

an imperfect instrument, as by no other means. The brightness of the pictures give effects almost as true as the telescope itself.

Anatomy, Botany, all branches of Natural History, Geology, Microscopic views, Portraits, Maps, Works of Art, Sculpture, and celebrated pictures, Landscape views, Diagrams, &c., &c., can all be delineated with truth, as to form, color, and every other attribute of a picture on canvas. Another beautiful feature of these pictures, is that many subjects admit of motion, which increases the truthfulness of the representation, and also adds to the interest of the spectator.

The fact that the pictures must be seen in at least a partially darkened room, by obscuring surrounding objects tends to concentrate the attention of the learner.

One objection may be urged, viz: the expense of good apparatus and paintings. But when we reflect how many "institutions of learning" purchase such "philosophical toys" as an "orrery," or miniature locomotive "with cars attached," it would seem rather to be a lack of judgment than want of money, in some cases at least.

But in truth, one very important advantage in this kind of illustration is the cheapness of the pictures, when we consider the surface which they cover when seen on the screen, and how much can be represented in one picture. To produce the same results on canvass would, in most instances, cost double or quadruple the price of the picture on glass.—D. H. BRIGGS, in *Mass. Teacher*.

[For list of Magic Lanterns, &c., at the Educational Depository, Upper Canada, see Descriptive Catalogue.]

III. Papers on Colonial Subjects.

1. PROGRESS OF EDUCATION AND SCIENCE IN CANADA.

(From an interesting and valuable pamphlet on "Canada, from 1849 to 1859," published in England, by the Hon. Alexander T. Galt, M.P.P., Finance Minister.)

Passing from the previous questions, which relate to reforms in the mode of governing the country, both generally and through municipalities, I will now advert to that which has been done in regard to education, which certainly has the most important bearing on the future welfare of the country.

The educational question may be divided into two distinct parts. First.—The provision of common schools for the general instruction of the people in the rudiments of learning. And, secondly. The establishment of superior schools, colleges and universities.

As regards common schools, much attention had been given in Upper Canada, to this subject at all times; but it was not until 1846 that it was reduced to a system. The very able Superintendent of Schools in Upper Canada, Dr. Ryerson, is entitled to the greatest credit for the labor and talent which he has devoted to the subject. He was deputed by the Government to visit Europe, for the purpose of examining the best school system in operation. And after a lengthened examination, the result of his inquiries was finally embodied in several Acts of Parliament, which provide for the establishment of school districts in every part of Canada; every child is entitled to education; and for the support of the system, a rate is struck by each municipality, in addition to a contribution of £90,000 from the provincial exchequer. Each school district is under the management of local trustees chosen by the people—who are again subject to inspection by officers appointed by the County Councils, periodical returns being made to the Superintendent of Education. The Superintendent himself is assisted by the Council of Instruction, chosen from the leading men of the Province, without regard to religion or politics. The order of tuition and the school-books are settled by the Council and Superintendent. Libraries of useful books, maps, &c., carefully selected, are also supplied at cost price to the different municipalities. For the purpose of providing fit instructors for the common schools, Normal schools have been established in both sections of the province—both for male and female teachers—and much care is devoted to their effectual training.

Permanent provision is also sought to be made for the support of common schools, through large appropriations of valuable lands.

The system of teaching in Upper Canada is non-sectarian, but provision is made for the establishment of Roman Catholic separate schools; but they do not participate in the local rates levied for education. In Lower Canada, owing to the population being principally Roman Catholic, though the system is also non-sectarian, yet the education is mainly in the hands of the clergy, and provision is, therefore, made for Protestant separate schools, which equally share in all the benefits of the local rates and legislative provision.

The result of this system may be summed up by stating that by

the last report of the Superintendent of Education for Upper Canada, there were in 1858, 3,866 schools, 293,683 scholars.

In Lower Canada, the result is still more remarkable, from the fact that, until after 1849, it had been found very difficult to convince the French Canadian population generally, of the vast importance of education. The people were uninformed, and showed a great repugnance to the imposition of the necessary direct taxation to maintain the system. By very great efforts, this feeling has been entirely overcome; and, under the able superintendence of the Hon. P. O. Chauveau, the last report for 1858 shows the following results:—2,800 schools, 130,940 scholars, contrasting with an almost total neglect of schools but a few years previous.

For the purpose of affording superior education, but little real progress had been made until after the organization of the common school system, when there was established in connection with it a higher class of instruction through the means of grammar schools, which are now very generally to be found throughout Upper Canada, and also, to a more limited extent, in Lower Canada. These schools are also supported by grants of public lands, and by partial contribution from the common school grant, in addition to the local rates.

In both sections of the province, numerous educational establishments, of the nature of colleges, are established; most of them in affiliation to some of the universities.

The Universities in Upper or Western Canada and the University of Toronto, non-sectarian, are very largely endowed by the Province, and are now in a most prosperous and satisfactory condition. The University of the Trinity College, which will be under the auspices of the Church of England; the University of Queen's College, Kingston, which is in connection with the Church of Scotland; and the University of Victoria College, in Cobourg, under the management of the Wesleyan Methodists. In Lower Canada, the Roman Catholics have established the University of Laval, which is wholly supported by voluntary contributions, and which, though comparatively recent, promises to be of the greatest value to the country. The University of McGill College, originally established through a munificent bequest by the late Hon. J. McGill, and almost wholly supported by voluntary contributions, is non-sectarian, and is now in a very flourishing state. The Church of England has also the University of Bishop's College, supported almost solely by that Church, and which, though comparatively new, will, it is believed, speedily attain a position of great usefulness.

It would occupy too much space to enlarge upon the course of instruction at these institutions, but it may be stated that they all contain the usual professors of classics, *belles lettres*, law, and medicine.

With the single exception of the McGill College, which has long existed, but until very recently in a languishing state, the whole of these institutions may be said to have risen within the last ten years, and they are mainly, if not wholly, supported by voluntary contributions and endowments. It is true that the University of Toronto existed in another form—as a college under the Church of England, for many years, but its usefulness was entirely marred by the constant struggle to free it from its sectarian character, which was only effected in 1845; from which date it may be said to have risen into its present highly important position.

The total number of educational institutions in operation in Upper Canada in 1858 was 4,258, attended by 306,626 pupils, and expending \$1,306,922 in their support. In Lower Canada, during the same year, the total number of institutions was 2,985, attended by 156,872 pupils, and expending \$981,425 in their support. * * * * *

Nor has science been wholly overlooked.—Canada having had, since 1844, under the able superintendence of Sir William Logan, F. R. S., a systematic geological survey in progress, which has already been of the greatest value to the province, whilst it has made no mean contributions to the stock of knowledge in this very interesting science. The annual reports of the geological survey of Canada may be appealed to as evidence of the value and extent of the service performed; while the display of specimens at the London and Paris exhibitions amply demonstrated its practical character.

The Toronto Observatory is also well known for its valuable contributions to astronomical and meteorological science; and that at Quebec is also rising into deserved notice. My space will not, however, permit me to do more than notice the fact that such institutions exist, and are valued and promoted in Canada, affording evidence that the progress of the country is not confined wholly to material objects.

2. THE PROGRESS OF EDUCATION IN LOWER CANADA.

An Essay recently read before the Teachers' Association of the McGill Normal School, by Mr. H. Arnold, Teacher, Montreal.

In the first place it may be proper to state what was the state of Elementary Education in the Lower Provinces a few years ago; and trace its progress from that time to the present.