

and screws of the box, was obtained with an exposure of only *three seconds*, by using the bell jar.

Attempts have been made in England by Mr. Swinton and others to reduce the time of exposure by increasing the potential and the rapidity of alternation of the electric current in the primary of the induction coil used—an exposure of from one to three minutes has been attained. In the United States Mr. Edison has constructed Crooke's tubes of special design with very thin glass, and (as I see by to-day's papers) has succeeded in reducing the exposure to one minute; but the three-second photo made last Tuesday night (11th inst.), with an ordinary tube and an ordinary Rhumkorff's coil, beats the record as yet—though no doubt when the "reflection" method gets better, and is employed conjointly with rapidly alternating currents and thin glass tubes, the very quickest kind of "snap shots" will be the order of the day.

This discovery (which, so far as I am aware, is the first and only one made on this subject since the publication of Prof. Röntgen's original paper) may not have been very "difficult," but it is at all events important enough to justify a certain amount of "ado" being made over it; and considering that the whole scientific world has been working at this subject during the past month, it seems a fair matter of congratulation that the method of taking instantaneous photographs with the new rays has originated in the comparatively poorly equipped physical laboratories of the University of Toronto and of the School of Practical Science; it may be, too, that its publication in the daily papers a week ago has saved to the world a valuable practical improvement in Röntgen's photography, which, had it been discovered by men more "practical" and less "scientific," might have had a patent clapped on it ere this, and have been turned to a source of profit for a Jew.

W. LASH MILLER.

[While cordially thanking Mr. Lash Miller for his interesting letter we have to state that there was no disposition on the part of THE WEEK to belittle the achievements of the Toronto men of science. The expressions in some of the Toronto papers to which reference was made in our columns occurred in the issues of the Saturday and Monday previous to the announcement of the short exposure discovery.—ED. THE WEEK.]

A MONUMENT TO THE MEMORY OF THE MISSIONARIES
MURDERED DURING RIEL'S REBELLION.

SIR,—Now that public attention is attracted to the North-West, it is opportune to observe upon the omission to do honour to the memory of those noble priests who died the death of martyrs during Riel's second insurrection. This, if attended to, would be grateful to all—without distinction of race or creed—who are loyal to Canada; it would also prove to our Roman Catholic fellow-citizens that Protestants are always ready to honour those of the opposite faith who unobtrusively and manfully do their duty.

During the Riel rebellion in 1885, two Roman Catholic missionaries were foully murdered by the Rielites for endeavouring to prevent the commission of crime. There is no memorial stone to record the fact. The epitaph on that great Irishman—Sir Henry Laurence—who was killed during the Indian Mutiny, states—here lies a man "who tried to do his duty." That to these noble priests might well be—that they had "died in the discharge of their duty to God and their country." They were genuine martyrs in the noblest sense of the world. Had they merely protested and then stood aside, additional crimes would have been committed, but their lives would have been spared. Instead of acting thus, although well aware of their danger, they faced it; and were mutilated and killed.

The facts are stated in a letter to the Toronto Mail—appearing June 17th, 1885. It is signed by H. Le Duc, O.M.I., Vic. Gen. de St. Albert; from St. Boniface Palace. After indignantly protesting against the charges by a few ill-informed and credulous persons, that the Roman Catholic missionaries had something to do with the revolt of the Metis, he continues: "Two of our missionaries, Fathers Fafard and Marchand, have been horribly mutilated and murdered while endeavouring to save the lives of white settlers—women among them—at Frog Lake. Father Pagriette, of Musphig Lake, had to flee for his life, so incensed were the rebels against him, for endeavouring to

thwart their plans at the outset of the rebellion. Father André—the Superior of the district of Batoche—drew upon himself the enmity of Riel and others by endeavouring to thwart their plans. Father Moulin was shot in the leg and kept a prisoner with three other priests (names given) by the rebels." He also cites other facts proving that the priests collectively did their duty. He pathetically concluded:—"We have thus incurred loss of property, personal danger in every form, and death itself; because we did our utmost as servants of God, and loyal citizens, to avert the horrors of this insurrection."

The Mail of Jan. 29th reported a discovery in Michigan which corroborates the above so far as the loss of property was concerned. A man in good circumstances "who had suffered somewhat on account of having been identified with the insurgents in Riel's last insurrection, recently died, leaving all his property to his niece. A few days ago she received a box from the executors, which was found to contain several communion sets, gold and silver candlesticks, and quite a roll of silk robes, which undoubtedly had done service in some Roman Catholic church, pillaged during the insurrection. This church property is stated to be worth many thousands of dollars." Such facts enable us to understand why the deceased "suffered somewhat" on account of Riel's insurrection; many will think that he escaped far too easily.

The absence of any public acknowledgment of the death of these martyred priests is a slur upon the fair fame of Canada. Their noble conduct should ever be kept in remembrance. THE WEEK, therefore, suggests that measures should be adopted to rectify this omission by erecting a suitable memorial to their memory.

F. R.

EVOLUTION.

SIR,—Discussions on the subject of Evolution are not perhaps so useful as those who conduct them could wish. So far as the ground covered by the papers written by Messrs Armour and Waldron is concerned it has been gone over many times and the subject under discussion—i.e., creation—has not yet been satisfactorily accounted for or explained. Neither side seems to have any clear idea of the initial force of creation and the genesis of matter, while what is called "direct creation by a personal Deity," as commonly propounded (creation of something from nothing), is not only illogical but unthinkable. The theory of Evolution, if Sully is correct in stating that "every theory of evolution must assume some definite initial arrangement, is after all only an application to the cosmos of the old well-known and acknowledged law of ontology, that all forms become more perfect, as their parts are more differentiated from each other and each performs more distinctly the duties of its office or function. The working of this law and what results from it, the adaptation of each to its environment, will, I think, be found to cover the whole theory of evolution if we look upon the cosmos as a whole, having one intention or end in view, the multitudinous organisms we see, whether plants, animals, or planets being subdivisions working always to that one result through many diverse and apparently contradictory methods.

Taking as the supreme fact known to us in this connection that the human race is the chief product of creation to which all other created forms are becoming more and more subservient, we must admit that this earth at all events was made for man and certainly may assume that on other earths a similar race exists, and seeing that the mere temporal existence of men here in quickly passing generations is not an adequate result for the vast and long-continued preparations made beforehand can we conclude otherwise than that this temporal and external condition is only a part of the preparation for some more adequate and permanent result which is the true effect of which the first end is the creative energy of the Divine Being and the second end or cause is the created universe which we call matter, the plane of death or of re-action to the action of life.

In this view, which is scientific to the higher mind, a heaven formed from the human race is the great result to which all creation tends and for which alone it existed and exists to-day, being in itself only a temporary appearance which has no objective reality except to itself, the only eye that sees it being that which is made of it, the real internal spiritual eye seeing it only as a subjective appearance.

TEMPLAR.