detail is noticeable in the temples of Sicily; the tiles are found here painted upon both sides, which warrants the conclusion that they were visible from the interior, as in the basilicas.

[To be continued.]

## ITALIAN TOWERS.<sup>1</sup>—II.



YOU have only to go a block down the Via Proconsolo beyond the Bargello, in the direction of the Arno, and take the street to the right, and in a moment you are out in the square of the Signoria. Nearly everything that ever happened in Florence happened here. We used to come down through it on the way to the *poste restante*, coming into it from the other corner from the Via Calzaoli, for we lived out upon the Via Cavour just beyond the Duomo. Our first glance was always at the tower of the Vecchio. The palace itself is not particularly striking. The exterior is distinctly ugly, and except the court-yard inside with its stucco-covered columns which are the occasion of a withering blast from Ruskin; one or two rooms upstairs; the great hall where Savonarola sat with the council years ago, and where they have grand balls and exhibitions now; and two or three doorways of marble; there is very little inside of particular interest. Of architectural interest I mean, for to the student of political history every room and every stone, nearly of the building has something of interest to tell. It was built for the Signoria, the governing body of Florence, in 1248, "for their greater glory and security," the records say, and they occupied it with one or two interruptions until Cosimo, the founder of that wonderful line of the Medici, appropriated it as his palace. It was altered and added to from time to time. In 1342 Andrea Pisano, a pupil of Giovanni Pisano, made some alterations for Walter de Brienne. Andrea Pisano, by the bye, executed the bas-reliefs upon the Campanile of Giotto from the latter's designs. He was no relation of Nicola, but probably took his name as assistance in securing clients. It is astonishing to find how deeply Florence, and in consequence the greater part of Italy, is indebted to Nicola Pisano, for all that

<sup>1</sup> Continued from No. 745, page 6.

is good in architecture and sculpture. Arnolfo di Cambio was a pupil of his, and his pupils, together with those of Giovanni Pisano; designed nearly everything of merit that Florence boasts.

But the tower itself is both beautiful and interesting. To come from some side street, dark and damp and cold, suddenly into the Piazza all ablaze with sun, with the great fountain playing, if it be Sunday or a fête day, on the spot where Savonarola died, and right in front the tall and slender shaft of the tower lifting itself high into the air, is to see it at its best. "Lifting itself" is used advisably, for there seems always to be an upward movement to the tower, peculiar to this and to the Siena tower, which is almost its counterpart. Why it should be so strong, I do not know; very possibly it is the sharp angle at which the corbelling of the tower parapet leaves the shaft which gives it this "growing" aspect. It is of coursed ashlar, large at the corners and in the main body of the tower made of much smaller stones. The tower also was designed by Arnolfo di Cambio. It was built (as was the Bargello) upon an existing tower, that of the Vacca family, which probably gave to its bell the name La Vacca. Arnolfo lifted it to nearly three hundred feet, and doubtless left it in much the shape and condition that the Bargello remains to-day. But in the fifteenth century, when at last the

I think the size of the stones in the tower one of its greatest charms—the size and the shape. Of course they vary, but the great mass of them seem very small, hardly larger from below than brick, and they are cut so as to be almost cubical. The courses are laid rather irregularly, too, and are not always strictly horizontal.

Aside from its architectural merit the tower is full of interest. Cosimo de Medici, Savonarola and many others were imprisoned in it, and a recital of the struggles about its base would be a history of Florence. Considered with the building, the tower does not harmonize well. It must have agreed far better with that before its extension by the Medici, but it is in itself a very satisfactory tower, and whether seen from the Lung Arno end of the Uffizi arcade, from Fiesole, Bello Sguardo, or San Miniato, it is always very beautiful. Giotto's tower from afar loses much of its beauty, but the Vecchio not one whit.

It may be worthy of remark that several good Florentines have so far appreciated the worth of the tower as to fashion models of it in brick or stucco, and place them upon their roofs as chimneys. Such bits of humor are common among Italians of a later time. "Popular" art and architecture in Italy at the present day are, if possible, as low as in America, and a century ago were, indeed, much lower.

Although in our Italian wanderings we went to many places and saw many towers before that of the Siena town hall, that one is so closely allied to the Vecchio that I shall anticipate our visit there a little and describe it now. Perhaps it should in justice have come before the Vecchio tower, for that is doubtless a copy of Siena's. The lower part of the Vecchio was built, it is true, before the Siena tower, but the upper portion, wherein the two towers are more or less alike, was added long after the Siena tower was built, and after Siena came into the power of Florence. Evidently the Florentines, after conquering their mountain rival, did not scorn to adapt that as their own, which they considered worthy, and everywhere in the two cities one is struck with the points of similarity in detail and composition. It would be interesting to go first to Siena rather than

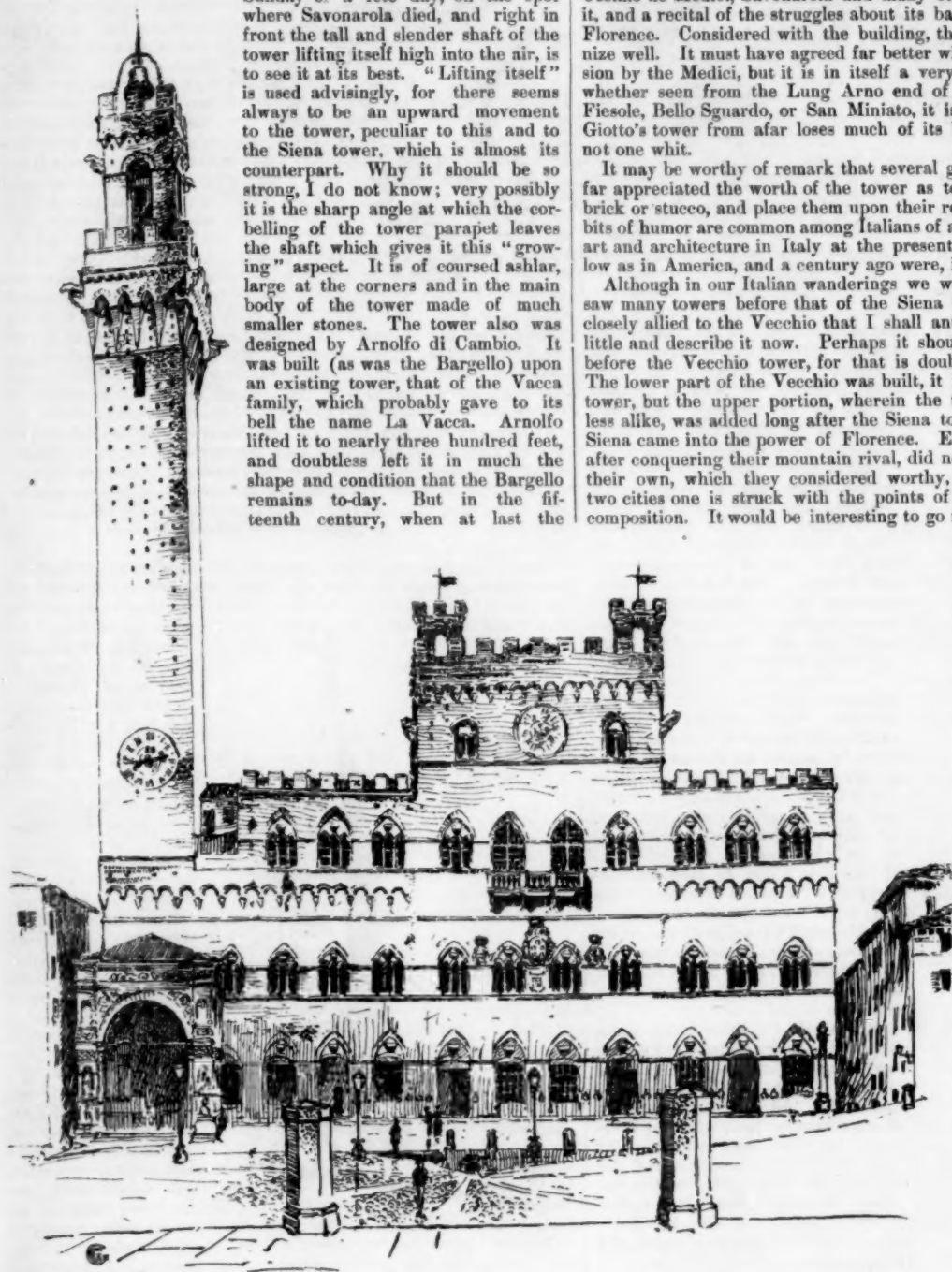
Florence; for Siena is in every way the older city now. To us, coming up from Florence where we had been for several months, the feeling that we had reached the Hub of Tuscany was very strong. The essence of Florence was there, the narrow streets, the overhanging eaves, the wrought-iron banner standards, the Palazzo Vecchio and the Duomo were all in Siena in an intensified form.

It was a raw, windy March morning when we came into the semi-circular Piazza di Campo, on the straight side of which the Palazzo Pubblico, with its tower, stands. It is always windy in Siena, by the bye, and the wind draws through the long and narrow streets which are often but tunnels, with an earnestness of purpose which is truly appalling at times. And all the women of Siena, by the bye again, wear the most enormous hats of plaited straw—quite two feet and one-half in diameter as

to brim, and with the merest apology as to crown. I think the connection between these hats and the Siena winds was the first thing that struck us there.

But to come into the Piazza di Campo again. If you enter from the side towards the Cathedral, you will go down a flight of steps and under the first stories of the encircling palaces by a vaulted way and come out opposite the palace. It takes nearly the whole diameter of the semicircle, and the two wings bend a little and reach toward the centre of the Piazza. It is all of brick, of long, narrow, dark red brick, much like the old Roman, but a little shorter and thicker. At the base of the tower is a marble chapel, the Capella di Piazza, somewhat after the plan of the Bigallo in Florence, and erected as a sort of thanksgiving offering to the plague for killing only thirty thousand of the good people of Siena.

The tower itself rises grandly above the left wing of the building.



The Palazzo Pubblico, Siena.

Ghibellines came into power, the upper part with its forked merlons, was added, and from the heavy and sombre tower it was changed to one of great beauty and lightness. Around one of its four columns an iron staircase winds to the top, one of the dizziest places in all Italy.

It was a difficult tower to sketch, for all the itinerant venders in Florence are congregated in that square, and they flock to an Anglo-Saxon as crows around a bewildered owl. Then there were more or less English and American tourists who looked over our shoulders and made remarks in our native tongue which we tried hard not to hear. It is not a square tower, but is several feet wider on the sides than the front. This peculiarity would hardly be noticed, however, unless one counted the merlons or the corbels below. The idea that a tower should be square probably never entered Arnolfo di Cambio's head.

The red brick, of a lighter shade than the body of the building, gives it a warmth that is very pleasing, and all the length of the tower, four or five feet apart vertically, and every five or six courses of brick horizontally, are little square holes — probably left for the staging timbers — at least, that was the only explanation ever given me in Italy that seemed in the least degree probable.

The Roman wolf, which occurs all over Siena as the emblem of its former dependence upon Rome, is very prominent on the tower, and rather in the guise of a gargoyle, too. Evidently, the motive came from the North, for it is quite foreign to all Italian art. They rarely grew depraved enough in Italy, even in their darkest periods of art, to perpetrate gargoyles.

The battlements, unlike those of the Vecchio, are square, for when the tower was built — between 325 and 345 — the city was probably a member of the Tuscan-Guelph Confederation. It was in its golden epoch then, and, as was usual in the times of greatest prosperity in Tuscany, there was continual fermentation and over-boiling of factions and parties.

Every tower almost in Italy has its pet name, and this is called La Manzia, and there used to be a stone figure of a man upon it, who struck the hours upon the bell, and who was a sort of popular idol with the Siennese. The man is gone now, and the bell is supported by four stout wooden spars, much like the davits of a ship's boat, and the hours are told in the ordinary prosaic way.

The change from brick to stone in the upper portion of the tower is striking. The stone is of a grayish buff, much lighter in color than the brick, of course, but the large blocks of stone seem a little out of place above the brick. There is a solidity and strength given by it, however, which would not have been attained by the brick alone.

There is a narrow and exceedingly dark staircase leading to the top, and, once there, there is a "single-star" Baedeker view. With so many other beautiful views in Siena, however, from points so much more accessible, one hardly needs to make the climb.

All in all, the Florentines, when they added their top to the Vecchio tower, improved upon the Siena model. Up to the first parapet, Siena's has the best proportion, but above there she must yield to Florence, for the round columns, with their richly-carved capitals, and the finished top covering the bell, are far more pleasing than the rather heavy upper story, with its after-thought in bell-hanging, upon the Siena tower.

And now, if you please, we will leave Siena for a time and come back to Florence, and, once more in Florence, let us look, for a change, at the tower ecclesiastical.

The civil towers throughout Tuscany are, as a rule, superior to the buildings of which they are a part, while in the case of the finished churches the reverse is apt to be true. Probably, with such an endless

number of church campaniles, it is inevitable that many of them must be bad or indifferent, while the civil towers are less numerous, and had, in general, much more care and time bestowed both on their design and construction.

In Florence the same rule holds. The bad church towers outnumber the good, but, despite that, there are more good towers in Florence than in any of the Italian cities that we visited.

We did not sketch any of them until we had been in Florence

many weeks. We looked at them critically, and very soon found how easy it was to find reasons for imaginary good points which we chose to consider as existing in many of them, and how easy to prove nearly any of them wholly bad. But we were, on the whole, very lenient. We had come to Italy to admire and learn, and we should have been neither true critics nor students had we done otherwise than admire, at least.

I think the first tower we noticed especially was that of Santa Croce. Let me mention here that Giotto's campanile is always considered apart from the others in Florence. Santa Croce, too, seemed to be a popular tower with every one — at least, until it was found to be a relatively modern restoration, and then

almost every one dropped it at once. And, after looking at it a few times, we decided, all prejudice aside, that it was not particularly good — hardly better than the little tower of San Marco, which we sketched one day from the cloisters of the convent where Savonarola lived; the cloisters where he doubtless aired himself mornings, and where you generally find now three or four American or English girls sitting on little portable stagings, and copying Fra Angelico's *lunettes*, which are above the four doors at the corners of the court.

This little tower of San Marco is all covered with stucco, and it looks very neat and smooth. If the stucco were only scraped off, it would be a very pretty little towerlet indeed, although it is exceedingly simple.

But, passing by this with a glance, and continuing to the west, you are almost sure to come out before Santa Maria Novella, and

if Santa Croce, the Franciscan church, seemed to be conspicuous by its tower, the Dominican church of Santa Maria Novella did not, for its tower is, everything considered, the most thoroughly satisfactory in all Florence.

It is fitting that it should have more of beauty and dignity, more outward show and display, for it but carries out the spirit of those two great brotherhoods, the Franciscan and the Dominican. Decidedly, the Church of Santa Maria Novella stands for St. Dominic, and Santa Croce for St. Francis. Santa Maria Novella is grand, imposing and beautiful, and asserts its qualities in every line. Santa Croce is impressive from its barrenness and silence, but for no other reason on earth except the possession of the most deadly, unholy and villainous chill that ever entered into grave or tomb. It is the coldest

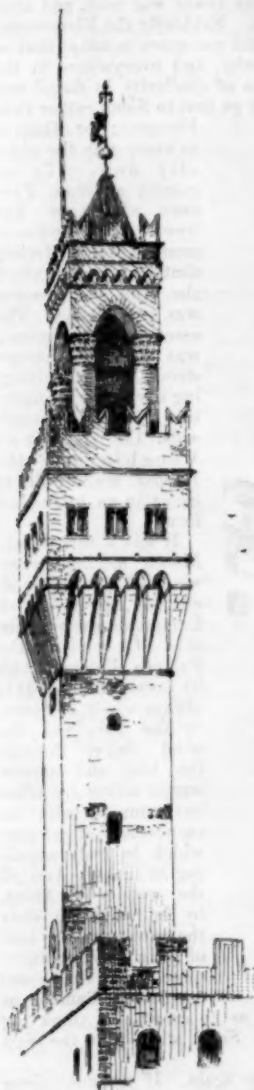


Santa Maria Novella, Florence.

place in the world, and if St. Francis's cell was half as damp and frigid, all doubts as to the genuineness of his supernatural sanctity are removed, for no mortal could have supported life under such circumstances for any length of time.

But to return to Santa Maria Novella, the Dominican stronghold. It is one of the very few churches in Italy in which the composition, entirely independent of exterior ornament, is really worthy of notice, and this, too, applies to the older portion, the rear, and not to the front, which, although striking, is not lovely. But at the rear the church is very pleasing. The transepts, the chapels and the choir all cluster together about the tower in a most charming way; and the tower is simple, dignified and elegant, with a strength which is all that one or two other towers in Florence lack to make them close rivals.

As is the case with most of the Florentine towers, it is hard to



The Palazzo Vecchio, Florence.



FROM THE PALAZZO VECCHIO FLORENCE DEC 13 1888

find a decent vantage-point from which to see it, for from the cloisters of the church which generally afford the best views of the towers, and from which the towers of the Churches of the Badia, Santa Croce, San Marco and San Spirito all look their best, the Santa Maria Novella tower is too close, and in almost absolute elevation. After much walking about, we finally climbed upon a low wall against the railway station—a most wily move, for, once there, we were out of the reach of all critical and admiring crowds—and there we got our most satisfactory view of the tower and the church as well. It is a tower of small ashlar, sometimes coursed and sometimes random, and all time-stained and moss-grown into the most beautiful colors—a general tone of amber, which shades at times into gray. Its openings are much like the conventional Italian ones: two at the lower course, then next above three; but instead of four for the next in height, which is apt to be the case, the three are simply enlarged, and the centre one is semi-circular, while those at the sides are pointed.

Above the cornice, which shows the memory of the Classic which Italy never lost, the tower runs to a sharp point. This is managed, too, with great skill by the introduction of the gables on each side just above the cornice line, and by tilting the whole spire, too, for about two feet before commencing the drawing in. Had the designer of St. Mark's, in Venice, adopted something of the same idea in finishing his tower, the effect would have been much more pleasing.

The spire is of brick covered with cement, and all stained the same rich browns and grays by time. Color is everything in Italy—a fact we fully realized on getting back north of the Alps—and the blackness and grime of Paris and England were greatly intensified after six months south of the Alps.

The rising of the tower from one of the transepts is very common throughout Italy. I think it is universal in Florence. On the opposite corner of the same transept from which the tower rises the treatment is quite unique.

The architects of the older portion of the church and the campanile were, first, Fra Listo and Fra Ristono, two Dominican monks, and, after them, Giovanni di Campo, who, in 1349, finished the work which they had begun in 1278. To whom among them the credit of the tower chiefly belongs I do not know, but whether to the Dominican friar or to Giovanni di Campo, he deserves to be remembered for one of the most beautiful towers of the best period of Florence.

GEO. CLARENCE GARDNER.

[To be continued.]



THE BILL FOR THE REGISTRATION OF ARCHITECTS.—THE TORONTO ARCHITECTURAL GUILD'S SCHEDULE OF CHARGES FOR THE USE OF ARCHITECTS.

THE act passed by the Ontario Provincial Parliament is now printed and before the public, and it is disheartening to see how the Government, who fathered the bill, has ruthlessly cut and chopped it about so that its main objects are defeated. After hours of real hard labor on the part of those who drew up the bill, the Government took it in hand, and in perhaps half an hour so disfigured the draft that it is hardly to be recognized as the offspring of the Ontario Association of Architects.

The act is too long to give here in full, but I propose to give an epitome of it, and show wherein it differs from the act drawn up by the Association.

The main points of the act, as submitted to the legislators, were, first, "the protection of the public interests in the erection of public and private buildings in the Province," and, secondly, "to ensure a standard of efficiency in persons practising the profession"; and this is what the preamble of the bill, as passed, states as the nature of the bill. But subsequent clauses of the act go to undo these very particulars.

"Whereas it is deemed expedient for the better protection of the public interests in the erection of public and private buildings in the Province of Ontario, and in order to enable persons requiring professional aid to distinguish between qualified and unqualified architects, and to ensure a standard of proficiency in the persons practising the profession of architecture in the Province, and for the furtherance and advancement of the art of architecture, therefore Her Majesty, etc., enacts as follows." So far so good, and then come the usual clauses about the name of the act, the incorporation of the Association, their legal standing, and so on.

Clause 5 refers to the "Council," and Clause 6 arranges for its composition, which shall be of nine persons, to be appointed by the Lieutenant-Governor within a month after the passing of the act. These nine persons must have been residents and practisers of the profession for at least ten years in the Province, and their times of meeting are decided on by this clause.

Clause 7 regulates that the first three names mentioned shall hold office for three years, the next three for two years, and the remaining three for one year.

Clause 8. Election by ballot.

Clause 9. Qualification for election to Council.

Clause 10. All elected members hold office for three years, except as afterwards provided, five to form a quorum.

Clauses 11 and 12 regulate procedure in case of resignation or death of members of Council, and elections to fill vacancies.

Clause 12. As to settlement of disputed elections.

Clause 13. Meetings of Association and Council.

Clauses 14 to 16. Regulation of meetings.

Clauses 17 to 19. Fees to Council for attending meetings, appointment of registrar and other officers, and salaries to be paid to them.

Clause 20. Power and authority of Council to appoint examiners for students desiring emolument; to make rules regulating admission of students and architects, to settle fees, and to arrange as to terms upon which it will receive certificates of other educational institutes of the Province.

Clause 21. Students are exempt from the preliminary examination who have matriculated in arts in any university in Her Majesty's dominions or in the Ontario School of Practical Science.

Clause 22. "Any person practising the profession of architecture on the coming into force of this act may become a member of the Association by causing his name to be registered . . . within three months of the appointment of registrar," and by paying fees, etc.

(The original form of the act excluded all architects who had not been in practice for two years in the Province prior to the passage of the act.)

Clause 23. Applicants for registration as architects must be twenty-one years old, and have been students properly articulated for five years.

Clause 24. Regulations for students who desire to enter the profession: their registration, payment of fees and examinations.

Clause 25. (This is one against which the Association has kicked and kicked in vain.) "From and after the first day of July, 1890, no person shall be entitled to take or use the name or title of 'registered architect,' etc. . . . unless he is registered."

(The original document had the word "architect," intending that this word should stand as a guaranty of ability; but now, according to the act, any one may still call himself an "architect," though he may not use the word "registered." But who wants to call himself, or stick up on his name-plate, "registered"; might as well be a monthly nurse or a baby-farmer. "Any person not entitled using this name shall be liable" to fines, which are stated.)

Clause 26. Duties of the registrar.

Clause 27. Punishment for falsification of register.

Clause 28. Punishment of any person for fraudulent representations under the act.

Clause 29. Architects acting as professional witnesses to be paid same fees, etc., as allowed to provincial land-surveyors (i. e., five dollars).

Clause 30. Recovery of debts due the Association.

Clause 31 relates to posting and delivery of notices and documents.

Clause 32. Application of fees and moneys received by treasurer, and investment of same by Council.

Clause 33. Keeping of books.

Clause 34. Keeping of the register.

The act, as drawn up by the Association, contained some clauses which have been entirely rooted out by the Government; clauses of great importance for the purposes of the act, but which, apparently, they considered too important to pass, and therefore expunged them altogether.

Clause 34 of this draft would make it impossible for any man not registered under this act to obtain or recover fees for professional services in any court of law.

Clause 35 makes it unlawful for any city authorities, local boards, boards of works, or other public body in receipt of public moneys, to appoint any unregistered person to the office of building inspector or similar offices, under which inspection and approval of plans for buildings of all kinds would be done.

Practically, this last clause, and the one restricting the use of the word "architect," formed the backbone of the bill as prepared by the Association. The one the Government obliterates, and the other it renders objectionable and almost useless by the interpolation of the word "registered," and why they should have insisted on this it is hard to say, except that possibly they thought they would be doing harm to those architects who are no architects. They have not asked themselves the question whether, by shielding these men, they were protecting the public. They declare their purpose to be that of protecting the public, and then make no attempt to hinder those who do them injury, for who among the public is going to look out for the word "registered" on an architect's name-board. No, they all will see "architect" as heretofore, and will be bitten in consequence. "Registered doctor," "registered lawyer," "registered clergyman": either they are doctors, or they are not; lawyers, or mere adventurers; ministers, or agents of the devil. Why, then, should a man be allowed to call himself "architect" when he is not, or why should a proficient be forced to call himself "registered" in order to ensure his being recognized as an architect. If he is an architect, he is an architect, and, if he is not,

he should be prohibited by the most stringent measures from abusing an honorable title. He should be subjected to fines and imprisonment, be made unable to collect his fees (for he has no right to them) in any court, and he should be forced to go back to his original trade—contracting, building, scallawagging, or to his wash-tubs, as the case may be, or anything he likes, for that matter, so long as he ceases to attempt the practise of the art.

The act says nothing about expunging from the register the names of any guilty of such acts as in Her Majesty's dominions would be misdemeanors or higher offences, or guilty of acts, after his registration that would be contrary to the regulations and by-laws of the Association, as was arranged for in the draft. Possibly that power is conceded to the council who can "make all rules, regulations and by-laws necessary for the proper working or carrying out of the provisions of this act," and, if so, such a rule could be made, but the expression of such a regulation in the act itself would have been of greater weight. No mention is made in the act as to the power of the council to fix a tariff of fees, and several other minor clauses are struck out.

The important feature in which there is any value, is perhaps the recognition of students and the rules by which they are to be admitted to studentship under registered architects. Up to the present in the absence of all rules and regulations, just as anybody can set up as an architect, so any boy can be a student, and when, in his own opinion, he has been a student long enough, or studied sufficiently, then if he can get a two-thousand-dollar cottage to start upon, he sets up as an architect. Now, however, notice and proof of existing studentship must be given within six months of the passing of the act, and this notice must be accompanied with properly executed articles of indenture for the term prescribed. All new students after the passage of the act must be presented by a member of the council, have their names entered, pay the fees and submit to the examinations, and all who are article to serve for a shorter term than five years, must make up this full term and pass the examinations before being entitled to register as an architect.

It is intended that the examinations shall be qualifying, and that he who has passed the final shall be considered capable of practising as an architect. Details of examinations, and all rules, regulations and by-laws have yet to be arranged by the council which, at the present time, is non-existent.

To sum up the act, the one thing to be said about it is that it is a step in the right direction. As I said before, it is easier to amend an act than to obtain one, and if the Association will endure patiently the indignity of being "registered architects," they need not endure it for long. Let them accept dry bread, and in due time they will get some butter. "Half a loaf is better than no bread," to most people; but, when by the acceptance of the half loaf you are in a position to secure a whole one, by all means hang on to your demi-quartern.

Several months have passed by since the question of a schedule of charges was brought up at the meetings of the Toronto Architectural Guild, and the Committee have been able to report at last on the result of their labors. The new schedule, which has been in force in a good many offices for some months, has, however, recently been printed in the form of a small pamphlet, convenient for enclosing in ordinary envelopes for the use of clients who desire to know the usual fees and commissions, and this handy little leaflet contains about as complete a schedule as has heretofore been drawn up. By this list a client can see for himself that these architects do not mean to be imposed upon, and made to do a great deal of work for a mere pittance; every class of work is arranged for, from the first interview down to the final settlement and one great point is, that the charges are in all cases just what the work can be done for. Often under older regulations an architect has felt that for his own credit he has been obliged to take a great deal more trouble and do a great deal more work than the remuneration of 5 per cent on that particular building would really pay him for; in other words, he has been obliged to do his work at a loss because his reputation being at stake, he could not afford to let his work be spoiled because he was not getting an equivalent commission, but now he is to receive a commission in proportion to the importance of the work he carries out, and the trouble to which he is put to suit his client's requirements.

The main clauses are as follows:

For plain factories costing \$5,000 and upwards, 3 per cent.

For plain warehouses costing \$5,000 and upwards, 4 per cent.

For churches, colleges, schools, opera-houses, office-buildings, court-houses, exchanges, city-halls and other public buildings costing \$5,000 and upwards, 5 per cent.

For residences costing \$5,000 and upwards, 7 per cent, but for plain work which does not require many details, drawings or consultations, 5 per cent.

In all the above classes of work when the amount expended is less than \$5,000, the charge will be in excess of the above rates in proportion to the labor required to properly carry out the work.

For alterations . . . charges are in excess of above.

For designing interior fittings, decorative work, etc., from 10 to 25 per cent will be charged.

For selecting tiles, glass, etc., 10 per cent.

"Supervision" by the "architect or his deputy" is defined as such inspection as he finds necessary to ascertain whether the work is being carried out in conformity with his designs, and to enable him to decide about the amounts due to contractors for the work done.

It is also stated very clearly that all drawings and specifications

are the property of the architect. "The client, however, has a right to duplicate drawings on payment of the actual cost of making these copies," and on agreeing that he will not use them for building again, without making an arrangement with the architect and paying commission as set forth, and so on.

The Architectural Guild of Toronto really deserves the thanks of the profession at large, for the issue of such a schedule, and other associations will do well to look into the matter for their own benefit, and I doubt if they can do better than adopt it for their own use in its entirety.



## AUSTRALIA.

GOVERNMENT ARCHITECTURE IN AUSTRALIA.—WEATHER CYCLES.—THE ARCHITECTURAL OUTLOOK.

SYDNEY, N. S. W.

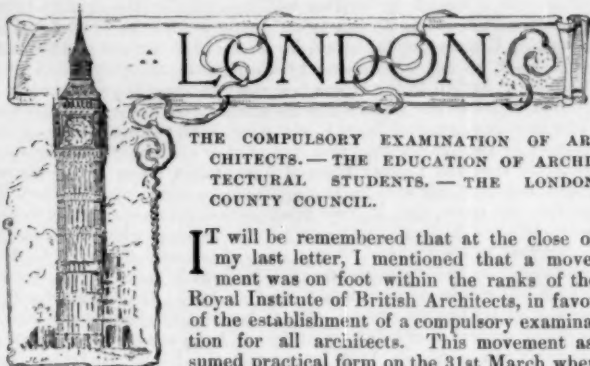
THE complaint, made in my last letter, that architects in private practice here never get an opportunity of erecting buildings of a public character, has become more general, and a few weeks ago a deputation of the principal architects of the city waited upon the Mayor, to ask him to throw open to public competition the new Market Buildings which the municipal authorities purpose to erect. As Mr. Mansfield, the spokesman of the deputation, pointed out, it was not desired in any way to limit the consideration of the subject to this one work. What was asked was whether designs for large important buildings should not be submitted for competition among the members of the profession. New South Wales is the only part of the world where the designing of public buildings is entirely confined to the officers of a government department. It is not the practice in England, or on the Continent; neither does it seem to be the practice in America. The Mayor admitted that the deputation had made out a good case, and promised to do what he could to further its object. So there is a faint hope that we may eventually see the collapse of the short-sighted policy which is responsible for this unsuccessful and expensive architectural monopoly.

Mr. Egeson, a young meteorologist engaged at the Sydney Observatory, has recently revived the old theory of weather cycles. Seasons of heat and cold, drought and rainfall, recur, he tells us, at regular periods, and these periods are indicated with a tolerable degree of certainty, by the increase or decrease of the spots on the sun's surface. His first forecasts, based upon this theory, were not altogether successful in regard to date; but the rains he then predicted came within a fairly reasonable time, and gave him a local reputation as a weather-prophet. Emboldened by this partial success, his next prediction was to the effect that, after an exceptionally heavy rainfall in the first half of the present year, there would follow a three years' drought. At this the "pastoralists," not unnaturally, became alarmed, for, though disastrous floods are not uncommon, in Australia there is nothing the squatters dread so much as a prolonged drought, and one of three years' duration would mean ruin to most of them. The Government astronomers in the various colonies were, thereupon, appealed to, and these gentlemen, by way of restoring public equanimity and asserting their own superior knowledge, publicly derided Mr. Egeson and his theory. That imprudent young prophet had then the temerity to retort that there were, perhaps, many things undreamed of in their bureaucratic philosophy, and then he offered to stake his position, and what little reputation he had, on the result of his predictions. This reply savored so much of a challenge that official dignity felt itself assailed, and Mr. Egeson was informed in a ministerial minute, that, while he remained in the Government service, he would not be allowed to publish any more of his disquieting prophecies. This was some months ago; but the sequel to it all is that, since the beginning of this year, we have had the heaviest and most persistent rains that have been seen for many a day.

It is, in a great measure, the result of the fulfilment of the first part of this forecast that there is absolutely nothing worth noting in the building line this month; if the second part is as literally verified, there will be no architects required here in a little while. But the most dogmatic of scientists sometimes go astray in their calculations, and we all remember Wiggins.

But speaking seriously, the architectural outlook is sufficiently gloomy. Last year, according to the City Surveyor's report, there were 170 buildings erected within the city of Sydney. Now there are, at least, one hundred firms practising their profession as architects in the city itself; and when it is remembered that nearly one-half the work is done by three or four of these, the amount of business which remains to be divided among the others is not, it will be admitted, very great. Of course, to this must be added the various buildings in the suburbs and the country, though the majority of these are erected without any professional supervision. An opportune pupil's premium may also help many a needy architect to eke out a precarious existence, but this is a source of income which it is unwise to rely upon to any great extent; and, as a local professional paper sarcastically remarks, there is not much inducement to

a father to pay a premium for the education of his son in such a liberally rewarded profession as that of architecture.



THE COMPULSORY EXAMINATION OF ARCHITECTS.—THE EDUCATION OF ARCHITECTURAL STUDENTS.—THE LONDON COUNTY COUNCIL.

It will be remembered that at the close of my last letter, I mentioned that a movement was on foot within the ranks of the Royal Institute of British Architects, in favor of the establishment of a compulsory examination for all architects. This movement assumed practical form on the 31st March when there was a crowded meeting at the Institute

to discuss the question. The actual resolutions before the meeting were as follows:

"1. That, at as early a date as possible, statutory powers should be sought to establish, as in other professions, a system of compulsory examination to be held by the Institute, and to be extended to all architects hereafter entering the profession, whether as members of the Institute or not.

"2. That when such compulsory examination comes into force, the position of all existing architects shall be completely respected.

"3. That, whether these (Nos. 1 and 2) be carried or not, a poll be taken by voting-papers, in order that under any circumstances the opinion of the entire body of professional members may be ascertained."

These resolutions were, it should be borne in mind, not official, but simply the views of certain private members who were represented by Mr. Connon, of Leeds. These resolutions, it will readily be seen, are, in reality, another form of registration framed, however, in a somewhat less objectionable way. There was a certain amount of ingenuity displayed in their concoction, because the Institute, having imposed a compulsory examination upon candidates for membership of its own body, could hardly object to the extension of this examination to the whole profession. Nor would there have been, I think, any objection to the proposal, if the examination of the Institute had been existing for any considerable length of time. This is, however, not the case. The compulsory examination was established in 1882, and it was only a few months ago that the development into a series of three examinations took place. The Institute, indeed, regard the whole question of a compulsory examination in the light of an experiment, which may or may not have a beneficial effect on English architecture, and, although many have individually very little doubt as to the ultimate result of the experiment, yet to ask for legal recognition at the present juncture of affairs would be simply courting rebuff. This view of the question was admirably set forth by Professor Roger Smith, who moved the following amendment to the resolution:

"That, while not opposed to the principle of compulsory examination as applied to those about to practise architecture, this Institute is of opinion that the difficulty of restricting by statutory powers the practice of architecture to those who have passed an examination is at present so insuperable that it is undesirable to make an immediate application for such powers."

I need not say that this principle of *festina lente* met with the approval of the meeting, and the amendment was carried by a substantial majority, which was subsequently confirmed on an appeal to the general body of members.

I give you these particulars in some detail, as this question of compulsory examination is attracting so much attention throughout the world. The movement in its favor is undoubtedly a wide one, and, therefore, it demands our closest attention. It is not wise, I think, to dogmatically assert, as some do, that registration is the root of all evil. It might have a prejudicial effect on our art; it might, on the other hand, influence it beneficially, and surely in a question of so grave importance as this, it is more prudent to consider the question in all its bearings before joining one side or the other. At all events, this is the feeling which animates many men in England.

The Education Committee of the Architectural Association have issued their report, and it quite fulfils the rumors that were bruited abroad of its drastic character. The main ideas are as follows:

The system of mutual instruction, on which the Association was founded, is done away with.

"Upon consideration it appeared to us that some methodical system of study was essential, and that the need of such a system was emphasized by the recent publication of the Institute programme of progressive examinations.

"While recognizing that many institutions exist where knowledge of great importance to the architectural student can be obtained, we should like to point out that there is no institution in London where all the subjects that go to make up an architect's education are taught, or even suggested to the student.

"We are convinced that the mutual system, which was adopted by

the Association at a time when the number of members was small, and when probably nothing else was possible, now presents great disadvantages and difficulties. The teaching under such a system naturally fluctuates considerably in quality, and consistency is almost entirely lost."

The gap thus created is filled by the employment of a staff of salaried teachers, who teach the various subjects in the lecture and class room. This system is supplemented by what the Committee calls a "Studio."

"We have also considered the advisability of establishing an architectural Studio by the Association; and we think it particularly desirable that such a means of instruction should be established, where the principle of design and construction may be worked out together at the drawing-board, an object, in our opinion, of the highest importance. If possible, this Studio should be open in the daytime as well as in the evening, and visitors or instructors should attend at certain stated hours."

The scheme of instruction seems thus to be divided into two divisions, viz., the preaching school and the practising school. Theory will be taught in the one and practice at the other.

Another decided improvement in the scheme is the absorption of "construction" in "design." Hitherto it has been the practice at the Association to teach "construction" and "design" in two absolutely distinct divisions, with the result that students used to devote themselves to one side of their profession, so much so that they were labelled among themselves as construction-men and design-men. I need not say that this divorce of what should be intimately connected produced lamentable results, and it is a matter for congratulation that the evil has, at last, been recognized.

The new curriculum, which the Committee proposes, consists of a four years' course, and is based on a session of thirty-two weeks net in each year. I send a report of the list of subjects, as it may be interesting to compare it with those already at work in American colleges:

CURRICULUM.

INSTITUTE PRELIMINARY EXAMINATION.

(The subjects required for the Institute examinations are printed throughout between inverted commas.)

FIRST YEAR.

| LECTURES AND CLASSES TO BE GIVEN ON 32 DAYS, EACH LECTURE OR CLASS LASTING 1½ HOURS.                                                                   | STUDIO.                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 12 Meetings.<br>"The orders of Greek and Roman Architecture, their origin, development and applications." "The several varieties of Classic Ornament." | "Geometrical drawing of ancient examples." One example at least to be drawn from actual measurement. (8 Meetings for criticism of drawings.) |
| 16 Meetings.<br>"The nature of Ordinary Building Materials" and "The Elementary Principles of Construction."                                           | "Elementary Construction."                                                                                                                   |
| 10 Meetings.<br>"Plane Geometry applied to Actual Work:—Projection of Solids and Development of Surfaces."                                             | Freehand drawing.                                                                                                                            |
| 4 Meetings.<br>"Elementary Physics as applicable to Building." (Mechanics.)                                                                            | "Plane Geometry applied to actual work."                                                                                                     |
| 6 Meetings.<br>The Rudiments of Perspective.                                                                                                           | Perspective.                                                                                                                                 |
| 4 Meetings.<br>"Mensuration."                                                                                                                          |                                                                                                                                              |
| 6 Meetings.<br>Chemistry.                                                                                                                              | Class for Sketching and Measuring (Saturday afternoons, as at present).                                                                      |
| 6 Meetings.<br>Geology.                                                                                                                                |                                                                                                                                              |

SECOND YEAR.

| LECTURES AND CLASSES TO BE GIVEN ON 32 EVENINGS, EACH LECTURE OR CLASS LASTING 1½ HOURS.                                                                                           | STUDIO.                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 24 Meetings.<br>"English Architecture from the Conquest to A. D. 1500, and the successive developments of the styles." "The characteristic Mouldings and Ornament of each period." | Design based upon ancient examples. (8 Meetings for criticism of drawings.) |
| 12 Meetings.<br>"The nature of Ordinary Building Materials," and "The Elementary Principles of Construction." (Continuation of 1st year.)                                          | Freehand Drawing.                                                           |
| 8 Meetings.<br>"The Calculation of Strengths of Materials and Resistances from data and formulae given."                                                                           | "Solid Geometry, Projection of solids and development of surfaces."         |
| 8 Meetings.<br>"Land Surveying and Levelling." Field Lessons. "Land Surveying and Levelling." (Saturday afternoons.)                                                               | Elementary Color Decoration.                                                |
| 6 Meetings.<br>Chemistry of Building Materials.                                                                                                                                    | Perspective.                                                                |
| 6 Meetings.<br>Elementary Color Decoration.                                                                                                                                        | Class for Sketching and Measuring. (Saturday afternoons as at present.)     |

INSTITUTE INTERMEDIATE EXAMINATION.

| THIRD YEAR.                                                                                                                                                                                                          |                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| LECTURES AND CLASSES TO BE GIVEN ON 48 EVENINGS, EACH LECTURE OR CLASS LASTING 1½ HOURS.                                                                                                                             | STUDIO.                                                                                                      |
| 32 Meetings.<br>"The History of Architecture," and "Features, Mouldings, and Ornaments."                                                                                                                             | "The design and construction of modern buildings." (A certain number of meetings for criticism of drawings.) |
| 16 Meetings.<br>"Materials, their nature and their application in building."                                                                                                                                         | Freehand Drawing.                                                                                            |
| 10 Meetings.<br>"Strength of Materials:—Stresses and Strains," their determination by formulae and graphic methods.                                                                                                  | "Sciography."                                                                                                |
| 14 Meetings.<br>Quantity Surveying.                                                                                                                                                                                  | "Constructive Masonry."                                                                                      |
| 8 Meetings.<br>Color Decoration.                                                                                                                                                                                     | Color Decoration.                                                                                            |
| 6 Meetings.<br>"Sanitary Science," including drainage and water-supply.                                                                                                                                              | Modelling.                                                                                                   |
| 10 Meetings.<br>Elementary Natural Philosophy, including light, sound, hydrostatics, electricity, etc.                                                                                                               | Elementary Water-color Class. (Saturday afternoons.)                                                         |
| FOURTH YEAR.                                                                                                                                                                                                         |                                                                                                              |
| LECTURES AND CLASSES TO BE GIVEN ON 48 EVENINGS, EACH LECTURE OR CLASS LASTING 1½ HOURS.                                                                                                                             | STUDIO.                                                                                                      |
| 32 Meetings.<br>"History of Architecture," and "Features, Mouldings, and Ornaments." (Continuation of 3d year.)                                                                                                      | "The design and construction of modern buildings." (A certain number of meetings for criticism of drawings.) |
| 16 Meetings.<br>Materials and Construction. (Continuation of 3d year.)                                                                                                                                               | "Drawings of ancient buildings from actual measurement."                                                     |
| 16 Meetings.<br>"Sanitary Science," including ventilation, acoustics, lighting, heating. (Continuation of 3d year.)                                                                                                  | Freehand drawing and modelling, including studies from the life.                                             |
| 8 Meetings.<br>Professional Practice, including the "Measurement and Valuation of Buildings and Materials; Preparation of Estimates; The Legislative enactments relating to Building; Specifications and Contracts." | "Graphic Statics."                                                                                           |
| 16 Meetings.<br>Discussion Class.                                                                                                                                                                                    | Perspective.                                                                                                 |
| 8 Meetings.<br>Painting and Sculpture and other Arts as allied to Architecture.                                                                                                                                      | Color Decoration.                                                                                            |
|                                                                                                                                                                                                                      | Water-color Class. (Saturday afternoons.)                                                                    |

## INSTITUTE FINAL EXAMINATION.

These proposals are, however, not yet established facts. Their whole scheme is but in its infancy, and may never even be approved by the general body of members; but their move is a great step in the right direction, and, if it is carried out, I venture to believe it will be a great thing for English architecture. Of course, as will be seen from the curriculum, the report does not contemplate the absorption of the whole time of students. They are still supposed to be articulated in an office, or semi-articled, and would take up the Association course in certain time allowed by their principals; or, if that course were not available, would work as best they could in the evening.

The London County Council to-day agreed, by a majority of about sixty, to undertake the duties of Model Lodging-house proprietors. Some time ago, soon after the Council was brought into existence, an inquiry was set on foot into the condition of the working-class population of London. A committee was appointed, with the result that they found that, although there was much to be done for the general working classes of the metropolis, the Model Lodging-houses were in a state of the most depraved character, insanitary as they well could be, scandalously managed, and, altogether, a disgrace to England. It transpired in the course of the committee's deliberations that the municipality of Glasgow had grappled with the question, and had erected, at a cost of £87,000, seven common lodging-houses—six for males and one for females. These have had a most excellent effect on the town, lowering the death-rates, necessitating the improvement of the existing common lodging-houses, and stimulating private enterprise. With this example before them, the Housing Committee determined to ask the Council to authorize an expenditure of £11,000 in the erection of a model common lodging-house for London, and, after a prolonged and adjourned discussion, their report was adopted by a considerable majority. Another point which the Committee is moving in is the question of the respective responsibility of the Vestries, or District Councils, and the central authority, or County Council, with respect to the demolition of insanitary areas in the metropolis. The removal of crowded insanitary alleys and courts is naturally an expensive and tedious operation, and is governed by two sets of Acts of Parliament, called, respectively, *Torrens' Acts* and *Cross's Acts*. The former of these deals with small groups of houses, and directs the District Boards to take action; the latter regards larger areas, and throws the onus of their reconstruction on the County Council. But, as a rule, the District Board looks on a condemned area as too large for it to undertake, while the County Council refuses to admit that the im-

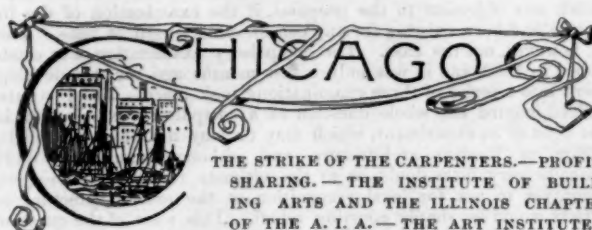
provement is of general importance to the metropolis, and so decline to take action. So the absurd position arises that, while each body perfectly agrees that the condemned area is foul, overcrowded and dangerous to health, yet neither will touch it, for the reasons I have quoted. This question came prominently before the Housing of the Working Classes Committee of the House of Commons in 1885, and, as a result, an act was passed by Parliament, allowing the County Council to appeal to the Home Secretary to appoint an arbitrator to decide under whose jurisdiction the condemned areas actually came. The powers conferred by this act were, however, not taken advantage of by the old Metropolitan Board of Works, and it is only quite recently that the County Council have taken steps in the matter. They are now engaged in testing their powers under this act by certain test cases, and, if they are successful, there appears to be a probability of the great problem of outcast London being solved at last.

I regret much to have to announce the death of Mr. E. C. Lee, who died on the 29th of March. He was a man of real genius, whose loss will be a loss indeed to architecture. One of the younger school, an enthusiast and an ardent worker, his career was one of brilliant success, and it is a sad thing to have to record his death at so early an age. In 1869 he gained the Soane Medallion, and in 1870 the Pugin. He was one of the first promoters of the Architectural Association Sketch-Book, and was elected President of the Association in 1880, and would doubtless, if he had lived, have attained to the very first rank in his profession. We have also lost Mr. J. T. Wood, the great Ephesian explorer, and the discoverer of the site of the Artemision.

The designs for our "Watkin" Tower have been sent in, and include some fearful and horrible conceptions.

A Royal Commission, consisting of Mr. D. Plunket, First Commissioner of Works, Sir A. H. Layard, Sir Frederick Leighton, the Dean of Westminster, Mr. Louis J. Jennings and Mr. Alfred Waterhouse, has been appointed by the Queen—(1) To inquire into the present state of the Abbey of Westminster as regards the facilities which it offers for providing for the interment, and otherwise preserving the memory of the most illustrious of our subjects, in the manner which has been customary for many centuries; and (2) to hear evidence and to consider plans for providing at the Abbey, or elsewhere, an additional place for memorials, should such a provision appear necessary.

An interesting paper was read the other night at the Institute by Mr. J. P. Seddon on "Church Furniture," and at the Association by Mr. Keith D. Young on "Hospitals."



THE STRIKE OF THE CARPENTERS.—PROFIT-SHARING.—THE INSTITUTE OF BUILDING ARTS AND THE ILLINOIS CHAPTER OF THE A. I. A.—THE ART INSTITUTE.

THE strike which during the last month has kept building operations at nearly a stand-still is now partially settled, the carpenters say with all their points gained. The method of gaining them has been by means of forming a new Builder's Association in which are found very few of the members of the old one, and this association has come to terms with the men. It was seen soon after the beginning of the strike that the former masters meant to remain firm and that nothing could be hoped from them. Hence the new association.

The eight hours is conceded; thirty-five cents an hour will be the minimum rate of wages till August 1st. After that date thirty-seven and one-half cents. Each employer can retain the apprentices he now has, and add one new one every year; the Union is recognized and consequently stewardship on a building enforced, with all the bad features which that implies. Over-time will be regarded as time and one-half, Sunday work as double. Contractors are prohibited from taking sub-contracts from the old association, and a joint arbitration committee will settle the rate of wages and adjust all difficulties at the beginning of every season.

So much for points gained for the men, of which the only weak part is this: The new association is chiefly composed of small contractors, unable from lack of funds to carry any large contracts, while the men who are able to do so are among the members of the old association. These consequently, the strike being over, will bring in non-union men from the country, and their work will go on cheerfully and serenely, unhampered by stewards or walking-delegates.

Thus the matter stands. The air has become less sapphire-colored, made so by anxious clients impatient to have their buildings brought to completion, the architect's days are no longer divided between interviews with irate clients and obdurate carpenters, and the new and the old association are chirping away at a pretty katty-did chorus of "She did" and "She didn't," as to who gained the main points of the strike.

A noticeable feature of the struggle has been that almost without exception, the carpenters who took part in it have been neither American, English, or Scotch, but either Continental or of Continental extraction. The same reason that prevented the Anglo-Saxon

carpenters from being dictated to and governed by the Union, has caused their compatriots, when Masters, to hold out longest and still continue to hold out against the league. About five thousand men were estimated to have gone out on the strike, and three thousand have returned to work. Considering the large number of men out of work, the strikers have been unusually orderly, but few cases of actual violence having been reported, though they did not hesitate to intimidate the men who did not join them.

In another branch of the wood-working trade there is now considerable excitement. The men, numbering some ten or twelve thousand, employed in the planing mills are agitating for less time and more pay, so there may be more trouble in the future.

But whatever is the inconvenience of strikes in general, there is no doubt that the condition of the working man has of late years been much improved by the organization that prompts them.

When a proposition, such as the Illinois Steel Company of Joliet last month submitted to its employees is heard of, one feels that the right of the laborer is being attended to. The plan is one of profit-sharing, and is to be conducted as follows. Employees can, on application, receive one per cent of their wages for the first year, one and one-half for the first year and a half and so on, with a half per cent increase for every six months, until in five years five per cent is reached. This per cent remains permanent, and interest being reckoned on wages received, the unskilled worker does not obtain as much as the skilled. The employers expect to gain in better work, less waste and continuous service.

Architectural circles here have had other causes for excitement this month outside of the strike. There has existed in our city an enterprise called the Institute of Building Arts. Its object was to offer the building public an opportunity to inspect material, inventions and all the latest improvements that would be likely to be needed in the construction of any kind of a building. Permanent rooms have been used for the exhibition, the expenses being defrayed by the rent paid for the space used by the exhibitors, five dollars a year for a square foot. This enterprise has been carried on by a private individual with more or less success for several years. This spring, wishing to retire from the business, he intimated to the Illinois Chapter of the American Institute that he would be willing to transfer the control and management of the enterprise to it.

Action upon this subject has given rise to much discussion, and the *pros* and *cons* of the matter have been warmly championed.

The arguments against adopting the Institute of Building Arts as a special child of the Illinois Chapter were as follows:

First, it was asserted that by so doing the Chapter, or its individual members, might become responsible for a large pecuniary amount. Secondly, an objection was raised that dissatisfied clients might consider architects were influenced in favor of certain articles placed in an exhibit in which their Chapter was pecuniarily interested.

To these arguments were given the answers, first, that the financial risk assumed could under no circumstances be a great one, and, with the successful inauguration and management of the proposed project, such satisfactory results might be obtained as to more than justify the trifling risk of a possible deficiency at the commencement. To the second objection the answer was given that, as no matter with what success the enterprise was crowned, no dividend would be paid to the members of the Chapter, a client most willing to find a cause for abuse and complaint could scarcely be able to in the relations existing between the architects as a body and the Building Arts. Should the association prove very successful, all surplus earnings would be devoted to enlarging the scope of the Institute. Skilled experts would be employed to make comparative tests of different building materials and appliances, and a course of lectures might be established upon subjects connected with their use, in this way making the Institute an establishment of use not only to the building interests of the city, but to the country at large.

That the feeling of the different members of the Chapter might be obtained, a committee of three was appointed to act in conjunction with the Executive Committee on this important subject.

The objection was raised that, as the charter obtained for the Chapter under the State laws was explicitly one for a society "whose object was not gain," there might be some objection to the scheme on the ground of illegality. Legal opinion was accordingly obtained, with the result that, as the enterprise was not for financial advancement of the individual members, no objection could be made to it on the ground of the nature of the charter.

The feeling of a very large majority of the members of the Chapter being in favor of taking the Institute under its management, it has accordingly been done, though some of the members are still violently opposed to it. The reorganization, under the management of two of our most prominent architects, is rapidly progressing, and most favorable results are anticipated.

The receptions at the Art Institute to the lover of art, who for years has had scant food here in Chicago, are a source of delight. At present, a most interesting collection is on the walls of its galleries. Two rooms are taken up with the works of Mr. F. A. Bridgman, which number about three hundred canvasses. It is most interesting to see here, by the side of his more finished works, the sketches which have often inspired them. His most ambitious picture is "The Pirate of Love," whose moral seems to have a setting like the morals in the dramas of Ibsen, and, consequently, to many is most unpleasant, whatever may be the artistic merit of the work. Mr. Bridgman, as a general thing, does not care to tell a

story, and when he attempts it he is not always successful. He seems to agree with Fra Lippo Lippi:

"If you get simple beauty and naught else,  
You get about the best thing God invents."

And such color as he finds in his beauty has never before been seen in smoky Chicago. Only to look at one of his walls, flecked with sunshine and shadow, or to gaze at a sparkling sea or some of his sunny fields, is to almost bask in Southern warmth and forget the constant northeast wind of our "Merry month of May," with its congealed sunshine and icy waves beating always along the shore.

Mr. Ellsworth has placed in one of the large galleries of the Institute for this exhibition his most attractive collection, containing, besides a most wonderful Rembrandt, much that is good of our young American artists.

Three bronzes of Barye's animals, a lion, a tiger and an elephant, find their place in the room, which is filled with Mr. Ellsworth's rare porcelain collection.

The Rembrandt in this collection is most unusual. It is the picture of a man with a pale face and clearly-cut features, all distinctly painted, nothing hidden, which makes one feel that the subject was so much a gentleman, the master could afford to let us see the whole head. Quite a contrast is he to the other Rembrandt of the collection, a red-faced old burgomaster, perhaps, peering out from wonderful shadows and shades.

These four galleries, with a fifth small one, which contains the other Rembrandt, a fine Breton, and Holman Hunt's wonderful "Triumph of the Innocents," make an exceptional exhibition.



THE ARCHITECTURAL EXHIBITION AT  
THE ART CLUB.

LACK of space in the letter of last month prevented a description of any but the students' drawings at the Art Club, so that, although the exhibition is now over, it may not be amiss to notice some of the other work in it. Mr. Charles T. Mott showed some six or seven of his straightforward drawings—all of them designs for different parts of a large house in West Virginia. Some of these have been reproduced in *Building*, if I am not mistaken, and are tolerably well-known, but it must have been a surprise to men familiar with the reproductions, to see the immense size of the originals. Mr. R. H. Robertson showed two of his heavily drawn houses with gables glistening with white plaster between the twisted black timbers. Messrs. Rossiter & Wright exhibited three drawings, two of them very skillful water-colors on gray paper, by Mr. Rossiter. One of these, a district school, has for its principal fault that it somewhat suggests a stable. Mr. Wright exhibited a pen-drawing of a good, simple, hipped-roof house with a tower. The house is of stone, but where the tower rises above the main roof its wall is shingled. In the drawing this upper part is left in light so as to give it about the value of the stone, while the roof is shown much darker. In reality the shingled wall of the tower would look quite as much like the roof as like the stone below it, and we should lose what is expressed so successfully in the drawing—the effect of a massive tower cutting unbroken through the eaves and rising solid and strong above the wooden roof.

Messrs. Longfellow, Alden & Harlow were represented by one of Mr. C. H. Walker's strong water-colors of the Carey Athletic Building for Harvard College, a simple design and thoroughly good, and by a dignified design for a bank building at Pittsburgh, in Mr. Langerfeldt's well-known rendering. Mr. James Brown Lord's designs are rendered, three of them by Mr. C. S. Luce and three by Mr. Hughson Hawley. Mr. Luce's are in his usual admirable style—broad washes, untouched, and leaving—except in rare cases—the paper with all its original brilliancy, and yet are not (except, perhaps, a charming colonial house in white and yellow) by any means up to the best work we have seen from his hand. The most attractive of Mr. Hawley's is a sketchy little water-color of an English-looking house at Tuxedo Park, in stone and half timber. The color on the roof, changing from salmon to purple, is particularly pretty, but it is hard to discriminate where all the drawings are examples of such perfect skill. Mr. Wilson Eyre, Jr., exhibited a couple of sketches in crayon—one of some houses near the Boboli Garden in Florence and the other of the campanile at Pistoja. Two more are very interesting studies for halls and staircases, and another, a long, low house in stone and half timber for Mr. A. J. Drexel, Jr. This drawing shows both elevation and plans—an example that it is possible architects would follow more generally if they appreciated how much interest the public took in studying out the plans and elevation of a house together.

Mr. Eyre also exhibited a charming pen-drawing of an imaginary castle that crowns a rock vaguely recalling the one on which the chateau of Amboise rests, and a fascinating study of a house on the brow of a hill, after the manner of Mr. Howard's sketch in the

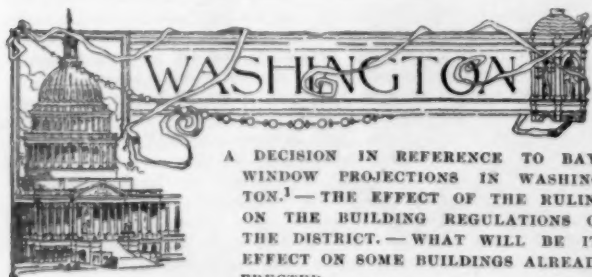
Architectural League's Exhibition, called "An Upland Farm." Mr. Eyre's other sketches are all interesting—even a somewhat messy competitive design for the Penn Mutual Insurance Company—for they are all the work of an artist.

Mr. T. P. Chandler's design for this same building, already exhibited at the Academy, was again shown here with a few of his earlier designs, rendered by himself, and one done from a photograph by Joseph Pennell, with a wealth of spiky grass and luxuriant apple trees in the foreground. Messrs. Cope & Stewardson had nothing but their competitive design for the Cathedral of St. John, already exhibited at the Academy. Messrs. George C. Mason & Son exhibited a villa at Newport, large, but with little repose, and one of Mr. D. A. Gregg's direct, clean water-colors of a gate-house. Messrs. Moses & King had a rather interesting country-house, Mr. Windrim a design for a hotel somewhat of the "Lafayette" type, and Messrs. Wilson Bros. & Company six drawings, among which the perspective of the Drexel Institute Building was, by far, the most important. This impressive building, work on which is already begun, will cost about half a million dollars, and Mr. A. J. Drexel, whose gift it is, will give a million more as an endowment fund. There will be room for more than two thousand pupils, both boys and girls, and they will follow courses of instruction somewhat like those of the Cooper Institute in New York. The building will cover a lot about two hundred feet square, and will be built around a central glass-roofed court nearly a hundred feet across. Galleries at the second and third floor levels will give access to the school-rooms. The building will have, besides the necessary school-rooms, gymnasium, etc., two lecture-rooms, the largest of which, with a seating capacity of two thousand, can be reduced in size by a huge curtain as high and as wide as the room itself. The curtain is hung from tracks in the ceiling, and may be pushed back and forth at will. The perspective shows us a very imposing building, in buff, brick and terra-cotta, three stories high, except the central pavilion, which rises a story higher above the entrance arch.

Messrs. Sturgis & Cabot exhibited two designs for St. John's Cathedral already shown in the League Exhibition in New York, a beautiful water-color, quiet and in one key, of a long, low country-house, a very knowing water-color drawing of a stable seen between the trunks of young forest trees, and a perspective of the Willard School at Quincy, Mass., which shows an E-shaped plan and a thoroughly good one for the purpose.

Some of Mr. H. P. Kirby's drawings were here that were not in his general exhibition at the Academy, and they were among his best. The railway station is one of the most striking drawings Mr. Kirby has ever made, but would probably be not very practical in execution. Its skyline is particularly effective, and the richness of the decorated parts of the building is enormously increased by the contrast of its immense wall-spaces and its solid Gothic towers unprofaned by any window, but the spectator inevitably wonders how the light is expected to penetrate the fastnesses within. Two of the drawings from photographs are very disappointing—not on account of the drawing itself, which is, of course, irreproachable, but because it seems as though where Mr. Kirby confines himself to copying strictly the lines laid down for him, he loses the freedom that gives such an irresistible charm to his vigorous fancies. Mr. Jacques Van Straaten exhibited some very attractive sketches from Holland and Italy, Mr. George Nattress a few of his water-colors of English churches, Mr. E. A. Gifford seven or eight charming pencil-sketches, and Mr. W. E. Chamberlin a clever sketch in pastel and Chinese white of the little-known Château d'O, and a most excellent water-color sketch of a tower at Mortagne.

There were besides these few mentioned, several times as many deserving remark, as well in sketches from Nature as original designs. In thinking over the general impression produced by the latter class, one cannot help making the reflection that American architecture would take a much higher rank in the world if some of the time devoted to finishing the drawings and rendering them with evidences of such mastery of technique, were devoted to studying and restudying the first designs in a more scholarly way.



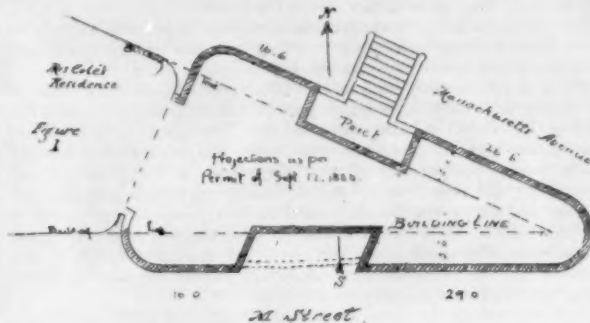
THE United States Government owns the parking in front of all the residences in Washington. This ground is practically allotted to each house as a front-yard, thus enhancing the beauty of the city by a continuous line of grass, flowers, or shrubbery. The owners can fence, curb, or leave it entirely open. In fact, the United States Government has been very liberal with this ground.

<sup>1</sup> The United States vs. Annie Cole et al., Equity No. 11,451.

The only limitation put upon its use and occupation is in the width and projection of such permanent structures as bay-windows, towers and steps which are allowed to be erected thereon by law.

The natural tendency (especially when the lot of the property-owner is small) is to occupy just as much of Government ground as he can stretch the building regulations to grant, the building inspector, the commissioner in charge, or the commissioners acting as a board, to concede.

The Cole case is probably the extreme, both in the amount asked for and in the amount granted by the permit of the inspector, and



endorsed by the commissioners. Figure 1 will show for what Mrs. Cole received a permit.

The building regulations governing the point, say, "Bay-window and tower projections five feet on parked streets . . . shall not exceed fourteen feet in width unless approved by the Engineer Commissioner. But one projection will be allowed on buildings thirty-five feet or less in width. On larger fronts the projections shall not aggregate more than fifty per centum of a frontage of a principal or entrance front, and forty per centum of a side front, exclusive of corner tower projections."

If the house was to be erected as an independent one, Mrs. Cole had about fifty-two feet front on Massachusetts Avenue and fifty-five on M Street, hence she would have been entitled to two thirteen feet windows on Massachusetts Avenue and two eleven feet windows on M Street. The new house was designed so that it could be used in connection with or separate from the adjoining house. The permit was issued on the basis of its being an addition to the old house which had a projection only at the front-door. This point being allowed she was entitled to as much or more than was granted by the permit, provided that the Engineer Commissioner in his discretion would concede a wider projection than fourteen feet.

These points all having been decided in her favor, Mrs. Cole's case should have progressed smoothly, but her trials seem only to have commenced at this point.

The neighbors objected to so much of their view being cut off, and by some legal process brought action in court to have the obstruction removed. It was defended by Mrs. Cole, and by the District Commissioners through the District Attorney.

The complaints caused the commissioners in board assembled to request Mrs. Cole to give them the permit back. She did as requested, and then they declined reissue, or to permit her to go on, although the house at this time was well advanced in its construction. The house stood in this condition for many months, when new commissioners coming into power, she was granted a permit to finish the house according to the dotted lines shown on plan, and build over the porch in the second and third stories. The new commissioners were apparently more liberal than the first, but as they were there to make, alter or interpret the law, any one would feel safe in building under their instructions. In fact, there is little safety in erecting projections if their authority is not final.

The Supreme Court of the District of Columbia in General Term decided against Mrs. Cole. The decision seems to have several points in it which are of great importance to property-owners, or those contemplating building in this city.

The judges concede the power in the commissioners to make regulations as to projections on the parking; but affirm that they have no power to delegate discretionary power to any one. So the Engineer Commissioner exceeded his authority when he granted more than fourteen feet in one projection. The commissioners themselves had no right, according to the judges' ruling, to allow more than fourteen feet, without changing the building regulations and making such change a general rule.

The second novel point was that the "two projecting walls (of a bay-window or tower) must start from the building-line from which the structure projects." In other words, there can be no projections around a corner. "We simply hold that all projections must be from a building-line, this apex cannot be treated as if it were a third building-line."

The first ruling would bar out all clauses in the regulations allowing discretionary power to the Building Inspector, as well as to one of the commissioners who had been vested with authority by these regulations.

Such clauses as "to be determined by the . . ." "as may be directed . . ." "shall be determined by . . ." "and the permission

of the " . . . "to be approved by the" . . . "unless otherwise determined by" . . . "in such manner as the Building Inspector may direct."

"Under such restrictions as the Building Inspector may impose with the approval of the Commissioners."

All such clauses, and the building regulations are full of them, are unlawful according to this decision. The commissioners have no power to delegate discretionary authority to either themselves or any one else. They must make a general rule, and all questions must be decided by this general rule until another rule is formulated and published as a general rule or regulation.

This narrows the present regulations down to such an extent that they should be thoroughly revised, so as to protect the community against poor and bad building. As the numerous discretionary clauses allowed of wide variations in the ruling by the commissioners and the inspector, it will be better to have what is necessary formulated and adhered to. Then architects and owners will know better what they can depend upon. Now what is allowed in one week or one day, may be altered the next week or day. So that it is often necessary for an architect to alter a set of plans so as to conform to the new ruling, when two days before he had a set passed with similar points incorporated in them.

The second point will, if enforced, have an equally wide effect on new buildings.

A projection where the two projecting lines must start from the building line from which the structure projects, will stop all corner

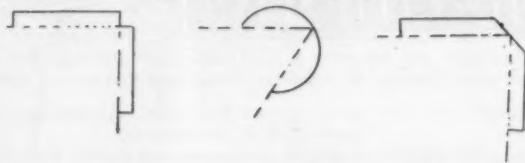


Fig. 2. Forms of corner projections made necessary by the new ruling.

projections, that extend around the point without touching it. The nearest approach to a corner-tower projection would be according to

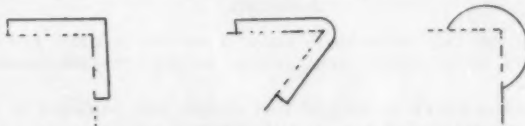


Fig. 3. Forms formally allowed and extensively used in practice.

Figure 2. In no case could the usual corner projection, (Figure 3) be allowed, where the projecting line returned to another street.

The above has to do with future building.

The following portion of the decision is of great importance in its bearing on houses already built, and will be a great hardship on hundreds, thousands would probably be no exaggeration, if I understand the judges' wording.

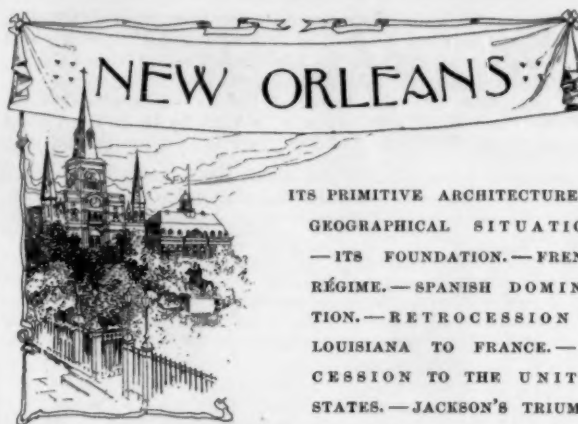
The court can and will require all work to be taken down or abated, no matter what its value, it makes no difference whether authorized by the Building Inspector, District Commissioners or not.

Along with Mrs. Cole's house, this ruling in reference to width will affect among prominent buildings, the Church of the Covenant Tower, the Safe Deposit Building on 15th Street, and numerous residences and stores throughout the city. The residence of the judge reading the decision being one of the number.

The ruling in reference to projections extending around a corner, will affect residences, stores, and churches in all parts of the city. Curious to say, the Inspector is still issuing permits for corner projections when the ruling of the Supreme Court of the District is law, unless reversed by the Supreme Court of the United States, where I understand, the matter has or will be finally appealed.

If the final decision of the United States Supreme Court is against such infringing projections, and their abatement should be insisted upon, there will be few squares in the city but will have one or more dismantled bay windows or towers to be reconstructed. This would apparently be a hardship when the offending parties had proper permission from the only visible authority, and this authority was appointed by and were acting as the agents of the United States Government, the owner of the streets.

**TO BUILD UPON THE SANDS SECURELY.**—A process of preparing foundations has been patented by F. Neukirch, of Bremen. Its object is to make loose sand firm and resisting as solid rock. At present the universal method of doing this work, if under water, is to remove all loose material and then make a beton or other similar substructure. The process under consideration, which is only of use where the materials are fairly clean siliceous or calcareous sand, aims at consolidating the grains by covering them with a film of cement, which is forced into the spaces between the particles by compressed air, steam, or water under pressure. Sheet piles are employed to prevent the spreading of the cement over more ground than is necessary. The system has been largely used in the harbor of Bremen, and is to be tried in preparing dry foundations. — *Builder's Reporter*.



HERE is no better place in the Union for the study of primitive American architecture than the "Crescent City." It was here that the direct influence of southern Europe was brought to bear, under circumstances so different from those to which it had been accustomed in its native element, that it produced types, which, though coming under the general classification of what has been termed the colonial style of America, bear a stamp of individuality about them, that shows the impression produced by the rule of despotic sovereigns upon docile and subservient subjects.

To understand the successive types and their modifications from time to time, it is necessary to know something of the geographical surroundings, as well as of the interesting points of history, connected with this typical southern city. And for that reason, this letter is devoted to a review of the historical and geographical data, which contributed to the growth and moulding of a city, more foreign to-day in its aspect than any other within the borders of this Republic.

New Orleans is located at a spot on the left bank of the Mississippi nearly one hundred and five miles from the Gulf; and at the point where the river approaches nearest to Lake Pontchartrain. The inhabited portion of the city extends as far north from the river bank as the rising ground (Metairie Ridge) formed in prehistoric times by the meeting of the waters from lake and river. The tract of land extending from the lake to the ridge, though mapped out in streets and avenues, has never yet been drained and utilized, remaining to-day a swampy marsh or lowland unavailable for occupation. The development of the city at present is confined principally along the river front on account of the commercial interests of the citizens.

Commerce is well provided for with a stretch of river bank of fifteen miles on the left shore and five miles on the opposite side, against which the deepest draught ocean steamers that come to this port are moored. Besides this, there is access to the coasts of the Gulf States through Lake Pontchartrain, and by this channel most of the building material in use in the city is brought, indeed there is very little received in any other way.

That portion of Louisiana from the mouth of Red River down, is the result of centuries of sedimental depositing of matter carried down by the river, so that New Orleans is built upon land formed in this way, and therefore cannot boast of a natural rock foundation. Thus, on account of total absence of native building stone, it is easy to understand why we do not find it employed in early architecture. The comparatively small quantity of stone that found its way thither was invariably used for paving purposes.

Although the discovery of the Mississippi River belongs to the Spaniards, Louisiana was taken possession of by La Salle in the name of Louis XIV. In his expedition from Lake Ontario, with a small band of Frenchmen, he descended the river to a point near the head of the "passes," and there erected a cross and a column which bore the arms and name of Louis and the date. Calling a notary to witness, he took possession, naming the territory after the king. A salute was then fired by the company of French, and they shouted "Vive le Roy!" After which they buried at the foot of a tree a leaden plate engraved with the arms of France and the inscription in Latin:

"In the reign of Louis the Great  
9th of April, 1682,

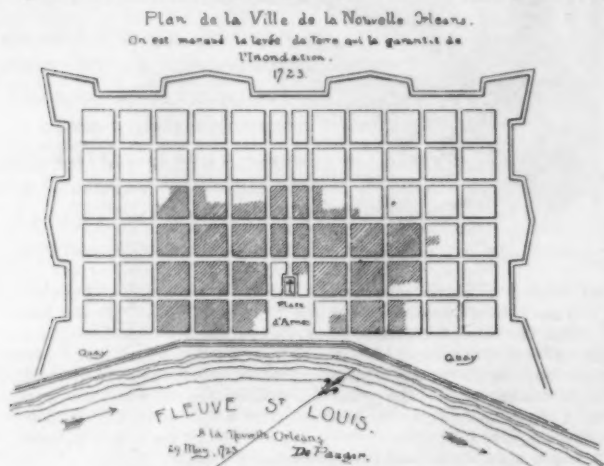
Robert Cavalier [de la Salle], with Seigneur de Tonti, Reverend Father Zenobio, member of the Recollect order, and twenty Frenchmen first navigated this river from the village of the Illinois, and made the passage of the mouth

9th of April, 1682."

On the 6th of September, 1717, a charter for the colony was given to the "company of the Indies" on the condition of furnishing to every king of France at his accession, a gold crown of thirty marks in weight.

Sailing along the shores of Lake Pontchartrain, (named after Count Pontchartrain, then Minister of Marine of France) Bienville in 1718, on his way with the colonists from the original settlement at Biloxi, which had proved a failure, discovered Bayou St. John, and, ascending it, encamped for the night on Metairie Ridge. Bienville immediately perceived the excellence of the site for a city of

importance, and, clearing the space of its primitive forest of magnolia, live oak, and cypress, he built a dyke or "Levee" (pronounced Lev'y) to prevent the Mississippi River from flooding the settlement, and established there the colony, naming it after his birthplace, and, at the same time, after the Regent of France—Nouvelle Orléans. The city was laid off systematically in 1719, by De la Tour, chief engineer of the Province; and five years later a survey and map



were made by De Pauget, and it is from this map, now in the possession of the Louisiana Historical Association, that we get the following sketch and information. At that time the city consisted of sixty-six squares, each three hundred feet. The frontage on the river was eleven squares, the centre one occupied by the "Place d'Armes" where the provincial troops were drilled in military exercises. In the centre stood the mast from which floated the flags of three nations at different periods of the colony's existence. Facing the centre of the Place d'Armes was the spot chosen for the cathedral, and from the rear of the cathedral a street was laid out called after the Duke of Orleans. All the streets were narrow after the custom in tropical climates to secure shade; and they were named in honor of the Royal family of France. The principal street was called Rue Royale; and of the others we have Bourbon, after the dynasty; Dauphine, from the Dauphiness of France; Chartres, after the eldest of the Orleans princes; Conti, from the Princes of Conti; Dumaine and Toulouse, after the illegitimate sons of Louis XIV and Madame de Montespan, the Duke du Maine and the Count de Toulouse; St. Anne, St. Pierre, and St. Paul Streets, after the baptismal names of princes of the House of Orleans; St. Louis street was called from the patron saint of France, a name, which, at that time, was conferred on the Mississippi River.

In 1762, the colonists were disgusted to hear that Louisiana had been given to Spain by Louis XV in recognition of service during the French and Indian War, and their determined resistance daunted the Spanish Governor to such an extent that he returned to Spain without taking possession. This infuriated Charles III, and he sent General Alexander O'Reilly with a fleet of twenty-four men-of-war containing an army of 2,600 men to take the colony by force. All resistance ended, when, on the 17th of August, 1769, the twenty-four ships appeared before the city; and the inhabitants, in accordance with the French Governor's proclamation, were on hand at the "August ceremony, to present themselves to His Excellency Don Alexandro O'Reilly, in order to assure him of their entire submission, and of their inviolate fidelity to his Catholic Majesty." On the following day, amid the most imposing ceremonies, O'Reilly landed, followed by the new Spanish officials; and, after having saluted the French standard, it was replaced by the Spanish flag, and the keys of the city-gates were turned over to the new authorities. These manifestations all took place in the Place d'Armes, in front of the Cathedral, and surrounded with both French and Spanish troops. The "Spanish Domination" was exceedingly severe in policy, opening with the bloody punishment of the leaders, who had, in 1762, excited the people to oppose their new masters. The city, during this period, was strongly fortified, as much for the purpose of keeping the inhabitants in subjection as for defence. The streets—Esplanade, Rampart and Canal—in their names suggest the location of these works, of which no trace has been left, having been levelled by advancing civilization. On the 1st of October, 1800, the territory was returned to France, and although the treaty was for some years kept a secret, on account of wars with England, the French took possession.

During the latter years of the Spanish régime, the limits set by the ramparts were found insufficient for the growing city, so, during that epoch and the one following, suburbs were built beyond the walls, but still clinging to the Mississippi banks. The suburb, or *faubourg*, below the city belonged to Baron de Marigny-Mandeville, and the naming of the streets is unique. Thus we have Good-children, Wise-men, Independence, Love, Poet and Piety Streets. In the *faubourgs* above the city we find the streets laid out after the retrocession to France, and at the time when Napoleon was in

the height of his glory, so we can account for Napoleon Avenue and Josephine Street. His generals and victories are recognized in Cambronne, Austerlitz and Jena. Farther than this, it is possible to detect that love for the study of the classics in which the world indulged at about this time, and in which Napoleon himself took so much delight, for we have streets bearing the names of the Muses, of Apollo, of Dryades and of Naiads of mythology.

Bonaparte feared that the English would seize Louisiana, and so signed the treaty which ceded it to the United States for \$15,000,000, remarking, as he did so: "This accession of territory strengthens forever the power of the United States, and I have just given to England a maritime rival that will, sooner or later, humble her pride." In December, 1803, the transfer was made, and from that time the work of enlarging and beautifying the city has occupied the minds of the citizens.

In 1815, Andrew Jackson, the hero of the plains of Chalmette, was afforded a triumph upon entering the city after his victory. Children scattered flowers in his path, and, as he passed under the triumphal arch in the centre of the Place d'Armes, erected where now stands his equestrian statue, he was crowned with laurel. The Place d'Armes has from that day to this been called Jackson Square, and is still the centre of all that is attractive and interesting in the Creole quarter of New Orleans.



[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

ALLEGHENY COUNTY COURT-HOUSE AND JAIL, PITTSBURGH, PA.  
H. H. RICHARDSON, ARCHITECT.

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

HOTEL AT BIG STONE GAP, WISE CO., VA. MESSRS. WINSLOW & WETHERELL, ARCHITECTS, BOSTON, MASS.

SKETCHES BY A ROTCH TRAVELLING-SCHOLAR. MR. E. A. JOSSELYN.

TOWER OF THE MEMORIAL CHURCH OF THE ANGELS, LOS ANGELES, CAL. MR. E. A. COXHEAD, ARCHITECT, LOS ANGELES, CAL.

A PERSPECTIVE drawing of this church was published in the *American Architect* of January 11th last.

THE RADFORD HOTEL, RADFORD, VA. MESSRS. COPE & STEWARDSON, ARCHITECTS, PHILADELPHIA, PA.

[Additional Illustrations in the International Edition.]

HOUSE OF THERON G. STRONG, ESQ., BAY SHORE, L. I., N. Y. MESSRS. ROMEYN & STEVER, ARCHITECTS, NEW YORK, N. Y.

[Copper-plate Etching.]

THE interior of this house is finished in white pine (painted), including the staircase which has a mahogany hand-rail. It is of colonial design throughout and cost \$18,000. See plans on next page.

HOUSE IN THE WALLFISCHGASSE, VIENNA, GERMANY. HERR LUDWIG TISCHLER, ARCHITECT.

[Gelatin Print.]

CARR MANOR, LEEDS, ENG.: SOUTH FRONT. MR. EDWARD S. PRIOR, M. A., ARCHITECT.

CARR MANOR, LEEDS, ENG.: THE HALL. MR. EDWARD S. PRIOR, M. A., ARCHITECT.

CARR MANOR, LEEDS, ENG.: THE DRAWING-ROOM. MR. EDWARD S. PRIOR, M. A., ARCHITECT.

CARR MANOR, LEEDS, ENG.: THE DINING-ROOM. MR. EDWARD S. PRIOR, M. A., ARCHITECT.

NEW BANK, LANDPORT, PORTSMOUTH, ENG. MR. J. HENRY BALL, A. R. I. B. A., ARCHITECT, SOUTHSEA, ENG.

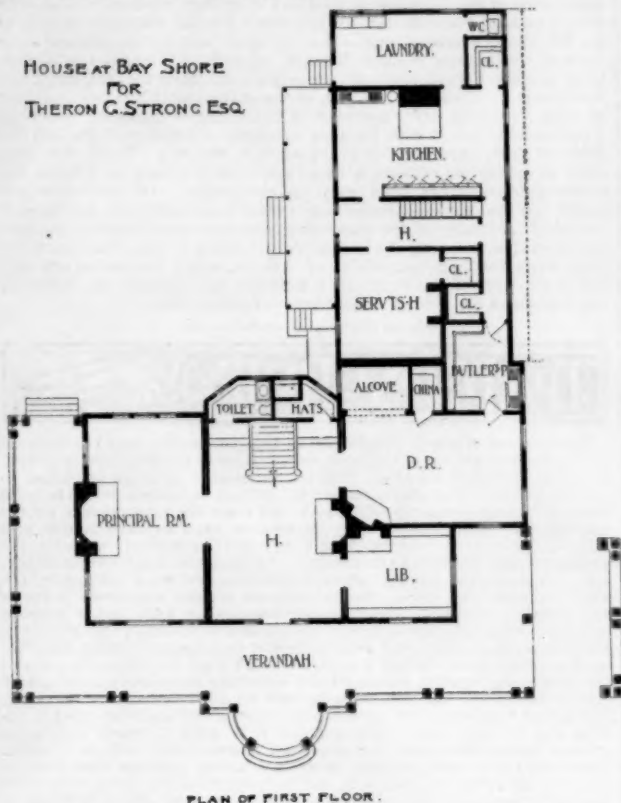
THIS bank is now in course of erection for Messrs. Grant & Maddison's Union Banking Company, of Portsmouth and Southampton. It will be in close proximity to the Portsmouth new Town-hall, and will form an important addition to this much-improved commercial centre. The whole of the building is to be faced with Portland stone on a gray Cornish granite plinth, and comprises the necessary offices for the business of the bank, a dwelling-house for the manager, and, in addition, a shop and show-room over. Great care has been taken to overcome as far as possible the difficulties of the site. The contractor is Mr. William Ward of Fratton, and the amount of the contract is 3,598*l*.

COTTAGE HOSPITAL, SIDCUP, KENT, ENG. MR. H. P. BURKE DOWNING, A. R. I. B. A., and MR. W. R. PHILLIPS, ARCHITECTS.

THE accommodation provided is for nine patients, besides operating-room, dispensing-room, nurses'-room and all the necessary

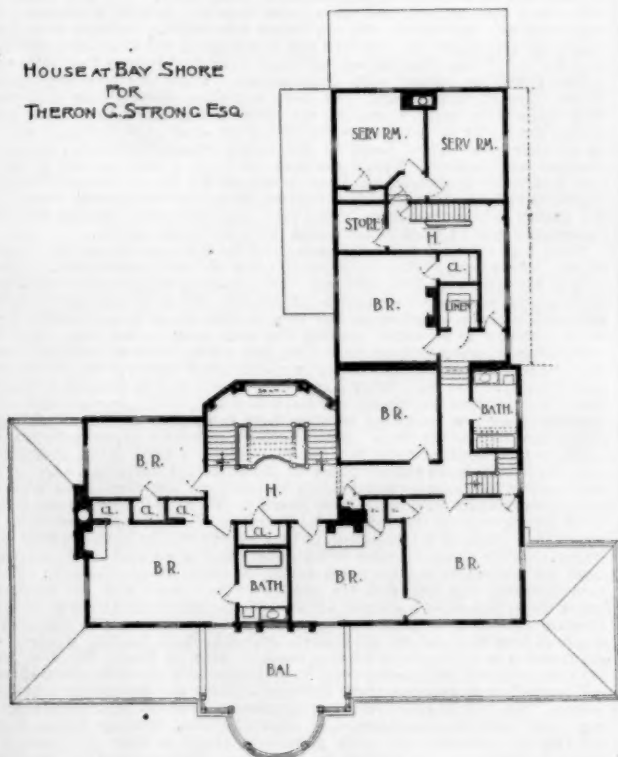
offices. A large convalescent-ward, opening on to the balcony, occupies the first floor. The sanitary arrangements are of the most approved kind, and the ventilation is obtained in the simplest and most effective way, depending chiefly on purely natural means. Economy had to be studied, and opportunity afforded for subsequent additions, if found necessary. The materials intended to be used are red brick and Ancaster stone, and roofing of Broseley tiles. The estimated cost amounts to 1,490*l*.

HOUSE AT BAY SHORE  
FOR  
THERON C. STRONG ESQ.



PLAN OF FIRST FLOOR.

HOUSE AT BAY SHORE  
FOR  
THERON C. STRONG ESQ.



PLAN OF SECOND FLOOR.

We omitted to state, last week, in publishing the print of Mr. Gibson's Albany Cathedral Pulpit, that we did so through the courtesy of the Soule Photograph Co., the owners of the negative.



BIRMINGHAM, ALA., May 4, 1890.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—As administrator of the late architect, Ed. Sidel, I have two cases on hand, in which I believe you can give me some information and refer me to decisions of courts to which my attorneys can refer and bring them to bear upon the court, here. The cases are very similar.

One is where he undertook the erection of a residence to cost something like \$25,000; but which in fact cost about \$34,000. The owner was aware before signing any contracts that the amount would exceed the first estimate but contracted for this amount and made some changes which caused additional cost, and now he refuses to pay more than the per cent on the original estimate. We claim the full per cent upon the total cost of the building; he having accepted same. Are there any decisions of the Supreme Court or any other court that you know of sustaining the Institute in this claim as well as us, and which would be of any service to me?

The other case is where Mr. Sidel made an estimate upon an office-building to cost \$170,000, and which cost about \$250,000. In this case, during his absence from the city, the contractors for the concrete foundation put in work, which afterward proved to be useless and had to be taken out and replaced. He has forfeited any claim to a per cent on this work, but claims his per cent upon the full cost of the superstructure above the foundation. The owners are only willing to pay upon the estimated cost, \$170,000.

Trusting you will pardon me for thus intruding upon your time, but knowing you are ever ready to advance the cause of the profession, and hoping to receive an early reply I am,

Yours very respectfully, J. W. GINDER.

[OUR advice would be to settle both cases amicably with the parties, or, if that should not be possible, to agree with them upon referees, to decide the matter. Undoubtedly, the architect is entitled to his percentage on the total cost, and, if this is, through no fault of his, but by the wish and request of the owner, greater than the early estimates, which probably applied to something quite different from the structure actually executed, the discrepancy cannot be used to reduce his compensation. There are cases involving this point, among others: but in all such controversies, there are so many circumstances for the jury to consider that precedents are of very little use. In the present instance, any fair-minded owner or referee would see that the architect's duties were increased by the additions made to the cost of the building, and that he ought to be paid accordingly, and, if the owner thought he had been really misled, to his injury, by the architect's original estimate, the architect ought to be willing to take that into consideration, and accept with a good grace a little lesson to be more careful next time. If the matter comes into court, it is certain that every sort of counterclaim that the imagination of the opposing counsel can suggest will be set up against the architect, and, although the charges may, one by one, be disproved, the process is a very long and costly one, and the architect who undertakes it single-handed must make up his mind to a struggle in which, at the best, victory is little less expensive than defeat. His opponent, however, usually suffers quite as much as himself, and it is much cheaper for both parties to make concessions, and settle the controversy for themselves, than to pay out hundreds, or, more probably, thousands of dollars in hiring lawyers to aggravate and prolong it at their expense. — EDS. AMERICAN ARCHITECT.]



[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.]

#### COMPUTING THE CURVE OF AN OGEE DOME.

May 13, 1890.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Can any of your readers give us a rule for computing the foreshortening of curve for an ogee dome, say one measuring 12:0' at the base, the curve starting at about 40:0' from the ground.

DRAUGHTSMAN.

[To "compute" such a curve would be a long mathematical operation. To construct it, all that is necessary would be to take points in it, plot them in plan and elevation, put them in perspective, with the given vanishing points, and draw a line through the points. — EDS. AMERICAN ARCHITECT.]



AFTER SIX HUNDRED YEARS OF BURIAL.—The Rev. Father John Morris, a Fellow of the Society of Antiquaries, sends the following letter to the *London Times*: "A few days ago I saw a sight in Canterbury Cathedral that interested me greatly, and as I am not aware that any account of it has been sent to you, perhaps you will allow me very briefly to describe it. In the course of the investigation into the history of the cathedral that the Dean and Chapter have intrusted to a committee of experts, a local tradition has been swept away, or indeed, I might say two incompatible traditions. In the south wall of the aisle of the famous Trinity Chapel at the east end of the cathedral stands a tomb, which for some long time past has been called by Archbishop

Theobald's name. He was the predecessor of St. Thomas of Canterbury in the Metropolitan see, and the year of his death was 1160. Those who are conversant with the history of the cathedral will have always known that Theobald was buried elsewhere. Inconsistent with this tradition was another to the effect that when the choir of the cathedral was burned in 1174, the shrines containing relics were flung down from the beams on which they rested, and the relics from the broken shrines were collected by the monks and placed in this tomb. It must be acknowledged that the tomb presents much of the appearance of a shrine; and as it has projecting from the quatrefoils of its ridged roof various marble heads in deep relief, it was not surprising that these heads should be regarded as those of the saints whose relics were supposed to be within. That ridged roof has been lifted off, and it has been ascertained that no relics from the broken shrines were deposited there. But underneath there is a coffin-lid, which also was raised, and there beneath lie the undisturbed remains of an ancient Archbishop, fully vested. The body has been left as it was. The objects of value that were in the coffin have been carefully removed; and this, indeed, was a necessary precaution, for it would not have been wise to leave them there now that they are known to exist. These will form part of the treasures in the Chapter Library: a beautiful chalice and paten, silver parcel gilt; a gold ring with an engraved emerald; the pastoral staff of cedar wood, with a very poor volute, but with three engraved gems in the knob; and some specimens of beautiful embroidery on the vestments. These will all be precious helps in the history of mediæval art. And who is the Archbishop upon whom we have reverently gazed? It is either Hubert Walter, who died in 1205, or Cardinal Stephen Langton, whose death was twenty-three years later. I do not now trouble you with the reasons that lead me to believe that the face I have seen is that of the great Archbishop who sided with the barons of England against King John in the struggle that gave us Magna Charta. I am not exaggerating when I say that I have seen the face of an Archbishop who lived six centuries and a half ago. The state of preservation of everything in that stone coffin was very wonderful. The vestments were quite sound—all but the woollen pallium, which had almost perished, though its pins were there—and to my great surprise, the shape of the nose and chin was clear and distinct. 'May he rest in peace,' I may be permitted to say, in a sense different from that in which usually those words are said. These remains have been treated with the greatest respect, and the Archbishop rests still quite undisturbed in the stone coffin in which he has rested so long. To have seen, not a heap of bones—for I have seen none but those of the head and hands—but to have seen Stephen Langton in his vestments, is an event in life, and I am very thankful to those who have done me the signal service of inviting me to Canterbury at such a time."—*N. Y. Evening Post.*

**EXTENT OF THE ROMAN CATACOMBS.**—The most perfect map of any portion of the catacombs that has yet been published is that which was executed under the immediate superintendence of Padre Marchi. It contains the eighth part of the catacombs of St. Agnes, and the greatest length of the portion thus accurately mapped is about 220 metres or 240 English yards, and its greatest width about 170 metres, or 185 yards. This, multiplied by 8, would give us somewhat less than 9 English furlongs for the greatest length of the whole catacomb, and nearly 7 for its greatest width—that is, supposing it to extend equally in all directions; and as the catacombs of St. Agnes appear to be of average dimensions, being larger than some and less than others, any one who is fond of arithmetic may amuse himself with a further multiplication by 60, in order to learn something of the probable extent of all the catacombs taken together. But, in truth this method of calculation will not bring us to any safe and satisfactory conclusion, were it only for this reason, that the excavations of a catacomb are by no means equally distributed throughout its several parts; for instance, if I were to take my sample from some portions of the map before me, I might say that the thickness of the rock left untouched between the several roads or streets, ranged from 2 or 3 to 12 or 13 feet, whereas if I took a sample from other portions of the same map, I should say that it varied from 26 to 40 or even to 70 feet; so that it is obvious that the knowledge of the extreme limits of a catacomb, even if it could be ascertained, would give us no criterion whatever of the number of its streets and walls, nor consequently of its graves. Looking, however, at the same map in a different point of view, not at the mere length or breadth of the space described, but at the actual number and length of the streets which it contains, it seems to supply the basis of a sober and reasonable calculation, in which we cannot be deceived. Measuring them roughly, I should say that they extend at least 3 kilometres, or something short of 2 English miles; multiply this by 8, and we have 24 kilometres, or 15 miles of subterranean streets in the catacomb of St. Agnes alone, and 1,440 kilometres, or not less than 900 miles in all the catacombs taken together. When I had made this calculation it was with no ordinary satisfaction that I observed how nearly it approximated to one made by Padre Marchi upon principles altogether distinct, and which might have been objected to as based upon conjecture rather than upon well-ascertained facts. He conjectures that there may have been twenty confraternities of fossors, or diggers, and that these might have excavated about 70 feet of road, and a hundred graves every day; and this, taking two complete centuries as the time during which the catacombs continued to be used as Christian cemeteries, gives a total of 1,200 kilometres, or 720 miles altogether, and six million graves—an amount which, however startling to persons unfamiliar with the subject, Padre Marchi considers much too small, both from his own experience of the actual extent of the catacombs and from long and careful studies as to the probable number of Christians to be found in Rome in those days.—*The Architect.*

**ANCIENT ATHENS.**—Indeed, all Athens is the grave of objects that we would fain have seen. In the market-place was the stone where the grandson of Aristides the Just used to sit. Justice had not profited him, and he made his livelihood by interpreting dreams out of

a little book of fate. The stalls of the potters and fishmongers and barbers were all around. Here the mean man slunk home, carrying the fish he had bargained for; the superstitious man anointed with oil the sacred stones; the shameless man ran away from the butcher's stall with a piece of tripe; the fops loitered and gossiped in the shops of the perfumers; while over the city wall the satirist fished with baits of gold for philosophers, like the Red Fisherman of Præd's poem. They are all gone and gone with them the temples, with the rough wooden idols in the holy of holies, or with the shining shape of Athene dimly seen in the shimmer of gold and ivory and precious stones, with all her treasures around her. What would not the antiquarian give to see all that Pausanias saw—the pictures, the woven raiment, the statues, the ancient wooden Hermes, offered by Cecrops, the serpent king, and the Persian spoil, the breastplate of Masiatus, the dagger of Mardonius? These are lost, yet, in the change of things, we can look on what Pausanias never dreamed of beholding—the sword blades of Agamemnon, etched with pictures in divers colored gold, and all the spoils of Troy, buried in his grave at rich Mycenæ. Time, that took away so much, has restored a little, and is daily giving back more, but of the gold most has been worn in circulation. Of the ivory who knows but that some examples may yet be found scattered in graves of the North, treasures of the wandering Norsemen and Teutons, who laid hands on this, as on all the loot of the old world? But time can never bring back the forgotten wealth of Athens, which Pausanias saw in a lull of the wars of the world, in a windless age between the defeat of one creed and the victory of another.—*London News.*

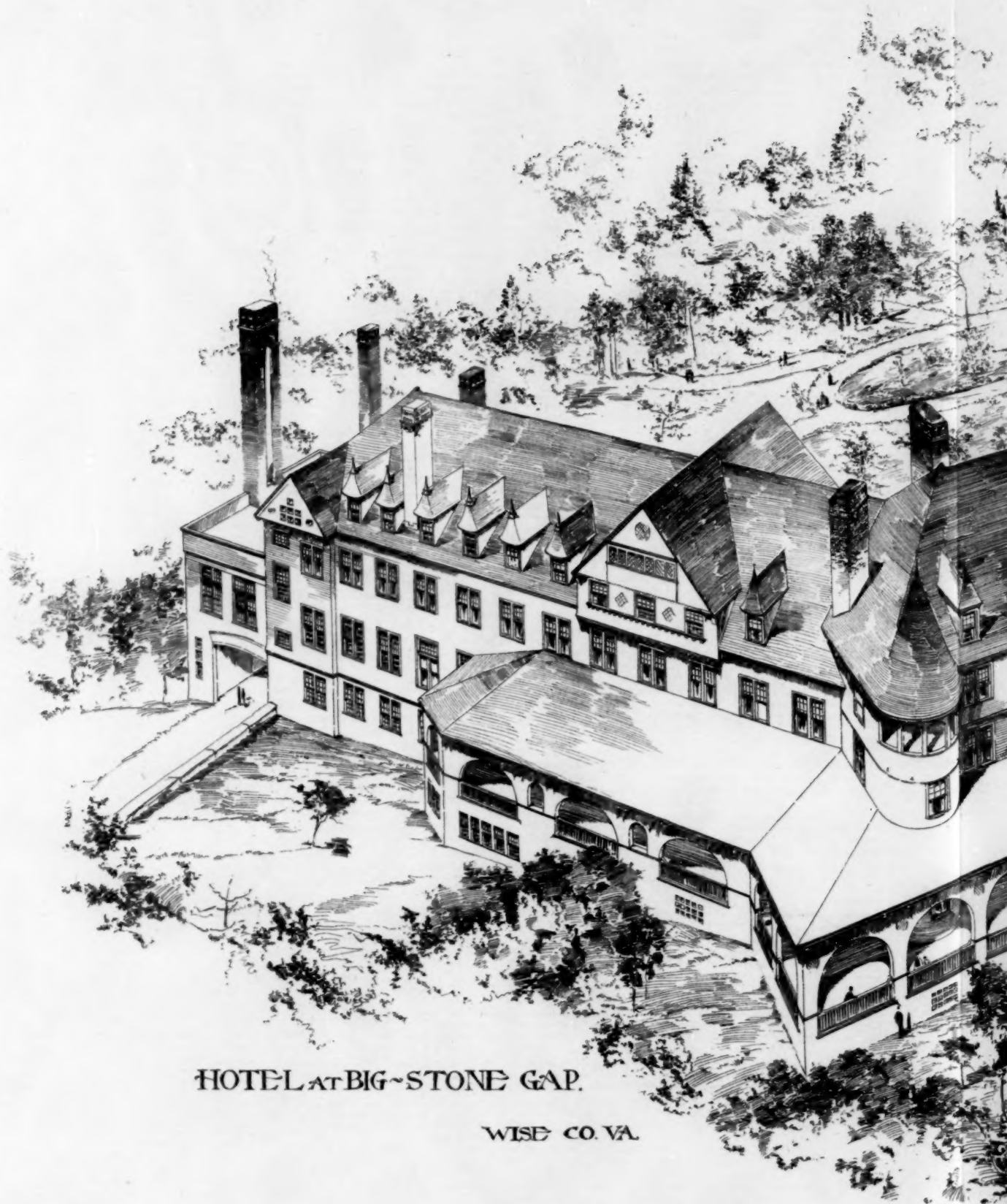
## TRADE SURVEYS

THE increase of nearly \$15,000,000 in the gross earnings of 149 railroads during the first quarter of this year, as compared to the first quarter of last, is a very favorable showing. The net increase in earnings amounted to over \$5,500,000. That this increase will continue for several weeks to come seems to be very generally anticipated, and there are good grounds for the anticipation. Consumers in every department have for some months past been buying no more material than they could immediately work up; the manufacturing interests have generally pursued the same careful policy, and, as a result, the jobbing and manufacturing centres of the country are not overloaded with stocks, though there are notable exceptions in one or two branches of trade. Two opposing theories are held by the business interests: one is, that the country is on the eve of a boom which will carry prices upward, possibly, and even probably, to dangerous limits; the other is, that prices have reached a point at which they are likely to remain; that producing capacity, taking all the industries into account, will not be greatly increased, and that business will be good throughout the year. The salient features of the financial, commercial and manufacturing situations can be very easily presented, but it is when it comes to forming opinions based upon these conditions that mistakes are liable to be made. The country is to-day producing more than at any previous time; there is more furnace, foundry, iron-mill, saw-mill, coke-making, machinery-making and general manufacturing capacity than we ever had before, and in the majority of branches a full output is being made. The iron trade is held under firm control, production being carefully gauged to the market requirements. At present, we are laying less railway mileage than for years, but a surprise may overtake the iron trade in the shape of a sudden activity in railway construction, although very few believe that railway building will be pushed with recklessness. There are now projected 20,000 miles of railroad, and even more, and those directly interested are very anxious to begin work; but the better judgment of those who are behind the active workers counsel still further delay, and it may possibly be another year before many of the well-formulated schemes recently reported are launched. Within the past few days, a large amount of ship and boat building material has been contracted for, for the construction of coastwise and lake tonnage. It is evident, from some statements made by the leaders in these industries, that a very large amount of tonnage will be constructed in the United States within the next twelve months.

There is an urgent demand for tonnage on the lakes and the larger inland rivers. There is a growing sentiment in favor of canal construction, and as soon as the tariff and silver, and one or two other pressing questions are disposed of, the question of internal improvements will come up, backed by a powerful Western influence, second only to that which is now forcing the silver question to an issue. During the past week or ten days, several associations of manufacturers have met, and voted either to maintain current prices or advance them. The manufacturers of textile goods are not so well situated. The manufacture of textile goods in this country and the heavy importations are keeping our markets crowded with supplies, and our manufacturers are beginning to utter loud complaints at the increasing difficulties surrounding them. Some measure of relief is expected from the passage of the pending tariff bill, but the importers have united to oppose what they claim is the radical policy of the protected industries, and have been quietly but urgently endeavoring to secure the incorporation of certain amendments which will be to their interest. There is a very strong anti-tariff feeling among the commercial interests of the country, especially where their business is threatened, as they believe it to be in the present instance. Public opinion seems to be undergoing something of a reaction from the very strong position taken during the last political campaign. The manufacturing interests feel the change of sentiment, and are restless under the evidences of a greater or less popular discontent at the proposed increase of duties in particular lines. The machinery-making establishments of New England are all actively engaged; those making specialties are reported as having three to four months' work in hand. The demand for steam-engines of unusual capacity is particularly notable, and makers are compelled to increase their facilities to meet the increasing requirements. The drift of enterprise, just at present, seems to be towards securing land, erecting manufacturing establishments, opening mines and constructing railroads now while material is cheap, in view of a probable booming activity and high prices in the future. Every capitalist is anxious to place his money in land, mills, mines, furnaces, in any channel where early returns are probable. Investors are crowding past each other in their haste to secure what they believe to be exceptional opportunities. There is danger in all this rush; but judging from the successes which have attended recent investments, though enterprise may be crowding ahead in the direction of danger, it has not yet actually encountered it.

S. J. PARKHILL & Co., Printers, Boston.

THE HISTORY OF THE  
1777



HOTEL AT BIG-STONE GAP.

WISE CO. VA.



WINSLOW & WETHELL,  
ARCHTDS.

CHURCH of the ANGELS: LOS ANGELES: CAL:  
ERNEST A. COXHEAD: ARCHITECT: S. F. CAL:



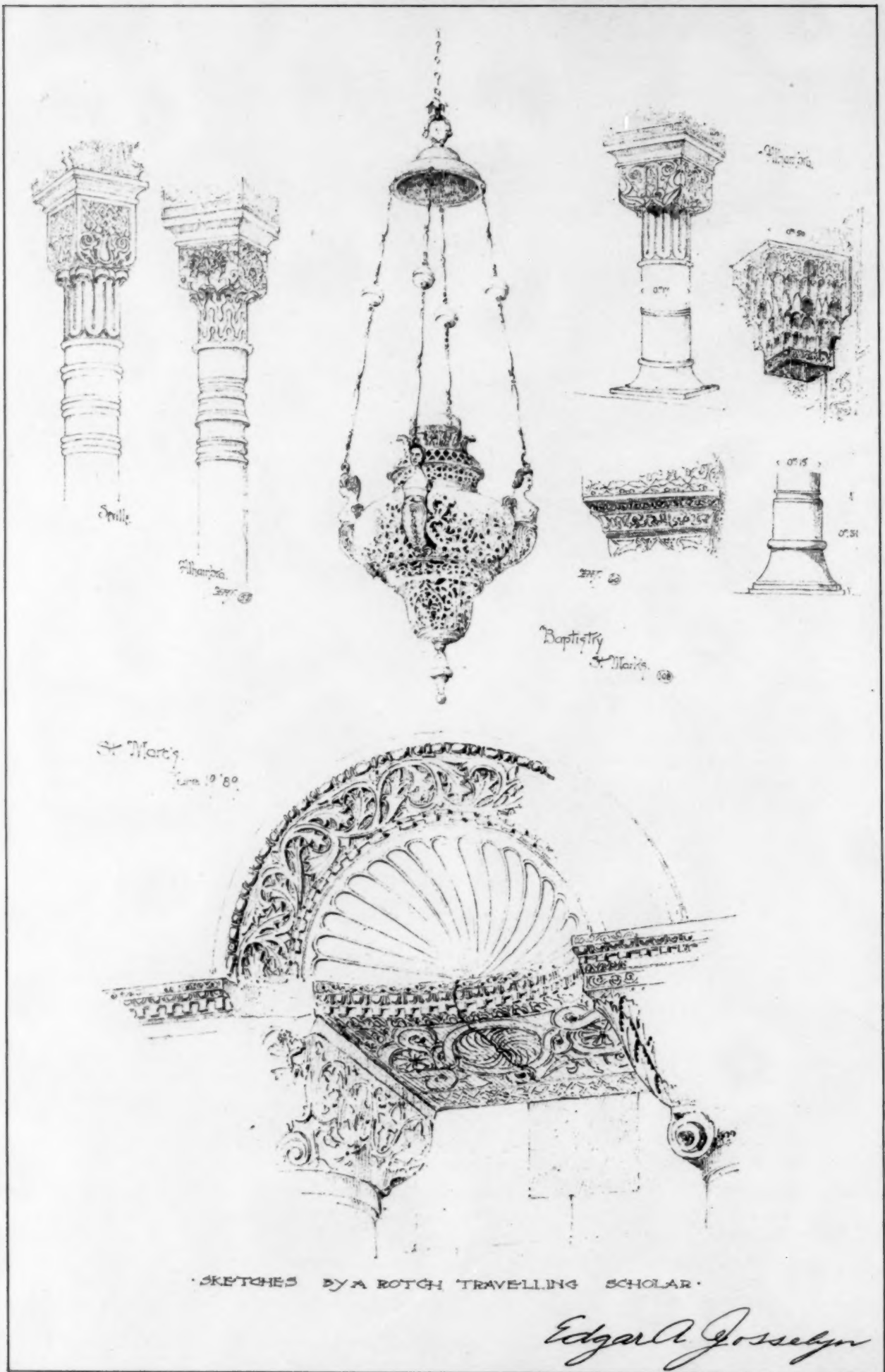
South East View of Entrance and Tower

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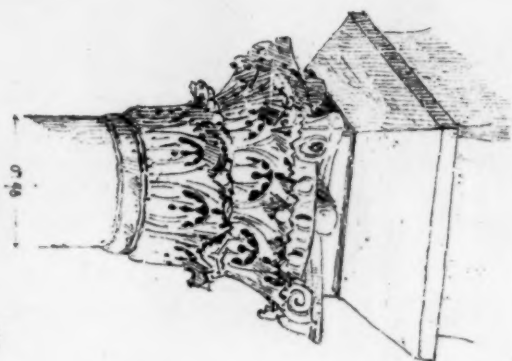


The Radford Hotel (showing proposed addition)  
Radford, Virginia.  
J. W. D. 1890.  
Philadelphia.

HEILBRUNN PRINTING CO. BOSTON.

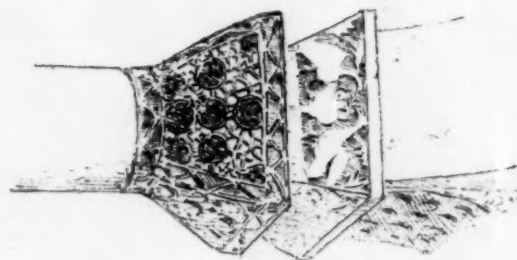


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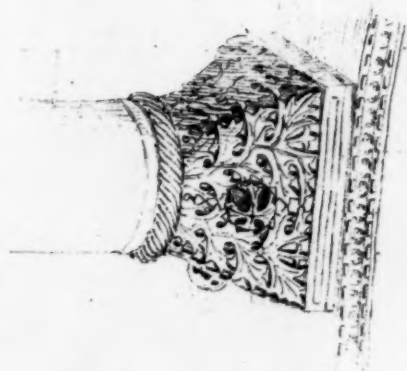
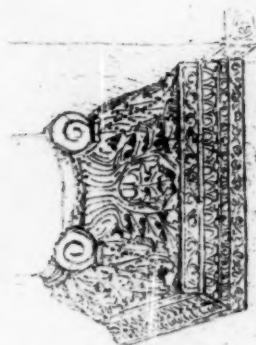


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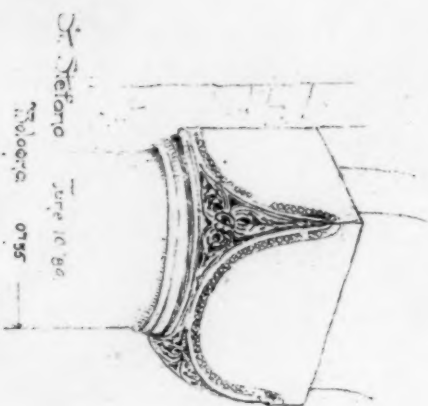
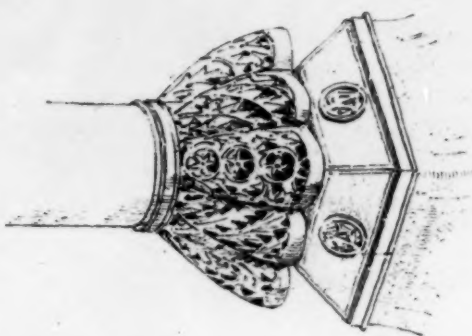
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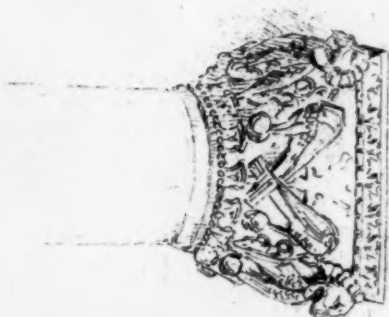
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