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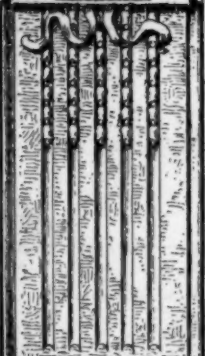
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ARCHITECTURE



ENGINEERING



DECORATION

TICKNOR & COMPANY



CONSTRUCTION

BOSTON MASS.

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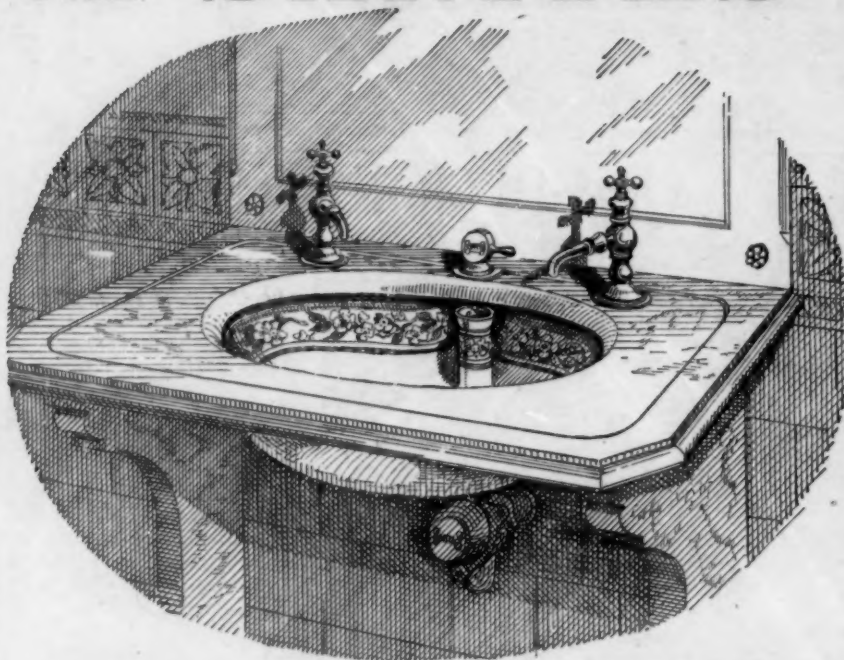
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THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXIX.

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JULY 5, 1890.



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MR. WILLARD SEARS, a noted builder of the last generation, in Boston, and in his day a very active and public-spirited man, died at Newton, near Boston, a few days ago, in his eighty-seventh year. Mr. Sears was of an old Cape Cod family, and came to Boston from Brewster, a little village on the Cape, when a boy of seventeen. He was first apprenticed to an organ builder, but soon took up ordinary building, first in partnership with his brother, and later on his own account. Three years after entering upon independent business, the first railroad in the United States was opened from Boston to Quincy, and Mr. Sears became much interested in the new system of transportation, and in the new lines which were soon laid out in different directions from Boston. He contracted with the Old Colony Railroad Company to build all the stations on its line, from Boston to Cape Cod, including the terminus in Boston, and built also the Boston stations of the Boston & Worcester and the Fitchburg Railroads, both of which are still in use for railroad business, and were in their day considered marvels of architecture. The Boston & Worcester twin station, particularly, which is now used for express business, the traffic of the railroad having far outgrown the accommodation which it furnished, still retains its wooden roof with arched upper chord, which, at the time it was constructed, was reported to cover a wider clear span than any roof in the world except that of the Imperial Riding School at Moscow. Besides these remarkable structures, he built the terminus of the Eastern Railroad, then in East Boston, and all the local stations on that road, as well as on the Fitchburg, and many on the Worcester line. During the same period, he built more than twenty large churches in and about Boston, including "Old Trinity," on Summer Street. In 1855 he retired from building business, with a large fortune, to devote himself to the railroads and other enterprises in which his money was invested, as well as to the charitable objects which enlisted his interest.

LIKE a true New-Englander, Mr. Sears had plenty of room in his head and heart for other things besides his profitable business. When nineteen years old, he made up his mind that there was too much drinking and disorder in the volunteer fire-engine company to which he belonged, and not only abjured alcohol for himself, but organized an engine company, to be conducted on temperance principles, of which he was chosen captain; and, throughout his business career, he tried to encourage temperance among the men whom he employed, offering those who would sign the pledge increased pay. Later

in life, when his prosperous affairs warranted the undertaking, he built for himself the Marlboro' Hotel, which was carried on for many years on temperance principles. If we are not mistaken, grace was always said before meals at this hotel, which, notwithstanding all these "unpractical" notions of management, did an excellent business, and entertained many famous men. About the time of the erection of the Marlboro' Hotel, Mr. Sears became interested in the anti-slavery agitation, or rather, in the defence against mob violence of the few who dared to speak in condemnation of slavery. He risked his life repeatedly to protect the abolition speakers, and on another occasion, when Sylvester Graham, the apostle of "Graham bread" and vegetarianism, was in imminent danger of being mobbed by a crowd of bakers and other persons, while lecturing in an unfinished building which Mr. Sears had allowed him to use, Mr. Sears himself took a few men with him to the upper stories, and threw quantities of plaster dust and lime rubbish down on the crowd which was storming the door, and dispersed it. The evidences thus afforded of the intolerant spirit of Boston induced Mr. Sears to add to his temperance hotel a large hall, then known as "Marlboro' Chapel," which was, in 1838, expressly dedicated to the service of anti-slavery agitation. Later, this famous room was used as a free church, and it finally passed into the hands of the Lowell Institute. Among the eminent preachers who were heard in it while it was used for divine service, was President Phinney of Oberlin College, Ohio, whose eloquence interested the owner of the hall so much that for a long time a regular contribution of six thousand dollars a year came from Mr. Sears to the college. After his retirement from active business, Mr. Sears met with heavy losses, which diminished greatly his ability to do good, and his later years were spent very quietly.

THE Newark *Call* has a very long and enthusiastic description of the house which Mr. William Halsey Wood, the well-known New York architect, is building for himself. None of his brethren will need to be told that whatever suits Mr. Wood's taste will be charming, but there are points in the building, as described, which are particularly interesting. Both in outline and material, the exterior is irregular, part being of stone, part brick, and part wood. The entrance is through a square tower, about forty feet high, of brick, which is to be covered with mortar on the outside. This opens into a dining-room and a parlor, both quite spacious, but low, being only eight feet from floor to ceiling, while the apparent height is still further diminished by having the beams exposed. All the windows are casements, opening outward, generally with mullions between, and glazed with two-inch squares, in lead. The walls are covered with some sort of fibrous plaster, so far as we can judge from the description, and are to have burlap stretched over them, on which is to be put tapestry. The staircase to the second story is contained in the tower, and leads to a corridor, on which the bedrooms open. Over the parlor is the library, a large room, with a fine open fireplace. The beams of the ceiling in this room are exposed, and a small alcove leads out of it. There is to be no wall-paper in the house, the walls being intended to be covered either with wood-work or tapestry. Outside, there is to be an old-fashioned garden, with roses, and the sweet herbs and shrubs of bygone days. Not the least remarkable thing about the whole affair is that the cost is said to be under six thousand dollars, which, although a tolerably large sum for an architect to have at his command, seems small for a house of the style and dimensions mentioned. Independent of the cost, however, we rarely find a house described which promises to be more lovable and homelike, and it will be an encouragement to a good many architects to find that so thorough an artist as Mr. Wood shares their own secret convictions in regard to many matters of construction and furnishing. The plastering of the outside of the brick tower, for example, is an experiment which architects, who remember with delight the walls of the French and Italian rural buildings, made of rubble, plastered outside with mortar and whitewashed, half overgrown with roses and passion-flowers, which cast sweet little shadows on the undulating white surface, propose in vain to their clients. We knew a man once, who consented to have such a thing done, and liked it, but to the great majority of people the bare notion of buying good brick, and having them covered up with mortar, just

because those ignorant French and Italians do so, is so painful that an architect runs a great risk even in suggesting it. The hanging of the walls with tapestry, again, in place of paper, is an innovation which we would like to see imitated. By "tapestry" we suppose is not meant real tapestry, which is enormously expensive, and not by any means always beautiful in proportion to its cost, but stuffs of various sorts, such as the Chinese and Japanese embroidered or brocaded silks, which are not ruinously dear, and the still cheaper Japanese cretonnes, many of which are beautiful, and, of Occidental fabrics, the velveteens, which are cheap, and can be had in lovely colors, and, where not exposed to the sun, do not readily fade; and cretonnes and chintzes of the Morris type, together with jute and raw silk fabrics. Anything of this kind is infinitely more wholesome and more beautiful than wall-paper. To say nothing of the undefined softness of a cloth surface, which gives a warm, cosy, homelike effect, very different from that of a paper glued to the wall, the absence of the decaying paste behind the wall decoration removes the principal cause of the stuffy, mouldy, "wall-papery" smell which hangs about nearly all modern houses; while, in case of infectious disease in the family, such hangings can be taken down and disinfected far more thoroughly and easily than paper. As to the casement windows, while we ourselves admit their charm, we appreciate also the objections to them. It is obvious that to a window with casements opening outward, outside blinds are inapplicable, and while outside blinds destroy the beauty of nearly every house to which they are attached, a house must be well shaded by trees to be able to dispense with them in our climate. However, the outside blind problem is too serious to be entered upon here, and, while we shall think sometimes with pity of Mr. Wood, running about his house in the middle of a hot night, to get his casements closed before the arrival of an impending thunder-shower, we shall envy him the pleasure which awaits him the next morning, as he throws them wide open, to admit a full volume of air refreshed by the rain.

THE *Builder* mentions incidentally a custom which is worth bearing in mind by architects, who often have to devise ways of adding attractiveness to city dwellings. Every one has noticed, in the aristocratic parts of London, streets and little squares shut out by railings and gates from the main thoroughfares. These reserved streets are popular with English families, on account of their quietness, as there is almost no traffic through them, and a house in a street with gates at each end brings a higher rent than it would in an open street. Now, however, the exigencies of public convenience have brought about the removal, by Government authority, of some of these gates, and it is likely that all will disappear before long. In considering whether damages should be paid to the owners of houses in enclosed streets, in case of the removal of the gates, the Government Committee decided that "no compensation was due to any one" for such removal; which the *Builder* considers hardly fair, as it believes that "no one who knows the neighborhood" in which several such gates are situated, "can doubt for a moment that the removal of these gates would depreciate house-property in their vicinity." However it may be with the London squares, we think it certain that the surest way of making city houses attractive is to remove them somewhat from the public thoroughfare. With mansions of considerable size, there is no question that the practice of the great French nobles, who set their Paris "hôtels" back from the street, with an enclosed court-yard in front, entered only through a *porte-côchère*, guarded by a *concierge*, and a garden behind, gives, perhaps, the utmost possible expression not only of aristocratic reserve and good taste, but of protection to the occupants of the house from the noise and rudeness of the streets. Even now, these stately dwellings, as we get glimpses of them through their *portes-côchères* in passing along the Rue de Grenelle, with their "marquise" awnings over the doors, and the azaleas standing about the paved court-yards, and perhaps the trees of the garden waving above the roof, possess a dignity which the rather shabby Latin-Quarter aspect of the street has no power to diminish; but it is obvious that for a "*hôtel entre cour et jardin*" space is indispensable, and, even in Paris, land is now too dear to be utilized in so extravagant a fashion. The most successful substitute for such a disposition which we have observed seems to be the placing of a house of moderate size, together with others of similar character, in a common garden. The western and southern portions of the Parc Monceaux present beautiful

examples of this sort of grouping, which is within the reach of all well-to-do persons in almost any city, if suitable arrangements can be made beforehand. In the case of the Parc Monceaux, about half the land, after the park was laid out and planted, was sold by the city for building lots, so that the arrangement followed was natural enough; but, even in New York, twenty people, buying land together, or an enterprising builder who was willing to try the experiment alone, could lay out a garden two hundred feet by two hundred and fifty, and build twenty houses in it, which would be much more attractive to look at, and pleasanter to live in, than the slices of brickwork, with dirty grass-plots in front and dingy back-yards behind, to which even the richest and most distinguished New Yorkers are now condemned.

IT is reported that the University of Pennsylvania proposes to establish a School of Architecture, in emulation of those already existing in New York, Boston, Ithaca and elsewhere. Several architects of distinction have been asked for advice in relation to the course, and the matter will receive thorough consideration. One novelty which is said to be in contemplation is the enrolment of all students in the School in the offices of architects in Philadelphia, the principal part of their work being done in these offices, the school-buildings being used for lectures, criticism of designs, and so on. This appears to be an adaptation of the French *atelier* system, which has for centuries been so successful in the School of Fine Arts, and we hope it may be carried out. If we might offer a suggestion, it would be that architects in this country are such terribly busy men that the students might not be sure, in the most noted offices, of receiving at first the attention and instruction that they needed, or, if it were conscientiously given them, it might not always be offered in the best way; and an important part of the *atelier* system might with advantage be here, as it is in Paris, the establishment, for a beginning, of one or two official *ateliers*, directed by young architects of the highest education and ability, who should receive a fixed salary from the University in consideration of devoting a larger part of their time to teaching, and should be in somewhat intimate relation with the University officers, so that their work might be criticised, and rendered as efficient as possible. These official *ateliers* would naturally serve as models for the other offices in which students were taken, and the best methods would thus be generally adopted, with the least trouble to the architects in active practice, and the most effective results.

ANOTHER share in the New River Company was recently sold at auction in London. This was one of the Royal shares, the stock in the enterprise having been, as will be remembered, divided between Sir Hugh Middleton and the Crown. The original subscription price of a share was one hundred pounds, but after the completion of the works, the market price, in consequence of the unexpected cost of the undertaking, and the doubtful prospect of returns, fell to five pounds per share, and remained at that figure for thirty years. The report says that no undivided Royal share had been sold for three hundred years, which can hardly be quite accurate, as the work was not completed until 1613. However that may be, the family which retained this particular share found a fortune in the once doubtful property, for, since the enterprise began to bring in a little profit, its dividends have steadily increased, until now the holder of this share receives an income from it of more than twenty thousand dollars a year, and it was sold very cheap at ninety-five thousand one hundred pounds, or about four hundred and seventy-five thousand dollars, after having paid, since it began to be profitable, something like three million dollars in dividends to its owners.

THE people at Ulm have just completed their cathedral, which has been, like Cologne, for nearly five hundred years in an unfinished condition, and a few days ago, amid the ringing of bells and public rejoicing, the cap-stone was put on what is now the highest building in the world, the final of the Ulm spire being five hundred and thirty feet from the ground. The cathedral is a very beautiful one, in pure German Gothic of the fourteenth century, with a single spire, which stands in the centre of the west front, and covers a projecting portal. This spire, with the tower supporting it, is a magnificent specimen of the unrivalled skill in stone-cutting of the German masons of the later Gothic period, and it will be a most interesting object to architects.

RELIGIOUS ARCHITECTURE.¹—XIII.

VII. BYZANTINE ARCHITECTURE IN THE WEST.

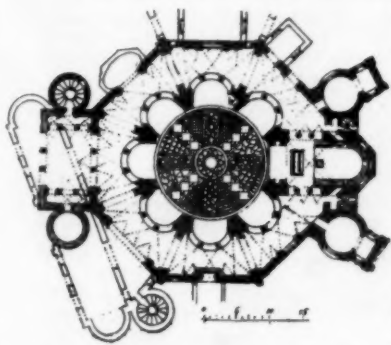


Fig. 1. Plan of S. Vitale, at Ravenna (6th Century).

AS Italy was in constant intercourse with Byzantium both before and after the division of the Roman world into the Eastern and Western Empires, we must expect to see the ancient architecture of Italy quickly modified by that which had superseded it in the East. Byzantine influence was all the more effective in the West because this division was early

subjected to barbarian invasions, and soon lost somewhat of its old brilliancy; while the Eastern Empire resisted much longer, and continued to be the veritable abode of intellectual culture and of the arts.

Two remarkable examples of the influence of Byzantium over Italy are to be seen in the churches of S. Vitale, in Ravenna, and of S. Lorenzo, in Milan, both dating from the sixth century. In 533, Saint Ecclesius, bishop of Ravenna, visited Constantinople, where he saw the universally admired Church of St. Sophia. On his return to Ravenna, he began S. Vitale after the same plan; it was completed about 550. The dome is carried by eight arches springing from as many solid piers, between which are broad recesses containing two rows of columns. The surrounding aisles are surmounted by galleries and covered with intersecting vaults. A two-storied narthex occupies the side opposite the much-elongated tribune. The edifice is adorned with towers at the angles.

The rotunda of S. Vitale (Figures 1, 2) is built wholly of brick, the ultimate courses of mortar and brick being of equal thickness. The dome is constructed of spiral courses of earthen pots joined by cement; by the use of this material an air of lightness is secured. The groined vaulting has been rebuilt; the portions remaining of the primitive construction

rather to render the style of construction obvious than for purposes of support; viewed in this light, they apparently represent the principle of engaged pilasters and colonnettes, which later supplied a most characteristic decorative motive."

Lombard architecture originated as early as the ninth century, says M. de Dartein, owing to the effect which Byzantine art exercised at a very early period on the architecture of Northern Italy. Monuments anterior to the year 1000 are rare, but many still exist dating from the eleventh and twelfth centuries.

"Byzantine influence is manifested in the structure of the *chevet* by the dome over the crossing, with barrel-vaults on three sides; in the construction, by the use of vaults with the thrust distributed on individual points, and by the raising of the intersecting vaults in the shape of a dome; and in the decoration by the style of sculpture and by the Oriental character of the various ornamental forms."

However, Roman traditions were, so to speak, perpetuated in the adoption of the basilican plan, with the interior divided into bays by columns; in the imitation of the antique capitals adorned with foliage, and in the constructional processes.

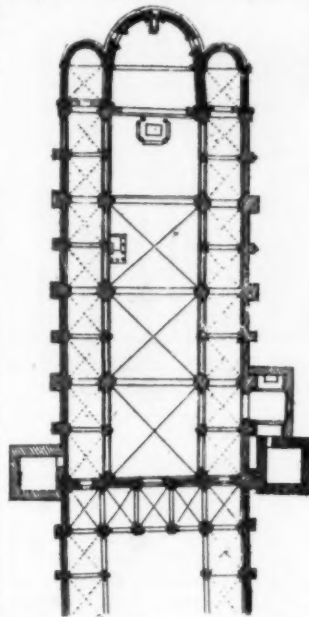


Fig. 3. Plan of S. Ambrogio, at Milan (9th-10th-11th Centuries).

The chief features due to Longobard intervention consist in the introduction of external buttresses, of projecting ribs in the vaults, of pillars cantoned with columns, of multifold archivolts in the bays, and of cubiform capitals.

A study of two of the principal remains of Lombard art, namely, S. Ambrogio of Milan and S. Michele of Pavia, is of special interest to us, on account of its bearing on the origin of Romanesque and Gothic art.

The old basilica of S. Ambrogio was erected in 386 by Saint

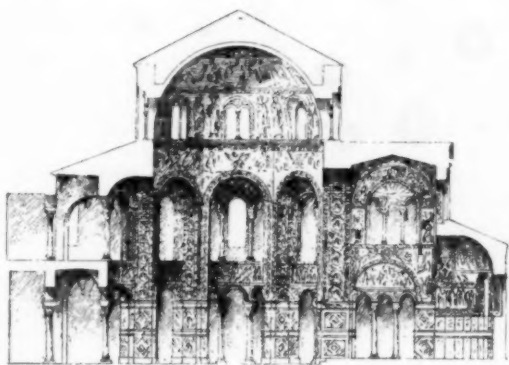


Fig. 2. Section of S. Vitale, at Ravenna.

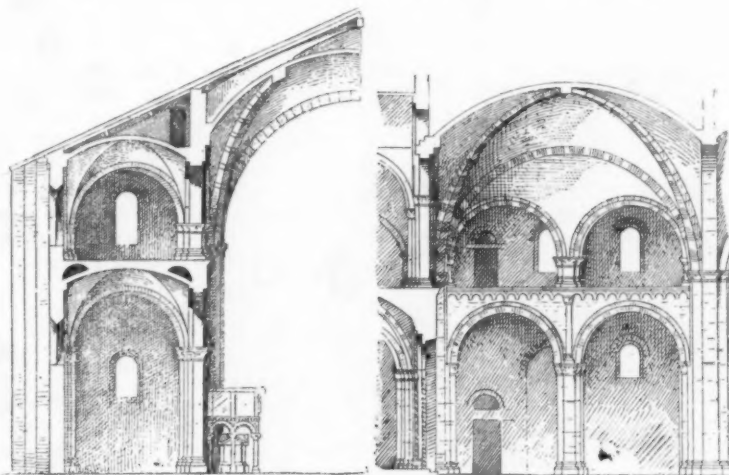


Fig. 4. Transverse and Longitudinal Sections of S. Ambrogio, at Milan. After M. de Dartein.

exhibit this peculiar feature: the ribs disappear toward the springers, while toward the summit the vault rises so as to form an inner cone.

"The main buttresses,² placed at the angles of the outer wall, are boldly marked, especially externally. Two ranges of semicircular arches, corresponding to the two stories of the aisles, connect them with the piers of the dome, which they serve to buttress. As for the minor intermediary buttresses, their projection is too slight for them to support efficiently the thrust of the vaults in the regular compartments of the groin-ing over the aisles. They appear to have been introduced

Ambrose; it must have been destroyed in the eighth century, at the time of the Lombard invasion. The researches of M. de Dartein go to prove that the present church was built in the ninth century by Archbishops Angilbertus and Anspertus. The choir certainly belongs to that period; the atrium of the parvise was consecrated in 882. The campanile on the right side was built in the twelfth century; a portion of the choir gave way, which led to the construction of the cupola, decorated later in the sixteenth century. The crypt is almost a complete restoration.

We will not enter into the details of the discussion raised by certain erudite archæologists regarding the date assigned above to the Church of S. Ambrogio. Setting aside the rejoinders and all the documents produced in defence of the

¹ From the French of P. Planat, in Planat's "Encyclopédie de l'Architecture et de la Construction." Continued from page 193, No. 757.

² Ferd de Dartein. "L'Architecture Lombarde."

theories of both parties to the debate, we will confine ourselves to a brief description of the edifice.

The basilican plan (Figures 3, 4, 5) is preserved; but a feature of very great importance is the roofing of the nave, as well as the aisles, with intersecting vaults, each bay being borne on its groin arches and pillars. As the nave is much



Fig. 5. Interior of S. Ambrogio, at Milan.

broader than the aisles, the number of intersecting vaults is doubled in the latter. To support the various arches carrying the vaults, the pillars are cantoned with pilasters.

The proportions are short and squat; the nave receives no direct light on the long sides; to compensate for this, there is a spacious opening in the front wall. The fourth bay carries an octagonal cupola, a later addition, probably due to the accident to which reference has already been made.

Here, then, we find the characteristic dispositions of a style which certainly did not appear in France until the twelfth century. Lombard art bears, it is true, an entirely different stamp from Gothic, owing to its clumsier proportions and to a totally dissimilar decorative system; but, if M. de Dartein's data are fully accepted, it must be admitted that the origin of the constructional principle from which Gothic architecture sprang is marked, chronologically, at least, in the ninth or

tenth century in Italy, by a complete solution of a problem which may be stated as follows:

To cover several high and broad lateral naves with vaults by discharging the thrust of one on another. It was the solution of this problem which occupied French architects during the eleventh and twelfth centuries, until they chanced upon the Gothic disposition of intersecting vaults on diagonal arches, with the graceful and original addition of flying-buttresses.

It is all the more difficult to refute this conclusion because of the marked similarity between certain forms in these Lombard churches

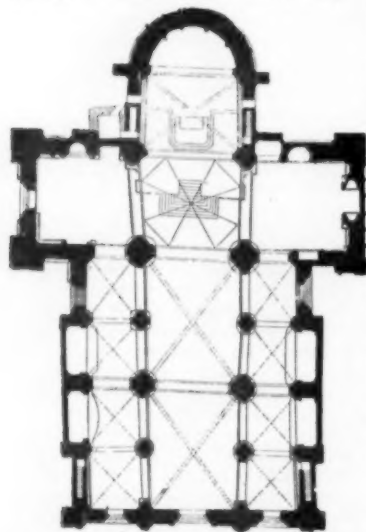


Fig. 6. Plan of S. Michele, at Pavia (9th-10th Centuries).

and in those of the so-called Gothic type. The Lombard transverse ribs and half-ribs against the wall, or formerets, are, it is true, semicircular, but they led up very naturally to diagonal ribs in broken or pointed arches; the Lombard intersecting vaults, formed by surfaces with a double curve, and incapable of development like the ancient vaults, rest on independent diagonal arches, constructed not in the Roman, but in the Gothic manner.

The Church of S. Michele, at Pavia, might furnish the key to the settlement of the debate concerning the date of S. Ambrogio, as both edifices exhibit the same peculiarities of construction. But, unfortunately, architects are not wholly agreed as to the age of S. Michele; it may have been built as late as the eleventh or, perhaps, the twelfth century. The

commonly accepted view, set forth by M. L. Reygnaud, is very plausible: the successive courses of brown limestone at the base, silicious limestone above and brick in the upper part, as well as the irregularity of the divisions, which, instead of

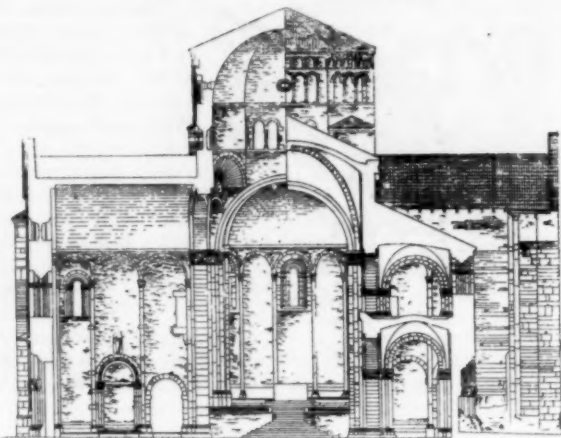


Fig. 7. Transverse Sections of S. Michele, at Pavia. After M. de Dartein.

following the same horizontal joints, make abrupt breaks, would seem to indicate the resumption of the work at several different periods. "At the base of the transept and apse there are remains of a construction anterior to the disasters of 924

(invasion by the Hungarians and conflagration); above, including the entire development of the nave, is the portion built after the invasion, while at the summit we find the construction necessitated by the fire of 1004."

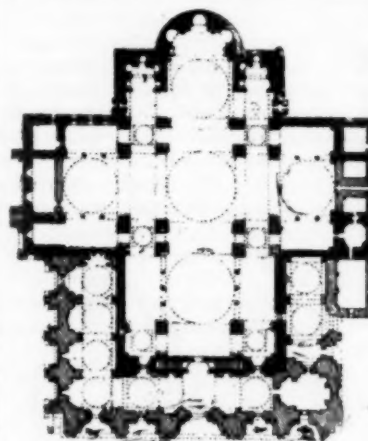


Fig. 8. Plan of St. Mark's, at Venice (11th Century).

plan, and only two in number. Diagonal ribs existed, as well as transverse ribs and formerets.

In the aisle-vaults, on the other hand, there were no diagonal aisles.

All these vaults are clumsily built. The nave vaulting finally spread, as the still existing bulge of the walls indicates, and it was this defect that necessitated a reconstruction.

We find in S. Fosca (Figure 11) at Torcello, very pronounced traces of Byzantine influence; the plan is that of a Greek cross; the dome, which is established on superimposed squinches, is as purely Byzantine as is the dome on pendentives; the decorations possess the same character.



Fig. 9. Section of St. Mark's, at Venice.

S. Ciriaco of Ancona and several churches of Placentia and Padua exhibit like evidence of the survival of Byzantine traditions. St. Mark's at Venice (Figures 8, 9, 10) is one of the most remarkable structures which we have to notice. The date of its construction is not fully fixed; the original edifice was probably built in the tenth century, but some archaeologists bring it

down to the twelfth, by a later restoration. Its design appears to have been taken, if not from St. Sophia, at least from the church of the Holy Apostles, the prototype of St. Sophia. It



Fig. 10. Interior of St. Mark's, at Venice.

is in the form of a Greek cross, roofed by five domes, one at the intersection, and one on each of the four limbs of the cross. The system of lighting is much like that of St. Sophia.

The Martorana, at Palermo, may be considered as one of the last churches inspired by Byzantine art. The plan (Figure 12) is still Basilican; the cupolas are of Byzantine origin, but already another influence, perhaps Arabic, or more probably Occidental, has perceptibly modified the primitive type; the introduction of the pointed arch, along with columns borrowed from ancient structures, points especially to a transition period,

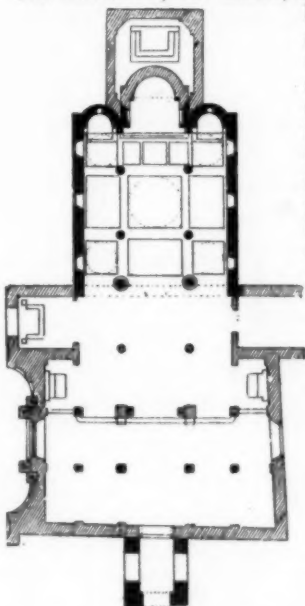


Fig. 11. Plan of S. Fosca, at Torcello (9th-10th Centuries).

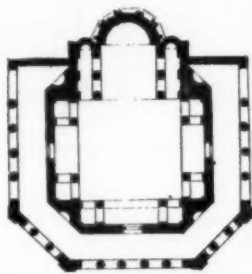


Fig. 12. Plan of the Martorana, at Palermo (12th Century).

in which Byzantine traditions are being abandoned for a new style of architecture. This church, then, dates from the twelfth century.

(To be continued.)



MUNICH, although the centre of attraction, is not the only interesting city Bavaria can boast of. Should one find himself in the neighborhood, the mediæval cities of Ratisbon, Nuremberg and Rothenberg should not be forgotten. The architectural student in particular will find these a source of great pleasure, and with the object of devoting a few pleasant days within their picturesque walls I one morning packed my portmanteau and started for the depot. Now, the more I think of it, the more I am becoming convinced, that

I left Munich under an evil star. If the reader will have the patience to follow with me the experiences of that day, he too, may become of that opinion. Evil stars, I believe, are not generally considered the most desirable kind to travel under, but they have one advantage, that of making a journey most interesting if not exciting.

On this particular day (valise in one hand and sketch-book and a package under my arm), I arrived at the depot the moment the train was drawing out; by vigorous application I was fortunate to grasp the railing of the last car and, depositing my valise and package on the tread, proceeded to open the door of the cab. At this moment the evil star shone forth with all its lustre and the package dropped from the moving train, with as much grace as though it had thoroughly mastered all the laws of gravitation and inertia. No sooner had I the source of annoyance again within my grasp when a brass-buttoned official took hold of my arm and insisted upon protecting me from all further danger by not allowing me to again jump on the train which, by this time, had almost left the depot. Although, under different circumstances, I might have appreciated such courtesy, at the present moment I thought the gentleman most unkind. I had no fear that my valise might be carried to Ratisbon, because I could see it vibrate in a most exasperatingly lively manner as though it was beckoning and bidding me to hasten and I knew it would soon drop off and probably at the time the train had arrived at a ditch, partly filled with water, some rods distant, but I did wish to leave Munich. So I did what everybody else would have done in my position; unfortunately, however, in jerking away my arm my elbow touched the aforesaid official's cap and looking backward as I was making off, I could see it rolling in the dust. But what was that cap to me? I was soon seated and in a fair way to reach my destination. But soon it occurred to me that in one short minute I had committed misdemeanors without number. In the first place I had jumped on a train while it was in motion, which is punishable by a heavy fine. Not in blissful ignorance had I done this, but after several warnings. I had assaulted his majesty the Emperor, the King of Prussia, the Prince-regent, the Burgomaster and numerous other officials, in the person of one of their faithful servants. I had opened the door of a cab without previously summoning a conductor and finally, I had in my haste — no person has any excuse for being in haste in Germany — neglected to buy my ticket; a neglect which cannot easily be forgiven. I have no doubt but that I broke several other laws, but if so, I did it in ignorance. In view of the existing state of affairs I decided upon a vigorous *coup*, which, had it become known, would have exhibited me to the railroad inspector in the light of a most depraved character. But I decided to avoid all inspectors and formed a plan accordingly upon which I do not lay stress because it may give evidence of any great originality or brain power, but simply because it answered the purpose. I then chuckled thrice, three distinct times, as all imaginary villains have done since the introduction of the French drama on the American stage. My plan was to get off at a little station shortly before arriving at Ratisbon, so that if orders were telegraphed to find a person of a certain description, that person would not be on hand. Be it here said that I did this and arrived safely at Ratisbon a few hours later than I had at first imagined I would. I had had in companionship with another American some experience with the mighty arm of the dreaded law. If you could have followed me in my thoughts and read the picture in my mind as I sat recalling the incidents of this experience to drive away the time and counterbalance the drowsy effect of Bavarian scenery, you would have seen late one afternoon two weary pedestrians exhausted after a day of sight-seeing, but yet desirous of seeing the glorious spectacle the sun prepares for the mortal man at the close of each day, climbing up the fortifications of the city of Strasbourg; with accomplished *nonchalance* they did this, and with such an utter disregard of all the signboards with which the walk was lined as can only be acquired by years of practice at ignoring signs in America, where these objects are about as ornamental as useful. The sun had not yet disappeared in the horizon when a small detachment of soldiers was also seen walking up these same fortifications. The two groups met and made one group and if you could have looked into the future you would have seen that these two groups were still one group at the end of the following four hours. We will now let them disappear for a short time and then appear only at intervals. After the first interval we see them before Officer I, who had no authority in such matters; then before Officer II, who held too high a rank to trouble himself about such trivial affairs; Officer III, on the contrary was too low; Officer IV, was off duty; Officer V, did not seem to know; Officer VI, did not care. We need not follow them to any more officers, but suffice it to say that finally an officer was found who thought the best thing for them to do was to let them go, and at least two persons in the assembled company agreed with him.

At about this time the inner man began to make himself felt, (he is on the whole an unpleasant companion while travelling through Europe where the prosaic but convenient lunch-counter is not so widely distributed as with us), for a Continental breakfast consisting of bread and coffee is not a meal the beneficial effects of which will last through the day. Station after station passed by but there came not with them the object of many a traveller's search. The automatons which are to be found everywhere had hitherto escaped my attention when it occurred to me that the contents of these might bring some little consolation. For although a sandwich made of slabs of chocolate and

EXCAVATIONS OF THE BRITISH SCHOOL AT MEGALOPOLIS.



Capital from the Ducal Palace, Venice. From a Drawing by John Ruskin.

WITH the end of May the students of the British School at Athens have brought to a close, for the present season, their excavations on the site of Megalopolis, in Arcadia. Work has been carried on continuously since the middle of March, and, while several points on various parts of the site have been prospected, attention has been mainly confined to the theatre which lies on the south bank of the river, the Helisson, its auditorium facing almost due north, being partly cut out of the low hill-side, and made up at the ends by artificial embankments supported by strong double retaining walls.

When the School started work here nothing was visible above ground except the general curve in the hill-side which indicated the site, and a few fragments of the end retaining-walls; the auditorium was overgrown with thick brushwood and small trees, and the ground in front, over the orchestra and stage, was ploughed land. Trenches were first dug across this latter in order to get at the position of the stage walls. Traces of these were come across at a depth of from six feet to eight feet below the surface, and they were followed up east and west, and gradually the general outlines of the stage buildings were laid bare. At the same time the remains of a large square court were discovered in front between the stage and the river, and the lines of the auditorium were unearthed, where the first four lower rows of seats were found to be *in situ*, and almost entire, with the gutter running round in front of them.

The accumulation of earth over the general level of the orchestra has been as much as from ten feet to twelve feet, which has necessitated a considerable amount of heavy cutting in the trenches, and, of course, it has been impossible to completely clear the whole area of the orchestra and stage in the short period during which the excavations have been in progress. This must be reserved for another season, but enough has been done to show the general nature of the plan, and to give us an idea of the size and arrangement of this, the largest of the theatres of Greece.

The results of the excavations show us a theatre with an orchestra of about 100 feet diameter. The auditorium is slightly more than a semicircle, about seven feet or eight feet on each side, and the line

of the arc is continued round beyond the semicircle, as at Epidaurus, and not run in straight towards the stage, as at Athens. The face of the Greek stage is about thirty feet in front of the ends of the seats, so that there is hardly room for a complete circular orchestra as at Epidaurus. The auditorium has nine sub-divisions, with stairways between each, and one at each end. These stairs are two feet six inches wide, and rise two steps to each tier. The lowest row of seats takes the form of continuous benches, with seats sixteen inches wide, arms at each end next the stairs, and slightly sloping backs, one foot nine inches high. They are solid, and cut out of large blocks of stone from four feet to five feet long. Each bench is sixteen feet six inches long, and formed of three or four stones in length. The front of the lower part of these, under the seat, is cut back to allow of more room for the feet. They stand on a level with the orchestra, and are divided from it by the gutter, which is built of stone blocks, is one foot eight inches wide by about a foot deep, and falls towards the west. The space between benches and gutter, a foot wide, is very narrow, hardly enough to let one person pass another. Round the orchestra side of the gutter is a stone curb, presumably level with the floor; nothing remains to show what the covering of this floor has been; it was probably merely beaten earth, as at Epidaurus. No traces have been found of a base stone to receive the central altar, although a trench was dug specially to search for this. Opposite each end of the auditorium, and a few feet within the orchestra, two circular pedestals have been found; these measure about two feet six inches in diameter, and have bases and capitals, as well as inscriptions, showing that they supported statues. As yet, however, the statues themselves have not been brought to light, but they may lie hidden in the adjacent masses of earth still to be removed.

Behind the front benches runs a passage-way three feet wide, entered from each end. This must have been the only approach to the lower seats, as the gutter is not bridged across at the foot of each stairway, as we find it in the Athenian theatre, to allow of the people passing out and in through the orchestra. The seats behind are merely plain stones, twelve inches wide and about fifteen inches high, slightly hollowed in front, and standing up about four inches from the footways, which are eighteen inches wide. The footways and seats are not cut out of one stone, as at Athens, but are separate pieces.

As the one passage and the narrow stairs do not seem to provide a sufficient access to the whole of the upper part of the theatre, it is possible that there may have been end staircases; the existence of the double retaining walls some distance apart seems to supply a place for these, but this problem wants working out by further excavation. These double retaining-walls only commence about fifty feet or sixty feet back from the front of the auditorium, and the single wall which serves on each side as far as that point, is finished with a broad raking coping splayed at the sides and about two feet three inches above the line of steps adjoining; this in its turn abuts against an oblong pedestal with cap and base, and which is lineable with the first row of plain seats behind the passage.

A most interesting discovery has been made in the series of inscriptions cut in large letters on both sides of the backs of the front benches. These inscriptions are of two dates, and, of course, will be published in detail by-and-by. The earlier one records the donation of the seats themselves; two later, the names of the tribes to whom they were allotted. This may refer either to the benches only, or to the whole tier of seats behind them as well.

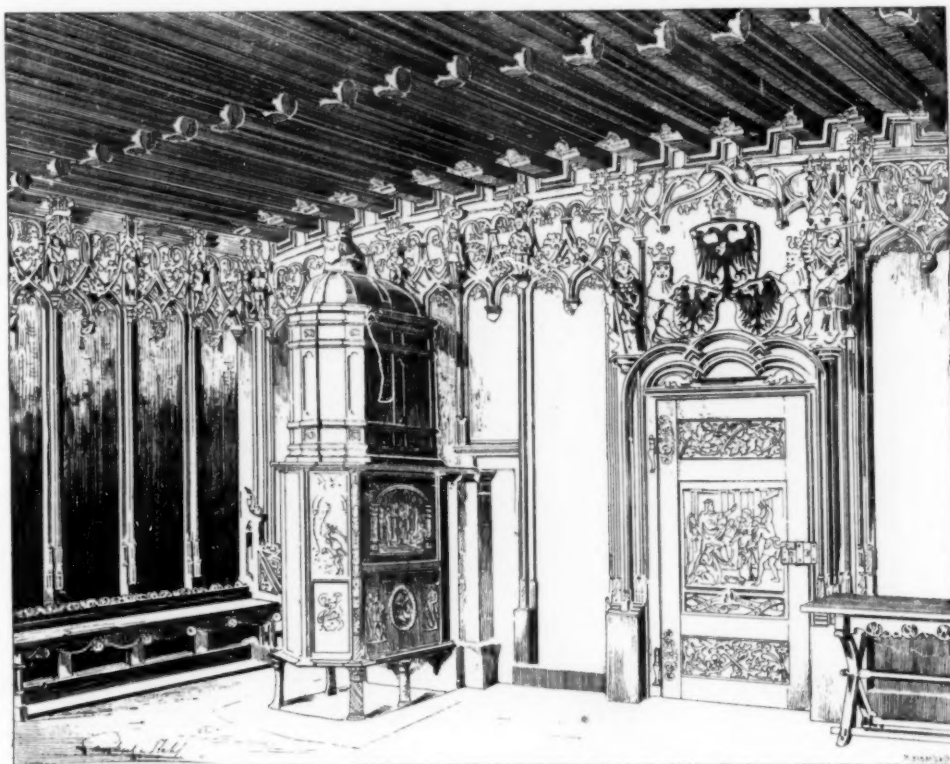
The remains of the Greek stage consist of a series of courses of stone setting in from the front edge irregularly like steps, but broad and narrow alternately, and which run straight along the face of the orchestra. The lowest one is about one foot above the level of the orchestra floor and the top one about two feet higher; fifteen feet back from this line is the main outer wall of the stage two feet six inches wide, and with cross walls at right angles opposite the ends of the benches. In this outer wall are traces of three doorways, the centre one projecting outwards about two feet from the wall. The threshold of the east-side door remains in position and shows the sinkings for the hinges and rebates for the wood and bronze covered jamb linings. This door has been five feet wide, and the central one, of which only the foundations remain, was possibly one foot or two feet wider, and may have had pillars on each side. The level of this threshold is about one foot higher than the top of the steps of the inner wall.

The inner wall of the stage extends along on each side as far as the line of the second row of seats of the auditorium. About ten feet in front of this has been discovered the wall of what must be a later stage of Roman times. The top of this wall is one foot above the orchestra floor, and thus level with the lowest step of the Greek stage. Fragments of columns have been found *in situ* on this wall and others lying near. These columns are one foot in diameter; they have no bases, and have plain projecting fillets about two inches wide running up each side to allow of the insertion of the movable scenery in the spaces between the columns. The front faces show marks of chisel-dressing, and the backs, which would have been hid behind scenery, are much rougher. The pieces found vary in length, so it is difficult to say what their total height has been. The wall on which they rest returns back to the line of the Greek stage at the ends.

Between the ends of the auditorium and the line of the original

The Italians do not speak more tenderly of Tasso than do the Bavarians of the Royal Dreamer, whose life was so strange and lonely. His habits were indeed extraordinary; but there was nothing repellent in them, nothing sensual, vulgar or ludicrous. He turned night into day, rising when other men go to bed, and roaming about his favorite woods by moon and star light; but, seeing that he lived in solitude, no courtiers were plagued by having to keep the same hours as himself. He passed for a misogynist, as no woman was allowed to cross his threshold; but he surrounded himself with the portraits of the fairest women whom the world has celebrated. He was said to be a melo-maniac; but he could live for months together without hearing a note, except the singing of the nightingale and the cooing of the wood-pigeon. He was believed to scribble poetry by the ream, but whatever he wrote was for himself alone; all his manuscripts were burned, and not so much as a sonnet from his pen survives. Impressed by the characteristics of a nature so enigmatical, the stranger, who is taken aback by the glories of Linderhof, Hohenschwangau, Neuschwanstein and Herrenchiemsee, asks himself with what vague purpose Louis II can have built palaces which look as if they were intended for a court like that of Louis XIV. To the Bavarian mind, however, the matter is perfectly plain. The King evidently reared these costly edifices in

treated Molière. The stables, where the King's fairy coach of glass and gold, his swan-shaped sledges and his milk-white horses were kept, stand close to the hotel, and from this point the palace cannot be seen, as it is completely embowered in trees. Before reaching the palace you come upon the old hunting-lodge of King Maximilian, now used by the Prince Regent, a mere cottage. But the next moment an opening in the curtain of trees brings the marble palace into view, with its gleaming terraces and porphyry staircases, its gardens laid out as Le Nôtre would have mapped them, its belvederes and kiosks with gilded cupolas. The buildings are all in a rococo style, and the palace itself, a little gem of architecture, is only large enough for a king with a very intimate suite. But it makes the heart ache a little to think that it never received any company at all; its memories concern the King himself, and nobody else. There are drawing-rooms and boudoirs of dazzling luxury, the furniture covered with silks and satins of the most delicate tints of pink, light blue, lavender and saffron, all embroidered with the richest work of pure gold and silver lace. Countless mirrors multiply the beauties of these rooms a hundredfold, and make long avenues of glittering things appear wherever the glance turns. There are chambers for queens and ladies, but the rustle of a dress was never heard in them while Louis reigned. He was a great



Room in the Town-hall, Überlingen, Germany.

order that British and American tourists might come and look at them, thereby adding Pactolus to the number of Bavarian rivers. To quote the landlady of a little hotel at Prien, near Chiemsee: "Our poor King laid out his money at a good interest for us, sir. We now have strangers here all the summer through! Why, my hotel never would have existed but for yonder palace!"

Schloss Linderhof, the smallest of the palaces which Louis II erected, is distant an hour and a half by carriage from Oberammergau. The drive lies through a series of rich grass valleys, hemmed in by mountains, some of which are hooded with snow all the year. The dark green of the firs on the steep mountain sides, the light green of the turf on the slopes whence the trees have been cleared, the masses of blue and gray rock ascending into crags, which the slightest fall of rain wreathes in long garlands of mist, and the pretty cottages dotted everywhere about, with their wooden balconies and fretted gables, make up a succession of picturesque sights which keep the eye roving without ever tiring it. A plain gate forms the entrance to Linderhof Park, and the carriage stops at a hotel which is now devoted to excursionists, but which was formerly a dependency of the palace, where cabinet ministers, king's messengers and other such persons put up when they had business to transact with his Majesty. Until within a few months of his death, Louis II discharged all his functions as a constitutional sovereign, but his intercourse with his ministers was conducted mostly by writing and telegrams, and he limited his personal interviews to extremely brief conversations held in an anteroom. It is said that only one person ever dined with the King at Linderhof, and that was an actor from the Court Theatre at Munich, whom he treated as Louis XIV

smoker, but had no smoking-room, and scattered the ashes of his cigars in a truly royal way all about those dainty rooms, where one would expect to see nothing worse in the way of litter than rose-leaves. So, likewise, did he flip off the ink from the nibs of his gilt and silvered quill-pens onto the soft cream ground of the Turkey carpet in his writing-room. This study by itself is enough to show what care the King took that his own personal surroundings should be magnificent. The chair in which he sat was a throne; the table is covered with light-blue velvet; the ink-stands, candlesticks and pen-trays are all of gold. In the dining-room, again, the chair is a throne; the table, with a white marble top (which, by the way, was once cracked in two by a careless servant) stands on a trap-door, which, at the touch of an electric-bell, descended into the kitchen regions whenever a fresh course had to be served. No servant was admitted into the dining-room while the King was at table. His two valets, Mayer and Sedlmeyer, attended upon him in his dressing-room, but saw little of him at other times, except when they took turns in escorting him during his nocturnal wanderings in the park and his midnight breakfasts in the Grotto. This grotto, at a stone's throw from the palace, affords the first unmistakable indications that the King's mind failed him during the last months of his life. The cavern is an imitation in stucco of the famous caves at Adelsberg; it has a miniature lake, a waterfall and electric-lights of all colors, which make a brave illumination; but it also contains a number of things which are never to be seen in real caverns. Garlands of tawdry paper roses are festooned upon the walls, and more hideous roses and tulips of majolica are made to cluster over the little rocky recess where the

King used to recline upon a tiger-skin while he took his favorite repast of champagne and fruit.

The floral adornments of the Grotto are out of keeping with the faultless taste which the King displayed in all his other fancies. It was, indeed, at Linderhof that his mind stumbled over the dim line that separates eccentricity from insanity. During the spring of 1886 he ceased to read State papers; his mother endeavored to see him, but was refused admittance. Baron von Lutz, the Bavarian Prime Minister, managed to enter the palace, but the King would only speak to him from behind a screen. Night after night the unhappy Prince wandered about his rooms, which were gorgeously lit with wax candles, and he was heard reciting poetry to the pastel portraits of lovely women on the walls. He was known to carry a revolver, so it was considered unsafe to apprehend him during the night, which was his day-time, and he was sleeping at noon in his darkened chamber when doctors surrounded his majestic canopied bed and took him into their custody. This was at the beginning of June, and before the end of the month the King had drowned himself, along with Dr. Gudden, in Lake Starnberg. The Château of Berg, where the King's last weeks were spent, is an old family residence of no great pretensions; but Louis II was very fond of the place, and often went there to seek repose of mind after the excitement produced by his artistic creations. He was a diligent reader of works on art, and possessed several hundreds of albums full of architectural designs and engravings of sculpture, all of which he carefully annotated while sketching out his plans. It is not so

generally known that, while building the Palace of Herrenchiemsee on the model of the Château of Versailles, he made a great number of private excursions to the city of the Grand Monarque. Traveling in genuine *incognito*, attended by only one servant, he would put up at a small hotel, and spend hours every day roaming, notebook in hand, through the great palace and through the two neighboring residences, the Grand Trianon and the Petit Trianon. On one occasion only did he make his presence officially known to the French Government, and he did so in order to obtain permission to while away a few hours alone by moonlight in the Galerie des Glaces. This reminds one of Alfred de Musset trying to revive his failing inspirations by passing a whole night in the Galerie du Louvre. In the poet's case, the cure did not work; in the King's it seems to have been effective, for the Galerie des Glaces at Herrenchiemsee is much finer than its French prototype, and the palace, as a whole, is, perhaps, the most beautiful in Europe.

It can be reached within two hours from Munich. The railway station is at Prien, whence a steam tramway carries you in eight minutes to the steamboats which ply over Lake Chiemsee. The lake has three islands: the Fraueninsel, on which stands a convent; the Krautinsel, or Kitchen Garden isle; and the Herreninsel, which is occupied by the palace. No more enchanting site can have been chosen for a royal dwelling, as it commands a prospect of the most varied and beautiful scenery—lake, mountains and valleys. The King visited the place fifty-two times while the building was in progress (it was begun in 1878), and, from the time when the Galerie des Glaces was finished, its 3,000 wax candles were always lit up for him at night. The villagers who live on the lake's shore tell you of the strange effect that was produced by the blaze of light streaming through seventeen large windows when all around was gloom. People used to come out in boats to watch the sight. It appears to have been thought in those times that the King was building the palace in fulfilment of a vow, and that when it was finished he would renounce his solitary habits and invite princes from all parts of the world to enjoy his hospitalities. He must have dropped some words to that effect, for the hosts of artists and artisans, masons and upholsterers, painters and decorators spread descriptions of guest-chambers which were to be as grand as the apartments for the King's own use. However, it is only the principal state rooms that have been completed. Of the two wings

that were to flank the main building, one is but half-finished, and the other has only the foundations. The banqueting-hall, the theatre, a guard-room and a second grand staircase of bronze, forming a companion to the marble staircase up which tourists now pass, were to have been completed in the year when the King died; but the works have been stopped, and there is little chance of their ever being carried on. The private gardens, with their fountains, are ready; but the park, which was to have covered the whole island, remains a wilderness, while the avenue leading from the lake to the grand entrance is only marked out, and the trees planted on either side of it are but saplings.

Yet the palace, as it stands, offers splendors enough to sate any sightseer. Louis II was a very Pharaoh as regards his faculty for making people work. Every task begun had to be pushed on night and day, and as fast as the walls of a room were dry, painters and furnishers were turned into it to make it habitable. Thus all the apartments open to the public are complete as to the least of their fixtures, and it must be confessed that the paintings on panels and ceilings, the marble sculpturings and the wood-carvings, fill one with amazement as to how work so good could have been executed with such rapidity. The idea animating the design of the whole building is French. The palace was to have been one worthy of Louis XIV, and the Golden Sun, which was the emblem of the Roi Soleil, is seen everywhere about. This has suggested the little joke that Louis II was not moonstruck, but had a sunstroke; he was, in truth, so much under the glamor of the old court at Versailles, that he

bent the talent of his Bavarian artists in a direction which was unnatural to them. This makes their performances in imitation of French art all the more wonderful, and, for the rest, it must be owned that most of the rooms in Herrenchiemsee are improvements on the Versailles models. The Hall of Mirrors, for instance, is 114 metres in length; that is, 13 metres longer than the Galerie des Glaces. It is also wider and loftier, while the mirrors are much larger and finer than those which the French king obtained from Venice in the seventeenth century. The hall contains 300 mirrors, 33 crystal chandeliers and 44 monumental bronze-gilt candelabra; the settees



The Inner Court, Houghton Tower, Lancashire, England.

are covered with dark-blue velvet, with golden lilies worked in relief upon them. Finally, this unique hall, which is decorated with busts of Roman emperors and with countless stands for flowers, has seventeen bow-windows, draped in royal blue velvet.

It is always amusing to hear the remarks of humble folk upon the pomps of a palace like that of Herrenchiemsee. An honest Bavarian couple, of the Hermann and Dorothea type, were following the blue-coated guide from room to room in a condition like that of the Queen of Sheba after her visit to Solomon. The lady held up most bravely, as beseemed her sex, but she, too, became limp when the state bedroom was reached, and the blue man pointed to the embroidery of real pearls on the curtains of moss-green velvet. Then all remnant of spirit was crushed out of her when she learned that the toilet-table service was all of massive gold. Hermann, using both hands, and with his teeth clenched, could just lift the basin; Dorothea found it as much as she could do to handle the sponge-bowl. Louis II never slept in this state room, the bed of which, as Dorothea observantly remarked, is larger than the entire bed-chamber of some people; but the room in which he did sleep, which has a matchless toilet-service of turquoise-blue Dresden, is hardly less sumptuous. A small staircase descends from it into the bath-room, where stained-glass windows and pink silk hangings throw a rosy light upon a marble basin 6 feet deep and 30 feet in circumference. Here the King bathed twice a day—or rather, twice a night—in water warmer than most people could bear it. The contiguous dressing-room is furnished with crushed-strawberry silk, embroidered with silver, and is entirely panelled with mirrors. Like Anne of Austria and the Man with the Iron Mask, Louis II had a passion for fine linen, and none could be too soft for him; he changed his costumes pretty often, and was fond of attiring himself

in velvet clothes of sixteenth-century fashion. Out-of-doors, he wore a Tyrolean suit, but after the Franco-German war, during which he sported uniform for six months, he was scarcely ever seen in military attire. In the course of his whole reign, he only once passed a review of troops.

There were great exaggerations in the stories about Louis II's relations with Richard Wagner. Who has not heard of the tank with blue water, which was built on the roof of the Castle of Hohenschwangau to imitate a lake? Wagner and the King were said to have boated together in this tank, until one day the thing burst and flooded a suite of apartments. A common water-tank did burst once at Hohenschwangau, but there is no more truth in the whole story than that. At one time the King liked to be rowed about in four-oared, swan-shapen barques over Lake Starnberg, and Wagner may have accompanied him in a few of these night excursions; but the King and the composer saw more of each other at Munich and Bayreuth than anywhere else, and by all accounts the King's taste for Wagner's music was not so indiscriminating as the composer would have wished. A coolness arose between the two before Wagner died, and there is no record of the composer's ever having visited the newest of the King's highland palaces. Hohenschwangau, which is at a four hours' drive from Linderhof, is remarkable from the fact that it was sold in 1820 for 200 florins, or 16l. 9s. Its neighborhood had been devastated by a succession of wars, and nobody thought the place fit to dwell in. Twelve years later it was purchased by Crown Prince Maximilian, who restored it outwardly and inwardly, so as to give it the look of an old baronial castle. It has none of the grandeur of Schloss Neuschwanstein, which stands close by on the heights of the Tegellberg. The rocks form sheer precipices on three sides of this eminence, and the castle looks from a distance like a powerful mediæval citadel. As you ascend to it by its one approach, and as the gigantic proportions of its Roman architecture become visible, you are assailed by the thought, which is ever recurring in the contemplation of Louis II's works; namely, how the King managed to achieve all these things without running into debt more deeply than he did. The mere carriage of granite and timber up to the Tegellberg must have been a mighty feat, and you have only to look at the scaffolding on the western side of the rock, where new buildings were to be erected, to reckon what a stupendous amount of labor and ingenuity the construction of this castle must have been from first to last. The King, whose genius and energy supplied the motive power to so much human skill, was certainly no common man. Admiration compels the acknowledgment that it was only a mind supremely gifted that could have designed palaces like his, and filled them with art-treasures so rare. Painters, sculptors and artificers of all kinds lost an unsurpassed patron in the King, who would have nothing about him that was ugly, and who bought without bargaining any object that pleased his delicate taste as a *connoisseur*. With every sympathy for the Bavarian Minister of Finance, who has had to set King Louis's money affairs straight, and with the Prince Regent, who is pinching himself to disencumber the Civil List, one can only say, as the Bavarian peasants do, that if the late King had been as other men, the world would have missed a great deal that was worth seeing and worth paying to see. — *The Times*.

SILISIAN COUNTRY-SEATS. I.—III.



"All the Modern Improvements."—No. 13.

castle in Berlin. But the instances are frequent enough where a separate dining-room exists, to warrant the description of one in a typical seat. It will coincide with more instances than any description of other rooms can, for, in my experience, but one style of dining-room is patronized.

This style is that of the so-called German Renaissance (see illustration); a style peculiarly adapted to the function of dining-halls, and the only organized, integral style which German interior architecture has produced. Its origin is to be found in the habits of the German monks who were half huntsmen and half epicures. And, indeed, it is suitable for representing the life of the provincial squire of to-day, who is always a huntsman and often one who is devoted to the pleasures of eating. Then, too, the objects which this style embraces have no theoretical objections to withstand, for the plates and glasses which it depends on for decoration have certainly the best of reasons for being present, and the horns and heads of deer are symbols of a common article of food; even the weapons, as far

as they have a reference to sport, have a *raison d'être*, while the marquetry of the walls, the thing which most conveys the richness in the aspect of such a room, is an elaborate outgrowth of the necessity for shelves.

This marquetry is plain in the illustration, which is the hall of the monastery in Bebenhausen; but in the typical manor the panelling is carved, divided into fields by columns or pilasters, and sustains heavy shelves on capitals or cornices. A favorite covering for the wall space above this panelling is leather, pressed or painted with patterns similar to those of the chairs and benches. The ceiling is always wood and is pierced, at intervals, with brazen or iron hooks. These support the candelabra, which are antlers suspended from massive chains.

If the cartouches of the walls are brazen or of gilded bronze, these chains and the sockets for the wax lights at the ends of the antlers are also gilded; if not, they consist of iron or inferior bronze. Candelabra without additional decorative parts in the shape of human figures convey a more harmonious impression than those with such figures, as, indeed, it was a late and baroque fashion which engrafted this senseless adjunct upon the original style. Where it occurs, however, the table candelabrum, the plate and the glassware of the table as well as the table and dining-chairs are found decorated with the same heavy type of figure, which came into existence in cloisters devoted to the Holy Virgin, and ended on rococo brooches and pendants.

In Germany the high-backed dining-room chair is as frequently seen as the low-backed chair. The older the manor, as a rule, the greater is the vogue of low-backed chairs, whereas new possessors of knightly domains seldom withstand the temptation which the lofty back offers for the display of armorial carvings. The genuine style is of course the first, or low-back chair, since it must be easily movable, and the mediæval, high-backed, German chair was a baldachin or



The Hall of the Monastery, Bebenhausen.

wall chair, heavy, wide-seated and of traditional exclusiveness and dignity, and the cause through its ear-laps and arm-rests of uncommon difficulty in serving.

In the dining-hall of the manor of Count H., the chairs number forty, and stand against the walls when not in use. The only bench in the room is backless, save for large, square cushions, and stands behind a small table that supports the Bible which is used in family prayers; for where a chapel is wanting in manors, as is generally the case, this function of a place of prayer is also relegated to the dining-room.

The proverbs above the doors, set together of letters cut out of light wood, inlaid into the dark stain of the background, are jovial adjurations, for the most part, to eat, drink and be merry, while the buffets built in the wall in place of the ancient fireplace, has like inscriptions.

A small room adjoining the dining-hall has been recently fitted up from a vaulted chamber into a library at an expense of twelve thousand marks, or three thousand dollars; a sum that represents the amount, perhaps, which is commonly spent in manors for old German fittings. The village cabinet-maker is still patronized, but where great undertakings are decided upon, such as the prompt furnishing of an entire room, German gentlemen now resort to decorative architects in the town, or to great house-furnishing stores. The instances are rare in which an old manor gets fitted up otherwise than by piecemeal, or one room at a time.

The vaulted galleries or chambers adjoining the library in the present instance thus retain their ancient, barren aspect; the village cabinet-maker, to be sure, is measuring wall-spaces and jambs industriously, but the result of his application, and the application of his apprentices, is a meagre lot of unartistic wardrobes, with only here and there a fine old-fashioned scroll or volute. The floors here cease to be parquetry and the ceilings to be ornamented. In times of military manœuvring in the province, the chambers are fitted up with beds, and serve the young officers that are quartered upon the manorial domain, as sleeping-rooms.

The stairway of the manor is composed of massive limestone treads, set into solid walls, and covered by a tolerably lofty arched ceiling of plaster. Its flight is broken by a landing-place, with

windows in front and a door at each side; these doors leading into spacious chambers for closets, the height of the ground-floor allowing of an *entresol* over the vaulted gallery chambers, just described, and the storeroom and butler's room.

The treads are low and broad; as, indeed, the whole stairway conveys an impression of a certain fine ampleness of plan, which only wants architectural decoration to become quite dignified in aspect. As it is, the cold stones are not covered by so much as a strip of carpet; so that one has again here an example of the barren spots, which even rich manors abound in, if they be of the old sort and in the hands of conservative nobles. The cases are not so rare where a stair-covering of some sort is found; the present house, as I have tried to emphasize, is the typical manor only; but extremely rare are instances where a stairway plays any rôle in the house save that of a passage, and hence arises the shock of surprise which Germans experience when they read of our Western stair-liftations at balls, or of the using of treads for seats.

The stairway forms, of course, a funnel for draughts in winter, for which reason nearly every one in Silesia has been barricaded at the top landing, in one generation or the other, by a wooden wall and door. But passing by this cheap partition, one comes again upon an imposing bit of architecture. The upper hall has an extravagant width, and runs from the front to the back of the manor, its windows at one end opening upon the court, and at the other looking out upon the stretch of park. It has been finished and decorated much oftener than the stairway; and, beside a frieze and walls divided by ornamental stucco-work into fields, it contains furniture (again in the shape of wardrobes), weapons or even rows of family portraits.

Early seats possess no fireplaces or stoves in the upper halls. Where they are heated it is now done by iron stoves, called "American stoves"; it being unusual for proprietors to assume the expense of cutting through the ponderous walls and floors of the manor, for the purpose of laying hot-water pipes.

One end of the hall often holds a billiard-table. This favorite game of billiards, however, is commonly played in one of the half-empty rooms that line either side of the hall. The other rooms are bed-chambers. Their size is spacious, but their architectural details are seldom very different one from another, and all rooms are inferior in their furnishings to that of the bridal chamber.

The traditional situation for this is the central outlook over the court and its stables; just as the traditional situation for his honor's room is on the front side of the house near the door, and with a lookout upon the same important centre of the wealth and activity of the domain. For, however much has been adopted from city styles and foreign customs into your German manor, some homely primeval traits still appear, and one of these traits is this practical arrangement for putting beast and *knecht* under the eye of their master by day and night, throughout the year. The peasant has retained the old habit in greater completeness, since his bed is even raised also on a platform in the centre of the house; but

enough remains in an old manor to bring back reminiscences of patriarchal days.

The bed overwhelms every other thing in the great room in importance, and is apt to be the masterpiece of a cabinet-maker's life. The lofty posts are turned and carved, growing, like spires, more slender towards the top. Sometimes the old wooden roof exists with a new lining of flowered silk. If, however, a modern taste has dominated the old traditions, a hand has been ruthlessly laid on the ancient lists and their carved flock of cherubim, and the upholsterer directed to replace the worm-eaten wood by a material easier to repair and keep clean. In every case, however, the three sides are hung by heavy curtains.

Very often the same material is draped in a pointed-arch form about her lady's mirror. I hardly know whether the aim here was

to give a covering near at hand in case of a surprise; it seems the more likely, because the early form of drapery was so full as to be quite available for such a purpose; and what else could have been the *raison d'être* of curtains? They are a marked hindrance to the light. Nor can we think of this hindrance as insignificant, in as far as candles are in place when the toilette glass is resorted to. This may be true in England, and it was true in France, when the tall-backed rococo toilette table with its candelabra came into vogue. But the hour for dining in Germany is shortly after mid-day, and dressing has been done for generations by daylight.

The most that is done is to reduce the drapery to a minimum; sometimes hardly anything is left except an embroidered puffing around the glass; but the tradition that demands some drapery about her lady's toilette table is never set aside wholly and for good.

The table stands free in the room, as a rule, in front of a window, allowing the full light to fall on the face. And to the table belongs a low stool.

Other bed-room pieces are a wardrobe to contain the linen of her ladyship, a larger piece, to hold her common dresses; a third, for her hats, fans and so-forth; a chest of medicine; a full length, movable mirror; a *chaise longue*, table, and washstand.

Old manors are very rarely planned to admit of dressing-rooms or bath-rooms. The chambers, on the contrary, are of equal spaciousness, and all were meant to combine the functions of the toilet with sleeping under one and the same ceiling.

The seventeenth century brought attention to the sleeping-room, and the remains that are found which have any artistic worth in the way of architectural decoration belong to this period. They take the form of stuccoed ceilings and friezes and door-frame ornamentation. The stove and hanging-lamps of the period were also often noteworthy; the latter being invariably of painted-glass, let into fantastic globes or basins of gilded bronze, suspended on gilded chains.

And now a word about the kitchens and garrets of these Silesian manors, for the first forms a very important part of them. It lies in the basement, and no matter what may be its size, it is vaulted and contains a very large, flat stove. This stove is built of



Vestibule in the Belvedere, Vienna.

white glazed tiles bounded by rims of brass. Often the whole portion of the wall which it is built against is also covered with tiles; and in this case, the air of it is clean and spotless to a delightful degree. In every kitchen long lines of hooks run around the room, hung each with its polished pot or pan.

There is no especial servants' hall. A vaulted chamber is used here for a servants' eating-room, another for an ironing-room, a third as a wash-kitchen, while great ponderous mangles occupy a fourth, and wine-casks and bottles a fifth. The cold chambers on the north side of this cavernous region serve in winter as preserving closets for game; as a matter-of-fact, indeed, all that is necessary for separation of kitchen and cellar is a vertical opposition in respect to locality. The natural atmosphere of a manorial basement is cold and chilly; the massive partition walls drip with moisture (in North Germany) and the stone floors ooze with dampness, and only the constant, steaming heat of the kitchen keeps a few chambers dry enough to be inhabitable.

Sponge, a sort of clammy fungous efflorescence, or wet rot, infects forty out of every fifty manors; and a library of recipes against this plague makes up a portion of the German architect's and builder's outfit, without, however, having resulted in its extermination. Where chemical washes have killed the fungi, and circulation of air is imperatively required to prevent moisture and the formation of a fresh breeding-ground for new spores, the plan of the old foundation opposes itself as an insuperable object against even a weak circulation. The interior arches, under the centre of the house are often lower in height than those towards the outer, windowed walls, and besides the massive walls of the chimneys—often themselves as large as rooms in size—are others, or even boulders and masses of naked, original rock. (In the manor of a friend of mine, such a boulder, the top of which nearly struck the floor above and could only be reached by a ladder, was found tunnelled out horizontally. The diameter was just large enough to admit of a man passing through it. At the bottom of the pit, however, was the mouth of a subterranean passage, high enough to allow of a man's passage through.)

The decay of old buildings is, I am convinced, to be ascribed a great deal more to this fungus than to the other causes usually adduced by lay writers. "War and lightning" are the stereotyped phases when the cause of the ruin of manors is broached; whereas a few architectural or engineering statistics would prove, that while

the accidents of war and of weather are occasional agents of destruction, wet rot is a perpetual enemy. Even where manors are thickly inhabited and warmed, sponge appears in the second story, having eaten its way upward from the basement along mop-boards or under floors. The only salvation against decay in manors, whose cellars are built after the old methods, is restoration, in our day; and it is admissible to surmise that things were not much different in old

times. As for the garret of a Silesian seat, it must be imagined as an unfinished floor, with a series of partitions into a broad hall, and side chambers just as below stairs. Some of the chambers, indeed, are plastered and are inhabitable, or are even inhabited. The great hall serves as a drying ground for the monthly washes during the winter; other unplastered chambers contain stores of bedding, and so forth. Lumber-rooms are filled with double-windows; other contain old pieces of furniture which has been judged to be too elaborate in design, no matter what its stage of decay, for presentation to any of the retainers of the

domain. It is seldom that manors have reserved chambers, like museums, for memorials of foregone lewd times and fashions. In one garret, nevertheless, I was shown fragments of rococo furniture and doors that had filled the sleeping-room of some Falstaff of an ancestor; an incident that interested me, because whereas the common topics of rococo paintings are mythological or ideal, these

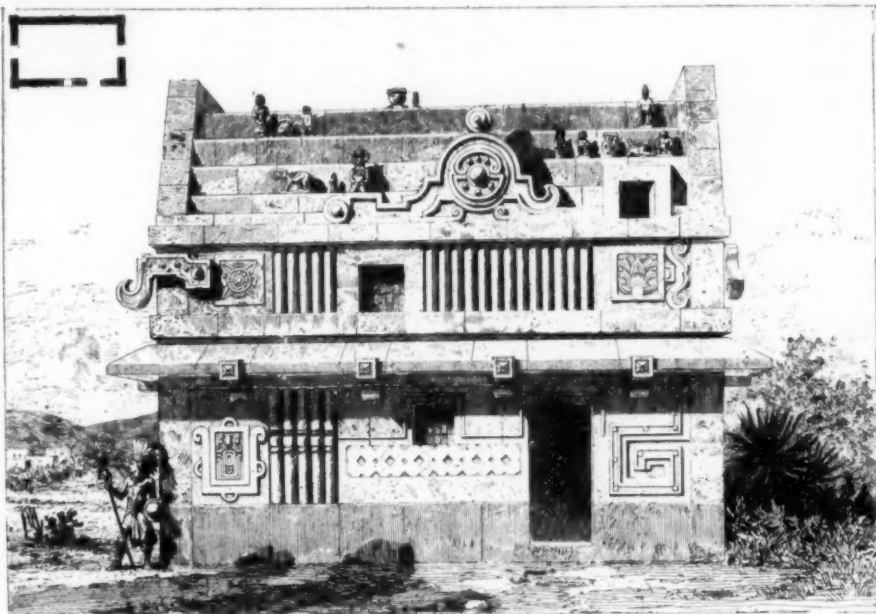
were the personal amorous biography of the occupant. Was the old fellow an original? Or were such biographical chamber decorations once a fashion?

The paintings are designs in gay colors on a white background. Each door is divided into four fields, and the panelling is ornamented with garlands. The effect must have been charming, and the biographical idea is capital. All biographies are not Falstaffian! and certainly in the intimacy of a chamber, past moments that have been felt to be supreme in the lives of spouses and in the growth of their mutual love must be more

interesting as subjects of a frieze or panel, if embodied with the same artistic skill, than the present run of genii so often found in friezes of every species of room. If the objects selected for decorations in ball and reception rooms, be such as respond to the sense and the historical knowledge of all visitors in common, in our day of intensified individuality, the decoration of private rooms may surely have reference to personal history. A gem of a bridal chamber would thus not be only one in which every relief and tone were chaste and exquisite, but where the paintings and the



Italo-Roman House.



Aztec House.

sculpture responded to the intimate, mutual memory of the occupants.

But now to make a brief review. We have seen that the manor of the middle aristocracy is still often old, plain and massive in structure, with two-storied roofs and simply decorated façades, without any outside demarcation of stories, and, if unimproved, with more details in the rococo and baroque styles, than in the Gothic or Renaissance. The chief air of its interior is everywhere that of spaciousness, the same in bed-chambers as in society rooms. The only romantic surprises in the way of steps and vaulted galleries occur in an *entresol*, introduced on the north or storeroom side of the house. The vestibule occupies the court-yard side, the ball and society rooms the park sides of the manor. Stairways are encased in solid walls. Large portions of the interior are incompletely furnished. The basement is vaulted and serves likewise as a cellar. I might add that a few are encircled by a moat or ditch.

COUNTESS V. KROCKOW.



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

HOUSE OF W. F. APTHORP, ESQ., CORNER OF OTIS PLACE AND MT. VERNON ST., BOSTON, MASS. MESSRS. ROTCH & TILDEN, ARCHITECTS, BOSTON, MASS.

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

CLUB-HOUSE OF THE LAKE ST. CLAIR FISHING AND SHOOTING CLUB, ST. CLAIR FLATS, LAKE ST. CLAIR, MICHIGAN. MESSRS. ROGERS & MACFARLANE, ARCHITECTS, DETROIT, MICH.

This club-house is built over three feet of running water, with a little land thrown up on one side, on which a few trees have been set out. It is ten miles distant from the nearest mainland.

PUMP-HOUSE AND MECHANICAL BUILDING FOR THE EASTERN HIGH SERVICE PUMPING-STATION OF THE WATER DEPARTMENT, BALTIMORE, MD. MR. JACKSON C. GOTT, ARCHITECT, BALTIMORE, MD.

THE construction is fireproof throughout, no wood being used except for windows and doors. The exterior walls are of sand-brick in red mortar and red Seneca stone, the interior facing being of vitrified buff brick and the roofs are covered with the Linderman patent roofing tile.

SEATTLE NATIONAL BANK BUILDING, SEATTLE, WASHINGTON. MR. JOHN PARKINSON, ARCHITECT, SEATTLE, WASH.

This building, now in course of erection, is estimated to cost something over \$200,000. The first two stories are local bluestone, the rest of the building being of press-brick, terra-cotta and Colorado red sandstone. The first floor is to be occupied by banks and stores, and the remainder of the block by offices.

CHAMBER OF COMMERCE BUILDING, TACOMA, WASHINGTON. MESSRS. HATHERTON & MCINTOSH, ARCHITECTS, TACOMA, WASHINGTON.

This structure, lately begun, is estimated to cost about \$250,000. The two lower stories will be built of rock-faced stone, with dressed belt courses, and the upper portions will be of brick and terra-cotta, except on the main front, where the third and fourth stories will also be of stone. The general body of the towers will be of brick, and the highest one will reach to an elevation of 195 feet above the ground. The main feature of the interior is the chamber of commerce, which is 80 feet long by 48 feet wide and 24 feet high, and will seat, including the galleries, 1,000 people. In addition to the accommodations for the chamber of commerce, the building will also contain 10 stores and 132 office-rooms. It will be heated by the hot-water system and lighted by electricity.

HOUSE OF A. F. ROSENHEIM, ST. LOUIS, MO. MR. A. F. ROSENHEIM, ARCHITECT, ST. LOUIS, MO.

[Additional Illustrations in the International Edition.]

MAIN ENTRANCE, OSBORN HALL, NEW HAVEN, CONN. MR. BRUCE PRICE, ARCHITECT, NEW YORK, N. Y.

[Photogravure.]

NOTE.—An unforeseen delay in the printing of this plate prevents its issue this week. It will be published in our next number.

CARVED STALLS IN THE CHURCH OF ST. MARTIN-AUX-BOIS, OISE, FRANCE.

[Copper-plate Engraving.]

THESE beautiful stalls of carved-oak from the Church of Saint Martin-aux-Bois, Oise, belong properly in the category of selections which rise above the condition of mere specimens of actual work into the domain of historical monuments, which are the foundation of the studies to which an architect should devote himself when called on to compose or conceive a new creation. Such monuments as these are above criticism, and the teacher or editor has fulfilled his task when he has laid them before his reader's attention.

THE NEW UNIVERSITY, VIENNA, AUSTRIA. BARON HEINRICH VON FERSTEL, ARCHITECT.

[Gelatin Print.]

HOTEL ROYAL, KAERNTHNER STREET, VIENNA, AUSTRIA. ALEXANDER VON WIELEMAN, ARCHITECT.

[Gelatin Print.]

NEW CHURCH, ST. PETER'S, EALING, ENG. MR. J. D. SEDDING, F. R. I. B. A., ARCHITECT.

NEW RIVERSIDE HOTEL OR CLUB, CAVERSHAM, READING, ENG. MR. GEO. W. WEBB, F. R. I. B. A., ARCHITECT, READING, ENG.

THE building is to be erected on a piece of land adjoining the River Thames, a short distance from Caversham Lock, and opposite the Clappers, and close to the Great Western and South Western Railway stations. There is no hotel on the river down stream nearer than Sonning, three miles away. The hotel accommodation would be as follows, viz., coffee-room, 50 feet long with two bay windows, private sitting-rooms, etc., and twenty bedrooms. The building is to be fitted up with electric light in all rooms. There is a tennis-lawn at rear, and boat-houses for the use of visitors are already erected adjoining the site.

FOUR COTTAGES, HIGH GARRETT, NEAR BRAINTREE, ESSEX, ENG. MR. T. LOCKE WORTHINGTON, A. R. I. B. A., ARCHITECT, LONDON, ENG.

THE perspective presents two of four cottages which are being built at High Garrett for the trustees of the late Miss Cawston. The cottages might appear at first sight to be extravagant in their picturesqueness and awkward in their accommodation, which is by no means the case. The rooms on ground-floor are arranged to suit the special requirements of tenants in this neighborhood, and the three bedrooms provided in the roof space are well lighted, each having a fireplace and ample headway.

SCHOOL BOARD OFFICES, BLACKBURN, ENG. MESSRS. STONES & GRADWELL, ARCHITECTS, BLACKBURN, ENG.

THESE offices are now being erected on Library Street and Richmond Terrace, Blackburn. The design was chosen in competition, Mr. Murgatroyd, of Manchester, being called in to advise the Board on the merits of the various plans submitted. The building has an elevation designed to be in harmony with the Free Library on the opposite side of Library Street. The accommodation provided will be of a very ample character for all business appertaining to the School Board. The building will be faced externally with Yorkshire parpoints and have Yorkshire stone dressings. The roofs will be covered with green Velineli slates and have red ridging. The floors throughout will be of concrete, with wood-block, granite, or mosaic finish. The ventilation, drainage and lighting have all been provided for on the most improved systems.

OLD BALTIMORE INNS.—The old Baltimore inns, with their swinging signs, their substantial fare, large yards and stables and jolly landlords, are rapidly passing away. The General Wayne Inn, the last of its kind, with shingled hip roof, quaint gable windows, sturdy chimneys and the swinging sign of Mad Anthony in Continental uniform, is being torn down by its owner, Colonel J. Thomas Scharf, who will put in its place a large warehouse. It was built shortly after the Revolution by Colonel John Eager Howard, and was in the direct route North and South and to Washington. It sheltered many prominent persons, and from it the Lafayette procession of 1824 started. Western teamsters and drovers made it a favorite haunt, and the highways were nightly blocked by great Conestoga wagons drawn by six and eight horses. The old swinging sign will find a resting-place with the Maryland Historical Society. The inn was remarkably solid in construction, and had considerable architectural pretensions in the style of Queen Anne and the Georges. In the interior could be traced the influence of Sir Christopher Wren and the French architects of Louis XV and XVI. The joinery of the roof has been a study to the many architects who have visited the scene since the tearing-down began.—*Baltimore Sun*.

BURNHAM THORPE CHURCH.

THE subject of the above sketch is of interest historically, as well as architecturally, from the well-known connection with it of the family of Lord Nelson, and the fact that its restoration is now progressing with the active interest and assistance of the royal family of England. The London *Architect* states that at a recent meeting of the restoration committee, held at Marlborough House, the Prince of Wales presided, and opened the meeting by saying "that though it was, perhaps, unnecessary for him to state the object for which the committee were called together, he might mention the interest he took in the proposed restoration of Burnham Thorpe Church, in which parish the great Nelson spent his younger days, and of which his father was rector for forty-six years. It seemed to him and other Norfolk men, and to many of those present holding high rank in the navy, that something should be done to perpetuate more than ever the memory of the great naval hero, and to take means, if sufficient subscriptions were forthcoming, to restore the church at Burnham Thorpe in a fitting manner."

His Royal Highness then called upon the Rev. J. Lister Knight, rector of Burnham Thorpe, who gave a short account of the church and the connection of the Nelson family with it for upwards of seventy-nine years.

Sir Arthur Blomfield, having produced plans, followed with an account of the details of the work required to be done to restore the church.

Mr. C. H. Stone, R. N., was appointed honorary secretary of the committee, from which a working-committee was formed, consisting of His Royal Highness, the Duke of Edinburgh (chairman), Admiral Sir George Wiles (vice-chairman), and nine other gentlemen.

The Prince of Wales invited subscriptions, which resulted in the encouraging sum of 1,750*l.* 19*s.*, including 1,000*l.* guaranteed by the family of Mr. Lister Knight, the rector.

The following bankers were announced as having consented to receive subscriptions, after which the meeting ended: Messrs. Gurney & Co., Hallett & Co., Sir E. Lacon & Co., Stillwell & Sons, and Woodhead & Co.

THE USE OF ALLOYS IN ART METAL-WORK.¹—I.

A FIT introduction to the kind of facts I shall have to bring before you is afforded by St. Gregory of Nyssa, who said, "How beautiful are the imitations of beautiful things, when they preserve visibly the impress of the prototype." To deal with beauty of form in metal-work would be quite beyond me, but it may be possible to bring before you some few facts concerning the coloring and texture of metals which would, I think, present themselves to any metallurgist who might consider the matter carefully. It is usual, at the present day, to think more of the form of metal-work, than either its color or texture, but the Roman artists did not neglect either, even in the case of large works, as is shown by the description given by Pliny of a bronze statue of a dying lady, the tints of which were so arranged that the life appeared to be gradually receding from the extremities of the limbs. He also describes a metal statue in which the sculptor wished to represent cheeks suffused with blushes, a result which was obtained by inserting points of iron in the bronze, the atmospheric oxidation of the iron giving a ruddy tint to the features. Allusion has been made to these cases simply to show that special treatment of color and texture may be applied to large monumental work, and not merely to the smaller productions to which our attention will this evening be mainly directed.

¹ A paper read at a meeting of the Applied Art Section of the Society of Arts, London, by Prof. W. C. Roberts-Austen, C. B., F. R. S., and published in the *Journal* of the society.

At the outset you may be inclined to question whether an effort should be made to impart color—even natural, or apparently natural color—to metal-work, which ought to depend mainly on beauty of form. Such a view would, however, hardly survive an examination of some of the old Chinese bronzes, such as those to which I shall refer later, in South Kensington, or even the antique bronze statues, with the wide range of blues and greens, which they have attained by age and exposure to atmospheric influences. Even if you admit that color may sometimes be advantageous, you may urge that servile imitation of the texture of one material in another cannot be legitimate art, and that point has been dealt with by Mr. Ruskin, with whose writings as a guide I have recently visited Florence, partly



with this paper in view. He leads us into the church of Santa Croce, to the memorial slabs of the late fourteenth or middle fifteenth century work which adorn the pavement of the church. Many of you know well the tomb to which I refer, of which Mr. Ruskin² says: "The old man lies on a piece of embroidered carpet protected by the higher relief, many of the finer lines of this are almost uninjured; in particular, its exquisitely-wrought fringe and tassels are nearly perfect." And he says: "If you kneel down and look long at the tassels of the cushion under the head, and the way they fill the angles of the stone, you will, or may, know from this example alone what noble decorative sculpture is, was, and must be from the days of earliest Greece to those of latest Italy."

Mr. Ruskin has carefully pointed out that the object of this rich adornment, and his words are the key to anything I may have to say, is merely accessory; or, to quote the learned teacher again, he says, "No great sculptor from the beginning of art to the end of it ever carved, or ever will, deceptive drapery. A man who will carve a limb or a face never finishes inferior parts, but either with a hasty or scornful chisel, or with such grave and strict selection of their lines as you know at once to be imaginative, not imitative. But if, as in this case, he wants to oppose the simplicity of his central subject with a rich background—a labyrinth of ornamental lines to relieve the severity of the expressive ones, he will carve you a carpet or a tree, or a rose-thicket, with fringes and leaves and thorns elaborately, as richly as natural ones, but always for the sake of ornamental form, never of the imitation, yet seizing the natural character of the lines he gives, with twenty times the precision and clearness of sight that the mere imitator has."

We see, therefore, the way in which the imitation of material, surface or texture may be useful as an incident of the main composition, and it is in this sense that I intend to deal with it while showing how such enrichments may be produced. I do not propose to dwell on the use of either *niello* or mere encrustations of gold, silver or copper, which the garments of figures of bronze often received at the hands of Greek and Roman sculptors. I would consider rather the actual imitation of the surface of other materials, such as wood or fabric in metal. Examples are rare in the best work of the Italian Renaissance. In the gate of the Baptistry at Florence, Ghiberti does no more than suggest the actual texture of the fruit and flowers he uses with such perfect skill, blending them chiefly for the sake of loveliness of form. Nor, so far as I can remember, does Peter Vischer attempt to imitate the texture of leather in the metal apron of his own statue in the shrine of St. Sebald, at Nuremberg. On the other hand, in the best of the fifteenth and sixteenth century coins, which were, of course, not monumental work but coins, the fur and silk embroidery of the Pontifical robes are often exquisitely and naturalistically rendered. Such treatment is especially well shown in the coins of Pope Innocent XII and Pope Alexander VIII, by Hameranus.

The Japanese, however, are the real authorities to whom we must turn for guidance in the use and treatment of alloys, both in texture and color. First, as regards texture, they seem to delight in copying

² "Mornings in Florence, being Simple Studies in Christian Art."

in metal-work the most delicate texture; even the bloom on the surface of fruit is not beyond their admirable skill. In tracing the nature of their methods, it is necessary to repeat what has often been said by others and by myself, respecting the alloys they employ in order to produce their wonderful results. There is a wide range of such alloys, but the principal of them are but few. There is an alloy of silver and copper, sometimes with equal proportions of precious and base metal, and there are endless varieties of copper of different degrees of purity. There are several kinds of brass, of which I cannot at present give you the analyses, because they belong to the Department of Science and Art, and will shortly be published by authority. They have also a remarkable series of alloys, in which the precious metal replaces the tin and zinc of ordinary bronze; but really their main alloys, with the exception of bronze, are comprised in the following examples:

The first is called "shaku-do"; it contains, as you will observe from Analyses I and II,¹ in addition to about 95 per cent of copper,

Shaku-do.	
I.	
Copper.....	94.50
Silver.....	1.55
Gold.....	3.73
Lead.....	.11
Iron and Arsenic.....	traces.
	99.89
II.	
Copper.....	95.77
Silver.....	0.08
Gold.....	4.16
	100.01

as much as 4 per cent of gold. It has been used for very large works. Colossal statues are made of it, one cast at Nara in the seventh century being specially remarkable. The quantity of gold is, however, very variable, and certain specimens I have analyzed contain only 1.5 per cent of the precious metal. The next important alloy used by the Japanese is called "shibu-ichi," and the following are typical analyses:

Shibu-ichi.	
III.	
Copper.....	67.31
Silver.....	32.07
Gold.....	traces.
Iron.....	.52
	99.90
IV.	
Copper.....	51.10
Silver.....	48.93
Gold.....	.12
	100.15

[To be continued.]



NEW YORK CHAPTER, A. I. A.

A REGULAR monthly meeting of this Chapter was held at its office in the Welles Building, 18 Broadway, New York, on Wednesday, June 11, 1890, at 3 P. M. President Littell in the chair.

The minutes of the last meeting were read and adopted. The Secretary moved that the Chapter take appropriate action in honor of the memory of the late Henry O. Avery, Practising Member, who died on Wednesday, April 30.

After some eulogistic remarks from members, the following memorial, prepared by President Littell, was moved by the Secretary, seconded, and unanimously adopted:

"The death of Mr. Henry Ogden Avery is a source of profound regret to those associated with him in this Chapter.

"Quiet, gentle and unobtrusive, he was always ready to work for the good of others—for the interests of the profession at large. His quick intellect gave him weight in council and fitted him for important, active work, which promptly showed the effect of his endeavors, and his genial nature endeared him to all with whom he came in contact.

"The profession has lost an accomplished artist, an earnest servant and a faithful brother; such men are rare."

The Secretary was instructed to spread the same on the minutes and transmit a copy to Mr. S. P. Avery, father of the deceased.

Reports from standing committees being in order, Mr. N. Le Brun, Chairman of the Committee on Examinations, reported that the Legislature of the State had not passed the amended building law for the city prepared by a special committee of which he (Mr. Le

Brun) had been a member, together with representatives of the building bureau, the building trades and the fire insurance corporations.

Reports from special committees being in order, the Secretary stated that none had yet been received from that on the Increase of Membership of the Chapter.

The Secretary stated that, in accordance with instructions received at the last meeting of the Chapter, he had written to Mr. Root, Secretary of the Institute, in relation to the non-appearance in the proceedings of the last Convention of the annual Reports of the Chapters and other matter, and produced a correspondence between Mr. Root and himself on the subject. A letter of Mr. Root's, of May 9, 1890, having been read, reference was made to the proceedings of the last or Consolidation Convention of the Institute, from which it appeared (pp. 72 and 73) that the Chapter reports having been referred to a special committee on all reports, that committee had duly reported thereon to the Convention.

After some remarks, the following resolution was put to the vote, seconded and unanimously carried:

Resolved, by the New York Chapter, That the Executive Committee of the American Institute of Architects be requested to issue, as soon as practicable, a supplement to the Proceedings of the last Annual Convention, which shall contain the reports of the several Chapters of the Institute and such other reports as may seem to them desirable for publication. A. J. BLOOR, Secretary.



WITHIN the past few months, several new influences have been exerted upon general business, and within the coming few months some additional agencies will be developed. Among those which will probably be apparent on the surface will be an expanded currency, and new fiscal regulations affecting manufacturing interests. Those not apparent on the surface, but really most powerful in their ultimate effects, may be defined as the influences for and against a heavy increase in railway construction, and in outlays in manufacturing and commercial enterprises, in the enlargement of the agricultural area, in the development of mining properties, the expansion of our export trade, and the establishment of new steamship lines. Mention has been heretofore made of the interest which capitalists are taking in a multitude of new schemes involving enormous outlays; the only question now is: shall these outlays be continued or restricted? The possibility of a reaction from the extremely favorable conditions of the past two or three years has been carefully considered and discussed by the highest financial and commercial authorities in the country. The point which is receiving the most attention is the degree of control which these great business interests will be able to exercise over the law-making power. In Great Britain, Parliament is to a great extent the servant of the commercial interests. Our law-making body has for decades past been permitted to do about as it pleased, making and unmaking laws as it saw fit; but of later years the business interests have been gradually exerting more and more influence, and have been impressing upon the law-makers the fact that they owe duties to the business interests which must not be ignored. While even now there are but few business men in Congress, business men exert more influence over Congressional legislation, so far as it relates to commercial and manufacturing affairs, than ever before. This control must of necessity increase, because of the intimate relationship existing between a good business policy on the part of the Government and successful manufacturing and commercial operations. American capitalists are beginning to see the possibility of making fortunes by extending trade with new countries, and they want to feel that their base of supplies, so to speak, is under their own control. The country has had too much of the mere lawyer, and too little of the practical business element in its law-making.

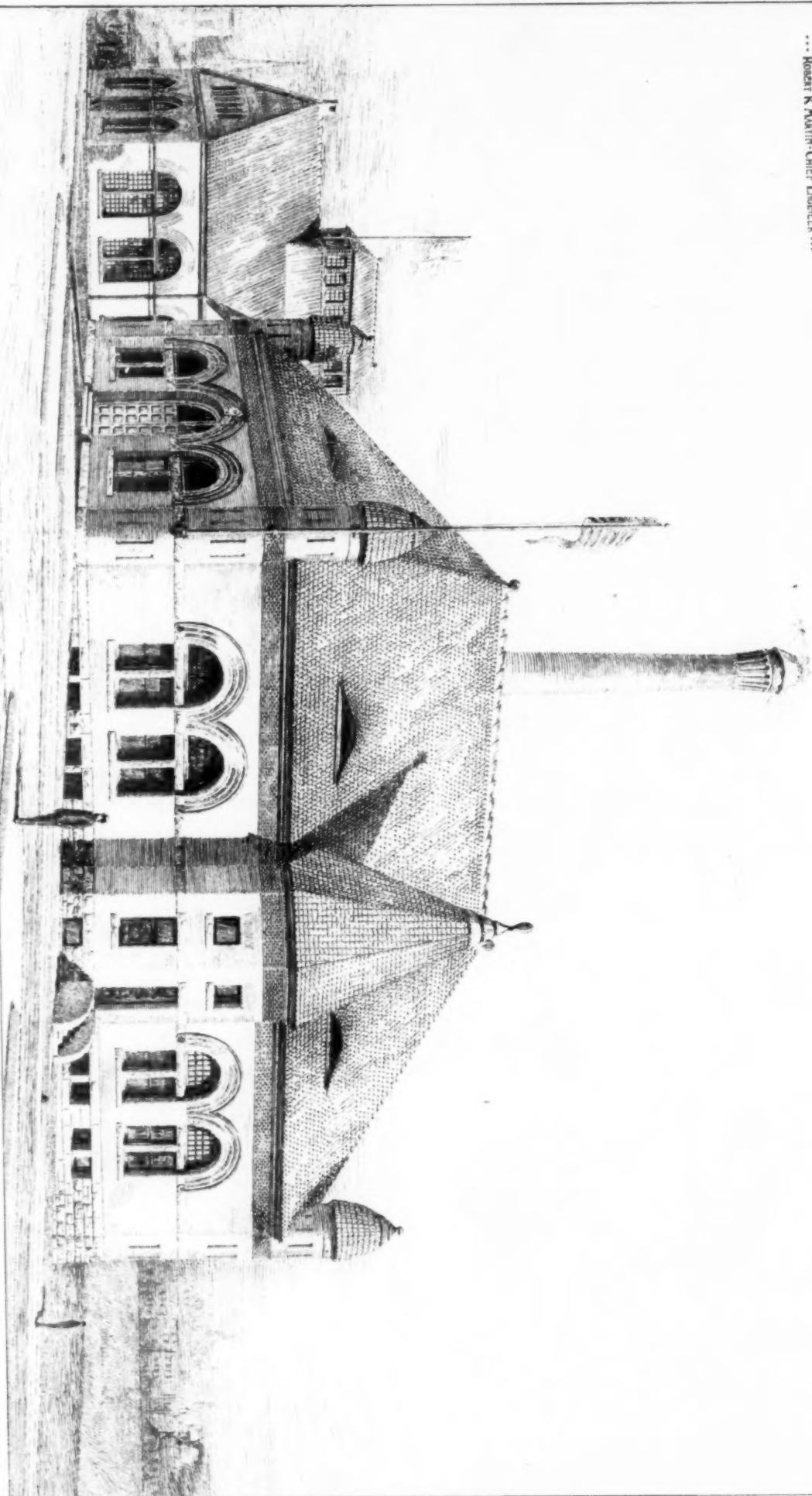
The manufacturing interests are in good condition; there is no over production and no danger of a break in prices. Everything indicates continued confidence and safety. It is worth while to point again to the fact recently referred to, viz., that the agricultural area will be largely increased during the next year or two, and that, too, in spite of the slight encouragement to enterprise in that direction. But the country is on the eve of a general expansion in the value of real-estate, not in cities and towns, but in arable lands, and mineral and timber lands everywhere. Shrewd capitalists some time ago correctly sized up this question, and have been actively securing control of the choicest areas. In fact, a speculative land movement has quietly set in, the magnitude of which may not be fully apparent for some months to come. Railroad construction has been the great moving cause, followed by the rapid spread of industries throughout the West and South. The heavy demand for mortgage money is simply an indication, in a small way, of what is coming. Magazine writers may prove to their own satisfaction that agriculture is being overdone, and that the low prices of agricultural products are owing to this fact; but they overlook the considerations which actuate those who seek homes in new sections. Rapid as has been the development of agriculture, it is destined to develop still more rapidly during the next five or ten years, even in the face of low prices. Iron-making throughout the country continues at the highest point ever reached. The rail-makers and manufacturers of all kinds of railway material and equipments are crowded with orders. The locomotive and car builders have been unable to accept orders recently offered for delivery within stated periods. The mining of coal is on the increase. An increase in the number of coke-ovens is noted in several States. Numerous short lines of railroad are being built; a revival of boat-building is reported at several Lake ports. The construction of machinery is engaging all available labor. The textile manufacturers predict a revival of activity in demand for their product during the coming six months. The builders have recovered from their discouragement, and are now contracting for material for a hurried prosecution of work during the next six months. It is evident that there will be no abatement of building activity, although in a few cities, and in many isolated towns, a slight falling off is reported. There is need of more house, shop, mill and factory room, and the demand will be met with all possible dispatch. The supply of hard and soft woods from the Gulf States and the Southwest is increasing, but the margin of profit on lumber is narrow, and this fact prevents a too rapid expansion of the saw-mill industry.

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

¹ Analyses Nos. I and III are by Mr. Gowland, of the Imperial Japanese Mint at Osaka; Nos. II and IV by Professor Kalischer, *Dingl. Polyt. Journ.*, ccxy, 93.

... ROBERT K. MARTIN, Chief Engineer ...

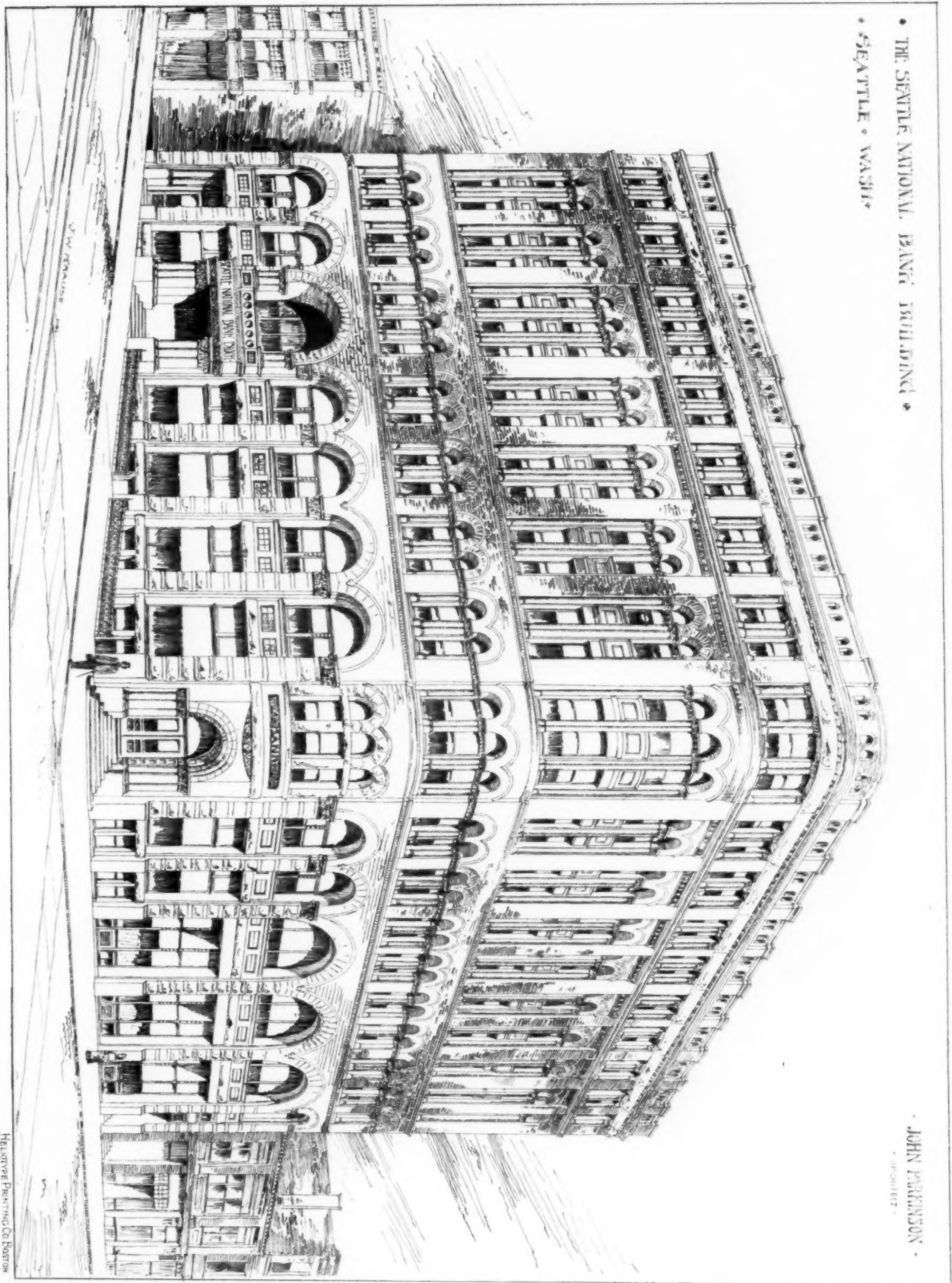
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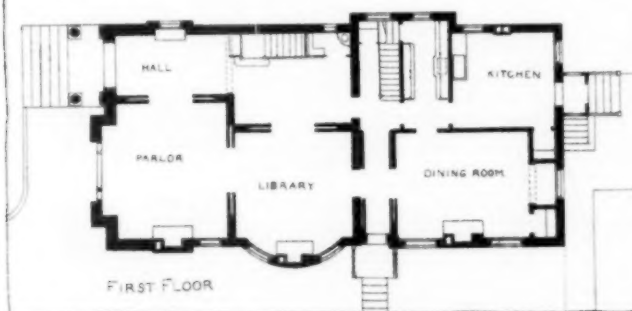


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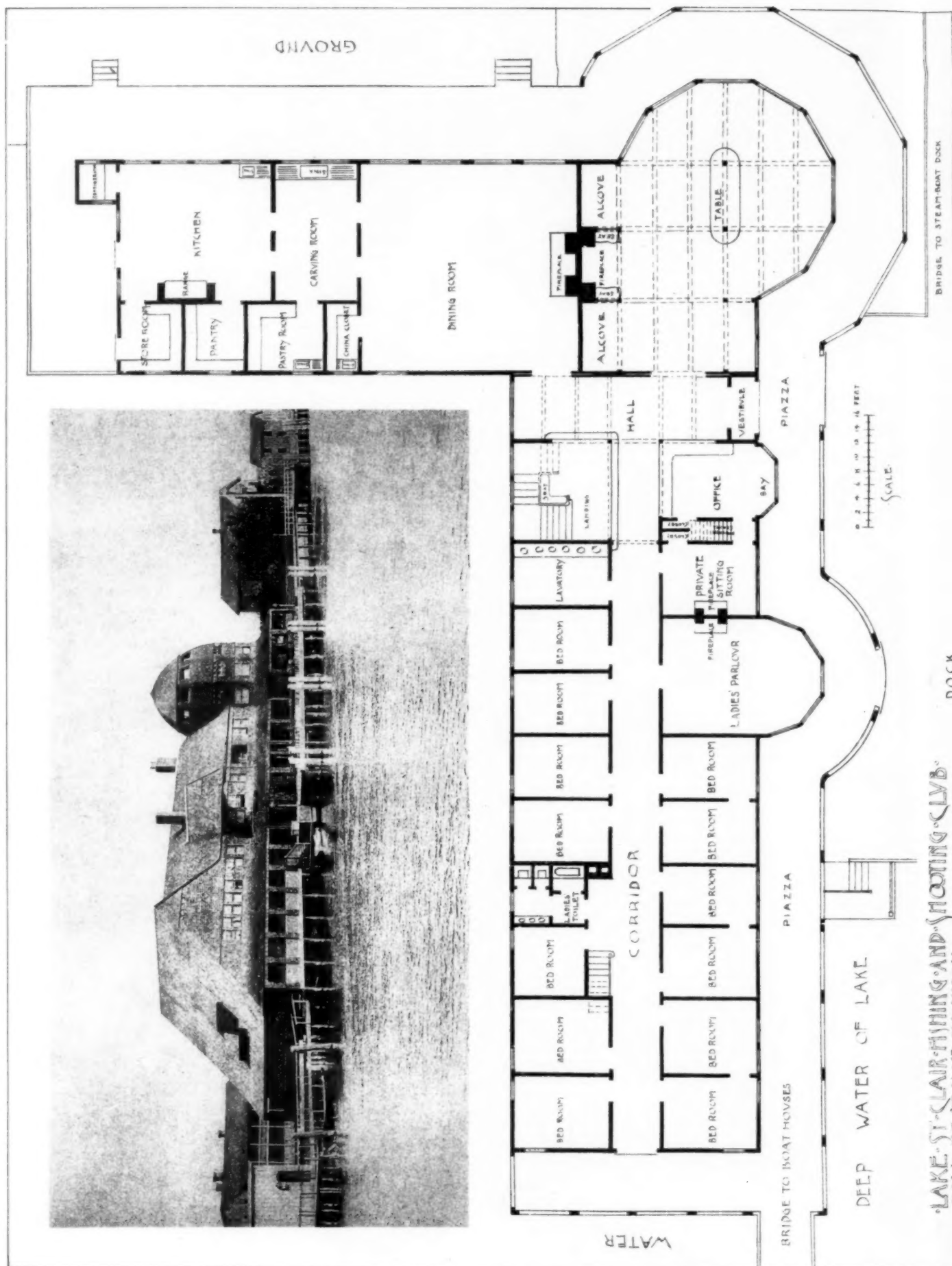
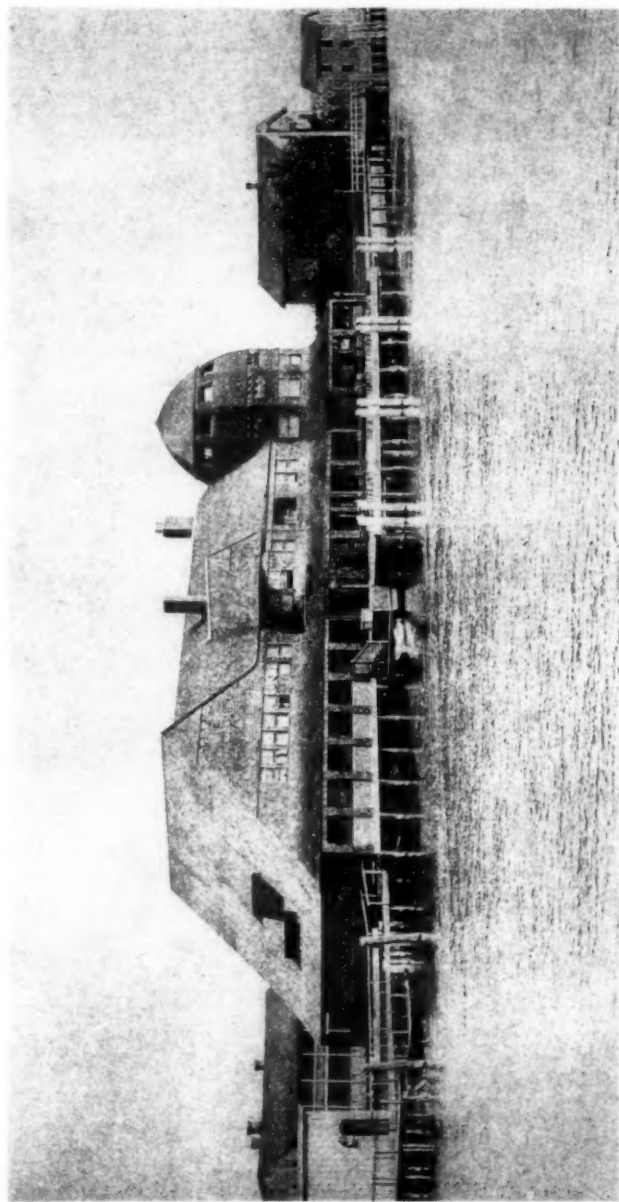
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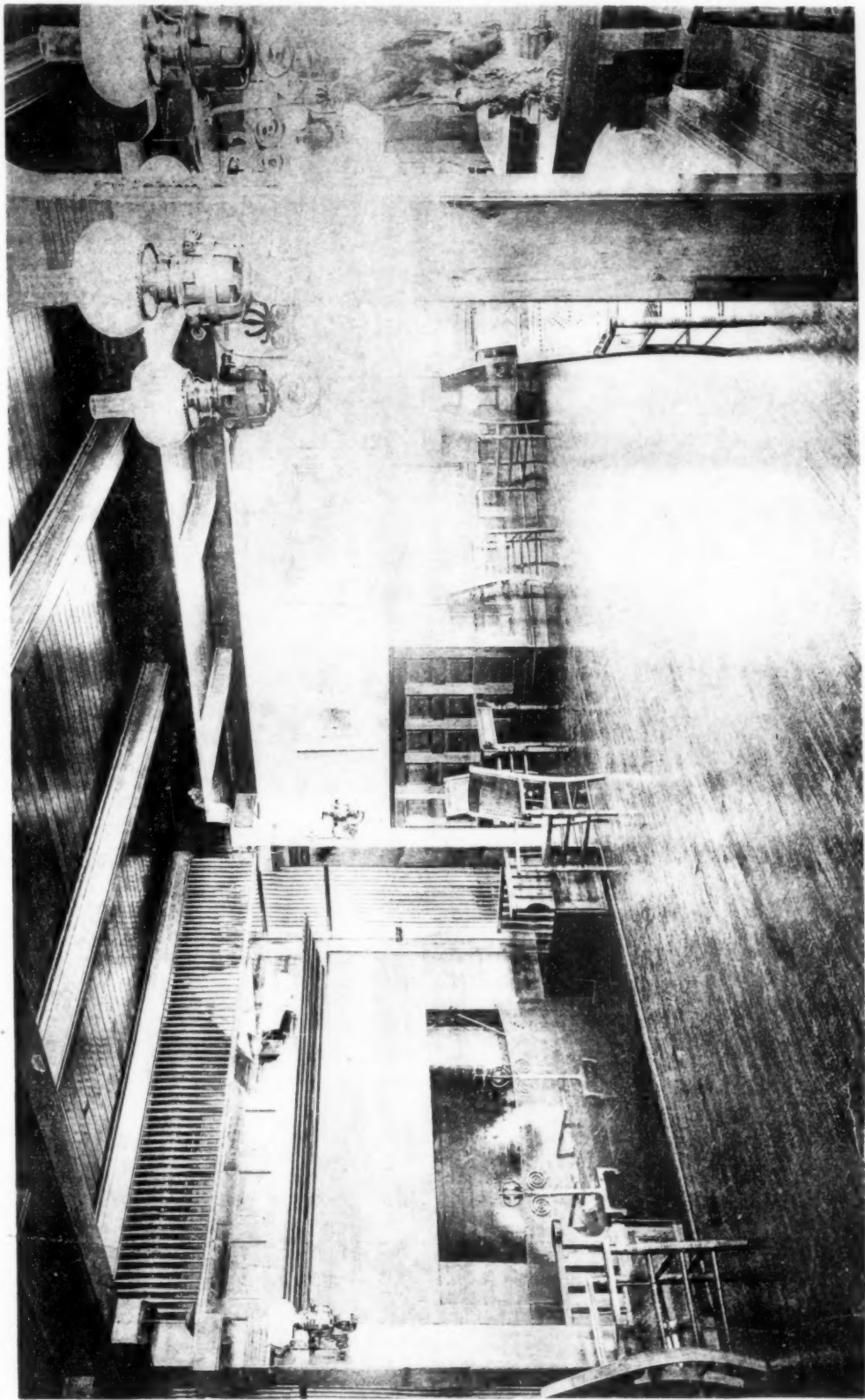
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