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FRIENDS OF THE CARMEL FOREST

TREE CARE AND PROPER PRUNING

Dr. Al Shigo, who died last year, was for thirty years the nation's most respected researcher in applied plant physiology, the science which describes a tree's response to man-caused tree damage, including pruning.

In his "*A New Tree Biology*" (1968) he said that "Pruning properly done is one of the most difficult tree treatments. Every branch will be different."

This is a good beginning for a discussion of pruning, especially of pruning trees, because poor pruning in trees usually lives with the trees as long as they live and if those pruning errors occur early in a tree's life, the tree will be doomed to limb failure and a short life. A flush cut made today will result in interior decay in ten years which can certainly result in tree failure in twenty years.

If you think that anyone can prune properly without instruction, you have probably already been responsible for damage that will become evident in later years.

Unfortunately, excessive pruning is the most visible, and has become the "standard of trade", leading homeowners and facilities managers to expect to see instant major changes in the tree's form and canopy density before they pay the bill.

As a result, it is very difficult for the more knowledgeable arborists to "sell" better quality, less destructive work.

Several definitive statements can be used to describe the pruning done by most tree companies and most gardeners including:

> "More damage is done by poor pruning than benefit provided by good pruning."
>
> "Most tree pruning seen today is harmful."
>
> "Many professional gardeners do not know how to make the least destructive cuts."

O.K., enough criticism! How do you make proper cuts? How do you know how much to remove? How do you know when to prune which plant? How do you know which tool to use, and when? How do you know when to call for professional help? Whom do you call?

Basic philosophy

The best pruning causes the plant to produce new growth where you want it so that it will not have to be removed later.

The best pruning is done to **prevent** growth from being produced in the wrong place.

If you can prune today with your thumb nail rather than in five years with a chain saw, you have saved the tree from investing in parts that were later discarded and avoided leaving large wounds.

The best pruning produces the smallest cuts and is the least visible.

From the standpoint of pruning, we should divide the tree's development into four stages.

They are juvenile, developmental, mature and over-mature.

The stage at which most of us can be either highly beneficial or very harmful to the tree is during the juvenile and developmental stages when the tree is producing the basic structure, some of which will be with the tree all of its life.

At the juvenile stage, the tree should have temporary branches almost to the ground to supply carbohydrates and starches to develop a strong sturdy trunk which is capable of supporting the canopy and provide enough vascular tissue to feed a large and growing canopy.

At these stages, any permanent limbs which can be identified should be selected and their training begun.

The juvenile stage may occupy three to eight years. The development stage may occupy an additional ten to twenty years.

If the selection and pruning of the permanent branches and limbs was done during the first stages, very little corrective pruning of main structural limbs will be necessary for another ten years. Unfortunately, most of us have to deal with basic structures which the tree produced without guidance or which was damaged by untrained people who should not have been using pruning tools.

If the tree did not have the best scaffold limbs selected during the developmental stage, it will be necessary to do corrective pruning in a mature tree.

This means larger wounds, removal of proportionately more foliage and more damage but it may be necessary to solve structural defects which will become more hazardous as the tree ages.

Over-mature trees are those which are not producing much new vascular tissue, and whose scaffold limbs' position and character have been long established and which no longer respond to pruning by production of parts which will ever be structural.

At this stage, pruning cuts should be two inches diameter or less since wounds will be covered by new tissue very slowly if ever.

At this stage, loss of a major limb probably serves as prediction of loss of other large limbs and the natural disassembly of the tree.

References you should have:

A Tree Care Primer, Handbook 186
The Brooklyn Botanic Garden
Christopher Roddick with Beth Hanson
All Regional Guides
1000 Washington Avenue
Brooklyn, NY 11225

Arboriculture, Integrated Management of Landscape Trees and Shrubs
Richard Harris, Prentiss Hall

Tree Pruning, A Worldwide Photo Guide
Alex Shigo, Shigo and Trees Associates

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