

the inaugural address, declared that for all those who meant to make science their serious occupation, or intended to follow certain professions, classical teaching is a mistake, although he said, "he was the last person to question the importance of genuine literary education, or to suppose that intellectual culture would be complete without it." "If," he remarked, "an Englishman could not get literary culture out of his Bible, his Shakespeare, or Milton, neither in his belief, would the profoundest study of Homer and Sophocles, Virgil and Horace, give it to him."

The subject of study in our public schools has to be considered from two aspects:—

1st. What branches are absolutely necessary, and what others are merely desirable; and which can, without harm, be entirely discontinued under the present requirements of our population.

2ND. What subjects of study have the least influence in developing practical judgment, and in general the minds of the pupils.

This is a very important point, for most branches of study, as taught in our public schools, are merely exercises of the memory, and what is worse, a mere mechanical memory for words and names.

Too much importance is attached by nearly all teachers to the study of Greek and Latin. It should be remembered that in former days, when the communication between countries was difficult, and they intermingled but little with each other, the study of these languages was an absolute necessity, as they were the only languages by which ambassadors and churchmen could hold conversation with each other. It is different, however, in these days, when the communication between nations is rapid and common, and one can find his native language spoken by thousands in every foreign land. The necessity for the study of Latin and Greek is, therefore, no longer so essential as instruction in English, German and French, which are absolutely indispensable to those who desire full knowledge in any department of science. We are, therefore, forced to the conclusion that, the teaching and occupation of a youth's time at school, if he is destined for a profession, should be of such a kind as suitable to that end; but, that the youth destined to be a mechanic, and whose parents can only afford to keep him a few years at school, should not be wasted in acquiring a mere smattering of studies useless in his trade, but he should be thoroughly grounded in those particular studies necessary for trades.

Industrial drawing is a branch of tuition of the utmost importance to young mechanics. It is receiving the greatest consideration in the public schools in the United States and in European nations, and unfortunately it is a branch of study almost totally neglected in our public schools. The study of this industrial art must form, for the future, one of the essential elements of the new education called forth by the rapid and radical changes of our condition in life. It is essential for success in all industrial pursuits; neither architecture, sculpture, engineering or mechanics, can get on without drawing, and it is conceded the first place in industrial and technical education; and it has a most beneficial influence on the development of the mental faculties. A pupil who has learned to draw has always a better developed mind than another, with equal education in other respects, who is ignorant of art.

It has been urged by some that for a school teacher to give instruction in drawing he should have an artist's

taste for it. This is not essentially necessary. Every pupil can be taught to draw, although every pupil will not make an artist. A knowledge of forms is an important agent in all industrial education, and this can only be learned by the study of drawing. It is a branch of art most essential as a training both to eye and hand. Every workman ought to know, at least, enough of the principles in which drawings are made, to be able to work from them understandingly without supervision. In almost every trade, decorative art makes its presence felt, and some cases in a marked degree.

In concluding these remarks, which have been extended to considerable length, it is the writer's sincere hope that, for the future, the mechanics of the country will take a greater interest in the Institutes and in self-culture, and that the Institutes, when better organized and supported, will become, to a great extent, technical schools of instruction to all those who have had neither time nor opportunity to perfect themselves in those studies appertaining, particularly, to their respective trades.

It has been the writer's fervent desire, during the past four years that he has edited this Magazine, to endeavour to impart practical knowledge, and give good advice to the industrial classes. He regrets that circumstances render it necessary for him to retire from the editorship at the end of the present year; those circumstances it is unnecessary here to mention, more than to say that he has not that control over its management essentially requisite for its success. In some other sphere he hopes, in the coming year, to be able to do more for the mechanics of Canada than in his present circumscribed position.

## Science.

### SIR JOSIAH MASON'S SCIENCE COLLEGE AT BIRMINGHAM.

The gothic buildings erected by Sir Josiah Mason's trustees as a science college for Birmingham and the district, are now very nearly complete in all their internal arrangements, and the institution is to be opened on the 1st of October, with an introductory address by Professor Huxley, the winter term commencing on Monday, the 4th of October. The buildings have a frontage of nearly 150 ft. to Edmund street, just in the rear of the Town Hall and the site upon which the Free Library is being rebuilt. The elevation, which is divided into four parts, rises in the centre to a considerable height, the walls of the upper floor receding sufficiently to allow of a passage guarded by a pierced parapet. On the ground floor in the centre is the large entrance gateway, and on each side, a pair of windows lighting the janitor's rooms and clerks' offices. There is a projecting stone balcony over this gateway, and on the next floor are the six large and lofty pointed windows, which will light the chemical lecture-room. From this floor rises a large bay window, resting on a series of corbels, and above it, dividing the attic story, a small gable, terminating with a turreted niche, the point of which is 122 ft. above the level of the street. Portions recede from the predominant central block, at the extremities of each of which are projecting wings terminating in lofty turreted gables. These projecting wings reach a height of 90 ft., and have three windows grouped together on each floor. The intermediate portions between the gables and central block are lower, being about 55 ft. in height. About 2,400 square yards are occupied by the present building, but when the original plans are fully executed, the edifice will occupy nearly double that area, the extension being made in the rear. At right angles to the block front Edmund street, three parallel blocks recede upon the sides of two open courts, and are joined at the south-west by a wing parallel to the front block. The buildings are, therefore, arranged almost in the shape of a double parallelogram, the central block, which extends from Edmund street towards Great Charles street, forming one of the sides for each. The ground floor is entered from Edmund street by a large and lofty gateway