

that the "Victoria Cross" has been bestowed on several Canadians, for acts of bravery in India and other parts of the world.

As a colony of Great Britain we enjoy the protection of that powerful empire, while at the same time we have the entire control of our local affairs. May it be the aim of Canada to follow in the footsteps of Britain, whose Christian course has placed her in the van of nations.

#### IV. AGRICULTURE IN COMMON SCHOOLS.

We have previously advocated the establishing of agricultural colleges and the teaching of scientific agriculture in our common schools, and we are more than ever convinced of the necessity of a reform of the kind from the fact that not a hundred miles distant from Kingston the hollows of an uneven road have been filled up with marl dug from a field adjoining. The properties of this valuable material do not appear to be appreciated by the farmers of this locality; but in England and Scotland, and even in New Jersey, it is sold at a high price. Professor Johnston when he made his tour of the Provinces, was so impressed with the abundance of marl in this country that he said Canada would have enough for herself, and to spare for the British Islands. If our farmers would dig out the marl pits and apply their contents to the fields, they would discover a mine of hidden wealth. Nothing is so advantageous to light sandy and peaty soils as an application of marl. Such soils are improved both mechanically and chemically when mixed with marl, and many a worn-out wheat field might be restored to its original fertility by the use of this plentiful material.—*Kingston News*.

#### V. EDUCATIONAL INSTITUTIONS AS AN INDUCEMENT TO SETTLERS.

At the opening of the public school in Wellington Street, Kingston, on the 2nd of September, Professor Weir gave utterance to a highly suggestive remark. He said it was a matter of great importance to the settler seeking occupation in the cities of a new country like Canada, that he should locate himself where the best educational institutions were to be found, where his children would be surrounded by the best influences affecting their intellectual and moral culture. Judged by the test of educational institutions, the city of Kingston would stand high on the list of Canadian cities and towns. Here we have academies and schools of the highest order to be found in the Province. The University of Queen's College, with its faculties of art, law, and medicine, as well as of Presbyterian theology,—presided over by a Principal of old world reputation, and with a staff of teachers in every way competent to fulfil the duties with which they are charged, has won its way to a very eminent position, after years of struggling against the difficulties which necessarily present themselves in a new country. Students now flock to the College from all parts of Canada, East and West; from the Lower Provinces; and from the bordering portions of the United States. Some of its professors are more than ordinary college teachers. For instance, Professor George Lawson, of the chemistry and natural history departments, is a naturalist of extended repute. There can be no doubt that Dr. Lawson, by his researches in Canadian botany and entomology, will shed a lustre over this district of the country, and especially upon the city in which he resides. Dr. Lawson is known to Britain and to Germany, and by his efforts the savants of Europe will become better acquainted with Canada. Besides Queen's College, we have another seat of learning in Regiopolis College. Then there is the County Grammar School and the Queen's College Preparatory Grammar School,—both academies for youth, of the highest excellence. Last, but not least, our city is blessed with numerous well appointed free schools, wherein the child of the humblest citizen may obtain an education which may serve as the stepping-stone to any position in life. In fine, Kingston may well feel proud of her educational institutions; and as they are already a source of income to a numerous class of tradesmen, so also may we expect that they will continue to add both to the prosperity and reputation of the city. Settlers having a care for the physical, intellectual, and moral health of their children, could find no better city in Canada than Kingston in which to locate themselves. On the score of salubrity our city is unequalled on this continent. The reports of the surgeons of the British army show that this place is the healthiest of all the stations to which British troops are forwarded.—*Kingston News*.

#### VI. KINGSTON PUBLIC SCHOOL LIBRARY.

The new books ordered by the Board of School Trustees for the city public school library, from the Department of Public Instruction, Toronto, have arrived, and are now being classified and numbered, preparatory to being put in circulation, by Mr O'Loughlin. These new volumes will prove a valuable acquisition. They comprise a rich selection of poetry, a goodly number of volumes of travels and

adventures in foreign lands, historical, biographical and miscellaneous works of general interest and lasting merit. We may state an important fact in connection with this public institution, and one which shows the advisability of the late removal. Since the establishment of the library in the old Bacon Office, the issues of books have largely increased, and the reading portion of the community are reaping the benefit.—*Kingston News*.

#### VII. COBOURG PUBLIC SCHOOL LIBRARY.

Mr. Harrison, the worthy custodian of our Town Library, has favored us with a view of the new instalment of books which has lately arrived from the Educational Department, Toronto, some to supply the place of a number that have been lost or destroyed by frequent and rough usage, and others, forming a new and valuable accession to the library. The whole collection amounts to about 270 volumes, and a beautiful and well chosen set it is. We have been perfectly charmed with the botanical volumes, which are beautifully illustrated with coloured and other engravings. Our fear is lest, in a free library, as this is, these will not receive the careful treatment that their beauty and delicacy demands. The librarian informs us that in about a month they will be ready for issue.—*Cobourg Star*.

#### VIII. Papers on Practical Education.

##### 1. ON MENTAL ARITHMETIC.

*To the Editor of the Journal of Education.*

SIR,—That Mental Arithmetic is one of the most important, and at the same time one of the most neglected, of the various branches of study in our schools, I think all will be ready to admit. I therefore conceive that a few remarks on the manner in which a class may be advantageously commenced and carried on, may prove acceptable to many teachers who are readers of your Journal.

As I expect there are many teachers who have, at some time, commenced teaching Mental Arithmetic, but have eventually given it up, it may be well to allude to some of the probable causes of failure; and first, I will suppose that a teacher visits a school in which this branch is taught, and hears such questions as the following:—Take three times the cube of 7, add 71, divide by 11; to the square-root of the quotient add the square of 5, and twice the cube-root of 8, and divide by 13. The answers are readily and correctly given, whereupon our friend determines to have a similar class in his own school, and by way of commencement prepares a set of questions in the above style, and proposes them to the scholars. The result may be anticipated. Disappointed and vexed at their inability to answer, he concludes that Mental Arithmetic is a study beyond the capacity of his pupils, and so gives it up in despair. It may be that many do not go to such an extreme, yet doubtless, one of the principal causes of failure in teaching Mental Arithmetic is *commencing with too difficult questions*.

The remedy for this we should pronounce to be simple enough, did we not know by experience that it is not in Mental Arithmetic alone, nor is it a singular fault of the Common School Teacher. It is one of the besetting sins of all who attempt to instruct others, to rate too highly the capacity of their pupils. Preachers, teachers, parents, masters, are constantly falling into the same error. Nor can any set of rules be given for its avoidance; one thing alone will suffice—it requires *constant watchfulness*.

Let us suppose another teacher, who commences under more favorable circumstances. He has scholars who work with facility and correctness. But there may be some who are naturally quicker than the teacher. Occasionally they are ready with the answer before he has obtained it himself; or perhaps he finds, to his dismay, that he has refused a correct answer and accepted a wrong one. Mortified at appearing to disadvantage in the eyes of his scholars, he loses all taste for the study, and soon discontinues it altogether. In order then to carry on a Mental Arithmetic class, it is necessary for the teacher to *keep in advance of the scholars*.

And how is the teacher to act in such a case? It may be neither convenient nor advisable to obtain the assistance of a competent person. His only plan is to subject himself to a course of self-culture. Let him work out mentally, and commit to memory the Multiplication Tables from thirteen times upwards to an indefinite distance. Let him treat similarly the squares, cubes, fourth, fifth, &c., powers of various numbers; in fact, any exercise in which the questions suggest themselves, and the correctness of the answers is readily proved. And this he may do in his spare time, when he is alone, in his walks, in his sleepless nights, (of which a teacher who neglects Mental Arithmetic ought to have a large share,) in short, whenever he cannot be better employed. This will give him expedition in working and strengthen the memory, so that in a short