

## TECHNICAL EDUCATION IN CANADA.

*By Bernard McEvoy.*

CONSIDERABLE attention has recently been directed to the desirability of establishing technical schools in Canada. The Minister of Education for Ontario recently made an important speech on the subject; outlined a plan of operations, and stated that the Ontario Government would be willing, under proper conditions, to assist in establishing these schools in suitable centres of industrial operations. Toronto, some years ago, took the lead in establishing a technical school, which has since been useful, more or less, in teaching operatives the rudiments of science, and has spent a considerable amount of money and effort in what must to some extent be regarded as an experiment as to the best method of technical teaching. It seems permissible under these circumstances to offer a few remarks as to what technical education is; as to certain conditions that must be fulfilled if it is to be successful; and as to certain difficulties which may attend its inception.

The word technical is derived from a Greek word signifying art, and Johnson's definition of it is "relating to the arts." We may say broadly that the word in its modern sense relates chiefly to those arts that are called "industrial" such as iron-founding, jewellery, and silver plate making, metal working, building, dyeing, weaving and furniture-making. No doubt these arts merge into what are called the "fine" arts at certain points; but, generally speaking, there is a broad distinction between them. There is something about the fine arts of painting, sculpture, architecture and music that differentiates them from those which for want of a better word we call the industrial. These fine arts are intimately concerned with the expressing of artistic imagination. The

fine arts express mind by means of matter. It might almost be said, though perhaps not with perfect exactness, that the industrial arts express matter by means of mind. The painter uses matter in the shape of certain pigments and canvas and brushes to produce his effects, but the beauty of his work is not increased by his knowledge of the chemical constituents of his colours, or the scientific principles that underlie the making of canvas. He wisely leaves these to the industrial artist who makes them for him. In like manner the architect strictly speaking, viz: he who gives to a building a beautiful form, might conceivably produce all his effects without the employment of scientifically prepared materials. Of course, as a matter of fact the architect, who practises one of the most comprehensive and demanding of professions, usually adds to his capacity for design a knowledge of what strictly speaking is engineering and the management and knowledge of materials. But where the fine arts touch the industrial is mainly in the particulars of beauty of form and colour. These are really distinct from the material considerations which govern the "making" arts. With the industrial arts matter is the end, and to put matter into its most convenient form at the least possible cost is their *ne plus ultra*. The office of these arts is to change the form of natural products. It has been found out in the course of time, that in order to do this in the best way, it is necessary to know something—to know, indeed, as much as possible—about the laws governing these natural products. A full technical education must comprise the teaching of these laws and the incidence of their operation.

We find, therefore, that technical education divides itself into two