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#### FORESTRY AND FOREST PRODUCTS.

The importance of "Forestry and Forest Products" is beginning to receive that recognition to which the subject is entitled. We have received from Mr. Douglas, the well-known bookseller of Edinburgh, a copy of a work recently published by him, bearing the title quoted above. The volume, edited by Messrs. John Rattray, M. A., B. Sc., and Hugh Robert Mill, B. Sc., is the result of the public spirit displayed by the promoters and managers of the Exhibition of Forestry held two years ago in Edinburgh. Prizes were offered by them for essays on matters connected with the science it was their purpose to illustrate and advance. Out of the material supplied by the successful competitors, the editors of this work have succeeded in producing one of the most valuable contributions to the literature of wood-craft, in all its ramifications, that perhaps was ever laid before the public. The volume is alike comprehensive and succinct, and will, when a few corrections have been made, undoubtedly come to be regarded as invaluable text-books by the students in that School of Forestry which, sooner or later must inevitably be established. The subjects dealt with are numerous and varied in their nature, and have deep interest not alone for botanists and experts in a knowledge of trees, but for those who are concerned in the development of the timber trade, and industries immediately connected with that important branch of commerce. The work comprises essays on the formation of nurseries and plantations, the utilization of forest products, the supply of timber, the ravages of forest insects, the present and prospective sources of the timber supplies of Great Britain, the growth of teak in India and Burmah; paper-making from wood, and a "monograph" on the natural history and cultivation of the lacquer tree, by a Japanese gentleman who is chemist to the Imperial Geological Survey of his native land. Bearing in mind the fact that a Committee of the House of Commons has been appointed to collect facts and opinions, and that a scheme will probably be submitted to Parliament during the present session with a view to insure systematic instruction in scientific and practical forestry, it will be admitted that the appearance of this volume is singularly opportune.

With reference to the present and prospective sources of timber supplies of Great Britain, Mr. Robert Carrick, of Gefle, Sweden, has much to say in an elaborate essay on the subject. On one point of peculiar interest he observes:—

"Hewn and sawn yellow pine is a most valuable description of timber, and when of the finest grades is unrivalled for many purposes, such as house building and other wood-work. It has been largely and continuously imported into this country for over fifty years, and a fully

equivalent substitute will be difficult to find. The White Sea red wood approaches nearest to it in point of quality, but the latter, in addition to its smaller dimensions and greater knottiness, has other defects that diminish its value in comparison with the former. The quantity of hewn yellow pine received at the principal port from which we receive our supplies (viz., Quebec) was, in 1876, about 19,243,733 cubic feet, whereas, in 1883, it was but 11,108,557 cubic feet; or taking average for the years 1871 to 1875 inclusive, it exceeded 14,000,000 cubic feet per annum; while for the last five seasons, 1879 to 1883 inclusive, it was but 8,412,651 cubic feet. On the other hand the supply of yellow pine deals to Quebec has not decreased in so pronounced a manner, for although in 1876 it reached 273,363 loads, and only 117,979 loads in 1883, the average of the last five years was 187,187 loads, against 238,731 loads on an average for the five years ending with 1880. Such figures, in conjunction with the history of the quantity exported of late years, bear abundant evidence to the fact that a diminished quantity is available for export to Europe."

Another matter of the highest moment is dealt with in this essay. In discussing the duration of the yellow pine forests of Canada in relation to the timber supply of this country, the writer remarks:—

"The question is fast becoming one of but secondary importance to our timber consumers, as far as the lower qualities of the wood are concerned. In spite of the fact that prices have been steadily rising in Canada for the growing wood, and that a diminished supply has at the same time been brought to this country, the prices obtainable here at present, and for some years past have left no commensurate profit to the exporters. The conclusion, therefore, to which a diminution in export points is: that, except for a small quantity of prime yellow pine, a substitute for which cannot be found in Europe, Great Britain is economically unable to pay a price equivalent to what the United States can do, and must consequently be content to see the latter country intercepting an ever-increasing proportion of this fine wood. To make this clear, reference may be made to the attempt which was made in connection with the last census of the American Republic to ascertain the quantity of mature yellow pine then existent in that country and ready for the axe. Professor Sargent, who had charge of this part of the census, reported in 1882 in these words: 'The entire supply of white pine growing in the United States, and ready for axe, does not to-day greatly, if at all, exceed 80,000,000,000 feet; and this estimate includes the small and inferior trees which, a few years ago, would not have been considered worth counting. The annual production of this timber is not far from 10,000,000,000 feet, and the demand is constantly and rapidly increasing.'

It is a reproach to the "Old Dominion" if the neglect of a due regard for the requirements of statistical science charged against the officials by Mr. Carrick, is really founded in fact. On this point he says:—

"As far as we are aware, no systematic attempt has been made by the Canadian authorities to reduce to figures the available quantities of mature spruce now growing in New Brunswick, Nova Scotia, and the immense forest belt before referred to, which lies between the Ottawa river basin in the west and Mingan in the east. All these districts, however, according to Mr. Joly, late Premier of the Province of Quebec, contain immense quantities of spruce, and it seems likely that there will be sufficient for many years' home consumption, unless it be swallowed up by the United States, after the people of that territory have used up all their own yellow pine and spruce."

In further support of the opinion expressed regarding the abundance of timber, the essayist observes:—

"The immense area of nearly primeval forest possessed by British Columbia must also be referred to, because, although not directly of importance to the timber consumers of this country, it will in the future doubtless relieve the North of Europe from what would otherwise become a very heavy demand from our fellow-subjects beneath the Southern Cross. That the requirements of Australia have already reached large proportions will be apparent from the fact that, with the exception of Great Britain, no country is now buying more Norwegian planed wood than the colonies of that continent. The most important tree in British Columbia is the Douglas fir."

It is gratifying to learn from an essay on "Paper Pulp from Wood, Straw and other Fibres, in the Past and Present," by Mr. W. J. Stonhill, of London, editor of the *Paper Trade Review*, there are grounds for believing that in British possessions where the cultivation of sugar no longer forms a profitable branch of industry, another is likely to supersede it. He says:—

"There is still a probability of the British sugar-growing possessions being of value as a field for the supply of paper stock. The fact that in 1884 capital is forthcoming to re-open the industry in Demerara—it failed in Jamaica—should remind the paper trade of the publicly expressed opinions of Thomas Routledge. In his early career, paper-makers were just as dubious concerning the possibilities of esparto, yet its advantages are admitted on all sides, and but for its very low price in 1883 many mills would never have been able to tide over the almost ruinous sudden advance in the cost of bleach. Fortunately esparto fell about £2 per ton (quoting from Ido and Christie's circular), equalizing £1 per ton of paper produced, whereas the increased cost of bleach per ton of

paper" was a shade less, even at the high 'scare price. This fact should induce paper-makers to be less reluctant to experiment in any direction where there is a large and regular supply of neglected raw material containing a good fibre."

The economic aspect of the subject, has not been strongly dwelt upon by the writer, on the ground that it must be considered, when the question of the future staple material for paper comes under review. Mr. Stonhill's concluding remarks on this branch of industry, however, deserve careful attention:—

"If the British paper trade is not to suffer severely, many authorities assert that it will be necessary to fall back upon some raw material of home growth, which can be supplied cheaply and in any quantity. Straw, and straw only, meets the requirements of the case. By Lennings' new chemical process for treating straw, the details of which are not made public, although its efficacy is vouched for by satisfactory authority, paper can be produced from straw which is hardly to be distinguished from that manufactured from cotton rags; and it can be made from about £12 a ton, not taking into account the saving produced by recovery of the chemicals employed. This process is now being adopted at a large Kentish mill, and if the published cost of manufacture be correct, it cannot be doubted that the system must introduce great and most beneficial changes in the British paper trade."

Further notice of this useful and compendious volume must stand over to a future day. Members of the timber trade, and the public at large, however, will gather from a perusal of the foregoing remarks upon, and extracts from, its pages, that the work is of considerable importance as an aid to the correct understanding of forestry in all its ramifications.—*Timber*.

#### Art and Design in Manufactures.

At the late meeting of the Dominion manufacturers' association it was decided to offer three silver medals for competition in the art schools of the Province, for the purpose of encouraging art design in relation to manufactures. At a meeting of the executive committee of the association, held yesterday afternoon, the schools and subjects were decided upon. The first medal will be given for competition among the students of the Toronto school of art and design; subject, best design in wall paper. The second medal will be offered to the Hamilton school of art and design; subject, best design of wrought-iron fence suitable for public buildings. The third medal will be offered to the London school of art and design; subject, best design of mantel and over mantel in wood.—*Toronto Mail*.

The Pullman Car Works pay \$600 per thousand feet for rosewood.