

For the REVIEW.]

**Manual Training.**

To the question "Why should Manual Training be a subject in the course of study," we answer "Because it is one of the most effectual means of educating the child." Just as a passage from Milton or Tennyson may educate the child's imagination to the perceptions of visions of beauty and the sense of hearing by the music of the verse, so is the child's eye educated to the existence of form when he produces the form with his own hand and eye. Strength and delicacy of touch are qualities which no educated person need think lightly of.

Views of education similar to these aroused Mr. F. H. Rindge, of Cambridge, Massachusetts, to found a Manual Training School, which was one of the first of its kind in America. This school is to be taken over at the beginning of next year by the city of Cambridge. We may here give some account of it in the hope that it will serve to deepen in our minds the importance of such an education. The school is held in two buildings, one of which is used for academic studies which are directed by the teachers of the English High School. The other contains the work rooms. Over the main door of this building is the inscription: "Work is one of our greatest blessings; Every one should have an honest occupation." On the left is the wood-working room. Here one sees some of the youngest boys learning to plane, make and fit joints, and construct boxes and chests. As they get more advanced, they are put to work at the lathe and taught pattern-making. In the iron-working room work is done on all sorts of metals. The boys make, for example, cog-wheels, steel chisels, hammers, and even steam engines. Welding and other forms of blacksmithing are taught in the forge-room. Courses in drawing, both mathematical and freehand, are given. The instructor in the latter finds models of mathematical solids the best material.

The course of study for the class corresponding to the first year of our high school is:

Elementary Algebra,	Drawing.
English History,	Carpentry and Joinery.
Civil Government,	Iron-fitting.
English Language, }	
English Literature. }	

The carpentry and joinery includes saw and chisel exercises, mortise and tenon joints, dove-tailed joints, boring exercises, table-leg and rail, tool-chest, shoe-blackening stand, etc. The course in iron-fitting includes chipping, filing, scraping, polishing, drilling, bolt-cutting, etc.

Such is an example of the course of study for one class in a highly-systematized manual-training school.

On its educational value we may quote the following from the catalogue of the school just referred to.

"To make or read a working drawing; to see in its lines the outline of something into which crude material whether of wood or iron is to be wrought; to form and hold in mind the perfect image of that which is to be made; to think out and through the manipulations by which it is to be wrought; to test and prove the final result as the exact and perfect product sought from the beginning.

"Such a process involves a series of mental activities of as wide range and as great intensity as are involved in establishing a principle in physical science or solving a problem in algebra. And the educational product of the one may be quite as great and valuable a preparation for right and efficient living as that of the other. Nor is there lacking an ethical product of large value as the effect of this process. To do things with exactness, to seek the highest perfection in the product of one's skill, even if that product be the simplest form into which wood or iron can be wrought, is to seek the true, and may be to seek the beautiful as well. Such seeking \* \* \* can hardly fail to result in that highest of educational products—habit."

The boys who have taken this course, and a larger number take it by preference, have adopted very various pursuits. Some have gone to engineering schools and will become mechanical or electrical engineers. Others hold places as machinists, draughtsmen, mechanical assistants, and instructors in manual training schools.

The good will of the tradesmen towards the school is shown by a diploma given to the school by the Massachusetts Charitable Mechanics' Association. The diploma is given for "superiority of methods of manual training."

What can be done in our own schools for the education of the hands and eyes of our children? Increased attention can be given to drawing, and greater efforts put forth to obtain a well-finished piece of work in every drawing. Work can be done in fitting the school room with useful appliances. The teacher can take pains to show her respect for the occupations of the mechanic, the engineer, and humble but vitally necessary tasks of the dressmaker, the cook, and the farmer. As time goes on we may expect to see patriotic Canadians continuing and enlarging the opportunities for manual training given at Halifax, Wolfville, Truro and other places.

T. C. M.

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I find the REVIEW full of helpful suggestions, and am not disappointed when I look for something new in each number. S.