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TECHNICAL EDUCATION.



THE importance of this subject to the advancement of Arts, Sciences and Mechanical progress in these Provinces cannot be overrated; in fact, we do not, as yet, seem to realize the great necessity of imparting more technical instruction to our youth, and the immense benefits sure to accrue from it in the future. It is a subject which we have several times, already, brought to the notice of our readers in past numbers of this Magazine, and to which we shall continually return, it being one of paramount importance to mechanics and to the advancement of the industries of the Dominion.

Surely when we see so much importance attached to Technical Training in Great Britain, France, and other advanced civilized Powers of Europe, as well as in the United States—countries which owe their present greatness in ratio to the perfection they have arrived in art, science and mechanical inventions—we should strain every nerve to take such steps as will be most conducive to produce similar results.

Not long since an executive committee was appointed by certain of the Livery Companies of London, to prepare a scheme of an Institution. Their report for the Technical Training of Artisans has been published, and is, undoubtedly, an important document. The first step taken by the committee was to apply for advice to a number of gentlemen, selected from their knowledge of pure science, for their acquaintance with scientific education and technical examinations, or on account of their position as employers of skilled labour, and the letters obtained by this means contain a number of ideas and opinions of considerable value, which the committee have summarised and collated, and on which they have based their proposals. At the commencement of their report the committee state that it would be unwise to attempt to teach workmen skill in handicraft in the training institution, because such skill can be best ac-

quired in the workshop, except in the case of the introduction of a new industry or the revival of an old one, when, under special circumstances, an opportunity might be afforded for the training of artisans in the actual work of their craft in the institution. The wisdom of this decision will commend itself to employers of labour, except those who would like to obtain skilled workmen without the trouble of teaching apprentices. The committee, consequently, recommend that the teaching should be confined to imparting a knowledge of the principles of science and art—to familiarising the artisan with the great facts and theories upon which the industry he is to pursue is based. To illustrate by instances: they would not propose to instruct an ironworker in the actual manipulation of his tools and appliances, but they would endeavour to impart such instruction as would enable him to understand why, in spite of his manual skill, his puddle bar is occasionally bad, or his pig-iron of an inferior quality. Chemistry, as applied to iron working, would therefore be the most important subject in the curriculum of technical education for ironworkers. Similarly with regard to textile manufactures. It would be unwise to establish model factories, as has been done on the Continent, with the view of enabling the operator to acquire extra dexterity; but it is essential to improvement that the pick of the workmen should have such an acquaintance with chemistry as to appreciate the effects of different kinds of water, and to estimate the properties of dyes and their effects upon the materials; while their artistic taste should be trained to avoid those combinations and designs which offend against the accepted-canon. This is a fair exposition of the principle upon which an institution for promoting technical education should work, and if the details are well worked out and adhered to in practice, the result will doubtless be of incalculable benefit to the country at large. But it is important to observe that the instruction in chemistry, for instance, must not be of that kind which is required for passing the present examinations of the Science and Art Department. Applied chemistry is what is required—not theoretical, we had almost said hypothetical. Neither the ironworker nor the maker of textile fabrics will need to be versed in atomicities, valencies, and the arguments by which the various formulæ are supported: