

Shade Trees, Their Beauty and Importance

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THE sanitary value of trees is now very generally recognized.

In the past this most important factor in the conservation of a healthful and temperate climate was sacrificed with ruthless hand. Through the waste of the forests winters have become colder, summers hotter; living springs have ceased to flow perpetually; fertilizing streams have disappeared; the earth is deeply frozen in winter and parched in summer, and finally new and grave diseases have appeared where formerly they were unknown."

The foregoing is an extract from an article written by Stephen Smith, M.D., LL.D., in 1899, while endeavoring to secure legislation empowering and requiring the Department of Parks in New York City to plant and cultivate trees, shrubs, plants, and vines in the streets, avenues, and public places of that city. Other cities in the States have followed suit, and since then a very general recognition has been given to the beauty, grace, comfort, and healthfulness of trees, and especially of shade trees in parks and on city streets.

After our last summer's experience one may well ask, can the temperature of the city during the summer months be modified so as to prevent that extreme degree of heat from which one and all suffered, and on which the enormous sickness and death-rate of the people depend? Vegetation plays an important part, but especially do trees, in modifying the climate of large areas—the temperature of even a clump of trees is cooler in summer and warmer in winter than the surrounding country. The thermometer will vary from twenty to thirty degrees in the sun and shade, and as much as ten to eleven in the soil, and the reverse is true in winter. Railroad engineers use far less fuel in passing through forests in winter than in traversing the same distance in open country. Who has not given a sigh of relief when on a hot summer's day he has passed under a tree's friendly shade?

We have not only shade to be grateful for—trees give off a large quantity of water from the surface of their foliage. The greater amount of leaf surface, therefore, the greater amount of vapor emitted. It has been estimated that an acre of grass emits six thousand four hundred quarts of water in twenty-four hours, and that the Washington Elm at Cambridge, Mass., a tree of moderate size, produced a crop of seven million leaves, exposing a surface of five acres of foliage. Thus vegetation tends powerfully to cool the atmosphere, and this effect increases in proportion to the increase in temperature. Carbon

is the great nutritive agent the tree needs, and this it gets from the air in the form of carbonic acid gas. In the process of assimilation oxygen is restored to the air. Man needs oxygen. Carbonic acid gas is a waste product of the animal system. Thus trees purify the air and the vegetable kingdom provides conditions by which the animal kingdom maintains life and health.

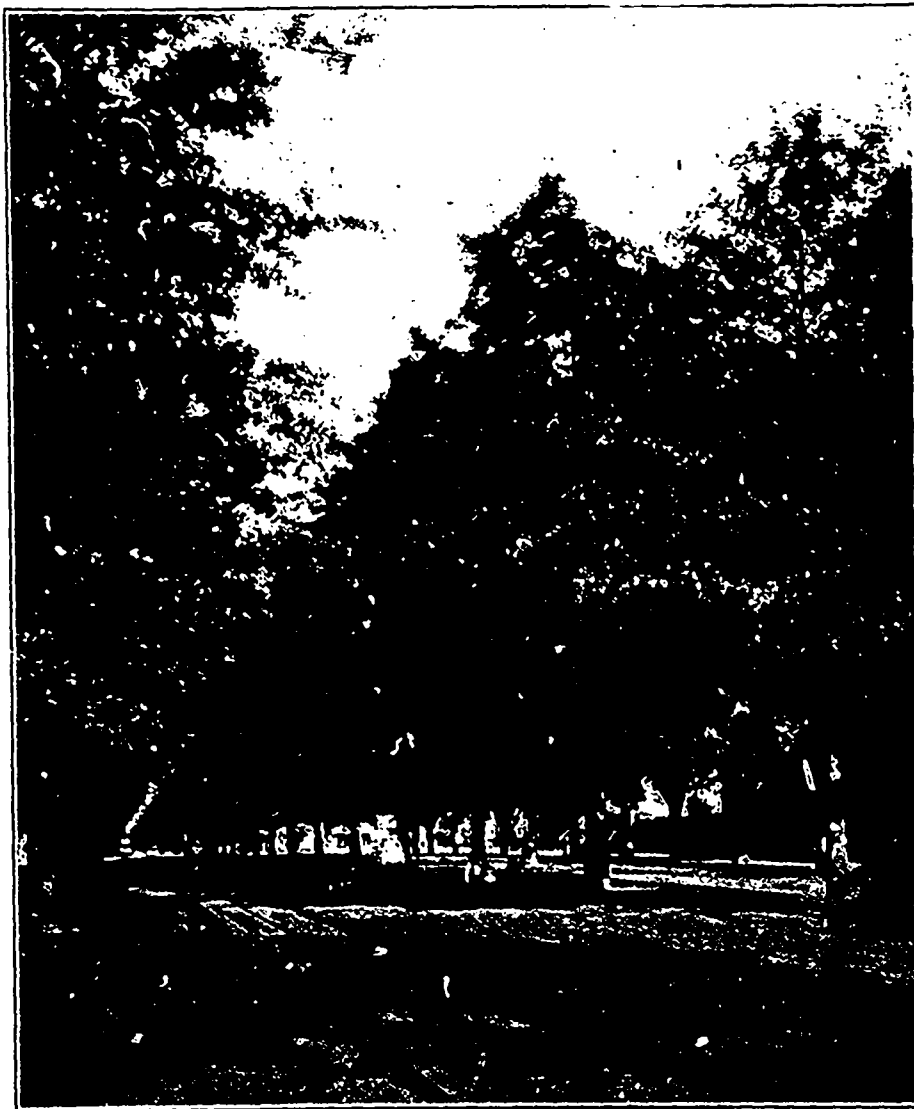
The tree is a great factor in the making of a beautiful city. Well chosen specimens—and these well kept and aesthetically planned—will prove of economic value. The beautiful city attracts visitors, and many visitors mean greater business activity, and this leads to the city's rapid growth and prosperity.

In the choice of trees for street planting several things are necessary and should be considered. Trees must be able to endure hardship and be among those most immune from insect attack.

Other qualities, too, such as straightness and symmetry, cleanliness and longevity, and abundance of shade are desirable. The initial cost of planting such trees is small, but after a number of years who will estimate their value? One species on a street has given to many cities in the United States a grand effect. The welcome shade, too, is better secured by the uniform spacing of one species.

When new planting is being done it would be well to alternate trees of rapid growth with those which grow more slowly. This secures shade and beauty during the time such slow growing trees, as for instance the elms, take to reach maturity. After considering the nature of the soil, the width of street, the height of buildings on that street, let us plant our maples, elms, poplars, lindens, oaks, catalpas, and others similar.

The sugar, red and Norway maples



An Avenue of Pin Oaks, the Beauty and Restfulness of which Speak for Themselves