What is Natural Pruning?

Is Shearing the Best Way to Prune?
The typical untrained home gardener and landscape maintenance technician has one approach to pruning -- shearing. Power trimmers or hedge shears are used to shape or reduce the size of trees and shrubs. Using the shearing technique, the ends or tips of many branches are removed quickly, which apparently saves time and expense. However, there are several drawbacks to this practice.

1. The outer layer of the plant has many stubs which are only covered when new growth occurs.
2. Tip pruning in this way causes branches to develop several shoots where there was only one before (3 to 7 is typical).
3. After 3 or more shearings, plants are artificially thick with 20 to 30 times as many branches as normal.
4. All plants begin to look the same – either round balls or square boxes. Several plants growing close together become a hedge.
5. Plants are typically sheared or shortened the same amount over their whole surface. Because growth is faster on the top, soon the lower and inner branches are shaded and lose their leaves.
6. Over-pruning stimulates plants to grow faster, which requires more frequent pruning.

Why Natural Pruning is Better
Natural pruning preserves the natural shape and density of plants. Each tree and shrub has its own natural growth shape. Why make them all look alike? With natural pruning, branches are pruned one at a time with hand pruners, loppers (with long handles – for larger branches), or a pruning saw. Pruning begins when plants are small, before they have outgrown their planting area and block windows or walkways. This may only require shortening one or two branches the first time.

1. Branches are cut inside or below the leaf surface where other smaller branches hide the stubs.
2. Instead of pruning branch tips, they are cut back to a side branch or removed entirely, keeping the same density of plant growth.
3. Lower shrub branches are shortened less (or not at all) than upper branches, which keeps the shrub full and leafy clear to the ground.
4. Because many fewer branches are cut (especially after several prunings) the difference in pruning time becomes negligible (or sometimes even less over time).
5. The natural shape is retained because branches are deliberately cut at different lengths.

Can My Over-sheared Plants Be Restored to a Natural Shape?
Yes, over-sheared plants can be restored to a more natural condition, although it may take 2 or more prunings to do so. Typically, one third or more of the branches are removed deep inside the plant, sometimes clear to their source. Pruning cuts on some of the remaining branches are made at different lengths, hiding the stubs inside the outer leaves. As the plant regrows after pruning, it returns to its natural shape.


Before


After

Types of Pruning Cuts

The most important principle I have learned from pruning thousands of plants is the type of pruning cut to make. It addresses the question: What do I want this plant to look like **after it regrows following pruning**?

There are 3 types of pruning cuts which each produce different plant growth responses. New growth after pruning is different, depending on the type of pruning cut.
Heading Above a Bud. When a branch is shortened by pruning just above a bud, most plants respond by producing 3 or more shoots where one grew before. This response is based upon the principle of terminal dominance. The top bud sends auxin (a plant growth hormone) down the shoot which inhibits lower buds from growing. When this top shoot is removed, the inhibition is removed and several lower buds grow. Heading above a bud thickens the growth or makes it denser. Two specific examples are pinching

and shearing. Whenever shears or power clippers are used, 95% of the cuts are above a bud. This results in 3 or more times as many shoots. After two shearings we multiply 3X3 and get 9 times as many shoots. Three shearings result in 27 or more times as many shoots. This is the kind of dense growth we want in hedges, so we normally shear them. That is why shearing should be avoided if we want to retain the natural thickness of the plant.

Heading Above a Side Branch. When a branch is shortened just above a side branch, the growing tip in that side branch becomes dominant and sends an auxin signal down the branch inhibiting the development of lower shoots. As a result we get a 1 for 1 response. The plant grows one new branch where one was removed, resulting in the same thickness or density of growth as before. If we want resulting re-growth to be the same as before pruning, this is the primary kind of cut we should make.

Thinning or Removing an Entire Shoot or Branch. When shoots are removed entirely, the plant has less than one resulting shoot for each one that is pruned. Thinning makes a plant more open or less dense. This is the type of cut used to open up a plant which has become too dense. It is used to restore sheared plants to their normal thickness. Most pruning cuts on established fruit trees are thinning cuts because we want the maximum light to reach the fruiting branches, especially the lower branches which are easier to pick. This principle applies when less than 20% of the branch surface is removed. When more than 20% of the branches are removed latent bud growth is stimulated and one or more shoots can grow from the point where the branch was removed. These shoots are often referred to as water sprouts.

So lets look at several different plants and determine what we want them to look like after pruning:

1. **A plant is thin and open.** We want it to look fuller, thicker or perhaps less straggly. We shorten several branches. If they are of different lengths, we shorten the longer branches more than the shorter branches. But we pinch the tips of even the shortest branches to encourage branching. Each branch develops several side branches making the plant fuller and thicker.
   What was our primary pruning cut? Pruning just above a bud

2. **A plant is getting larger than we want it to be**. The growth is just about the right thickness, neither too thin nor too thick. We shorten branches down a little lower that the ultimate height we would like it to be after regrowth. Larger branches may be shortened more than others. We follow each branch we are pruning down inside the plant and try to prune it just above a side branch. Some of the smaller side branches will hide the pruning cuts we have made. Each pruned branch develops one main branch for each branch pruned resulting in the

same thickness of growth. What was the primary pruning cut? Pruning just above a side branch.

3. **A plant has growth that is too thick**. Branches have become artificially seesmall in size. Looking inside the plant we see that there are multiple branches from previous pruning cuts. Growth has a thick, hedge-like appearance. We select about one branch in 3 and follow it down until we find where it originated and prune it at that point. One branch at the base has often produced a cluster of 3 or more branches with each of these branches developing 3 or more branches at the upper levels. Each cut actually removes several branches. Resulting growth is thinner and more open. Primary pruning cut: thinning.

4. **We have a row of plants we want to look like a hedge**. We want growth to be uniform in shape and dense. First we decide what shape we want the hedge to be: rounded or square. We begin at the bottom and only shorten an occasional branch that is longer than the outline we want. As we move up the hedge we shorten branches shorter and shorter so the hedge is tapered narrower at the top than the bottom. This allows plenty of light to reach lower levels so the leaves are not so shaded that they drop. Primary pruning cut: heading to a bud