

that Woolwich and Sandhurst be still kept up, he would be looked upon as some harmless lunatic. And if these expensive institutions would be unnecessary for the militia force of Britain taken alone, so is the R. M. College, in its present form, unnecessary for Canada.

We admire the Professors of the College, its system of discipline, and the effect of this discipline on the cadets who are soldierly and gentlemanly young fellows, and would be exceedingly sorry personally should the institution be done away with ; but we feel its elaborate curriculum and the expense entailed thereon are unnecessary in a young country without a regular army, and being unnecessary, that it is a hardship that a few sons of wealthy men should be educated at the expense of the country, while the benefit arising to the country from giving these young men such an expensive education will be almost *nil*.

#### QUEEN'S COLLEGE OBSERVATORY.

**A**T a very early period in the history of the University a number of observations had been made by the present Professor of Physics of lunar distances, transits of Mercury and eclipses of the Sun, for the purpose of determining with greater precision the longitude and latitude of Kingston, which were before only imperfectly ascertained. Certain remarkable, and anomalous variations in the declination of the magnetic needle within a radius of twelve miles round Kingston had also been investigated. The results of these observations had been published in the Kingston newspapers. The only instruments then at the command of Dr. Williamson were a sextant, a theodolite, and a three foot telescope, all, it is true, excellent in their kind, and a fairly good clock. The want of an Observatory, however, with fixed meridional instruments, and a standard sidereal clock, was constantly felt. In 1854, Baron de Rottenburg, an officer in the army, and a zealous amateur astronomer, was stationed at Kingston. He had ordered a small equatorial from a telescope maker in New York, but the instrument not having been completed after the lapse of two years, he repaired to Boston to endeavor to obtain one from Mr. Alvan Clark, who was then rising into reputation. At Mr. Clark's establishment he saw a lens nearly finished of 6½ inches aperture which Mr. Clark agreed to fit up with equatorial mounting for \$800. On Baron de Rottenburg's return to Kingston he, with Dr. Yates, the late Judge

Burrowes, Dr. Williamson, and others friendly to the object, held several meetings, of which Dr. Williamson was convener, and agreed to subscribe and purchase the instrument on the terms proposed, and erect a small building for its reception. It was the original wish and intention of the subscribers that the building should be placed if possible on a portion of the higher ground then belonging to the Ordnance reserve, now the property of the College, and on which the new University edifice now stands. The difficulties, however, felt by them in providing for the whole of the necessary expenditure themselves induced them to accede to the proposal of the Committee on the City Park, which was then beginning to be laid out, that they should assist in defraying the amount required, and that the Observatory should be placed there. The equatorial arrived in Kingston in the autumn of 1855, and, a site in the Park having been selected so as to give the most open view down to the horizon in the direction of the meridian, it was set up and adjusted on its pedestal under the dome of a small tower in the spring of 1856. Thereafter it was made accessible to a number of the citizens of Kingston, and in 1858 a series of observations on Donati's comet was published by Dr. Williamson. There was still, however, much labor required in the use of the instrument which the possession of a transit, and sidereal clock would have rendered unnecessary. The accurate determination of the sidereal time, so essential an element in astronomical work, had to be reduced by calculation from observations taken with the sextant at brief intervals, by day and by night, immediately before or after the time of observations with the equatorial. There was, moreover, no driving clock to move the instrument in Right Ascension, no assistant to move the dome and read the circles simultaneously with the observations, and no waiting and writing room which could be warmed in winter by a stove. An application was, therefore, made to Parliament for a grant in aid of the objects of the Observatory. An annual grant of \$500 was obtained in 1860, and the succeeding years. By its assistance the late Observatory building in the City Park was erected at an expense of about \$1,400, and afterwards a paid assistant observer, the present Professor Dupuis, was appointed. The purchase of a transit circle and standard sidereal and mean time clocks, such as are necessary for a fully equipped Observatory (costing at least \$5,000) being wholly beyond the means of the friends of the institution, a small transit by Simms was purchased in the meantime for \$180, and the loan of a larger instrument called the Beaufoy Transit was obtained by application to the Royal Astronomical Society. By their means, aided by the construction of excellent sidereal and mean time clocks by Professor Dupuis, a number of useful and important astronomical observations were made and recorded, and the local time of the city duly regulated. A number of public lectures by the late Rev. Principal Leitch, Dr. Williamson, Prof. Dupuis and others, on subjects connected with astronomy, were given in the City Hall, as well as familiar lectures in the Observatory itself.

The great inconveniences attending the site of the Observatory became more felt every year. In muddy weather, when the carriage ways through the park had been so far made without being gravelled, the crossings were almost impassable, and in winter access was often blocked up by snow. A still more serious inconvenience gradually arose which rendered sustained, and useful work in such