

best in the technical arts who bring the most scientific knowledge to bear upon their technical operations. Queen's has so far done well, but the time has come when she must strive to do better. It must never be said that she has fallen behind the age, or neglected her opportunities for doing good.

Scientific and practical science education is in the air, and even conservative Cambridge has fallen into line. I visited the applied science department in Cambridge this year and was surprised to see her appliances for doing scientifico-technical work—her workshops and engines and dynamos and tools and materials of various kinds. And there is no dearth of students.

It may be thought by some that such is not the proper work of a university. But if it is not done in connection with the university, where should it be done? A mere technical school may make skilled workmen and mechanics, but it requires, in addition, the theoretical and practical knowledge of mathematics and physics and chemistry as they are given in the university to make efficient masters in any scientific technological art.

The Mining School was placed at Kingston partly because there is a University here, and everyone acquainted with the facts knows how profitable it has been to the school to have been so placed, and how much it receives from the university in the way of teaching and influence.

Quite recently the estate of Thomas S. Clarkson gave \$150,000 to found a technological school at the village of Potsdam, New York. Mr. Clarkson was wise in remembering the good of the community amongst whom he made his wealth; he would have been wiser if he had given the money to found the school in some University town, or to assist one already so founded. The late Hiram Sibly, of Rochester, who built and endowed the technological department of Cornell, was far wiser than Mr. Clarkson.

Cambridge has done well to study the signs of the times, and Queen's has decided to follow her example.

It is idle to argue that there is no use for such a school at Kingston because there is one at Toronto and another at Montreal. The same argument, if valid, would prove that there is no use for a University at Kingston, whereas the facts of the case give the lie to such a conclusion.

I do not intend to weary you with a detailed description of the work which we intend to do. You will find it more fully laid down in the Calendar than I care about dealing with it at present. And you will notice that a very large portion of the theoretical work is being done in the university even now.

It has been decided to establish courses in civil

mechanical and electrical engineering, for which we are making arrangements, and in analytical chemistry and biology, for which provisions have already been made.

Courses will be arranged also in the subjects of architecture and of navigation. And as Kingston is the first shipping port in Ontario, and this will be the only school for navigation in the Dominion, as far as I am aware, it should fill a decided want.

It is not our intention to make mere artisans—men who can hold the end of a surveyor's chain and drop chain pins, or run a steam engine, or a dynamo, or built a structure from well-prepared plans. We intend to do better than this—to make masters who are skilled in the scientific principles which underlie technical work, and who are able to apply these principles in the most effective manner. We have put our hand to the plough and we do not intend to turn back.

We ask your sympathy, your moral help, and of course any financial or other help that you can give to this broadening of the usefulness of our common university. We are not greedy, as some people appear to think when in an unpleasant mood. But just as a vigorously growing plant or animal must absorb a large amount of nourishment to perform the work of growth, so a living, growing institution like Queen's must of necessity absorb a large amount of thought and labor and money.

Those who teach within the college will endeavor to add as much to the output of thought and labor as they reasonably can, and we have confidence that our friends will not let us suffer long for the remaining necessity.

We have at present some rooms available, but as soon as possible we must have a complete building set apart for practical science work, and furnished with the necessary appliances.

We do not believe in wasting much money on external ornamentation, nor are we in favor of large and unwieldy pieces of apparatus where smaller and more compact will suffice. For we believe in instruction rather than construction, and also in the experimentalist's dogma that experiments should, as far as practicable, be carried on with the least complexity of apparatus.

The building and appliances need not cost more than \$100,000, and for this sum can be done all the work required in the indicated courses.

We expect a slow and steady growth, and we prefer this to spasmodic bounds. We have already a number of students entering upon the various subjects and we trust that when they close their respective courses they will be able to say in unison with those who are fellow-graduates from other courses, that what Queen's has done she has done well.