THE NATIVE BEECHES IN THE CHICAGO REGION.

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A few extracts from a paper read before the National Conference on plant acclimation in New York City, in 1902, may still be of interest: Two groves of the native beech *(Fagus ferruginea)* are found in Illinois. One colony is on Pettybone Creek, south of the city of Waukegan; and the other at Highland Park, twenty-four miles north of Chicago. There are also a few scattered trees planted on estates or in private gardens along the Lake Shore north of the city of Chicago.

The late Robert Douglas, who settled in Waukegan in 1844 or thereabout, thought the beech trees at Waukegan and Highland Park had been planted by the Indians, or rather the seed had been scattered by them when in camp. It was known that the Indians frequented these places and were fond of the beech nuts. In Highland Park they held council. His son, the late Thomas Douglas, who was born in Waukegan, thought that the beech nuts had beeen scattered by the pigeons, which at the time were plentiful along the North Shore. One may doubt this last suggestion because the pigeons were plentiful in the woodlands all along the lake, consequently the beech nuts would have been scattered wherever the pigeons roosted.

Most of the trees in the two colonies are not very large—less than twelve inches in diameter, a few perhaps sixteen inches in diameter. Trees planted in the gardens are mostly small and scrubby, and after twenty or thirty years have not attained the height of more than twenty to twenty-five feet. They diminish in size towards the lower end of the lake whether they are found on the lake border Moraine or in alluvial soil.

Study for a minute the map of the lower end of Lake Michigan and consider that our prevailing wind from the west comes across the great plains. Whether it is the hot winds in summer or the cold winds in winter, it is evident that these winds coming across great land areas must be dry, and their influence on vegetation that demands moisture for a healthy growth must be more or less injurious. As we follow the Lake Shore north from Chicago the winds become more or less influenced by the water they have to cross. These influences seem to favor the beech, and

especially is this so on the eastern side of Lake Michigan. That the lakes have a tempering and moistening influence on the west winds is evident and of great economic value on both the east and west side of the Lake. That the changes brought about by this influence are remarkable, we all know, and that part of southern Michigan would never be the fruit producing country it is if it were not for the effects as stated before. The beech on the west side of Lake Michigan is benefited in the same way as soon as the influence of Lake Superior and Wisconsin's thousands of lakes is preceptible, and this is where the beech extends into the so-called white pine belt.

The above notes were written after a study of fifteen years. Twenty-six years have now passed and little can be added to what was then recorded. I know of no record of our native beeches in Illinois that has shown or described any other groups than those mentioned, except those found in southern Illinois, and they are not to be considered here. No one knows the northern part of the Chicago region better than Charles Douglas of Waukegan, a brother of the late Robert Douglas, and Mr. Douglas states that he has never seen any other native beech trees, than those referred to, between Chicago and the State Line.

The Waukegan groups are found in a ravine, or rather on the drained slope of a ravine south of Waukegan, and are now on the grounds of the Great Lakes Naval Training Station. There are a few small groups and some scattered trees. One group of a half dozen trees or more have a few fine specimens between sixteen and eighteen inches in diameter. There are no seedlings, but one tree has produced two suckers. The other groups are younger in years; some of the trees not more than twenty-five to thirty years old, and all more or less struggling for existence. They may be off-shoots of seedlings of earlier trees, but there is no evidence of this. Of the scattered trees there are one or two large specimens that may be a hundred to one hundred fifty years old now in a state of decay. It is quite possible that seeds from these trees have been carried by animals or birds and produced the last group mentioned. Most of the trees have a western exposure. Some of them a northwestern.

The group at Highland Park is also on a ravine slope with a southerly exposure. When I first visited this grove, some thirty years ago, it was in a healthy condition. Today it is showing signs of decay. There are a few seedlings in this group. None of the trees seem to have grown much in the intervening

time. The soil consists of a yellowish pebble clay, and is the same for both colonies. Of the trees found in private gardens very little change has taken place in growth. They are short and stunted. There are some purple beeches of the European variety, but they cannot compare in growth with those found in the gardens on the Atlantic Coast. The largest one is found at Highland Park, and although it is a fairly good size tree it is short and stunted.

Whether the Indians scattered the seeds or dropped them in their camps, or whether the pigeons or squirrels brought them, or they were carried by other natural agencies, matters little. The fact remains that when we reach a point where our prevailing west winds come across the great plains, the struggle for existence begins. Judging from soil conditions they should succeed equally as well on the lake border moraine all the way to its southern terminal if no other agencies interferred with its growth. As one follows the lake border moraine north, the beeches gain in size and normal growth. Let us consider that the moraines are better drained than the low alluvial lands about the City of Chicago. On the latter all attempts to grow beeches have been fruitless.

I have centered out the beech, but a great number of other plants from the east side of Lake Michigan and also plants from the humid regions of the Atlantic Coast or other Countries succumb after a shorter or longer time. Temperature cannot be at fault. There are many plants on the New England Coast, growing in a temperature a great deal lower than ours, that will not thrive here. We therefore must come back to the conclusion arrived at before: That the dry west winds hinder the beech on its march south toward the Chicago areas, and also that the lack of humidity in those, our most prevailing winds, creates a limitation in the growing of numerous plants that are found in the more humid regions of the temperate earth.

In conclusion, the Commandant at the Great Lakes Naval Training Station has expressed his desire to preserve the group of native beeches on the Station's grounds.