

chemical and natural history laboratory, by a competent master to a pupil at work, is invaluable for stimulus and guidance; but "when there is all talk and no work, and text-books are filtered through the very imperfect medium of the ordinary teacher's mind, and the pupil has nothing to do but to be instructed, very sound principle of education is outraged, and Science is only made ridiculous."

These views embody the thoughts of the leading educationists of America, and it behooves Canadians who are giving direction to educational effort to weigh well the conclusions arrived at by this committee after a careful and exhaustive enquiry. To bring this scientific method into our High Schools, and make its influence felt in the Public Schools, is a pressing necessity; for upon the wide-spread diffusion of science depends in a great degree the development of the natural resources of our country. To bring about the necessary reform, we must begin with the High Schools, for it is here that the Public School teacher is now to receive his education. Under present conditions a remedy is impossible; the course of study for our schools must be adhered to, and this course does not recognize practical work in Science. Now, what is the remedy for all this? Already a Science course is prescribed for 2nd class teachers' examinations, but this does not go far enough: let this option be also extended to 1st class teachers who have the highest grade of certificate in view; let it embrace not only an accurate knowledge of inorganic Chemistry, but also a practical course in qualitative analysis. The candidate for 1st class certificate in Science should be able to determine by means of the blow pipe the commonly occurring economic minerals of Canada, and he should have a practical acquaintance with the general principles of crystallography. He

should have a general knowledge of vegetable physiology, and by the use of a "manual" be able to determine plant species. Huxley and Martin's work on elementary Biology would open up to him a vast field of observation, besides give him a knowledge of the use of the microscope. Physical Geography and all that the subject embraces should be extended into the domain of Geology to which it naturally leads. It is not enough that the student should know the facts to be taught in this course; he should know them practically, and the examination should be so arranged as to afford an opportunity to the candidate for a 1st A or B certificate in the Science option, of showing that he understands and appreciates scientific methods, whether he knows all the facts or not.

No one can measure the force which a number of students trained in the methods of practical chemistry and determinative mineralogy, scattered throughout our new and undeveloped country, would exert in the domain of original science work. The Universities cannot give this culture to the Public School teacher, inasmuch as the science course of the University is hedged in with Classics, Modern Languages, and Metaphysics. A candidate for 1st Class Public School Teacher's certificate cannot afford to devote years of study in the non-scientific subjects, in order to enter upon a course in Science training. What the Minister of Education should do is to place it within the range of possibility for a young man who does not possess a classical education, to enter at once upon a course of Science training in some of our High Schools. The easiest way of bringing a practical knowledge of Science among the people is to make a scientific course of training for the students attending our High Schools and Collegiate Institutes permissible.

The question naturally comes up.