

Our Native Trees.—IX.

By G. U. HAY.

Evergreens.—The Hemlock.

The hemlock (*Tsuga canadensis*) is one of the most graceful of our evergreen trees. When growing where there is plenty of space its lower branches are often long and straggling, but when found in the forests where its roots penetrate into rich mould, the formation of centuries of decayed leaves, it is of a majestic appearance, often from eighty to one hundred feet in height and with a trunk diameter of three or four feet. The young hemlock trees surpass all other evergreens in the grace and feathery lightness of their dense foliage which bends to the slightest breeze. Their narrow, short-petioled leaves, dark green above and pale beneath, are disposed in level sprays on the horizontal or drooping branches. The small pendulous cones, very numerous and scarcely longer than the spreading leaves, add another element of beauty to the tree in the early years of its growth.

The term "faithful" that Longfellow applies to the hemlock refers to the unchanging green of its leaves in summer and winter. But in late spring and early summer the tips of the twigs and branches are clothed with feathery masses of the new, yellowish-green leaves which form a beautiful contrast with the dark green leaves of the previous year, and produce an effect perhaps unequalled by any other forest tree. As the hemlock comes to maturity its foliage becomes less attractive, although it increases in sturdiness and majesty. Growing in the forest, the trunk usually tapers suddenly near the top spreading out its newer foliage over the tops of the surrounding trees. The lower part of the trunk is beset with stiff, broken or dead branches, or it is quite bare. The smooth close fitting bark of the young trees gradually passes into the rough, deeply furrowed bark of the mature trees which bear a resemblance to the red or black spruce.

The hemlock belongs to the group of plants which bear two kinds of flowers on the same plant, hence called monœcious, that is, growing in one household; the staminate flowers or those which produce pollen, are in loose catkins, growing from the axils of last year's leaves; the pistillate catkins, destined to become the cones, are at the ends of last year's branchlets. At the base of the green fleshy scales which clothe the pistillate catkins are the ovules which ripen into seeds after being fertilized by the pollen. In their early growth the cones are of a crimson colour, gradually changing to a brown.

The seeds mature the first year, but many of the dry cones often cling to the trees for several years.

The wood of the hemlock is soft, weak, crooked in the grain, brittle and very liable to splinter. It is of a light brown or nearly white colour. A cubic foot weighs 26 lbs. It is largely sawed into boards of an inferior quality, used for cheaper building purposes, such as flooring, shingles, material for wharves, mines, etc. It is one of the most durable timbers under water. It gives a tight hold for nails, and its boards are in common use for the first covering of frame houses. Other uses are found for it, as pines and other more expensive timbers are becoming rare.

Hemlock bark is used for tanning leather, and the manufacture of the extract for tanning is quite an industry in Quebec and to a less extent in New Brunswick. Indeed, the bark has for years been regarded as the only valuable part of the tree. A section of the bill recently introduced by Premier Tweedie into the New Brunswick Legislature for the preservation of forests makes it compulsory for those who have cut down hemlock trees for their bark to remove the trunks in order to lessen the danger from forest fires. That such a law is necessary shows that there is still wanton waste of what may be considered as fairly good timber. This wholesale destruction of hemlock trees for the manufacture of extract threatens to lessen seriously the further supply of hemlock, a wood that will become more and more useful as pine disappears.

Hemlock oil, distilled from the young leaves and shoots, and hemlock gum or "Canada pitch," as it is called, a resinous exudation from old trees, are both used in medicine. The wood is of little value as fuel, burning up very quickly, and with a loud crackling noise like that of poplar wood.

The ground hemlock (*Taxus canadensis*) is a low straggling evergreen shrub with leaves bright green on both sides and with a red berry-like fruit enclosing a bony seed.

The juniper (*Juniperus communis*) is usually found as a low straggling shrub in these provinces, with rigid, prickly leaves. Its blue berry-like fruit encloses from one to three bony seeds.

Teachers will find it useful as a preparation for Arbor day to review the lessons on our native trees which began in the March, 1905, number of the REVIEW.

Many of the parts of evergreen and deciduous trees are good subjects for free-hand drawing: Beginners may draw the leaf-clusters of the differ-