THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXXVII. Copyright, 1892, by TICKNOR & COMPANY, Boston, Mass. No. 873.

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

SEPTEMBER 17, 1892.

CONTENTS.

SUMMARY: —

Possible Cholera and its Effect on Chicago. — The Efficiency of Sanitary Precautions in some Italian Cities. — Sewage Disposal by Irrigation in Berlin. — Opportunities for Similar Systems in this Country. — Death of Henry Hudson Holly, Architect. — Death of Alexandre Lavalley, Engineer. — Cheap Excursions from England to Chicago. — The Operation of the Zone Railway System in Hungary. — Swiss Railways 173

LOMBARD ARCHITECTURE. — II. 175

LETTER FROM NEW ORLEANS. 177

LETTER FROM SAN FRANCISCO. 178

YORK GATE, LONDON. 179

A NEGLECTED CHAPTER OF ARCHITECTURAL HISTORY. 180

LETTER FROM LONDON. 183

THE POWDER-TOWER OF PRAGUE. 184

LETTER FROM BALTIMORE. 185

ILLUSTRATIONS: —

Building of the American Legion of Honor, Boston, Mass. — Sketches by the *American Architect* Travelling-Scholar for 1891: Three Sheets. — Extension of the "Charlesgate" Apartment-House, Boston, Mass. — The Colorado, Glenwood Springs, Colo. — House at St. Louis, Mo. — House at Seattle, Wash. — Design for Group of Houses on Summit Ave., St. Paul, Minn.

Additional: The New Gewandhaus, Leipsic, Saxony. — Flank of the New Gewandhaus, Leipsic, Saxony. — Doorway of the Hôtel du Vieux Raisin, Toulouse, France. — Kraenstrate, Malines, Belgium. — Premiated Design for New Municipal Buildings, Oxford, Eng. — Two Houses, Oak Avenue, Manningham, Eng. — Proposed Lodge, Tunbridge Wells, Eng. . 186

NOTES AND CLIPPINGS. 187

TRADE SURVEYS. 188

IT is very much to be hoped that the cholera will be kept out of Chicago during the time of the Exhibition, and there can be no doubt that every possible precaution will be taken to prevent it from entering. If it should once gain a foothold, the arrangement by which Chicago pours its sewage into the Lake, and then drinks it up again, diluted, is altogether too favorable to the rapid spread of the disease to be a pleasant subject of contemplation. It is said that the cholera was introduced into Hamburg from an encampment of the vile Russian emigrants, who had squatted temporarily on the bank of the Elbe, above the point at which the city takes its water-supply; but such a contamination would be transitory and insignificant in comparison with that by which Chicago would be affected if each new patient in the city itself should be permitted to become the means of infecting a thousand others through the Lake water.

SPEAKING of cholera, it is remarkable that in Italy, according to the daily papers, not a single case of cholera has yet appeared, and this, notwithstanding the fact that the Italian poor people are perhaps the worst fed in Europe, and that they live in a hot, humid climate, very favorable to the development and spread of cholera. The secret of the immunity of Genoa, Naples and Rome is probably to be found in the unrivalled energy and skill of the sanitary police in the Italian cities. The contrast between the New York of fifty years ago, when hogs would occasionally rise from the mire of Broadway, under the feet of the traveller, and the metropolis of to-day, is not greater than that between the present New York and Genoa or Milan. West Street alone, in its ordinary condition after a shower, would furnish mud enough for all the cities of Italy, and the stenches of Houston and Prince Streets would be easily victorious in a contest with those of Rome. There is a story that some one in New York, not long ago, kept a record of the number of days that dead cats and similar objects were allowed to remain in the street in front of his house before they attracted the attention of the city scavengers, if, indeed, they attracted any attention at all; and any one may see, in an early walk through those metropolitan streets where the stench has called forth the loudest protests, shovelfuls of chloride of lime dumped at intervals into the filthy mud of the gutters. Very different is the Italian policing. Not an orange-peel, or cabbage-leaf, or decaying vegetable, is allowed to remain on the pavement many moments before it is spied by the sharp eye of a scavenger, who promptly transfers it to a hand-cart; and this minute care is supplemented by frequent washing. Even then, however, the smooth asphalt surface of the more crowded streets becomes covered with a thin coating of mud, which would become offensive under the hot sun, were it not for oft-repeated disinfection with chloride of lime, which, instead of being dumped in random heaps, is spread, in the form of dust, evenly, but thinly, over the whole surface of the street, by means of a machine something like a watering-cart. By such means as these the crowded Italian cities are kept nearly free from contagious diseases, and some such efficient policing will probably be needed here next summer.

M. DELAHAYE gives, in the *Revue Industrielle*, a brief account of the system of sewage-disposal by irrigation now in operation at Berlin. As usual with the thorough and scientific Germans, many experiments and tests were made, to determine the comparative efficacy of various methods of sewage-disposal; and in 1873, Dr. Hobrecht's plan for drainage, in connection with a scheme for utilization by surface irrigation, was adopted. For drainage purposes, the city is divided into twelve sections, each section being calculated, when fully built up, to have a population of two hundred thousand. The sewers of each section, including the main delivering sewer, and the pumping-station attached to it, are entirely independent, and each sewer has its own irrigation field; but connections are arranged so that the sewage of any section may, on occasion, be sent through the main sewer of the adjoining one. The irrigation fields are situated in different directions from the city, and at different distances, from seven to fourteen miles. The total area of the irrigation fields owned by the city is about nineteen thousand acres, but only about eleven thousand acres are at present in use, the proportion being nearly one acre to each one hundred inhabitants. The soil of the fields is sandy, and the surface nearly level, broken only by occasional slight eminences, which are utilized to form the starting-point of the various systems of open irrigating canals. The purification of the sewage is nearly perfect, ninety-five to ninety-eight per cent of the organic ammonia being removed; so that the effluent is allowed to flow into the River Spree. The principal crop raised on the irrigated fields consists of cereals; then comè forage crops; next roots and green vegetables. The farms, although tilled mostly by prisoners from the houses of correction, are so productive that applications are often received for a share of the sewage from the private farmers in the neighborhood. It could hardly be expected that the sewage-farms would be a source of profit to the city, in addition to paying interest on the cost of the sewage system; but the sales from them have been large enough to pay all the working expenses, and a considerable part of the interest on cost of construction besides; so that the net expense of sewage disposal for the city is only fourteen cents a year for each inhabitant.

WITH such an example as this before them, it is singular that the city authorities of Chicago and Boston should have been able to think of no better way of disposing of their sewage than to poison their neighbors, if not themselves, with it. One would think that Chicago was particularly well situated for an irrigation-system, and it will not be strange if it is forced in the end to adopt one. As for Boston, while a good irrigation-system would be costly, it would, for some reasons, be of peculiar value. Beginning from a point about twenty miles southeast from Boston, nearly the whole easterly portion of Massachusetts consists of sand, covered with a thin coat of loam, which supports a straggling growth of pine and oak. A better soil for irrigating it would be hard to find. Of this land, thousands of acres, thirty miles from Boston, are said to be for sale at a dollar an acre. What they would be worth if irrigated we will not attempt to say, but the fertile Belmont and Arlington land is said to bring a thousand dollars an acre for farming purposes; and, judging from the accounts of the sewage-farms of England and France; the Cape Cod sand-hills, fed with Boston sewage, ought to return their cost in a week, leaving their subsequent earnings to go toward paying interest on the cost of the sewerage system.

ALL the older Eastern architects will regret to hear of the death of Mr. Henry Hudson Holly, who seems never to have recovered entirely from the effects of the accident which happened to him three years ago, and died of a complication of troubles last week. Mr. Holly was an old New Yorker, of very good family, cultivated, agreeable, and devoted to his profession. It was his fancy, however, to carry on a rather quiet practice. His clever and useful books on "*Country Seats*," and "*Church Architecture*," which were very popular, brought him a great deal of work to be done by correspondence; but he superintended his more important buildings. He was one of the first members of the American Institute of Architects, and always ready to serve on committees, or be of use to the profession in any way, and his courtesy and tact made him always valuable. Among his principal buildings are the Virginia Military Institute, and a house in Colorado, which is said to have cost four hundred thousand dollars.

M. ALEXANDRE LAVALLEY, a member of the editorial committee of *Le Génie Civil*, who died the other day, was a remarkable example of the earnest and energetic French professional man of the present day. M. Lavalley was educated at the École Polytechnique, then, and probably still, the most renowned school of engineering in the world. He graduated from the school, as do our best cadets from West Point, with a commission as engineer officer in the army, but soon resigned his military rank, to devote himself to studying the science of railway management, which was then very little developed. With this intention, he crossed the Channel into England, and sought employment as an ordinary workman on one of the new railroads. After a time, he obtained a situation as a fireman on a locomotive, and, in that modest station, made the best of his opportunities for studying the practical working of what was then almost an untried machine. When he considered himself sufficiently equipped with this special knowledge, he returned to France, and entered the mechanical engineering establishment of M. Ernest Gouin. Some years later, when de Lesseps had brought his great scheme of a canal across the Isthmus of Suez to the point where work could actually be begun, M. Lavalley associated himself with M. Borrel, an engineer of distinction, and contracted for the excavation of a large portion of the canal. This undertaking occupied him until the canal was completed; and he then engaged in various important engineering works, particularly in the island of Réunion. Returning, now somewhat advanced in years, to his native land, he established himself as a country proprietor in Normandy. He had been President of the Society of Civil Engineers, and was a member, and later an officer, of the Legion of Honor; and, in 1885, his Norman neighbors elected him Senator. He took his place in the Senate as a member of the Left Centre, that is, as a moderate Radical; and was chosen vice-President of this group. He died at the age of seventy-one, completing, while still in full possession of his faculties, a life of energy, modesty and usefulness.

THE committee of the Polytechnic Institution, of London, has made arrangements for cheap excursions next year from England to the United States, so that English workingmen may have the advantage, not only of visiting the Chicago Exhibition, but of seeing something of the great English-speaking continent. A contract has already been made with the Inman Steamship Company for accommodations, and it is arranged that special fast steamers shall leave Liverpool every week during the summer months of next year, to convey the excursionists. On their arrival, the parties will probably stay two days in New York, proceeding thence to Philadelphia and Washington, and from there to Chicago, where a stay of a week will be made. The return trip will be by way of Niagara Falls and Buffalo, and the Hudson River, and it is expected that the excursionists will be landed in Liverpool in a month from the time of their departure. The entire expense of the trip, including hotel accommodation, will probably not exceed a hundred and thirty dollars.

THE *Revue Industrielle* gives some statistics in regard to the last year's operations of the zone system on the Hungarian State railways. First, however, it gives an explanation of the origin of the system, which is rather curious. It has been generally supposed that the intention of the Hungarian Government, in adopting the zone system, by which railway fares to points distant from the capital are greatly reduced, was to build up and develop the outlying districts, at the cost, perhaps, of a temporary diminution of revenue. It seems, however, probable that there may have been a rather less creditable motive for adopting the ingenious scheme of Herr Baross. The State railway system of Hungary is a matter of quite recent origin. In 1868, the Government bought a line of railway connecting Pesth and Sarvo-Trajan. This was the first road owned by the State, and, for some time it was the only State railway; but circumstances led the Government to buy other lines, until it came into control of a somewhat extensive system. As usual in such cases, the more its lines were extended, the sharper became the competition between them and lines owned by private corporations; and it became at last evident to the shrewd Government officials that two other roads, the Sudbahn, or Southern railway, and the Staat-bahn, must be acquired, or, at least, rendered harmless, before the Government lines could do a profitable business to competing points. The natural solution of the problem would be to buy the competing roads, and it became important to be able to buy them at the lowest possible price. To reduce the price of a railroad, the surest way is to make it unprofitable; and, in the case of a competing line, this can be done by reducing rates. In the case of the Hungarian lines, the next consideration was to reduce rates in such a way as to injure the Government roads as little as possible, and the competing ones as much as possible; and the zone arrangement was the fruit of the study of these questions.

SO far as the State railways are concerned, the expectation of the inventor of the system, that the increase of the long-distance travel would partly compensate for the loss by reduction of rates, has been far more than realized. Where, in 1888–1889, fifty-seven hundred thousand passengers were carried, there were, in the next year, with no increase in the extent of the system, more than thirteen million passengers; and in 1890–1891, the Government having meanwhile added about five hundred miles of road to its system, there were eighteen and one-half million passengers. Curiously enough, too, while the passenger traffic increased so enormously, and the income from it also increased, though in a somewhat less degree, the expenses increased very little. Hardly any additional trains were needed to carry a number of passengers almost four times as great as before, so that the cost of transportation was increased by only about four hundred thousand dollars, fifty thousand more being added to the appropriation for station service. The result was that the increased business, instead of simply making good the deficit of three hundred thousand dollars, which would have followed from the reduction of the rates without any increase of traffic, not only made up for this deficiency, but brought in a profit of nearly a million dollars. As for the competing roads, it is, perhaps, sufficient to say that the new scheme was not designed to benefit them, and that it fulfilled the expectations of its inventors in this respect. The Southern Railway Company made a reduction of fifteen per cent in its rates to meet the competition of the Government lines, but, although its passenger traffic increased, its expenses increased still more, and the year's business resulted in a loss, which was made still more serious by the diversion of a part of its long-distance international traffic over the Government lines.

THE Swiss engineers seem to get constantly bolder in their designing of mountain railways. One of the lines most recently opened, which is illustrated by two beautiful photographic relief-plates in the *Schweizerische Bauzeitung*, extends from Lauterbrunnen to Mürren, and consists of two sections: the first, from Lauterbrunnen to Grütsch, being a rope-railway, while the remaining portion, from Grütsch to Mürren, is an electric road. The grade of the rope-railway may be judged from the fact that in a horizontal length of twelve hundred and fifteen metres, or about three quarters of a mile, it ascends seven hundred and ninety metres. The electric railway from Grütsch to Mürren is much less steep, the ascent being only one hundred and fifty metres in a length of forty-two hundred. It is hardly necessary to say that passengers are obliged to change cars at Grütsch, as vehicles adapted to a road ascending at an angle of about forty degrees with the horizontal would be nearly useless on a road as nearly level as is the line between Grütsch and Mürren.

LOMBARD ARCHITECTURE.[1]—II.

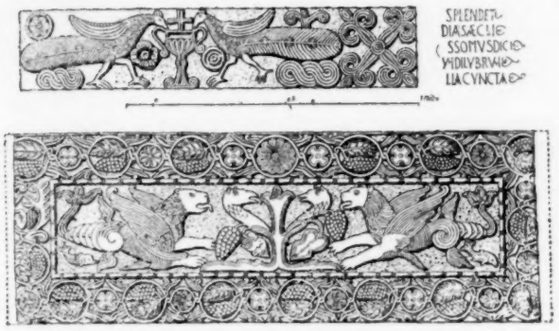


Fig. 4. From the Tomb of Theodotus, Pavia.

WHEN the decoration depends essentially on bringing out the constructional system, the part played by superficial ornamentation is greatly abridged. The mosaics, veneering, and paintings which occupy a prominent place in Byzantine art, appear in the Lombard only as accessories or objects of luxury, set apart for what are looked upon as the noblest portions of the church, namely, the tribune, choir and apse. At San Ambrogio, in addition to the mosaic on a gold background which still covers the vaulting of the great apse, there were marble mosaics, paintings and stucco ornaments on the other walls of the tribune. What was left of these unfortunately disappeared when the edifice was restored. But apparently, with the exception of the vaults of the central nave, which showed some traces of paintings, the body of the church had not had any surface-decoration whatever. The tooling of the joints of the brick indicates that the masonry was intended to show, and the same course was generally pursued in the Lombard churches. The paintings found in the aisles were mostly added in the latter part of the Middle Ages or during the Renaissance.

While such embellishments were thus restricted owing to the expressiveness of the forms given to the framework, sculpture assumed considerable importance on account of the many capitals and bases which were naturally called for in the decoration of the walls. Therefore, unlike the Byzantine churches, Lombard houses of worship have comparatively little revetement and a great deal of sculpture. However, though differing

Fig. 5. Capital from San Ambrogio, Milan.

in this respect, the resemblance, or rather the affiliation, is perfect as regards methods of execution and artistic quality. Byzantine influence was dominant during early mediæval times and even later over mosaic art and over mural painting; the old Italian schools were the docile copyists of those of the Greek empire. The same was true of sculpture, at least at the outset; under the Lombards it was derived directly from the Byzantine, as appears from the altar of Pemmone and the baptistery of Calista, at Cividale, in Friuli (De Dartein, "*Etude sur l' architecture lombarde;*" Paris, 1865–1882), and also from the tomb of Theodotus, at Pavia (Fig. 4). This sculpture, of primitive aspect, is a sort of picture in very low relief, engraved, as it were, on the previously smoothed surface of the stone. It was executed by the most elementary process and for this reason was best adapted to the resources of unskilled workmen. The process is not itself Byzantine, but the choice of subjects and the character of the design shows that it had its source in Byzantine art.

Fig. 6. Dome of San Ambrogio.

Byzantine influence is also very marked in the sculptures of San Ambrogio, as the capitals represented in Figure 5 indicate. However, the reliefs are pronounced, and the figures of men and animals are numerous. From the very fact that sculpture plays a prominent part in decoration it advances at the same pace as architecture itself, and is constantly developing the resources at its command. This will appear farther on in the study of San Michele of Pavia, and we will there discuss the flora and fauna introduced into Lombard monuments. In closing this description of their ornamentation, we must refer to the numerous archivolts of the doors and windows; the buttresses with bundles of ribs, the blind arcades supported on colonnettes or engaged on mural bands; and lastly to the small arcades borne on colonnettes or consoles, which are in general use for crownings. All this follows from the constructional system applied to the pillars. For the secondary members as for the principal organs, the decorative aspect was obtained through a detailed structural expression.

Of the two campaniles of San Ambrogio, the one on the right is older than the aisles (Landriani, "*La basilica ambrosiana,*" etc.), while the other, built in 1128, is posterior to them, as the masonry shows. This second tower was erected by Archbishop Anselm V, in order to put an end to the dissensions over the use of the bells, which had arisen between the monks and the chapter that occupied the church together, and which were at times very violent.

Although the logical result of the uniformity of the large pillars would be uniformity in the mode of covering the four bays of the principal nave, the last of these, the one bounding the tribune, is covered differently from the others. The groined vault is here replaced by a cupola. Conical squinches

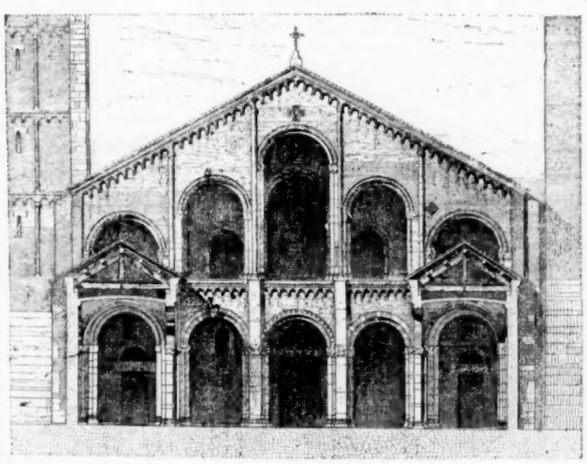


Fig. 7. Façade of San Ambrogio.

(See "Religious Architecture," Fig. 5, *American Architect* for July 5, 1890) at the four angles support an octagonal drum which, in the beginning, was simply roofed with timber. Later, at the end of the twelfth century, the drum was raised and thickened and the timber roofing was replaced by a raised vault. Two stories of arcades on colonnettes (Fig. 6), the second and more spacious of which forms a passageway, and a

[1] From the French of F. Dedartein, in Planat's *Encyclopédie de l'Architecture et de la Construction.* Continued from No. 872, page 161.

rich crowning with small intersecting arches make the dome one of the most ornate in this style. It is at the same time one of those architectural bits that indicate the possibilities of the style for the decoration of the superstructure.

The façade (Fig. 7) presents an original disposition, which is unique in Lombard edifices. Its exceptional form is due to the two-storied vestibule covering the entire front of the church, in consequence of which it was necessary to have very broad openings in the ground-floor, to facilitate circulation, and in the first story, to admit light to the naves. In order to get as much light as possible, the five upper bays are graduated in height from the extremities of the façade to the center, following the slope of the gable.

We shall see later that the characteristic feature of the typical façade of the Lombard churches is that it rises solidly without ressaults or projections of any sort, to two inclined lines which terminate it in the form of a gable. When there are breaks in the roof they are not indicated on the façade. The latter then covers the front of the monument without adopting its shape. This is not the case in San Ambrogio, because the lateral vaults of the second story reach, like the central, to the slope of the façade gable.

This roofing system has the serious defect of doing away with the direct lighting of the nave from the sides. On the other hand, the central body is completely hemmed in between the two-storied side aisles which support the vaults very efficiently. The lighting is thus sacrificed to solidity, and the adoption of this disposition, which was abandoned in the great vaulted churches posterior to San Ambrogio, shows clearly that this latter monument was the work of novices, who did not yet believe in the possibility of carrying the vaults of the nave high enough to admit light directly into it above the side-aisles without jeopardizing their stability.

Other evidence of inexperience is furnished by the structural system. We have remarked that the dome demands no especial disposition of the pillars supporting it. It seems, as M. Landriani has said, that its construction was not provided for in the original plan. It was at first covered with timber and is crude in comparison with the cupolas, vaulted from the start, which are observed elsewhere. The splays of the bays are extremely simple. The large pillars are, quite inappropriately, more developed lengthwise than breadthwise of the edifice. They are regularly laid in well arranged courses of stones that often take in several ribs, while, in the monuments of a more advanced art, each rib-member is almost independent.

We have before seen that what can be gathered from the monument touching its own date — from the altar of Angilbert and the tombs beneath it, from the difference in the level of the pavements, from the epitaph of Anspert, and lastly from the masonry-work of the tribune, the body of the edifice and the atrium — all tends to fix it in the ninth century. It has also been shown that history, local and otherwise, corroborates this view. Finally, it has just been demonstrated that the artistic characteristics of the monument are those of a style in its infancy; in no other Lombard edifice are the inexperience and timidity of the constructors so marked as in San Ambrogio. This goes to confirm the other evidence. We are then justified in recognizing this church as a ninth-century production and at the same time, as the most ancient monument of the Lombard style.

Its high antiquity and primitiveness are, moreover, perfectly expressed in its physiognomy. At the entrance the cloister produces a striking impression upon us. This closed and silent court wrapped in the gloom of the surrounding porches sunken much below the level of the soil about it and rudely built and decorated, carries us back into the past and induces that meditative mood that befits one on making his way into the house of God. Within (see interior view, Religious Architecture, Figure 5, *American Architect* for July 5, 1890) beneath the great shadowy vaults, under the squat arches, appears a series of venerable and curious relics of by-gone ages. First there is a bronze serpent lifted on a column, a queer image the origin of which has given rise to many conjectures; next comes the pulpit, a perfect museum of sculptures, supported on a Roman sarcophagus and on colonnettes borne by lions; it is sufficiently spacious for the preacher to gesture or even walk at his ease in it; it has a high parapet, on the rear of which is an old and roughly carved bas-relief representing the Last Supper, while, in front, one above the other, are two archaic bronze images, the man of St. Matthew and the eagle of St. John, the latter supporting the desk. Before the tribune, over the unrivalled gold and silver altar presented by Archbishop Angilbert, rises the ciborium with four columns of polished porphyry, and four gables pierced with arches and decorated with mouldings and large painted and gilded figures. Under the altar are the tombs of the saints: the porphyry pillars had remained exactly as placed in the time of San Ambrogio until toward the end of the restoration when the baldachino, which is all in one piece, was turned so as to correct an axial defect! Behind the altar, are the arches opening into the crypt, which was built later, and beneath the tribune arch gleams on a gold background the great mosaic of the apse. Sculptured wooden stalls encircle the rear of the church; their sombre line is broken at the centre to make place for an old episcopal pulpit in marble, the very one, it is said, which Saint Ambrose occupied. All these legacies of past centuries, are quite in keeping with the old basilica; they count for a great deal in the melancholy and deep impression produced on the visitor, the influence of which can never be effaced.

However, the great age of San Ambrogio is by no means admitted by all archæologists. Some insist that it can not go back to the ninth century, since it could not be so much more ancient than similar neighboring monuments. No one marvels, however, that the Italian Renaissance antedated the French by an entire century, or that the province of Ile-de-France made use of the ogival style more than sixty years before it was adopted on the banks of the Rhine! In view of these facts, it is not credible that still greater differences may have occurred in the development of architecture, in the early Middle Ages, when communication was more difficult, when the art of drawing was in its infancy and when scarcely any means existed of summoning artists from a distance on the report of their skill. Two edifices in Italy itself, the Baptistery and San Vitale at Ravenna, preceded, one by seven centuries, the other by six, the Roman basilica of San Clemente; so that Mediæval art was established at Ravenna in the fifth century, while twenty leagues away, in the city of Rome, refuge was still offered to primitive Christian types seven hundred years later. In matters of this kind, therefore, it is well to avoid taking sides and to put little confidence in generalizations, which, it must be admitted, are the more readily adopted as authenticated facts are the rarer. If the careful and conscientious study of an edifice points to a date consistent with all the local circumstances it should not be rejected because of the manifest impossibility of accepting it elsewhere. The wiser way is to admit it, at least until more reliable proof to the contrary is obtained.

It is to northern Italy, to its monuments of the fifth and sixth centuries, and to the voyages of its sailors and merchants, that western Europe mainly owes her introduction to Byzantine art. Is it not a significant fact that Notre Dame at Aix-la-Chapelle and St. Front at Périgueux, the most purely Byzantine of the structures beyond the Alps, are directly derived from Italy? The oldest Romanesque church might then have very probably been in Lombardy. And that it was constructed in the ninth century, is after all no more surprising than that Saint Sophia was built in the sixth, nor that that

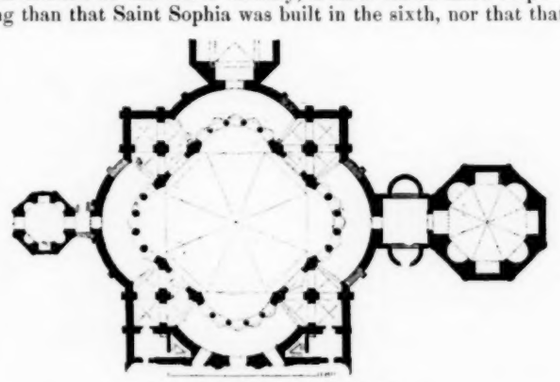


Fig. 8. Plan of San Lorenzo, Milan.

remarkable and, as yet, inexplicable structure, the Pantheon of Agrippa, was reared some years before the Christian era.

Aside from San Ambrogio, the city of Milan contains a large number of churches built or rebuilt during the Lombard period. Most of them had been very much altered after the Renaissance; but many of these have already been restored to

their old forms, and the work of restoration begun in 1859 has been steadily and actively pushed. None of the others possess the interest to the student of Lombard art that San Ambrogio offers. San Celso is reduced to its *chevet* and its campanile; San Eustorgio has undergone before and since the Renaissance serious alterations in nearly all its parts. The two churches of San Lorenzo and San Nazaro, which date back very far, depart much, in their dispositions, from the types common during the Lombard period. San Lorenzo (Fig. 8), an important monument for the historian of the style, and in itself a work of considerable consequence,[1] is a Byzantine rotunda with a central dome and four hemicycles with two-storied galleries; four square towers connect the latter with one another. San Nazaro, originally dedicated to the Holy Apostles (Fig. 9), is disposed in the form of a cross, like the Church of the Holy Apostles at Constantinople, erected by Justinian. A dome rises over the intersection; the arms, of equal length, terminate in large hemicycles. Perhaps the most notable thing to be considered with respect to the characteristics of the Lombard style as here manifested is its adaptation to foreign dispositions. The Lombard structure was reared on the foundations of other constructions. The same even was true of the Renaissance edifice, which, at San Lorenzo, replaced that of the eleventh and twelfth centuries. The Byzantine character of the primitive monument has thus been perpetuated in this church, in spite of several reconstructions, and notwithstanding changes of style. At San Ambrogio, also, the Lombard basilica covers exactly that of the fourth century. This fidelity to old forms and respect for primitive designs constitute one of the characteristics of Italian religious architecture. Even in the Middle Ages, when Tramontine architecture developed with so much independence, owing to the boldness with which its original principles were applied, the Italian builders were in many respects enslaved by tradition. Not only were the general plans of the ancients respected, but certain of the minor dispositions, through force of habit, were imposed upon all new structures.

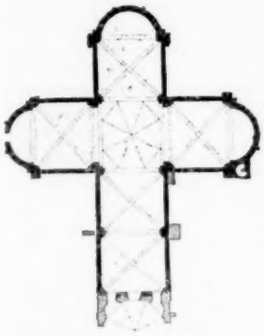


Fig. 9. Plan of San Nazaro, Milan.

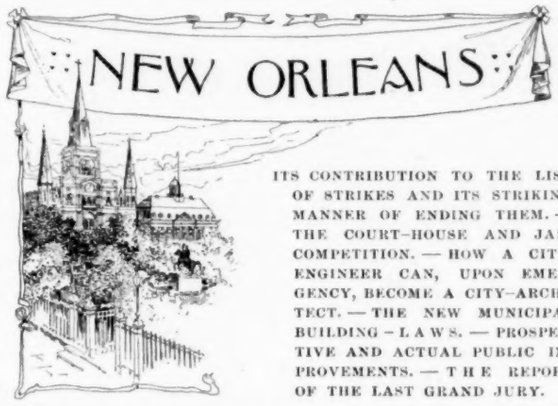
In a Lombard church, the side-aisles are never continued around the choir, forming with the apsidal chapels the beautiful arrangement found in the French Romanesque churches from the eleventh century. The tribune is always enclosed by the solid walls of the edifice, and this arrangement was faithfully adhered to during the entire Pointed period, except in a very small number of churches, such as the Cathedral of Milan, in which Tramontane art had a direct influence.

The use of separate baptisteries, erected near the church in the form of circular or polygonal rotundas, was maintained in Italy until the fourteenth century, long after baptism by immersion had been abandoned. There are, therefore, a great many isolated baptisteries in this country, in the rural districts as well as in the cities, while hardly any are to be seen beyond the Alps, where the plan of placing the baptismal font inside the church was adopted, where the custom of baptizing by sprinkling made it possible to do away with the separate edifice.

But the most significant testimony to the traditional persistence of ancient customs is found in the independence preserved by the campanile. It was naturally distinct from the church to begin with, because, as the earliest basilicas had no bell towers, they were, of course, added later, and were constructed apart. They continued to be built separate afterward, even for entirely new churches The Italian campanile of the Middle Ages, therefore, remained a distinct architectural motive, while everywhere else it was incorporated with the church, not without advantage to the latter from the standpoint of compositional unity and of a successful *silhouette*. Nor can it be said that the isolation of the campanile is due to some peculiar circumstance, such, for example, as the use of it for municipal and religious purposes at the same time; for it as often occurs in the smallest houses of worship as in parish churches or cathedrals. It is really, then, to the sway of old customs that we must ascribe the maintenance of this disposition. It is universal in Lombard monuments, with the notable exception of those in the province of Como, where there was a direct interference from the art of neighboring districts.

[To be continued.]

[1] A very careful and valuable description of San Lorenzo of Milan has just appeared, under the title, "*Die Kirche San Lorenzo in Milano*," in the *Zeitschrift für Bauwesen*, Berlin, 1890, Parts IV to IX. The author is the Regierungs-Baumeister, Julius Kohte.



ITS CONTRIBUTION TO THE LIST OF STRIKES AND ITS STRIKING MANNER OF ENDING THEM. — THE COURT-HOUSE AND JAIL COMPETITION. — HOW A CITY-ENGINEER CAN, UPON EMERGENCY, BECOME A CITY-ARCHITECT. — THE NEW MUNICIPAL BUILDING - LAWS. — PROSPECTIVE AND ACTUAL PUBLIC IMPROVEMENTS. — THE REPORT OF THE LAST GRAND JURY.

FOR some time past we have been watching with interest the manner of handling and conquering strikes in New York and Pennsylvania, and the comparison makes us deplore the weakness of our militia, and it shows us how we are exposed to the attacks of whimsical walking-delegates, who can always discover for their various associations imaginary or fancied grievances. Although we are free from the difficulties that have presented themselves elsewhere, a short time ago the dispatches from New Orleans must have attracted the ridicule of the outside world, as they did of the thinking men here, for our city, as usual, has another phase of the general "misunderstanding" to add to those experienced in other places.

New Orleans has not yet sacrificed the "bob-tail" street-car on the altar of progress, though there are at present several electric-trolley systems in contemplation, notwithstanding the experience of Northern cities. Now it appears that the drivers of these "bob-tail" cars are a very much oppressed set of workingmen. Several months ago they struck for higher pay and shorter time, and, after a short contest, a compromise was agreed upon by which the drivers profited. But the matter did not end here — far from it. The walking-delegates were not satisfied, and soon discovered that a non-union man was employed about a certain car-station. Flushed by their recent success, they at once ordered the drivers to strike for the exclusion of all non-union men hereafter. This time the companies, with reason, became irritated at the persistence of the drivers — men to whom they had shown a good deal of consideration, and who now constituted themselves the adversaries of their employers in a fight upon grounds which seem antagonistic to the very spirit of our Declaration of Independence.

In their first strike the drivers had the sympathy of the community, for the hours were excessive and the pay unreasonably small; but when the second strike was ordered people were outspoken in their disapproval. Non-union men were then employed by the companies, but, for fear of subsequent assault, could not be induced to take out the cars.

When it is considered that New Orleans is a city, without suburbs, that stretches its length for nearly twelve miles along one bank of the river, and six on the other, it will be conceived at once that a check of this nature is a serious inconvenience to the whole population, and is hampering to trade and commerce. The working classes are always, in cases like this, the greatest sufferers. For two weeks judges jostled and were elbowed by levee-hands in their efforts to secure places in every rattle-trap vehicle that could be pressed into service at exorbitant rates. This soon became tiresome even to the good-natured and long-suffering citizen. The monotony, however, was broken once or twice by scenes and incidents common to most strikes. On one occasion a courageous citizen, accompanied by a friend with a revolver in each hand, attempted, on a wager, to drive a car, but was locked up by the police for "carrying concealed weapons." The police took quite an active, or, we might say, an inactive part, as six of them were known to have sat placidly in a car while the strikers were lifting it off the tracks and liberating the mule.

But the conclusion is the interesting part. Arbitration was finally conceded by the companies, who sent their representative to confer with that of the delegates of the strikers, these two to select a third. By some chance the newly-elected mayor, "the blue-shirt champion," was chosen, and he at once settled the matter in the strikers' favor, giving them all that they asked. He did not stop here, however. It appears that in the progress of the strike the property of the

companies was damaged to a considerable extent, and a number of men had been arrested and fined for the most flagrant offences. Here the mayor interposed, and in a special message to the City Council asked that, as these were hard-working men with dependent families, the fines be remitted. This "the honorable, the City Council," to the utmost amazement of all well-balanced minds, proceeded to do.

If there was ever known such a case as this before, we confess that we are not diligent enough to find record of it; but, you see, as the precedent is now established, we have much to look forward to in the future.

The profession here has just awakened to the fact that we are unfortunate enough to possess a city-architect as well as a city-engineer, and that both positions are held by the same official. A short time previous to the Tulane competition, the city authorities held a competition for plans for a new court-house and jail to take the place of that old Bastile, the "Parish Prison." This competition was peculiar in the respect that the architect was expected to be contractor as well, and was required to furnish quite a heavy bond as a guaranty that the stipulated cost should not be exceeded. This clause prevented New Orleans architects from entering, as they hesitated to accept these unusual conditions. However, after due time had elapsed, it was announced that the plan of a Texas firm had been adopted. Not that it was what was desired, but that it came within the limitations of cost — $350,000. Since this action, however, through the diligence of our new city-engineer, it has been discovered that, in consequence of faulty or inadequate specifications, the building will in all probability exceed this amount by fully $100,000. Nevertheless, as the excavation necessary for putting in the foundation is already completed, it is not likely that operations will be suspended.

After accepting the plans, the Council decided to entrust the supervision of the work to a New Orleans architect, and so commissioned Mr. Paul Andry, of the firm of Harrod & Andry, mentioned in our last letter as the successful Tulane competitors. So far, the transaction in this respect seems to have been clear enough, but it, in some unaccountable way, became side-tracked, and was next heard from in a committee-room. Here an obstacle was encountered: one committee-man could not understand why it should be necessary to employ a supervising architect when the city already had a salaried official who should be capable to do the same work and save the tax-payers a large and unnecessary expenditure.

To this protest Mr. Andry replied in person, and we can well sympathize with him, placed in the embarrassing position of trying to justify the city for having taken action for which he was in no way responsible further than for the execution of his duties according to the instructions furnished him. His explanations as to the advantages of architect over engineer in the direction of work of such a character were agreeable to the majority of the committee, who reported favorably to the Council; but the minority were not to be so easily satisfied, and seem to have possessed perseverance as well as resources. A minority report was framed to embody the protest, and was submitted to the city-attorney, who, in turn, reported that if Mr. Andry were to be paid for what he had done, or for anything else for which he had been commissioned, that it would be tantamount to increasing the salary of the city-engineer, which the Council had not the authority to do under the existing charter. This conclusively shows us that the city-engineer is hereafter to be considered as an architect as well, a fact that we had not suspected, though up to the first of the past month the only building-laws consisted of his official approval of plans submitted.

In connection with the present difficulty, there are immediately suggested the questions: How is it lawful, then, for the City Council to hold a competition for architectural plans when it has an official architect? And out of what appropriation can it pay for such service rendered, since it is illegal to pay for superintending the work? The Council has not bothered itself with untying these knots, and has adopted an easier course — that of ignoring the questions — and everything now sails smoothly on, though the architectural profession have a lurking feeling of distrust as to just what may be expected in future from this quarter.

Notwithstanding all that we have just said, the present municipal administration has taken a step in the right direction by passing the new building ordinance. Most credit, however, is due to the efforts of the architects themselves, rather than to any innate desire on the part of the authorities to better regulate the practices of builders.

These laws do not materially differ from those in force elsewhere, though they can hardly be said to be as complete and as far-reaching as we should wish them to be; but they form an excellent groundwork upon which to build up a code formed upon the best measures and experiences both here and abroad.

If we can judge from our Philadelphia correspondent's July letter, it seems that Philadelphia is undergoing the same process of awakening from that state of comparative inactivity for the public welfare that New Orleans for the last few months has experienced. With us, the old-fashioned volunteer fire-department is now a thing of the past, and attention is being given to the solution of the problems of better drainage, paving, lighting and of the systems of rapid transit. All of these bid fair to accomplish a commendable result in the improvement of the city, and it is not possible, where so much is set in motion, that something beneficial shall not be accomplished; nevertheless, in the possession of a public-spirited population, the balance tips a little in favor of the "City of Brotherly Love." If we could but eliminate political jobbery, we should have more confidence; but we feel that one seems to be the direct result of the other, and, though deplorable, it is a consequence from which even our most prosperous communities throughout the country are no more free than is New Orleans.

Since the writing of the above, two important documents have been published in our daily papers: one the report of the last Grand Jury, the other a résumé of the year's work in the building trades, with a comparative statement showing a very commendable increase over last year's record. Though this increase is small when placed side by side with similar statistics of other more active communities, it still is large enough to show that New Orleans is by no means behind in the establishment of new enterprises, although its free advance is somewhat impeded by the fact that a great deal of capital is influenced by non-residents, who care very little for architectural design when compared with increased profits. Many of our best sites for building purposes on our principal streets are thus controlled by "absentees," and, in consequence, we see plenty of brick and stucco, but very little stone or other expensive building material used in the edifices that are being erected.

The report of the Grand Jury is just what we have been wishing to see for some time, as it contains the expected censure for those municipal officers interested in the conclusion of the aforementioned strike. This report is by far the best advice we have yet received for the improvement of our institutions and for the general welfare of our city.

BUILDING MATERIAL OF THE PACIFIC COAST.

LOOKING back over the centuries that have passed to the time when they builded the Great Pyramid, we contemplate with admiration the skill and unwearing labor of those who brought from afar its great blocks, and with them reared, as it were, a mountain in the desert; but, if we stop for a moment to consider, we shall see how much more wonderful our own time has become in this gathering-together, from the East and from the West, the many materials that unite to form our buildings.

In San Francisco, development in this direction has been at maximum speed, for not only have we had that widening of the field in the choice of materials that results from the transformation of a mining-camp into a great city, but we have also added to this particular and local development that general and world-wide awakening of a thousand new industries and their consequent products, all pushing themselves forward, that they may be chosen as worthy to become a part of the fabric.

Forty years ago, on the Pacific coast, materials at the disposal of the architect were few, indeed, for the Mexicans had contented themselves with the simplest forms of construction, using for their walls sun-dried bricks, and for their roofs round tree-tops, with here and there a truss or beam roughly squared by the axe, even nails being dispensed with, for in the roof trusses and other structural parts where bolts and nails are commonly used tongues of rawhide served as their substitute. Then came the miner and his canvas house, and later, from year to year, the elaboration of the frame building from its original packing-case simplicity to that bewildering assemblage of features and detail which is the pride of modern architecture in wood.

Contrasting our own time with the ages that are passed, we see no period that compares with our own in the multiplicity of materials and varied throng of workers who wait upon the architect, ready to do his bidding; and, while we are glad that the field of choice is so broad, we also feel how much more difficult it is for us to exercise our judgment wisely than for those who built the marble palaces of Rome or the Gothic cathedrals of the north, for they to a large extent worked in one material and mastered the use of it; but, with us, it is of small blame if, in a great deal that we do, we display but little knowledge of the material, for only by continued use through many generations do we arrive at satisfactory results.

This brings us to consider the materials at our disposal in this city, and the character and skill of the workers in the same on which we have to depend, for I believe it of interest to know something in a general way of the materials most in use in our great cities, and the probable development of such materials.

San Francisco is essentially a city of wood, which is to be expected, seeing that the forests of the Pacific Coast are probably the finest in the world, and that wood, of all materials, is the least refractory, and, consequently, the cheapest.

The redwood of Northern California and the pine of Oregon are the two principal trees that supply us with building materials, and with these, the former for joiners' work and the latter for strength, we have built a city of luxury and necessity, from the palace costing a million to the most modest of cottages. But the days of wooden architecture and the glory thereof are about numbered, and although wood will continue to be used for many years in inferior buildings, the real architecture of the city will be one of less perishable material.

In your Eastern cities you have somewhat the advantage of us, for all the markets are, as it were, at your door, and what you cannot obtain in one neighborhood you can in another. It is different with us, for while theoretically we can buy from the whole world — and this we have to do in some measure — as a matter of necessity the great proportion of our materials and workmen must be found in our own State. Moreover, California is young and inexperienced in manufactures, for it is less than ten years ago that terra-cotta and the finer kinds of brick were first introduced here, and made to take the place of poor bricks and Portland-cement stucco. These materials are rapidly coming into fashion, and it would appear as though for the next generation or so we were to have a substitute in these materials for stucco and imitation stone. The color most favored is buff, and indeed in terra-cotta I do not recollect any building where red or any other color has been used.

In these simple combinations or in monochrome the architect is wise to remain, for in them he cannot go far wrong. But, at the same time, those who have knowledge will be brave, and the time may come when our knowledge of color and its harmony will enable us to make the coloring of our terra-cotta and brick as bright as those of our favorite tea-pot without being discordant.

A whole treatise might be written on the relation of color and its use by a people to their mental attitude, and, were we to apply this standard to ourselves in regard to our buildings, we would be forced to the conclusion that we are a gloomy and sombre people. But the deduction may not be a fair one; therefore, we will not concede that we are such.

Still, it is well to bear in mind that our buildings are dull and monotonous in color, and there is no reason why, with harmony of proportion, we should not essay to combine harmony of color even until, externally as well as internally, they outshine the brightness of the Alhambra or the most brilliant corner of our garden.

San Francisco is poorly supplied as regards stone, for there are no quarries near the city, which necessarily makes it expensive, by reason of transportation over distances varying from one to four hundred miles. Then, again, throughout California upheaval of the earth's surface has been so general that, as a rule, detached pieces of rock shot hither and thither, intermixed with large quantities of earth and detritus, take the place of solid strata, and, consequently, quarrying is carried on at great cost. The stone that has given the most satisfactory results thus far in San Francisco is a white granite, which, for beauty of texture and color, is all that can be desired; but then its cost is so great, and its nature is so much more refractory than that of marble or sandstone, that its greater lasting quality is more than offset. Still, it is used to some extent for dressings and lower stories, and in one or two instances, more particularly in the new Hibernia Bank, it has been used throughout.

From Inyo, in this State, comes a pure white marble, white as the hide of a bullock, and most suitable in every way for building purposes. Also from Colton we have a great variety of colors, ranging from lemon through green to gray: but the trouble with all these stones is in obtaining readily and in large size the amount required, and homogeneous of color and texture, for the strata invariably have been so disturbed that you can never tell when rock will give place to earth, and *vice versâ*.

Sandstone is but a treacherous commodity compared with granite or brick, and in a new country, where we have to rely rather upon theoretical test of quality than upon experience, we are often sadly disappointed. Numerous quarries have been opened all over the State from time to time, and quite important buildings erected of such material; but in several instances, after a lapse of only ten or fifteen years, decay has set in so manifestly that architects have become alarmed, and look, consequently, with suspicion on new samples submitted to them. From the southern part of the State and from Arizona we have a red sandstone of considerable worth, besides buff and gray near at hand, but inferior in quality.

Our roofs are almost entirely of shingles, or, where flat, which is the more common form of the two often, slates or tiles are almost unknown.

In ironwork, we have nearly everything that enters into the construction of a building, although the heaviest sections of I-beams we have still to import from the East.

In short, we are rapidly approaching that condition in regard to building materials that will place us on a level with the most advanced cities of the world.

In San Francisco we find it very difficult to get any good sculpture or wood-carving, yet we are very fond of it. Buildings of the poorest materials we cover over with it, copying some mysterious design that has neither meaning nor beauty, and then turning it over to a carver to mechanically reproduce — a carver who would carve anything and everything, and consider it waste of time to understand and enter into the feeling of the ornament. So with our workers in metal. The results are, as a rule, unsatisfactory, and it would be wise to go more slowly in designing artistic work, such as leaves, etc., which, in execution, should be as crisp as nature makes those of autumn, but which, in reality, are made to appear so heavy that the blasts of winter could not move them.

Stained-glass nowadays is as common as wearing shoes, so we all have it; but how common it is! With rare exception, we combine a score of colors in a thousand parts, and employ a great deal of mechanical ingenuity in so doing; but, as a rule, when finished, and we look upon it, we are unimpressed, save it be because of the feeling of unrest and discord which the conflicting design produces. The workmanship is excellent, but the unfortunate part is that is essentially the work of a craft, and not of an art.

Reviewing the whole situation, we come to the conclusion that in our time and even in our city we have facilities for building in such variety as was never before at the command of a people in the world's history, but because of this very fact that we have so greatly added in recent times to the arts and crafts connected with building, and allowing that our workmen are on the crest of the wave as regards intelligence, still, by so dividing our efforts along many lines, we have attained to a less degree of perfection than did our ancestors in that which, in truth, constitutes true architecture.

YORK GATE, LONDON.

Front towards Buckingham Street.

OF the days when the Thames was the principal thoroughfare of London there are few relics left. When the Strand was the Court suburb it was lined with great houses whose gardens sloped to the river, each with its landing-place and stairs, and some with elaborate water-gates, of which the one here depicted is absolutely the only survivor.

From the Temple west and southwards the names of the streets are those of the families who built these palaces: Essex, Arundel, Norfolk, Cecil, Salisbury and Buckingham. At the foot of Buckingham Street are some iron railings and a gate, which opens upon a short flight of stone steps leading down to a narrow walk with trees. Immediately facing us is the fine old "water-gate" designed by Inigo Jones for George Villiers, Duke of Buckingham. Standing here, we see very clearly the immense change effected in London by the embanking of the river, for steps lead down to the level of the gate; through its central arch more steps descend, and engravings even of the present century display a further flight beyond the actual "stairs," or landing-place. Now its position is most singular. Not only has the river's edge been removed at least a hundred yards away, but the level of the reclaimed ground rises nearly to half the height of the gate, which presents the appearance, familiar to those who have visited Rome, of an ancient monument half sunk in the earth. We shall see it better from the other side; consequently, we descend the steps and traverse the curious little alley, once a terrace walk by the water, out through another gate into Villiers Street, and thence by a third into the public gardens of the Victoria Embankment.

Approaching it from this side, its architectural effect is better, for this is the front intended to be seen from the water, and upon this the architect has bestowed his greatest care.

The gateway is large and boldly designed, as was the case with all Inigo's work, the material being Portland stone. A high and rather narrow archway is flanked by two smaller arched windows. Doric — using the word in the Renaissance sense, that is, freely — is the order chosen, and four slightly sunk or attached columns with an entablature are the chief feature used in giving light and shade; similar columns are used to mark the angles, and every one is itself enriched by bands of rustic work.

A broad, curved pediment rises over the centre, broken in the middle by a shell ornament, which is the apex of the design. The tympanum is occupied by Buckingham's arms and coronet, surmounted by the motto of the Garter, with scrolls on either side, the whole enclosed by one of those great wreaths in carved stone which distinguish the period, apparently, for the hand of time has been at work upon it, of pomegranates.

Light is introduced on all sides by arched openings; these are now curiously filled up with iron railings, possibly to prevent the place being used by tramps. The effect is unpleasant. On either side of the central pediment are lions, each holding a shield, on which is carved the "foul anchor," the badge of the Lord High Admiral of England, an office held at that time by Buckingham,

and still displayed on the flag and seal of the Admiralty. The entire building, except the back, is deeply rusticated; "escallop" shells are freely introduced. They will be noticed on the arms, and are probably an allusion to some crusading ancestor. The whole work is in almost perfect preservation, with the exception of the lions, whose appearance borders on ruin.

So much has the level of the ground been raised that only the upper half of the gate is visible at all, and no just idea can be formed of the work until the spectator actually leans over the railings; it gives one the appearance of having fallen into its present position. On approaching it the design seems wide and fairly spacious for its purpose.

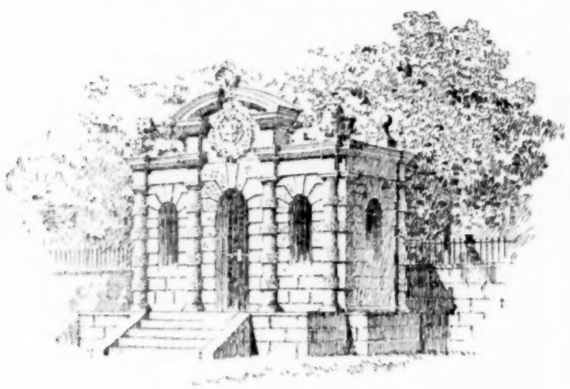
If, now, we pass round to the foot of Buckingham Street, we see that the three openings all start from the ground, which is about a yard higher than it is in front; there are stone balustrades to the arched openings of the side chambers which overlook the steps and a couple of arches overhead supported by a short Doric column. Some alterations seem to have been made here and a sheet of corrugated-iron has been introduced, for what purpose we know not; there are also some wooden beams, evidently makeshifts and not part of Inigo's work.

Looking inside we see rubbish and dust, to which unfortunately must be added fragments of Renaissance carved work which have fallen from above, plainly telling the tale of long years of neglect before the wood and iron were introduced.

The contrast between the river front and that towards the street is remarkable, for the latter is plain and only broken by four slight pilasters; instead of the three large plain keystones of the front, those on this side are carved, that in the centre with arms, the two side ones with the anchor. From this side, too, as we pass down the street we can see that the roof of the gate is flat, the pediment showing plainly above it; and four large stone balls rise one over each pilaster. Under the cornice runs the Duke's motto, "*Fidei coticula crux.*"

Although the interior has a somewhat dilapidated look, the whole structure is perfectly sound, being very strongly built and, the lions excepted, shows no signs of decay.

York House, which must not be confounded with York Place, otherwise Whitehall, was originally the property of the Bishops of



From the River: in the Last Century.

Norwich and passed from them to Charles Brandon, Duke of Suffolk, the brother-in-law of Henry the Eighth. It frequently changed owners. In Mary's reign it was in the possession of the crown: the Queen gave it to the Archbishops of York, who again exchanged it for certain manors and, thus reverting to the crown once more, it was given as an official residence to the keepers of the Great Seal. Sir Nicholas Bacon lived in it and here Francis Bacon, "of Learning the Light, of Eloquence the Law," was born. Here, too, in his later years and at the zenith of his fame he kept a memorable birthday, Ben Jonson being one of the guests.

After Bacon's impeachment, James the First gave it to Buckingham at whose order Inigo designed the water-gate. Then came the civil wars, and in 1649 the Parliament gave the house to Fairfax. It seemed as though some haunting spirit objected to these changes of masters, for it was perpetually coming back to its original owners; Fairfax's daughter marrying the second duke

> "Who in the course of one revolving moon,
> Was statesman, chemist, fiddler and buffoon."

it once more passed to the Villiers family. He rebuilt the house on a grand scale. It stood a little to the west of the gate and was a long building of a rather plain but well-proportioned "Caroline" type, with a boldly marked cornice and roof without dormers, and a pedimented block at either end. In the drawings of the time it is depicted as standing in a pretty garden with trees of considerable size; barges, of a build which has long since disappeared, with long projecting stems and high sterns where Palinurus might have sat, and with canopies over the passengers, are sailing past; the gate rises about the middle of a low embattled parapet, probably a survival of the older building.

The second Villiers did not live there long. In 1672 he sold the house and land for thirty thousand pounds as a building estate. London then beginning to "go west," he made the curious stipulation with the buyer that all his names should be preserved in the

From the Embankment Garden.

new streets: George Street, Villiers Street, Duke Street, Of Lane and Buckingham Street were so named in consequence; of these George Street and Of Lane have disappeared.

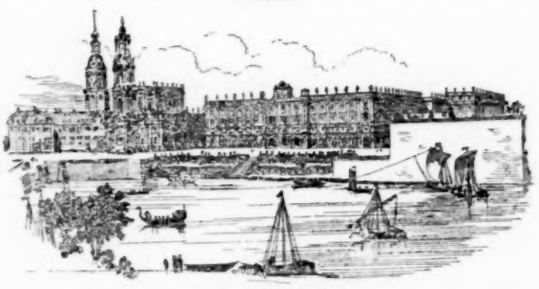
The gate remained and as a landing-place was long known as York Stairs; near it was a wooden tower about seventy feet high for supplying the houses in the Strand with Thames water.

Looking up Buckingham Street, the first house on the right bears a tablet stating that Peter the Great once lived there, but no tablet marks the fact that the opposite house was taken in 1683 by John Evelyn, "for the winter," as he tells us in his diary, "having many important causes to despatch and for the education of my daughters." Here also in 1721 lived Sir Richard Steele. The street as we look up it seems full of memories, the ballad-writing Earl of Dorset and Harley, Earl of Oxford lived in it and in later times one house, Number 14, deserves mention as having been the home both of Etty and Clarkson Stanfield. There are some fine old houses still left, with entablatures and hooded pediments over the doors, and some of those bulging iron balconies which Italians say were invented by Michael Angelo to enable people at windows to kneel as religious processions passed by. The street narrowing as it nears the Strand, we catch a pleasant glimpse of the busy traffic. There will not be many "glimpses" in the new London which is now rising; enormous piles of flats and a general sweeping away of the picturesque will, we fear, be the rule.

No one can visit York Gate without an earnest wish that it should be rescued from its present position of neglect. If raised to a level where it could be seen it would follow as a matter of course that it should be restored to its ancient office of a water-gate. Standing proudly out on the verge of the great stream, with the lions restored and a few minor repairs made, a little cleaning away of the encrusted London smoke and an inscription inside the central archway recording its history, it would once more be one of the ornaments of London, a memorial of the great Inigo and a guide to the designers of our time as an example of the way in which their predecessors wished to treat the Thames.

John C. Paget.

A NEGLECTED CHAPTER OF ARCHITECTURAL HISTORY.



Dresden, from the Elbe.

THE names of Alan of Walsingham and William of Wykeham are familiar to every student of English architecture. Each was an ecclesiastic of high rank — Walsingham was Prior of the great convent at Ely, and Wykeham was Bishop of Winchester. And each was an architect who really designed and executed the

works which bear his name, and did not, like so many other mediæval ecclesiastics simply get the credit due to nameless artists who worked under his nominal control, or worked with money which he had given or bequeathed. Alan of Walsingham actually designed and constructed the famous lantern over the crossing of Ely Cathedral, and the beautiful Lady chapel which adjoins the church, while the architectural record of Wykeham is as well attested and covers a much wider field. When, at the age of twenty-three, he was first presented to King Edward III, this priest already had a tested skill in architecture; at the age of thirty-four he was given charge of all the royal works at Windsor, where he built the new ward of the castle and the chapel for the Order of the Garter; he renovated many other fortresses and constructed a new one at Queenborough at the mouth of the Medway; while Dean of Saint-Martin's-in-the-Fields in London he rebuilt his church (where the Post-office now stands); and while Bishop of Winchester he reconstructed the nave of his cathedral, and built, as well as paid for, Winchester School and New College in Oxford.

Walsingham's work was done in the second quarter of the fourteenth century, when the decorated style had passed into its second or "flowing" stage. Wykeham, who was born in 1324 and died in 1404, was the most active agent in the establishment and early development of the Perpendicular style. Both, therefore, belong to the later period of Gothic art; and when this fact is remembered, their figures assume a typical significance. In addition to their personal interest, as the figures of great architects, they have a representative interest as illustrating the English architectural profession in their time, and as enabling us to compare it with the French architectural profession of this same time. And such a comparison broadens and deepens in significance as we grow to understand that it illustrates the whole course of mediæval architectural development in the two countries, and that this, in its turn, illustrates broad national developments in the most striking way.

The names of Walsingham and Wykeham show that, down to the very last days of Gothic art, a state of things existed in England, as regards the erection of great buildings, which had ceased to exist in France centuries before; and when we ask the reason, we find it in the different political and social conditions of the two kingdoms.

Look into any French history of mediæval architecture and you will find it arranged under two general heads; *L'architecture romane* and *L'architecture gothique*, or *ogivale;* and in English books you find these same headings: Romanesque Architecture and Gothic, or Pointed Architecture. But certain other corresponding terms are used in French which are never used in English. In French we constantly find *l'architecture monacale* used as a synonym for *l'architecture romane*, and contrasted with *l'architecture nationale* which is a synonym for *l'architecture gothique;* and the latter is always referred to as the work of *architectes laiques* (lay architects). But in English the terms "monkish architecture" and "national architecture" have no such accepted significance, and I do not remember ever to have met with the term "lay architect."

We cannot be surprised to find that the main points of unlikeness in the mediæval stories of France and England lie embalmed in this dissimilar architectural terminology; for architectural history, all commentators are ready to tell us, is the plain record in stone of those same facts of inheritance, influence, desire and aptitude which stand out prominently upon written records. Nevertheless, while French general historians rarely neglect to illustrate their chapters by references to artistic developments, and while French historians of architecture carefully and fully explain its dependence upon political and social conditions, English authors have by no means done the same. Among writers of English, few general historians, except Professor Freeman have laid stress upon architectural facts; and, so far as my reading extends, no historian of architecture has traced the relationship between English national life and its artistic developments, or has attempted to contrast the different social influences which worked upon architecture in France and in England. This is my excuse for offering the following very brief and fragmentary sketch which, I trust, another hand may elaborate as, I am sure, it deserves to be elaborated.

When the Frankish hordes swept over Gaul, Roman civilization was not wiped out. The old Roman centres of population survived; the old cities lived through the tempest although, of course, physically and intellectually, in a shattered condition. They naturally remained what they had naturally become — the centres of the Christian faith; and there was never such a break in the life of the French Church as there was in the life of the British Church. In Britain, all memories of Roman rule, and all relics of British-Roman civilization, were swept away in the deluge of heathen Englishmen (Anglo-Saxons, we often call them) who remained heathen until, a century and a half after their first landing, St. Augustine and his monkish missionaries came from Rome to preach Christianity afresh. Only a very few of the greatest towns, like Lincoln and York, still continued to exist. The new rulers often had not even a nominal capital. They were rulers of tribes, not of districts; and, while the early Christian bishops of Gaul had naturally seated themselves in the old municipal centres of temporal power, the early English bishops seated themselves as nearly as possible in the geographical centres of the tribal settlements they were to evangelize — occasionally in the wreck of a town, more often near some isolated missionary monastery, and sometimes in a savage spot where a monastery or a great collegiate house grew up around them. Thus, while we always find a French cathedral standing in a city which has some importance now and once was very important, we often find an English one encircled by a town to which it first gave birth and which may or may not since have grown into greatness. Little Wells and Ely, considerable Lichfield and Salisbury, and big and busy Durham — all alike are the direct creations of cathedrals which were founded amid wild and desolate surroundings.

The municipal organizations which thus played a so much greater rôle in early France than in early England, continued to play a similarly important rôle all through mediæval times. For a long period the history of what we now call France is a history of rival, warring towns and dependent districts: while the contemporaneous history of England is a history of rival, warring parties, without definite local affinities.

But in the general riot and darkness which marked the ruin of Charlemagne's empire and threatened once more to extinguish civilization, the cities of France were eclipsed for a time, while the schools which Charlemagne had founded in connection with ecclesiastical establishments survived where these establishments lay a little aside from the great currents of internecine strife, and became the only nurseries of religious and secular knowledge. Then, in the very darkest moment of all, toward the end of the tenth century, when the world was waiting, affrighted, for its predicted end in the fatal year 1000, the new monastery of Cluny was founded; and all through the eleventh century its great hearthstone of intellectual life glowed more brightly than any in Western Europe. In the monasteries, and nowhere else, were now libraries and schools, workshops of art and laboratories of science; and from them, and especially from Cluny, went forth the men who, as the land began to calm itself a little, taught the burghers of the towns and built their churches for them. So the architecture of this period, the Romanesque period, is rightly called *l'architecture monacale*, as developed and exclusively practised by monks.

But gradually, thanks to the efforts of these monks, intellectual life began to awaken in the towns. It quickly meant a passionate protest against the iron hand of feudalism, a passionate desire for liberty; and in men of semi-Gallic blood, strongly tinged by Roman influences, this desire naturally expressed itself in struggles to secure a measure of civic autonomy.

Feudalism never pressed so heavily upon England as upon France. There, the great nobles never became so powerful that the king was simply the greatest among many who openly defied his authority; there they never stood so thickly between the people and the king that local matters seemed all in all and national consciousness scarcely existed; and there no old traditions of civic importance and independence persisted. The men who faced King John wanted, not to be free burghers, but to be free Englishmen; local interests were not made prominent; what they accomplished was done for the realm at large; and barons as well as bishops were their natural leaders. But the burghers of France faced, not the king, but their local *seigneurs;* and what they wanted was to be citizens of self-regulating *communes*. There was a great barrier to be broken down in France before king and people could help each other, or even oppose each other; and this barrier was formed of the nobles, who oppressed the people on the one hand and defied the king on the other. The story of this period in the land we now call France is extremely interesting but extremely complicated. Four contestants are in the field: the burgher, the noble, the churchman and the king; and they perpetually appear in new combinations, in a veritable kaleidoscope of changing alliances and resistances. But, in general, the burgher, the churchman and the king each felt that the noble was his most dangerous foe; as a rule the king favored or professed to favor, the *commune*, at least until he thought it was getting too powerful in its turn; and, unless the bishop was himself the temporal *seigneur*, he was the friend of his flock. We can see to-day that king, churchman and burgher were all fighting together for the great result which St. Louis saw in the thirteenth century — a united nation whose *communes* should possess a fair measure of local freedom. But at the time it must have seemed indeed a welter of conflicting interests; and of course it was interests, not true sympathies, that brought about temporary alliances, now of one sort, now of another. For example, as the monasteries were locally dissevered from the seats of episcopal authority, so they sought to free themselves from episcopal rule; increasing in power and wealth, worldliness and ambition, they tried more and more for an independence which would mean no over-lord but the pope himself; and thus, to strengthen his arm against this enemy within the church, the bishop was often forced to labor for the burghers' advantage.

Meanwhile there were towns of course in England, and growing local interests and local oppressions and resistances; and gradually the townsmen claimed and won many new rights and privileges. But these were not usually political privileges; municipal matters were not bound up with broad national concerns as they were in France; and so, while the French burgher in his greater need used ducats and arms together, the Englishman could conquer with peaceful ducats alone.

Now let us see how these social facts expressed themselves in art.

In England the cathedral chapter was often monastic, and even when it was not it had an almost monastic size, dignity and individuality. But in France, although a monastery might lie close to a cathedral town, it had no concern with the cathedral which stood in the heart of the town and was the core of its life, the focus of its

interests, the property of its citizens, and, as the new order of things advanced, the work of their hands and the shrine of their liberties.

No great municipal halls existed in those days, and Frenchmen could not remember them, so wholly had the tradition of the basilica become the history of the place of worship, so entirely had architecture become the handmaid of the Church. On the other hand, great popular assemblages, held in-doors or out of doors, wherever the people might think best, were unknown even to farthest tradition in France; the noble institution of the folkmote was an inheritance of purely Germanic peoples only. So when the need for large meeting-places arose in a French town, it wedded itself to the idea of the old architectural centre of the town, and the cathedral became not only the symbol but the actual fosterer of civic as well as of religious life.

Meanwhile, with the general development of wealth and intelligence, architecture began to stir itself for a new departure. The old Romanesque scheme, developed and practised by monks, was putting forth new buds, and laymen's hands were to unfold them. The earliest buildings which show the pointed arch used in what may be called a Gothic way were built by ecclesiastics, like the famous church at St. Denis whose architect was the Abbé Suger. But the people soon learned all that the Church knew of science and art; their minds were more alert and plastic than the clerical mind; their hands were not cramped by semi-artistic, semi-ecclesiastical traditions; their spirit was fresh and vigorous; the new and larger churches which they wanted appealed to all that was strongest and best in their natures, and not to religious zeal alone; and so, with a mighty impulse, they took control of art, and an architecture which may truly be called an *architecture nationale* passed, in the brief space of fifty years, from its embryonic to its perfect state. Of course the bishop and the Church at large were not ignored; but, while the bishop permitted and, perhaps, directed the building of the cathedral, a layman was its actual architect, guilds of lay carpenters and masons raised its walls, guilds of lay sculptors and painters and glass-makers adorned them, and the people chiefly paid the cost, and often men, women and children together worked with passionate enthusiasm upon the structure which was at once the temple of their faith, the sign of their city's greatness and the hearthstone of their liberties. Romanesque art — monkish art — was dead. Gothic art — national art, the art of laymen — had taken its place.

Thus local liberty and architectural art drew a fresh breath of life together, and developed hand in hand. And when feudalism had followed monastic architecture to the grave — when national unity and local freedom were finally achieved — art had its splendid share in the triumph. Gradually, as the kingly power extended over the provinces once ruled by rebellious vassals or rival princes, and as the *communes* measurably content, ceased from local strife, cathedrals were built by the king's command, and provincial manners of design, so strongly marked in the Romanesque period, gave way to the Gothic style which had been born and developed in the old *domaine royal*. Cathedrals which are French structures in that strict architectural sense which gives to "France" its early and limited significance as denoting the *domaine royal*, arose in all parts of what is the wide land of France to-day, planted, as a Frenchman had said, like royal standards of victory in every great annexed town. But, as this form of art had been developed by the *communes*, so it was the help of the *communes* which had enabled the king to triumph over the great provincial nobles; and thus the Gothic cathedrals which we see in places as far apart as Coutances, Bordeaux, Limoges, Clermont-Ferrand and Narbonne, were standards of the people as well as of the king, trophies of the popular struggle for freedom no less than of the royal struggle for power, proofs of national unity but at the same time of the achievement of local liberties. Truly, he who reads this chapter of architectural history with care, reads the life history of the people who wrote it.

As the corresponding English chapter is equally interpretative, it naturally has a very different accent. Where cities were of much less importance, where local matters have small political significance, and where episcopal chairs were set in the midst of great cloistered houses, the burgher had neither the need nor the chance to make cathedral-building his concern. Whatever part bishop or burgher might take in the great national struggle, he played that part on a national battle-field; the cathedral stood aside, built by its clerical owners, and serving these owners first and the people only in a secondary fashion. Cathedral priests might quarrel and fight with the town's folk, but the town's folk did not question ecclesiastical supremacy within the cathedral itself, as did the burghers of Laon, of Rheims and of many another French *commune*. The clergy of England owned its cathedrals as truly as those great abbeys which contained no episcopal seats. Naturally the people must have taken a pride in them, and may have helped a little in their construction. But their interest must have been of a simply religious sort, and we are not told that it ever approached that frenzy of enthusiasm which is shown by the oft-told story of the building of the Cathedral of Chartres. The fact seems to be that, down to the very latest days, the bishop, the abbot or prior, and the "house," practically bore all the cost of their church; the enterprise was theirs, and the glory was theirs; and from their own ranks they drew the executives whom they required. Of course there were secular guilds in England too, and there may well have been some lay-architects. But English historians of art take no notice of these guilds, so prominently described by French historians, and never attempt to draw a line between the work of churchmen and the work of laymen; and the guild of masons makes a very small showing even in general accounts of English trade-corporations, while we know what the term "free masons" meant upon the Continent. And, again, we have a long-extending if scanty list of English Gothic architects, not ending even with Walsingham and Wykeham, who were certainly ecclesiastics, and no list of identified lay-architects to set against it, while in France clerical names cease entirely to appear after the dawning of the thirteenth century. The builders of Amiens in the early thirteenth century are well known by name, and they were laymen; and even William of Sens, who, at a much earlier day, brought the infant Gothic style across the Channel, came without frock or tonsure from the building of the cathedral in his native town to the building of the choir of Canterbury.

It is thus that such names as those of Walsingham and Wykeham assume a typical significance. They are the names of those who were the greatest architects of their land and day, generations after the arts of France had passed out of clerical control. And when we do not know the actual name of an English architect — when we simply know that some unspecified artist did the things which careless mouths attributed to some prior or bishop — still we must imagine him a local ecclesiastic of lower rank, not a layman like his contemporaneous brother across the straits. There were probably, I say, exceptions in both countries; probably certain laymen worked upon the cathedrals of England and certain clerics upon the cathedrals of France. But we cannot perceive their figures or trace their influence at this distant day. The great picture which history reconstructs for us in France is, a lay profession assuming control at the very birth-hour of Gothic art, and, in England, a clerical profession keeping control until the very death-hour of Gothic art. So far as I have been able to discover, the first English cathedral which can be called a "national" work in the symbolic sense, which was the creation of laymen and not of the church, was Sir Christopher Wren's St. Paul's.

I think no impartial student of mediæval architecture questions the immense superiority of French over English Gothic. It is a superiority which shows in every form and phase of the art, from the conception of the structural body to the last minutiæ of carved or painted decoration. It speaks alike in a much loftier degree of constructional ambition, a much more logical grasp of constructional expedients, a richer desire for ornamental finish, a deeper imaginativeness in design, and a completer skill in technical execution. Not from one single point of view or from another, but when seen as a whole or when studied in any of its details, French Gothic is at once a nobler and a more perfectly developed art than English Gothic.

Is the explanation to be found entirely in a difference between innate artistic endowments? Or may we read it partly in the differing developments of the artistic professions? Were English Gothic artists inferior to French Gothic artists simply because they were Englishmen, or partly because they were ecclesiastics? The relatively slow development of the English form of Gothic; its lingering attachment for Romanesque precedents, its inability wholly to throw off the traditions established by early clerical builders, to grasp the new structural idea conceived by the laymen of France, and to carry it boldly to its utmost limit; its timidity and lack of logic in constructional design; its deficiency in imaginative power and in technical skill as regarded decoration — may not these characteristics be plausibly traced, in part, to the fact that the Church was always the artist?

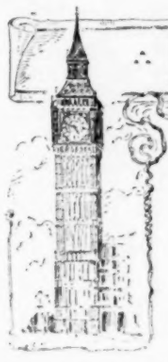
Church establishments were the only possible nurses of science and art in early mediæval years. But as the world outgrew the swaddling-bands of the church in other directions, they may well have pressed with hurtful force upon art. The ecclesiastic who was an architect could not, like his lay rival, be that and nothing more; nor could he so readily travel about, see what was being done elsewhere, and develop his artistic gift; nor could he train up his own children to follow in his path as we know that certain great French architects did. He could not be a member of a well-trained, well-regulated profession in which each artist was bound by what others had taught him, what others were doing, what others were trying to do in novel directions. In later mediæval days the secular guild must have been a much better nurse of art than the clerical house, because it bestowed more freedom on the one hand and, on the other, better training, wider experience, stricter artistic ideals. When we know that even the late Gothic architects of England were still ecclesiastics, we can better understand both the general conservativeness of English art and its occasional breaks into lawless individuality. We can better understand why the Gothic constructional scheme never fully developed but a lingering Romanesque element always remained embedded in Gothic walls, and why no great school of sculptors, comparable to those which dowered so lavishly almost every province of France, grew up on English soil. And, on the other hand, we can better understand how, while a general, logical development, unmarked by strong individual eccentricities, went on in France, we find here and there in England such bold pieces of personal experimenting as the portico at Peterborough, the Galilee chapel at Durham, and the ornamental casing of the choir at Gloucester. There was a school of architecture in France, in the widest yet the strictest meaning of the term; and it was possible because art was in the hands of lay corporations. There was no such school in England — may we not think, partly because art was in the hands of the clergy?

The absence of the broad and plastic yet very logical, exact and universally respected incitements and restraints of a true school shows, I repeat, alike in the general conservatism of English Gothic and in its occasional lapses into bold, individual experiments. No church even approaching Amiens as a perfect, logical illustration of the Gothic ideal ever arose in England; but there is nothing in France which, for striking individuality, daring personality, approaches the portico of Peterborough. When we examine Amiens we feel that a whole race of men of genius, carefully trained to work together without undue self-assertion, is revealed by its existence. When we examine the portico of Peterborough we feel the presence of a single man of genius who was not logically-minded, and, therefore, was not a very well-trained architect, and who worked without a thought of what any one else was doing. The same impression is given by many other parts of English churches, except that we do not always feel that genius had a hand in them. And a similar impression is given even by the famous lantern of Ely cathedral. Its idea was Walsingham's own — this idea of widening out the square crossing into an octagon, and crowning it with a domical roof. It was his own, and it was a truly logical, truly Gothic and admirable idea, very different from the semi-pictorial, wholly illogical idea of the unnamed creator of the Peterborough porch. But its execution betrays a lack of logic in minor matters, and of perfect skill in execution, which we should not find had a similar idea been expressed by a French architect of the time. No French architect of the fourteenth century would thus have simulated a stone vault with wood, and none would have designed the narrower, diagonal walls of the octagon in so weak and inorganic a way. The idea is very fine; the execution, I venture to say, is in some points amateurish. At Peterborough the idea itself, despite its imposing grandeur, is amateurish from the architectural point of view. And the same term often comes to mind when we study the great churches of England one by one, or contrast them all together with the great churches of France. Is it fanciful to think that this may be partly because, while French Gothic developed under the hands of laymen and so became a truly national art, English Gothic developed under the hands of churchmen and so never became in the same sense a national art?

Of course there is another way of looking at the question involved. We may ask, not whether national aptitude was partially stunted in England by clerical control of the arts, but whether national inaptitude was proved by the persistence of this control. We may ask whether had the English been a truly artistic people, they would have suffered their arts to remain in the hands of the clergy. If the twelfth-century Englishman had been as artistic as the twelfth-century Frenchman, would he not have felt an irresistible impulse to seize the helm of artistic progress himself, even though he was not prompted by that strong civic feeling which ruled in France — was not bound into ambitious, powerful communities by the local power of the nobles on the one hand and, on the other, by the persistence of the old Roman municipal idea?

But, after all, it is not profitable to speculate upon possible aptitudes which never reveal themselves. The truest significance of the story of the development of Gothic art in France and in England is its proof of how vitally outside influences affect architectural development, how much more dependent it is upon what we may call sociological than upon what we are pleased to call purely æsthetic influences. Some may fancy that Gothic art developed as it did in France simply because the mediæval French were a nation of great artists who cast about in their minds for an ecclesiastical ideal and then proceeded to realize it. But the careful student knows better than this. He finds that the first tentative steps of progress from the perfected Romanesque toward the perfected Gothic style were taken by clerical builders who were trying to discover more manageable ways of roofing their churches than by the use of the barrel-vault. Then he finds that, prompted by a newly acquired intelligence, a newly developed love of freedom, and a newly enlarged pride in their native towns, the burghers of France took art out of the hands of the ecclesiastics, just as they took the control of their private affairs out of the hands of their feudal *seigneurs*. Then he finds that, as space was needed in the cathedral nave for secular assemblages, the cathedrals were built much larger than before; and then, that, as each *commune* succeeded more or less well in its political ambitions, it grew ambitious in other ways, and, desiring to assert itself as the equal of any neighbor, clamored for a cathedral which should surpass its neighbors' cathedral, and then he divines that, as the burghers paid for their churches themselves, they naturally wanted to get as much display for as little money as possible. Finally he sees that when artists became laymen they could organize into lasting associations and yet travel about, learn what their fellows were doing, and work first for one *commune* and then for another, thus assuring the best chance of a rapid yet logical, homogeneous and uneccentric development of art. The Gothic cathedral in its perfected form is a triumph of science and a triumph of economy as well as a triumph of beauty. And it became so because of the favoring pressure of political and social conditions. Similar conditions did not exist in England, and a similar result was not attained there. We may grant all the influence we choose to innate artistic aptitudes, and may as readily grant that, in all kinds of work in every age, Frenchmen have proved their possession of nobler artistic aptitudes than Englishmen.

M. G. VAN RENSSELAER.



LONDON

PROTEST AGAINST THE DESTRUCTION OF EMANUEL HOSPITAL, WESTMINSTER. — DISCOVERIES AT SILCHESTER. — GOVERNMENT CHANGES. — THE ROYAL ARCHÆOLOGICAL INSTITUTE AT CAMBRIDGE. — EXCURSION OF THE ARCHITECTURAL ASSOCIATION TO SOMERSET.

THE increasing interest which is being taken by the public in our historic buildings is rendering the task of those, who restlessly seem to be seeking for something to destroy, far more difficult than it was wont to be in old times. I have from time to time had to relate how the artistically and commercially minded sections of the public have come into collision on this question and the struggles that have taken place with regard to St. Mary-le-Strand, Lauderdale House and Wren's Library at Lincoln are fresh in the minds of my readers. In not one of these cases has the agitation against the proposed demolition been unsuccessful and there can be little doubt that persistent and determined opposition is more potent in its effect than we often imagine. The latest object of contention is Emanuel Hospital, Westminster. This is a building ranged around three sides of a quadrangle, the road running along the fourth side, each of the two side wings consisting of ten one-story sets of rooms, with a central gable and with names painted over the doorways. The main block contains the chapel (1732). The whole of the buildings are of Queen Anne's time, in red brick with red tiled roofs, and between the quadrangle and the roadway is some charming ironwork in railing and gates. Altogether, the building forms a most interesting record in the history of London, and apart from its artistic interest is worthy of preservation. Its chief value, however, is its artistic interest which is of a high quality. The simplicity and dignity of the design and the charm of color renders it a welcome change from the huge blocks of nineteenth-century flats which surround it on all sides and by which it would itself be replaced if the proposal to sell it is maintained, and the preservation of the existing building would be of considerable advantage as an open space. The present memorial appeared in the papers of August 27, and was signed by the Duke of Westminster, Lord Tennyson, Lord Monkswell, Miss Octavia Hill, Mr. Burne-Jones, A. R. A., Mr. Walter Crane, Mr. Holman Hunt, Sir Fred. Leighton, William Morris, W. B. Richmond, A. R. A., R. Norman Shaw, R. A., Alfred Waterhouse, R. A., G. F. Watts, R. A. and Philip Webb. The signatories protest against the demolition of the buildings, which they consider to be of great interest and value to Londoners. The history of the dispute up to date is briefly as follows: Lady Dacre, the original benefactor, appointed the aldermen of the City of London as governors. These gentlemen came to the conclusion that the best plan to recuperate the crippled funds of the hospital would be to sell the site and rebuild the hospital in the suburbs. They, therefore, made application to the Charity Commissioners for permission to sell. The commissioners were, it appears, upon the point of making the order when, at the instance of representations from the Society for the Protection of Ancient Buildings and from the three "open-space" societies, they reconsidered the matter and ultimately informed the aldermen that they could not give their consent until every other means of augumenting the diminished income had been tried fruitlessly. In the meantime the matter had come before the County Council, who unhesitatingly declared against the sale of the hospital. The aldermen, however, persisted in their view and applied to the High Court of Justice to sanction the step condemned by the commissioners. This was done by the court after an inquiry held by the attorney-general, and unless the present protest proves of service, the building will be lost, and a piece of historic London needlessly removed, despite the opinion of the Charity Commissioners, of the London County Council and of all persons who take an intelligent interest in the welfare and history of London. So strong are the meshes of red tape in England.

The excavations at Silchester are making progress certain, if not perhaps as rapid as might be desired. The latest discovery is of the greatest interest. Close to the southeast corner of the forum in the centre of the city, and in the angle formed by the intersection of two of the main streets, the excavations have disclosed the foundations of a small basilica which, from its plan and arrangements, there seems every reason to believe was a Romano-British Christian church. It stood east and west, and consisted of (1) a nave ten feet wide and twenty-nine feet long, ending in an apse at the west end, with (2) two aisles, five feet wide and (3) rudimentary transepts, each about seven feet square. Across the eastern end of the building was a (4) narrow narthex, about seven feet deep. The total external length was forty-two feet. The central part retains its floor of coarse red tesseræ, but in front of the apse, in the centre of what was the chancel, is a panel five feet square of finer mosaic, of black and white checkers with a border of red and gray lozenges on a white ground. On the panel doubtless stood a wooden altar.

Owing to the destruction of the walls by the plough very little is left above the floor level, but Mr. St. John Hope in his most interesting account has indicated the arrangements which he considers must have existed. About eleven feet east of the church, in the court of atrium in which it stood, is the base of a platform four feet square, built of tiles. On this probably stood the fountain and a small pit lined with flints immediately in front of it seems to have been made to carry off the water. No signs of a baptistery have yet been met with, but a large well, carefully lined with wood, has been opened out close to the apse, and other interesting features are beginning to appear. The date of the building has been ascribed to the latter half of the fourth century and it is asserted by Mr. St. John Hope that the foundations of the oldest church yet discovered in Britain have been laid bare.

The change of government has not materially affected architects or building work. The two high officials who concern us are the President of the Local Government Board and the First Commissioner of Works. In the former case Mr. Ritchie is supplanted by Mr. H. H. Fowler, who has the reputation of being a hard-working and efficient minister, and who will, no doubt, carry on Mr. Ritchie's work in a satisfactory manner. His chief duties are in relation to the public health and he has to look after local authorities and see that the various duties imposed upon them by acts of Parliament are duly and satisfactorily carried out. The First Commissioner of Works is a sort of Minister of the Fine Arts, though he really does very little beyond attend to the various official duties in connection with the erection and maintenance of post-offices and government buildings not under the War-office or Admiralty. It does not seem satisfactory that this office, which should really be a permanent office, should be entrusted to a politician with little or no special qualification for the post. Mr. Plunket who held the post under the late administration was a harmless man enough, but it is to be feared that Mr. Shaw Lefevre may do some harm from his well-known restless desire to do something to distinguish himself and when this desire is present without any very great capacity, the result is apt to be unfortunate.

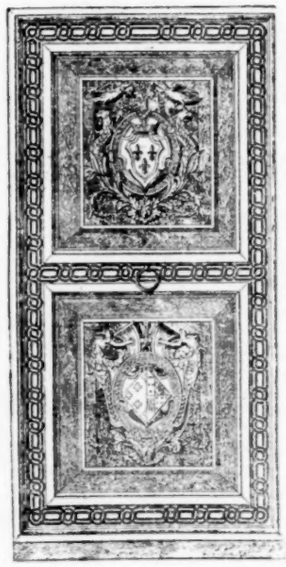
August is the month of pleasure-seeking and consequently most architects have seized the opportunity of general slackness of work to gain a few weeks' respite from work and worry. Among the excursionists are to be found the various architectural and archæological societies, most of whom make an annual excursion or visit to some part of England selected for the purpose. The Royal Archæological Institute met at Cambridge on August 9, when the Mayor and the Vice-Chancellor of the University cordially welcomed Earl Percy and the members of the Institute to Cambridge. In the afternoon Mr. J. W. Clark opened the Architectural Section by a lecture upon the history of Cambridge. Mr. Clark had prepared a large plan showing a suppositious representation of Cambridge as it appeared before any colleges were founded and by the system of adding to the plan various pieces of paper colored with different colors to represent various dates he succeeded in impressing his audience very fairly with the history of the University. Later on the Section was conducted over several of the colleges by Mr. Clark. Wednesday was devoted to a visit to the Dykes on the way to Newmarket and to Bury St. Edmunds. On Thursday other colleges were visited including King's College, and in the evening the Mayor entertained the visitors with a conversazione at the Guildhall at which Professor E. C. Clark read a most interesting paper upon English Academical Costume in which he traced out the gradual development and growth of the various caps, hoods, gowns and other articles of English University attire. On Friday after visiting St. John's College, the Institute went to St. Sepulchre's where an interesting discussion took place between two eminent archæologists Mr. J. T. Micklethwaite and Precentor Venables from Lincoln. The point in dispute was the removal of a fifteenth-century tower by the "restorers" of 1841. Mr. Micklethwaite severely condemned such a procedure and stated justly that it deprived the building of a great part of its interest, the Precentor justified the act by a statement that it was dangerous and jeopardized the safety of the whole building, but the reverend gentleman was generally considered to have the worst of the argument. Of course we may find many excuses for what was done fifty years ago, but it is a fact that similar acts of vandalism are perpetrated even now under the ægis of "restoration." Indeed so much is this the case that architects in England are beginning to fight shy of the word "restoration" altogether and to use words of the nature of "reparation."

The Institute then visited other Cambridge colleges, and in the afternoon went to Audley End and Saffron Walden. Saturday was spent at King's Lynn and Castle Rising. On Monday, a most interesting series of churches between Wisbech and Lynn was visited, and Ely Cathedral was the concluding visit on the programme, which terminated at a meeting at the Guildhall at Cambridge on Tuesday evening, under the Presidency of Chancellor Ferguson. Earl Percy, who has been President of the Institute for some years, has resigned, to every one's regret, but his post will be well filled by his successor, Viscount Dillon, who is well-known as an eminent antiquarian.

The British Archæological Association visited Cardiff and the Architectural Association Taunton. This makes the third occasion upon which Somerset has been visited by the Architectural Association, and, as each district is quite distinct, it serves to show how rich in architecture Somerset is. On Monday the Association contented itself with a number of village churches and halls in the neighborhood of Taunton. On Tuesday an excursion was made to some fine buildings in the neighborhood of Minehead, in the church of which is one of the finest screens in Somerset, the stairs to the rood-loft still existing in perfect preservation on the south side of the church, and the turret in which they are enclosed forming a picturesque feature on the exterior. At Dunster there is an interesting and picturesque wooden building, called the Yarn-Market. It is octagonal on plan, roofed with a high, pitched roof, with gabled dormer to each compartment of the roof and topped with a small bell-cote. The church at Dunster is interesting, as it forms a case where a dispute arose in mediæval times between the monastic and parochial clergy as to the use of the church, and the Abbot of Glastonbury, to whom the question was referred, decided that the monks should have a separate building; consequently, a large Lady Chapel was added to the parish church and used for the conventual services. Cleeve Abbey, which was also visited on the same day, contains the dormitory in a remarkably well-preserved state. A curiosity of this abbey is the position of the refectory, it being *parallel* to the cloister, instead of *at right angles* to it, as was the almost invariable custom in Cistercian monasteries. Bridgwater was seen on Wednesday, and Williton and Nettlecombe on Thursday, and on Friday a most enjoyable day was spent at the beautiful church of Kingston, St. Mary, Cothelstone Manor-house and Bishop's Lydeard, and on Saturday the buildings of Taunton itself brought to a close a most pleasant and interesting excursion.

The Society of Architects advertised its intention to visit Paris, but the visit did not take place, owing, it was stated, to the prevalence of sickness there.

THE POWDER TOWER OF PRAGUE.[1]



Marquetry and Sculptured Door, Palais de Fontainebleau. From Havard's "*Dictionnaire de l'Ameublement.*"

In beauty as in antiquity, Prague so excels most cities, who can wonder that it has obtained a sort of mythical interest as the capital of universal Bohemianism? It is impossible to speak with any certainty about the founders, and the Marcomanni, to whom some give the credit, may be as fabulous as Queen Libussa. But whoever selected so advantageous a spot for a city was endowed with foresight, for although from time to time Prague was coveted by kings, and in consequence was familiar with the realities of war, yet it remained one of the most prosperous of inland cities. The command of the Moldau was by itself a source of wealth, and from it others followed. Prague is not so much a single city with a sort of organic completeness as a cluster of cities and towns, and thus testifies to the early desire of men to nestle near a position which offered many advantages. It was to connect one of those independent places with the oldest part of Prague that the famous bridge over the Moldau was constructed in the fourteenth century, and which has inspired more poetry than any other structure of the kind in stone or iron.

At an early time the desire was to keep the districts apart, and for that reason Prague was surrounded with a wall in the thirteenth century. There were, of course, gates to admit of entrance and egress. One of the largest was known as the "brána Horská," or Hora Gate, because through it people went from the city to the village of Kutná Hora. It was surmounted by a tower, and was at one time entrusted to the keeping of a citizen known as Nicholas of the Tower, whose house was beside it. The house and grounds were taken by King Wácslav IV when he contemplated building a palace. In consequence of its position in respect to the palace, the Hora Tower became known as the Royal Tower. But the change in title was not an advantage. The kings were indifferent to its condition, and the citizens ceased to take pride in it. In 1431 the condition into which it had fallen was suggested by the title given to it by one chronicler, "Valva lacerata."

For a brief time the old tower re-excited interest. Under Charles IV a new Prague had been started, which threatened the older parts by means of a line of fortifications. Near the Hora Tower the two walls were contiguous, and as contests took place between the

[1] Prasna vez v Praze. Popsal Josef Mocker architekt a stavitel chramu sv Vita retny clen akademie vytvarnych umeni, konservator c kv ustredni komise pro zachovani historickych pama-tek atd. Vydano nakladen klal hl-mesta Prahy.

guards, the tower assumed strategical importance. There was a proposition to build it on a grander scale, and as a proof of the spirit of the Council of the older city. The works were commenced in 1475. The architect was a master-mason called Wácslav. In common with many other great designers, his history was not related. All there can be stated about him is that he was not a monk. It was decided that sculpture was to be lavishly employed to decorate the tower. Wácslav, like Sir Isaac Newton was not, apparently, an enthusiast about "stone dolls," and no doubt supposed that a small structure could be made effective without them. The Municipal Council summoned to their aid Mathew of Prostějow, who was at the time rector of a school at Tyn. He was a scholar, for in his twentieth year he passed as a bachelor of the University of Prague. As became a true Bohemian, he was versatile. He did not serve an apprenticeship to a master-sculptor, nevertheless he had gained a reputation by his figures in stone. He was known as "Reysek," or "Raysek," from his facility in designing (raysovati). This genius was then not more than thirty years of age. He was asked to co-operate with Master Wácslav, and to do whatever he considered was proper for the adornment of the new tower. The Council agreed to pay him a weekly salary of "40 groso ceskych," which it is to be hoped represented a satisfactory sum. For two years architect-mason and sculptor-stone-cutter worked together, and in that time the building had reached the height of the first windows over the doorway. This is shown by an inscription on a moulding which is a record of "Raysek de Prostie yow bacc (alaureus) Prag (ensis), 1477." Afterwards Raysek grew discontented with the co-operation. He persuaded the Council to believe that he was the abler man, and therefore ought to have sole charge of the works. Wácslav was dismissed, and the sculptor henceforth received a gold gulden weekly.

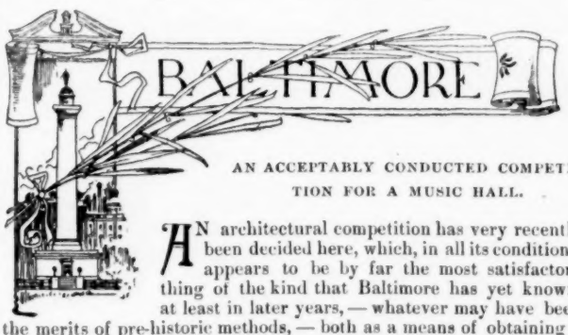
The progress of the tower under Raysek's care is not to be traced. From a record which refers to another work it would appear that fifteen years afterwards the tower continued to be incomplete. Raysek was enterprising, and, therefore, was ready to undertake many commissions without anxiety about carrying them out. He died in 1506, and no doubt left the Prague Council in a difficulty. The erection of the tower was suspended for an indefinite time. The troubles of the sixteenth century would not be likely to fill the city treasury with gold, nor was money for building easily raised. Then came another obstacle. Old Prague and New Prague discovered that it was not prudent to remain in enmity while enemies were around them. A treaty of peace was concluded in 1518, and as a consequence, the demolition of the fortifications of which the tower formed part was commenced.

The tower was, however, preserved from destruction by an unexpected occurrence. The king had abandoned the neighboring palace, and the rooms in the neighboring tower, which were to be used as adjuncts to the apartments of the palace, were at the disposal of the Council. They were accordingly utilized for civic purposes. The tower was covered in with a temporary roof. It was known as the New Tower, or the New Gate. The history of the building during succeeding years was not momentous. As in a document of the year 1715 it is described as the Powder Tower, it must have been utilized as a magazine. In that year Jirim Koberou, a carpenter, undertook to remove the old roof and to make and fix another for 150 florins, the timber being provided by the city. The roof was greatly injured during the siege of Prague in 1757. At the same time some of the sculpture and ornament was destroyed.

Of late years the national spirit has grown strong in Bohemia, and in consequence the old buildings are regarded with affection. In 1878 the Municipal Council of Prague decided not only to repair the Powder Tower, but to complete it in a manner which the founders were unable to realise. Herr Josef Mocker, who has restored the cathedral, the palace and other works in Prague, was appointed architect, and the works have been accomplished in a way which imparts a new interest to the city.

At the expense of the Council Herr Mocker has produced a description of the building, with drawings on a large scale, which may be considered as an almost unique work. When it is said that some plates measure 50 inches by 19 inches, and that no plate is less than 25 inches by 19 inches, it will be evident that detail is not scamped, especially when it is remembered that the tower has no claim to distinction through its magnitude. The plates are models of vigorous and most careful geometrical drawings, and as such they have a value for the draughtsmen of all countries. Often in such work there is a tendency to rival the fine lines of an engraving, but in Herr Mocker's plates there is no weakness of that kind. The lines are as strong as the most ardent Gothicist can desire, and it is evident that they were drawn by somebody who understood what he was representing. The sculpture and ornament are shown with no less power, and the ruled and freehand drawing appear to be the work of the same hand. It is an advantage for English students to be able to study foreign methods, and they could hardly discover better examples of German architectural drawing than Herr Mocker has produced — they are, too, carefully photo-lithographed.

The tower is square on plan, and the lower story forms an arched gateway. The front and back are adorned with sculpture, the sides being comparatively plain. Herr Mocker gives a drawing of the tower as it appeared before he began his restoration, and it is credible to his insight that from such slight suggestions as he found in the fragments that survived he was able to produce so coherent a whole. Across the two stories above the gateway a series of richly moulded lines were formed that are more suggestive of applied ornament than of construction. They serve, however, to form compartments for numerous statuettes, reliefs, shields, etc. The treatment does not correspond to English precedents, but when it is remembered that the Germans wished to suggest that stone was as pliable as osiers the mason and sculptor who worked on the Pulverthurm deserve to be credited with an unusual amount of moderation. Arched forms were accepted as ornamental, and their constructional value was of no account. The sculptor secured positions for his kings, saints and angels, for quaint figures, heraldic achievements and symbols; he was able to display his skill in carving moulded and plain surfaces, and the critics of the time were likely to proclaim his success. But the character of the tower confirms the legend of the differences between the designers. The greater part of the sculpture appears to be an afterthought. It suggests the Fergussonian theory that architecture is something that can be stuck onto a building, and has no relation to its use. In justice to the sculptor, it must be said that he appears to have kept his figures small in order that the small building might not appear smaller. He may have been, however, more successful with statuettes than with large figures. Judging by the drawings, Herr Mocker has been able to obtain most delicately executed substitutes for the vanished statues, and from the value of the examples of nineteenth-century carving we hope the tower may endure for many years. It merits to be kept in a glass case. Whatever may be the fate of the structure, Herr Mocker's grand volume will be a record of its value, and the Prague Council have done wisely to supplement the outlay on the tower by producing so beautiful and accurate a representation of what they have accomplished. — *The Architect.*



AN ACCEPTABLY CONDUCTED COMPETITION FOR A MUSIC HALL.

AN architectural competition has very recently been decided here, which, in all its conditions, appears to be by far the most satisfactory thing of the kind that Baltimore has yet known, at least in later years, — whatever may have been the merits of pre-historic methods, — both as a means of obtaining a good building, and as a businesslike, courteous and professional proposition to the architects invited to compete. Not that it was perfect in all its clauses — the difficulties of arranging a competition not open to criticism in many points are too well known for that — nor was it of vast importance as regards the magnitude of the work in comparison to that of many noteworthy competitions, but it was important to Baltimore, and as regards the profession, we venture to say, much better than the majority of such documents we are called upon to deal with in this country.

A year or two ago, Baltimore's growing need of something in the way of a large music-hall began to be felt and publicly discussed, something different from the conventional opera-house and larger than the various more-or-less satisfactory lecture and concert halls already existing, in short an Auditorium or a Carnegie Hall on a more modest and less expensive scale. One or two small public meetings were held where those interested discussed the matter from many diverging points of view, as their individual experience or taste moved them to speak, all of which were duly noticed in the daily papers as so much local news, with conspicuous headings; but no definite or intelligent line of action was pursued, till finally a committee of some half-dozen well-known business men was formed, with power to act. The location was a question likewise of many conflicting opinions, but a lot was ultimately purchased with a front of about 180 feet on Mt. Royal Avenue, an average depth of about 250, and the rear abutting on Maryland Avenue, with narrow alley-ways on either side isolating the building and giving means for emergency exits at all points. The site might have been better or worse, a point not necessary to discuss in this connection, and locations in any way suitable were exceedingly few and far between, except at great cost — a very important element in the consideration of the committee — whose financial resources were absurdly inadequate for the proper accomplishment of the whole scheme. Having obtained their site — and this only last spring — the committee for the subsequent proceedings appeared at once to desire to act with a promptness that would atone for previous delays and take rank with an actual case of first-class "hustling" in an Occidental metropolis; in fact it was suggested that all drawings might be obtained, contracts awarded, and the building completed and ready for use in about six or seven months. However, better judgment, guided by stern facts, led to a much more commendable mode of procedure.

The committee decided to make the competition an invited one only, limited to eight firms, and then asked, in a friendly way, for the advice of two architects of recognized good standing, one from New York and one from Baltimore, to guide them in framing the conditions of the competition. These architects met each other and the

committee in consultation on one or two occasions, the result being an invitation to compete, extended to eight different firms, of which the following were the most important conditions:

A plat of the site, accurately drawn and figured as to all important points, was inclosed.

Four sheets of drawings only were asked for, made to an eight-inch scale. Two floor-plans, an elevation and a section were asked for: no others would be accepted, but an alternative design for any or all might be submitted.

All drawings were to conform strictly to one mode of rendering. The plans to be "*poché*" only, the elevation and section shaded in india ink; all to be done on white paper, with no background or figures, except to indicate scale, and to be neither framed nor glazed.

The drawings were all to be delivered to the committee under "*nom-de-plume*" only, on a given date. They were to be examined and judged at once. The services of Mr. Richard M. Hunt of New York were engaged as expert to assist the committee in their decision. The designs were to be seen by no one else and were to be returned to their respective authors immediately, unless consent was obtained for a public exhibition, and the committee promised that no features of an unaccepted design should be used in future work.

The successful competitor was to have the execution of the work, at the usual five per cent commission, and two hundred dollars were to be paid to each of the others for his services.

The principal features asked for in the scheme were an auditorium to seat 3,000 people, with stage, dressing-rooms, etc., a *foyer* and a banqueting-hall, with such corridors, stairways and other appurtenances as might prove necessary; it was not demanded that the building should be fireproof, brick and terra-cotta were suggested for the façade, and the total cost was not to exceed one hundred and twenty-five thousand dollars.

Those asked to compete were McKim, Meade & White, Bruce Price, Carrère & Hastings and Griffin & Randall of New York, and J. E. Sperry, Baldwin & Pennington, Appleton Wilson and Wyatt & Nölting of Baltimore. Six accepted the invitation, while McKim, Meade & White and J. E. Sperry declined. The programme was strictly carried out in every particular, and the work awarded to Griffin & Randall. After the expert had made his decision (but not announced it) the competitors were invited to meet him and the committee — a separate hour being assigned for each — to designate their own design, and to offer any further description or explanation of it that might be required in addition to the letter of description which had accompanied it as one of the required conditions, each of the architects seeing only his own drawings at this time. The exact consistency or need of this part of the programme is not very evident, unless it might be that some further light might be thrown on the subject that would possibly lead the expert to change his decision already formed.

In a competition where so much was better than usual, we would criticise only two points: one, that the committee did not state that they positively would accept whatever the decision of the expert might be as to the best design, though there is no reason to suppose that they did not do so; the other in regard to the totally inadequate amount of the sum designated as the limit of cost, in order to obtain the minimum of the requirements. More than one of the competitors stated his opinion, in accepting the other conditions, that the amount was much too small to obtain the building desired, and one of those who declined is asserted to have done so for that reason. Moreover, while the committee were emphatic in stating that the limit of cost was an essential part of the programme, it is a self-evident proposition that the accepted design, without the most radical modifications, cannot be carried out for that modest sum, and surely still less possible with certain elaborate and costly interior decorations spoken of subsequently in a published description of the future building in the local press, an unfortunately too-prevalent way of imposing upon the ignorant public and making them imagine things to be not what they really are, or indeed what they even seem, and of convincing them that they are getting a remarkably fine thing for a remarkably small amount of money, when they are really nine times out of ten doing nothing of the kind. In this instance there seem to be but two alternatives: that Baltimore is to have either a large music-hall of very inexpensive construction and finish, or that the finance-committee have discovered some unlooked for and unannounced source of revenue, neither of which would be consistent with the lines the competitors were asked to work upon. The ardor and energy of the committee seem to have abated somewhat, or to have met with some obstinate conditions that refused to be ignored, as, notwithstanding the fact that the competition was decided by the first of June, and all haste was urged in the preparation of working-drawings, the ground still remains unbroken, reposing under the large stock of a lumber-yard that has occupied it for many past years.

While we are not disposed to criticise the selection of this site, though it is open to some obvious objections, one element in regard to it is evident, that while in the near future it will be quite centrally located, and abutting on an imposing new and important avenue and main thoroughfare, with, as yet, few improvements surrounding it, there is a possibility of its broad façade becoming a central feature and keynote, as it were, of very effective architectural and monumental treatment, deciding the character of a whole neighborhood; whereas, on the other hand, there is already a sufficient number of totally insignificant and actually objectionable buildings immediately about it, which, unless removed, may turn the tide in another direction and cause it ultimately to be lost amid unworthy surroundings. The point is of sufficient importance to demand serious attention, both for the architectural results and the real-estate values of the whole length of Mt. Royal Avenue.

THE ILLUSTRATIONS

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

BUILDING OF THE AMERICAN LEGION OF HONOR, BOSTON, MASS. MESSRS. ROTCH & TILDEN, ARCHITECTS, BOSTON, MASS.

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

This building, on Columbus Avenue, is built of buff brick and terra-cotta, so far as the façade is concerned.

SKETCHES BY THE *American Architect* TRAVELLING-SCHOLAR FOR 1891, MR. ALBERT KAHN, DETROIT, MICH.: THREE SHEETS.

[Issued with the International and Imperial Editions only.]

EXTENSION OF THE "CHARLESGATE" APARTMENT-HOUSE, BOSTON, MASS. MR. J. PICKERING PUTNAM, ARCHITECT, BOSTON, MASS.

THE house of Thurlow Weed Barnes, corner of Charlesgate East and Marlboro' Street, has been added to the Charlesgate property, and is now being raised in height, giving about fifteen additional suites to the hotel.

All of the additional work will be of "slow-burning" construction, the partitions being made of plaster-board blocks set between iron posts, and the floors of heavy hard-pine beams framed together and floored with 2″ splined plank and finished $\frac{7}{8}$″ hard-wood upper floor laid across the planking. The main beams measure 10″ x 12″ and the secondaries 8″ x 8″. Between the planking and the finished flooring one thickness of heavy magneso-calcite fireproof floor-covering and several thicknesses of heavy deafening-felt are used. Under the planking, Mackite plaster-board is used as further fire and sound proofing, the beams being cased with hard woods and the panels being decorated with mouldings and color.

This construction gives, perhaps, the safest form of fireproof building now known. The timbers are calculated to have strength to do their work after having been charred by fire to a depth of two inches on the sides and bottom. Beyond this depth experiments show that fire practically cannot penetrate, and the beams do not throw out the walls by expansion under the 1,000 or more degrees of heat of a fire, as do iron beams, and the dry plaster-board partitions enable the house to be finished without waiting for hair-mortar to dry.

The increased cost of the slow-burning construction used in the "Charlesgate" extension over the common wood construction will not exceed $8,000.

Besides the security against fire, and saving of time by discarding hair-mortar, we have a great saving of floor and wall space due to this construction and perfect cleanliness in the floors, there being no air-space for filth collection and vermin breeding between floor-boards and ceiling, as in the ordinary joist construction. The work of the architect in arranging the framing in such a manner as to attain the greatest strength and at the same time the best effect from an artistic point of view is very great. But labor bestowed upon the planning of these open-timber ceilings is paid for by the great beauty of the result, more highly than could an equal amount of effort spent by the artist in any other direction; for in such effort to adorn a construction demanded every day more stringently by the exigencies of our modern civilization for the security of the occupants, lies the hope of our art.

THE COLORADO, GLENWOOD SPRINGS, COLO. MESSRS. BORING, TILTON & MELLEN, ARCHITECTS, NEW YORK, N. Y.

HOUSE OF L. B. TEBBETTS, ESQ., ST. LOUIS, MO. MR. T. C. LINK, ARCHITECT, ST. LOUIS, MO.

HOUSE FOR J. A. HATFIELD, ESQ., SEATTLE, WASH. MR. I. HODGSON, JR., ARCHITECT, SEATTLE, WASH.

DESIGN FOR GROUP OF HOUSES ON SUMMIT AVE., ST. PAUL, MINN. MESSRS. GILBERT & TAYLOR, ARCHITECTS, ST. PAUL, MINN.

[Additional Illustrations in the International Edition.]

THE NEW GEWANDHAUS, LEIPSIC, SAXONY.

[Gelatine Print.]

FLANK OF THE NEW GEWANDHAUS, LEIPSIC, SAXONY.

[Gelatine Print.]

DOORWAY OF THE HÔTEL DU VIEUX RAISIN, TOULOUSE, FRANCE.

[Copper-plate Etching.]

KRAENSTRATE, MALINES, BELGIUM.

PREMIATED DESIGN FOR NEW MUNICIPAL BUILDINGS, OXFORD, ENG. MR. ERNEST RÜNTZ, ARCHITECT.

THE following extracts from the report accompanying premiated designs will explain the illustration:

Economy. Simplicity and directness of plan. Concentration and intercommunication of all departments. Avoidance of internal open areas. Retention of vaults under present Corn Exchange. Complete natural lighting throughout. Special attention to ventilation and warming. Ample entrances and exits, six in all, to the town-hall and concert-room. Provision for future extension. Special attention to the external design, bearing in mind the desirability of the building harmonizing with others in the city.

Town-hall and Concert-room. — This is situated upon the first floor in the rear of the library, is bounded on the north by the grand staircase, hall and foyer, and on the south by Blue Boar Street, access being given by the former to the principal portion, other approaches and exits being from the latter.

Police and Administration of Justice. — These departments are still retained in the rear of the site, the official portion of the former being on the ground floor, the latter on the first floor; they are distinct from the other departments, although (in common with all other portions of the building) arranged for intercommunication if desired. The entrances are from Blue Boar Street, a distinct advantage, inasmuch as police-courts and offices are objectionable in any main thoroughfare, such as St. Aldate's Street.

Municipal Offices, including Assembly-hall. — These offices occupy the northern portion of the façade, as in the sketch-plans submitted, with the exception of the assembly-hall on the second floor; they adjoin and communicate with the Town Clerk's offices, and form with it one compact block. The approach is by a flight of steps facing the tower.

Public Library. — This is at the southwest corner of the site, as desired, with its approach directly from St. Aldate's Street.

General Remarks. — The whole of the offices available for daily public business are on the ground floor, with other various approaches opening directly into the entrance-hall on the north and east sides of the same. The planning is based upon the principles generally approved and adopted in municipal offices, viz, clerks' offices are used as thoroughfares into private rooms. Accommodation is provided for the storage of 36,000 volumes in the lending library and book-store. The news-room accommodates 40 readers, and the magazine-room 56 readers. The reference reading-room has accommodation for 7,000 volumes. No block of the whole building is cut off or isolated from another. Every room is completely lighted. The ventilation for the town-hall is arranged in two systems, one for use in winter and the other in summer. Two thousand cubic feet per head per hour of fresh filtered and warm air are arranged for an audience of 1,400, propelled by a 7-foot fan, specially designed. For summer ventilation, the fresh air would be propelled at the lower portion of the hall, and would pass away by the openings in the sliding roof.

Materials. — It is proposed to use Monk's Park stone and Box Ground Bath for the external work. The town-hall to be largely decorated in fibrous-plaster and low relief; the council-chamber in wainscot oak.

Architectural Treatment. — The author ventures to think that the designs exhibit a distinctly original treatment of Gothic Renaissance, both characteristic and unique, with an idea carried throughout the plan. He does not pretend to have discovered anything new, but only to have developed a style unlike anything in Oxford but yet in harmony with the surrounding buildings. The main block of buildings has been set back, which materially assists the appearance. The sky-line is varied and picturesque.

Mr. Collcutt, in reporting as assessor, when referring to the design published this week, said: "The design marked No. 5 is, on the whole, arranged more conveniently and with better light to the corridors than the others. With regard to the architectural treatment, I think it is perhaps the best, and, with the exception of those to the ground floor, the windows are designed to admit of ample light to the various rooms." Elsewhere in his report Mr. Collcutt said, "On the whole, I think that design No. 5 is the best."

TWO HOUSES, OAK AVENUE, MANNINGHAM, ENG. MESSRS. H. & E. MARTEN, ARCHITECTS.

PROPOSED LODGE, TUNBRIDGE WELLS, ENG. MR. S. H. DAVIES, ARCHITECT.

NOTES AND CLIPPINGS

ORIEL WINDOWS. — Oriels may be described as consisting of three distinct parts, viz, the supporting portion, consisting of a series of mouldings, splayed off so as to come down to a point below, somewhat after the manner of a corbel; secondly, the body of the oriel, consisting of the window-apron or window-parapet, and the window-openings themselves, the former of which is almost invariably panelled so as to correspond with the lights themselves, whereby the whole is made to consist of a series of panels, those in the lower range being blank or solid, the others perforated or glazed; thirdly, the crown or roofing, occasionally including under that term the ornamental finish, of whatever kind it may be, above the windows, when that happens to form a conspicuous termination to the design, as is the case with the semi-circular oriel at Great Chalfield, where the parapet is formed by a rich bandeau or crown of strawberry-leaf ornaments or Tudor flowers, with open-work between them. The corbel-stool admits of very great variety and freedom of treatment, it being sometimes formed of few and bold mouldings and surfaces, at others of numerous and delicate ones. Neither does it invariably approach to a point at its termination, but finishes horizontally, and in some instances in a line as wide as the central division of the window. In fact, there is such great diversity of design in respect both to the general form and design of the corbel-stool that it is impossible here to enumerate all the varieties. In some oriels this part is made to assume the form either of a single or double pendant, in others the mouldings are in somewhat a similar fashion, being made to slope downwards instead of being carried horizontally. These pendant-like supports sometimes rest upon or seem to spring from armorial shields, carved heads or other ornamental devices, neither are instances wanting of the corbelling resting upon a column or some kind of shaft, for which member the suitable denomination would be corbel-shaft or corbel-stem. In some later examples, again, of the Elizabethan period, instead of being supported beneath by corbellings, the window rests upon large trusses or brackets; windows of this description, however, partake very little of the character of oriels, and can hardly be described as being of the same class. Some distinctive term, therefore, for windows of that sort would be useful, as would likewise some others, in order to express various particulars which, for want of them, cannot be pointed out without more or less of circumlocution. The term jutting-window might be adopted for that species of upper window which, although situated like the oriel, merely juts out from the surface of the wall, and forms scarcely any recess within the room. On the other hand, where a window, either bay or oriel, forms an unusually deep recess or distinct alcove to an apartment, having its ceiling defined from that room instead of being in continuation of it, such window might, as regards the interior, be very well described as a bower-window, which term would at once describe the difference between it and the ordinary bay; the example of the two oriels at Great Chalfield, which has been above referred to, perfectly answers to such term, as they form an alcove nearly as deep as wide, have an enriched vaulted ceiling, and are set within an arch whose mouldings serve as a frame to the whole recess. — *The Architect.*

THE COST OF THE LONDON CARPENTERS' STRIKE. — The balance-sheet of the carpenters' and joiners' strike in London, which lasted twenty-six weeks during last year, has been issued. The total sum collected was £26,959 18*s.*; the expenditure was £26,761 3*s.* 4*d.*; leaving a balance in hand of £198 14*s.* 8*d.* Of the total amount expended £23,571 were expended as strike-pay, but this amount does not include the payments to the men on strike from their own unions. The sums paid by the strike-committee was in addition to, not in substitution of, the ordinary strike-pay by the several unions. Of the total subscriptions the Amalgamated Society of Engineers sent £700; the Brick-layers £752; the Dockers £400; the Ironfounders £440; the Plasterers £124; the Durham Miners £105; the Compositors £110; and smaller contributions, amounting to nearly £4,000, from various societies and clubs. Trade meetings and demonstrations only realized £81 17*s.* 3*d.* The expenditure includes £1,255 10*s.* for salaries and expenses of the committee; legal expenses £275 5*s.* 4*d.*; sending men back to the places from which they were induced to come £127 5*s.* The report gives some details of the prolonged struggle, and also of previous efforts of the carpenters and joiners to better their condition. The strike ended without any immediate advantage to the men, but in June of the present year an agreement was entered into by which the men obtained nearly all they fought for last year, by mutual concession and arrangement. The working-hours are now about 8 hours and 10 minutes per day the year round, with an increase of wages of one-half penny per hour all round, for all mechanics and laborers alike. — *Engineering.*

FIREPROOF FLOORING. — One of the reasons why fireproof flooring is comparatively so little used is its great cost as compared with the old wooden floors. The cost is partly due to its very considerable weight, which necessitates the use of I-beams of heavy section to support it. With a view to reducing the load to be carried by the joists, and also of simplifying the laying of such floors, Stuart's Granolithic Paving Company, Limited, of Church-row, Limehouse, Eng., have been experimenting with slabs and arches of concrete in which the material is reinforced on the side exposed to tension by a network of iron rods. In preparing a slab a network of 1-4-inch rods crossing each other so as to make a 3-inch mesh, and bound with wire, at the intersections, is laid at the bottom of the mould, and after the concrete has been poured in, this network is raised up so as to lie at a distance of about 1-2 inch from the bottom of the mould and the lower face of the concrete slab. A number of these slabs were prepared about three months ago, and were tested last week at the works of the company. Perhaps the most instructive of the experiments was one in which a slab 6 feet square

and 2 inches thick was supported on two of its edges and loaded uniformly. At a load of 213 pounds per square foot the deflection was 1 1-2 inches, and at 231 pounds the slab cracked in two. If the slab had been homogeneous the stress at rupture would therefore have been 1,560 pounds per square inch, so that it is evident that the addition of the iron had materially strengthened it. In another experiment a similar slab, supported all round, was tested by dropping on it a block weighing two hundred-weight from a height of about 7 feet. The block struck the slab with one of its corners and punched a hole through it, but did not appear to injure the general mass of the slab materially, there being very little cracking. In some further experiments, two arches were built of concrete, the thickness of the arch being 2 inches, the span 7 feet, and the rise 5 1-2. One of these was of concrete gauged 4 to 1, and the other was granolithic concrete. The first gave a deflection of 1-2 inch with a load equal to 150 pounds per square foot; whilst with the second arch this deflection was only reached with a load of 395 pounds per square foot. On increasing the loads with a view to breaking the slabs the abutments gave way, and the true breaking load could not therefore be ascertained. Some further experiments were made, but the above were those of the most interest, and appear to show that the use of the iron network greatly increases the resistance of the slabs. — *Engineering.*

The Electric Fire-engine. — An electrical application, which is only waiting until electricity can be as extensively distributed as water, to be generally adopted, is the electric fire-engine. It is even now being used to a limited degree. In an experiment at the late Crystal Palace electrical exhibition the motor was worked on a circuit at a pressure of 105 volts. With this pressure, when running at about 450 revolutions per minute, the pump propelled a jet of water from a one-inch nozzle to a height of 100 feet, the water-pressure being 75 pounds per square inch. With two delivery hose-pipes on at once, having nozzles respectively one inch and seven-eighths inch, the motor ran at 550 revolutions per minute, and the pressure was 45 pounds to the square inch, the two jets rising to a height of about 80 feet. The combination of an electric motor and a pump has manifest advantage over the steam fire-engine, provided a supply of current is available. In the case of the latter, it is always necessary to keep up steam, so that time will not be lost when an alarm is sounded, and the fact that the motor is instantly ready for service as soon as a current is turned on makes it obviously better adapted to many conditions. It is beyond question that the day will soon come when the distribution of electricity will be so general that the pump operated by an electric motor will be the most important piece of fire-fighting apparatus. — *Fire and Water.*

Molasses as Fuel. — The molasses fuel question is again being agitated in Louisiana. At the present time common molasses is hardly salable at two cents per gallon and the *Planter* claims that it is only worth $3.33 per ton on the plantation and is then cheaper than coal. As compared with average coals the same journal says that molasses contains 8 per cent ash, 20 per cent water and 72 per cent carbon (60 per cent succose and glucose and 12 per cent gums). It would thus make an excellent fuel with the proper devices for burning liquid fuel. In Cuba considerable quantities of molasses have been used as fuel with success by spraying it over the "bagassee" or crushed cane as the latter enters the furnaces. But, as the *Planter* says that the molasses product of 1892 in Louisiana will amount to only 120,000 tons, and the greater part of this is otherwise very useful, the amount left for fuel is small. — *Engineering News.*

The Reichstag Building in Berlin. — The evolution of Berlin from the "Residenzstadt" of a comparatively small State to the capital of a great empire has proceeded during the last twenty-one years rapidly enough, but one of the most noteworthy outward and visible signs of the change is as yet wanting. The gigantic future home of the Reichstag is still but a forest of scaffold poles, but some idea may be obtained of the appearance it is likely to present when it is inaugurated two years hence. The main entrances are four in number, one at each side, each approached by broad flights of steps, and each differing from the other. The actual Chamber is under a cupola, something like that of the Pantheon, surmounted by the Imperial crown, which is in the exact centre of the whole mass of buildings. The lobby, which is to be adorned with richly-ornamented columns, stretches right across the building from the Spree to the Thiergarten, its length of about 100 metres being broken in the centre by an octagonal hall, and onto it open most of the offices, the private rooms of Ministers, the library and the dining-rooms. A similar arrangement is to be made on the floor above and the floor below the level of the entrances. At each corner of the building is a sort of open loggia, richly ornamented. — *London Daily News.*

Stonehenge, the possible Remains of a Single Building. — Capt. S. Pascal Oliver writes to the *Athenæum* suggesting that Stonehenge in England is the remains of a great building from which all the stones small enough to be removed with ease have been abstracted, leaving the huge upright monoliths and transverse stone beams denuded; that is to say, Stonehenge, as found a few centuries ago, was merely the framework of a great fortress of the Neolithic age. He has come to this conclusion after study of the pyramids, Baalbec and Karnac, but the chief impulse to his generalization comes from reading the recently-published account by Emile de Cartailhac of the ancient forts and stone structures on the islands of Majorca and Minorca. He has also visited Sardinia for its nurhags, and Malta to see its "pigmy trilithons."

The Latest News from Pennington's Air-ship. — Drums made in St. Louis are shipped to all parts of the world, and are favorities with several musicians. Aluminum, which is beginning to be looked upon as a universal metal, is the favorite material out of which the noise-creating instruments are now constructed, and it is said that out of the ruins of Pennington's unfortunate air-ship quite a number of drums were made. The manufacturers do not make much noise about their business, and the exact number turned out is not large, but it must be quite a large percentage of the world's output. — *St. Louis Globe-Democrat.*

Dry Sand as a Fire-Extinguisher. — When an arc forms on an electric-lighting central-station switch or board, or an electric wire falls to the ground and sputters fire, it is a serious question as to how it can be extinguished. The first impulse is to dash a pail of water upon it, but this is the very worst thing that can be done. The usual method is for the attendant to beat it out with his hat, but this is not entirely satisfactory and is rough on the hat. D. Thompson, in an article in the *Electrical World* on central-stations, says that the most effective way is to throw a pail of dry sand upon the arc. This promptly extinguishes it and avoids the usual difficulties.

The Maya Hieroglyphs. — Prof. Cyrus Thomas, of Washington, thinks that he has found the meaning of six of the signs employed by the old Maya people of Yucatan on their sculptures, and therefore possesses the clue from which decipherment of the rest is a matter of time. He thinks that most of the characters are phonetic or sound-writing, while many others are conventional symbols. If this be so, then the Maya hieroglyphs take a higher rank than has commonly been assigned them. — *New York Times.*

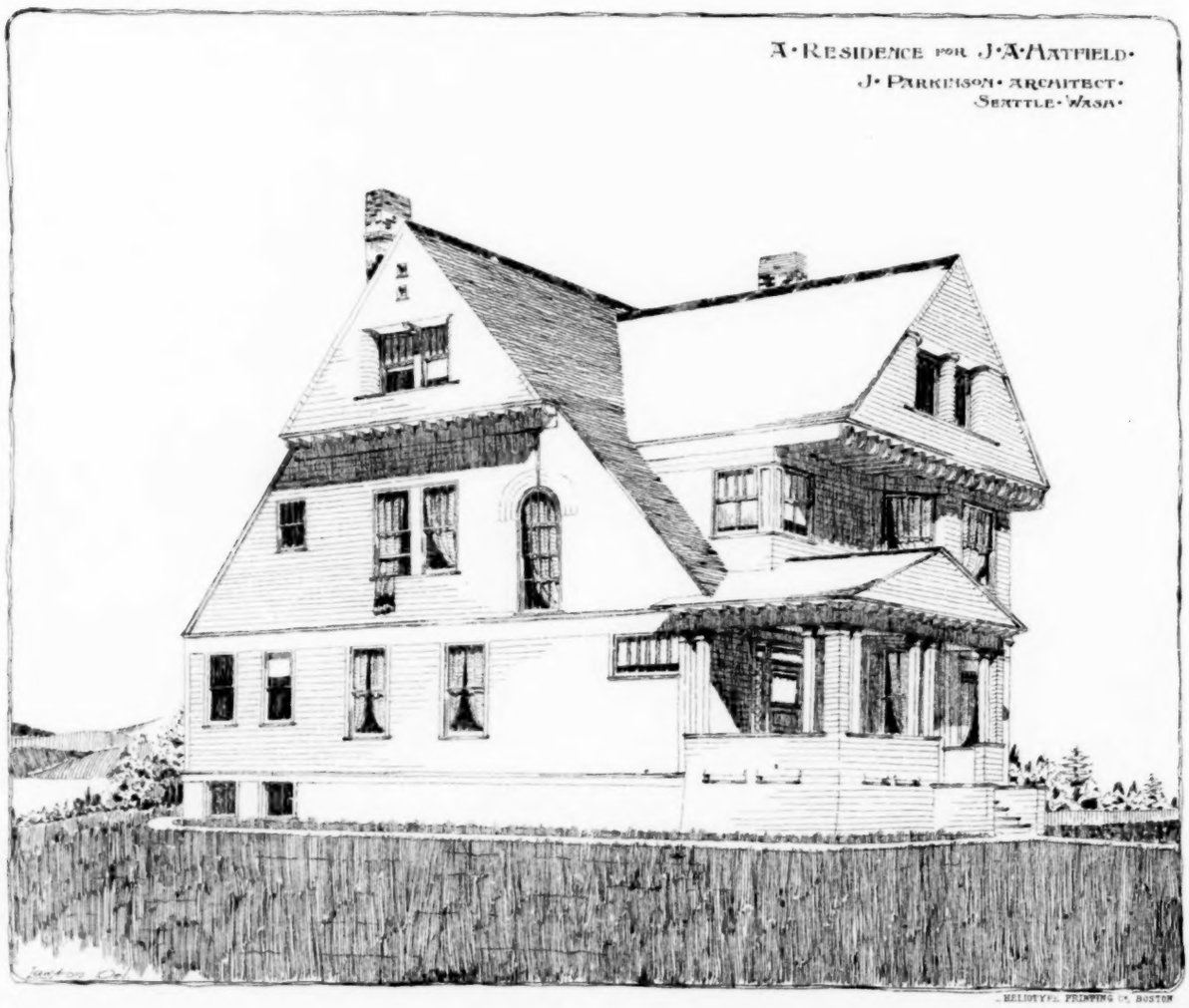
Fireproof Roofing. — A fireproof roofing, and one unaffected by the heat of the sun's rays and that will not melt or run, is made by adding burned lime (not slaked) to coal tar. Boil together in the proportion of 15 pounds of lime to 100 pounds of tar. The lime must be pulverized, and to avoid the tar boiling over stir the lime slowly in the boiling tar. The mixture must be put on while hot. — *Fire and Water.*

TRADE SURVEYS

The month of September has developed a few surprises in the rather unusual expansion of business in unexpected quarters. An improvement has been going on in all of the industries since June. At first it was gradual, and managers manifested a great deal of apprehension. Within the past thirty days operations have been conducted upon a larger scale. A great deal of raw material has been contracted for recently, much of which will be wanted to push work during the autumn. In a general way, buyers are not yet purchasing largely for future requirements; what they may do is at present uncertain. Manufacturers in all directions are anxious to know, and, for this reason, that if an anticipation of requirements is near at hand, production will be pushed faster. There is a very conservative feeling in all directions. In some channels, manufacturers are already risking an increased output, causing an accumulation of stocks, but these cases are exceptional. There is danger that the managers in all the industries may be attempting to push work too fast. The restriction of the past two years has done much good, besides keeping stocks down. Investors have learned a valuable lesson; promoters of new enterprises have been warned that system must be observed, and that the growth of the country, rapid as it is, can be over-anticipated. Just now there is a good deal of uncertainty in manufacturing, general trade and financial circles regarding the probable course of trade during the next six or twelve months. Inquiries have been made in a great many quarters for the purpose of getting at the conditions and prevailing tendencies. Questions have been presented not only to bankers and middle-men and manufacturers, but to distributors in far-off localities. Nearly all of these questions have been answered in a manner that shows great confidence existing not only as to immediate, but to remote trade prospects. The banking interests are especially sanguine, and speak as though the volume of business would be very largely increased during the coming year. They state that they have evidences of a much heavier demand for money than just now exists. This demand is always present, though latent. There are always many more persons anxious to borrow than can be or are accommodated. This element or class of would-be borrowers are now, so the bankers say, making more urgent demands and bringing a stronger pressure to bear upon those who have money to let it out in various reproductive channels under their control. That this should be the case is not at all surprising when the whole industrial situation is studied carefully. Experts in the commercial field, and especially those in the commercial agencies who have recently expressed opinions upon trade probabilities, say that in all probability the coming year will witness a great increase in the number of traders, possibly to dangerous limits. For this several reasons have been assigned, but they all converge in one; namely, that during the past two years enterprise in this direction has been checked somewhat, and that the expanding requirements of the next year will make it possible for more men to make money in exchanging products than heretofore. Among manufacturers, a very confident feeling prevails. Sufficient is known of the iron trade to make it unnecessary to speak of it now. All the heavy industries are in a prosperous condition. The one feature worth noting in regard to them is that a great deal of capacity will be added during the winter. Manufacturing interests in a general way do not feel that the danger line has been approached, and that the expanding requirements of the country will be of such magnitude as to make their contemplated improvements safe. In several Western States there is quite a stir among small manufacturers, showing itself in the erection of foundries, mills and small works. It is gratifying to know that most of these new enterprises are the outcome of savings of individuals engaged in their promotion. Throughout the South there is quite a healthy condition of things. One fact in textile interests can be mentioned as indicative of the prevailing activity. A year ago to-day there were 287 large cotton-mills in the South; to-day the number is 350. The gain in the number of spindles is put at 333,439 in twelve months. The increase in the output of pig-iron is very large. The estimated increase in the output of lumber is twenty per cent. Concerning the price of cotton, less is known, but planters, despite discouragements, are preparing to enlarge the cotton area. A great deal of shop and mill building is also being done in the Southern States, and Northern capitalists who have been following up the industrial conditions South very closely feel that the opportunities there are more inviting than they have been in years past.

S. J. Parkhill & Co., Printers, Boston, Mass.

Residence in Portland Place St. Louis.
for L. B. Jebbetts, Esq.
Theo. C. Link, Archt.

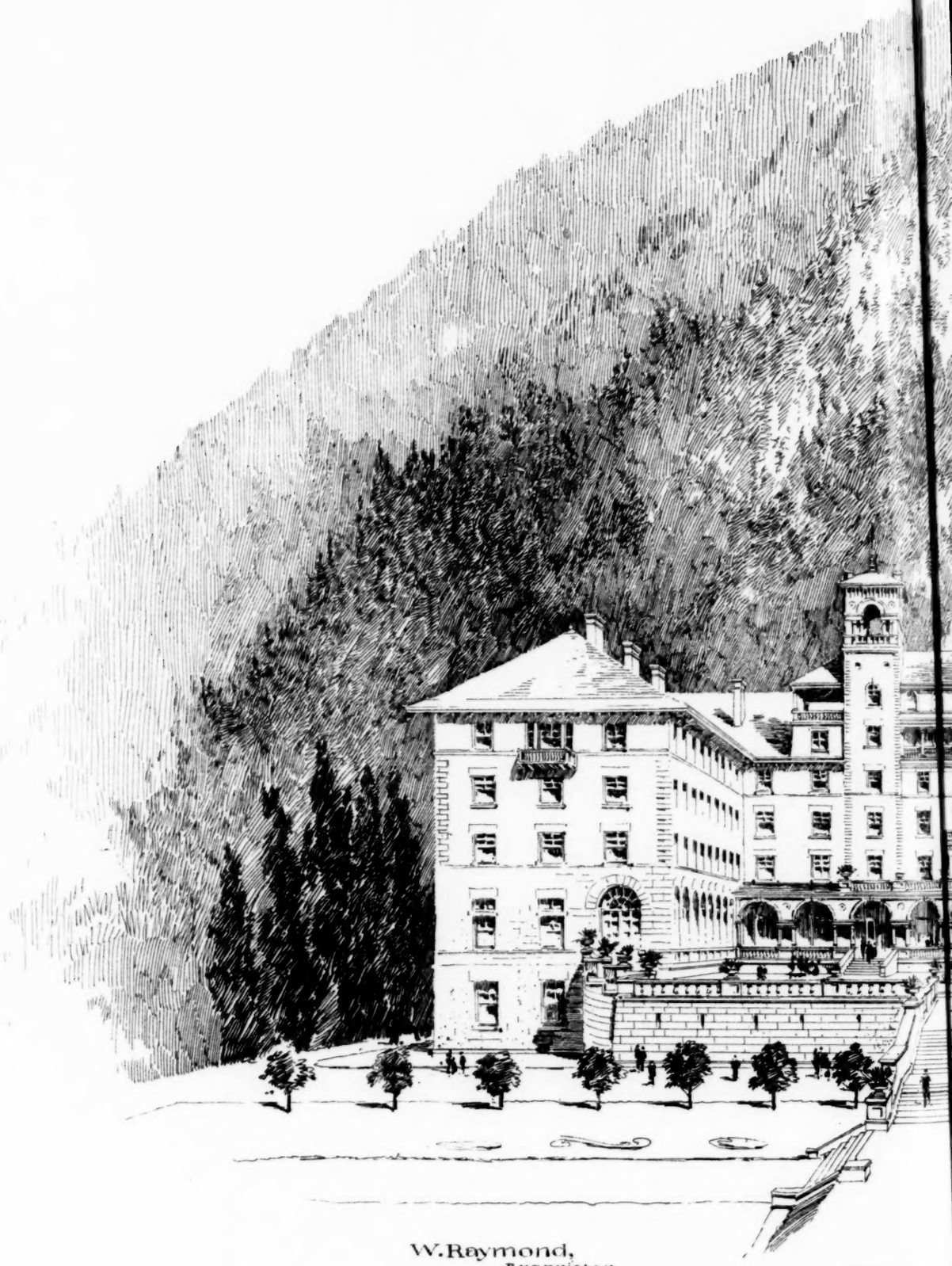


A Residence for J. A. Matfield.
J. Parkinson, Architect.
Seattle, Wash.

Heliotype Printing Co. Boston

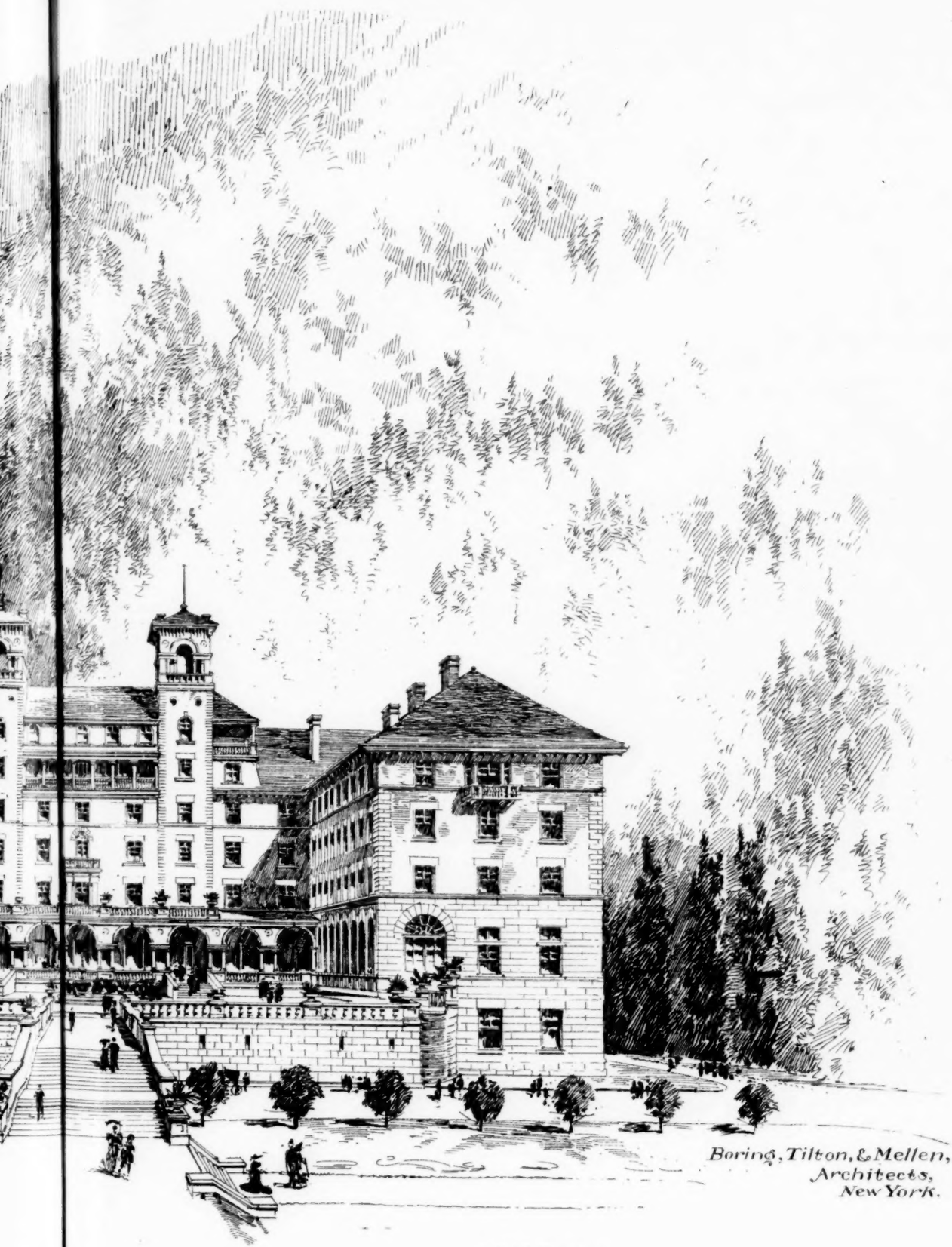
DESIGN FOR A GROUP OF HOUSES ON SUMMIT AVENUE
ST PAUL MINNESOTA · GILBERT AND TAYLOR · ARCHITECTS.

LITHOTYPE PRINTING CO. BOSTON



W. Raymond,
Proprietor.

The
Glenwood



Boring, Tilton, & Mellen,
Architects,
New York.

A. W. Bailey,
Manager.

he Colorado.
rood Springs, Colo.

HELIOTYPE PRINTING CO., BOSTON