THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXXVII. Copyright, 1892, by TICKNOR & COMPANY, Boston, Mass. No. 865.

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

JULY 23, 1892.

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THE history of the competition for the Philadelphia Bourse is one of the most interesting of the age. It will be remembered that the Bourse Committee issued a circular of invitation to all architects practising in Philadelphia, containing an excellent programme for the preparation of the drawings, but offering the architect whose design should be placed first only two and one-half per cent on the cost for his services, instead of the usual five per cent, and proposing to appoint an independent engineer to "revise" and approve the architect's plans. It is hardly to be wondered at that most architects should find these conditions unacceptable, and a considerable number of the Philadelphia architects at once declined to have anything to do with the competition on such terms. They were soon joined by almost the entire profession in the city, and a letter was drawn up, addressed to the building-committee of the Bourse, pointing out the objections to the appointment of an engineer superior in authority to the architect, and calling attention to the inadequacy of the compensation offered. The letter, which seems to have been prepared with a sincere wish to defer, as far as could reasonably be done, to the views of the Bourse Committee, suggested three alternatives, any of which would be accepted, under the circumstances, by the signers of the letter. One of these propositions was that the architect whose design should be chosen should be paid three and one-half per cent on the cost, the Bourse paying the salary of a superintending engineer, who should act in subordination to the architect, but who should have sufficient knowledge and experience to relieve the architect of his care in superintendence, and should be responsible for that part of the work. The second proposition was that the architect should be paid three and one-half per cent for his plans and specifications, including all the drawings necessary for construction, and that his responsibility should end with the delivery of the drawings. The third proposition was that the architect should render full service, and should be paid at the rate of five per cent on the cost for the first million dollars, and two and one-half per cent on the cost above that limit. Every member of the profession, either here or in Europe, who has any adequate notion of the duties and responsibilities of an architect will say that all these propositions were humiliating concessions on the part of the Philadelphia architects. In no other civilized country would the building-committee having in charge an important enterprise dream of offering to the architect less than five per cent on the entire cost, whatever that might be; or of paying for his drawings and specifications only, in order to save the cost of his supervision of the work; or of economizing by getting a cheaper man to take the responsible superintendence; and we doubt whether the Philadelphia architects themselves would ever again agree to such terms. More than a hundred architects out of the hundred and six or seven practising in Philadelphia signed this letter, yet no response was received, except a "*Bulletin*," in which the position of the superintendent of construction, as the person appointed to approve and revise the plans of the architect, was further insisted upon, and the compensation of the architect was left to be agreed upon between himself and the committee. Architects generally understand that this means that the one who will do the work the cheapest will be selected, irrespective of the merits of his design, and none of those who signed the letter to the committee felt themselves any more disposed to enter the competition on these terms. Meanwhile, as the signers of the letter were firm in their determination to have nothing to do with the competition on the terms proposed, and, as it seemed obvious that the Bourse Committee would hardly care to put itself in the ridiculous position of holding a competition between the six cheapest, if not the worst architects in Philadelphia for designs for the important building it has in charge, it seemed a fair inference that the committee would try to get outside architects to compete. Although there was little probability that any reputable architect outside of Philadelphia would feel that he could afford to accept the committee's terms, it was possible that, as often happens in such cases, the committee would quietly offer to outsiders the terms which it refused to the Philadelphians, rather than appear to retreat from its original position toward the local architects; and it was, we suppose, with this idea that the Philadelphia architects sent out the circular setting forth the facts in the case which we publish elsewhere.

WE can spare Professor Ware the discomfort of feeling it might be well to answer the question which, in another column, our Philadelphia correspondent asks, by implication, as to what was his attitude towards the objectionable features of the Bourse competition, by making a short statement. Professor Ware combated with all possible persistence and ingenuity the committee's intentions in the matters of compensation and superintendence, and left Philadelphia after his last conference with the committee, with fair hope that he had carried the point. Still, having misgivings, he requested that before issuance a proof of the programme might be submitted to him, as this would give him a chance to insist that his name should not be used as indicating approval of all of the terms actually adopted. This reasonable request was not complied with, nor did the committee refer to him — their selected adviser — any of the points raised in the discussion with the architects, but issued their *Bulletins* entirely on their own responsibility. His connection with the matter consisted of two parts, beginning with trying to induce the committee to issue a programme as entirely fair in all its parts as it unquestionably was in most of them and ending with selecting from the eleven designs, which were actually submitted by — somebody, the five which could with least danger be considered by the members of the Bourse.

THERE is more trouble, and serious trouble, too, with the Chicago water-supply. It will be remembered that Chicago has for some years adopted the practice of pouring the greater part of its sewage into Lake Michigan, and pumping its drinking-water out of the same lake, in happy confidence that the sewage, saturated, we suppose, with that conscientiousness which is so marked a characteristic of the Chicago character, would, in its circulation about the lake, carefully avoid the neighborhood of the water intake. Unfortunately, this estimate of the moral tone of the sewage proved delusive. Three or four years ago, it was plainly shown by analysis that the water of the lake, in the neighborhood of the crib, which was then two miles from the shore, was contaminated by matter from the city drains; and, shortly afterward, evidence more convincing than that deduced from analysis was given of

the same fact, by the steady and rapid increase in the number of deaths in the city from typhoid fever, which, in 1891, reached the enormous proportion of sixteen and sixty-four hundredths per ten thousand inhabitants. Naturally, the people of the city were startled by a typhoid-fever mortality hardly known before in any civilized city, but their faith in the lofty character of their sewage continued unabated; and, instead of keeping the sewage out of the lake, they poured more in, but decided to extend the water-tunnel two miles farther out, confident that, with this additional space to move about in, the sewage would be able to steer its load of typhoid germs well out of the way of the drinking-water supply. The new crib has just been completed, and will soon be opened for use, but the sewage has been more expeditious than the tunnel excavators, and the water over and around the new crib has already been found to be mixed with drainage filth, to a very serious extent.

WHILE the people of Chicago do not particularly like to be poisoned themselves, their hospitality shrinks still more from the idea of poisoning the guests whom they have invited to their fair next year, and they are casting about energetically for the means of diverting the sewage from the lake. A scheme has been long in contemplation for relieving the city of the terrible stench emitted by the Chicago River, which meanders slowly through it toward the lake, loaded with matters from the drains which it receives, by reversing the current of the river, excavating, for this purpose, a new channel, through which its waters will be led to the Illinois River, and thence to the Mississippi. If this could be accomplished, it would obviously be an easy matter to turn all the drains of the city into the river, and send the sewage where the Chicago people, at least, would not have to drink it, whatever might be the case with the inhabitants of the towns farther down the stream. Although the cost of carrying out this scheme will be about twenty-five million dollars, it has already been undertaken, and contracts have been made for a part of the work; but the citizens of Chicago who dislike being poisoned are discontented, because the new channel cannot possibly be completed, and the sewage sent through it, for four or five years and they have proof that they will have to drink sewage during that time. Whether any attempt will be made to get over this difficulty remains to be seen. The Chicago people are not much disposed to submit quietly to inconveniences or dangers which it is possible for skill and energy to remedy, and there would seem to be a chance that a temporary system of disposal by irrigation might be arranged. It is much to be regretted that the engineering wisdom in the service of the city did not think fit to design a permanent system of disposal by irrigation, instead of turning the city filth into a river, to poison for an indefinite period the inhabitants of the region through which the river flows. If the dwellers on the banks of the Illinois River would take our advice, they would resist to the uttermost the carrying out of this plan, and they ought to be successful. A method of disposal which is found practicable and advantageous for Berlin, Paris, Dantzic, and Milan, and seems likely to be adopted before long for London, after every other system has failed, ought to be still more practicable and advantageous for Chicago, situated, as it is, slightly above an almost illimitable expanse of level, light soil; and the solution of much greater difficulties than the problem presents, should, at least, be attempted, before resorting to a plan which is sure to cost the lives of thousands of innocent people.

THE profession of architecture in Montreal has suffered a serious loss in the death of Mr. W. T. Thomas. Mr. Thomas was one of the best known architects in Canada, and still in the prime of his usefulness, being only sixty-four years old at the time of his death; but our harassing and poorly-paid profession does not favor longevity in those who practise it, and we can, perhaps, hardly say that he was too soon released from its anxieties. His death will be much felt in Montreal.

AN extraordinary case was recently brought before the courts in London, but privately settled before it came to trial. It seems that Mr. Lamont Young, an architect long resident in Naples, was engaged by Sir W. S. Armstrong & Co., to prepare plans for a naval arsenal, and to enter into negotiations for a site, and superintend the work. For these services, as he testified, he was to receive ten per cent on the cost of the proposed undertaking, in accordance with an Italian custom, by which, as he explained, the architect receives ten per cent commission on the cost of the buildings carried out under his direction, four per cent being paid him by the owner, and six per cent by the contractor. Why the contractor should pay the six per cent, which obviously comes, in the end, out of the owner, it is difficult to comprehend, but Mr. Young alleged that the Italian contractors added the architect's fee as a matter of course, to their estimates, and, if an architect was not employed, deducted the six per cent from their bill at the completion of the work. We hope to receive further information about this extraordinary custom from our Italian readers; meanwhile, it is sufficient to say that Mr. Young, far from being paid the ten per cent on the cost of his naval arsenal, which was about half a million dollars, received only five hundred dollars for his services in securing the site, and about eleven hundred for his plans, and was then rather summarily dismissed.

HE subsequently brought suit for further compensation, and it must be confessed that his ideas as to what he ought to have had, seem almost dazzling in their magnificence, as compared with what he had actually been paid. For his services in the negotiations for the site, he demanded one hundred thousand dollars; for plans and drawings, ten thousand; for expenses, about two thousand, and, for damages for wrongful dismissal, fifty thousand. He offered, however, according to the account in the *Architect*, to make a deduction of about sixty per cent from this very liberal bill, and to settle for the ten per cent on the cost which he was originally promised. How much he finally compromised for, we shall probably never know, but the profession will, no doubt, regret that judgment for his full claim was not immediately ordered, after his testimony was heard.

THE question of what to do with iron bridges is becoming more and more important every year. It is now about fifty years since railway building commenced in earnest on this continent and abroad, and within the half-century every civilized country has been covered with a net-work of iron tracks. Of course, the construction of railways has involved the spanning of many thousands of roads, brooks and ravines with bridges, which were at first of wood and iron. The wooden bridges, where they have not been already burned away, or replaced with fireproof material, are, as a rule, still serviceable, if they were properly designed in the first instance; but the older iron bridges have fallen into a state, not exactly of decrepitude, but, we might say, of diminished vital power, which gives much reason for anxiety. The first type of iron bridge for wide spans was the suspension-bridge, and so many of the early suspension-bridges have failed, through the corrosion and disintegration of their most important members, as to lead the French engineers to the opinion that forty years is the limit of life for iron suspension-bridges, and that, in computing the cost of railway construction and management, provision should be made for replacing them entirely at the end of that time. Whether any similar limit should be set to the life of iron girder bridges is not so certain. Many such bridges have failed through decay; but whether decay in a girder bridge can be easily detected, and the weakened members economically replaced or repaired, is a problem not yet solved. One thing seems to be agreed upon, that the tests ordinarily applied to old bridges suspected of serious corrosion are far from being adequate. The common method of testing is to run a train of locomotives on the suspected bridge, and, if it resists the strain due to this load, it is presumed to be capable of supporting safely the effect of ordinary traffic; but experience shows that bridges thus tested have failed soon afterward, under moderate strains, and it is now recognized that the simple passage of a string of locomotives over a bridge shows little about the strength of the lateral bracing, the floor members, or many other essential portions, the failure of which under the passage of a train, will destroy the bridge with nearly as much certainty as the bending of a girder under a mere vertical strain. No doubt, the weakness of these members can also be detected by appropriate tests, but a thorough test of an old iron bridge, covered with rust and with many coats of paint, is a difficult matter, and the time is to be anxiously looked for when all railway bridges will be of masonry, which ought to last for many centuries, if properly designed.

MODERN ARCHITECTURE.[1] — IV.

THE history of the growth of architecture in Germany will not be attempted in the present article; its chief features have already been indicated under other titles. The development of the German Gothic, with its few peculiar characteristics, has been traced down to the fourteenth century, when it reached its highest perfection, as well as the transformation that went on during the fourteenth century, and which was followed up in the course of the sixteenth. It is important to remark that, though German art was modified during this last period, owing to the influence of a Renaissance which was general in Europe, its Italian and Classic traditions were relinquished much more slowly than in other countries. All through the sixteenth century, the architecture of Teutonic lands maintained much more perfectly than elsewhere the Gothic physiognomy, the forms adapted to northern climates and the character of its primitive ornamentation; the German Renaissance is, in fact, simply a late variant of Gothic art, corrected and modified, but preserving its primordial features; in most other countries, notably in France, the Renaissance was, on the contrary, a violent reaction against Gothic traditions, it was a genuine revolution; it opened up a wholly new path; the principles of the past were overturned, set aside and, as far as possible, abandoned.

Gothic traditions seem to have survived much longer in Germany amid new inspirations. This is hardly to be wondered at, if it be admitted that the Gothic — so designated not without reason, although it is now the fashion to question the use of the term — is peculiarly the art of the northern races, of the races of Germanic stock. But would this mean that it was possible for it to be maintained indefinitely in these regions?

It is undoubtedly easy to account for events after they have occurred and prove that what has happened was to happen. It is, however, quite natural to say: In the absence of frequent intercourse and close relations, in the absence of important political movements that would have mixed peoples and races, it was possible for an original art to retain its primitive characteristics and appearance for centuries; but from the moment when, by wars or alliances, by commercial relations or the interchange of thought — which had been greatly accelerated by the invention of printing — the various races really penetrated one another and exercised a direct influence on one another, that is to say, from the sixteenth century, it was next to impossible that they should not be modified, and with them their artistic productions.

Germany yielded to the common fate more slowly than the other nations, but she yielded in the end. Thereafter the history of her architecture is the history of the prevailing influences of each successive period. It presents to us in turn copies of the Italian, and occasionally even of the French, Renaissance, of the Italian Barocco, and of the French Rococo; the Louis XIV, Louis XV and Louis XVI styles have had their imitators beyond the Rhine and as far as the shores of the Danube. These copies are rarely good, unless they are importations out-and-out of foreign artists who themselves directed the execution of their plans; even then their surroundings make them seem out of place. The sorriest period of German art has not yet been reached, however.

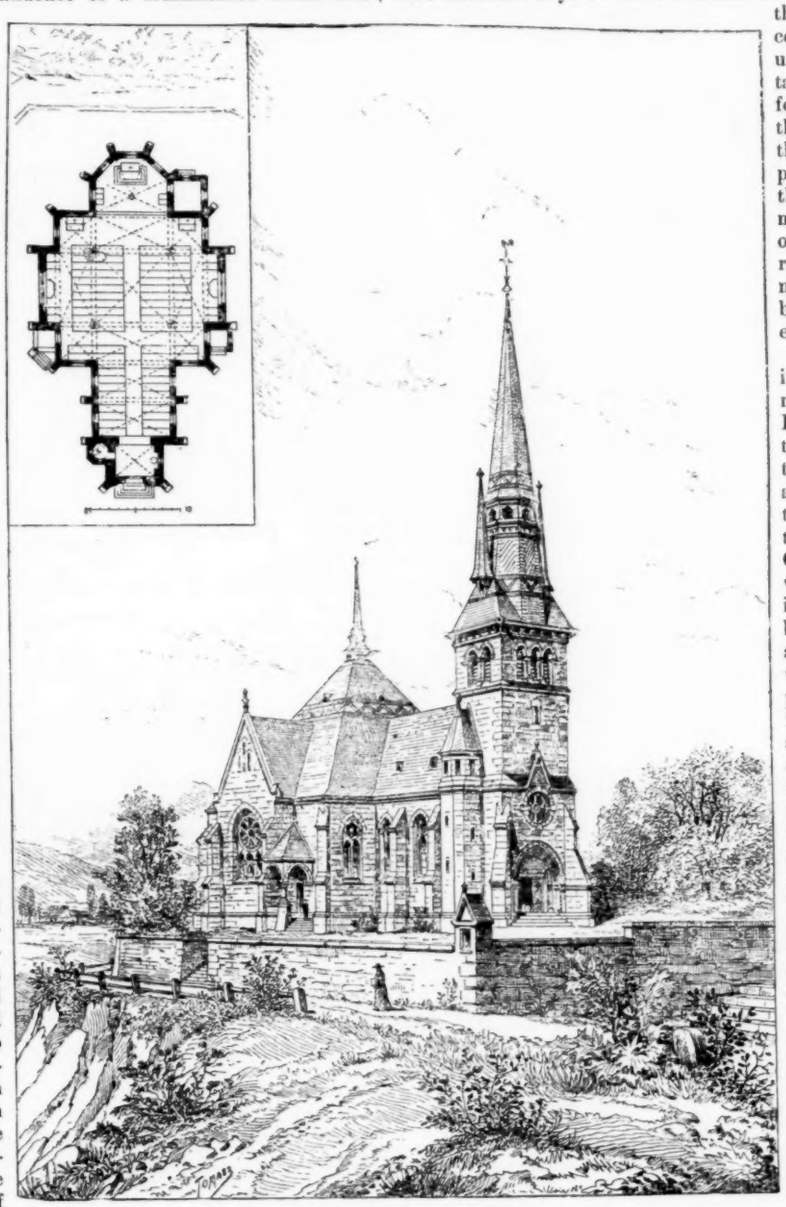


Fig. 16. Church of Allagen, Germany.

Unfortunately for it the excavations made at Pompeii and Herculaneum toward the close of the eighteenth century led to a vigorous promulgation of the æsthetic theories so dear to the German mind; an art was laid out on paper, in black and white, by rules, principles and laws, a course which has unfailingly proved fatal. Learning and philosophy are in themselves excellent; but in the artist's field they have never produced anything but cold abstractions that bear the same relation to art that the mineral cases of the geologist and the classification tables of the botanist do to nature.

It is true, for example, that the critic Winckelman and the architect Schinckel are men of great personal worth, and their intentions were excellent; true also that both Greek and Roman antiquity, as well as the Italian Renaissance, have left us some perfect works; but does it, therefore, follow that their rules are the only ones capable of application, and that their constructional methods are alone correct? Does it follow that artists who are neither Greek nor Roman nor Italian, who were not born in the time of Pericles, of Augustus or of Leo X, who build neither under the sky of Athens nor under that of Rome, but who design for worthy contemporaries unaccustomed to wearing the chlamys, the stole or the pourpoint, does it follow, I ask, that they should religiously model their plans on principles and rules totally foreign to them?

Unquestionably there are different degrees of merit in these various imitations; some of the earliest are crude, unskilled copies, based on incomplete knowledge; some of the later ones

[1] From the French of P. Planat, in Planat's *Encyclopédie de l'Architecture et de la Construction.* Continued from No. 864, page 36.

are more nearly correct, having been produced in the light of more thorough archæological research. But this advancement does not remedy the fundamental fault, which, in our opinion, is from its very nature irremediable.

We find, then, to-day in Germany, as in England and France, evidences of all the vicissitudes of the past. It is easy in the examples presented here to detect the presence of the Gothic inspiration; of the German Renaissance, which seems the most legitimate, the most natural and the most fruitful; of the exotic styles of the seventeenth and eighteenth centuries, and, finally, that of the purely Academic school, which sees on the artistic horizon only the august silhouettes of the Acropolis, of Pæstum, of Egina and other famed spots, consecrated even by a religious awe.

Fig. 17. Church of St. Thomas, Berlin, Germany.

At Allagen (Fig. 16) Herr Schupmann has drawn his inspiration wholly from the Gothic style, as Herr Adler in the church of St. Thomas at Berlin (Fig. 17), has taken his from the Romanesque. The plans may be slightly modified to suit the demands of Protestant worship; but in the arrangement and in the decorative system the architects evidently endeavored to follow the original models as nearly as possible. This is a very natural tendency in religious architecture.

The garrison church at Stuttgart (Fig. 18), by Herr Dollinger, is in the Rhenish-Romanesque style. We reproduce it here because it is a very happy example of what the interior

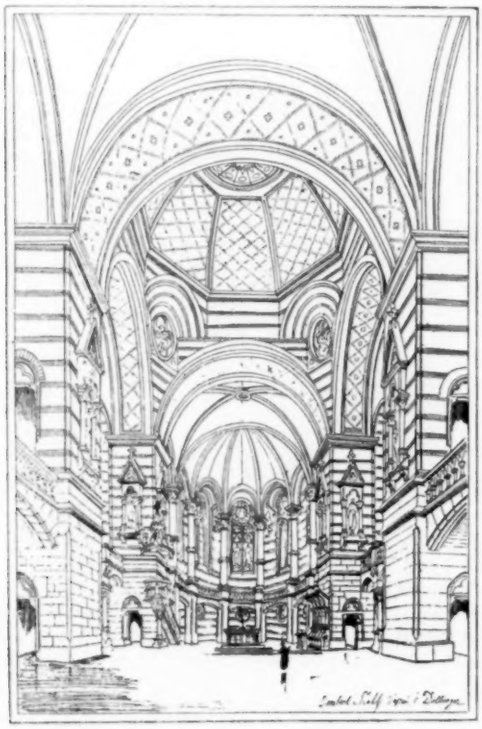


Fig. 18. Garrison Church, Stuttgart, Germany.

of a Protestant house of worship may be, conceived in accordance with the present prevailing ideas. The Roman Catholic symbol of the cross has been excluded, the transepts have been done away with, and the disposition of a simple basilica restored. This disposition, in its unity, is not lacking in grandeur, and it suits many of the broad and serious forms of the Romanesque. It will be remarked that the octagonal dome is accommodated to the transverse ribs and formerets in the Byzantine-Romanesque manner by corbelling arches.

The new synagogue at Munich (Fig. 19), by Herr A.

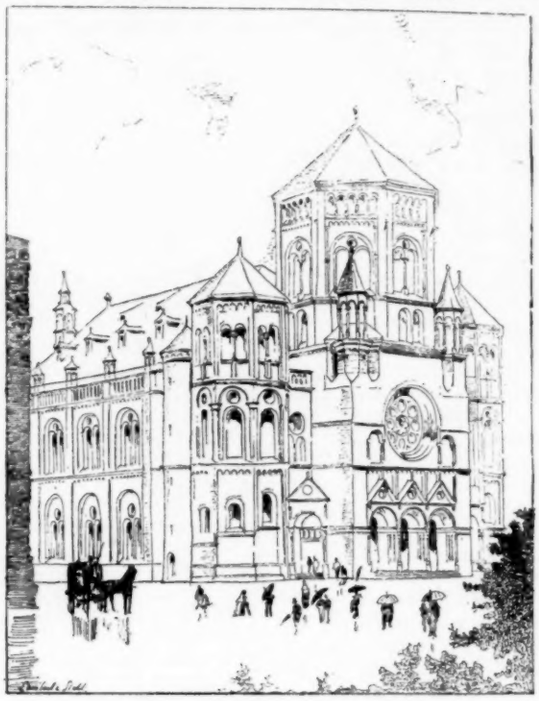


Fig. 19. Synagogue at Munich, Germany.

Fig. 22. Theater at Frankfort, Germany.

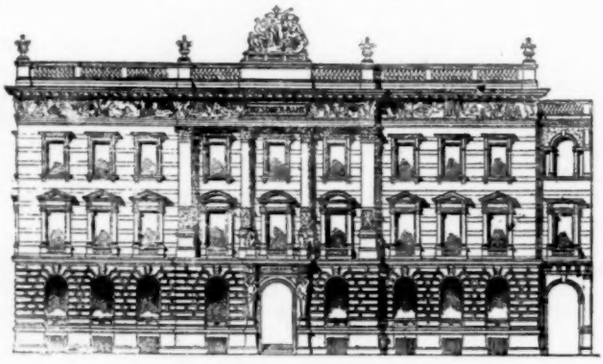


Fig. 23. Bank of Dresden, Berlin, Germany.

Schmidt, is rather Romanesque externally, with Gothic leanings in the interior, where the broad nave is covered with groined vaulting; the side-aisles are covered with barrel-vaults, and are bordered with galleries. It may then be said

that this construction is modelled after edifices of the Romanesque-Gothic transition.

Among civil buildings, we cite first the Kestner Museum at Hanover, by Herr W. Manchot (Fig. 20). The style is quiet, and the sculptured pediments, engaged columns and regular outlines proclaim its kinship with that type of the French Classic architecture of the seventeenth century which the French are reviving and adapting to the needs of the present day.

With the Realschule of Goslar, by Herr Stier (Fig. 21), we get back to what we may call Romanesque indications in the porch, the towers and the projecting masses; on the lateral façade the attempt is made to reconcile straight forms for the bays with the forms adopted for the remainder of the edifice

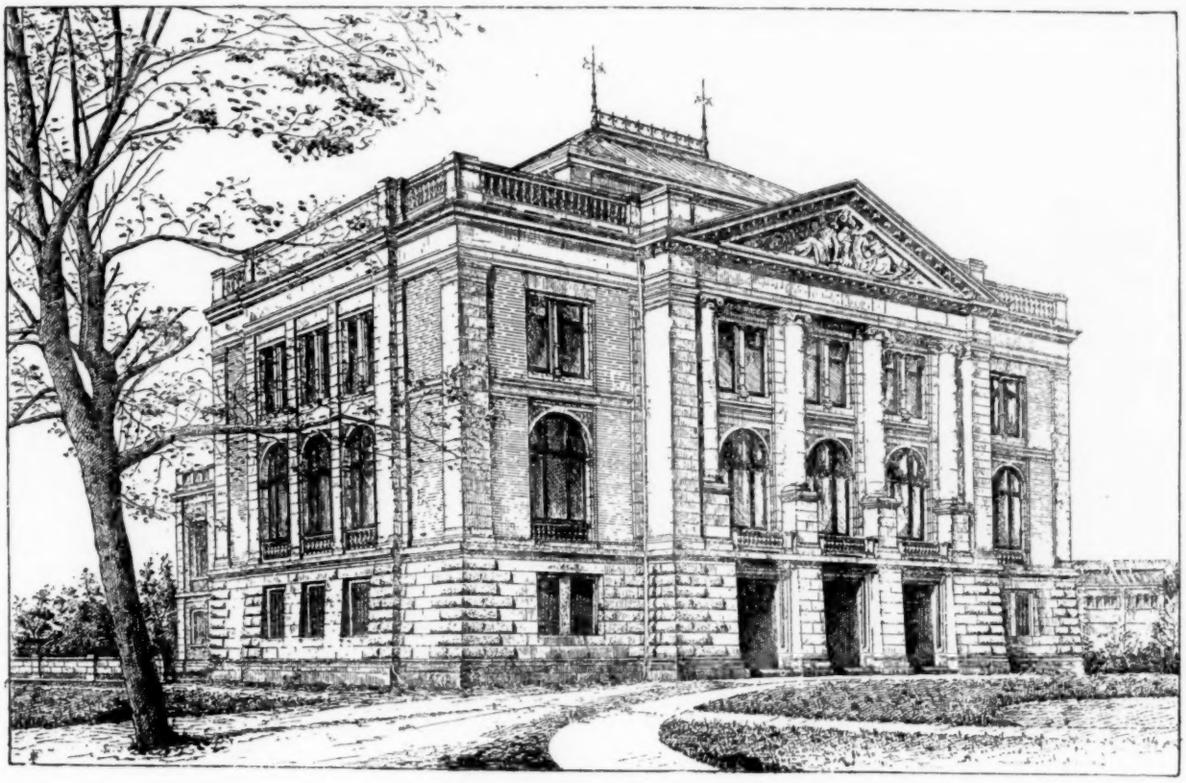


Fig. 20. Kestner Museum, Hanover, Germany.

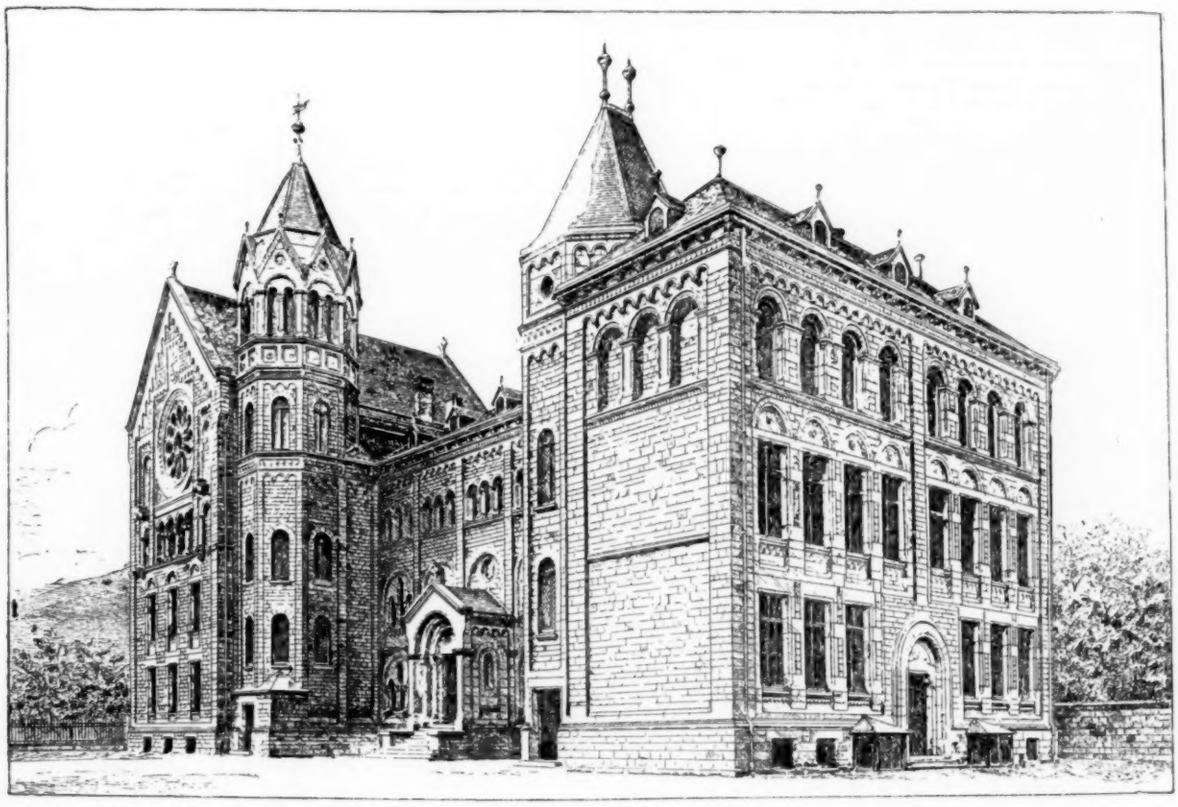


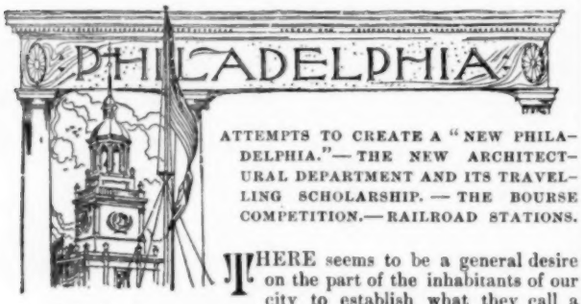
Fig. 21. Realschule, Goslar, Germany.

by means of imposts, discharging arches and arcades, which admit of occasional introduction of semicircular forms.

These various examples of Romanesque imitation, exhibited, moreover, among peoples fond of tracing their origin to the great civilizing attempts of the Carlovingian era, we see followed in the new theatre of Frankfort (Fig. 22), by the would-be Classic style borrowed from antiquity; we shall have other opportunities of becoming familiar with it. It is, however, allied with the Italian Renaissance, for the Greek temple and the Roman basilica cannot of themselves satisfy all the requirements of a modern theatre.

In the Bank of Dresden, at Berlin (Fig. 23), Herr L. Hein has profited by the good academic training that may be had in art schools the world over. Through them a very correct style has been established, which, though somewhat cold, destitute of any very distinctive character and in no way national, may, nevertheless, have the merit of good and clever proportions. We notice the use here, common in the German Classic school, of the column *à bracelets* decorated at the base, of caryatides, of finial groups of figures and of friezes with bas-reliefs.

[To be continued.]



ATTEMPTS TO CREATE A "NEW PHILADELPHIA."— THE NEW ARCHITECTURAL DEPARTMENT AND ITS TRAVELLING SCHOLARSHIP. — THE BOURSE COMPETITION.— RAILROAD STATIONS.

THERE seems to be a general desire on the part of the inhabitants of our city to establish what they call a "New Philadelphia," which is to consist of a greater spirit of enterprise, improved streets, better architecture and a general overhauling of everything with a view to improvement.

Rapid transit has been discussed with an energy and earnestness that would arouse envy in the heart of even a New Yorker.

There is serious talk of widening Chestnut Street at certain points by tearing down the present fronts of the various buildings and setting them back several feet on each side. Of course, it is expected that each building front thus replaced will be imposing architecturally, and reflect additional credit upon the city's greatest thoroughfare.

The new Architectural Department recently established in connection with the University of Pennsylvania is already doing excellent work under the management of Professor Laird, and bids fair to rival the two well-known seats of architectural education founded by Prof. William R. Ware. It is the intention of Professor Laird to make the results of this department as *practical* as possible, in order that each student who receives his diploma may be of *immediate* value in an office by having a fair knowledge of every-day office-work.

This seems to be a most difficult task, as a student's time is necessarily so limited, and there are so many branches to be considered that it is a question whether it is possible to instil into the mind of a student those ideas which are supposed only to come in the routine of ordinary office-work. One excellent idea has been embodied in their system, however, which tends, in part, to the accomplishment of the end in question, and that is, the requirement on the part of every student to spend a certain portion of each vacation in the office of some reputable architect.

A movement is also on foot tending towards the establishment in this city of a travelling-scholarship, such as Boston has demonstrated to be of so much practical benefit to those who would otherwise be unable to afford the expense of an extended trip abroad.

All these indications point to a healthy progress in the development of architectural improvement, for education is as much an essential element in this as it most certainly is in all other professions, and the lack of it is greatly to be deplored. An ambitious carpenter or brick-mason with no other training than that which he has obtained with his hammer or trowel is often tempted to call himself "architect," and some of our most hideous attempts at building are often due, directly or indirectly, to the untiring efforts of just such an unfortunate combination.

There is also another pernicious element in the existence of a class of so-called architects, who are nothing more than inexperienced youngsters with scarcely one year of practical office experience to their credit, but having an unlimited stock of assurance, and, being so fortunate as to secure a client, immediately blossom out as full-fledged architects.

These types are by no means confined to Philadelphia, but she has her full share of them, which accounts to a great extent for the existence of the many startling and original structures one sees on our principal thoroughfares.

The final outcome of the Bourse controversy is being looked forward to with considerable interest by the architects of this and other cities. There has been a wonderful unanimity of action among the architects, as will be seen by their printed report of the whole matter, a copy of which has been sent to the architects of all the principal cities throughout the country. They have received the unqualified support of the press, nearly every daily paper in the city having condemned the action of the Bourse committee in strongest terms. Many letters have been received from other cities expressive of the heartiest sympathy in the matter, and endorsing fully the action of the architects.

No matter what the outcome may be, the result is sure to be of incalculable value to the profession in Philadelphia, as a strong precedent has been established, not only on the question of rates of remuneration for large buildings, but also on the possibly more serious one, which involves an infringement upon the authority and responsibility of the architect; by the employment, on the part of the owners, of an engineer, who would have power to revise or change any constructional drawings made to carry out the ideas of the designer of the building; and who would, in fact, have more authority at the building than the architect. No better illustrations need be cited to prove the unpleasant and disagreeable consequences of such an arrangement, than occurred at the time of the construction of the dome of the Capitol at Washington, when Thomas U. Walter, of this city, was selected as architect of the work, and General Meiggs appointed by the Government to superintend its construction. The result was a succession of disputes and misunderstandings, from beginning to end, resulting from the divided responsibility and authority between the architect and engineer. This could easily have been avoided, had the whole work been under the control and supervision of the architect, and the engineer answerable wholly to the architect, and not to the government.

It is generally believed that Professor Ware, whom the Bourse employed as professional adviser, in the preparation of the requirements governing the competition was opposed to the adoption of the objectionable clauses, and that the Bourse acted contrary to his advice in the matter; but how far his objections went is not known, as he failed to signify by word or action throughout the whole controversy, his true feelings on the subject.

The erection of the great railroad station at the corner of 12th and Market Streets, for the Reading Terminal, is progressing rapidly, and will soon be ready for use. The phenomenal growth of this now powerful corporation is causing the Pennsylvania road no little anxiety, and the latter is determined to outdo this new rival not only in holding its full share of patronage, but in the appearance of its railroad station. A number of plans recently submitted by several Philadelphia architects, for the extension of the Broad Street station, have all been rejected as unsatisfactory and new drawings are now in preparation, contemplating an entirely new structure — at least so far as the exterior is concerned — the present façade to give way to one that will be in harmony with the exterior of the extension.

It is even rumored that an elevated road is contemplated on Market Street, connecting Broad Street Station with the Delaware River, thus enabling passengers from all points on the road to reach the lower end of the city without change of cars.

"HEAT AND VENTILATION." — TULANE UNIVERSITY — ITS COMPETITION, ARCHITECTS AND ARCHITECTURAL-DRAWING CLASSES. — A NOVEL MODE OF CARRYING ELECTRIC WIRES.

NEW ORLEANS can hardly help congratulating itself when it compares its thermometer with the records of cities of higher latitudes, and now that the "Father of Waters" has begun his retreat, we can enjoy the balmy Gulf breezes, and only think with sympathy of New York with its 92 degrees, and Boston with its 90. The thermometer here rarely rises as high as elsewhere, but of course, on account of our southern latitude, our heated term is of longer duration and consequently more exhausting. Perhaps it would be unendurable were it not for the fact that the Gulf breeze at evening cools the earth and atmosphere, and makes us feel that New Orleans is not such a hot place after all.

Ventilation, in such a climate as this, is, as a matter of course, one ever present problem in the mind of the practical architect; but, strange as it may seem, this problem has been very unsuccessfully dealt with in the past, and from present indications, I am ashamed

to say, that there seems to be little or no marked improvement. Only recently has been built a large terminal passenger-station, the spacious and lofty waiting-rooms of which find their only means of ventilation afforded by doors eight feet in height, thus leaving a dead-air space of nearly eight or ten feet at the top of the rooms unventilated. The results can be easily imagined, and are so apparent, that, when the gas is lighted, the effects of bad ventilation force themselves to be noticed by even the most unobserving. Another peculiarity of this building is, to us, a new manner of applying the heating apparatus, the coils of which are suspended some eight to ten inches below the ceiling and in a plane parallel with it. The efficiency of this arrangement has not yet been tested, as the structure has only lately been completed.

The building is of very dignified design, and seems expressive of manly frankness and boldness in detail, at the same time avoiding the frequent error of attempting elaborate display with unsuitable material and thus it possesses the laudable qualities, honesty and sincerity, without harshness or severity. However, in its ventilation, it is rather a surprise, as it is the work of quite a prominent firm of Chicago architects, the designers of one of the large buildings of the World's Fair.

The Tulane University of Louisiana, located at New Orleans, has recently held an unusual sort of competition for plans of College Buildings for that institution.

During the fall of 1891, the President of the University visited New York and commissioned a prominent firm of architects to prepare sketches to be submitted to the Board of Administrators of the Tulane Educational Fund. These sketches arrived in due time, and after a critical examination by every one connected with the institution were returned, and the firm paid for trouble and time expended in their preparation. This design contemplated a very imposing group of buildings in the Italian Renaissance style, but the management of the plan (possibly on account of an imperfect understanding of the requirements) was unsuitable for the purposes of the college, and seemed to lack much serious study.

An advertisement subsequently appeared in the daily papers of New Orleans which read:

"TO ARCHITECTS.

"The Tulane University proposes to erect college buildings opposite to Audubon Park. Architects wishing to offer plans for the same can learn particulars by applying at Tulane Hall to Wm. Preston Johnston, President."

This laconic call brought ten or twelve replies from home architects, as well as four or five others. To these were given circulars reading as follows:

"LIST OF BUILDINGS.

"(1) Main building; (2) Physical and biological laboratory; (3) Chemical laboratory; (4) Workshops; (5) Drawing department; (6) Gymnasium; (7) Museum; (8) Library; (9) Keeper's lodge.

"Plans and specifications required for main building only, but unity of design must be preserved in arrangement with the others.

"*Requirements for Main Building.* — Building three stories or less. Fourteen class-rooms, averaging 22 feet by 30 feet, one of them for mathematics larger and two smaller. Professor's study attached to each, 100 square feet floor-space. President's office and study. Secretary's office, clerk's office attached. Two society halls, seating-capacity 100 each. Assembly room seating-capacity 600.

"*Note.*— Physical laboratory will probably be erected, plans to be had from Professor Ayres. The other buildings will probably be temporary structures. Architects are requested to note the lay of the land, and consider whether their plans should face St. Charles Avenue, or down town (north). The limit of the main building must be within $100,000.

"Would like to have the plans by April 10.

"Approximate estimates should be made for structure in plain brick, pressed brick and stone."

This I have given in full for the purpose of explaining the extent and importance of the university in our community.

After about three weeks' work on the plans, an extension of time was granted until the 1st of May. One set of plans was received on the 10th of April, and thirteen others on the 1st of May. A large room was appropriated for the purpose and the drawings were placed upon its walls so that they could be more easily examined and compared. It was then found that among the competitors were eight New Orleans names and four others; one home man submitting three separate designs. An ex-supervising architect of the United States, the then City-Engineer of New Orleans, and a graduate of l'École des Beaux-Arts (first honors), were included in the number. The drawings were in every possible mode of execution, from the simplest line drawing to the most elaborately worked-up perspectives in ink and water-color.

The deliberations of the Building-Committee lasted for one month, and at the end of the time it was announced that the plan of Messrs. Harrod & Andry had been selected. The successful firm is one lately formed in New Orleans, and this is among its first large commissions; Major J. B. Harrod for several years served as City-Engineer.

Throughout the entire competition no mention was made of compensation, or prize, and the architects had only the assurance that the University would, of course, pay the accustomed rates for architectural work.

Competitions of this sort are not infrequent here, and sometimes we have the extreme gratification of hearing of a prize of $50 or $100 offered for plans, and in nearly all these cases, the projectors of the enterprise are much surprised to find that this is not sufficient and that architects should demand so much money for so little work. With such ideas to contend against, it is quite trying to one's good nature to endeavor always to smile and attempt to explain the basis on which the business of an architect stands. Oh! If we could reach such people with articles like that in the issue of July 2.

As I have mentioned Tulane University and its late efforts to secure an architect for its new buildings, it may not be amiss to speak of the work of the institution, and particularly that part of it which turns into channels leading up to a study of architecture. The University contains three departments, two colleges, three schools, four libraries and a section called University Extension. The Department of Medicine was established in 1834, and has graduated 2,926 students. The Law Department was organized in 1847, and has conferred diplomas upon 722 graduates. The Academical Department was opened in 1878. These departments were combined in 1883, forming Tulane University of Louisiana, which has subsequently established Tulane College (for young men), H. Sophie Newcomb Memorial College (for young women), Tulane High-School (for boys), the Manual Training-School and Free Drawing-School (for men and women). Drawing is taught in Tulane College and High-School, and is combined with painting, modelling and carving in the Newcomb College. However, in these schools, except in the art and scientific courses, it goes little beyond the essentials of culture; but in the Free Drawing-School, which, since its establishment in 1884, has given gratuitous instruction to over 2,500 persons, it has been directed toward the industrial side of art. Architectural drawing is taught in a four-year course, and the results shown at the last annual exhibit of students' work is deserving of much praise. After laying a groundwork of general mechanical and geometrical drawing, plans and elevations of small houses are taken up, and to this is added large scale details. In the final year we find that original design is indulged in to a certain extent. These original designs are usually good in execution, but, as is generally the case with young and ambitious students, they are a little imaginative in conception. Nevertheless, this is more than compensated for in the fact that, in addition, students are required to study the history of architectural ornament and prepare drawings of the orders from good authorities. Tracing and blue-printing is also embraced, and in the past session was made quite a feature of the instruction. The accomplishment of this amount requires considerable perseverance and energy on the part of the student, as the work is carried on during only three hours a week from the month of November until the first of May.

It is the hope of the profession here that at some future date there may be established at this University a chair of architecture. The number of architectural-drawing students turned out by the Free Drawing-School in one year seems to be enough proof that there is already existing here a demand for such technical instruction.

Our city must present a very astonishing appearance to the stranger coming within its limits. This time I do not refer to its quaint, European-looking streets in the French quarter, but to an ultra "modern improvement" that has been saddled upon us whether we want it or not. During our Cotton Exposition of several years ago, the grounds, since converted into what is now known as Audubon Park, were illuminated by means of electric arc-lights placed at the top of three-legged iron towers ranging from seventy-five to a hundred feet in height. This scheme — not by any means a new one — was subsequently adopted by the city for the purpose of lighting its thinly-populated districts, the towers being those that had already been used at the Exposition, and, consequently, for economic reasons, of the most slender construction.

One of these that had not been adequately protected was run into by a dray laden with cotton; a bolt was broken, and down came the tower, wires, electric-lamps and all, upon several small houses, completely demolishing the roof of one of them and terrifying its occupants and the neighborhood. Strange to say, no one was hurt beyond a scratch or two. However, the tower idea seems to have come to stay. One energetic promoter of the city's welfare conceived the idea of using four-legged towers of construction similar to those already mentioned to carry electric wires of all sorts, in place of the underground system, which at present, in New Orleans, would be very expensive, on account of the perpetually moist condition of the soil. A strong argument brought to bear was that piping and connections could be so arranged as to render assistance to firemen in fighting fires in surrounding buildings from the tops of the towers. After all the necessary legislation had been accomplished, a line of ten towers was constructed along one of our most important streets, each tower spanning a street-crossing, which, by the way, are not at equal intervals; neither are all the towers of uniform height, ranging from 100 to 125 feet. When these were completed it was decided that they were not strong enough for the purposes intended, and so various arches and an amount of cross-ribbing were added, without any reinforcement of the foundation. After the addition of these numerous artistic (?) details, one might stand under one of them and, closing his eyes to his surroundings, imagine that he stood beneath the great engineering masterpiece of the Paris Exposition. Still there seemed to exist some traces of doubt in the minds of the promoters, so preparations were made to place wire-cable guys to assist the towers to carry their load of electricity. The authorities took exception to these proceedings, and stopped operations in this direction. Matters stood in this condition until it was

decided to make a fresh start, so a second route was constructed at right angles to the first one, and intersecting at about its middle.

This time the towers were of much stiffer construction, with tubular legs spanning the street-crossings, and unincumbered with the pipe fire-apparatus. These are all of equal height, and, from top to top, two large cables have been stretched the length of the route. Wooden cross-beams were then placed across the cables at intervals of about twelve feet, and two small wire ropes run along the top to support a wooden foot-path with wire-rope hand-railing, etc. What will be the next move we are not enlightened, but it is believed that the electric wires, in the form of cables, are to be placed on the cross beams at either side of the foot-path. Thus far no electric wires have been carried, though quite a considerable expenditure of money has attended the enterprises. These towers have done good service in some cases by obscuring the view of bad architectural features, but in future it is natural that architects, though they can stand a great deal, may bring their influence to bear in opposition to such high-strung improvements, which work directly against the best endeavors of the architectural enthusiast.

The traveller, in shaking the dust from his feet, no longer thinks of the Crescent City, but of a city of Eiffel towers and aerial bridges that put to shame even the Carrick-a-Rede of northern Ireland.

THE GREAT FIRE AT ST. JOHN'S, NEWFOUNDLAND.

FOR the second time St. John's, Newfoundland, has been visited with a fearful conflagration and at the time of writing telegrams of the most alarming character are continually coming, showing that this second fire which began in the evening of July 8th is not yet under control and it is more than probable that the whole city may be wiped out.

St. John's was a thriving city of about 35,000 inhabitants, a seaport, well fortified, both by its natural situation and by artificial means. The harbor is small but secure, being entered by a narrow passage between two ridges, appropriately called the "Narrows," but the anchorage is good and as the principal business of the neighborhood is fishing, the site of the city was well chosen. The town itself overlooks the harbor, rising on a slope from the water's edge and contained besides the Government Buildings and fine churches, many refining-works and oil warehouses in connection with the fish and seal oil trade. The principal building both for size and cost was the Roman Catholic Cathedral erected a few years ago at an outlay of $800,000 and it is lamentable to record that this splendid edifice has been destroyed. The greater part of the city was built of wood, there being only one street of brick and stone buildings, the authorities having, since the fire of 1846, refused to allow any wooden buildings to be put up on this street; — a short-sighted policy, as it has proved, for the fire having gained enormous proportions and being fanned by a fair breeze struck this street with a fury nothing could resist and in a few hours every building there was destroyed. The firemen who worked with great zeal were beaten back house by house and block by block and so rapid was the advance of the terrible enemy, there was no time to tear down houses and leave spaces, if indeed it had been possible to clear a sufficient area, for the mighty flame and spark-laden smoke bridged over sixty-foot streets and swept on with remorseless fury. The office of the Anglo-American Telegraph Company was vacated early in the evening, the fire having enveloped it, and for a while telegraphic communication with the world was suspended. The operators took up temporary quarters in a building that was supposed to be out of reach of the fire, but the wave of flame and smoke overwhelmed their rescue-house to which they had connected their wires and for a second time messages ceased to arrive. The fire spread along the quays endangering the shipping and the vessels were towed out into the harbor laden with refugees, while the sailors found it necessary to keep up a sharp lookout for sparks and flying débris which threatened to set light to the rigging. So far as is known at present there has happily been but a small loss of life, considering the nature of the calamity but it is to be feared that the worst is not over. Relief measures for the many homeless sufferers have been undertaken at once and shanties are being run up and tents pitched while food supplies have been telegraphed for. Many people have lost everything and few have anything with them but just what they had on or could seize as they fled from their doomed houses and offices. People in comfortable circumstances, not to say affluence, without a thought of coming disaster were in less than an hour, sometimes less than ten minutes, reduced to absolute poverty, their houses, their works, their papers, machinery or rolling-stock being almost instantaneously licked up by the hungry flames. No doubt, large sums of money will be instantly forthcoming for their assistance and we are told that there is a large amount of insurance on the collected buildings and property.

In 1846 a sum of $135,000 was immediately sent by the British Government, while the Governments of Canada (as it then was), of Quebec and Nova Scotia contributed over $25,000, but larger sums than these will be required this time, for the area affected is larger, the population greater and the establishments more numerous and costly than they were forty-six years ago. As an example of the wealth and prosperity of the city we may mention some of the principal buildings: the Roman Catholic Cathedral, which with adjoining buildings in connection with it, cost $800,000; the Episcopal

Roman Catholic Cathedral, St. John's, Newfoundland.

Cathedral erected at a cost of $500,000 and not quite finished (now destroyed); Government House, erected by the Imperial Government, $240,000; the Colonial Building containing legislative chambers and government offices; the Athenæum containing the public library, museum, a hall of assembly, savings bank, etc.; the post-office, a handsome and costly structure; other government buildings, such as the custom-house and custom warehouses, hospitals and market buildings. The principal buildings destroyed, besides the Episcopal Cathedral, are the market and court-house, Commercial Bank, Athenæum Buildings, St. Andrew's Church, the Temple Club-house, Chamber of Commerce Building, *Telegram* Building, Methodist College and Masonic Temple and St. Patrick's Hall.

The telegraphic message from the mayor of St. John's that 5,000 people are absolutely destitute, though it is sufficiently startling, does not in itself give a correct notion of the calamity, it is difficult to realize even this, but if 5,000 are destitute, some 25,000 more have been reduced to comparative poverty. Relief is being organized all over Canada. Public bodies and private individuals are sending donations in kind and in money and probably the $6,000,000 worth of insurance on various buildings will go a long way towards starting business again. But one thing is certain, that wherever the news of this terrible conflagration reaches, there will be expressed the utmost sympathy for the sufferers and in a few days we shall, no doubt, hear of generous efforts made in all quarters of the world to assist the stricken inhabitants.

THEATRE REGULATIONS. — TRADE UNION PRICES TO BE OBSERVED. — GUILD AND SCHOOL OF HANDICRAFT. — ST. MARYLE-STRAND AND A NEW STREET. — M. CÉSAR DALY AND THE ROYAL GOLD MEDAL. — THE IMPERIAL INSTITUTE. — THE EXAMINATION QUESTION.

THE committee of the House of Commons which was appointed to consider the suitability of the existing arrangements under which theatres and music-halls in England are licensed have reported, and their report is, as was perhaps to have been expected, after the nature of a compromise. The greater portion of the report is occupied with questions which do not primarily concern an architect, but the opinions of the committee with regard to structural questions will be of interest. This part of the report is preceded by a condensed account of the legislation dealing with questions of structure. It states that an Act passed in 1878 provided, with respect to new theatres and places of public amusement, that the Metropolitan Board of Works might frame such regulations as to position and structure as might be necessary for the protection of the public frequenting the same against danger from fire; and it was made unlawful for any person to open a new theatre or place until the Board had granted a certificate that the building was in accordance with the regulations. Other powers were conferred by this act and by succeeding acts with regard to existing buildings and their safety from fire and over the exits. As the result of these statutes the Lord Chamberlain was relieved of responsibility in regard to structural matters in theatres, and does not

now grant a license except on production of the certificate of the London County Council. The report states, "It is admitted on all hands that within the last fourteen years many places of entertainment in London have properly been closed, because their proprietors could not comply with the requirements made for the safety of the public, and that there has been a great advance in all structural matters in those now open. The credit of this is, no doubt, mainly due to the zealous efforts, first of the Metropolitan Board of Works, and afterwards of the County Council, working through its Theatres' Committee. It is, perhaps, inevitable that as a result of these efforts, controversy should arise between these bodies and the owners of places of entertainment." And to reduce the chances of friction, the select committee goes on to recommend that an appeal from either party should be allowable to a standing arbitrator, permanently attached to Her Majesty's Office of Works and under the general direction of the First Commissioner who should be answerable to Parliament for his action. The select committee also "strongly recommends that the Council's architect should be given so far as practicable, a position of independence, a free hand, and an undivided responsibility," and that when a theatre owner has fairly fulfilled obligations made on him, a period of grace varying from five to ten years should be granted, during which no further demand should be made. On the whole, these recommendations are considered as a fairly satisfactory solution of the problem.

After a long and animated discussion the London County Council has passed a resolution which cannot fail to be fraught with important results. They have resolved "That all contractors be compelled to sign a declaration that they pay the trades-union rates of wages, observe the hours of labor recognized by the trades-union in the place or places where the contract is to be executed." The effect of this resolution is yet to be seen. The conservatives are of opinion that it will put a restraint on the trade, and cause well-established contractors to hesitate before they accept work under the Council, subject to these conditions. This is, of course, possible, as contractors naturally resent interference, but there is, of course, the other point of view that all the competing tenderers will be practically in the same boat and therefore it seems that the effect will be rather in the direction of generally raising the price of work done by the County Council at the expense of the tax-payers in London, which, carried to its logical conclusion is only another form of protection. It will be interesting to watch the development.

An interesting paper was read to the Architectural Association by Mr. C. R. Ashbee, M. A., upon the "Guild and School of Handicraft in the East End of London." Mr. Ashbee entered into a good many semi-political questions, all interesting and important, but which there is hardly room for here. Perhaps a more practical matter will be the description which he gave of his work. Prefacing his account with some educational remarks, he stated that the old apprenticeship system was dying out and side by side with it could be seen a new growth — the technical school, which is even now offering to take its place. This substitution Mr. Ashbee felt to be impossible, as the technical school must be either a combination of primary education, and so aim at the more harmonious education of the child, or be a continuation of the work in life, as is the case with such classes at polytechnic and technical institutes. It could never teach the actual trade itself, as an apprentice should learn it. This the guild and school aspires to do. It has two distinct parts. First it is a productive workshop, conducted on the lines of an industrial partnership. Second, it is a school in which workmen are trained — men and boys who are still at work at home. It appears that the youngsters are trained in the school and then passed on to the guild, which carries out practical work, done in connection with architects who come and visit the workshop and talk with the men. Mr. Ashbee asked his hearers — architectural students — to regard themselves more as workmen, on whom would fall the duties of production and of organization and less as gentlemen of the office. Working thus in the workshop, they would grow into the sympathies of the workshop and they could then seek to develop their position as organizers and employers of labor. Thus a body of men could be trained up, who could understand architectural principles and he felt that it was only by educating workmen in these principles and ourselves in the relation of handicrafts to our work, that style, real living style — not the shell of it in a modern Gothic church, or Queen Anne mansion — can come.

An important proposal has been brought before the London County Council by its Improvement Committee, which seems to indicate a departure in favor of a new policy with regard to London improvements. Hitherto the unfortunate practice has been to cut new streets as they seemed to be required for traffic, without much regard for symmetry, grandeur, or architectural effect. Striking examples of this form of municipal neglect may be found in Shaftesbury Avenue and Charing Cross Road, the two latest achievements of the Metropolitan Board of Works. These streets seem neither to begin nor to end anywhere in particular. They are neither wide, regular, nor have they added in any way to the beauty or dignity of London street architecture.

The new proposal is to combine what was known as the Holywell Street Improvement and the Holborn to the Strand Improvement. It consists of a street 100 feet wide opening upon Holborn, opposite Southampton Row and running in a straight line and in a southerly direction to the Strand, opposite the Church of St. Mary-le-Strand. The street would actually be ended by a terrace, round which the street would curve eastwards and westwards to the Strand. The church would then be left clear of buildings and there would be an open space of 400 feet between the ends of the terrace where it joins the Strand. In the centre of the new street it is proposed to form a circus 200 feet in diameter. This circus is in close proximity to Lincoln's Inn Fields, and the roadway skirting the square on the south side runs into this circus.

The plan has many merits from a traffic point of view, but its chief recommendation to architects will be the broad spirit in which it has been designed and the recognition it gives to the demands of architecture. The view looking from Holborn southwards to the Strand will be very fine, if the flanking buildings are properly designed, and although the terminating building would perhaps have been more satisfactory if its end rather than its side had been presented to the view, yet we must take our old buildings as they are, and recognizing this fact it is hard to see how the proposal could be improved. There will be a large vacant site left on the southeast angle of the new street, and this is suggested as a suitable position for the London Hôtel de Ville that will have to be erected. If this suggestion be adopted the general group of the two churches, of St. Clement Danes and St. Mary-le-Strand, the Law Courts and the Hôtel de Ville will go far to challenge the right of Trafalgar Square, to the title of the "finest site in Europe."

The Royal Gold Medal has this year found a worthy recipient in the person of M. César Daly, the world-renowned editor of the *Revue Générale de l'Architecture et des Travaux Publics* and of many other important architectural works. The medal was conferred at a fully attended meeting of the Institute by the President, who referred to M. Daly's services to our art in a felicitous and graceful speech. He sketched out briefly the history of his life and stated with great justice that M. Daly has few colleagues who could show so worthy a record of a long life devoted to the advancement of art, and it is a singular instance of M. Daly's masterly activity that he is now at the advanced age of eighty-one, contemplating the compilation of no less a work than a "*Dictionary of Architecture*." "The mere suggestion," said the President, "of such a project being seriously entertained by an octogenarian, more particularly in view of the length of time and vast labor involved in the publication of our own '*Dictionary of Architecture*' but recently completed, must surely, while filling us with amazement command our unstinted admiration." M. Daly replied in a most interesting speech, delivered in English, and his remarks drew forth from the President the following compliment: "Gentlemen, we are in the habit of imagining that we have only one 'grand old man,' who is constantly referred to as being unique in point of octogenarian energy. I think that, after the remarkable speech to which we have had the privilege of listening to-night, we must be convinced that he has at least one competitor and that competitor Monsieur César Daly."

The Imperial Institute, though not yet complete, was informally opened last month, although the actual ceremony is to be deferred until the building is farther advanced, when it will probably be performed by Her Majesty the Queen. We are now in a position to see the building uninterrupted by extensive scaffolding and there is much to admire. The detail has been most carefully considered and the ornament is in the highest degree refined and graceful. The color too, has been well studied and the ornament judiciously distributed. Yet when we remember that this is the Imperial Monument of the British Empire in commemoration of the Jubilee Year of its Queen and Empress, we cannot honestly express our admiration of its design. Surely, if ever a building should have had a supremely monumental character and have been designed in a broad spirit, this was that one. It is difficult, however, to avoid the criticism that its talented architect conceived his design in a wrong spirit. Mr. Collcutt has won his reputation over buildings situated in important positions but not of a very extensive character. Consequently he has devoted immense thought and study to his detail, refining it down, and removing any trace of anything that could possibly be suspected of a coarse tendency. Is it surprising that under this self-discipline he should have endeavored to construct a building to suit his beautiful detail, by multiplying its parts and reducing their scale, until the sense of dignity and grandeur which is looked for in a great monument is endangered. The position, too, is hardly the best that would have been selected. In a previous letter I ventured to question the wisdom of the policy which groups our great national and imperial museums in a small quarter of the city where they tend to enter into a rivalry with one another. No doubt there are enormous difficulties in the way of finding really suitable sites for our great public buildings, but the question is of very great importance and might in some cases possibly receive a little more consideration with advantage.

The storm which I indicated last month has raged with considerable fury among the professional societies. The first trial of strength took place at the Architectural Association election, which was contested very severely. The candidates grouped themselves into two parties, one side arguing that it was necessary to distinctly refer to the Institute examination in the curriculum and to definitely prepare students for that examination; the other that specific preparation for examination was an erroneous policy, and that it was, therefore, desirable that no reference should be made to the examination. Both parties issued an address, and a past-President, Mr. Cole A. Adams, also issued an address on his own account, giving his views upon the question before the electorate. The result of the

election was a joint committee, consisting of representatives from each party, though the preparation-for-examination party — if I may so term them — were in the majority. The election gave rise to a considerable amount of personal feeling, which was happily reduced to a minimum at the annual dinner, when a felicitous parable was delivered by a past-President, Professor Kerr, who likened the struggle to the parallelogram of forces, where two forces acting in different directions upon a defined point are represented by the resultant, which here represents the collective wisdom of the Association.

The next phase of the struggle was at the Institute. It has hitherto been the practice to elect Fellows of the Institute by ballot, and upon names that had been submitted to and approved by the Council. The inquiry of the Council was directed solely to questions of professional integrity, but a certain section of the members felt that some regard ought to be paid to the artistic quality of the work executed by the candidates, and so it came to pass that several candidates who were currently reported to execute work of a notoriously inartistic character were blackballed. It was, therefore, proposed that the system of election by show of hands should be substituted. The supporters of this proposition were led by Mr. Arthur Cate and Mr. H. C. Boyes, while the other side had for its champions Mr. J. M. Brydon and Mr. John Belcher. Its supporters were, however, in a large majority, as they had been whipped up by an anonymous circular, and amid many cries the discussion was stopped by the President and the question put. There is to be an adjourned meeting on July 11 to consider certain resolutions by Mr. Charles Barry and Mr. Searles-Wood, that Fellows should be wholly recruited from the ranks of Associates, and, from what I hear, this proposal is more than likely to be carried. Altogether, the feeling in professional circles is not, perhaps, quite so harmonious as it might be.

STROLLS ABOUT MEXICO.[1] — XV.

A VISIT TO PICTURESQUE OLD PUEBLA.

A Tiled House.

THE city in Mexico which, outside of the national capital, is visited by more tourists than any other, is Puebla, but it chanced that it was one of the last with which I became acquainted. It is usually the case that, when a place is easily accessible and may be visited any time, one puts off doing so, and the result is frequently that the opportunity is never taken advantage of. There are hundreds of us Bostonians, for instance, who have been meaning all our lives to visit Bunker Hill monument some day, but have not yet done so. Puebla is the first of the provincial capitals that was brought into railway communication with the City of Mexico and therefore the connection between the two places is more intimate than between any others, the relations being something like those between New York and Boston. When the only route to Mexico was that by steamer to Vera Cruz and then by the Mexican Railway up to the capital, hardly a tourist missed seeing Puebla, either going or returning, and it has come to be regarded as one of the places that must be visited. So, to-day, with a choice of several routes from the United States, nearly everybody makes it a point to take it in, running over from the ancient city of the Aztecs for a day or two, at least. It is historic ground; Prescott's pages have imbued it with the glamor of romantic associations, and, since the famous march of Córtes up from the coast until the construction of the railway left it to one side, placing it at the end of a branch line, it has been the most notable feature of the main route between the capital and the gulf.

During a residence of more than a year in the City of Mexico, in the course of which I visited nearly all the places of interest then accessible by rail in various parts of the country, I had been intending to make the trip to Puebla, but it so happened that I did not, and I saw nothing of the city until a subsequent trip to our neighboring republic. A second railway route had then been opened, and partly for the novelty of going by a new line, partly to avoid so far as possible the dust which nearly smothers the traveller by the Mexican Railway across the plains, and again for the superior scenic interest of the new way, the Interoceanic was chosen. The Interoceanic Railway originally had one of the longest names in the world — El Ferrocarril Interoceanico de Acapulco, Morelos, Mexico, Irolo y Veracruz — but that designation appears to have been abandoned for the sufficiently descriptive name of Interoceanico, at least so far as inscriptions on the rolling-stock are concerned. The initials formerly borne by the cars and locomotives, "F. C. I. de A. M. M. I. y V. C." were appalling in their suggestiveness. Our familiar "C. C. C. & I. C." was simplicity itself in comparison. Perhaps the reflection that, to be duly explicit, the names of Puebla, Perote and Jalapa would have to be added, induced reform in the direction of brevity.

The Interoceanic is one of the great railway systems of Mexico, already comprising in its ramifications several hundred miles of track, and intended ultimately to connect the two oldest ports of the republic, on the Gulf and the Pacific respectively, by a transcontinental line. Its line to the Gulf is now completed, following very nearly the original road of the *Conquistadores* through Puebla, Perote and Jalapa, restoring those cities to the main route, and enjoying the advantage of much easier grades than the original Mexican Railway, which was laid out by way of Orizaba for speculative purposes. It is a narrow-gauge system. The narrow-gauge principle, now nearly abandoned in the United States, still holds its own in Mexico, for the reason that it was followed so extensively in the construction of a large proportion of the lines laid out at the beginning of the great railway movement in 1880; but it is now generally regarded as a serious mistake, and it is probable that all these trunk lines will have to be changed over to standard gauge — unless the advance of mechanical science shall cause the introduction of some entirely new method, such as a single rail, for instance.

Puebla lies to the eastward of the City of Mexico, just the other side of the two great snow-clad mountains, Popocatepetl and Ixtaccihuatl, and the railway has to skirt the latter by a considerable detour. A cut-off line is projected by the Interoceanic which will run through the northerly foot-hills and save at least two hours between the two cities. Our route keeps close to the mountains all the way, and possesses a fascinating scenic interest. We strike straight out in a bee-line from the station of San Lázaro, in the easterly outskirts, across the floor-like level bordering the great lake of Texcoco. Promontory-like mountains with villages at their feet appear to project out into the lake, their abrupt flanks reflected in the glassy surface, and beyond, the pale snowy crests of the grand elevations catch the early morning sunshine in glittering high lights and delicate lavender shadows.

At the junction of Los Reyes, we turn to the northward from the line that runs across the westerly flanks of the two great volcanoes at Amecameca and Ozumba, down into the hot country in the beautiful Cuautla Valley, and beyond to Yautepec and Jojutla. We pass along the easterly side of the lake, some distance in from the shore to the ancient city of Texcoco where the remains of the great palace of King Nezahuálcoyotl, described by Prescott, may still be seen in a long and shapeless mound, close beside the railway track. Here we enter the famous pulque region, and for something like two hours we traverse the wide open country where the plains and bare slopes are covered by the long, geometrically regular lines of the huge maguey, or century plant, in all stages of its growth. The making of pulque, the universal beverage of the Central Mexican table-land, from the sap of this plant is a great industry. As the humblest peasant is as much of a connoisseur in the quality of his pulque, as the Bavarian is of his beer, exceeding care has to be taken in the various processes of preparation, and the product of various celebrated haciendas is always in great demand.

The formal lines of the maguey plantations, running all over the landscape, often as far as the eye can reach, give the country a sort of decorative appearance, but it is too suggestive of tattooing to be picturesque. We use the terms, *barren* and *fertile* of aspect, customarily, in an absolute sense, the latter being associated with thick, dark soil and the luxuriance of green meadows and flourishing cornfields. Again, certain regions are proverbially known as barren, and their aspect becomes identified with the mental imagery of the word. Cape Cod, for instance, is one of these regions, but in reality the sandy peninsula is one of the most fertile portions of the country, made so by its cranberry culture: swamps once worthless, now bear hundreds of bushels of cranberries to the acre. So with the thin-soiled peninsula of Yucatan, which annually exports millions of dollars' worth of henequin, or sisal hemp. These dry, wind-swept high plains of the Mexican table-land, bare and brown, desolate and barren as they may look to the stranger, are also wonderfully fertile. Some of these great estates are said to yield net revenues of more than $100,000 annually, and the two railways, the Mexican and the Interoceanic, derive a most lucrative traffic from this region, running special pulque-trains into the capital every morning. The other railway lines also get a considerable traffic in carrying pulque from the capital to regions in the interior where the beverage used to be an unknown luxury.

The pulque country is a lonesome-looking one. Beside the towns here and there, about the only signs of habitation are the clustered buildings of the great haciendas, rising island-like from the vast plains. These, with their great mansions, chapels with domes and towers, and various out-buildings, all surrounded by high, strong walls, resemble feudal castles. They have, indeed, a similar nature, for the great *hacendados* of Mexico are like the feudal barons with their hundreds of retainers, controlling enormous stretches of land and practically ruling the country. The fortified aspect of their places is borne out by the reality, though such elaborate precautions for defence are now not so needful as in the turbulent ante-Diaz days when there was ever danger of attack from the bands of robbers that then infested the country, and now and then of a regular siege when one of the insurrections, or frequent revolutions, broke out.

The buildings where the pulque is prepared are often large and imposing structures, with an attention given to their architectural character that speaks for an appreciation of their important function.

Leaving the pulque region our railway enters the foot-hills and we soon find ourselves among the pines, breathing the light and bracing mountain air, sparkling with sunshine and tonic with the resinous

[1] See the *American Architect* for January 16, 1892, page 40.

scent of the forests that clothe the slopes. The surroundings remind us of Switzerland; beautiful woodland valleys through which our train twists and curves, with the majestic snowy heights of the two grand mountains gleaming in crystalline purity against the serene sky, and ever presenting new shapes as we rapidly change our points of view. We pass through a considerable tunnel, over the handsome entrance of which is the inscription "Tunel Porfirio Diaz." Beyond we descend by devious curves into the wide valley of Puebla. Far to the eastward rises the snowy summit of Orizaba, and seemingly near at hand is the beautiful peak of La Malinche, named for the gentle Indian girl who was the faithful mistress of Córtes.

At about noon we see, rising conspicuously in the distance, the famous pyramid of Cholula, crowned by its stately chapel. I should not omit to say that, while in the midst of the great pulque region we passed very near the two great pyramids of San Juan Teotihuacan, and for a long time enjoyed fascinating views of them from the train, one of the finest of which was from a distance of several miles, down the axis of the broad valley and showing them standing boldly out in the plain, undwarfed by near mountains and telling for their full value as two great symmetrical constructions, ranking among the most colossal examples of ancient human handiwork.

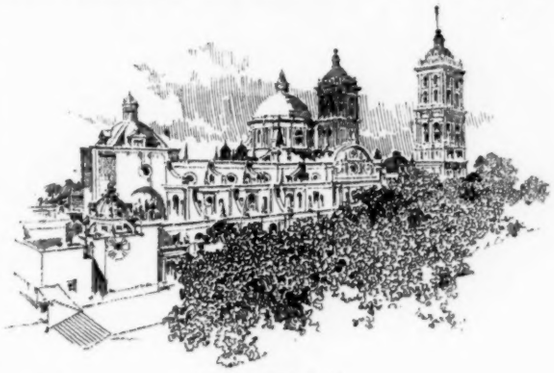
We pass very near Cholula, which in itself is a considerable town that formerly must have been very largely composed of convents and churches, judging by the exceptional prevalence of the architectural indications of those structures. Turning to the eastward we soon come in sight of a large and beautiful city, spreading broadly over the valley and up the neighboring hills. Some distance before reaching it we cross a river of considerable volume, the Atoyac, which furnishes power for a number of cotton and woollen mills that give Puebla important rank as a manufacturing-centre. Among them is the first cotton-mill built on the American continent.

At the station, which is still a long way from the centre of the city, we take a street-car, and are quickly impressed by the exceptionally individual character of the place, as we roll smoothly through the long and scrupulously clean streets. For this feature I had been prepared by the enthusiastic report of a dear old friend, when in Mexico several years before — the late Frederic G. Mead. As representative of an important American house, Mead was an almost constant companion during several months in Mexico, and, with kindred tastes, and enthusiasm for the beautiful features of the country, we enjoyed many a charming excursion together. Returning from Puebla, whither I had been prevented from accompanying him, he said: "Why, the streets are so clean that I wanted to lie down and roll!" All through these later journeys in Aztec-land the gentle-souled, great-hearted and noble-minded friend seemed ever with me in spirit among the familiar scenes we had known together, and in new places, there ever arose the thought of how their enjoyment would be heightened in his company.

Puebla differs as strongly from Mexico in architectural character as New Orleans from Boston. A feature that gives exceptional distinction to the city is the widespread use of glazed and decorated tiles, not only for the covering of church domes and cupolas, as in many other parts of Mexico, but for the walls of buildings as well, both ecclesiastical and secular. Puebla is the great seat of the glazed-tile industry in Mexico, and those used for covering domes, etc., are said to come mostly from here.

At the large central plaza we found our hostelry, an imposing-looking building of handsome modern architecture, called the "Gran Hotel de America." We had heard of its passenger-elevator, which, when put in, was one of the wonders of the republic, the first in Mexico. The "Iturbide," in Mexico, now has one of the modern sort. This one of the Gran Hotel de America must be, I think, the only one of the kind in the world. I wish I had the circular of the hotel, which sets forth its attractions for the benefit of tourists: chief among them is enumerated this wonderful elevator, which takes passengers to and from the upper stories "*con gran velocidad*." We found ourselves on an open platform surrounded by a sort of railing. — It seemed big enough for an amateur company to play Mr. Howells's farce of "The Elevator" on. We started, and began to ascend with the "grand velocity" of the hour-hand of a clock and a great creaking and clattering. "This thing goes by *peon* power, I guess!" remarked a young compatriot of ours who had come in the same train, and who was in a hurry to brush off the dust of the journey. Sure enough, as we approached the top, we caught glimpses of the man above working the windlass. We reached the upper story, and were shown to pleasant rooms in front. My companions were, however, struck with panic on ascertaining that the elevator of "*gran velocidad*" was the only means of communication between our floor and the street, except by a roundabout way, where there were some narrow backstairs. The stories below us

A Tiled House, Puebla.



The Cathedral, Puebla.

were used for mercantile purposes, and the architect, actuated, perhaps, by the desire to save space, had evidently deemed the elevator all-sufficient. The building was of apparently recent date, as shown by the use of railway-iron for beams in floor and roof construction, a method much in favor in Puebla and to some extent in the City of Mexico.

"Suppose there should be an earthquake, or suppose that *peon* at the windlass should get drunk, or have a fit or something, and let the thing drop?" urged my friends, and they straightway had themselves transferred to good rooms looking upon the side street in the second story. All that part of the building was accessible from the *patio* staircase. The charming view from the balcony of the room to which I had been assigned made me determine to run the risk of an earthquake, but I could not inspire myself with sufficient confidence in *peon* power to trust myself to the elevator any more, and so I made use of the labyrinthine back-way passages.

My room was as nicely furnished and neatly kept as could be found at the average hotel in our American great cities. There is one great merit which Mexican hostelries possess over ours; that is, the fresh air prevailing throughout, in consequence of the genial climate and the attendant open galleries and corridors. Our peculiar American "hotel smell," as distinctive as that of a school-house — compounded of the odors of kitchen and dining-room and of insufficiently-aired beds, lingering about the corridors until it seems as if it could be scraped from the walls in quantities sufficient to make a powerful extract that would probably be considered of much value to makers of patent medicines — this hotel smell is absent in Mexico. I believe that some tourists whom I have met have, however, experienced loss of appetite and been made homesick by its absence!

The afternoon sun streamed into my open window with tropical ardor, but on the Mexican table-land the sunshine is rarely oppressive, and no sensible traveller will choose a room into which it does not come at some time of the day. The plaza below, with its fine *fresnos*, or Mexican ash-trees, seemed almost like sections of Boston Common, with its aisles of shade roofed by dense foliage. To the right were the customary *portales*, or arcades, that in a Mexican city invariably face the central plaza, and opposite, to the left, there rose the stately bulk of the celebrated cathedral above the mass of arborescent verdure, its side to the plaza and facing upon the street across the square from the hotel. It is an imposing structure, not so large as the great cathedral in Mexico, but of better proportions. Its two square Romanesque towers have a gravely graceful simplicity; the whole structure is much less florid than the average of Mexican ecclesiastical architecture, but the portion in fullest view from the hotel is exceedingly picturesque, with the great dome, the flying-buttresses of the apse and the lesser dome of the chapel in the rear forming a fascinating composition.

Before beginning one's explorations in a new place, it is best to get a bird's-eye view from some good outlook, and in Mexico that is usually found on the roof of the hotel. It was particularly so in the case of the Gran Hotel de America, for above the roof there rose two round towers with iron balustrades at the top. The larger of these was accessible only from the shop on the corner, and, as the smaller was a few feet less in height, and stood with open door, it did not seem worth while to take the trouble to descend to the street for the sake of ascending the other. The stairway was just wide enough to accommodate an average man's body without going sideways, and the thought of an earthquake occurring while making the passage up or down was a trifle alarming. To be sure, I never yet experienced an earthquake in Mexico, but then they do occur occasionally, and there was no telling when one might happen. Shortly before my first visit to the City of Mexico they had one that lasted two minutes, shaking things up terribly, cracking great buildings and scaring everybody half to death, but, fortunately, hurting no

person. I had a curiosity to see something of the kind, but I felt that it would be very unpleasant to have the performance come off while squeezing myself up or down in the narrow stairway of a chimney-like tower.

It was a superb view. Puebla is known as a particularly religious city, and the exceptional number of fine churches, together with the domes and towers of numerous convents, now, of course, sequestrated, gave testimony to that fact. The city's mass of buildings, much embowered with foliage, spread far out through the valley and up the slope of a hill to the northward, crowned by a castle-like fortification. Beyond this hill rose the lofty peak of La Minche, bare and brown, though occasionally snow-capped. To the eastward the valley contracted to gorge-like limits, with the mountains abrupt on either side, and far to the eastward the snowy dome of Orizaba gleamed a silvery gray through the delicate haze. In the west, the magnificent forms of Popocatepetl and Ixtaccihuatl seemed close at hand, standing out boldly, and clear-cut in their white-robed splendor against the deep azure. Puebla offers one of the finest points-of-view for these mountains, for they are something like twice as near as to the City of Mexico. There is little difference in their aspect on the easterly and westerly sides; their outlines are almost precisely the same, and no one who had known them from one side could fail to recognize them from the other. The "White Woman" — that is the meaning of the word Ixtaccihuatl — lying on her back and shrouded in snow, is as clearly made out from this side as from the other. To the southward, the wide plain, tawny in the sunshine, slopes away gradually down into the *tierra caliente*, the hot country.

Below in the plaza, under the arcades, there is going on the always interesting minor commerce of a Mexican town, with its curious eatables and drinkables, and local specialties. *Camotes de Puebla*, or Puebla sweet-potatoes, are famed throughout Mexico. To sweeten the sweet-potato seems very much like gilding refined gold, but the Mexicans have a passion for "*dulces*," and it would be difficult to make a thing too sweet for them. The potatoes are mashed fine after boiling, and, mixed with sugar, are probably cooked still more; then, made into a delicate paste, they are sold in wooden boxes of various sizes. The flavor is agreeable, albeit a trifling cloying. The sweet potatoes are also candied whole. In Mexico I have never but once, and that by request of American patrons of a restaurant, seen the sweet potato served as a vegetable, but always as a *dulce*, prepared with sugar; literally, sweets to the sweet! A peculiar-looking sweet potato grown in Mexico has a purple color.

Another interesting edible that was evidently in high favor here was what I called "adobe cakes," piled up in great heaps on every side. The cakes were of a gray material that looked like the *adobe*, or sun-dried bricks of the country, and of about the same consistency. They were made of the *garbanza*, a sort of pea much grown in Spanish countries, roasted and ground fine, sweetened and mixed with water, and then pressed into moulds of various shapes. Like all leguminous foods, it must be very nutritious. I liked the queer stuff, but my friends found it too suggestive of clay-eating.

The great market of a Sunday morning was a fascinating place, with its busy crowds buying and selling all kinds of fruits, vegetables, textiles and other merchandise. As in Japan, the local pottery throughout Mexico varies greatly in character, according to the sort of clay found in the neighborhood and the methods of firing, glaze, shape and decoration. It hardly needs be said that the Mexican pottery, however, lacks the nice artistic feeling of the Japanese, although certain artistic qualities are more or less manifest. The peculiar pottery of Puebla has a black glaze and is rudely decorated in stamped or incised patterns.

Most interesting of all things to be seen in the market are the costumes of the *Poblanas*, the Puebla peasant women, with elaborately embroidered skirt and bodice. They wore the *rebozo* — the universal headgear of Mexican women below the upper middle classes, something between a scarf and a shawl — encircling the head so as to form a sort of close-fitting cap, with ends falling gracefully to one side, instead of being worn in hood-fashion, concealing the hair and the mouth, as in all other parts of Mexico. Altogether it is the most picturesque and becoming female costume in Mexico.

Madame Calderon de la Barca, the English wife of the first minister sent by Spain to Mexico, some years after the young republic had gained its independence, was fascinated with this costume on passing through Puebla on her way to the capital. In her delightful account of her life in Mexico, which is still one of the best books ever written about that country, Madame de la Barca tells how she proposed to wear this costume at a grand fancy-dress ball that was to be given in the capital — by the British minister, I believe — shortly after her arrival. The news that she was to appear as a Poblana was, however, received with horror in society, and a number of ladies called to inform her of the highly improper associations connected with the costume.

The great variety of tiled fronts gives marked character to Puebla architecture. Some are of ordinary red tile and others are glazed in various colors. A common pattern of the plain tile has two parallel sides convex and the other two concave, in the segments of a circle that would enclose a square. It thus requires but one form of tile to fit closely together all over a surface, producing a series of intersecting wave-lines where they join. Many house-fronts are covered with glazed tile of several colors, or with glazed tile inlaid among unglazed; in either case forming brilliant mosaic patterns. Now and then there are elaborate figure-pieces in tile-work; the upper story of the building on the corner opposite the hotel is covered with a series of these. This tile-work is undoubtedly, like many other features of Spanish architecture, of Moorish origin, but nowhere else in Mexico has it been adopted so universally as in Puebla. In the City of Mexico it occurs sporadically, the most notable example being the celebrated house remarked by every tourist on the Calle de San Francisco, the main thoroughfare.

A Cornice, Puebla.

Another architectural feature peculiar to Puebla is found in the very heavy cornices of masonry on some of the houses, projecting so far, in some instances, as to form a complete shelter for the balconies at all the windows. They are formed by a series of vaulted arches, and the way in which these are made to sustain themselves apparently suspended in mid-air might well elicit the admiration of any architect or builder, as they are the marvel of the ordinary tourist.

Puebla is extraordinarily rich in the coloring of its stuccoed or stone fronts, even for a Mexican city; everywhere one comes across the most ravishing tints in weather-worn washes of pink, yellow, pale blue, green, red, infinitely varying in tone like the gradations of clouds in a sunny sky. In Mexico they cannot make these things ugly if they try; these colors are often harsh and crude enough when applied, but it takes no more than one rainy season to tone them down into the most beautiful effects.

There are several handsome plazas, alamedas and paseos. The old Alameda, I believe they call it, borders the river that flows through the city — a branch of the Atoyac — with a noble grove of *fresnos*. A driveway follows the course of the stream, and from one point there is a glorious view of the snowy volcanoes lifting themselves above the roofs and towers of the city. The new Alameda, an attractive, but more formal pleasure-ground, is on the opposite side of the city. Here the atmosphere at times, when the wind is in the right direction, is redolent with an odor like that of superannuated eggs, proceeding from the hot springs close by, enclosed in a large bathing-establishment that faces the place and irrigates the ground with rills of blackish sulphur water. The internal fires of the dormant volcanoes furnish a deal of hot water for the country on all sides, for thermal springs abound nearly everywhere.

The local climates in Mexico vary, not only with the altitude, but with the lay of the land — particularly in its relation to the mountain-ranges — with the quality of the soil, and with the conditions affecting humidity. Here was Puebla, at nearly the same altitude as the City of Mexico, but with a very different climate. The extremes of temperature through the twenty-four hours were far greater. It was now the middle of April; the days were hot, and were it not for the dry air the ardor of the sun would have seemed ferocious by sundown. The wide plain, being also dry, radiated the heat quickly and after sundown the air cooled rapidly; by morning it was absolutely cold, and one needed a liberal covering of blankets.

One cause for the marked difference in climate lay in the more open situation than that of the national capital on the other side of the Cordilleras, the City of Mexico being nearly encircled by high mountains. At Puebla the table-land forms a shelf nearly open to the eastward and southward, admitting the free sweep of the winds. It seems strange that Puebla, lying to the eastward of Mexico, should nevertheless be on the Pacific slope, while the water from the valley of Mexico will run down into the Gulf, by way of the Rio Pánuco, when the great drainage tunnel is completed. Another important difference in the climates of the two cities lies in their relative humidity. The climate of the City of Mexico seems dry enough to a stranger, but it is moist beside that of Puebla, where there are no large bodies of water like the lakes in the valley. When Lake Texcoco is drained away it will make much difference, but there will still remain the other considerable lakes. The climate of Puebla is called a remarkably healthy one, and residents of the capital are frequently ordered by their physicians to run over for a week or a month, to benefit by the change of air. SYLVESTER BAXTER.

CURIOUS EFFECT OF STEAM-HEAT AND SUNSHINE. — In the Central Hall of the House of Commons one morning recently one of the policemen on duty noticed an upheaval of several yards of the beautifully tesselated pavement. Many of the tiles were cracked and broken, as well as the thick slating upon which they were laid. The accident is attributed by the Ventilation Department to expansion by heat caused by the sun shining upon that part of the pavement immediately over the hot-water pipes, which were at the time fully charged. The new centrepiece, which was laid down last session at great expense, escaped injury. — *London Daily News.*

THE PHILADELPHIA BOURSE COMPETITION.[1]

THE architects of Philadelphia, as an organized body, have made public the following explanation of their refusal to accept its invitation to submit competitive plans for the Philadelphia Bourse.

The Building-Committee of the Philadelphia Bourse issued, under date April 21, 1892, an invitation to the architects of Philadelphia to submit competitive plans for a building for the Bourse and for tenants. This invitation was not accepted by the architects for the reason that two of its provisions were unsatisfactory. These provisions relate to the employment of a superintendent of construction and to the compensation offered for the architect's services. With the exception of these particular provisions the invitation to compete was considered admirable.

It was the belief of the architects that when their objection should be stated to the building-committee of the Bourse the objectionable features of the programme would be changed to meet their views, and with this object a large number of them submitted a protest to which the building-committee failed to give a satisfactory reply. The architects of the city at once organized and in a more formal manner submitted a second protest, in which they stated at length their objections to the provisions above mentioned, and appointed a committee to wait upon the building-committee of the Bourse to submit the second protest and to confer upon the question at issue.

On this second protest the architects stated their absolute refusal to submit plans unless the programme of the Bourse should be satisfactorily amended, and to this second protest there are appended the names of every practising architect in Philadelphia, with possibly six exceptions, receiving the support of over a hundred.

The architects' committee submitted this second protest, and offered to the representatives of the Bourse three alternatives to their original proposal without avail.

The architects' committee believing it to be the wish of the stockholders of the Bourse that their building should be a credit to Philadelphia; that it should be designed and erected according to the best professional methods; that it should be an evidence not only of the best architectural talent of the city, but also of the probity and highmindedness of its business community, make the following explanation of the points under discussion between the building-committee and the architectural profession in this city. The provisions of the programme of competition, to which the architects take exceptions, are found upon page 2 and are embodied in paragraph 5, which read as follows:

"5. The committee will then appoint one of the competitors thus selected as architect of the building, if in their judgment and that of their professional adviser they are warranted in so doing. The architect shall, if necessary, revise the preliminary drawings submitted to suit the requirements of the committee; he shall furnish a full estimate of the cost of the building, complete working-drawings, with details where required, and full specifications for the work. The architect will retain in his hands the architectural supervision, and will have entire control of all matters of arrangement and design, and all alterations and changes therein. The architect will also have control and direction of all work of sculpture and decoration.

"For the work above specified, and such other services as may be incident and necessary thereto, the architect will receive a commission of two and one-half per centum upon the total cost of the work in full compensation for all services rendered.

"The committee will employ at its own expense a superintendent of construction. The person selected for this position will be a constructing engineer of proven ability, skilled in structural work, who will revise and approve all structural details. He will superintend the work of construction from the beginning of the work to its completion. The superintendent of construction will be directly responsible to the committee and the board of directors, but will coöperate and work in harmony with the architect, and under his direction. He will draw all contracts, subject to the approval of the committee, and will be held responsible by the committee for the proper performance of the work done by the various contractors."

As a reply to the first protest of the architects, the building-committee issued Bulletin No. 1, reaffirming the above definition of the relative responsibility of the architect and the superintendent of construction, and in reply to the second protest they issued Bulletin No. 2, in which the same definition was again reiterated in even more strenuous language, as follows: "The superintendent of construction will be the representative of the Bourse. He will not originate any portion of the work or plans, but will examine, approve, and, if necessary, suggest revision of the plans furnished by the architect."

In regard to Article V., page 2 — *Architect.*

"After the selection of the architect, but before he shall proceed with the work or have any claim for his services, an agreement shall be entered into by him and the committee, which shall be satisfactory to both parties."

We must take up these points in reverse order to which they are found in the programme before its codicils were issued. As to the superintendent of construction: It may be said to be the experience of all history that the position of the architect is one of the highest responsibility. He is the commander-in-chief of such a detachment of the great army of laborers of every grade of skill who may be employed upon a given work, and the labor of all ends in disaster if he is incapable of fulfilling his duty. His duty is one that in every given case cannot be shared. Even the owner, the investor of personal or corporate funds, cannot share in the architect's ultimate responsibility when the money comes to be put into the concrete form of architectural investment. His duty is not ended when his sketches are made, nor when his detail drawings are furnished, nor when the work is being executed, nor when it is finished. Upon his foresight in foundations, which implies an intimate knowledge of every possible contingency, depends the very existence of the work; upon his acuteness in arrangement of plan depends the rental value of the property, and such matters as these no man can think out for him, and only in the event is his wisdom made manifest. The attempt to throw into connection with the architect a so-called superintendent of construction, superior to the architect in actual authority, is an attempt to make him responsible for the acts of an intelligence he cannot control, and to such an anomaly no self-respecting architect will ever submit.

As to the matter of compensation: This is largely dependent upon the point above discussed, for the reason that it has been under the assumption that the labors of the superintendent of construction would relieve the architect that the Bourse Committee has offered the inadequate rate of two and a half per centum on the cost of the proposed building as a sufficient fee for the architect's services.

If the superintendent of construction could be answerable for his own part of the work, and if that work were really of more moment than that of the individual who, in England, is called a "clerk-of-works," the assistance he would give the architect would be worth about one per cent, but, as a matter of fact, under the programme of competition the superintendent of construction would be vastly more of a hindrance than a help to the architect, and therefore the architects, represented by their committee in conference with the Bourse, made three propositions, as above mentioned, which were at once a solution of the question of the superintendent of construction and of the architect's compensation. The first of these propositions embraced the payment to the architect of three and one-half instead of two and one-half per centum for the plans and specifications, the appointment of the necessary engineers, and defined their proper subordination to the final authority of the architect.

The second proposition was to the effect that the architect should furnish all drawings and specifications to the Bourse for the sum of three and one-half per cent on the total cost of the proposed building, and his responsibility to end with the delivery of said drawings.

The third of these propositions states that the architect should take the sole responsibility for all the work, and furnish full service for five per centum on the first million of cost, and two and one-half per centum on all cost above the first million.

The above explanation embodies all that is essential to the controversy.

The architects only wish to add that a great majority of their members are in sympathy with the principles set forth by their committee. They wish to avoid the mistake of seeming to act in a spirit of coercion, but they feel that all who have indorsed their action are bound in honor to maintain the rights and privileges of the profession, as far at least as they are involved in this controversy with the Bourse. It is their earnest hope that the wisdom of their course may be evident to the public as it is to their fellow-architects throughout the country.

JOHN ORD, *Ex officio;*
FRANK MILES DAY, *Chairman;*
WILSON EYRE, JR.,
GEORGE T. PEARSON,
T. P. CHANDLER, JR.,
T. RONEY WILLIAMSON,
AMOS J. BOYDEN,
WALTER COPE, *Secretary,*
Committee.

THOMAS B. PRICHETT,
THOMAS M. KELLOGG,
ADRIAN W. SMITH,
Committee on Publication.

[1] Address of the architects of Philadelphia to the profession in the United States and to the public in the matter of the competition for the Philadelphia Bourse.

EDWIN H. WOOTTON.

EDWIN H. WOOTTON, of 85 Broadway and 427 Lexington Avenue, New York, died at Saratoga recently from a complication of diseases. Mr. Wootton was born in England in 1835, in the neighborhood of Canterbury, and when seventeen years old came to New York, with the interests of which city he has been identified for forty years. He started his business career in the house of A. T. Stewart & Co., and afterwards was placed in charge of the finance department of E. S. Jaffray & Co., which firm he left to enter into partnership with one of the junior partners, the late Mr. Barrow, under the name of Barrow & Wootton, they were the receivers of flour from many of the largest mills of the West, and were held in high esteem on the Produce Exchange. The firm having decided to close up their business, Mr. Wootton purchased in 1874 from the assignees of a defunct asphalt company their plants and properties, and shortly after he was appointed sole agent in the United States and Canada of the Compagnie Générale des Asphaltes de France, Ld., and up to the time of the beginning of his fatal illness in April last, took the most active interest in the introduction of their asphalt for engineering and constructive purposes. Mr.

Wootton was a member of the Engineers' Club and exceedingly popular amongst engineers and architects who considered him the highest authority in the United States on the uses of rock asphalt. Mr. Wootton was married to the daughter of General H. G. Wright, Ex-Chief of the Corps of Engineers of the United States Army and was very popular with the many army officers with whom he came in contact. He leaves a widow; two sons, Dr. Herbert Wright Wootton and Moray Nairne Wootton, the latter being engaged in his father's business, and an unmarried daughter.

BOOKS AND PAPERS

ASK half-a-dozen different architects what form of illustration they find most serviceable in their practice, and the chances are that their answers will be so variously qualified that the questioner will wisely decide that all forms of illustration have their uses, and in nearly equal measure, since they are consulted for so many different purposes — even by the same individual. The wonderful expansion of the photographer's art, the great beauty of its product and its unquestionable usefulness have made architects of late years expand their libraries by the purchase of photographs, or books illustrated by photographically produced plates rather than by books in whose illustration the older processes of engraving have been employed. Still, valuable as the photographic illustration is, nothing, since the architect himself works so largely with point and line, can ever take the place of the purely architectural illustration — the measured and accurate orthographic projection, whether engraved on steel, drawn on stone, or cut in wood. In the production of architectural books illustrated by photographic processes, we believe the Germans excel all other people, while in the preparation of books which call upon the talent and skill of the artist draughtsman, the French stand preëminent; yet though the results are so different and arrived at by so diverse methods, the cost to the purchaser is practically the same. It does not seem to matter much how the plates are produced, or how many of them there are, the architect has to pay a high price for whatever book he uses, and is consequently often debarred from procuring a book he needs, simply because at the moment he cannot afford it. This has brought about the practice of publishing architectural books in parts and by subscription, an invention which enables one to purchase many books he would otherwise have to do without, and though it has its drawbacks, has still obvious advantages for all parties, just as it has its obvious disadvantages. Amongst the latter are these: if the work is of practical utility and is put to immediate service, the chances are that the sheets composing the parts first issued will have been so hardly used by the time the last parts are published, that the binding of all in one pair of covers would, as it were, violate the Biblical precept about patching an old garment with new cloth. On the other hand, if the first parts are laid aside so that they may be kept fresh for binding when the last one arrives, the day when they might have been of most usefulness in the office may have come and gone without reviving the memory that their pages might be consulted to advantage.

Messrs. Ticknor & Company have recognized these defects in the ordinary manner of conducting the publication of an expensive book in parts, and in the case of the "*Cyclopædia of Architectural Illustration*"[1] have done what they might to cure them. The partial payment system is of too great convenience to the consumer to be neglected, so that is retained, but to negative the above-mentioned disadvantages of the system, the publishers have decided to deliver the work complete on receiving the first partial payment. The advantages of this method to the subscriber are too obvious to need dilation on, but at the least they should go far to offset any prejudice on the score of cost. As to cost of architectural illustrations there are so many varying factors that go to make up such cost that it is hard to say what the real market-value is, but an examination of the catalogues of sundry publishers of architectural books whose publications are illustrated by such etchings and copper-plate engravings as these, seems to show that the price per plate in Paris does not vary greatly from one franc. With this as a factor one would not go far astray in figuring that, including transport, one thousand of such plates would cost in this country not far from $200. To have the price, however, fixed at half that sum, as the publishers have done, is another element in favor of the purchasing architect.

As to the character of the "*Cyclopædia*" the following paragraph that occurs in the preface says all that is needful to say short of a full and detailed description of the work:

"Of course the whole cycle of architectural illustration cannot be shown in one thousand plates, nor would it be judicious for a publisher of any such collection to assert that he had gathered together the best thousand subjects that could possibly be found. The value of such a work lies in its applicability to daily needs; and as daily needs not only vary day by day, but change with different consumers, such a work as this must, in the nature of things, be heterogeneous to a certain extent and so lack something of completeness in its parts; but if only it be catholic in its range and defensible in the matters of taste and style, the just demands and expectations of the purchaser may be held to have been satisfied. These three factors have had due consideration in this collection."

If we were asked to pick out that one of the many divisions of the work that appeared to us most useful and valuable, our choice would waver between that which deals with fireplaces and the more affluent part which treats of town-halls, though the division that illustrates sepulchral architecture, while lugubrious to a certain degree, is very interesting. There is many a man who cares less what manner of structure shall house him living than he cares for the style or still more the cost of the monument that shall mark his last resting-place. It is not impossible that the growth of cremation may re-introduce the practice of intra-mural sepulture, as one consequence of which architects will be called to study closely the mural tombs and tablets of the Italian Renaissance, of which several are included in this collection.

The illustrations of houses and churches are interesting of course, but there are so many houses and churches built every week in this country, that architects have a tendency to believe they can do such everyday work well enough without having to consult books to see how other people have done it. But when it comes to châteaux and palaces the case is quite different. Time's whirligig has brought about a great change here, for it is not so many years since American architects, who had already dared to adopt the pagan temple architecture to eighteenth-century uses, gazed respectfully at illustrations of château and palace feeling that though they were of course interesting as matters of architectural and historical study, they were not "practical," for no man had a chance to design, much less build, either a château or a palace. Now, a very fair approximation to a château can be seen from the car-window in the course of any day's ride, while the palace front, which for a time was used for those buildings wherein Mercury and his satellites were busy with the world's commerce, and later for the apartment-house, is now being applied to the dwellings of our merchant princes as was once the wont in Florence. So it does not do to turn from these plates which illustrates the higher reaches of architectural design with the feeling that they are not practical.

As for the rest of this collection, there is little of it that may not, in these times of rapid advance in matters architectural, be of the greatest value.

[1] "*Cyclopædia of Architectural Illustration*," comprising one thousand full-page plates engraved on steel, embracing the most useful and valuable examples of architectural work, ancient and modern, in general and in detail, classified and arranged for use and ready reference. The whole engraved and printed in Paris, in the very best style. The price to subscribers will be $100 for the set, payable in ten monthly instalments of $10 each, the set complete being delivered on the payment of the first instalment. Ticknor & Company, 2 Tremont Street, Boston.

THE ILLUSTRATIONS

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

THE CITY-HALL, CAMBRIDGE, MASS. MESSRS. LONGFELLOW, ALDEN & HARLOW, ARCHITECTS, BOSTON, MASS.

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

THE plans of this building were published in the *American Architect* for July 28, 1888.

EAST ENTRANCE, PALAZZO VENEZIA, ROME, ITALY. MEASURED AND DRAWN BY MR. W. T. PARTRIDGE, ROTCH TRAVELLING-SCHOLAR, 1890–92.

[Issued with the International and Imperial Editions only.]

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

[Issued with the International and Imperial Editions only.]

OFFICE-BUILDING FOR E. L. KELLOGG & CO., EDUCATIONAL PUBLISHERS, NEW YORK CITY. MR. WILSON EYRE, JR., ARCHITECT, PHILADELPHIA, PA.

THIS building is being erected on the north side of 9th Street near Broadway, on the site of one of the substantial old-time dwellings. The basement covers the entire lot and the rear and side walls are carried on steel girders and beams to give a long skylight to rear basement. The basement and first story front is to be of Indiana limestone tool-dressed, and the bay and rest of front of mottled terra-cotta and brick 1¼″ x 12″. The terra-cotta is to be modelled from special designs. The front slope of roof is to be of dull chocolate glaze tiles. The building is to be six stories high not including basement. The plans provide for fine plumbing, hot-water heating, electric elevator, gas and electric lighting, plate-glass on entire front windows, oak and pine finish stained. A rather novel feature for such a building will be the mill-construction of the floors using 6″ x 18″ Georgia pine girders, and 3″ spruce planks for under floor finished by seven-eighths pine floor on top. Seven fireplaces

are scattered in various parts of the building to have mantels of special design. The office furniture, partitions, etc., are also to be designed in harmony with the building. Many of the daily papers of the country have erected fine buildings for their offices, but this is one of the first to be built by the publishers class publications. The *School Journal* and *Teachers' Institute* are two of the journals published by the owners and are well-known as standard educational periodicals of the United States.

DESIGN SUBMITTED IN COMPETITION FOR THE CONGREGATIONAL CHURCH AT ORANGE, MASS. MR. A. C. FERNALD, ARCHITECT, BOSTON, MASS.

WOOD construction throughout; all truss-work to be of Georgia pine. Exterior shingled; granite underpinning. Interior finished in quartered oak. Sheathed dado five feet high around all rooms and corridors. Walls and ceilings plastered. Estimated cost from reliable builder complete including heating (not including pews or organ) was $16,500.

CUMBERLAND UNIVERSITY, LEBANON, TENN. MR. WM. C. SMITH, ARCHITECT, NASHVILLE, TENN.

THE materials of this building are red brick with finish of brownstone.

LAUREL IN THE PINES, LAKEWOOD, N. J. MESSRS. CARRERE & HASTINGS, ARCHITECTS, NEW YORK, N. Y.

NO. 243 WEST END AVE., NEW YORK, N. Y. MESSRS. LAMB & RICH, ARCHITECTS, NEW YORK, N. Y.

[Additional Illustrations in the International Edition.]

HOUSE OF HERR ECKSTEIN, NUREMBERG, GERMANY.

[Gelatine Print.]

HOUSE ON THE KOENIGPLATZ, BERLIN, GERMANY.

[Gelatine Print.]

BRONZE BANNER-SOCKET, PALAZZO DEL MAGNIFICO, SIENA, ITALY.

[Copper-plate Etching.]

DESIGN FOR THE MUNICIPAL BUILDINGS, OXFORD, ENG. MR. J. HEWITT, ARCHITECT.

INTERIOR OF THE CASTLE CHAPEL, AMBOISE, FRANCE. DRAWN BY SAMUEL PROUT.

NEW ORGAN FOR THE CHURCH OF ST. MARY, BOTTESFORD, ENG. MR. GERALD C. HORSLEY, ARCHITECT.

GLENLYON HOUSE. MESSRS. W. DUNN & R. WATSON, ARCHITECTS.

NOTES & CLIPPINGS

EXCAVATING IN QUICKSAND. — Quicksands have probably caused more trouble and anxiety to engineers in charge of excavations than any other formation, through which trenches are dug or shafts sunk. The Poetsch freezing process has, it is true, simplified the task of dealing with this most treacherous material very considerably, but the plant required is expensive, and the circulation of the freezing mixture has to be kept up during the whole of the time the work is in progress. In a recent number of *Engineering News* a new process for carrying out work in such strata is described. It is the invention of Mr. Robert L. Harris, M. Am. Soc. C. E., and has been patented by him. Mr. Harris claims that despite its very compact nature, confined quicksand is always more or less permeable by water, at any rate in cases in which it is likely to cause trouble in driving shafts or tunnels through it. If, therefore, two pipes are driven down into the stratum of quicksand, some little distance apart, and a current of water is forced down one, it will find its way up the other pipe, thus establishing a circulation by means of which a channel can be washed out between these pipes. Owing to the hydrostatic pressure this channel or cavity has no great tendency to cave in By using other pipes a series of these cavities could be formed. By substituting a cement grout for the stream of water, and by closing the outlet pipes as the grout reached them, the cementing fluid is caused to permeate the adjacent materials, grouting them up in a compact mass which hardens into a concrete. In this way a firm floor can be built up between the pipes, the thickness of which can be made as great as desired by successive withdrawals of the pipes to higher levels and a repetition of the grouting up process. Walls can also be built in this way, and when thoroughly hard excavation can be carried out without difficulty. The process has already been applied in an experimental fashion to the construction of a sewer in a very treacherous quicksand at Providence, R. I. The trench for the sewer was about 12 feet to 16 feet wide and from 20 feet to 30 feet deep. On the line of the work four 2-inch pipes were driven down to a level of 1 foot above the grade of the sewer. These pipes were 4 feet apart, and by means of a current of water through them, cavities were quickly swept out around their lower ends. When this had been done a smaller pipe fitted with a valve at its end was slipped down each of the 2-inch pipes. When this pipe projected below its main pipe, there was a free passage for fluid either up or down, but when it was drawn up a little, no fluid could flow in an upward direction. The cementing fluid being forced through formed a solid mass with the sand, and showed no signs of being "killed" by it. When the excavation of the trench reached this point a solid stone-like slab about 6 inches thick was found connecting the points where the cement had been injected. Beneath this and parallel to it were thin sheets of cemented material. Our readers will note that in its essential details the new process is very similar to that adopted by Mr. Kinipple for grouting up the rubble bed on which the Hermitage breakwater at Jersey rests, and which he has since successfully applied elsewhere. Particulars of this process will be found in the lectures on "Subaqueous Foundations," which appeared in our issue of December 26, 1890. — *Engineering.*

STATUE OF CLEOPATRA. — The claim is made by an Egyptian archæologist that he has found the statue of the famous Cleopatra in gray granite concerning whose existence statements were made years ago. A correspondent of the London *Times* writes from Cairo: "About two miles east of Alexandria is the plain of Eleusis, now a salt marsh and shallow lake, the result of subsidence of the soil, which at some remote period is believed to have occurred over a large area in the neighborhood of Alexandria. In old times there stood on this plain a temple to Ceres and Proserpina, in front of which were placed, as described by ancient writers, colossal statues of Mark Antony and Cleopatra, the former represented as the god Osiris and the latter as the goddess Isis. These statues are described by Mahmoud Falaky, an Egyptian astronomer and savant, in his book, published twenty years ago, on '*Ancient Alexandria.*' He had seen them ten years previously when making researches to find the Canopic road and to get material to be used by Emperor Napoleon in his '*Vie de César.*' Since that time they had disappeared, probably covered over again during the levelling of the ground for cultivation. Daninos Pasha, an energetic local archæologist, lately began excavations, and at a spot strewn with large numbers of granite blocks and columns found, as he believes, the remains of the temple. Close by he dug out a much-mutilated colossal statue in gray granite representing the head and torso of a woman wearing the insignia and coiffure of Isis. The nose is mutilated, but the prominent eyes, the contour of the cheek and the firm rounded chin show the characteristic traits of the Ptolemies. The head alone is more than a metre high. The sculpture is of high order and finish, probably the work of an able Greek artist. A large detached fragment representing a portion of a man's right hand, the thumb grasping the fingers of a female hand, which are of proportions corresponding to those of the statue. Daninos Pasha identifies his find as certainly the statue of Cleopatra, and considers it to be probably a portrait statue of the famous queen. If so, it is unique and of very great interest. He is continuing the search for the companion statue of Mark Antony, which is believed to have been removed to a considerable distance, thrown into a hole and covered up. If the search should be successful, these two statues will be among the most valuable and interesting relics of ancient Alexandria."

THE GIZEH MUSEUM — Egyptologists will be rejoiced to hear of the good work being done in the long-neglected antiquities department by Mr. J. de Morgan, whose energy during the three months since he became director has already produced valuable results. Forty more rooms are being prepared in the Gizeh Museum for exhibits, and will be open to the public next November, thus just doubling the present extent of the museum. Most of their contents have for long remained stored in the building, which, immense though it is, will soon become too small to contain the contributions from the numerous excavations now being made in various parts of Egypt. One of the most interesting works at present is the removal from Sakarah of thirteen large stelæ (inscribed and sculptured stone slabs), belonging to the ancient empire of the fifth and sixth dynasties, which had been discovered and described by Mariette Pacha. The transport of these important monuments will be a difficult work, as some of them weigh 21 tons, and, being of soft limestone, great care is required to prevent injury to the fine sculptures with which they are closely covered. A *chemin de fer volant* will be laid to convey them from Sakarah to the door of the museum. Mr. de Morgan is also conducting excavations at Memphis, on the site of the great temple, and expects that next winter so much will be laid bare that visitors to Cairo will find a new interest in the remains of the capital of ancient Egypt, The 163 mummies of the priests of Ammon found a year ago near Luxor, and a valuable recent find of bronze divinities from Sakarah, are being arranged in the new rooms. These will contain also a large collection of stone slabs, on which are drawn sketches or studies in black and colored outline made by the artists of antiquity, and now to be exhibited for the first time. — *London Times.*

BLACK HOLE OF CALCUTTA. — An account of a visit made to the newly-discovered site of the Black Hole of Calcutta was given in the *Englishman* (Calcutta) of March 24. A number of photographic copies of an old plan of old Fort William, made by Lieutenant Will, or Wells, in 1753, were distributed to many of those present. Mr. C. R. Wilson, in the first instance, led the party to the excavations in the post-office compound, showing the position of the south curtain wall, and also the position of a small wall jutting off from this curtain-wall on its south side. This wall, it was explained, was a boundary of the warehouses built against the south curtain in the year 1747. It was pointed out that these walls agreed with the plan of 1753, and that the old arcade within the post-office compound was a portion of the south

side of the old fort. The party were next shown an excavation at the east gate of the post-office, showing, first, the east curtain wall; secondly, the wall containing the rooms built against the east curtain, which stopped here; thirdly, the corner where the foundation walls of the columns of the veranda along the east side of the fort met the foundation wall of the third line of arches along the south side of the fort. On comparison, it was clearly shown that these walls agreed with the plan of 1753, that the foot of the stairs, to the southeast bastion, came where the pavement marking the reputed site of the Black Hole now was, and that the real site of the Black Hole was immediately to the north of this pavement. In reference to this, Mr. Wilson added that Sir Charles Elliott was going to remove the pavement which was supposed to mark the site of the Black Hole, and place it where he (Mr. Wilson) had shown it ought to be placed. — *Journal of the Society of Arts.*

THE LIFE OF INCANDESCENT LAMPS. — The life and efficiency of incandescent lamps have long been a favorite topic of investigation, and have from the very birth of the lamp given rise to discussions, some of which, indeed, have not been of the most pleasant nature. That the subject is still considered a live one, and perhaps justly so, is evident upon the perusal of the paper read by Professor Thomas and Messrs. Martin and Hassler before the American Institute of Electrical Engineers at Chicago. It is not to be wondered at, of course, that we should find some difference in the life and efficiency of the various makes of lamps tested, but viewing the tests broadly, they show, with the exception of one or two makes, tolerably uniform performance within the limit of six hundred hours, and even beyond that point. Collectively, the tests show that a decided improvement has been achieved in the incandescent-lamp manufacture during the last five years. The blackening of the lamp to-day constitutes its most serious defect, and if it should be demonstrated after further tests that by the employment of mechanical vacuum pumps exclusively blackening can be avoided, as the tests of Professor Thomas and his associates seem to show, it would prove one of the most important advances made since the manufacture of incandescent-lamps was begun. The authors of the paper incline to the opinion that when a sixteen-candle lamp has dropped to fourteen-candle power at the end of 240 hours its life is ended; but we are scarcely inclined to concur in this estimate, and need only to refer to the millions of feet of alleged twenty-candle gas which the gas-companies are selling, and which in many cases hardly reaches fifteen candles, without evoking any complaint from the consumer. Something between the limits suggested by the authors and that proposed by others, namely, when the lamp has fallen to one-half its ordinary candle-power, would seem to be more equitable to all concerned. — *New York Electrical Engineer.*

WHITE ANTS IN EUROPE. — The British Consul at New Rochelle, in France, tells a startling story of the ravages of white ants in that city. The general belief is that these pests, whose chief delight is to eat out the heart of all woodwork, leaving nothing but a hollow shell outside, are confined to tropical climates, but it is plain that they can flourish in European latitudes. They gained a footing in New Rochelle at the end of the last century, but for many years were confined to one quarter of the town, where they wrought their accustomed destruction. Now, however, they prevail all over the city, having been carried from one point to another by carpenters and builders, who, with fatal economy and ignorance, in repairing the ravages of the ants, kept for future use any piece of wood that seemed to be sound. Thus, new colonies of ants were founded in every direction. The creatures have invaded the Prefecture, and destroyed part of the archives before their presence was discovered. Supporting-beams and woodwork have been replaced by iron, to prevent threatened collapse, and no one can say where the mischief may end. Nobody supposes that it will be possible to keep the pest confined very long within the boundaries of New Rochelle. — *New York Evening Post.*

THE KINDLING-WOOD SUPPLY. — It takes a pile of kindling-wood to start the fires in the stoves of a big city every day. Suppose a small armful is used in a stove and there are a quarter of a million or more stoves, as there are in this city, and it can be seen that it would keep a good many slabbing saws busy to supply the demand. The kindling-wood business of Chicago has passed through one period, and has now reached another. Heretofore it has been no trouble to get kindling. Slabs were bought sawed or unsawed, as the case might be, and the servant girl was at liberty to use all of them she wanted to. But now they are becoming a luxury. Ask any wood-yard man doing a business of any size, how his stock of dry slabs is, and he would say that he stands ready to buy a hundred car-loads. Old plank sidewalks, which are being replaced with concrete, are cut up into kindling. Such walks are speculated in to about the extent that wheat is over on the Board of Trade. Not long ago a North-sider who was flat regarding the value of old sidewalks, sold an old walk to a woodman for $6, and without handling a plank of it the walk was sold for $107. And that price, too, was paid for it for kindling-wood. So you see the wasteful period of the kindling-wood business has been passed through. Not in the far future, we suppose the Chicagoan, like the New Yorker, when he builds his fire will toss in the stove a little bundle of slivers all tarred and tied up for the occasion. — *Northwestern Lumberman.*

A LESSON IN CO-OPERATIVE CARPENTRY. — A very brotherly and commendable custom is that of the San Francisco carpenters, who build homes for one another without charging the owner for their labor. All he need supply is the land and lumber, and if he takes a day or two off the house will be completed when he returns. A local paper tells a story of how such a dwelling was put up in one day. At sunrise thirteen members of a carpenters' union appeared on the ground, bringing their tools, and before dark they had raised a structure whose exterior at least was finished. It was not a Queen Anne villa, of course, nor was there much taste of any kind displayed in the design, but it afforded a comfortable home to the mechanic and his family, and the burden of rent-paying was no longer to haunt him. "That is the seventh house built this way for members of carpenters' unions here," said one of the workers when they were packing up their tools. "My house you see over there on that hill was the first one. The boys put it up for me about a year ago. When I bought my material I had only $40 left, and if I had had to pay for getting it built where would I have been? We believe in turning in to help each other along." — *New York Evening Post.*

THE RIVAL FRENCH SALONS. — The event of the week in the Paris artistic world is the reconciliation of the two *Salons.* It is now almost certain that next year the Champ de Mars artists will return to the Palais de l'Industrie. The main cause of this is the fact that the Champ de Mars *Salon* has not paid its expenses. Another cause is the Chicago fair. For a moment the division threatened the success of the French fine-arts exhibit at Chicago. Finally it was decided to appoint a jury for Chicago made up of an equal number of members from the two *Salons.* This was done, and it had much to do with bringing the two *Salons* together once more. — *New York Times*

TRADE SURVEYS

Two of the causes which are likely to develop important fruits within the next six or twelve months are these: first, the very general exhaustion of stocks of all kinds among consumers and users; second, the increasing purchases of American securities by foreign investors. Information on these points is not complete, but, so far as it goes, it is encouraging. The fluctuating policy of foreign investors and operators in securities is not easily understood. For a year or two a vast quantity of securities were returned to this side; gold was sought for at the highest price which could be paid for it; money was gathered together as though a financial storm was gathering; investments were stopped in colonial channels. Recent indications go to show that all this is changing; that American securities are once more in active request; that colonial enterprises are once more received with favor; that British capitalists are taking hold of a number of outside enterprises, and that harmony is once more being restored in financial, commercial and industrial directions. American securities are certainly being sought for with avidity, according to the very best authorities. It is probable, although not assured, that this demand will steadily increase, and for these reasons: first, there is a very large accumulation of loanable funds in British banks; second, while there is an improving confidence in colonial and outside channels for investment, there is a greater confidence in American enterprises and in American channels. Canadian finances are not in good shape. Australian enterprises have not been paying very well, and probably will not be particularly remunerative, though safe enough. South American avenues are again opening up, and stronger inducements for investment are being presented. The governments there have been put under discipline by British influences, and they are being bolstered up and enlightened as to how they can and should best manage in order to attract British capital and maintain British confidence. While all this is true, there is a stronger confidence in American outlets for British capital than ever. Most of the direct investments made in established industries here have been profitable; even the investments in railway securities have yielded satisfactory returns. The one link now wanting to establish strong confidence and to stimulate investments is a revival of railway building. Special pains have recently been taken to ascertain probabilities in this direction. Presidents of several Western railway corporations have been interviewed by correspondence and otherwise, and to the extent that they have given expression to their purposes, which shows that there will be much greater activity in railroad construction in the region of country over which the roads centering in Chicago pass. A very careful authority estimates that there are 20,000 miles of road which may be built within three years. This, of course, is largely guess-work, but it is very careful guess-work. There are some elements of chance in the estimate, but the probabilities are that a very large proportion of these 20,000 miles of road will be either constructed or put under construction within the time mentioned. This, in addition to the repairing requirements, will make a very heavy demand upon the steel-rail mill-capacity of the country. There is a feeling not only in railroad-building, but in financial circles, that an appreciation of land-values will take place during the next year or two. Another feature deserving of mention is the activity in building operations. In New York, Philadelphia and Chicago, especially, great activity has been developed. In the smaller towns in the States between New York and Minnesota, there has been a greater degree of activity in house-building and small shop-building than last year. In the South Atlantic and Gulf States, enterprises of this character have not been very important. In the development of mining interests there has been a marked increase over last year. It will be impossible to present an accurate statement of the building trades until the close of the year, but it is safe now to say that the figures, when published, will show much better than was anticipated by the builders themselves early in the year. In financial directions there is but little change to note. The banks preserve a sufficient surplus, and borrowers are not urgent in their requirements. The commercial situation is strong — stronger than it was thought probable early in the year it would be. The exports of gold have not done much harm, but bankers are deeply concerned just now over the possible effects if the policy is continued. The industrial situation has undergone no special change. The workingmen generally are satisfied with existing compensation. Few serious strikes are threatening, and there are indications that the great disturbance in Western Pennsylvania will not be terminated soon or easily. Throughout the Southwest there are many signs of improving commercial activity. Middle-men throughout the East are very careful in the distribution of merchandise, avoiding the urging of supplies upon distributors. Stocks of merchandise and manufactured products generally are of limited dimensions. This is a strong point. There will be but little effort made to unload stocks, and this will tend to preserve uniformity in prices. Speaking in a general way, the situation is as good as could be expected. Manufacturers and business men generally are adhering to conservative methods, and in this they are assisted by banking interests in all parts of the country.

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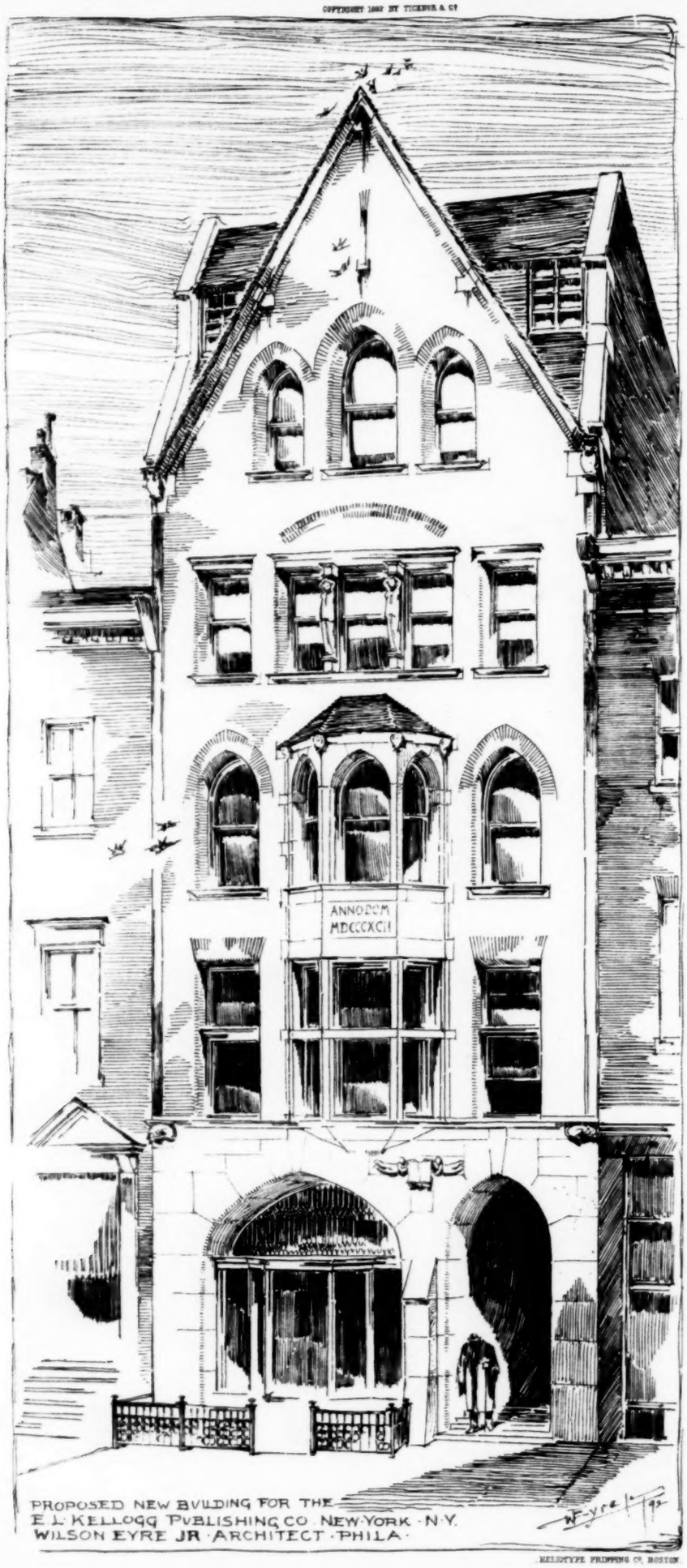
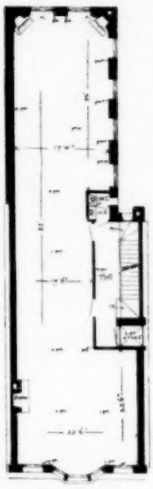
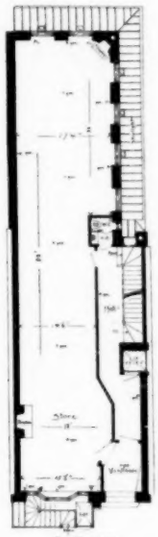




SECOND FLOOR PLAN



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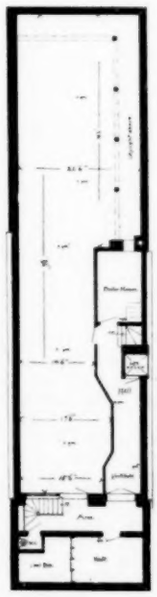

BASEMENT PLAN

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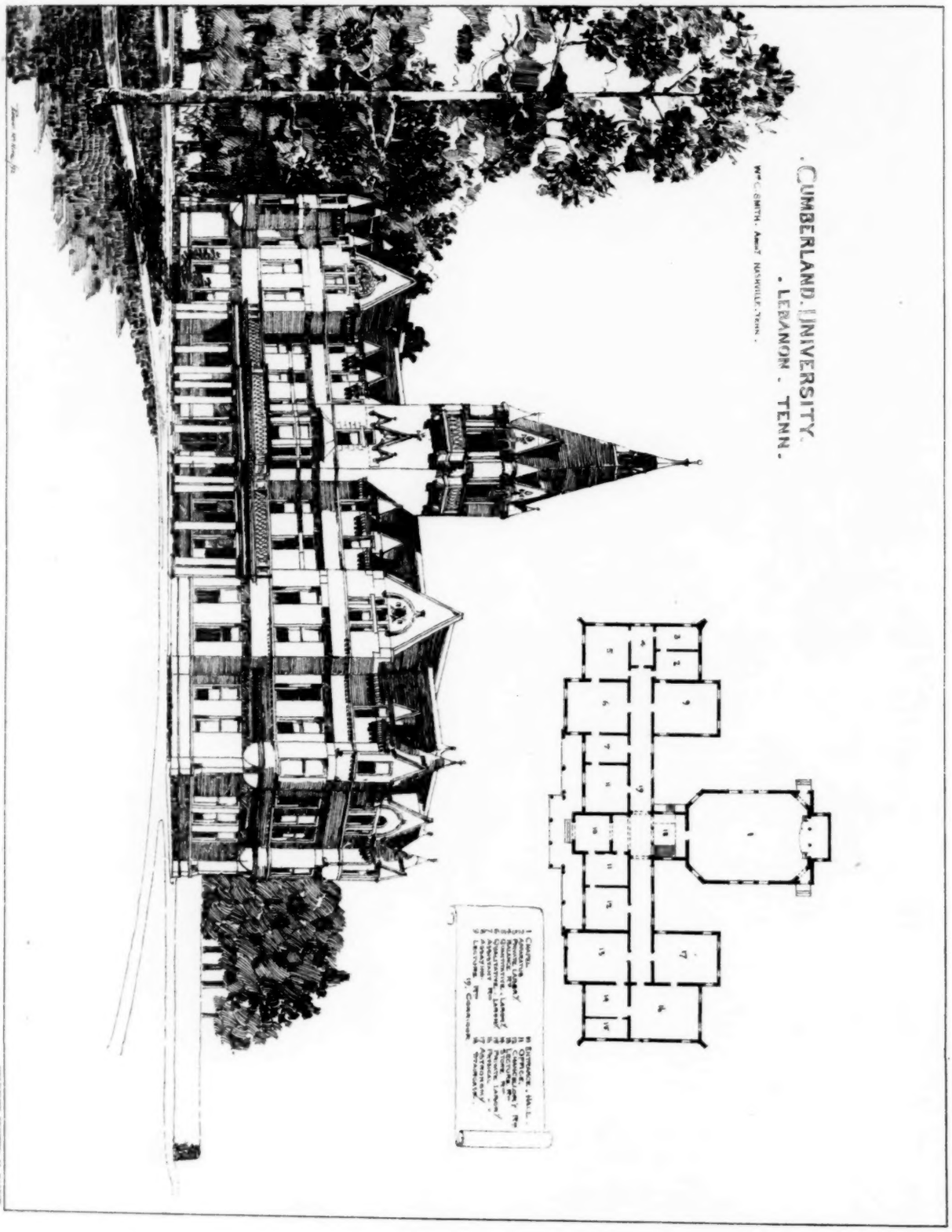

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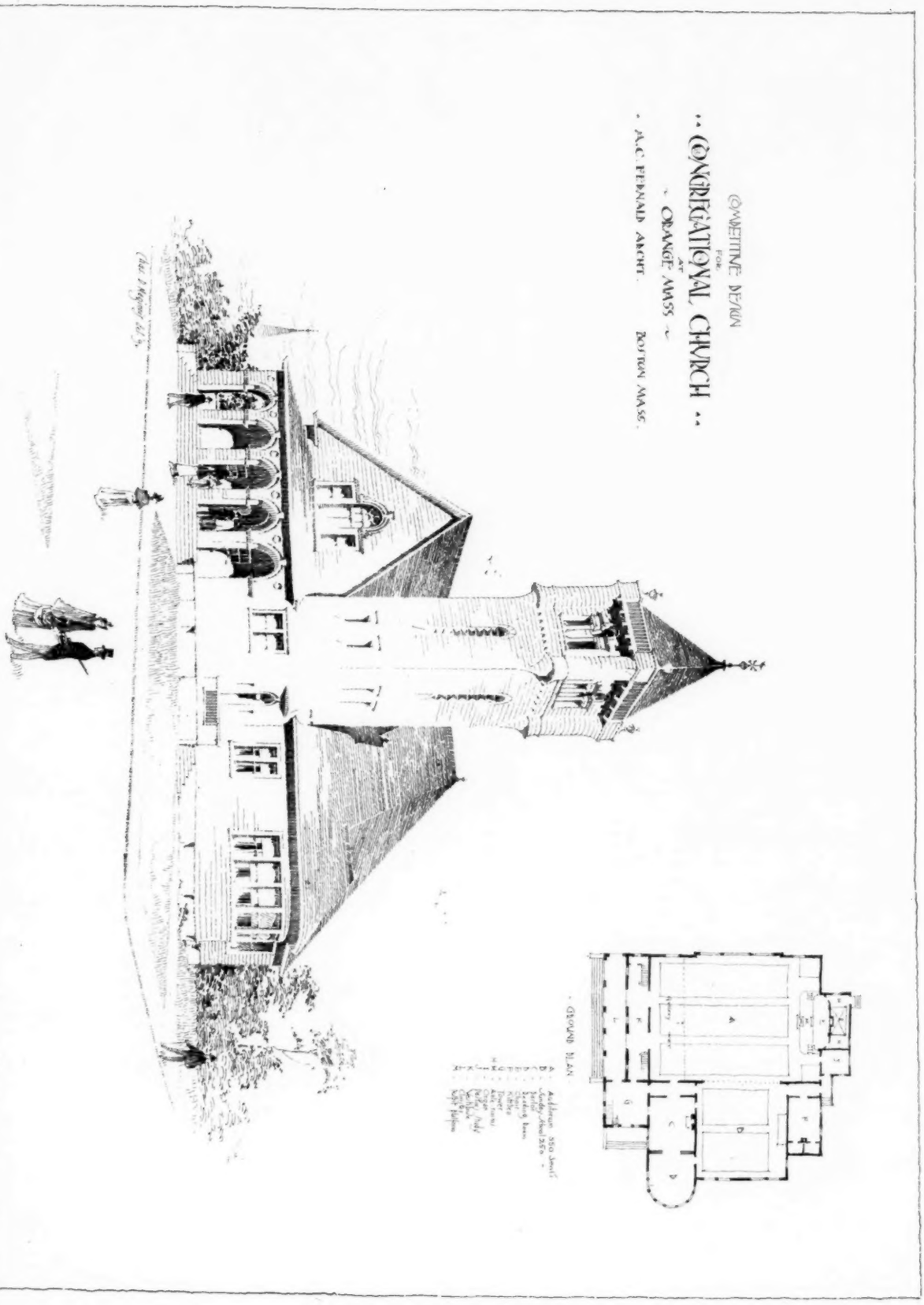

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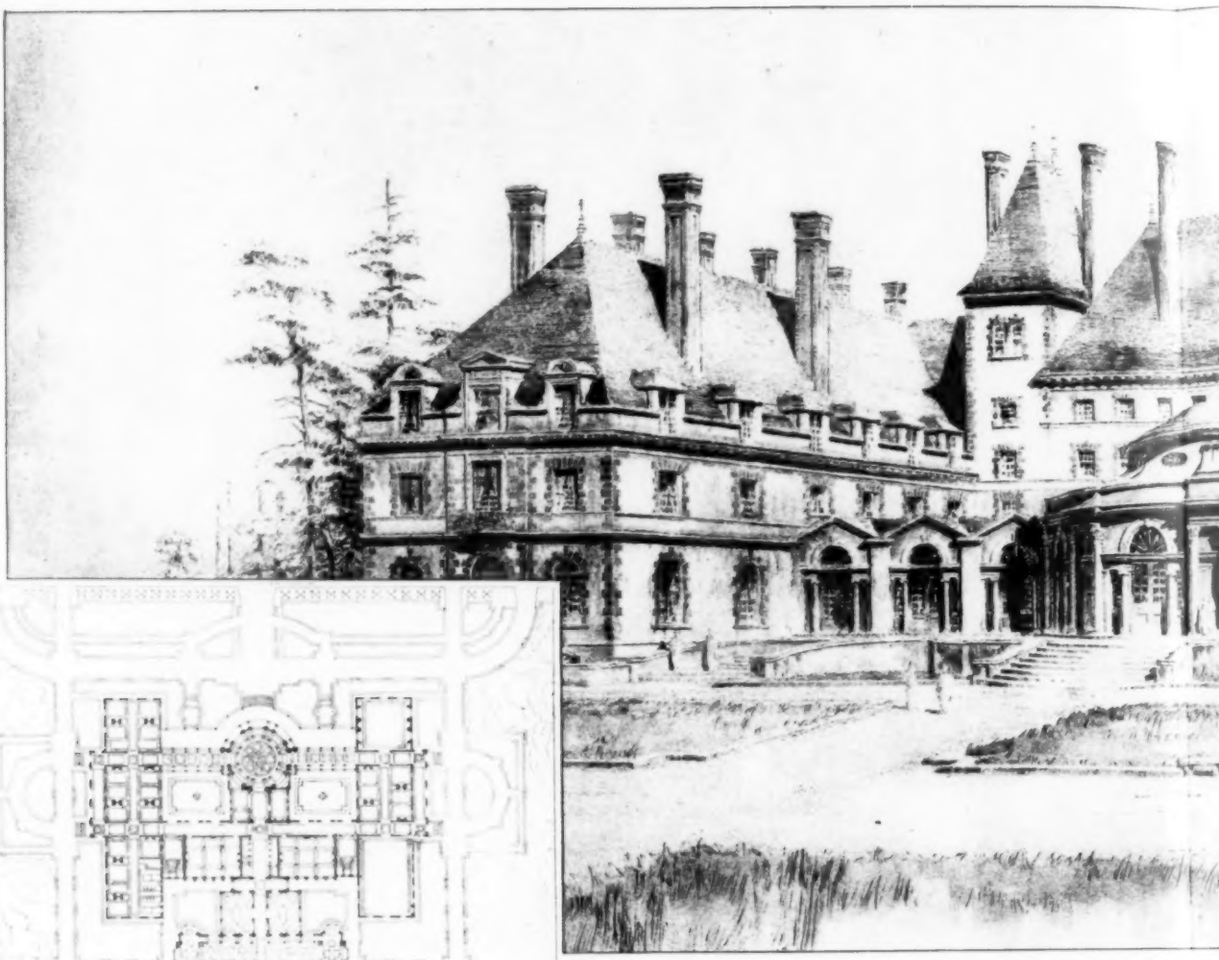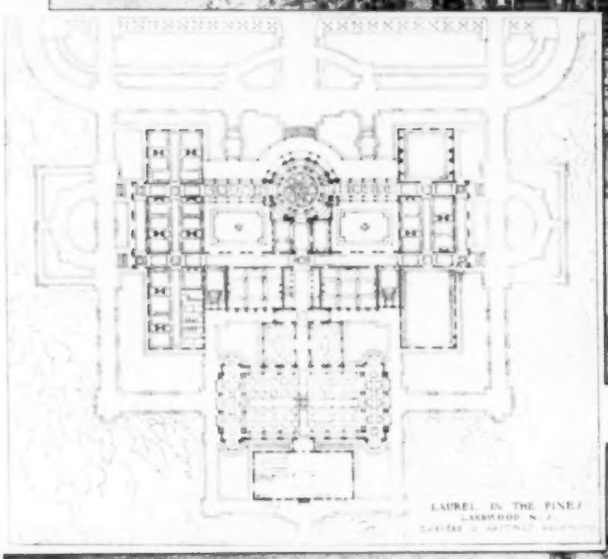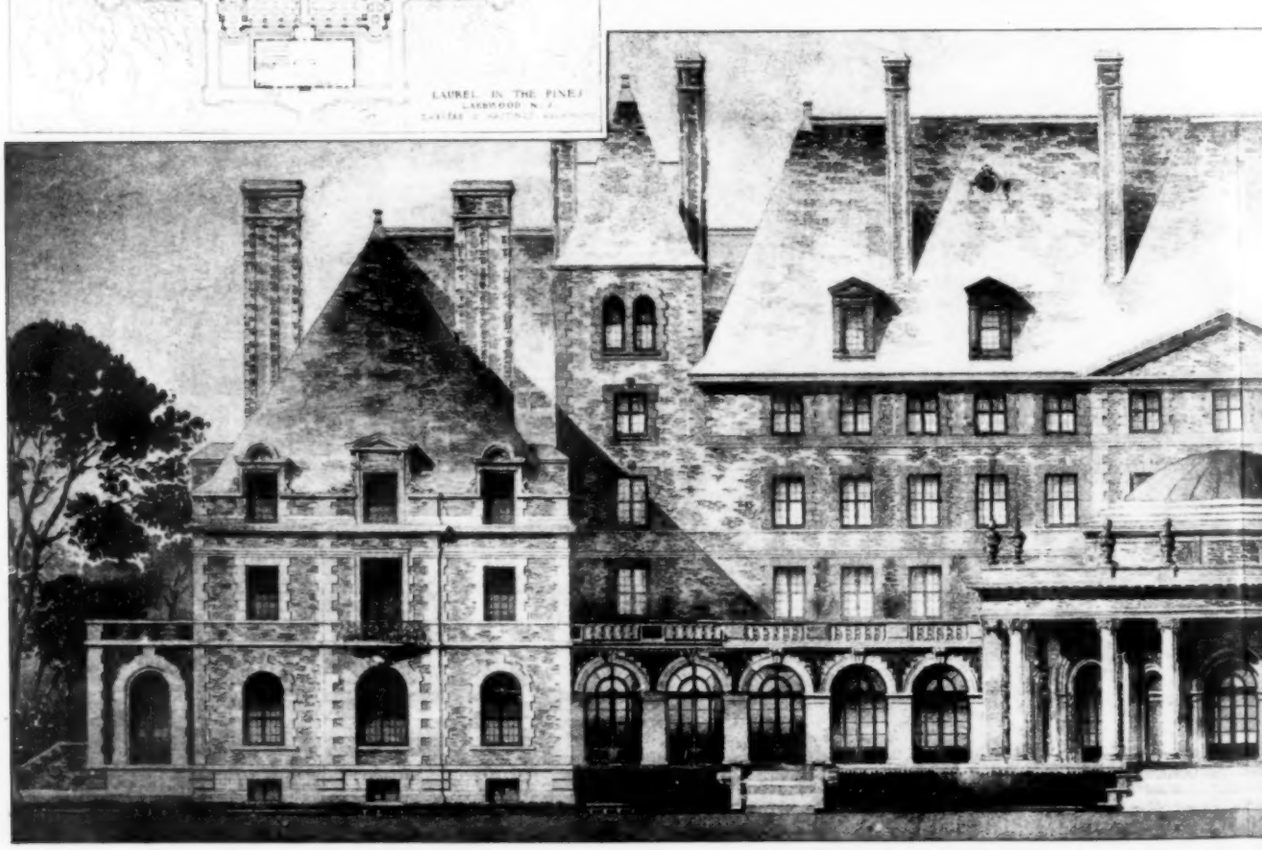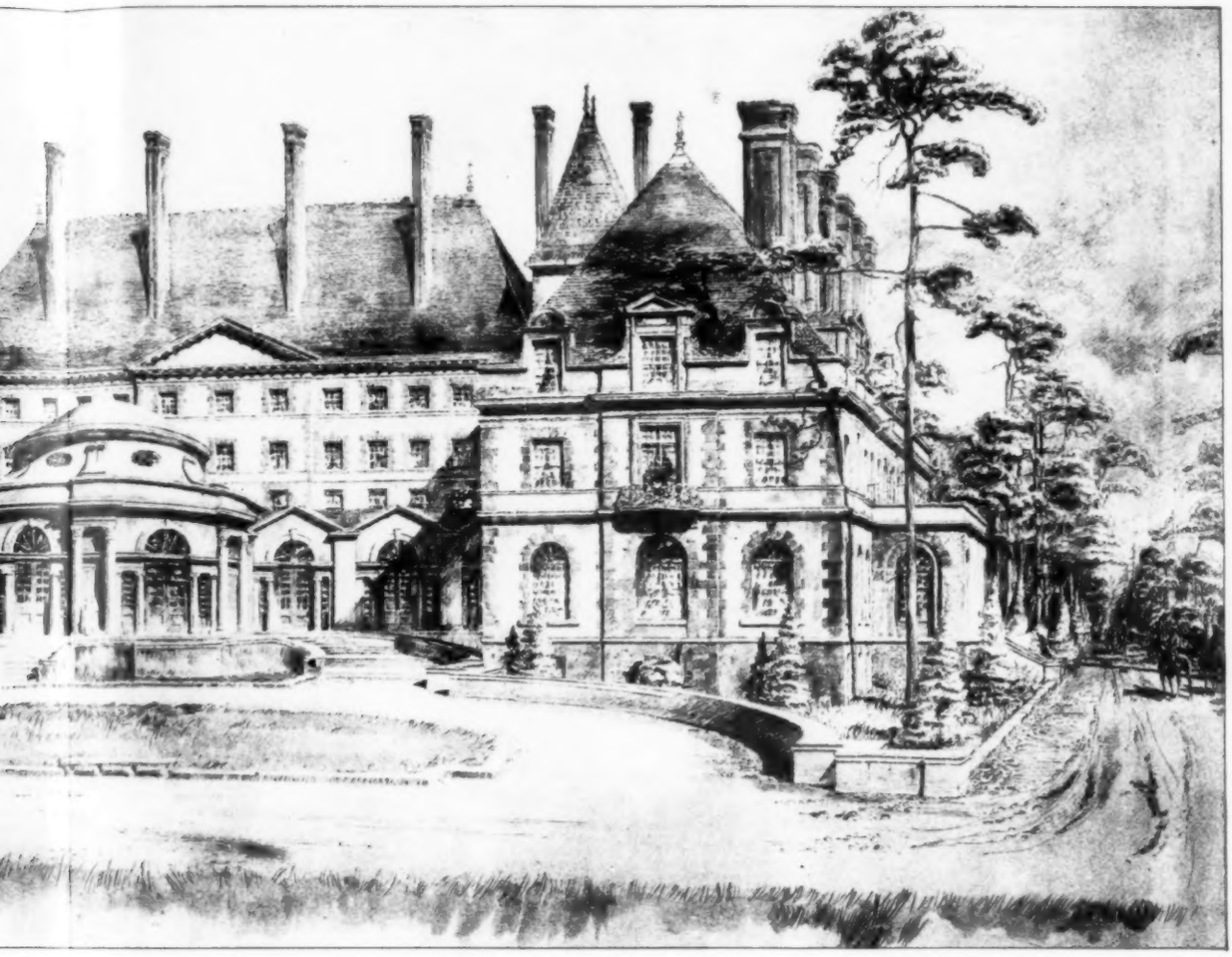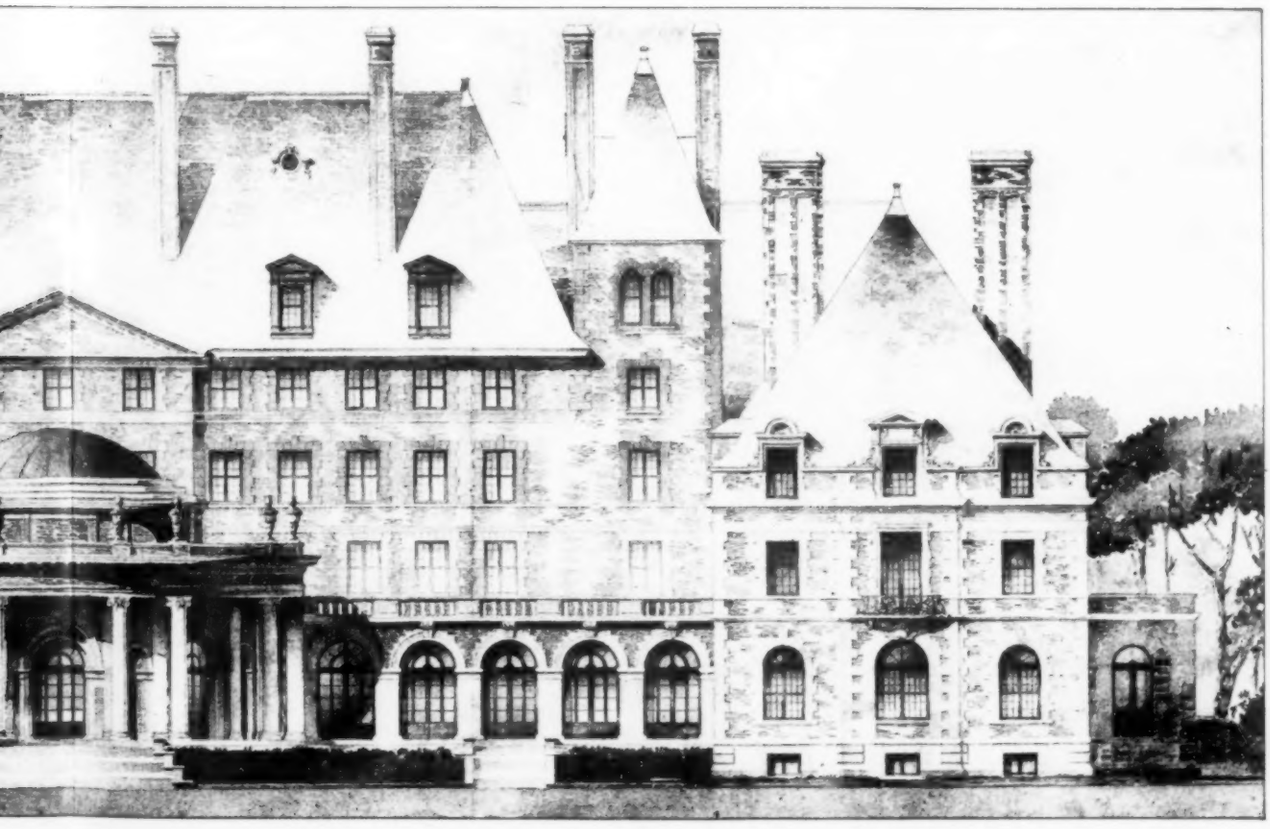
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