

pend on the extent of its range ; and this, to ensure success, should not be small.

In this University large provision has been made in apparatus, collections and teaching power, for the foundation of a good science school ; but to enable us in to undertake the task effectually would require, in addition to our present means :

1. The separation of our mathematical and physical chairs, or the employment of an assistant professor.

2. The division of our natural science chair into two, or the appointment of an assistant professor.

3. The endowment of a chair of civil engineering and surveying.

4. Professors, lecturers, or tutors in mining, assaying and metallurgy, practical chemistry, agriculture, and agricultural chemistry, and mechanical drawing.—Some of these departments might be taken up by persons otherwise employed, and not depending for their whole support on the University.

5. Some improvement of and additions to our present apparatus, and the addition of collections of models, machines, and objects relating to the arts.

This might involve an additional annual expenditure of say \$8,000, a very trifling sum in comparison with the cost of similar institutions elsewhere. With this, and the fees of students, we might here establish an efficient School of Practical Science and Technology for the Dominion of Canada, which would at once raise the character and reputation of this city throughout the world, and confer incalculable benefits on education and the arts of life. Such an Institute is wanted to crown the educational fabric reared here by the liberality of Montreal merchants, with its highest success and the full measure of its utility. I would go further than this, and hold forth the hope of the full realization of the object in view, if an annual revenue of even half the sum above mentioned could be secured at once by private endowment. We could begin on an economical scale, and with the more important subjects only, and could, surely, with some reason expect the Government of the country to supplement such a private endowment with a like sum.

It may be asked, would students be forthcoming ? I may with confidence answer the question in the affirmative. From the applications made to me on the part of young men for whom I can do little or nothing, I believe that one central well-appointed tech-

nical university in this Dominion, would be well sustained, in so far as the number of students is concerned ; and that the extension of population, of mines, manufactures, railroads, and other works, would afford an ample outlet for all the men it could train, while the professional work of such men would itself tend to increase the demand.

It is certain, however, that if the Government of this country could be induced to sustain a system of elementary technical schools similar to those of the Department of Science and Art in England, or similar to those of Prussia, a double benefit would be secured, in so far as the higher science education is concerned, in finding occupation as teachers of science for some of the graduates, and in giving the necessary preliminary training to students. At the same time the effects of such schools would be of incalculable importance to the working classes of this country. Local benefactors might do something for such schools ; but for a proper system the Legislature must intervene, and it can secure the end only by payment for results on the English system, under proper arrangements for examination and inspection.

CONCLUSION.

In conclusion, I may remind some of my audience and inform others, that the views advanced in this lecture, and which are now sweeping on in a resistless tide in every civilized country, are not new with me. When, in 1855, I entered with much diffidence on the arduous and then not very hopeful office which I now have the honour to occupy, I held views on this subject as advanced as those which I hold now, and saw quite as clearly as at this moment, the improvement and extension of science education to be the greatest educational movement of our time. I had then studied the Reports of the University Commissioners in England, and had read the admirable exposure of the evils of the existing systems made by Sir Charles Lyell. I was familiar with the details of the Prussian system. I had recently been engaged, with several leading educationists, under the presidency of Sir Edmund Head, in the organization of a scheme for the reform of the University of New Brunswick. I had just returned from conference with leading educational and scientific men in England and the United States. I was strongly impressed with the necessity of science education in this country, zealous for its introduction here, and hopeful that, if any kind of education would commend