

## CHRIST CHURCH CATHEDRAL.

VERY few churches in Montreal are comparable from a constructional, as well as from an artistic point of view, to Christ Cathedral, of which I have attempted herein to give a short description. The great cost of stone found in this district, owing to its hardness and the difficulty experienced in carving it, tends no doubt to generalize the employ of lumber and galvanized iron, which has been so extensively used lately where stone should have been used for decoration and construction. This cathedral is an exception to the majority of our churches, having been built by the wealthiest congregation of the city; and nothing was spared to make it artistic and handsome. It is the only structure of its kind here, where stone has been so lavishly used for exterior as well as for interior effect. It is built on the north-west corner of Phillips Square, on the block bounded by Union avenue, University street and St. Catherine street, on a site that was donated by George III, King of England, for the erection of the cathedral which was destroyed by fire in 1856. Work was commenced on the existing church immediately after the fire, and was completed in 1859, when the edifice was opened for service. The plans were prepared by a prominent London architect, who unfortunately was not permitted to see this gothic chef-d'oeuvre carried out, but died before the foundations were out of the ground, at the beginning of the year 1857; when a successor had to be appointed to carry out his plans.

But two blunders were committed, one owing to the entire ignorance by the architect or his representative of the nature of the ground on which the church was to be erected, and the other to the severe climate of this country in winter. The first was due to the inefficiency of the spire foundation, which having sunk considerably before it got half way up, had to be taken down and rebuilt. The other blunder is practically irreparable, the experience having shown that part of the stone employed in the construction cannot resist our severe winter frosts, and every year a goodly amount of money has to be laid aside for the replacing of the damaged stones. All the stone used in exterior trimmings and also in the interior, where there is a considerable amount of stone, was specially imported for the purpose from Caen, France. This stone resembles very much in appearance the Ohio sandstone, and was very extensively used for inside work in England at the time the church was built; it is an exceptionally suitable material for executing fine sculpture and moldings—when not exposed to weather. Mr. Taylor, architect, was appointed some years ago to pay regular visits to the structure and attend to all restoration that the course of time might have rendered necessary; nothing is allowed to be touched or altered without professional advice, as it is considered that an inexperienced hand can destroy in an hour what it has taken years for an artist to produce.

A few years ago two stones fell from the spire through the roof, and the beautiful stone cross over the chancel gable also fell to ground, broken into atoms. The architect was sent for, and all the fragments were gathered and put together, and a reproduction of it made of the same material to replace the broken one. Several other ornaments and moldings also perished, but all were treated in the same manner. The only part that has not yet been affected by the frost is the window tracery—which are of stone—and great care is taken to preserve them intact. The chancel and aisle windows and the rose window in front have very remarkable tracery, and should they be injured it would be found extremely difficult to repair windows of such sizes. A curious thing to note is that nearly all the window tracery are of different design, such being the case with the row of circular windows over the main nave and on each side of it. The spire is built entirely of stone, and contains a beautiful clock and chimes. It is reputed to be the highest stone spire in Canada, measuring about 225 feet from the ground by—feet square at its base above the roof.

On Union avenue, close to the church, stands a handsome little monument, about 28 feet high, built of Ohio sandstone, in commemoration of Bishop Fulford, first bishop of Montreal. The front porch of the church is also very handsome, and fine details are to be found, such as crochets, gorgoils and elegant moldings.

Now let us glance at the interior, which is as interesting as the exterior. As we enter there is no flashy decoration, and anyone expecting to see fret or ginger bread work will be disappointed; but everything is so appropriate, neat, simple and artistic, that on closer inspection we are forced to admire the whole. The beautiful stained glass that adorns the chancel and aisles is mostly of Clayton & Bell's make, and of a Brussels firm. On the left hand side of the chancel is the organ, which is hardly apparent, and which is reputed not the most powerful, but the most perfect musical instrument of its kind in America, and is a reproduction of the old organ that was burned with the old cathedral in 1856. It was built by Hill & Son, of London, Eng., who had preserved the plan of the original organ.

The Ledilia (marked 1 on the plan) and baptismal font (5) being all stone, deserve more than a passing glance, and exhibit admirable carving. At (4) stands on a pedestal a bust of Bishop Fulford; in (2) is the Bishop's chair, and in (3) is his throne. The two rows of arcade dividing the aisles and nave, and door and window jambs, are all of solid stone, and the capitals of the columns each contain a specimen leaf of the different kinds of Canadian trees carved in the stone. The altar cloth, made by

the Sisters of St. Margarets, of this city, the memorial window in the left transept and the fine brass chandeliers, are of recent date, and were executed from drawings by Mr. Andrew T. Taylor, F.R.I.B.A.

An interesting part of this church that should also receive some attention from the visitor, is the Chapter House over the vestry, where beautiful stone carved statues supporting the roof trusses can be seen. In a word this is a church thoroughly English in character, that is very seldom seen on this side of the Atlantic; and I would advise my professional brethren, when they have an opportunity, not to forget to pay a visit to what I consider one of the finest specimens of gothic architecture of the Decorated Period on this continent.

I desire to here thank publicly the Rev. J. G. Norton, M. A., D. D., rector of the Cathedral, and Mr. Andrew T. Taylor, F.R.I.B.A., architect in charge of the restoration of the church, for the valuable information which helped me in preparing the above.

P.

## ESTIMATING.

MANY good workmen and thorough superintendents make poor attempts at estimating, and often their efforts in this direction prove their ruin. On the other hand, the writer has known poor or indifferent workmen who seemed to have a natural gift for arriving at the cost of proposed works; not by any proper or systematic course, but by a sort of intuition which stood them instead of actual trained knowledge. Men, however, of this sort, whose conclusions are jumped at, are not reliable in their figures, when the works estimated are above the average magnitude; and on more than one occasion I have known these haphazard contractors to have been sorely bitten when reaching out beyond their limits.

Estimating, like everything else resulting from human effort, can only be a certain success when directed by a thorough knowledge of the subject and painstaking labor. There is no royal road to estimating, and the man who attempts to jump at the cost of a proposed building, and takes the contract at his own figures in the face of intelligent competition, either does not get proper returns for his labor, or jerry's the work,—either dilemma proving ruinous in the end. The best contractors are men who have been trained to the service, and whose knowledge of every detail in building, the cost of every variety of supply and material, whose acquaintance with the producing capacity of workmen, is complete. Such men are found among the regularly employed "Clerks of the Works," so-called in the British Isles, and in some portions of Europe and America. These men are supposed to know, and generally do, all particulars concerning buildings of every style and grade, and estimates made by them always deserve respect.

In this country the architect is perhaps the best authority on the cost of a proposed building, though I must confess that some estimates made by professional men in this country often prove wide of the mark, their figures generally being too low. There is one department of estimating, however, wherein the architect's figures are generally correct, and that is in the quantities. These, when given by the architect, may be relied upon, and having these, the wide-awake contractor ought to be able to get at the cost of a building pretty close. I have often thought it a mistake that quantities are not attached to specifications in some way, and that intending contractors be taxed a small amount for the privilege of making use of the figures. Let it be understood, however, that I do not advocate the doing of this extra work by the architect, gratuitously. To take out the quantities of a building of any magnitude, entails a great deal of labor and time, and it would be but just that these should be paid for by the parties who receive the benefits, who, of course, are the contractors. The cost to each aspirant need not be much, while the benefits are manifold, inasmuch as the figures may be relied upon; there is much time and tiresome labor saved, and no item will be forgotten or overlooked. The architect might also give the cubic contents of the building, with the actual cost per foot of similar buildings—not that I approve of the "cubing method" for estimating, for I believe it to be very faulty; but it might be given as a sort of guide by which the estimator could see if he had made any serious mistakes.

In a future paper I will endeavor to show a method of estimating, suitable to the requirements of country builders.

A. Z. Z.

Collingwood, July 7th, 1894.

## TRADE NOTES.

Mr. Alex. Bremner, of Montreal, dealer in contractors supplies, has issued an attractive wall hanger, giving, by means of illustrations and printed matter, information relating to his various lines of goods.

Referring to the opening of the Zion Evangelical church at Berlin, Ont., the daily news of that town on June 18th said: "The gas reflectors and fixtures were supplied by L. P. Frink of 55 1/2 Pearl street, New York. The lighting of the church is on a style most complete, and was put in under the supervision of Mr. E. C. Breithaupt. The lighting is so perfectly arranged that though the church will be as light as day, there are no lights near the pulpit, to dazzle the eyes of the congregation, the reflectors spreading a brilliant light over everything."

Dr. Grady, of Eastport, Me., in company of an expert, has recently made an inspection of the black granite deposits at Bocabec, N. B., with the view it is believed of investing therein.