

painful, and because the wearer is not aware of the harm that is being done to his body.

When a child sucks its thumb, the pressure on the young teeth is very slight. But it is great enough to cause the teeth to stick out in front, and to spoil the beauty of the mouth. And in remedying this defect, the dentist uses gentle pressure and keeps it applied to the teeth for months. In this way, he presses the projecting teeth back into their place, and often without pain.

Now let us study the effect of pressure upon trees. Select one or two in a field, or on an exposed hill side. First walk round the clump, and notice the branches. If the trees are growing somewhat in the open, so as to catch the wind from every direction in which it blows, you will see that the branches are nearly all leaning in one direction. The uppermost part of the trunks also are leaning over in the same direction. Long, long ago, the Indians had noticed this strange fact about tall trees, and used it as a means of making their way in a straight course through the forest. The trees in any city park show the same bending to one side.

How has it come about that the branches and trunk are inclined to one side? The diagram given below will enable you to understand this. It shows the number of days during which the wind blew from the eight points of the compass for four weeks in July, 1907.

The wind blew from the north for one day, with an average velocity of five miles an hour; from the north-east for two days, with an average of six miles an hour; from the east, one day, with an average velocity of five miles; from the south-east for two days, with an average velocity of ten miles; from the south for one day, with an average velocity of fourteen miles; from the south-west for fourteen days, with an average of nine miles; from the west for two days, with an average of seven miles; and from the north-west for five days with an average of nine miles an hour. (See frontispiece.)

A somewhat similar record is found to be true for June, August and September, for most places in Ontario. This being the case, it is easy to understand how nearly all our trees lean over towards the north-east. The steady pressure of the wind is from the south-west for about half the time, during the summer months. The branches, and stems are young, soft and growing, during these months and are therefore easily bent by the pressure of the wind.

Now let us see how all this about wind helps us to understand the effects of tight clothing. Ill-fitting shoes worn by children for several years show the effect of slight steady pressure in changing the shape of the foot. As a rule, the pressure is never great enough to cause pain. The child does not say that the shoes are hurting its feet. But the gentle pressure applied day after day, for months and years, slowly presses the large toe over towards the outer side of the foot and away from the straight line in which it lies in the infant. Sometimes the small toe also is pressed towards the inner side of the foot. These two changes, one in the great toe and the other in the little toe, are always the result of wearing boots or shoes with pointed toes. So much have our feet been altered by the pressure of ill-fitting boots or shoes, that it is a rare thing to find a well-shaped foot in men or women.