Unnatural Selection

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If you plant a flower, and then wish you'd chosen a different spot for it, no sweat. It can be dug up and replanted someplace else within minutes. But if you plant the right tree in the wrong place, or *vice-versa*, you're probably stuck.

One can consider tree-planting a transcendent act. Sure, a new tree will give us shade, beauty, energy savings and increase our property value, but in most cases it will outlive us by a long shot. In a sense, we donate a tree to the world even when it is on our own property. We gift it to future generations of people, to songbirds, to cleaner air, to a better neighbourhood.

Once a tree is sited in the landscape, it is not practical, or even possible in many cases, to move it after the first year. So it is important to give sufficient thought to choice. We can't afford natural selection, however. An acre of mature forest may comprise a few hundred trees which nature has chosen from perhaps as many as 10,000 seedlings, a survival rate in the 2 to 3% range. If we plant just a few trees, we'd like them all to reach their potential. This involves some homework, which is well worth the effort.

A basic consideration is whether a tree is cold-hardy to your location. Plant-Hardiness Zone maps are available at http://www.planthardiness.gc.ca/. This comprehensive resource takes into account minimum and maximum temperatures, frost-free period, rainfall, snow cover, and wind speeds. It is not safe to assume every tree for sale at a garden centre is appropriate for the area. A "big-box" chain may ship the same nursery stock to a store in Toronto as it does to one in Pembroke. Check the tag – if a peach tree in Timmins sounds too good to be true, it probably is.

Most trees commonly used in the landscape have one or more cultivated varieties or cultivars. Each species and cultivar has its own profile in terms of mature height, branch spread, tolerance of various site conditions, and of course, aesthetic features. Read about each candidate tree to ensure it can reach full-size without hitting overhead wires or encroaching on your neighbours.

A planting site may be shaded, or get a lot of road salt, or have poor drainage, or be drought-prone. No problem, as long as your selection is well-suited to the conditions. A sugar maple planted on a poorly drained site will be sickly, ugly, and short-lived. A river birch or catalpa, on the other hand, will thrive.

It's helpful to know the soil pH – acidity or alkalinity – of a planting site. Pin oaks may be your favourite, but the pH is above 7, as it is in many urban soils, it will have stunted, chlorotic (yellowed) leaves. A hackberry or ironwood will look great, though, in an alkaline soil. If this sounds too complicated, Cornell University has an excellent guide which will help untangle any questions you may have. It is a free pdf download at http://www.hort.cornell.edu/uhi/outreach/recurbtree/pdfs/~recurbtrees.pdf

But even when you've settled on a specimen with genes well-matched to your site, choice at the individual level is also important. From a distance, trees at a nursery or garden centre resemble green lollipops, so checking "under the hood" can save a lot of trouble later on. A good specimen has a crown like a woozy elephant: it has a single trunk, and is well spaced-out.

Trees having two or more competing (codominant) stems are vulnerable to splitting as they age. Check the trunk carefully for wounds, removing any and all trunk wrap if present. Ideally, your

tree should be free of crossing and rubbing limbs. Several branches originating close to one another on the trunk will create a focal point for stress, another structural weakness. Branch placement should have symmetry as the specimen is viewed from all sides, and from above.

It is harder to check out the root system, but if a tree is container-grown, ask the vendor if they would slip off the container to be sure the roots are not excessively pot-bound. Before planting, always tease roots out straight, cutting any circling roots. Then locate the trunk flare, which may be hidden under soil in the container or root ball. The trunk flare should be visible above the soil line after planting.

It is not an exaggeration to say that when you plant a tree, you leave a legacy. As such, it is worth the time to select the best species and cultivar for the site, as well as a specimen having strong, breakage-resistant architecture. Tree Canada offers a lot of excellent information on tree selection and planting at: https://treecanada.ca/resources/canadian-urban-forest-compendium/8-species-selection-and-planting/

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