

to its environment that usually the cones will not open at all, and the seed will not be scattered until fire has assisted in the operation. It is quite true that the cones gape open and allow the seed to escape after they have been scorched by fire, but there are so many instances of the freeing of the seed by the natural development of the cone that the evidence to establish the necessity for the intervention of fire can hardly be considered as sufficient.

Dr. W. H. Muldrew, of Gravenhurst, writes us referring to the statement of Dr. Bell, that fire is the chief, if not the sole, cause for the opening of the cones of *Pinus Banksiana*, and forwards cones from a young tree which are now opening naturally, and are apparently neither diseased or immature. This tree is on a little island in Muskoka Lake, and Dr. Muldrew states that as sufficient seeds have been liberated to grow seedlings of all sizes, it would be necessary, adopting the theory of opening by fire, to conclude that young white pines, as well as the parent scrub pines, must have successfully withstood a series of severe fires, which is clearly an untenable position.

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#### Arbor Day.

The schools have so established themselves in the minds of the public as the proper medium for training the youth of the country, that no person who has any new movement to launch which affects the general interest of the people, but feels that he must secure the assistance of the schools. And the view which dictates such a policy is well based, for those things which are emphasized in the schools of the present will most easily be impressed upon and understood by the public of the future. But while this tribute is paid to the influence of the school teacher, there is a danger, partly from over enthusiasm in special directions and possibly sometimes from a desire to shirk responsibility, of placing upon both himself and the scholars burdens greater than they can bear. No new demand, however, is being made in urging the general observance of so well-established a custom as the celebration of Arbor Day and the making of efforts to render its results more permanent, both educationally and practically.

The day was first observed in Nebraska in 1872, and its celebration has become more and more widespread. While its observation was not primarily a school function, and is not necessarily still so, it has been generally connected with the public schools. The ceremonies by which the day has been observed have been usually more poetical than practical. Trees are planted in commemoration of noted persons or events, and the ceremonies are made as impressive as possible by songs, recitations, addresses, etc. The tree planting has not always been done judiciously or understandingly, while the esthetic effect, which has been mainly kept in view, has often been lost by neglect to follow up perseveringly the beginning which had been made. Until, however, through the kindness of Sir Wm. Macdonald, or in some other way, school gardens are established, Arbor Day has an important function to fill.

In most of the provinces of the Dominion the day is observed in the schools, British Columbia being apparently the only exception.

In Prince Edward Island a day to be observed as Arbor Day in the schools was set apart in 1886, but the observance has not been at all general or persevering.

In New Brunswick Arbor Day is observed on a day appointed by the Inspectors each year, but the observation is not obligatory. During 1900, 462 school districts celebrated the

day, about 2,000 trees and shrubs were planted, and 500 flower beds made. This is about the annual average, but the Chief Superintendent of Education states that little attention is paid to the trees and shrubs after they have been planted, and consequently many of them die or are destroyed before the next Arbor Day!

In Nova Scotia the Superintendent of Education is also Vice-President of the Canadian Forestry Association, so that it will not be surprising to know that Arbor Day has had his hearty support. Dr. McKay has gone further than this and has had established in the schools a system of nature study, in which the teacher and scholars unite to record their observations of the natural phenomena in their particular districts, with the result that much permanently interesting material is gathered and the children are trained to observe natural processes and their effects.

In Quebec Arbor Day was established by general act of the Legislature in 1887, but it appears to have largely dropped out of notice, as no mention is made of it in recent school reports.

In Ontario the first Friday in May is Arbor Day, and the occasion is generally observed in rural schools. The former Minister of Education issued a small volume giving suggestive programmes for such celebrations, with suitable poems and selections, which has been very helpful.

Manitoba has given the day special prominence. The trees planted since 1892 number 32,321, and last year a circular was sent to the trustees and teachers directing attention to the importance of observing Arbor Day in a fitting manner, and with the circulars were distributed 10,000 copies of "William Silver's Surrender," a little work prepared by Rev. Dr. Bryce, which gives much useful information in regard to forestry and tree planting.

In the North-West Territories, where the need of trees is most felt, considerable attention has been given to the subject. Public school children in the higher classes are given instruction on the cultivation of trees for shade, ornament and protection. These subjects are continued in the High Schools and form part of the papers set for non-professional teachers' certificates. In the Normal School the planting, care and uses of trees are discussed and instruction given on the objects of Arbor Day, modes of conducting Arbor Day exercises and ways of interesting the people in tree culture. The influence of examples is mentioned by the Superintendent of Education in order to urge the advisability of having plots planted with trees in each district.

The outline thus given will suggest some ways in which action may be taken to make the celebration of Arbor Day more effective. The practical work should be carried out on a proper plan and under competent supervision, and should not be confined to one day's celebration.

We quote the following from a pamphlet on "Tree Planting on Rural School Grounds," by Wm. L. Hall, Assistant Superintendent of Tree Planting of the United States Bureau of Forestry:

"The need of the school grounds is for plantations of hardy trees, cared for by such methods as will keep them constantly thrifty. The trees should be selected and planted in the most careful manner. They should be properly placed and in sufficient numbers. To plant in this way requires a great deal of attention to details. It may be the work of several days. The perishable nature of trees also makes it extremely important to plant them when the weather conditions are just right. Dry, windy weather may cause several days' delay in planting. It