

show; for its value in teaching the important lessons of physical science, and not as being merely ornamental or curious. From the Museum the visitors went to the School of Practical Mechanics, and the earnestness with which Young Eton has taken up this novel department, setting the example to our Public Schools of turning attention practically to the industries that have made England great, is beyond all praise. Immediately upon entering the iron lathe room, a steam-engine of probably five horse power, made from end to end by Etonians, is the first object that meets the eye; and, in the other rooms, all the wooden fittings to lockers and other adjuncts of a workman's laboratory, are the manufacture of Young Eton, admirable work it is too, conscientiously done, and excellent in its finish. The smithy, with its rows of bright fires, all waiting for the young blacksmiths, but waiting this fourth of June in vain, is a piece of delightful realism when met with in such surroundings."

This state of things at Eton leads one to call to mind some of Locke's thoughts on Education. Locke cared little for realism or the study of things, yet, in sketching the education of a country gentleman, he recommends his pupil to practise working in iron and metals, and remarks.

"He will be able to contrive and make a great many things both of delight and use, though these I propose not as the chief end of his labour, but as temptations to it.

"If this were of no other use but to drive out of fashion the common, vicious, useless pastimes, and to show there was no need for them, it would deserve to be encouraged. If men from their youth were weaned from that sauntering humour, wherein some out of custom let a good part of their lives run uselessly away, they would find time enough to acquire dexterity and skill in hundreds of things, which, though remote from their special callings, would not at all interfere with them. And, therefore, I think, a lazy, listless humour, that idly dreams away the day, is of all others the least to be indulged in young people. It is the proper state of one sick and out of order, and is tolerable in nobody else of what age or condition whatever."

He then refers to the mistaken parents, who, frightened with the disgraceful names of Mechanic and Trade, have an aversion to anything of the kind.

Not only in higher walks of life will it be found that the possession of the knowledge and skill which we are now considering will make life pleasanter and free from temptation. On a visit to a Midland town lately, I asked an old friend who had two sons about twenty years of age, "How are your boys?" "Joe is not doing well. He settles to nothing, and he causes us much trouble; but Ben is a good lad. He took to mackling a few years ago, so you may depend on his being steady. When a lad takes to 'mackling,' he can't be drawn into wrong. He has made a bicycle, the best that was ever made, all with his own hands, and he is now making a new sort of railway break."

But we can see several other good results that may follow the course adopted at Eton. It must have the effect of opening up a new profession for many talented men, to whom the Church, the Bar, and Medicine, offer such slender chance of eminence, and, by infusing such talent into industry, it must increase the prosperity of the nation. Further, the diffusion of a knowledge of the principles of trade and of handicraft-skill, must lead to a truer appreciation of each man's worth, and deepen the interest of each man in his neighbour's well-doing. When Technical Education prevails, every man's merits will be better known, and the fool and the ignorant man will find it impossible to become masters, managers, foremen, or directors.

There are many good results to be derived from Technical Education in high places, but it must be remembered that its most vigorous life can be found only where it is stimulated by the actual presence of trade. In the busiest towns and cities, and in the busiest parts of every town and city, there will be a natural demand for it, and it will have a natural and active existence, that it can never gain at Eton or Harrow, at Oxford or Cambridge. But the qualities required of the young race of men, who are to do the nation's work in the next generation, that they may secure the nation's prosperity, must be widely diffused, and Technical Education should aim at developing them in the whole youth of the nation.

We have to secure that the ingenuity and skill which have been characteristic of our people in the past, and have given us prosperity, shall not die out, but shall rather be improved. But everywhere there are signs that men might exercise more forethought,

practical wisdom, and make more provision for economy. Hence, everywhere there is need for Technical Education.

In endeavouring to find out "What Technical Education is," we have already gone into some of the arguments in support of it. There are a few yet which we must here consider. It is often stated that the skilled artisans of Great Britain are behind their confrères of Germany, France and Belgium, and that this arises from the Technical Institutions that flourish in the latter States. This form of the argument is usually accompanied by elaborate accounts and more elaborate statistics of these foreign institutions; but it too frequently happens that those who are warmest in their praise of the ways of doing things on the Continent, show themselves wonderfully ignorant of our own. Moreover, there are English ways of doing things which suit English minds and temperaments. If you could transplant the institutions which have flourished in France to English soil you could not guarantee their continued life. It might be found that they would languish and die.

A better argument is that furnished by considering simply the results of raising a generation of intelligent, educated, and trained people. The immediate consequences, of course, are found to be connected with trade, with art, and manufactures. A nation prospers in proportion to the work its people do. Intelligent men do better work than dullards. Trained and skilled men do better work than clumsy and awkward ones, and the more any man knows of the objects and methods of his work, and of the work of all those who co-operate with him, the more likely he is to do his own part well, and so as to make it exactly fit into and form one with the work done by his neighbours. An intelligent community of workmen will waste less in time and material, and give a higher value as well as quality and durability to all their work, than ignorant, unrefined, and ill-educated men.

The work of each citizen will have value in proportion as he can do it better than other citizens can, and the aggregate work of all the citizens will have greater value in proportion as each has been trained in his own department. The highest value in the world's markets will be obtained by that nation which has been at most pains to cultivate the intelligence of its people generally, and afterwards to give each the highest education and training in his special calling. In other words, the value of a nation's work will be augmented in proportion to the excellence of its system of Technical Education.

There is a way of referring to the experience of foreign countries, which I think is perfectly legitimate. The following account is an example:—

"In every country," says the writer, an experienced engineer. "where Technical Education has taken root, and had time to bear fruit, I find unquestionable proofs of the rapidity with which increased intelligence and enlarged knowledge bring increase in employment and remuneration. From my personal experience, I may say that within the last twenty-five years I have seen large branches of commercial trade leave one country and plant themselves in another, because the workers of the one were educated and those of the other uneducated; and I have watched nations rising into importance and power in Europe by education, and by the order, organization, and efficiency which education bestows, and other nations lagging behind and losing their places by reason of their unwillingness to educate the higher or the lower classes of their people."

But, even without travelling, we might conclude that, what is here described would take place. Industry must in future be supported, not by a competition of local advantages, but by competition of intellect. A people not possessed of raw material, mechanical power, or brute labour, can set against the non-possession of these advantages, greater skill in using what they have, and can employ higher science in their treatment and application. They may buy the raw material and the skill of their highly educated and trained workmen, and may give it a value it could never have acquired at the hands of the uneducated and untrained men who at first possessed it.

The influence of capital may, for a time, purchase foreign talent. To some extent this is the case in England, and justifies the remark that the apathy of the nation in the education of her sons has sent her capital abroad, as a premium to the intellectual superiority of other nations.

I think we are now so far advanced with our subject as to be able to frame a scheme of Technical Education.

1st Grade.—Where is it to commence? and where to end? We may answer the first question by another, When do we begin to