

796v2
LIBRARY OF CONGRESS
COPYRIGHT
APR 21 1890
WASHINGTON.

PRICE 15 CENTS.

APRIL 19, 1890.

THE
AMERICAN ARCHITECT
AND BUILDING NEWS

VOL. XXVIII.

* REGULAR EDITION *

NO. 747.



ARCHITECTURE

ENGINEERING

DECORATION

TICKNOR & COMPANY

CONSTRUCTION

BOSTON MASS.

CONTENTS.

EDITORIAL SUMMARY. RELIGIOUS ARCHITECTURE. — II. LETTER FROM CHICAGO.

" " CANADA.
" " PARIS.
" " AUSTRALIA.
" " LONDON.
" " PHILADELPHIA.
" " ROME.

BOOKS AND PAPERS.
COMMUNICATIONS.
NOTES AND CLIPPINGS.
TRADE SURVEYS.

ILLUSTRATIONS.

HOUSE AT WEST PHILADELPHIA, PA.

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

COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE
DIVINE, NEW YORK, N. Y.

[Issued only with the International and Imperial Editions.]

SKETCHES BY A ROTCH TRAVELLING-SCHOLAR.

[Issued only with the International and Imperial Editions.]

TWO HOUSES AT TUXEDO, N. Y.

THE NEW ROMAN CATHOLIC CATHEDRAL AT SYDNEY, N. S. W.

Additional Illustrations in the International Edition.

ROUMANIAN RESTAURANT AT THE PARIS EXPOSITION OF
1889.

[Etching.]

THE WINTER RIDING-SCHOOL IN THE IMPERIAL PALACE AT
VIENNA.

[Gelatine Print.]

INTERIOR VIEW OF SAME.

[Gelatine Print.]

UNITED STATES TRUST COMPANY'S BUILDING, NEW YORK, N. Y.

COMPETITIVE DESIGN FOR MUNICIPAL BUILDING, SHEFFIELD,
ENG.

SHOPS AND DWELLING-HOUSES, ST. LEONARDS-ON-SEA, ENG.
THE FELLOWS' GARDEN, EXETER COLLEGE, OXFORD, ENG.



The Sanitas Basin.

THE SANITAS MANUFACTURING CO., MANUFACTURERS OF SANITAS PLUMBING APPLIANCES.

For Sale by all Dealers in Plumbers' Supplies.

Main Office, 207 Tremont Street, Boston, Mass.

BRANCHES:

50 Gold St., New York, N. Y. 239 Lake St., Chicago, Ill.
236 Sparks St., Ottawa, Canada.



Half S Trap.

BOSTON, March 27, 1890.

IMPORTANT CONSOLIDATION.

We take pleasure in informing you that we have sold our business to the SMITH & ANTHONY STOVE Co. of Boston, and given them the exclusive right to manufacture and sell the Sanitas Specialties in the United States, with the exclusive right to use the firm name, trade-marks, etc. of the Sanitas Manufacturing Company.

Their ample resources will be devoted to pushing the Sanitas goods to a greater extent than heretofore, and the increased facilities thus acquired, will be a guarantee that all orders will be filled with promptness and satisfaction.

The Smith & Anthony Stove Company have one of the finest Brass and Iron Foundries in the country, and the present high standard of the Sanitas Specialties will be fully maintained.

Under the above consolidation, the past management of the Sanitas Manufacturing Company will retain an active connection with the business, and we solicit a continuance of the good will and trade of our former patrons.

THE SANITAS MANUFACTURING COMPANY,
J. P. PUTNAM, *President.*

All accounts on the books to April 1, 1890, will be payable as heretofore, to the old company.

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXVIII.

Copyright, 1890, by TICKNOR & COMPANY, Boston, Mass.

No. 747.

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

APRIL 19, 1890.



SUMMARY:—

The Late Mr. Thomas Walsh of St. Louis.—A Plan for the Exhibition Building at Chicago.—The Carpenters' Strike in Chicago.—The Repeal of the Duty on Works of Art.—Competition for Essays on a Building Exchange.—The Competitions for a Water-tower and Pumping-station.—More Protection at the Expense of Building Owners.—Law and Science in Party-wall Construction.—The Quebec City-hall Competition.	33
RELIGIOUS ARCHITECTURE.—II.	35
LETTER FROM CHICAGO.	38
LETTER FROM CANADA.	39
LETTER FROM PARIS.	40
LETTER FROM AUSTRALIA.	41
LETTER FROM LONDON.	42
LETTER FROM PHILADELPHIA.	43
LETTER FROM ROME.	44

ILLUSTRATIONS:—

House at West Philadelphia, Pa.—Competitive Design for the Cathedral of St. John the Divine, New York, N. Y.—Sketches by a Scotch Travelling-scholar.—Two Houses at Tuxedo, N. Y.—The New Roman Catholic Cathedral, Sydney, N. S. W.—Roumanian Restaurant at the Paris Exposition of 1889.—The Winter Riding-school in the Imperial Palace at Vienna.—Interior View of the Same.—United States Trust Company's Building, New York, N. Y.—Competitive Design for Municipal Buildings, Sheffield, Eng.—Shops and Dwelling-houses, St. Leonards-on-Sea, Eng.—The Fellows' Garden, Exeter College, Oxford, Eng.	46
BOOKS AND PAPERS.	47

COMMUNICATIONS:—

A Form for the Use of Architects.—Books on School-houses.—Books on Plumbing and Steam-heating.—The Proposed Bronze Doors for Trinity Church.—A Question of Compensation.	47
NOTES AND CLIPPINGS.	48
TRADE SURVEYS.	48

MR. THOMAS WALSH, a well-known architect of St. Louis, died recently in that city at the age of sixty-five. Mr. Walsh was an Irishman, from Kilkenny. He came to America in 1852, and soon settled in St. Louis, where he built up a prosperous business. He designed the Custom House, the Insane Asylum, the Poor-house, the Polytechnic School, the first St. Louis University Building, the Four Courts, St. Xavier's Church, and many other important structures. He leaves only one son, Mr. Robert Walsh, also an architect.

ALTHOUGH no site has yet been chosen for the Exhibition at Chicago, plans for the buildings are being submitted and discussed. One of these, which, from the description, appears to have been the work of an architect who knew something of the subject, instead of a mere lunatic, like the authors of some of the schemes mentioned in the newspapers, is that of Mr. Jennison, which proposes a sort of circular tent of iron, supported in the middle by a shaft, of railroad iron, hooped with iron bands, and stiffened with wedges. This shaft is to be sixty feet in diameter, and fourteen hundred and ninety-two feet high, and from a point some distance below the top ropes of wire are stretched radially to the ground, and support the roof, of corrugated iron and glass. To economize space, there are several stories in the building, and there seems to be no serious difficulty about the construction. For the arrangement, Mr. Jennison proposes a modification of that of the Paris Exhibition of 1867, the plan of which is usually attributed to Prince Napoleon. Under this arrangement, the idea of which was certainly very ingenious, the various countries occupy pie-shaped sections of the floor space, while the different arts and sciences occupy concentric rings. By this disposition, if a visitor wishes to study, let us say, the manufacture of iron, he has only to find the circular aisle devoted to the subject, and follow it around the building. When he has made the round, he will have exhausted the subject, and, in passing through the sectors allotted to the different countries, he will have seen the iron manufactures of each nation separately. On the other

hand, if a visitor wishes to study, for example, the art and industry of Russia, he goes to the centre of the building, finds the Russian sector, which is clearly distinguished, by wide radial aisles, from the neighboring countries, and, keeping within these boundaries, inspects every variety of Russian product, until he arrives at the outside wall of the building. Although there is a fascinating clearness and simplicity about such a scheme, it was not very successful in Paris, on account of the inequality of development of the arts in different countries. If Russia, for example, with a small show of iron industry, and a great exhibit of food products, were put next to Belgium, with an immense display of manufactures of iron, and little agricultural attraction, it is evident that, if the radial divisions were kept straight, which would be essential, either the Belgian iron exhibit would have to be abridged, or that of Russia would contain large empty spaces, and the case would be reversed with agricultural products; so that, even with the utmost care in fitting the space to the exhibits, a great deal of room was wasted. It is quite possible that Mr. Jennison, with several stories of circular halls so divided, might sort out the exhibits so as not to lose space; and if so, the convenience of visitors would certainly be promoted.

THE carpenters' strike, which has been going on for some time in Chicago, appears to be one of the most serious yet experienced in the building trades, and perhaps many millions of dollars, which had been intended for investment in buildings, and would thus have been distributed among the carpenters, masons, plasterers, plumbers, painters, architects and so on, of the city, have, in consequence of the uncertainty about cost and renting caused by the strike, been diverted to other enterprises, and are now being used to buy coal lands in the South, or railroad stocks, or shares in copper mines. The carpenters in Chicago are very thoroughly organized, nearly all being members of the Union, and faithful subjects of the walking-delegate, so that, although forty-five and fifty cents an hour has been offered for carpenters by contractors who were pressed for time, it has been refused, and not more than a dozen men are said to be at work in the city. We cannot say just what may be the condition of the Chicago unions, but we are quite sure that a condition under which an offer of fifty cents an hour for carpenters' labor finds no one to accept it will not last very long. Even if the spiritless slaves of the labor demagogues are afraid to take advantage of it until their masters give the signal, there are plenty of other men in this country who are willing to take opportunities as they see them, without waiting for the word of command, and these men will sooner or later take the control of the building trades from the foreign-born schemers who now infest them. It does not need a very penetrating mind to see that associations, comprising masons, carpenters and other building mechanics, accustomed to working together for their mutual advantage, and intelligently directed, might reap a golden harvest from the annual commotions which now so seriously interfere with the improvement of real-estate. Under circumstances such as now prevail in Chicago, they might take their pick of buildings, which they could contract to finish at their own price; and even in competing for work at ordinary seasons, they would have a great advantage, in being able to contract positively to complete their work at a fixed time, without reference to the whims or necessities of walking-delegates, and would enjoy a deserved preference on that account. That the formation of such working syndicates will not be long delayed, seems already probable, and every new antic of the union leaders in the way of upsetting contracts by malicious strikes, or the compulsory shortening of the hours of labor, increases the demand for the services of mechanics who can understand and keep an agreement; who are their own masters, and can, and will, fulfil their promises to the letter; and who are not afraid to work eight, nine, ten or twelve hours a day, if it should be necessary to do so to carry out an agreement, or if any one should be willing to pay the price asked for such service.

CONGRESS appears to be disposed this year to revoke the duty on foreign works of art. The Committee of Ways and Means has, in its tariff, placed all works of painting and sculpture "by professional artists" on the free list, the reservation that the objects shall be "by professional artists" being apparently intended to prevent the free importation of

pig lead cast in moulds faintly resembling a human form; and there will hardly be much opposition to this clause in either house. So far as the Executive Department is concerned, the President has already sent a special message to Congress, advising the repeal of the duty, and the representatives of foreign Governments have said so much about the duty, and, we imagine, made it look so ridiculous, that legislation to abolish it will be heartily carried out by the Administration. A story, which reads like a Washington joke, is in circulation, to the effect that attempts have been made to negotiate a sort of reciprocity treaty with France, by which French pictures and statues are to be admitted free to this country, on condition of the removal of the French duties on American pork. No doubt the exchange of hogs for art would be advantageous to both countries, but the proposition is not an extremely dignified one. However, we can do without the dignity, if we can get our pictures free. The fact that the duty was likely to be repealed has undoubtedly, during the past few years, prevented persons, who could afford to pay the extra price, from buying articles which would soon be worth only three-fourths as much as they paid for them; and the change in the law, if passed, is likely to lead to a great demand for foreign works of art.

CARPENTRY AND BUILDING offers two prizes, one of one hundred dollars, and a second of fifty dollars, for the best essays on the subject of "A Builders' Exchange," containing suggestions as to the mode of forming, governing and utilizing such an organization. The competing essays are not to exceed two thousand words in length, and must be marked with a motto or device, and sent, with the name and address of the author in a sealed envelope, bearing the same motto or device, to A. O. Kittredge, Editor *Carpentry and Building*, 66-68 Duane Street, New York. The right is reserved to publish any or all the competing essays. Illustrations or diagrams may be introduced if desired; and all competing essays must be received at the office of *Carpentry and Building* not later than the hour of closing business on May 10 next.

THE Engineering and Building Record has recently held a competition for designs for a water-tower and pumping-station, which has called out some very clever sketches. For the water-tower, the first prize was carried off by Mr. Elmer Grey, of Milwaukee; the second by Mr. James C. Green, of Brooklyn; the third by Mr. R. C. Spencer, Jr., of Boston; and the fourth by Mr. J. A. Schweinfurth, of Boston. Among the designs for the pumping-station, that of Mr. Elmer Grey took the first prize, while Mr. James C. Green received the second, Mr. R. C. Spencer, Jr., the third, and Mr. J. A. Schweinfurth the fourth.

A LITTLE politico-economical comedy is being played in Maine, in connection with the attempt, which we mentioned two or three weeks ago, to have the duty on lime increased, for the benefit of the associated producers of Rockland and Thomaston. As the proposed increase in the duty, and the consequent raising of the price, would bring a considerable profit to the association of lime-manufacturers, it is not surprising that some of their neighbors and friends have cast about for means by which they may share in the golden shower, and it has occurred to the owners of woodland in the vicinity, who furnish the lime-burners with wood for their kilns, to petition for the imposition of a duty on such material, which will enable them to put up their price considerably, without fear of having wood come in from the Provinces to spoil their monopoly. There seems to be no reason why the woodchoppers have not as much right to be protected as the lime-manufacturers, and we suppose that the latter think that the builders and plasterers ought to pay tribute to both of them without complaint; but there is sure to be strong opposition, among a very influential class, to any legislation intended to increase the cost of building for the benefit of a small group of manufacturers.

A CASE which recently came up in Washington suggests a question in regard to party-walls which is of very great importance as a matter of construction, although it has, so far as we know, never been mentioned in a court. It seems that the regulation in regard to party-walls in the District of Columbia was composed, or, perhaps, copied from some regula-

tions existing in Philadelphia, by no less a person than President Washington, and his rule has been the law ever since. Under this, if a person puts part of the foundation of his wall on his neighbor's land, that neighbor is entitled to use the wall above ground as a party-wall, even though the wall above the foundation may be wholly on the land of the one first building. To architects, this view of the matter will seem very reasonable, and it would certainly be of advantage to the art of construction to go still farther, and to say that, at least in certain localities, every wall built within two feet of the boundary line between two adjacent properties should be built with its centre on the boundary line, and made a party-wall. The reason for this is, of course, that no wall is properly built, the centre of which does not stand over the centre of its foundation; and that, where two independent walls are built on adjoining properties, close to the boundary line, both of them must, under the most favorable conditions, stand on the extreme edge of their foundations, at the imminent risk of causing the footings to tilt, or "roll," producing settlements and cracks, and bringing about ultimately the destruction of the wall. In practice, however, the first comer always gets his footing-stone a little over his neighbor's line, and, when the latter builds, he is obliged either to have the first footings cut off, endangering the old wall, or to set his own footings back, and build his wall overhanging them, at the great peril of his own construction. The matter is particularly serious with pile foundations. In this case, the first one to build always drives a row of piles tangent to the boundary line, and his wall above ground rests vertically over this row of piles, the second and the third row of piles, driven parallel with the first, helping to carry the load, but in an indefinite degree, depending on the bonding of the footings and other circumstances. When the second proprietor comes to build, however, and finds the first piles driven close to the line, he is prevented from following a similar course on his own side. Not only does the form of the pile-driving machine render it impossible to get it near enough to the existing wall to drive piles vertically within six or eight inches of the line, but it is difficult and dangerous to drive even so near as this, and, in practice, the nearest row of new piles is often driven a foot or more back from the boundary line. When the remaining rows are driven, the footing courses laid and the superstructure begun, the new wall, if it is built close to the line, as it usually is, stands over nothing, the nearest row of piles, of the three which are supposed to support it, being some distance back from the line of the wall. It is marvellous that walls constructed in this way, of which there are hundreds, stand at all, and they would probably not do so, except for the support which the second wall gets from leaning against the first; yet the only alternative is to drive the piles for the second wall obliquely, so as to crowd them in among those intended for the first wall. This method, although often followed, is, in most cases, even worse than the other, as it brings the new wall on an inclined support. The best course in all such cases, and the one which should be required by law, is to arrange the piles and the footings as if for a party-wall, building the wall above ground on the party-line or not, as circumstances may require. The last comer, in case he wishes to erect a heavy building on his side of the line, can drive additional piles, and, by the arrangement of the footings, utilize them, as well as those already there, to support his wall, which will thus rest nearly on the middle of the foundation, and be under conditions favorable for stability.

THE time for submitting designs for the Quebec City-hall has been extended to September 1 next. It is said that more than a hundred architects have written for copies of the conditions of competition, but we imagine that most of them, after reading the conditions, have let the matter drop. On the principle, however, that "it is never too late to mend," we would suggest that between now and next September there would be time, if the Corporation of Quebec really wishes to enlist the interest of competent members of the profession, to amend the conditions in conformity with the terms now insisted upon by all reputable architects in this country and in England. It is reasonable to suppose that a city-hall designed and executed under the care of a first-rate architect will be more economical and satisfactory than the production of a person not recognized in the profession as an architect at all; and if the first-rate men are to be expected to compete, they must be offered such terms as they have expressed their willingness to accept.

RELIGIOUS ARCHITECTURE.¹—II.

I. RELIGIOUS ARCHITECTURE OF ANTIQUITY.—EGYPT.



Monument to Quintin Matsys, Antwerp. De Brackelaer, Sculptor.

IN prehistoric times, the inhabitants of Egypt, which was already organized into a State, lived under the domination of their priests. At a date somewhere between 5000 and 3500 B. C., Menes, or Mena, succeeded in overthrowing this rule, and founded the Egyptian monarchy.

"It lasted four thousand years at least,² under thirty consecutive dynasties, from Menes to Nectanebo (340 B. C.). This interval of time, the longest recorded in history, is ordinarily divided into three parts: the Ancient Empire, from the first to the eleventh dynasty; the Middle Empire, from the eleventh dynasty to the invasion of the Hyksos, or Shepherd Kings; the New Empire, from the Hyksosite invasion to the Persian conquest. This division has the disadvantage of not sufficiently recognizing the march of history.

"In fact, three great revolutions took place in the historic life of Egypt. At the beginning of human monarchies (like other nations, the Egyptians headed their kingly dynasties with a long line of divine rulers), the country's centre of gravity was at Memphis; Memphis was the capital and the tomb of the kings; Memphite sovereigns were imposed upon the rest of the land, and the city was the *entrepôt* for commerce and Egyptian industry. Toward the sixth dynasty, the centre of gravity was displaced and moved southward. Pausing first at Heracleopolis, in Middle Egypt (ninth and tenth dynasties), it was finally fixed at Thebes during the eleventh dynasty. From that time Thebes became the real capital of the country and the nursery of its kings. With the exception of the rulers of the fourteenth or Xoite dynasty, all the kings from the eleventh to the twenty-first dynasty were of Theban origin. When the Shepherd Kings invaded Egypt, the Thebaid became the refuge of Egyptian nationality, and its princes, after centuries of struggle against the conquerors, succeeded in emancipating all the valley of the Nile in favor of the eighteenth dynasty; this opened the era of the great foreign wars.

"Under the nineteenth dynasty, a reverse movement to that which had taken place toward the end of the first period gradually carried the centre of gravity back to the north of the country. With the twenty-first Tanite dynasty Thebes ceased to occupy the rank of capital, and the Deltaic cities of Tanis, Bubastis, Mendes, Sebennytus, and especially Sais, disputed for the honor. Thenceforth all the political life of Egypt was concentrated in the maritime nomes. The nomes of the Thebaid, ruined by Ethiopian and Assyrian invasions, lost their influence; Thebes fell into decay and ceased to possess any interest, except for the tourist and sight-seer.

"I propose, therefore, to divide the history of Egypt into three periods, each corresponding to the political preëminence of a city, or of a division:

"1. *Memphite Period* (first to tenth dynasties).—Supremacy of Memphis and of the Memphite kings.

"2. *Theban Period* (eleventh to twentieth dynasties).—Supremacy of Thebes and of the Theban kings.

"This period is divided into two parts by the invasion of the Hyksos:

"a. Ancient Theban Empire (eleventh to sixteenth dynasties).

"b. New Theban Empire (sixteenth to twentieth dynasties).

"3. *Saite Period* (twenty-first to thirtieth dynasties).—Supremacy of Sais and other cities of the Delta.

"This period is divided into two parts by the Persian invasion:

"a. First Saite Period (twenty-first to twenty-sixth dynasties).

"b. Second Saite Period (twenty-seventh to thirtieth dynasties)."

It was under the New Theban Empire that Egypt reached the zenith of its power, during the eighteenth and nineteenth dynasties. Thothmes III, who lived in the seventeenth century B. C., had extended his dominion over Abyssinia, the Soudan and Nubia, in Africa; and over Syria, Mesopotamia, Irak Arabi, Kurdistan and Armenia, in Asia. During the fifteenth century Rameses II flourished, the Sesostriis of the Greeks, a name celebrated throughout all the ancient world.

From this period incessant conflicts were carried on against the Asiatic nations, and notably against the Assyrians; but they were not always successful, and the Egyptian Empire lost in power.

It was not until the seventh century that the Greeks penetrated into Egypt, and, opening relations with its inhabitants, were able to drink at the springs of this ancient civilization. In the sixth century, the invasion of Cambyes brought Egypt under Persian domination, which, in spite of several revolts, was maintained until the fourth century, when Alexander appeared (332 B. C.) and subjugated the entire realm without a struggle. The city of Alexandria dates from his passage.

Ptolemy founded the Greek dynasty of the Lagides. A short time before the Christian era Egypt became a Roman province, passing into the Eastern Empire at the time of the great division of the Roman world. In the seventh century A. D. the Persians once more took possession of the country, but yielded promptly to an Arab invasion (638 A. D.). A flourishing Greco-Roman period had already succeeded to the ancient Egyptian civilization, and now Egypt witnessed the flowering out of Arab art.

Our present study will be confined to the edifices constructed under the ancient Egyptian dynasties; the temples reared

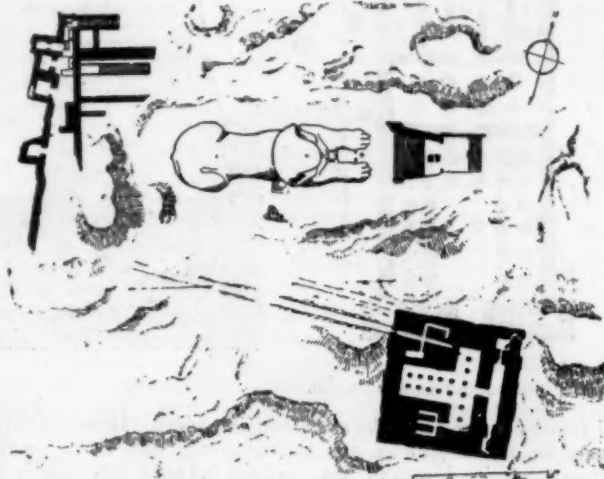


Fig. 1. Plan of the Temple of Gizeh (about 2000 B. C.). After Mariette and M. Rhoné.

later were Greek or Roman, and did not in reality spring from the original soil of Egypt.

The first men, said Lucian,³ who, to our knowledge, had any notion of the gods, were the Egyptians; they dedicated temples, enclosures and solemn assemblies to them. They were also

¹ From the French of P. Planat, in Planat's "Encyclopédie de l'Architecture et de la Construction." Continued from page 21, No. 746.

² Maspero. "Histoire Ancienne des Peuples de l'Orient."

³ "De Dea Syria." Attributed to Lucian.

the first to fix upon consecrated expressions and formulas. A little later, the Assyrians, having adopted the Egyptian beliefs regarding the gods, established forms of worship and built edifices, wherein they placed statues and sculptured images. In the beginning, the Egyptian temples were destitute of all such ornamentation.

It is supposed that one of these ancient structures (Figure 1), has been discovered at Gizeh, a short distance from the Sphinx; if this is the case, it is the earliest vestige of religious architecture, being contemporary with the fourth dynasty, and dating back for several thousand years. The entrance is indicated at the left of the temple, facing a path, traces of which are still visible, and which extended beyond the Great Sphinx; this opening, which is scarcely six feet broad and not in any axis, looks as though there was an effort to conceal the temple from view. On the right of the corridor of access, itself very narrow, there was a room, and at the left a stairway leading up to the terrace. The large, transverse hall to which the passage conducted was covered by a ceiling supported on six stout pillars, about sixteen feet high; these were connected by equally massive architraves. The great hall with three bays, perpendicular to the first, was constructed in the same manner. Another transverse room, in the rear, contained a well which must have extended below the Nile at its highest floods. Granite was used for the supports and alabaster for the architraves, with no mouldings or decorations of any sort.

According to Mariette,¹ this structure may have been a tomb; but there are quite convincing reasons for admitting that it is, indeed, an example of one of those unadorned, primitive temples, the traditions of which had been maintained down to the time of Lucian, or of the author of the passage cited above. The small temples near the great pyramids belong to the same epoch; Jomard, at the time of the Egyptian expedition, gave a more complete description of these than the condition of their ruins would permit to-day. "The monument" situated at the east of the third pyramid is a most extraordinary construction in plan and proportions, and in the great size of the building material used. In shape it is nearly square, being 152½ feet x 184½ feet. On the east there is an extension like a long vestibule, 101½ feet in length and 46½ feet in breadth. From this vestibule a vast court was entered, which had two side exits, or false doors. Beyond were several spacious halls, one of which still exists. The rear hall is of the same width as the vestibule, and tallies exactly with the centre of the pyramid, from which it is only 42 or 43 feet distant; but

their length varies from 10 to 20 feet. Their proportions are such that I took them at first for cuttings in the natural rock, and one would certainly be deceived as to their true character, were it not for the cement between the courses.

"The eastern extension is formed by two enormous walls, not less than 13½ feet deep. One wonders what necessitated such extraordinary constructions, when they would have been just as solid with only half that thickness."

Almost nothing remains of the edifices of the Middle Empire; a few polygonal columns² mark the site of the Temple of Ammon at Thebes, which was erected under the twelfth dynasty. At Semneh, in Nubia, there is a temple which originally belonged to the same epoch, but which was afterward completely rebuilt.

On reaching the New Empire, a still venerably ancient period, we find, on the contrary, a vast quantity of remains sufficiently well-preserved to admit easily of complete restoration.

"Care must be taken," says Mariette, "not to confound the character of the Egyptian temple with that of the Greek temple, or the Christian church, or the Moslem mosque. The

Egyptian temple was not a place where the faithful assembled for common prayer; no public worship was celebrated there; it was inaccessible save to the Pharaoh and the priests. The temple was a royal 'divine-house,' that is to say, a monument



Fig. 3. Longitudinal Section of the Temple of Khonsu (15th Century B. C.).

of the king's piety, reared to merit the favor of the gods. It was a sort of kingly oratory, and nothing more." The decorations consisted of a series of paintings representing the monarch as making offerings to the deity and begging that some favor be accorded him; in reply the god grants the request.

The approach to the temple was through a long, broad avenue, or *dromos*, bordered with sphinxes or rams; sometimes there were several avenues leading to different entrance-gates. These latter were pierced in the wall or walls of unbaked brick, which were of a considerable thickness and surrounded the temple on all sides.

The entrances were all invariably flanked by pylons; these stupendous truncated pyramids were decorated with masts from which floated streamers, and which were held in place in the upper part by a projecting wooden framework. The pylons at

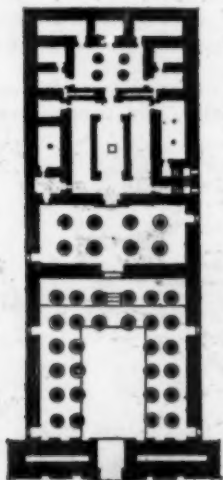


Fig. 2. Plan of the Temple of Khonsu.

I found no opening at the corresponding point. However that may be, the disposition and symmetry are such as to prove that a relationship must have existed between this structure and the pyramid.

"Though one has studied the constructional system and the building material of the edifices in the Thebaid, he is, nevertheless, astonished at the huge size of the blocks employed here, and at the care exercised in laying them. The walls are 7½ feet thick; that is the breadth of the stones;



Fig. 4. Entrance to the Temple of Khonsu.

the main entrance-gate were preceded by obelisks, and backed against the pylons were colossal statues.

There were vast reservoirs in the interior which were used for ablutions and in religious festivals; they were of sufficient size to float a large number of boats. In the descriptions which Herodotus gives of the temples which he had seen, he is constantly referring to these lakes and to the ceremonies connected with them. "At Saïs," he says, "the enclosure contains stone obelisks and, close by, a round sheet of water surrounded by a stone border, as large, it seems to me, as the

¹ Question relative aux nouvelles fouilles.
² Description de l'Égypte.

³ Sixteen-sided, like the channelled Greek columns.

reservoir at Delos called the circular lake." Describing the temple of Bubastis, he says: "Except for the entrance, it is an island, for two streams from the river, without uniting, run as far as this entrance, and then flow around the temple, one on the right, the other on the left; they are 100 feet in breadth and are shaded by trees. The porches are ten orguia in height (we recognize in these the pylons); they are adorned with figures six cubits high, and of remarkable beauty. . . . A wall on which images are engraven, encircles the temple. Within there is a sacred wood of tall trees planted about the vessel where the statue of the god is placed. The structure taken as a whole is square, measuring a stadium on each side. A road of stones, at least three stadia in length, extends to the entrance." This path is the *dromos* noticed above.

Many of the Egyptian temples consist of an agglomeration of structures built at different periods, and it would be a difficult matter to discover their original plan. As MM. Perrot and Chipiez have remarked,¹ it is in the temple of Khonsu alone (Figures 2, 3, 4), situated not far from the Great Temple of Karnak, in the neighborhood of Thebes, that we can learn what were the requisite elements of a simple temple, free from all later additions. The pylon entrance gives access to a huge walled court, with double rows of columns in the interior. In the axis is a second door opening into a vast hypostyle hall which runs in a transverse direction and is called the *assembly hall*. Beyond this begins the sanctuary or *secos*, where only the king and priests of highest rank had a right to enter, and which contained the emblem symbolizing the god. We learn from Herodotus² that this image, which was kept in a sort of gilded wooden ark or tabernacle, was carried about only during great ceremonies. Priests were appointed to drag the four wheeled chariot on which the ark was borne. This tradition, as we know, obtained also among the Hebrews.

The main part of the sanctuary or *secos*, consisted of a rectangular chamber, isolated by a passage from the rest of the edifice. Two small rooms occupied the sides. Behind, there was another hall, a sort of *opisthodomus*, which doubtless served as a treasury, in Greek temples.

A noticeable peculiarity in these temples is the steady decrease in height from the lofty front structures toward the rear. The back halls near the *opisthodomus* are low and squat. This is remarked on every longitudinal section, like that of the temple of Khonsu (Figure 3). The entrance court, which was open above in the centre, was freely lighted; the hypostyle hall, pervaded by a sober twilight, prepared for meditation; while the sanctuary was all obscurity and mystery. Sometimes, however, owing to the purposes for which it was designed, a great elevation was allowed to the hypostyle hall.

The public had access by numerous stairways to the terraces of the temple, whence they could take in the ceremonies as a whole.

The great temple of Karnak (Figures 5, 6, 7) was consecrated to Ammon Ra; it was apparently built under the twenty-second dynasty. The same unity of plan is not exhibited here as in the temple of Khonsu, but it is easy to dis-

cern the successive additions. In the entrance court we discover first, on the left, the remains of a small older edifice, built by Rameses III, and on the right the temple of Seti breaking into the side of the enclosure. A double range of columns leads to the second pylon which gives access to the

vast hypostyle hall, the largest of all such halls constructed by the Egyptians. An uncovered passageway leads to the sanctuary, which is here completely isolated and entirely surrounded by walls. Other, but much less important, hypostyle halls prepare the

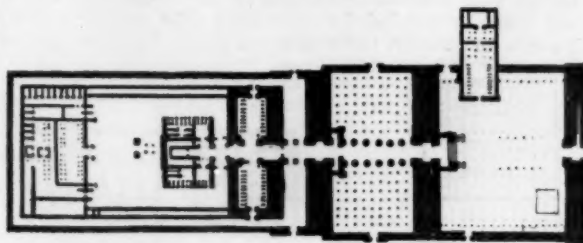


Fig. 6. Plan of the Great Temple, Karnak. After M. Brune.

special way to what was undoubtedly the Holy of Holies, that is, to the small rectangular room situated in the axis, between the pavilions enclosing the lateral chambers. Mariette, it is true, found a little farther on, in the centre of the court, the

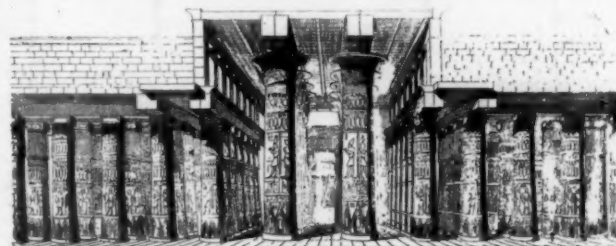


Fig. 7. Section of the Great Temple, Karnak. After Chipiez.

débris of a veritable Holy of Holies, but it belongs to a much more ancient period, and probably had been preserved, out of veneration, by the side of the new sanctuary-chamber.

At Luxor (Figures 8, 9, 10), which dates from Rameses II, it is likewise easy to recognize in the rear of the edifice the

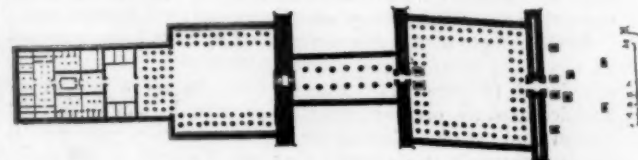


Fig. 8. Plan of the Temple of Luxor (15th Century B. C.).

sanctuary-chamber in its ordinary form, that is, rectangular with openings in the axis, one in the front, the other in the rear. The *opisthodomus* and the lateral chambers are dis-



Fig. 9. Section of the Temple of Luxor. After Chipiez.

tinctly indicated. The hypostyle hall preceding the sanctuary and running transversely to the general axis of the temple, is distinguished at once. But the *pronaos* is in reality double;



Fig. 10. The Temple of Luxor.

the outer one of these fore-courts presents a very peculiar form of an oblique parallelogram. It seems evident that it must

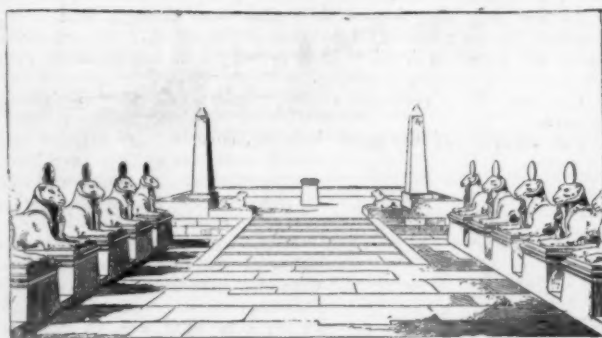


Fig. 5. Dromos of the Great Temple, Karnak (15th Century B. C.). After Prisse.

cern the successive additions. In the entrance court we discover first, on the left, the remains of a small older edifice, built by Rameses III, and on the right the temple of Seti breaking into the side of the enclosure. A double range of columns leads to the second pylon which gives access to the

¹ "L'Égypte, Histoire de l'art dans l'antiquité."

² "Euterpe," LXIII.

have been merely an additional portico, followed by a longitudinal gallery constituting a sort of Propylæa.

Rameses also erected the *Ramesseum* (Figure 11), which was apparently a chapel attached to his tomb. The general dispositions recall those already noted, namely, a fore-court, as at Luxor, with a double colonnade on the sides, preceding a second court surrounded by colonnades; the hypostyle hall, with a row of heavier, taller columns down the axis leads to

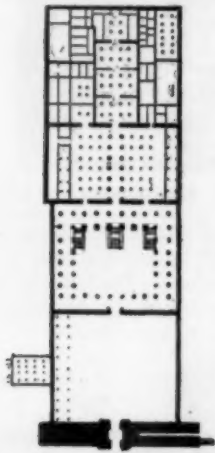


Fig. 11. Plan of the Ramesseum (16th Century B. C.). After Lepsius.

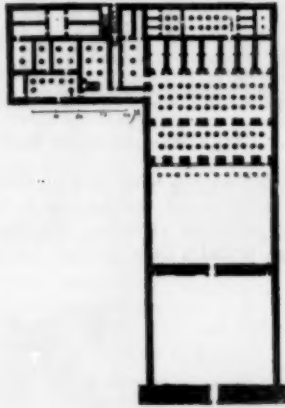


Fig. 12. Plan of the Temple of Abydos (16th to 15th Centuries B. C.). After Mariette.

the sanctuary. Among the halls comprised in the sanctuary, it is difficult to discover the special form of the Holy of Holies; this may be owing to the peculiar destination of the structure.

At Medinet Haboo, a little farther on, we encounter, in a group of edifices, a second *Ramesseum* or great temple, the temple of Thothmes, dating from the reign of Rameses III. The temple of Thothmes is of extreme simplicity, and not without likeness to the temple of Khonsu; the great temple was evidently a faithful reproduction of the first *Ramesseum*.

In the temple of Abydos, constructed by Seti I and Rameses II, the usual arrangement seems, at first sight, to have been abandoned (Figure 12). Except, however, for a few minor modifications, the ordinary design is preserved. As at Medinet Haboo and in the *Ramesseum* at Thebes, the sanctuary is reached through two courts; they are destitute of peristyle, but the second court has a transverse row of columns in the rear. The hypostyle hall is double and devoid of the higher bay in the axis, which we have had



Fig. 13. Plan of the Temple of Goorneh (16th to 15th Centuries B. C.). Description de l'Égypte.

mark. The sanctuary chambers in the rear are recognizable by their form, but they are seven in number, as the temple was, quite exceptionally, dedicated to seven gods—Horus, Isis, Osiris,

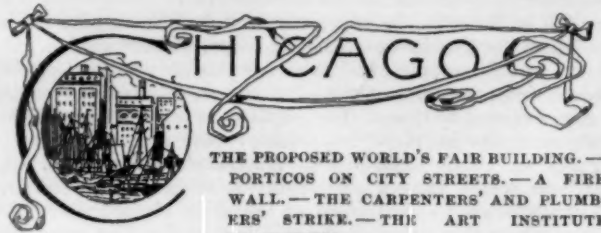


Fig. 14. Section of the Temple of Goorneh (16th to 15th Centuries B. C.). Description de l'Égypte.

Ammon, Harmakhis, Phtah, and Seti himself, assimilated to the great divinities. As for the *opisthodomus*, it is wholly relegated to the side.

The temple of Goorneh (Figures 13, 14), except for the position of the *opisthodomus*, is a variant of the temple of Abydos; it was, moreover, built by the same sovereigns.

[To be continued.]



THE World's Fair business is being carried on with energy. Our definite plan for a building has been submitted to the public and the public is duly filled with amazement. This amazement is fast changing into a certain kind of admiration, if not for the practicality of the plan, at least for its entire originality.

The creation is one of Mr. Jennison's and his scheme is to create for the World's Fair a colossal building under one roof. Inspired by the thought apparently that America should outdo France in the wonder of her Eiffel tower, Mr. Jennison has conceived the idea of erecting a huge tent-like structure. This building is to be three thousand feet in diameter, that is, it will cover a square space of seven of our ordinary city blocks in an easterly and westerly direction, and seven in a northerly and southerly one. It is, as stated above, to be built on the plan of a tent, with a central pole, the pole being a tower, which will rise over one thousand feet, and on which will be an observatory, from which, if Mr. Jennison's entire plan was to be carried out, one would be able to see the opposite Michigan shore, across the Lake. Chicago people realize a little the height of this observatory, when told that it will be four times as high as the highest tower in the city, that of the Board of Trade Building, lifting aloft its gilded ship. The architect's choice would be to erect the building on the Lake Park Front, and as the extent of this is somewhat limited, he proposes to utilize the outer harbor, which is protected by the government breakwater, driving piles to carry the foundations of the building. Situated here he would have a canal two hundred feet wide, that would make the circuit of the building, so as to give an opportunity for a marine exhibit, and vessels coming direct from foreign countries could be brought right into the building. The idea would be to arrange the different nations on radial lines and the classes of exhibit on concentric ones. In this way one could study a particular nation by continuing on a radial line or a class by following a circle. The same class of objects as treated by different nations could in this way be most interestingly compared. The entrances lead into the first gallery, which is seventy-five feet wide, making a promenade which can be filled up with cafés and booths. In the second gallery are the horses, and a race-course, a mile and three-quarters long, is obtained as an incidental attraction. Leading from the galleries there would be forty-eight flights of stairs. The idea is to have six tracks under the gallery around the outer edge of the building for the railway exhibits. Next would come the heavy machinery, then the light and then the canal. In the centre of the building will be a huge amphitheatre which will hold fifty thousand people, if so great a number can be found who are fools enough to go in and take the chances of getting out.

This building is guaranteed to be perfectly cool at all times, so says Mr. Jennison, as the roof will be five hundred feet above the heads of the public, and he has an additional proposition, to pump water up into the tower and by sprinkling the roof, would have two hundred acres of evaporating space. The question, however, as to how cool the building would actually be, could only be settled on some of those hot July and August days that even Chicago, that much vaunted "summer resort," is capable of getting up. A room looks cooler on paper in April, than it actually is in August, filled with hundreds of perspiring humanity.

The roof will be corrugated iron and glass, unless canvas is used in part.

The exterior of the great building, covering three times the space of any exposition ever held, will be of brick. The outer wall will be three stories, two of the stories being galleries.

Mr. Jennison says that the expense of the building will be less than the expense of the collective buildings of other expositions, and in his sum total will be included the expense of removing the piles from the Lake after the fair is closed.

According to the architect many of the leading engineers of the country have pronounced the plan practicable and what at first appeared only as something "new, novel and bad" is beginning to look as if it were more worthy of the first two adjectives than the last. It, at least, would have the virtue of being most truly and characteristically American, and to foreigners the proverbial American brag of big, bigger, biggest, would be more than realized by this mammoth structure. Much would, of course, be lost in the architectural features of

the exhibit, which might be most attractive if well-handled, and it seems a grave question, whether it would be wise to try such a huge experiment in the way of an exposition building. Of course, the objections to having the fair held in the centre of the city, as far as the uncomfortable crowding of the surrounding streets is concerned, would hold true of this building as well as any other. The very least that can be said of this plan is that it is most ingenious and original, and deserving of notice and consideration.

Apropos of the convenience or inconvenience of "doing" the World's Fair under one protecting roof, one naturally thinks of those children of Bellamy's, who in wet weather were to go dry-shod and dry-capped from one end of the town to the other. It at one time looked as if Chicago would in this small but attractive feature soon reach the ideal state of the nationalists, so numerous had become the porticos, or, as they are popularly called, permanent awnings. The permit for them heretofore has been obtained by inducing some alderman, as a special favor to a pet constituent, to move the passage of an order for their erection. Now Fire Marshal Sweeney and the Commissioner of Public Works declare they must go. The fire chief insists that they are a positively dangerous impediment in case of fire, the commissioner sympathizes with the marshal and calls them unsightly and a nuisance on crowded streets. Let us devoutly pray that a similar fate is not waiting for Mr. Bellamy's other theories, when the nationalists put them to the test, in more or less directly following the words of the gentleman in the Rubaiyat, by "grasping this sorry scheme of things entire and shattering it to bits to remold it nearer to their hearts desire."

Mr. Sweeney may not appreciate a "Looking Backward" portico, but he knows a good fire wall when he sees it and such he pronounces that of J. V. Farwell, which has recently been put to the test. When Mr. Farwell built the large structure on Market and Adams Streets, in which millions of dollars' worth of business is yearly carried on, he desired to protect the property in the building from fire, which if once started might spread over the entire edifice. He accordingly built the wall between each of the nine stores, which has been so successful in the recent fire. It consists of a twelve-inch brick wall, lined on each side with a two-inch layer of concrete. The concrete veneering was applied by a case of boards being first built two inches from the brick, and the space filled with concrete, and the boards knocked away again after the cement had hardened. Chief Sweeney reports that this wall probably saved the building, the concrete, offering a much greater resistance to heat than brick, in this case preserving the wall proper and adjoining buildings intact.

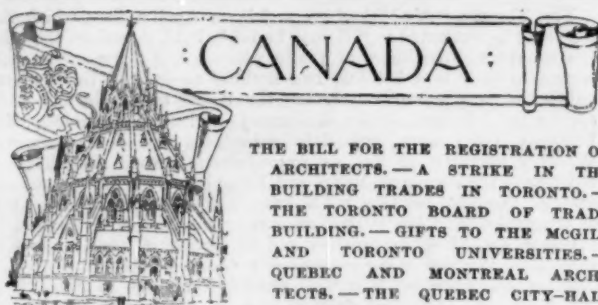
The spring campaign has been opened and six thousand carpenters are now on a strike, which by the time of the publication of this letter will either be on or off, which will make the facts interesting reading for the subscribers of the *American Architect*. The plumbers have also been on a strike, which has been just settled by the journeymen receiving three dollars and fifty cents for an eight-hour day, and the "Junior" an advance of twenty-five cents on their former wages. It was furthermore decided that all future differences between journeymen and masters should be settled by arbitration.

As mentioned in the last letter, the Art Institute has opened its remodelled building. What was said of it at first still remains true. The exterior is pleasing, though the addition is not entirely in harmony with the older portion, and the interior is a sad botch, that all the remodelling in the world can but little improve. With the exception of the six fine new galleries at the top of the building, the interior is, if anything, still more intricate and unsatisfactory than before, and that a building that might have been so good, should have a plan of so decidedly a made-over and make-shift a character, is much to be regretted.

Just at present the Chicago Society of Artists, representing the leading young artists among the men, and the Palette Club, numbering among its members many of the women artists of the city, are holding exhibitions side by side. This gives an opportunity for interesting comparison. The Palette Club, unlike the Chicago Society of Artists, numbers among its members many amateurs, but in spite of this fact, which might naturally lower the grade of work, it stands the test of comparison very well.

It is much to be regretted, for the sake of the growth of art in Chicago that our most successful young artists find the attractions of New York's artistic circle so strong. This is, however, not to be wondered at, though the rapid strides which art has taken in Chicago during the last ten years, lead us to hope for better things in the future.

REPAIRS TO SEVILLE CATHEDRAL.—It will be remembered that two years ago the condition of Seville Cathedral, that beautiful monument of Moorish art, once a mosque, excited great anxiety. A pillar and part of an arch in the nave fell, and fears were entertained that the whole building might suddenly collapse. It is now believed that by massive substructions the danger of further mischief has been averted. The fallen pillar and arch are being replaced, and other extensive repairs and restorations are being carried out. Especially the celebrated entrance known as the Portal San Cristobal, which was never finished, is being now renovated and completed. Architects will recall the fact that the present pillars of the nave and aisles of the basilica of St. John Lateran, in Rome, are massive columns of masonry built up around the original much slighter pillars, some of which gave signs of collapsing. — *London Times*.



THE BILL FOR THE REGISTRATION OF ARCHITECTS.—A STRIKE IN THE BUILDING TRADES IN TORONTO.—THE TORONTO BOARD OF TRADE BUILDING.—GIFTS TO THE MCGILL AND TORONTO UNIVERSITIES.—QUEBEC AND MONTREAL ARCHITECTS.—THE QUEBEC CITY-HALL COMPETITION.

THE Ontario Association of Architects are to be congratulated on the fact that they have obtained legislation. Their bill has been passed and has received the assent of the Lieutenant-Governor of the Province. Whether the bill as passed is all that they desired or all they could hope for, I am unable to state at present for I have not been able to obtain a copy and I understand that some considerable alterations were made, but at any rate it is something to have got the bill passed in some form or other. Acts of Parliament are, perhaps, easier to amend than to obtain, but having been obtained one great object of the Association, namely, its recognition as an authorized body is guaranteed. But I must leave till next month further remarks upon the bill.

A strike of stone-masons, stone-cutters, bricklayers and laborers, began in Toronto last week. An agreement between the Masters' Association and the Workman's Union, which has been in force for the last two or three years has recently run out and the men are striking for increased wages and shorter hours, or in other words, the same pay for fewer hours' work. Nothing could be more preposterous than the demands of the masons. They have been receiving thirty-two and one-half cents an hour and they asked forty cents. They were promptly told that if they did not keep to the existing agreement, the masters would go back to the old rates and pay them twenty-five cents an hour and no more. This made them drop five cents in their demand and now they are out on a demand of thirty-five cents an hour. Stone-cutters demand a rise of seven cents, from thirty-eight cents to forty-five cents an hour. The bricklayers appear to have a cerebral formation a shade better in quality than the masons and are content with a demand of thirty-six cents an hour, a rise of two and one-half cents. They have been willing to submit their case to arbitration, but as the masters would not agree, they are out also. The laborers want two cents an hour more than they have been getting, twenty-one cents instead of nineteen cents. While on strike, the masons and bricklayers are allowed by their unions, seven dollars a week for married men and five dollars a week for single. This, perhaps, is not a bad illustration of the value a workingman puts upon his better-half and the children. I have known many cases, in which a workman in receipt of good wages would give his wife one-fourth part to pay the rent, clothe and feed himself and family, while he spent the remaining three-fourths on his own pleasures, but here is a further illustration, five dollars for the man and two dollars for the wife and children.

The citizens of Toronto are in a state of subdued uneasiness with respect to the building now being erected for the Board of Trade. From time to time rumors have been afloat that it is very insecure and the *Mail*, the principal Canadian paper, has had articles inquiring what is the meaning of the report. There has been a good deal of secrecy about the building committee, who appear to think that the matter is a personal one, forgetting that the Board of Trade is a public body and that the whole city is interested in its proceedings and that a large number being members are personally so. The fall of three stories of brickwork by the failure of an iron girder supposed to be sufficient for their support, gave some sort of apparent foundation for these unpleasant rumors and when it was found that the committee were trying to hush the matter up and would give no satisfaction to inquiries, people began asking what it meant? Reporters were told that experts had examined the building and that it was quite sound and secure and that although extra supports were being put into the foundations, they "were merely precautionary and not at all necessary." One thing is, however, very clear, that at last even the self-satisfied committee are beginning to be a little anxious. They have appointed three Toronto architects to examine the building and make a very careful report of its stability. The labors of these examiners are said to have come to an end within the last four-and-twenty hours and their report is anxiously looked for, though the whole matter is supposed to be "secret and unknown." The contractor who commenced the works and has, it is said, carefully carried out his instructions, has been dismissed and another contractor appointed to finish the work. At this, of course, the Master Builder's Association have demanded the wherefore, so that it is extremely foolish of the committee to try to keep matters "sub rosa." The Canadian law makes the architect and the contractor together responsible for the stability of the building for the period of ten years and should the building tumble down even if the contractor can prove he worked according to the architect's instructions, this responsibility is not lessened, as the law considers him capable of knowing what it was safe to execute and what he ought to have refused.

The Toronto "Mail" had on article on April 5, from which the following is extracted: "It may be fairly held, therefore, that the few members of the Board of Trade, who act as if the question with regard to their new building had nothing to do with the general public and is a matter concerning the Board of Trade and their architects [Messrs. James & James] and their builder [Mr. Pudifer] only, have not duly considered the circumstances. Whether correctly or not, an impression is abroad that the new building at the corner of Yonge and Front Streets is in some degree unsafe. Nothing, perhaps, could have more stimulated the growth of this notion than the evident anxiety on the part of its owners, to envelope the place in mystery and to shroud it from the public gaze. . . . It is one thing to produce a 'taking' pictorial representation of an edifice, but it is quite another to be able to translate it into ponderous stone and weighty iron. . . . No doubt the Board of Trade Building can be strengthened and braced into stability by the judicious use of iron and materials. The city has a right to ask that this shall be done in such a manner as to ensure its safety."

The McGill University of Montreal has been in luck's way lately. It is only a short time ago since it received a gift from the late Mr. Thomas Workman of \$125,000, and to-day it is in possession of another generous present of \$150,000, from Mr. W. C. McDonald, another of the city's wealthy merchants. Two new buildings will be commenced with as little delay as possible, that every advantage may be taken of the valuable and substantial aid the university has thus received. The "Workman Workshops Building" (not a euphonious title, however) is to face the new "McDonald Technical Building" and the McDonald Physics Building will be placed in a position near the Redpath Museum. Certainly the educational institutions of this country have not been wanting in the matter of friends as the names of the many various buildings in connection with their establishments plainly show. There can be very little doubt that had there been a conservative administration in the Province of Ontario, the Toronto University would have had less begging and borrowing work to do, before it could be re-established. The \$160,000 from the government is to be granted immediately and possibly the grant from the city of \$50,000 may be augmented, if the University authorities can be made to give the city some benefit in return, in the way of land for parks and so on. But the present government is getting into such deep water with its own white elephant, the Parliament Buildings, that naturally it is not very sympathetic with other people who have building troubles.

The architects of the Province of Quebec are talking about the formation of a Provincial Association and seeking legislation on the lines of the association of Ontario. A meeting for this purpose was said to be announced to be held in Montreal, but nothing seems to have come of it, and indeed what else could one expect when for the last twenty years attempts have been made to draw the architects there together, but all have failed. The jealousies of Montreal's architects are positively ridiculous. Beginning with the natural dislike that usually exists between "two of a trade" this feeling is stimulated into an antipathy in the hearts of the one race against the other, and the English speaking and the French are separated by a wide gulf. This natural racial dislike, culminates in a general hatred of every individual in the profession and so the formation of an association among such very unethical men is an impossibility. The Quebec Association, however, very kindly wishes to embrace all the Montreal architects, but they have stayed proceedings until the Ontario architects' bill should have been passed or thrown out, in order to see what chances they were likely to have of success. Perhaps if the Montreal men get some kind friend to take them by the hand, they may be induced to embrace each other.

The "Canadian Architect" for the last month, contains a letter from the city engineer of Quebec, in reference to the remarks of that journal about the advertised competition for the new City-Hall. The conditions are of a very unhealthy character and the accommodation required is so great that the journal remarked it could not be carried out for the money. The city engineer is apparently hurt by the fact that, as he says, "the committee either thought it beneath their dignity to consult him, in the premises, or that knowing that public buildings cost twice as much as the original estimates, they thought that by limiting architects to \$200,000, they could get a building finished for about \$400,000, and so the truth as to their real intentions leaks out." "When—fall out wise men get their due," but in this case the wise men will refrain from attempting to get their due or anything else.

THE PONT DU DIABLE.—Another popular tradition has been exploded in the discovery of the precise origin and exact date of the construction of the famous "Pont du Diable" in which is now the department of the Pyrénées Orientales, but was formerly the province of Roussillon. The popular legend about this bridge, which spans a mountain torrent called the Tech, near the small town of Céret, was that it had been built during one night by Satan and his myrmidons, and the fact that the particulars as to its construction had never been found in any of the local archives of course gave additional strength to this legend. But the registrar of a neighboring town called Prats de Mollo, close to the Spanish frontier, has just unearthed a manuscript, dated 1321, which relates how the notables of that town "contributed ten golden crowns of Barcelona towards the building of the bridge at Céret upon condition that the inhabitants of Prats de Mollo were exempted from paying toll." The toll-gate has long since been done away with, and this no doubt was how all trace as to the origin of the "Devil's Bridge" was lost. — *Building World*.



shall have then this year the *Salon* Messiaen at the Champ de Mars and the *Salon* Bouguereau in the Champs Elysées.

To-day we will visit the Hôtel Carnavalet, which, finding that its riches were increasing, the authorities have been obliged to enlarge. In her letters Madame de Sevigné allows us to perceive the joy she felt nearly two hundred years ago, in establishing herself in a hôtel which thoroughly pleased her, and which she was going to inhabit with her daughter and the Abbé Coulanges, her uncle, in a rich and elegant quarter. This hôtel had been built in 1544 by Jean Bullant, after the designs of Pierre Lescot, for the president of the Parliament, Jacques de Ligneris, Seigneur de Crosnes. About 1578 it was purchased by Françoise de la Baume, widow of the Baron de Kernevenog, who discharged the duties of governor to the Duke of Anjou, later Henry III, whose name was finally corrupted into Carnavalet. This name fixed itself upon the Hôtel of Madame de Sevigné—"La Carnavalette," as she called it, situated at the corner of Rues Sevigné and Francs-Bourgeois. But this quarter of the Temple has since that time lost its aristocratic air, which, nevertheless, is still found on some few houses whose porte-cochères, formerly allowing entrance to the chariots and carriages of marquises of the utmost fashion, to-day open for the wagons of the merchants and workmen whose sign-boards have taken the place of the sculptured coats-of-arms of former days. This corner of Paris, foul and pestiferous with odor of grease and frying-pan, shelters a great number of charming details dating from the Renaissance and Louis XIV, unfortunately too often degraded by the practical men of business who have hardly time to spare a thought for the destruction of the artistic things of whose real charm and value they are ignorant. Have they ever looked at the sculptures which decorate their doors, the figures finely carved in medallions, ornamented with flowers and made gay with chubby-cheeked Cupids, whose smiles, which have endured for two centuries, reward the one who discovers them and disinters them from their covering of dust and oblivion. In the Rues Vieille-du-Temple, des Francs-Bourgeois, Ste. Croix de la Bretonnerie, etc., there are only pretty pediments and consoles artistically modelled, masks grimacing still at the outrages of the weather, cupboards, rococo work and wreaths peeling off, but allowing still to hang in the middle of these ruins of old age, a stem or a crisp little flower, evidence of the elegance and youth of former days.

The Hôtel Carnavalet has happily escaped in part the tooth of time and the vandalism of man. Its walls carefully guard the souvenirs of two historic names, those of Goujon and Madame de Sevigné, and of two grand epochs, that of the Renaissance and the age of Louis XIV. It was Jean Goujon who was charged with the decoration of this edifice by Jean Bullant.

At the commencement of the seventeenth century the new proprietor, M. D'Argouges, carried out certain interior decorations by Androuet de Cerceau, and later, in 1660, M. D'Agaurry, councillor in the Parliament at Grenoble, to whom the hôtel belonged, employed François Mansard to enlarge it. In his restoration this artist gave to this building the character of his own age and the aspect which it to-day presents. The plans of Pierre Lescot conformed to the *parti* generally adopted in private hôtels of the fourteenth and fifteenth centuries, which consisted of an entrance, which gave access to the interior court-yard surrounded by inhabited rooms, at first only one room deep. Later architects gave a greater depth to their buildings in such a way as to arrange two ranges of rooms between the exterior walls.

The entrance doorway of the Hôtel Carnavalet, the work of Bullant and Jean Goujon, was preserved by Pierre Mansard in his new façade—a full-centred bay, surrounded with vermiculated lozenge-work and decorated on the central keystone of the archivolt with an admirable winged figure by Jean Goujon, representing Abundance. It formerly stood upon a globe, which was afterwards transformed into a mask in allusion to the name Carnaval[et], a logical transformation since certain philosophers consider the world merely a masquerade. In the tympanum of the doorway two little genii bearing palms lean upon an escutcheon which formerly bore a coat-of-arms. At right and left two bas-reliefs representing tame lions surrounded by trophies were anciently placed above two little side doors which flanked the entrance into the interior court-yard,

Other sculptures adorn the piers of the first story of the façade, the work of Van Obstal, and represent in a very mediocre fashion Vigilance and Firmness. The pediment was crowned with a statue of Minerva standing, and beneath on the stylobate is engraved the restoration of the hôtel and this façade in 1661. Van Obstal is also the author of the bas-relief on the façade upon the Rue Franes-Bourgeois — Wisdom and Love bringing back peace and abundance. This allegorical subject is an allusion to the marriage of the king and to the Treaty of the Pyrenees, which took place at the time when Mansard was carrying on the restoration of the Hôtel Carnavalet. In the interior court-yard the main building which fronts the entrance is decorated with four large bas-reliefs attributed to Jean Goujon. These figures, which represent the Seasons, lack the elegance and fineness which are usually found in the work of this master, so it is allowable to believe that even if these sculptures were made under his direction they should not perhaps be attributed absolutely to him. As to the very mediocre bas-reliefs on the two wings, these are by Van Obstal. On the right four goddesses, Juno, Hebe, Diana and Flora, surmounted with the symbols of the four Winds; on the left the Elements, which, in the shape of male figures, represent Air and Water. All these are without grace and without worth: but in the windows of the lower story grin admirable masks of satyrs by Ponce, and above the doorway of the grand staircase, which is situated in the angle on the left, couchant genii holding lighted torches bear witness to the gracious talent of Jean Goujon, whose superiority is emphasized in a startling way by the contrast



The Hotel Carnavalet.

which is offered by the modern bas-relief vis-a-vis to it, which is a gross imitation of the same subject.

The artist again reveals himself with greater grandeur in the figures sculptured upon the interior pediment of the doorway. The keystone is a little chef-d'œuvre, and represents Authority standing on a globe, holding a yoke and commander's baton. On each side a couchant Fame holds branches of laurel and palm. Madame de Sevigné lived in the Hôtel Carnavalet almost twenty years, from 1677 to 1696, as witnesses the inscription on the Rue Franes-Bourgeois. She occupied the part of the building situated at the back of the court-yard, where are now the rooms devoted to the library. The only room which has been preserved intact is the *salon* with its fine carved wainscot, to which has been assigned the collection of engravings. The right wing on the court-yard was inhabited by the Abbe de Coulanges, and the Marquis de Sevigné lodged in the apartments on the street. Several financiers inhabited the hôtel after Madame Sevigné, among others the Fermier-General Brunet de Rancy. During the Revolution the directorate of the library was installed here. Next was seen here, until 1830, the Ecole des Ponts et Chaussées, directed by Baron Prony. This was succeeded by a wagon-office, and finally by the Institution Verdoot. In 1866 the Hôtel Carnavalet was purchased by the City of Paris for the establishment of its library and historical museum. Here, in fact, with the aid of numerous documents one can follow the history of Paris for all times — history curious and captivating, where comedy touches shoulders with tragedy; history illuminated with dashes of glory, and soiled with flecks of blood.

Relics of Gallo-Roman monuments, views of Paris, paintings, drawings, and water-colors, models and different objects are here assembled and methodically classified. A chef-d'œuvre by Boilly, the "Departure of Parisian Conscripits in 1807," attracts the curious. So does a panel by Corot, dated 1840, and representing the "Donjon of Vincennes"; and in the *salon* have been gathered in chronological order, all the faience and porcelains from 1789 to 1799, forming a unique collection of the product of the works at Nevers, which, not having at that time learned how to produce red, replaced it everywhere with yellow, so that the Phrygian cap is yellow and the tricolor flag in blue, white and yellow.

Around the garden, which lies behind the hôtel, new buildings have been added. Old buildings collected from different points of Paris, where they had been demolished, have been brought together here and form an arcaded gallery in the style of the sixteenth and seventeenth centuries. On the left, on the Rue Franes-Bourgeois, "the arch of Nazareth," which formerly spanned the street of this name in the Cité, at the side of the Palace de Justice and established communication between the old Chambre des Comptes and its archives, here forms a new monumental entrance. This arch, decorated by Jean Goujon, with elegant and sober sculpture, dates from the reign of Henry II, whose monogram, enlaced with that of Diane de Poitiers and her device — the crescent, with the inscription "Donec totum impleat orbem" — it still bears. This entrance is enclosed by a fine modern grille in the style of the Renaissance, after the design of the author of this interesting restoration, M. Bouvard, architect. At the back of the court-yard is the "Bureau des Marchands Drapiers," formerly Rue des Déchargeurs, near the Halles, which MM. Felix Roguet, architect, and Ch. Gauthier, sculptor, have ably restored, after the designs of Jacques Bruant, who built it during the regency of Anne of Austria. The sculptures, quite modern, represent the city of commercial Paris and the arms of the city between two tall caryatides. On the other side of the garden the pavilion of Louis XIV, which occupies the middle of the gallery, is taken from the Hôtel de Choiseul, destroyed by the cutting through of the Rue Quatre Septembre. Under the arcades have been gathered together several fragments of Parisian buildings of the Middle Ages, of the Renaissance, and of the seventeenth and eighteenth centuries. We notice also numerous fragments of the Hôtel de Ville, burned in 1871. Among others, the equestrian figure of Henry IV, the bronze bas-relief which decorated the principal doorway, and which Lemaire restored in 1834 after the ancient bas-relief by Baird. There is also in the garden a vault from the oldest part of the Hôtel de Ville, decorated with the cipher and salamander of Francis I, and in one of the new halls is the ancient door of the same building, and the beautiful rose-window of the sixteenth-century staircase.



THE NEW ROMAN CATHOLIC CATHEDRAL
AT SYDNEY. — GOVERNMENTAL ARCHITECTURE IN AUSTRALIA.

SYDNEY, N. S. W.

THE Roman Catholic Cathedral of Sydney, which was formally opened in January, is without doubt, the finest example of decorated Gothic in the Australian Colonies.

The choir only is completed; the choir aisles and the transepts still await their permanent roofs; and the nave is not yet begun. And still nearly £150,000 has been expended during the twenty-three years that have elapsed since the foundation stone was laid, and it is estimated that at least £40,000 more will be required to finish the present portion. As it stands, however, the church is considerably larger than Oxford Cathedral, and about the same length as that of Carlisle. The design is cruciform in plan, and comprises nave and aisles, transepts, choir and aisles, a central tower at the intersection of the nave and transepts, and two towers and spires at the west end, or more correctly, the south end, for the exigencies of the site have compelled the architect to disregard orientation. The total length internally will be 350 feet, the width across the nave and aisles 74 feet; and across the transepts 118 feet. The roofs of the nave and choir will be about 100 feet from pavement to ridge. The latter is groined in wood, but the former will have an open timber roof, and the aisles throughout will be groined in stone. It is much to be regretted that the choir roof is not also of stone; for the wood has a cheap appearance, and looks as if it was only resorted to because the clerestory walls were not strong enough to carry stone groining. Another fault is the extreme narrowness of the nave — about 32 feet, I believe — which is considerably less than the width of many parish churches. Otherwise the proportions are very good. The stone used is the splendid brown Sydney freestone; and as the building groups well, and occupies a magnificent site overlooking populous Woolloomooloo, the city and the harbor, it forms the most prominent and pleasing mass in an exceptionally fine landscape.

The Cathedral was designed by Mr. W. W. Wardell, and is being carried out under his supervision. This gentleman received his architectural education in the office of the late Augustus Welby Pugin, and his name appears in Eastlake's "History of the Gothic Revival," associated with those to whose efforts the success of the movement was mainly due. He was at one time occupied as Government Architect in the adjoining colony of Victoria, but his work there did little to advance his reputation; the individuality which alone can give life to a design seems, in a Government office, to lose itself in official correctness and insipidity. This is generally the case in all departmental work and nowhere is it more apparent than in New South Wales, where all the Government buildings are designed in the department over which the Colonial Architect, as he is called, presides. The result is a wearisome succession of large buildings; well designed as far as they go, and well constructed; but with an air of absolute inanity about them which is as irritating in its placid self-sufficiency as the vacuous smile on the face of a fool. The railways are all constructed by the Government in these colonies, and the railway stations are, of course, the work of one Government department, while the design and construction of the State schools is entrusted to another.

There are a great number of these schools built every year, and they are generally very expensive edifices; so expensive in fact, that it recently occurred to the Minister at the head of affairs that it would be perhaps cheaper to have them built all on the same model. In accordance with this brilliant idea, plans of schools of assorted sizes, have been prepared, details and all, and then photolithographed, and the draughtsmen's services are no longer required in the Department of Education. Previously, accidents of site, locality and aspect, necessarily varied the designs a little, and made some less ugly than the rest; now the only variation will be in size, but the ugliness will still be common to all. From this it will be inferred that the scope for an architect in private practice in Sydney is not too extended; for such other public buildings as do not directly concern the Government, generally fall within the province of the Municipal Council, and are consequently carried out by the City Architect.



THE BILL FOR THE REGISTRATION OF ARCHITECTS. — THE ARCHITECTURAL ASSOCIATION. — THE QUESTION OF BUILDING LEGISLATION.

WITH the opening of Parliament we are again visited by the Architects' Registration Bill. The measure is in all main respects identical with that previously presented, with the chief exception that Scylla has been forsaken for Charybdis, and that now it is only proposed to include architects within the scope of the bill, and not engineers and surveyors as in former measures. I need hardly detail the points of the proposed Act of Parliament. The preamble states that it is framed to enable "persons requiring professional aid in architecture to distinguish qualified from unqualified practitioners," an euphemism which disguises sufficiently the trades-union character of the movement. The bill then proceeds to call into existence a "General Council of Architectural Education and Registration of the United Kingdom" which is to be composed of thirty persons, of which five are to be sent by the Royal Institute of British Architects, one by the Royal Academy, one by the Institute of Architects of Ireland, two by the Society of Architects, two by the Architectural Association, five by Provincial Societies, and nine by universal suffrage of the profession. Scotland and Wales are not considered of sufficient importance to be directly represented, and the Architectural Association, founded in 1842 and consisting of over eleven hundred members, receives equal representation with the Society of Architects founded in 1883, and but one-third the size. The Society though are the chief supporters of the bill, so the unequal representation can be accounted for. These are, however, details. The machinery by the aid of which we are to reach the Elysian fields of perfection is then described. A fit commencement is made by officially hall-marking as fully qualified architects any persons who have intermittently made or caused to be made, plans during a certain defined period, and to complete the handiwork, certain other persons such as sanitary municipal engineers and surveyors, and students who have attained the age of twenty-two, are to be received into the sacred fold.

This interesting achievement successfully accomplished, the bill proceeds to put an end for once and for all to such absurd notions as a collegiate education for architects by rendering compulsory a three years apprenticeship to the officially hall-marked registered "architects" whom it has just created. The next step is to institute an examination, which the Royal Institute of British Architects is graciously permitted to carry on, but in case the Royal Institute shows any sign of restiveness or self-will, the General Council is

invested with power "to secure the maintenance of a standard sufficient to guarantee the possession of knowledge and skill requisite for efficient practice." Other clauses provide for the publication of the names and addresses of the officially hall-marked "architects," the disability of those not officially hall-marked to recover costs in a Court of Law, the annihilation of all public appointments to the officially hall-marked, and "other details to which it is unnecessary to refer." There are, however, one or two little points that have not been considered of sufficient importance to incorporate in the bill. For instance, no provision has been made against the practice of architecture by incapable men, and by the simple omission of the word "architect" jerry-building and jerry-architecture can flourish in all their innocent simplicity. In conclusion we are blandly assured, that there is nothing in the provision to which any reasonable person can take exception.

The measure is comprehensive, as it provides for the whole profession, irrespective of members of representative bodies, and as it is well to put an end to carping, we are informed that "the unanimous opinion of the whole profession, not only in this country (England), but in France, in America, and Australia is, that the principle of registration is the only practicable one to deal in a comprehensive way with the matter." In the face of this, it is, perhaps, beside the point to mention that petitions have been presented against the bill by (1) the Royal Institute of British Architects, (2) the Architectural Association, (3) the Royal Institute of Architects of Ireland, (4) the Bristol Society of Architects, (5) the Glasgow Institute of Architects, (6) the Leicester and Leicestershire Society of Architects, (7) the Manchester Society of Architects, (8) the Nottingham Architectural Association, that the Parliamentary Committee of the Liberty and Property Defence League have placed the measure among the condemned bills and that the government have decided to oppose the bill. As a matter of actual fact, it is the general opinion of persons whose views are worth listening to, that the bill does not stand the slightest chance of becoming law.

The gist of the whole matter is this, the "Architects' Registration Bill" is being "run" by a clique of men termed the Architects' Registration Committee, who do not represent the profession in any sense of the word, and who do not contain among their number any persons who could lay a justifiable claim to be termed the leaders of the profession. Under these circumstances, it is easy to understand that the bill is naturally very incomplete and crudely constructed. The proper course to pursue in carrying through Parliament such a measure as this, affecting as it would most seriously the whole profession throughout the world, would surely be to secure as far as possible the unanimity of the whole profession, and not attempt to pass it in the teeth of the opposition of those who are accepted as the leaders of the profession and loyally supported by all the right-thinking architects. A movement of this character should be made and made only by the Royal Institute of Architects in their capacity as the leading professional body in the kingdom, and if, as the registrationists assert, the whole profession believes in the principle of registration, it is difficult to conceive why they have not prevailed on the Institute to take action in the matter. Then the proposition would have some weight and might receive the very earnest consideration of Parliament, but to imagine that the Legislature of Great Britain is going to issue a fiat in favor of a complicated and far-reaching measure, whose very elementary principles have hardly been discussed by those for whose benefit they are supposed to be framed, is really too absurd.

Another movement, seeking the same end as registration, is to be discussed at the Institute on Monday, the 31st inst. The suggestion, which may possibly prove a *modus vivendi* for all parties is, "That at an early date as possible, statutory powers should be sought to establish, as in other professions, a system of compulsory examination, to be held by the Institute, and to be extended to all architects hereafter entering the profession, whether as members of the Institute or not." I will endeavor to attend the meeting on the 31st, as I expect there will be an extremely interesting discussion.

Meanwhile, ignoring these storms on the arena of architectural politics, the Architectural Association is pursuing the even tenor of its way, and devoting itself to deeds, rather than to words. The Education Committee has been sitting very regularly and continuously throughout the session, and it is to be hoped that they will soon be in a position to present their report. It is, of course, impossible to say what this will be, but rumor has it that it is of a very drastic character, and recommends the assumption by the Association of the functions of a leading central teaching body for students, with a regular course of instruction and staff of paid instructors. Whether rumor is to be trusted remains to be seen.

Some very interesting papers have lately been read at the Institute. The most notable was by Mr. John Slater, B. A., on "Building Legislation," and great credit is due to the author for the thorough and comprehensive manner in which he compiled his paper. Prefacing his remarks by a reference to the enormous increase in the population of London and the manufacturing districts of Lancashire and Yorkshire, Mr. Slater asked whether the building regulations now in force, not only in the metropolis, but also in the majority of our great cities, were suitable and sufficient for the necessities of the present day. He personally thought not, and considered that the metropolis should have a building act which would be a model for other towns.

A short résumé of Roman and Medieval building legislation led up to the Acts of Parliament now affecting the metropolis, which were no

less than fourteen in number. This induced the author to give utterance to the following very excellent sentiments, in which he argued in favor of the embodiment of all these complicated acts in one great measure. "It was essential," said Mr. Slater, "that all regulations as to streets and buildings should be codified and embodied in a single document, and that piecemeal legislation should cease. The act should regulate the width, construction, sewerage and gradient of all new streets, the line of frontage of the houses, and should provide a sufficient number of adequate open spaces. It should define clearly the difference between public and private buildings; should exercise control over the situation and construction of the former, and the means of ingress and egress. To secure the prevention of fire, due stability and healthiness in all buildings, it should control the site, the construction of foundations, walls, floors, roofs and chimneys, the drainage, the amount of space about a building, and the height of a building in connection with its position. It should provide an executive for carrying out its provisions, and a special court of appeal for all disputed matters. Regulations as to noxious trades, infectious diseases, common lodging-houses, etc., should be relegated to a special sanitary code as in New York."

Mr. Slater then dealt at considerable length with the foregoing points, one by one. The present regulation as to the width of new streets—that they shall be at least 40 feet wide—was not sufficient; for a much-used thoroughfare, there should be a carriage-way not less than 42 feet. The definition of a public building should be as wide as possible, and none should be allowed to be erected with a frontage to one street only. Any restriction as to cubical contents was unnecessary as a hard-and-fast rule, and there ought to be a discretionary power of allowing larger buildings to be erected, if the authorities were satisfied with their construction. With the increased knowledge of the behavior of stone and iron under heat, it was absolutely criminal to allow stone staircases carried on unprotected iron supports in buildings used as flats; and, in fact, all the provisions as to fire-resisting construction needed remodelling. The securing of due stability was an important point, and perhaps the most crying defect in the Buildings Acts was that the controlling officers had no power whatever over the materials used other than bricks and mortar. It would not be difficult to frame a schedule which should stipulate, for instance, that lead for gutters should be of not less than, say, 5 pounds per foot super.; that zinc should be not less than 16 ounces, etc. It was also time that some regulations as to the use of iron in buildings should be laid down, such as, for instance, the minimum depth of a girder spanning a certain opening. If such details were not to be provided for, then the superintending officials should be empowered to satisfy themselves as to the stability in each individual case, and be made responsible. With regard to drainage, he thought the sanitary officers of the various "vestries" (our London local Councils) did their duty well; but he considered a divided control unwise, and that the same officer should be responsible for both the erection of the building and its sanitation. Provision should be made for underground rooms being, to a certain extent, protected from the damp, either by the walls being built in cement or by forming a dry area. The close juxtaposition of the houses was a great evil in large cities, and a regulation prescribing a minimum distance between the backs of all houses, large or small, was most urgently needed. The existing provision was positively ridiculous, because it simply prescribed the area of the open space in the rear of a building. The minimum depth of that open space should depend on the height of the house, and should be at least equal to it. In the case of buildings facing public streets, the width of the street should govern the height of the house as a general rule, as in Paris, in nearly every city of the German Empire and in Sweden. In the last-mentioned country, streets 32 feet wide and less might have houses 43 feet high; up to 44 feet, houses 54 to 56 feet high; and streets about 44 feet might have houses 66 feet high. Such stipulation was eminently reasonable, but power should be given to relax the rule in certain cases, provided the construction satisfied the controlling officer of the Building Department as to fire-resistance, stability, etc. In order to avoid a monotonous sky-line, a clause might be framed to the effect that if the front of a building be carried up as a gable, then the limit should apply, not to the apex, but to half-way up the gable. The regulation of the relations between adjoining owners as to works to party structures was then dealt with, and reference made to the 1844 Building Act, which had a very wise provision, under which, if the adjoining owner did not give his consent, the matter was referred to the District Surveyor, who was required to report on the matter to the Court of Appeal. With reference to light and air (English laws on this matter are very complicated and troublesome), a clause to the effect that a building owner should give notice of rebuilding to all parties who could be affected, and their surveyors empowered to investigate the matter and to decide by a majority whether the building would injure any one, and, if so, the compensation to be paid, or to absolutely veto the proposed rebuilding, would be an immense gain to a building act in a large city.

Mr. Slater's paper has received a great amount of attention, the Institute giving a special evening for its further consideration. No definite steps were actually taken, but there is a strong feeling among the members that the Building Acts of London should be entirely reconstructed and consolidated in one Act, and there seems a probability that the Institute, in its rôle of leading professional

society, will take the initiative and approach the County Council on the subject.

I can only just mention the other matters that have occurred. Visits have been paid by the Architectural Association to Mr. D'Oyley Carte's new theatre at Cambridge Circus, to the Imperial Institute under Mr. Collett, to the new Police Headquarters under Mr. Norman Shaw, R. A., and to a hospital for women, and administered entirely by women, under Mr. J. M. Brydon. Papers have been read by Mr. E. W. Mountford on "Public Libraries," by Mr. R. Elsey Smith on "Greek Architecture," and by Mr. Henry Holiday on "Modernism in Design." Mr. Fulleylove has given us a charming exhibition of his sketches in Cambridge, tallying with his previous work at Oxford. Relics of the Royal House of Tudor have been on view at the New Gallery, and Art in connection with Sport at the Grosvenor. Yet another new picture-gallery has been opened in Regent Street, under the title of the Victoria Gallery. "Humorous and Grotesque Art" was the title of the first exhibition, but it did not seem to be a success. It has been succeeded by a collection of articles that have a direct or indirect bearing upon the lion of the hour, Mr. H. M. Stanley. The Forth Bridge has been opened by the Prince of Wales in the presence of a large concourse of eminent persons, including M. Eiffel.

Generally, things seem doing fairly well in the profession in England. Architects, as a rule, are busy, and there are fewer grumblers than usual.



THE ARCHITECTURAL EXHIBITION AT THE ART CLUB.

THE Exhibition of Architecture and the Allied Arts, which is being held under the auspices of the Art Club, compares very favorably with the last one of the Architectural League of New York.

The Committee has been very severe in its selections, with the result that while there are only a little more than two-thirds as many drawings as in New York, the standard of excellence is higher. The Loan Exhibit, about twice as large as that of the Architectural League, is many times more valuable than the latter and more instructive, but somewhat disappointing in the number of its original designs.

On entering the admirable gallery that Mr. Day has designed for the Club, one is surprised at the general restful effect of the room. There is, owing to the good judgment used in hanging the drawings, no spottiness. And whether because one has not, as is usual, to pass through rooms glowing with the rich colors and gilt of a collection of framed paintings, or because of the pleasant tones that Mr. Cariss has combined in the background on which the drawings are hung, one does not feel the chill that is apt to run down one's spine on entering a room lined with drawings whose broad margins of white paper stare out cheerless and cold. As, for instance, at the *Salon*, where the loneliness of the architectural room has become a by-word.

The catalogue of the present exhibition, which contains, by the way, excellent reproductions of some twenty-four of the drawings, has for all preface the words which Longfellow puts into the mouth of Michael Angelo:

"Ah, to build, to build!
That is the noblest art of all the arts.
Painting and Sculpture are but images,
Are merely shadows cast by outward things
On stone or canvas, having in themselves
No separate existence. Architecture,
Existing in itself, and not in seeming
A something it is not, surpasses them
As substance shadow."

However comforting to architects such a dictum may be by an authority who knows so intimately whereof he speaks as Michael Angelo, it is the very fact that architects' drawings have in themselves (or at least it is the devout hope of their authors that they may have) a "separate existence," and are not in themselves architecture, that makes an exhibition of them so much less attractive to the public, ignorant or cultured, than a room full of the same number of statues and pictures.

A noteworthy feature of the present exhibition is the work done by students in the various schools. This exhibit takes up nearly the whole north wall of the gallery and a part of the east. The largest showing is made by the Massachusetts Institute of Technology, the next by the School of Mines of Columbia College, the third by the Ecole des Beaux-Arts at Paris (if we omit those made there by men who are now professors at the schools mentioned, and whose drawings are classed with the exhibits of these schools), while the University of Pennsylvania brings up the rear with a solitary drawing of the Gate of Judgment in the Alhambra, a very careful piece of work by Mr. Frank Miles Day. A place of honor on this north wall is given to Mr. Hubert G. Ripley's design for a hotel. Not knowing

what the requirements may have been it is impossible to judge of the merits of his plan, which is naturally a perfectly formal one. Everything is arranged with reference to this or that axis, and one turns to this plan, as to most of those on the same wall, with a pleasant sense of relief at the thought that here the designer has willingly passed by the inevitable striving after irregular picturesque-ness in his search for formal dignity. The plan is rendered to perfection, as in the elevation, in graded washes of water-color. Either of these drawings is exactly what one would expect of a well-trained student at one of the Continental schools of architecture, but the perspective, a thoroughly good example of pen-and-ink work, is of a kind that if it were commoner among European students might be greatly to their advantage in design.

Another drawing by the same author seems to me to be not up to this in excellence, namely, a design for a campanile. Another one, not in the catalogue, but numbered 192, more Italian in outline, is most graceful and strong, and soars exactly to the right height to satisfy the eye. This may also be said of a simple one by Mr. Edgar V. Seeler, where the proportions of the plain brick shaft to the rest are very satisfying. The delicacy of Mr. Vernon A. Wright's rendering of the same problem is carried so far as to take away from its effectiveness.

Mr. Seeler has three other designs; a pavilion, a well-rendered entrance and an exchange, this last somewhat bare, and of which the treatment of the huge triple windows in the end is open to criticism.

Mr. Thomas R. Kimball has an excellent design for an art club, very rich; in dark washes of India ink. Mr. Emil C. Mueller a clean India ink wash-drawing of Greek design for a porch, and Mr. Walter H. Kilham, a most admirable piece of work in his design for a museum of natural history. The plans of it is an example of irreproachable rendering, and looks as though done by a first-classman in the French Government School. Mr. George C. Shattuck has a plan for a school of art. This is another example of perfect rendering. Even without the requirements it is easy to see that the plan is carefully studied and the rendering faultless. Mr. Shattuck also shows one of the two designs for a theatre. His recalls the general arrangement of the front of the Opera-House in Paris, as does also Mr. E. B. Homer's, whose correct, but warm coloring of the façade, pleasantly harmonious throughout, helps to make the composition a most attractive one. For color that is by contrast spotty and disconnected, although skillfully handled, we should turn to Mr. Arthur W. Rice's design for a cyclorama building. Messrs. Escalier and Letang, professors at the Institute, send two most interesting rendus made in the Ecole des Beaux-Arts.

Mr. Escalier's is an Italian villa. The plan itself is very small in comparison with the garden that surrounds it, with its walks, its trellises, its statues and its terraces. The elevation is charming, reminding one vaguely of the Villa Medici. It is rendered with more pencilling than is usual, and has in the foreground a little Chinese white.

Mr. Letang's problem is a portico. It is really inspiring to see an elevation so well rendered as this. It is done in what is perhaps after all the most effective method possible, to wit, India ink washes with a suspicion of color. A little ultramarine mixed with the *poché* at the top of the windows, a hint of green to show the material of the bronze doors at the back, and then beyond and filling up the sheet to its margin the India ink outline of the stonework of the building from which the portico projects. In the exhibit of the School of Mines of Columbia College, but made like the two above, in the Ecole des Beaux-Arts, is Mr. L. Chiffot's "Bourse Maritime," a noble design showing an impressive building with a dome that exactly suits it, the whole in that perfect proportion of all the parts that makes one feel instinctively that it is "just right." If, as was hinted above, it would do no harm to French students if they would sketch and design in perspective a little more than they do, they could truthfully retort that it would neither impede our knowledge of construction nor of perspective if our students should devote a little more time to really finished and difficult drawings such as the sectional perspective of this same "Bourse Maritime." The elevation for Mr. Dufosse's "Hospice," an attractive drawing in red, buff and brown, shows another building of perfect proportions, and is beyond criticism. Mr. Alfred D. F. Hamlin has a large Ecole design for the central pavilion of a palace. Two students of the School of Mines, Messrs. S. W. Andrews and I. M. Hewlett send designs for memorial chapels. Of these the first has a dome a little high and obtrusive. The other is beautifully proportioned, but has a fault in the rendering that is very common—all that part of the building that projects is so much warmer in color than the main body which recedes that it looks as if made of a different material. The colors jump in this case, indeed, from a warm brown to a cold blue, without passing through the intermediate gradations that make such a violation of truth excusable in the hands of a colorist like Mr. Luce, for instance, and when he has the aid of perspective to show the projections in their true value. Mr. A. W. Longfellow, Jr., sends two of his *projets* done at the Ecole des Beaux-Arts—a "Séminaire," and a beautiful "Maison d'un Statuaire." Three other Ecole drawings are Mr. John Stewardson's detail in color of a piece of Tuscan construction and Mr. Reinhardt Dempwolf's large India ink drawing (perhaps the best detail in the exhibition) of a restoration of the cornice of the Temple of the Sun at Rome, and a study for a shrine—a periptery temple like that of Vesta.

Some description of the rest of the Exhibition, including the Loan Collection, will be given next month.



TWO NEW MUSEUMS OF ANTIQUITIES.—THE MUSEUM OF URBAN ANTIQUITIES AND THE MUSEUM OF ITALIAN ANTIQUITIES.

FOREIGNERS who have this year visited the Eternal City have shared the agreeable surprise of finding two museums which are not yet enumerated in the tourists' guide books, the creation of which is due to the intelligent care of the Italian Government. It is, alas, a very feeble compensation for the acts of official vandalism which have so cruelly ravaged in these last years this illustrious capital of the arts, this august city, which has been the cradle of history and the hearth of Christian civilization. The most precious monuments have been molested, the most venerable remains of antiquity have been delivered to the basest speculation, and under the pretext of enlarging and embellishing and making more healthy, they have destroyed the *cachet* of majesty which everywhere marked the physiognomy of this city, so dear to poets, to artists, to men of learning of every country and of every age.

The carelessness of the popes, it must be confessed, allowed many historical relics of great importance to be damaged, and contributed to give to Rome the aspect of a city where the benefits of civilization, the principles of propriety and healthy municipal ideas made their way only with difficulty. But the rage for blind innovation, which the new administration has given evidence of, makes us almost regret a time when a deplorable routine only exposed our public monuments to the inevitable attacks of the weather. One may say that incapacity and the mania for transforming with which the Italian Government is animated have done more evil to Rome in twenty years than the negligence of certain pontiffs caused in ten centuries. On this point everybody is agreed, and the lively complaints formulated by foreign archaeologists and especially those of France, Germany and England, are only too well founded. But since in the midst of so many errors the power which rules at present over the banks of the Tiber has been able to accomplish one meritorious act, let us award it the praise it deserves.

The two museums of which I have just spoken are the Museum of Urban Antiquities, established in the Baths of Diocletian, and that of Italian Antiquities, which has its home on the Flaminian Way in the villa of Pope Julius. To appreciate the importance of these two institutions, which date to the commencement of the last year, it is well to sketch in a few words the care displayed in these last fifteen years by the Ministers of Public Instruction, upon whom matters of this kind depend, in order that the most important archaeological finds might not be scattered. M. Bonghi was the first Minister who, in 1873, established at the Ministry a general direction of antiquities, which watched vigilantly not only over the excavations at Rome, but over all those which are carried on in the provinces, in the grand historic centres, and of which the products up to that time had remained buried in isolated places, lost to sight, or more frequently secured and carried away by foreigners. This general direction named, appointed at the principal centres inspectors charged with directing the searches, cataloguing the results and determining their character and value. I ought to say that frequently the choice of certain inspectors has not been a happy one, and they have not been fully fitted for their tasks. I know some who do not know a word of Greek, who understand Latin very imperfectly, and who are, in consequence, not always in a condition to judge of the importance of a discovery to such a degree that in more than one case it has been German archaeologists who have definitely determined, when they accidentally found themselves in those neighborhoods, the real character of the finds; but these are faults of execution which will disappear with the passage of time in proportion as historical studies are better developed in Italy, and the Government will find for its archaeological inspectors a better instructed and better experienced staff. The dispersal of documents, of objects of an archaeological value, have occurred also from the fact that the Communes were not always in a position to incur the expenses which a systematic collection always requires. The Government has therefore established subsidies in favor of the Communes which already possess collections, and it is in this way that the Museums of Antiquities at Este, Bologna, Florence, Chiusi, Orvieto, Viterbo, Reggio, Toronto, Syracuse and Cagliari, have taken on in these last years a large development.

I have visited these museums one after another, and have proof that they contain sufficient elements for the reconstruction of the political and artistic history of Italy. With the material included in these collections one could to-day, in a measure, completely describe the daily lives, and picture to one's self, the religion, the tastes, the dwellings of the most ancient inhabitants of the peninsula, as to whom books have given us until now only vague and often fallacious indications. In this respect one might say that the initiative of the Italian Government is destined to produce in a short time precious fruits, and the learned of the whole world will be beholden to it.

About the same time M. Bonghi conceived the idea of creating at Rome a vast collection of national antiquities, and in fact he opened in the dependencies of the Kircher Museum attached to the Roman College epigraphic and pre-historic sections; but the apartments chosen for this purpose were not sufficiently large and lacked light. These rooms were quickly filled up, and then the officials were reduced to remove, provisionally, here and there amongst the warehouses, under sheds and so on, objects of the greatest value. Such, for instance, was the lot of the statues of the Vestals found near the portico of Vesta; of the paintings and stuccos discovered near Farnesina; of the statues which adorned the sepulchre of Sulpicius Platorinus; of the bronzes found on the Via Nazionale in digging the foundations of the Dramatic Theatre; of the bust of Dionysius found at the Villa of Hadrian at Tivoli, and of the hermaphrodite discovered amongst the ruins upon which had been built the Tietro Costanzi. It was impossible to allow this disorder to continue without running the risk of losing important fragments, which, moreover, were not being made of use, since the public could not examine them at leisure.

M. Boselli, who was the successor of M. Bonghi, and who to-day is still at the head of the Department of Public Instruction, wished in his turn to put an end to these inconveniences, and give a new start to historical and archaeological studies. In the first place he revived the archaeological schools destined to instruct the youth in the study of the affairs of the past, a study which is always a little dry at the outset. Then he founded at the University of Rome a chair for instruction in ancient art, and finally by a decree which dates from the month of February, last year, he established the two museums which I mentioned at first, and one of these, which is established at the Villa of Pope Julius, is intended to receive the relics of monuments of importance and the inscriptions found in the Roman provinces, while the other, housed in the Baths of Diocletian, is particularly reserved to the antiquities of Rome itself.

From these two sections of the new National Italian Museum, the most interesting, the most curious, because of the novelty of the documents which it encloses, is surely that at the Villa of Pope Julius, consecrated to suburban antiquities. Although destined to contain all the finds of value discovered beyond the walls of the capital, almost all the objects which are arranged there up to the present time are related to Etruscan history, because archaeological research of late has turned more particularly to the places where we know were interred relics which belong to that grand race which preceded the Roman people in the way of civilization, and which seems to have been one of the most powerful intermediaries between Grecian and Italian genius. The greater part is occupied to-day by antiquities coming from Faleria, which was one of the richest and most flourishing of the Etruscan cities, and occupied one of the most beautiful heights which surround the Lake of Bolsena. Some of these antiquities date back eight centuries before the Christian era, and throw some light on the past of that grand nation of which as yet we possess only vague and unformed ideas. The objects have been arranged according to their age, so that in the first place one may analyze rustic utensils of a make relatively rude: we find here the spherical and also the cylindrical urns which differ sensibly from the urns belonging to the same time which are seen at the Museum of Bologna, which are formed by two cones connected by their bases. Apropos of tombs, which belong to this epoch, there is a curious fact to record: several have been found made out of the hollowed trunks of trees which still contain in their cavities remains of bones. These discoveries confute those who have pretended that the ancients, without exception, practised the system of incineration and that the honor of having introduced the method of inhumation belongs to the Christians. The wooden or stone coffins found in great numbers in the necropolises of central and northerly Italy prove, on the contrary, very clearly that several centuries before the birth of Jesus Christ, in certain cities the burial of bodies was practised and from the diversity of modes of sepulture employed we can even deduce the fact that the people who inhabited these countries followed in this respect differing usages and consequently were not all of the same race. It is not to be doubted now that the rule of the Etruscans extended from the Mediterranean to the Adriatic, and from the Cimian mountains, which on the north border the Roman Campagna, as far as the valley of the Po. But the methods of sepulture are the most characteristic signs which serve to differentiate the customs of nations, and from this point of view we can conclude that the Etruscan nation, although forming a homogeneous body politic, was composed of very dissimilar elements, obeying doubtless multitudinous traditions, customs and social laws. This point is of the highest interest for the future of the history of the Etruscan people. Articles of ornament found in the Falerian tombs, which are here brought together in great numbers, also aid us to fix another fact in Etruscan art, namely, that this art was autonomous up to a certain epoch, and has not always been a derivative, as has until to-day been asserted, from Hellenic art. One scarcely encounters a semblance of imitation of the importation of Phœnician art which have been found in large quantities in other localities. It is true that in the Falerian collection metal-work, and especially work in precious metals, is wanting, because it can be proved by indisputable signs, that the tombs from which existing remains came were violated and pillaged by the profaners of sepulchres. In only one of them there was found in one corner, as if the robbers, after having laid it aside, had forgotten it, a fragment of a scabbard of bone and ivory incrustated with amber, and another

scabbard of bone with its blade, and some smaller bits of bronze and gold work, such as fibulas, combs, etc. All these objects bear evident traces of imitation of Phœnician work. It is only in the case of these articles which belong to the most recent epoch, that we can remark an effort at imitating Hellenic art, properly so called.

The imitation of Greek ideas visibly dates only to the third period of Falerian civilization. The objects which were included in this period leave no doubt as to their origin, and it is plain from this moment that Etruria was conquered, not only by the articles imported directly from Greece, but also by Greek artists and artisans who imposed their tastes and their manner upon the conquered country. But before this date the region about Bolsena had escaped Hellenic influence. For the rest we must recognize that so long as it was left to its own devices Etruscan art did not know how to vary from archaic forms, and that foreign influence largely contributed to refine it. Among the amphoræ of the Corinthian school, which are classed in the Falerian collection, I remarked one of the greatest interest, for upon it is represented Dionysius between two satyrs who each bear upon his shoulders a Bacchante, and another one where is seen Æneas bearing his father Anchises on his back, and surrounded by two women, one of whom has the features attributed to Venus.

In the way of curiosity, among the subjects here shown, I ought to mention also two cups, one of which bears a Hercules kneeling by the side of Minerva, who hurls a dart against Geryon; and on the other, two kneeling youths who each have in hand a cock which they are exciting to combat. Here the Grecian origin is incontestable, for we know that it was the Greeks who instructed the Etruscans in mythology. Before them the Etruscans did not know mythology, or only knew it imperfectly, and we have the proof of it in the mythological scenes which figure on the amphoræ of the first epochs, upon which the history of Olympia is sometimes very singularly distorted. But the scene with the cocks is too intimately allied with Grecian customs for us not to see in this cup a specimen of Hellenic importation. We know that the Athenians were ardently devoted to this kind of sport, which to day turns so many heads in England and Spain. We also know that they assigned one day in the year for this spectacle, and that they were accustomed to excite the war-like ardor of these birds by making them eat garlic before the battle.

I should fear to weary the attention of your readers if I should pursue this enumeration, which, nevertheless, has for me many attractions. I should be happy if I had been able, even imperfectly, to give them a clear idea of the importance of this new museum, and suggest to those who are shortly to visit Italy the idea of inspecting it. I am sure that they will be grateful to me for having given them this notice.

In the way of matters purely architectural, this collection has confirmed me in the opinion that I have formerly expressed as to the little influence that the Greeks have exercised over Etruscan architecture. Hellenic art only attacked the accessories, the objects of secondary importance, and only after a manner hypothecated the ornamental portion of Etruscan products. Etruscan architecture preserved its primitive character, its heavy forms, its simple straight lines. As a means of determining this, we have only the tombs and bits of design, which are very rare of course, upon the amphoræ representing fragments of architecture. But the fact that in spite of all search it is possible to discover in the soil of ancient Etruria only necropolises and that in none of the explored ruined cities has been found up to this day the traces of any important grand monument prove clearly to my mind that the great architecture, or monumental architecture in a word, was ignored by that nation. It may be that archaeological research may ultimately prove the contrary, but for the moment no discovery has been made which prompts us to conceive a very high respect for the architectural taste of the Etruscans. Not a temple proves to us the grandeur of this people, not a public building of any value inspires us with admiration for their artistic feelings. This race, whatever may be said of them, appear to us to-day a people of the second rank. A brutalizing superstition and the worship of false gods joined to an excessive taste for sensual pleasures and an excessive depravity, of which the designs on their amphoræ give us numerous proofs, engulfed their spirit and caused the atrophy of their genius.

Among the meritorious deeds which M. Boselli, the present Minister of Public Instruction, has accomplished, I ought also to mention the recent decree for the establishment of regional commissariats of the fine arts, so as to apply the principle of decentralization to historical studies in art. The Government, with the intention of preventing the awakening of the particularism which formerly had such disastrous effects on the political well-being of the peninsula, had everything concentrated in its own hands, and this greatly hindered the development of the local initiative, without which archaeological studies are always incomplete in a country which, like Italy, is strewn at every point of its territory with most enviable historic treasures. On the other hand, the State, by nature a little thoughtful of anything which did not represent an immediate and palpable interest, had consecrated to this branch of the administration only modest appropriations. Italy is the richest of all countries in monuments, and it is nevertheless, the one which spends least, proportionately, for providing for their discovery and preservation, although it is the only one which has had the unfortunate idea of imposing a fairly heavy tax for admission to the museum of paintings and

antiquities. France spends thirteen millions a year for the fine arts and antiquity. Everywhere else, moreover, private society lends a pecuniary and intellectual aid to studies of this kind, while in Italy the public indifference to this sort of thing has arrived at such a point, that it would be very difficult to mention an artistic society which is distinguished by any serious work.

In virtue of the decree which I have just mentioned, Italy is divided into twelve regions, Piedmont, Liguria, Umbria, Tuscany, the Marches, Emilia, Lombardy, Venetia, Sicily, Sardinia, and Naples, each of which will have over it a commissary, who will direct the studies throughout the province placed under his jurisdiction, with the assistance of a special technical staff, and aided by all the scientific, artistic and historical institutions existing in his district. He will be able in case of urgency to make the necessary arrangements concerning the final disposal of important finds, as well as for the preservation of the monuments which the State places in his care. Unfortunately it is money that is wanting, for the Italian Government hardly spends four millions a year for the care of the relics of antiquity and the artistic treasures of which it is the depository. The commissaries, although animated with the best of intentions, will often be confronted with material impossibilities; but their creation indicates an awakening feeling for art, from which it is fair to augur well.

Modern Italy owes a reparation to the world of artists whose sentiments she has cruelly wounded through tolerating the dispersal of the most precious relics of the past, and in shielding with the cloak of her responsibility the disgraceful speculation which has profaned Roman soil, which has given to the city of the Caesars and the Popes the physiognomy of a vulgar bourgeois city. This sin calls for expiation, and the best of expiations would be to show in the future more tenderness and solicitude for the arts and history, and to make the necessary pecuniary sacrifices to give to these fair sentiments practical sanction.



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

HOUSE AT WEST PHILADELPHIA, PA. MR. A. W. DILKS, ARCHITECT, PHILADELPHIA, PA.

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

COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y. MR. R. M. UPJOHN, ARCHITECT, NEW YORK, N. Y.

[Issued only with the International and Imperial Editions.]

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

[Issued only with the International and Imperial Editions.]

TWO HOUSES—"ROCK-RIDGE;" "TURTLE-POINT;"—AT TUXEDO, N. Y. MR. BRUCE PRICE, ARCHITECT, NEW YORK, N. Y.

THESE houses are in the school of megalithic work which has been the result of the use of the natural material found at Tuxedo. On the mountain slopes of Tuxedo are tremendous rock-slides and there are vast accumulations of magnificent building material, all shaped and squared ready for building and covered with mosses and lichens.

Mr. Price's first work in this direction was the entrance gates to the Park and these turning out very successfully, the engineers carried the curtain walls which flank the two buildings at the gate, out in the same character of work, only using larger stones. The construction of these walls starts with stones weighing from a ton to three or four tons, set up on end and standing about six feet high from the ground, and upon this, rises a couple of feet higher, what is called an Irish parapet. The work is truly megalithical.

In the other buildings that Mr. Price is now putting up at Tuxedo, he has carried out this idea and has started all his house-walls with stone as large as could be handled, gradually decreasing them in size towards the top. Another point, the gate buildings were built very ruggedly; the stone lay upon their bed in the walls and consequently each stone jutted out boldly according as its contour was more or less rough and the joints between the stones became very deep seams.

This method he felt was a little too rude and in a house at Boulder Point, which was the next one he built, he reversed the method of laying the work and sought to get the stones with their square surface for the face of the wall, still preserving the idea of standing the stones pointing upwards, as the big stones in the first courses were laid. The effect of this house is much stronger than that of the gates.

In the Turtle-Point house the architect has ventured a step still

further beyond the methods of work at Boulder Point and has laid the work on horizontal lines, with the square faces to the surface.

The Rock-Ridge house will be executed the same as the Turtle-Point, with the windows and openings trimmed with long coins and arches of dark spotted Roman brick.

THE NEW ROMAN CATHOLIC CATHEDRAL, SYDNEY, N. S. W. MR. W. W. WARDELL, ARCHITECT.

[Additional Illustrations in the International Edition.]

ROUMANIAN RESTAURANT AT THE PARIS EXPOSITION OF 1889. M. O. ANDRÉ, ARCHITECT.

[Etching.]

THE WINTER RIDING-SCHOOL IN THE IMPERIAL PALACE AT VIENNA. BARON FISCHER VON ERLACH, ARCHITECT.

[Gelatin Print.]

THIS is one of the last examples of the "baroque" style, and was built in 1728-42, by the great architect, Baron Johann Bernhard Fischer von Erlach. The ring is eighty feet wide by about two hundred and ten feet long, one end forming a segmental curve. In the middle of this end, which is shown in our interior view, is the Emperor's private box. Two tiers of galleries surround the remainder of the ring.

INTERIOR VIEW OF THE SAME.

[Gelatin Print.]

UNITED STATES TRUST COMPANY'S BUILDING, NEW YORK, N. Y. MR. R. W. GIBSON, ARCHITECT, NEW YORK, N. Y.

In future, we hope to be able to make arrangements to avoid the repetition of illustrations.

COMPETITIVE DESIGN FOR MUNICIPAL BUILDINGS, SHEFFIELD, ENG. MR. ERNEST RÜNTZ, ARCHITECT, LONDON, ENG.

THE building is arranged in four stories, viz., second and first floors, ground and lower ground floors, the main entrance being from Pinestone Street. The grand staircase and entrance-hall, giving access to all the principal departments, to be decorated throughout in faience, with mosaic pavement and marble steps; the council-chamber to be centrally situated in the building on the first floor level, entirely away from the noise of traffic, to be 65 feet in length, 40 feet wide, and 35 feet high, lighted by nine large windows; a gallery is provided to accommodate 70 persons, together with reporters, for whom a private room is arranged adjoining.

The reception-hall, dining-room, and mayor's parlor are shown on the first floor plan, and occupy nearly all the Pinestone Street frontage, the whole being arranged so as to form one grand room 138 feet in length, 38 feet wide, and 35 feet in height, the partitions dividing the rooms consisting of light iron framing with wainscot panelling, designed to run in concealed grooves across the corridor into spaces formed by the hollow walls of the entrance-hall, this being effected by hydraulic power. In connection with the dining-room are serving and cloak rooms, lift to kitchen and the extensive culinary department on the second floor. The whole of the pilasters and bases, forming bays to grand room, to be in faience; the chimney-piece of Carrara marble, with Devonshire marble shafts to columns, panels of the same material; the floor to be laid with 3-inch battens of English oak.

The following departments are on the second floor, viz., sewerage and rivers office, laboratory, store-rooms, additional offices and culinary department; on the first floor the town clerk's department, ante-room, six committee-rooms, mayoress's parlor and cloak-rooms.

The ground-floor is occupied by the borough surveyor's, accountant's, and waterworks departments, and the lower ground-floor by the health offices, weights and measures department, large room for electric-light installation, engine and boiler room, coal and other stores, and public lavatories facing Pinestone Street.

Separate lavatory accommodation is provided for each department, and is so placed as to allow of quick communication with the sewer, and at the same time allow for complete control by means of disconnecting and inspection chambers in the internal and external areas. The ventilation to be upon the plenum and vacuum system for the council-chamber and reception-hall; rooms for the exhaust propellers are provided in the roof, and for the fresh-air propellers in the basement. The ventilator proposed for the general offices is by foul-air extract flues, with inlets upon Tobin's system. The heating to be upon the low-pressure system with coils and radiators, private offices having fire-places in addition.

Holmfirth stone was suggested for the whole of the façades with brick backing, patent Victoria stone for corridors and secondary staircases, with wood blocks to the former and teak treads and risers

to the latter. The roofs, flats, and floors throughout to be formed of rolled-iron joists, and coke-breeze concrete the latter, with wood-block flooring.

The architectural treatment is Renaissance in character; the main façades are varied in outline by the introduction of pavilions at intervals, the clock-tower being at the northwest corner of the site, forming, as it were, the apex of a triangle with the adjoining church towers. Allegorical figures contribute to the adornment of the exterior. The basement to be rusticated; the ground-floor having columns and pilasters of the Ionic order, the upper story ornamented with those of the Corinthian order surmounted by an attic story, with a caryatid story at the southern pavilion. The estimated cost was \$2,000.

SHOPS AND DWELLING HOUSES, ST. LEONARDS-ON-SEA, ENG.
MR. ARTHUR WELLS, ARCHITECT, HASTINGS, ENG.

THESE shops were recently erected at St. Leonards, at the junction of Warrior Gardens with Western Road. The premises comprise five separate buildings, and are so arranged that in each case the shops can be let, if so required, apart from the houses. The former have lavatory arrangements distinct from the dwellings, and also convenient cellars in the basement. The kitchen offices for the houses are on the first floor. The buildings were satisfactorily carried out at a total cost of 5,233l.

THE FELLOWS' GARDEN, EXETER COLLEGE, OXFORD, ENG.

AT the present time the drawings of picturesque scenes in Oxford, by Mr. Claude de Neuville, have excited much interest in the university and city. We give this week an illustration of one of the drawings, which will suggest the style of the artist and his success in catching the spirit of the place.

BOOKS AND PAPERS.

SO many excellent books have been published during the last few years upon the subject of Construction, and the particular branches relating to trusses and roofs have been, on the whole, so thoroughly and successfully treated, that it is difficult to do justice to the clear and comprehensive manner in which Professor Merriman has handled the very trite topics of roofs and bridges in his work recently published by John Wiley & Sons.¹ It is avowedly a text-book and is written very manifestly for students, being consequently more exact and minute in its investigations than would be desirable in a work which was intended for the practising architect or engineer. There is no reason why the man of practice should not be as exact as the student who is engaged with merely theoretical problems; still as a matter of fact a great deal of the calculation which a college professor finds necessary is often skipped entirely, judgment and experience being applied to an intuitive solution of the problem; and this work is no exception to the general rule that few text-books are exactly suited for office work. The amount of necessary calculation which enters into the work of the architect or engineer can be generally expressed by a very few pages of theory; and in considering points which after all are matters of experience rather than theory, any further analytical elucidations, while necessary for the student, are simply encumbrances for the practical constructor. This should not be taken, however, as either a condemnation of the methods of analysis or of the arrangement of matter in this work, both of which are clear, concise, and admirably arranged for purposes of study.

The general subject is treated in two volumes. Or rather, one might say that the general subject is treated in two ways, the first volume being given entirely to analytical consideration of stresses in trusses, while the second volume takes up the graphical statics as applied to exactly the same problems, the arrangement being identical in each volume so that the two may be readily compared. The portion relating to the graphical statics is preceded by some very ingenious and valuable applications of the system, possibly not original with the author though we do not remember to have seen them published before in just this form. For instance, in the case of beams which are loaded at several points, or loaded unequally, the equilibrium polygon is used to determine the reaction on the supports and also to work out the vertical shears and the bending moments for all sections. The author does not make the application, but such a method is found very advantageous in determining the strength and proper sections for cast-iron bow girders, and for some forms is used quite frequently in practice. Another very clever application of graphical statics is made in a section designated as graphical arithmetic, multiplication, division, extraction of square root, determination of the reciprocal, and several applications being worked out in a very clear manner by graphical methods. In treating the determination of strains in a truss, the work follows very much the lines of Green's "Graphical Analysis," but is carried a little further in detail and is made exceedingly simple and practical in its applications. One feature which is often omitted from the calculations

of the engineer is the determination of the action of the wind pressure on trusses with one end free and the other fixed. For such cases the author works out two strain diagrams, one in which the force of the wind acts wholly on the fixed side and the other with the entire wind pressure applied to the free side, calling attention to the fact that in a truss with fixed ends the reactions due to the wind pressure are inclined, giving rise to horizontal components which tend to overturn the walls of the building whereas in the case of a truss with one end fixed and the other free the reactions on the free end are vertical.

The work contains some ideas of very practical value, showing that the aim of the author is quite as much to make the students think for themselves as to formulate any system of calculations, and a great many very well chosen problems are added after each article which the student is to solve for himself, blank leaves being bound in with the text so that the solution of the problems can be finally incorporated in the volume by the student. A good definition of a truss is given as being a structure arranged to carry loads in such a manner that each principal member is subject only to stress in the direction of its length, that is, to a tensile or to a compressive strain, and the point is very wisely made that the investigation of a roof truss is a complex problem requiring great skill, judgment and experience, the computation of the stresses being the least difficult part. In the examination of a particular structure attention must be given to the joints and connections, since it often happens that these are weaker than the main members. In a wooden truss many joints have parts subject to shearing which need careful investigation on account of the resistance of timber to this stress. In iron trusses the riveted joints must be tested for the bearing compression as well as for shear and tension, while the pins are to be computed as well for bending as for shearing; and in any important case the student is advised to make a working-drawing showing all details, since thus the data as to dimensions are most clearly presented.

A very convenient formula is given for determining the weight of a truss.

Let l be the span in feet, a the distance in feet between adjacent trusses and W the approximate weight of one truss in pounds. Then

For wooden trusses $W = \frac{1}{2} al (1 + \frac{1}{10} l)$.

For wrought-iron trusses $W = \frac{3}{4} al (1 + \frac{1}{10} l)$.

It is very easy to criticise and find fault with any book, however well planned, but though written as we have said for students and necessarily pretty precise in the details, this work is more free from excrescences and unnecessary elaboration than any that we know of at present before the public, and it is a great compliment to a professor of mathematics to say that he has been able to hold his subject so well in hand as to resist the temptation to wander off in the intricacies of analytical discussion which are so apt to render useless some of the best of reasoning and clearest of methods. It is one of the rare books which was written not because the author wanted to say something but because he had something to say.

COMMUNICATIONS.

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

A FORM FOR THE USE OF ARCHITECTS.

NEW YORK, N. Y., April 10, 1890.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—We send you herewith a form prepared in the belief that something of the sort is desirable for protection against misunderstandings between architect and client.

We are under the impression that a form somewhat similar to this that we submit was published by you four or five years ago, but we have been unable readily to refer to it. We publish this form, hoping to obtain an expression of opinion from some of the more prominent architects of the country, and to have it discussed or criticised by you.

Yours truly, COMPACT.

NEW YORK, N. Y.—18.

Mr. —

Dear Sir,—We submit herewith for your approval a statement of our understanding of the work which you wish us to undertake for you.

Description of work — Dimensions of lot — Dimensions of building — Height of building — Number of stories — Location — Proposed cost — Remarks (mention character of exterior and interior finish, plumbing, heating, lighting, etc.) —

We propose to undertake the above work under the following conditions. Our work and remuneration to be governed generally by the enclosed schedule of charges and professional practice of architects, which we request you to read carefully.

Our charge in your case will be — per cent on the total cost of the work, and in addition to the same and such additional charges as are especially mentioned in the schedule, there will be the following:

All necessary surveys and measurements.

Expert advice when sanctioned or requested by you.

A clerk-of-the-works to be employed by us for you at a salary of about \$ — per week.

¹ "A Text-book on Roofs and Bridges," by Mansfield Merriman, Professor of Civil Engineering in the Lehigh University. New York: John Wiley & Sons.

For difficult foundations, piling, special or constructive iron or other engineering works, 5 per cent additional on the cost of said works.

Preliminary estimate.—To save you both time and possible cost of remodelling plans, should the building as designed exceed the appropriation, we suggest that an itemized estimate, approximating within 10 per cent of the actual cost of the completed work, be procured from our expert. His charge will be \$—.

Should the above prove satisfactory, kindly sign and return the duplicate. Yours truly, —, Architects.

Approved.
(Clients' signature.) —.

BOOKS ON SCHOOL-HOUSES.

PORTLAND, ORE., April 5, 1890.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Kindly oblige us of the address of the parties of whom we may obtain T. M. Clark's pamphlet and annual report of the Massachusetts Board of State Police, on school-house construction mentioned under the head of Books on School-houses, on page 207, of your issue of March 29. We have a work entitled Robson's "School Architecture" published by John Murray, London, England, and would like to know if it is the same as the Weales's Series mentioned by you.

Very respectfully yours, WILLIAMS & WILLIAMS.

[Robson's "School Architecture," your edition, is the same as the one referred to. The Report of the Massachusetts Board of State Police can probably be obtained by addressing the Secretary of the Board, at Boston. For the pamphlet by T. M. Clark, write to the Bureau of Education, Washington, D. C., asking for Circular of Information, No. 4, 1889, on Rural School Architecture.—EDS. AMERICAN ARCHITECT.]

BOOKS ON PLUMBING AND STEAM-HEATING.

INDIANAPOLIS, IND., April 10, 1890.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I wish to obtain a work on plumbing, which not only gives the theory but the practice of plumbing. A book that will enable me to design the system of plumbing for a large office building or hotel, also, on steam-heating. Am fairly well acquainted with the work in a general way and could design for an average flat, but have not the experience in good practice or knowledge of the principles, to take a large building and feel that I knew I was right.

If you could kindly give me the names of such works and their price, would be very much obliged. F. A. SHERRILL.

[Bayles, "House Drainage and Water Service"; Philbrick, "Defects in House Drainage"; Putnam, "Sanitary Plumbing," and various other books, will be useful. For steam-heating, Baldwin's "Steam-heating for Buildings" is the best book we know. In plumbing matters, it must be remembered that the art advances so rapidly, that all books soon get antiquated, and fail to represent the best practice, or to describe the best appliances, and personal investigation and experience must supplement them.—EDS. AMERICAN ARCHITECT.]

THE PROPOSED BRONZE DOORS FOR TRINITY CHURCH.

NEW YORK, N. Y., April 9, 1890.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Will you be kind enough to act as referee on the following question? Will the bronze doors proposed for the Trinity Church, New York, be out of keeping with the strictly Gothic style of the church, because of the material used, or was brass and bronze used in the "Gothic Age?" In fact, would you limit a strict style, to the material used?

Respectfully yours, J. A. HAYS.

[1. No. 2. Iron was used more generally than either brass or bronze. 3. No.—EDS. AMERICAN ARCHITECT.]

A QUESTION OF COMPENSATION.

NEW YORK, N. Y., March 26, 1890.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—When an architect is employed to make plans for a building and several other structures are erected also from the same drawings, should he not be paid for each building (that is for the plans) especially when he is employed to supervise all the buildings? Yours truly, ARCHITECT.

[An architect should certainly be paid a reasonable price for all the professional work he does at another's request. What will be a reasonable price, depends upon all sorts of circumstances, and there is no rule now that we know of for determining by any arbitrary percentage the compensation of the architect for repetition of his design. The old provision of the New York schedule, that one per cent on cost should be charged for duplicates, was, we think, entirely disused long ago.—EDS. AMERICAN ARCHITECT.]

NOTES & CLIPPINGS

A LADY LANDSCAPE GARDENER.—There is only one lady landscape gardener in London, Miss F. R. Wilkinson, a young lady of about thirty. Her office looks like that of a busy surveyor. Curves and squares decorate the walls and there are mechanical instruments, important-looking bureaus and all the signs of serious business. Miss Wilkinson (who wears a short dress to enable her to get about the better) got her training at the Crystal Palace, where she went through the botanical

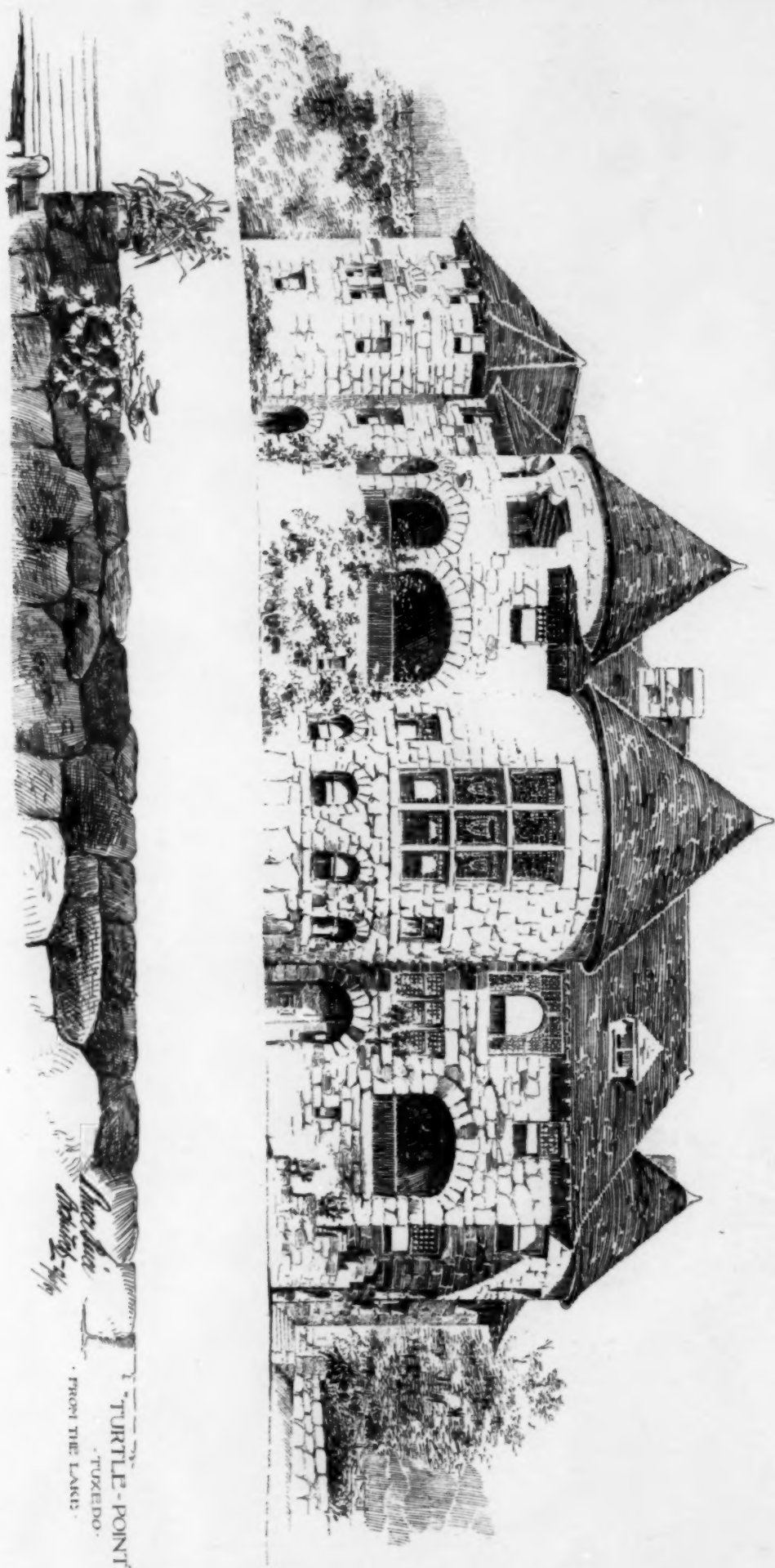
course and has now been a landscape gardener for five years. She has done a good deal of work in laying out public gardens, and is at present engaged on the lawn at Lambeth. She prefers private work, however. She has one pupil, a girl, and has had several applications from others.—Pall Mall Budget.

TRADE SURVEYS

SOME unexpected and rather surprising speculative features have been developed in financial, commercial and industrial circles within the past few days. Legitimate business interests regret the breaking out of this tendency, and fears are expressed in some quarters as to the probability of serious harm resulting. The iron trade, for instance, is now suffering from a prolonged depression as a result of speculation. A speculative movement in wheat has manifested itself, growing out of the low average condition of winter wheat and an alleged shortage in the Indian crop. In New York, last week, over 100,000,000 bushels of wheat were bought and sold, and a sharp advance in prices was the result. There is a speculative tendency shown in real-estate in several sections; also in certain lines of railway stocks, trust securities and industrial securities. No permanent damage may be done by this tendency, but its effect has been to develop an unusual degree of conservatism and to make bankers more cautious. All of the financial reports of the past few weeks, both in Eastern and Western markets, show that there is an abundance of money as yet; but, at the same time, the controlling financiers are holding a tight rein on the markets in view of possible dangers in the near future. What these dangers may be they do not state, but merely hint at. An urgent demand for money may arise, they say, and the present conditions of money and business are not favorable for any great expansion of loans. Articles in the financial columns of metropolitan daily papers, if read between the lines, corroborate the intimations thrown out by the lenders in finance. Business men generally need concern themselves but little with these ups and downs, ebbs and flows in the tide of financial affairs; but, at the same time, it would be well, for the present, for those business interests which expect to be large borrowers, to carefully watch the signs of the times, and avoid, as far as possible, being placed under the necessity of emergency borrowing. The silver question is the subject of careful study on the part of commercial bodies, and its importance is being more generally appreciated. The Secretary of the Treasury was expected to appear before the New York Chamber of Commerce a few days since, to explain and defend his position on the Silver Bullion Bill, but, from the fact of his declining the invitation, it is evident that he does not care to be catechized on the subject just at present. The reason is plain: A mighty Western influence is demanding the passage of this Bill; a very powerful Eastern influence is against it, or at least, powerful interests East are aiming to control and direct legislation in this matter. The gold standard is in imminent danger, not only in this country, but abroad; old-time theories on the question are likely to be upset. The possibility that a Bill will pass, providing for the purchase of \$5,000,000 worth of silver bullion per month, has lately given Eastern financiers something to think about. It is possible, of course, that this legislation may be manipulated and side-tracked for a time; but the influences at work in every department of activity will compel a bold, radical and effective treatment of this vexed and vexing question before long. Trade conditions have improved during the past few days. Bank clearings show a decrease as compared to the corresponding week last year, but for the month of March, as well as for the first quarter of the year, clearings show a gratifying improvement as compared to 1889.

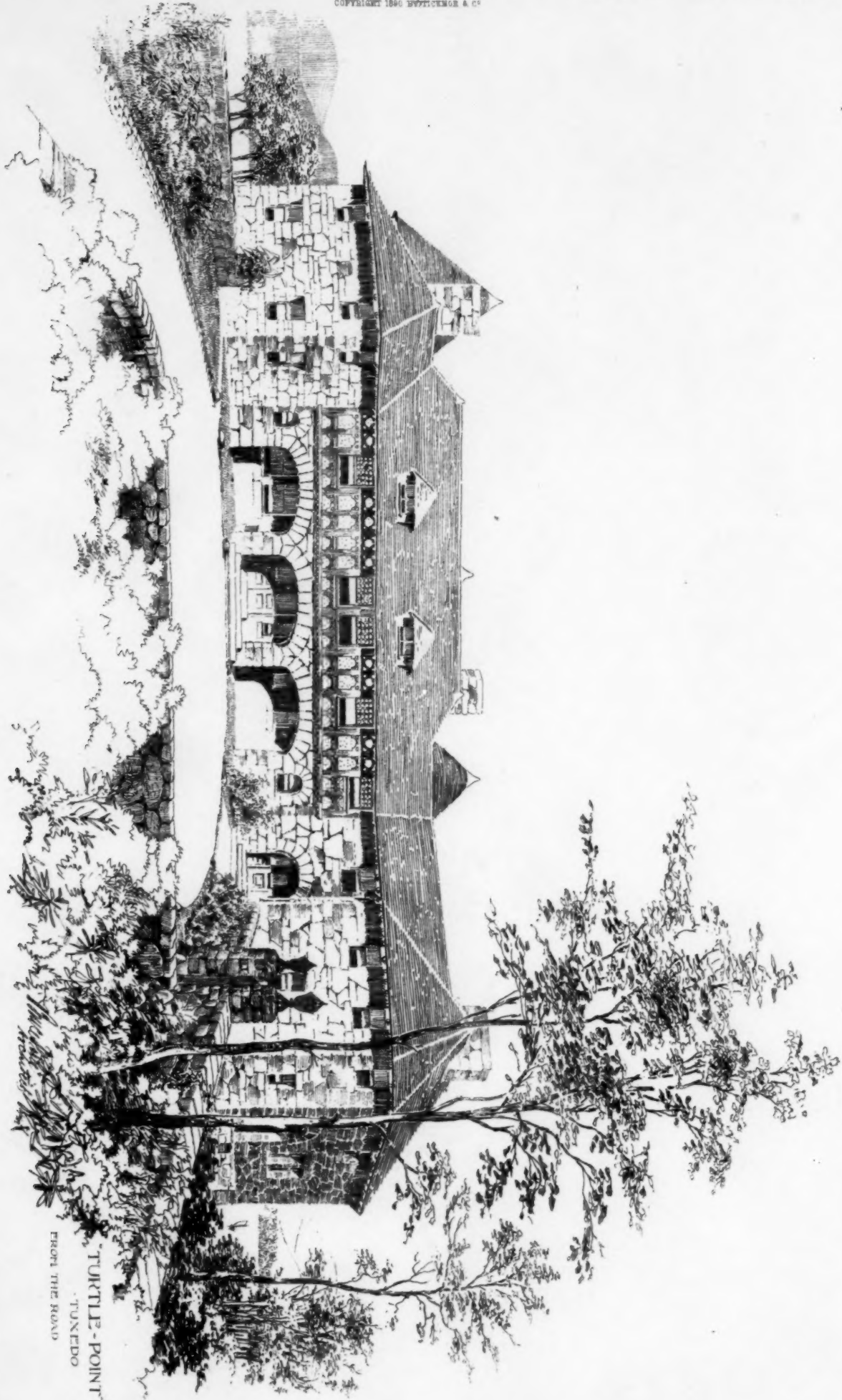
Freight-shippments over the trunk-lines both east and west of Chicago show a very great increase over the corresponding weeks of last year. The railroad interests are gratified at the improvement in the volume of business for the past three months, and the opinion is everywhere entertained that the business for the year will be greatly in excess of the volume for last year. As to new railroad construction, the only additional facts furnished by market reports are to the effect that a large amount of railway material is now under negotiation, and that large sales will probably be closed this month. Most of the new work is in the Southwest and West, but, in the aggregate, the railroad mileage in the States east of the Mississippi River will be much greater than for years past. The concentration of railroad management into fewer hands is progressing, and bringing about good results in the harmonizing of interests which have heretofore been hostile, and the gradual removal of hurtful competition. The railroad managers are gradually bringing comparative order out of confusion, but do not receive due credit for their achievements in this direction. In the hurry and flurry of daily writing upon current events, editors are apt to overlook the real progress that is being made, and give prominence to sensational announcements which are frequently of a damaging character. Our railway managers are developing a degree of ability in the management of difficult and intricate railway problems which entitles them to respect and confidence. If Congress will give the railway managers time, and the assistance to which they are entitled, there will be less occasion for the appointment of railway commissions and the enactment of cast-iron railway legislation in the not distant future. Great activity prevails in all of the lending industries. Although the pig-iron makers have been frightened into restricting production to the extent of about 5,000 tons per week, prices are likely to react, in which case a full output will be resumed. Large buyers of all kinds of iron and steel are holding off for the present, regarding prices as still unsettled. The railway builders are watching to see if rails will not drop to \$33 before paying \$34 in Eastern and \$35 in Western markets. The bridge-builders and car-builders have been rather cautious buyers ever since the opening of the year, but as prices have within a week or two past reached cost limits, a heavy demand will soon set in, or all the signs are wrong. Southern pig-iron makers are responsible for the break in Northern iron prices, having hurried in rather rash offers of large quantities of crude iron at cut rates. The lumber trade has gained considerably within the past ten days, because of the action of wholesalers, retailers and builders, who see that lumber quotations are now at their lowest for the season. The mining interests in the West are active, but the anthracite coal producers are still limiting their output to about 500,000 tons per week. Hardware manufacturers are running full time East and West. Paper manufacturers are endeavoring to restrict production, but, although market conditions show the wisdom of this course, the fact does not prevent the projection of new mills or the enlargement of old ones. The makers of tools, small engines and light machinery of every description are particularly busy. Throughout the agricultural regions of the West and South, the low prices at which products have been selling does not seem to have caused any particular depression in industry.

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

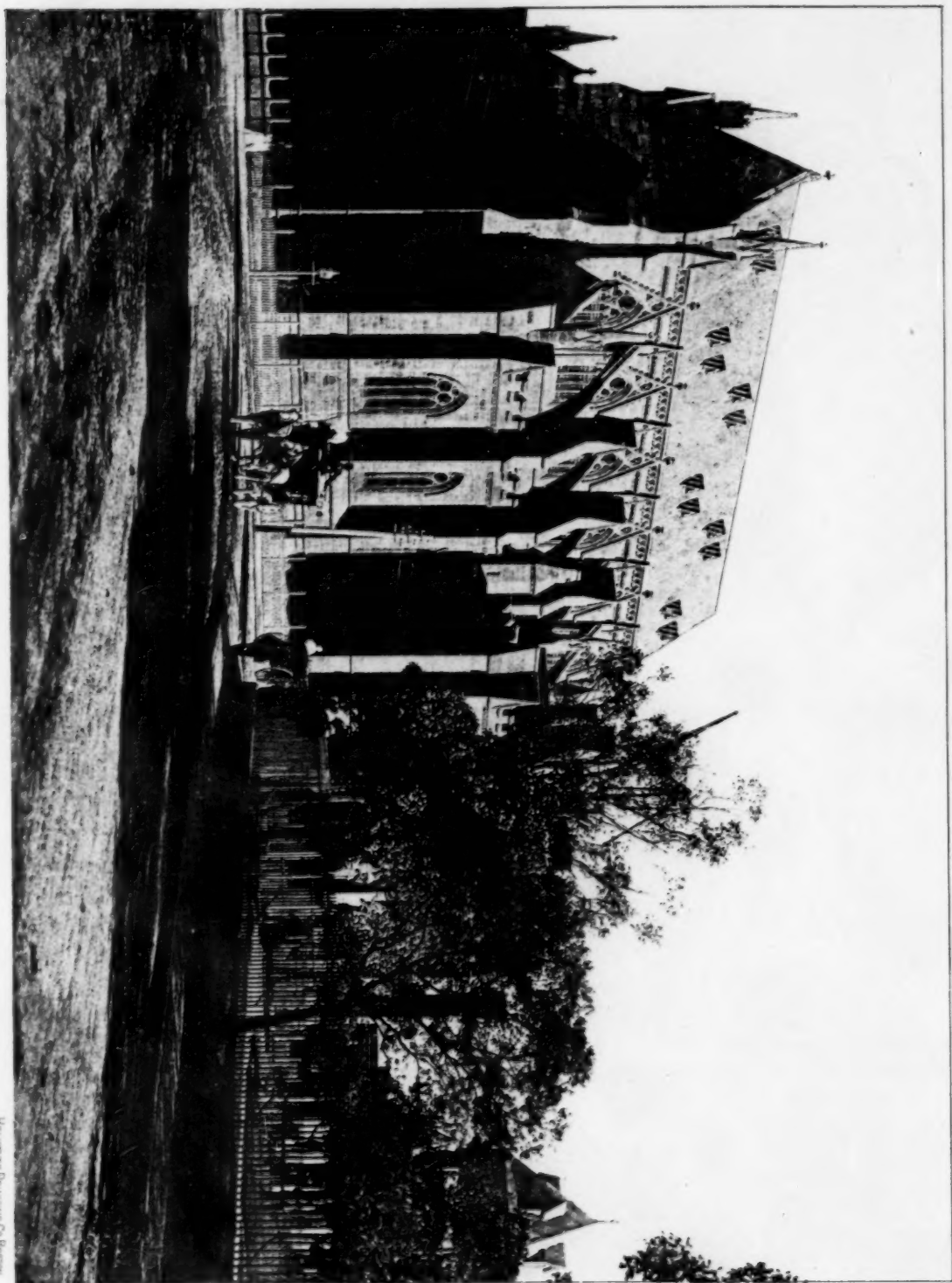


"TURTLE-POINT"
TUXEDO.
FROM THE LAKE.

COPYRIGHT 1890 BY TICKNOR & CO.



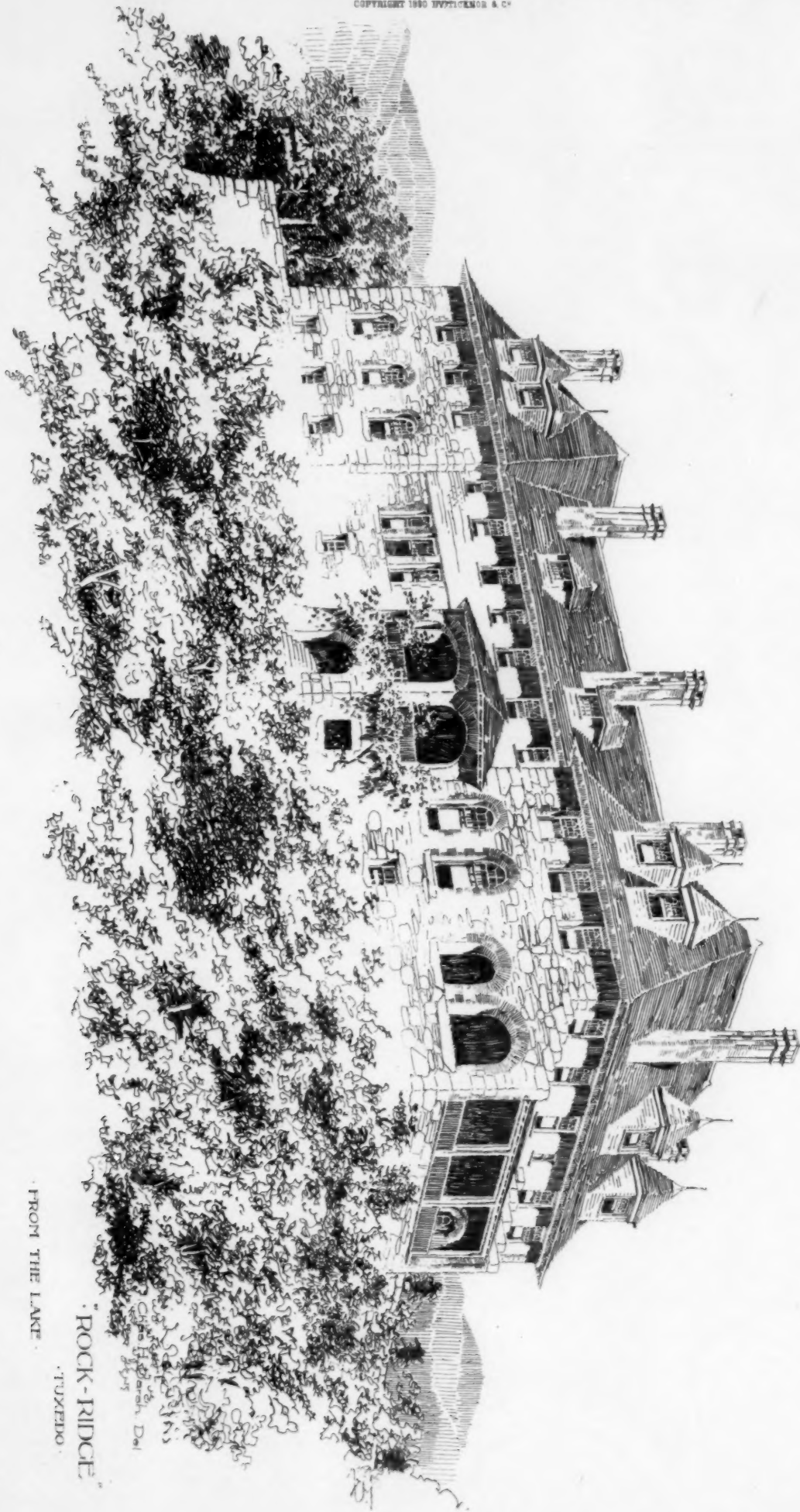
TURTLE-POINT
TUNEDO
FROM THE ROAD



THE NEW ROMAN CATHOLIC CATHEDRAL, SYDNEY, N.S.W. W.W. WARDELL, ARCHT.

Holmes & Pennington Co. Boston

COPYRIGHT 1890 BY TUCKER & CO.



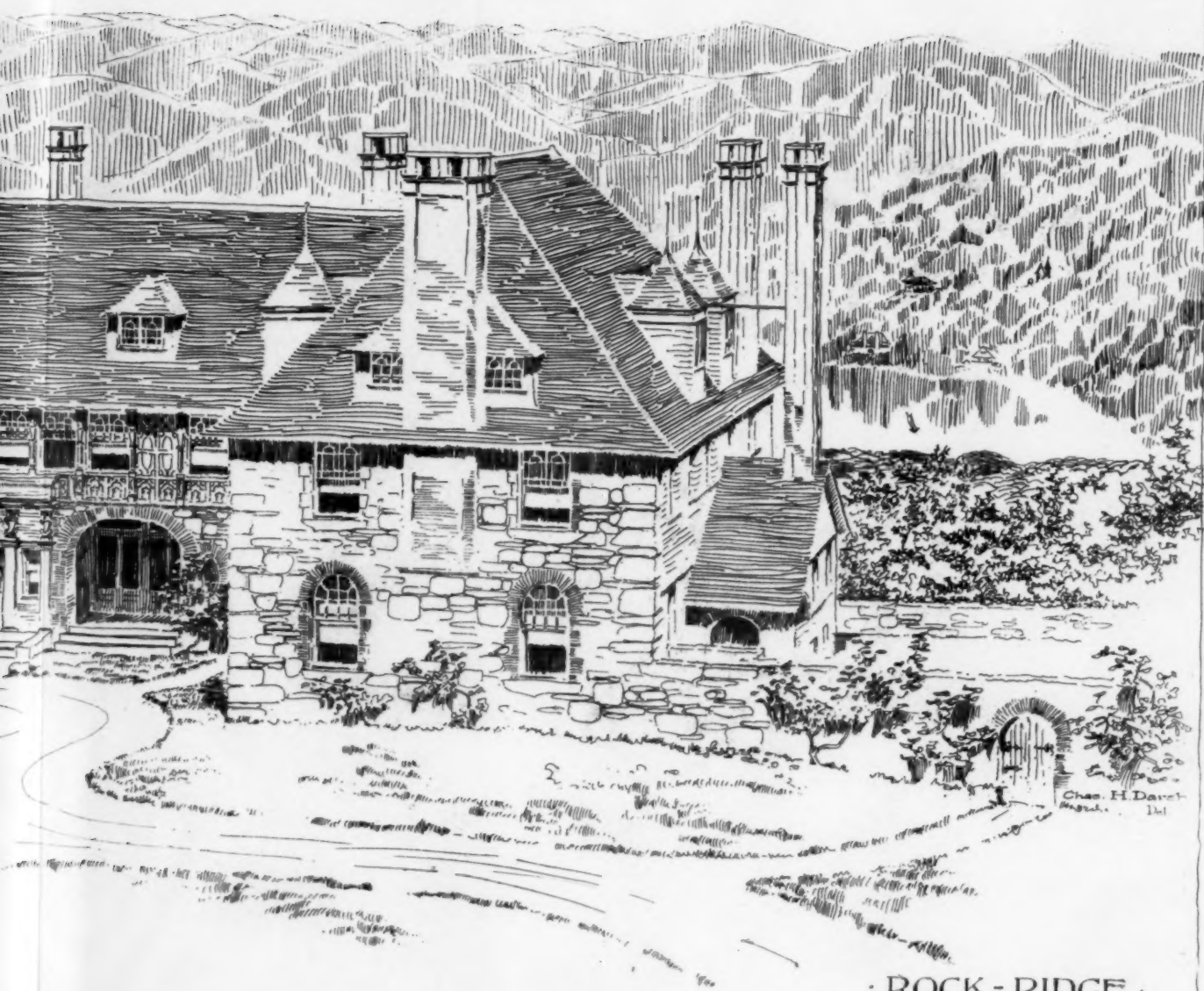
FROM THE LAKE

ROCK-RIDGE

TUXEDO

H. L. L. P. CO. BOSTON





· ROCK - RIDGE ·
· TUXEDO ·

FROM THE MOUNTAIN

HELIOTYPE PRINTING CO. BOSTON.