

those are for subsequent study. What he will require is a knowledge of chemistry as it affects the industry in which he is engaged, or which he is about to follow. Its further and deeper study must be left to his own inclinations, for no institution for technical training can afford to devote more time than is absolutely necessary to its students—the aim being, as we take it, to spread a knowledge of principles amongst the mass of workers rather than to turn out a limited number of specially skilled and highly-instructed artisans. The committee direct particular attention to the advice of Sir W. Armstrong, and others, that too much should not be attempted at once, but that the scheme should be so formulated that a small beginning may develop step by step into a thoroughly successful and widely-extended system. The proposition put forward by the committee is, then, the establishment of a *central institution* with local trade schools. The central institution would furnish competent teachers for the local schools, but no one would be received into the classes who had not shown, by previous examination in some of the existing science and art schools, or otherwise, a sufficient degree of knowledge to enable him to profit by the instruction given at the central institution.

The rules suggested by the committee for carrying out the wishes of the Livery Companies are not such as would be applicable to this country, and probably would require much modification before being adopted in England. In the first place it would be necessary that Technical Education should form part of the curriculum of all our public schools, but which should not be made compulsory, but only applied to such scholars as were intended for mechanical trades or by such as expressed a wish to be instructed in the elementary knowledge of the principles of science and art. In connection with these there might be trade schools in some of the principal cities and towns into which those desiring to be advanced in applied chemistry and practical knowledge would be passed from the common schools, provided they had acquired sufficient elementary knowledge of the principles of art and science in that particular branch of mechanics intended to be pursued, and for this purpose text-books should be supplied specially adapted to the want of each artisan. An ironworker, for instance, requires a knowledge of inorganic chemistry; a maker of textile fabrics is most interested in the organic branch of that subject; a carpenter, in the strength and durability of woods and in constructive art; but none of these need be obliged to study any branch of art or science not necessarily appertaining to the art or trade he has selected, unless it is his own desire to do so. The principal object should be to convey as much practical information as possible, in the shortest period of time, and not waste the student's hours in the study of abstruse sciences—further and deeper study should be left to his own inclinations; but the first consideration should be to ground him thoroughly in what concerns his particular line of art or trade, so as to make him a perfect workman in that branch.

This is a subject well worthy the consideration of Government, and an annual grant for such a purpose would receive the approbation of the country.

We have too long neglected this most important subject—Technical Education; therefore it is to be hoped that no time will be wasted before steps are taken to establish a central institution, and that in the principal centre of

industry in the Dominion. Trade schools would afterwards soon be established, prepared to affiliate with any that may follow in smaller cities and towns.

This is the first of a series of articles that will be continued monthly in this Magazine, on subjects connected with the advancement of Art, Science and the Industries of the Dominion.—[Ed. S. C.]

THE VALUE OF THE MINOR WOODS OF OUR CANADIAN FORESTS—THEIR UNCONSIDERED USES.

We have hitherto considered those woods of particular marketable value which we export in bulk to England and the United States. But is it not time that we should be giving more attention to opening up a business in other kinds of smaller lumber which abound in our forests, besides sending abroad timber only fit for building and engineering purposes?

There is, in Great Britain particularly, a great consumption of various kinds of wood, besides pine and oak (our staple exports), of which we as yet supply but a minor portion of that used, but if we were at once to commence a trade in this line, it would not take long before the demand for it would become as constant as it is now for pine and oak.

Of the various kinds of wood which can be worked up for a great variety of household, ornamental, and agricultural purposes, we possess in our forests a great abundance. We have black and yellow birch and cherry, for furniture; basswood and elm for carriage work; cedar, for fences and boxes; ironwood, for machinery; ash, for agricultural implements, and which is also now much used for furniture; beech, for planes; tamarac, for purposes where strength and durability are required; and a great variety of other kinds which could all be partially worked up into shapes and sizes, for agricultural and mechanical purposes, and thus afford much employment in many country places to our mechanics, particularly during winter.

We have not the slightest doubt that, were a company formed for manufacturing our minor forest trees into the numerous purposes to which they could be applied in the old country, quite a demand for such lumber would be the result.

An active and intelligent agent in England would soon obtain orders for a variety of woods that could be shaped or cut into sizes in this country, and thus save freight to the purchaser and give employment to our people.

We believe that from a trade of this kind a source of much profit and benefit would accrue to the country, and that it seriously deserves the attention of capitalists.

THE CHINESE GOVERNMENT DENOUNCING OPIUM.—An important and very stringent edict regarding the cultivation of the poppy appears in the *Pekin Gazette* of March 9th last. It is worthy of note that the largest number of victims and the earliest victims to the famine have been the opium smokers. The edict now issued speaks of the people as foolish, coveting wealth, and forgetful of the injury that is being done by the cultivation of the poppy instead of cereals, and it enacts that for the future the cultivation of the noxious drug must cease; disobedience thereto to be visited with severe punishment. This edict applies to the whole of China. The district magistrate of Tientsin has personally visited the opium-smoking resorts, and closed them all. Soldiers and officials are strictly prohibited from smoking, under heavy penalties.