

REFINING BONSAI

Chapter 18

NOTES

I. OBJECTIVES

As a result of studying this section of the *Intermediate Bonsai Syllabus*, viewing audio visual presentations, or participating in other activities provided by an instructor, you will be able to:

1. Define and describe what is meant by refining bonsai.
2. Discuss why it is necessary to re-evaluate the style in which the bonsai was originally made.
3. Explain why the species of the material is of major importance in making refining decisions.
4. Describe faults which may exist with surface roots and means of correcting them.
5. Explain how the trunk's attitude, line and shape are considered in refining a bonsai.
6. Describe special problems which may exist with multiple trunk bonsai.
7. Explain refinement techniques affecting the branches and the foliage of a bonsai.
8. Describe some of the considerations involving the bonsai container and its relationship to the bonsai.
9. Describe how the soil composition and the soil surface are a concern in refining a bonsai.
10. Describe how the method and medium used in displaying a bonsai are a concern in refining a bonsai.

II. GENERAL

- A. Refining bonsai is an ongoing and never ending activity. Bonsai are living and thus ever changing. They grow new attributes, old attributes mature or disappear. The bonsai artist's knowledge and talent also is ever changing. New and different techniques are learned and concepts change.
- B. Refining a bonsai may involve building upon the original concept or it may involve a complete restyling of the material. Refining is done by pruning, grafting, wiring, carving, repotting, and changing the method of exhibiting.

III. REVIEW THE BASICS

- A. Review the earlier discussions on art, aesthetics and harmony in bonsai.
- B. The bonsai was styled in a particular way: upright, slanting, cascade, multiple trunk, forest, etc. Because it was initially styled in a particular manner does not mean necessarily that it is the best style for that material.
- C. Review the components of the basic styles and the variations of those styles. With an open mind, evaluate the bonsai and decide what is the best style and environment for it as a bonsai. Consider:
 - 1. The species and in what styles that species prefers to grow.
 - 2. Surface roots, whether they can be changed, and to what bonsai style they best lend themselves.
 - 3. The trunk line, whether it should be changed, and to what style it best lends itself. Consider whether the trunk should be curved or straight, upright or slanting. Consider whether the trunk is an optimum height for its diameter and branch placement.

Consider the location of the apex; above, to the side, leaning toward the viewer.

4. Consider possible removal of branching and how it affects possible styles. Evaluate the degree of ramification and identify appropriate changes.
5. The container and the placement of the tree in the container, and whether a different size, shape or color container would be more appropriate.
6. The soil surface and ground cover. Consider the contour of the soil and the type and coverage of the ground cover.
7. Auxiliary elements such as a rock to compensate for lack of taper, or the creation of dead wood (jin, shari or uro) on the tree to complement the style or to mask a fault.

IV. SPECIES

- A. In broad terms, each species has a style in which it naturally grows. A pine generally prefers to be upright while a juniper does not mind cascading. Maple, birch, or beech usually have a distinctive full outline.
- B. Understand the style in which the species grows naturally and copy or complement that style when working it into a bonsai.
- C. Each species has climate and soil condition in which it grows best. These should be violated as little as possible when growing the species as a bonsai. Compensation has to be provided if these conditions are grossly altered.

V. ROOTS

- A. Identify faults in the appearance or location of surface roots and determine if correction is possible.

1. A root growing directly toward the front, assuming the current front is to be kept, may be wired to one side or the other, or it may be appropriate to remove it.
2. If an additional root is needed consider an inarch graft of a seedling to the bonsai's trunk base. Once the graft has healed, the portion of the seedling above the graft is removed and the remainder develops as a root.
3. If a necessary root is missing, the fault might be disguised by placing a rock where the root should have been.
4. Light should not be seen below a surface root; it should appear to be well anchored and attached along its length to the soil.

VI. TRUNK

A. Attitude

Evaluate whether the trunk, based on the style, should be upright or slanting to one side or the other. Incline the apex slightly toward the front.

B. Line

Most trunks have curves and bends. Turn the tree and determine the best view which takes advantage of those curves. Generally that view which best shows the visual and physical movement will be the front of the bonsai. At the same time consider the current or potential placement of branches as they affect the "best view".

C. Length

The trunk may be too long, making the tree too tall for its other proportions. Such inappropriate proportion may be its height to girth ratio or its height to lower branch placement ratio. If it is appropriate to reduce the height of the tree by shortening the length of the trunk, decide

whether the top is to be removed completely or is to be converted to a dead wood jin. In most cases it will be necessary to develop a new living apex. Locate a small branch on or near the front below the desired new height. Either:

1. Wire that front-facing branch upright and remove the remainder of the trunk above, making a 45 degree cut facing the rear of the tree. Or,
2. Bend the front-facing branch upright and tie it to the portion of the trunk above it and remove the remainder of the upper trunk not needed in the training of this new apex. When the new apex has grown into its new upright posture, remove the remainder of the trunk above, making a 45 degree cut facing the rear of the tree.

C. Shape - Diameter, Taper and Special Effects

1. The trunk of most bonsai should be thick in proportion to its height and have a taper. Taper means that the trunk should have a thick diameter at the base which gradually diminishes toward the top. Bonsai with slim trunks which are planted in bonsai containers do not develop thick trunks nor do they develop taper.
 - a. A reverse taper is a condition in which the diameter at the base begins to decrease higher up and then increases followed by another decrease. This unwanted increase (bulge) is often the result of the presence of two or more branches growing from that point. They cause additional nutrients to increase the diameter of the trunk, causing a bulge.
 - (1) The continued development of a reverse taper may be stopped by removing one or more of the excess branches growing in the vicinity of the bulge.

- (2) The trunk diameter between the base and the bulge may be increased to reduce or eliminate the bulge by growing several sacrifice branches from the area whose diameter is to be increased. These should be permitted to grow unchecked. When the diminished diameter area has increased sufficiently in girth, the sacrifice branches are removed.
 - (3) The bulge may be hidden by the foliage of a small branch.
 - (4) The decrease of taper below the bulge may be compensated for by placing a rock along the lower trunk giving the illusion that it is thicker. It may also be hidden by planting a small fern or dwarf mondo grass along one side of the trunk.
- b. A small diameter trunk may be increased by planting the material in the ground or in an oversize nursery container, fertilizing well and limiting if not eliminating pruning. Branches increase trunk girth up to their point of attachment. The oversize nursery container is necessary to provide space for the additional roots needed to support the increase in foliage.
 - c. Taper may be increased by growing sacrifice branches from the area whose girth is to be increased. It may also be increased by removing a portion of the upper trunk and growing a new leader with a smaller diameter, providing a diminished taper in the new growth area.
2. Special effects on a trunk may include the introduction of dead wood to a portion of the trunk. Detailed information on the use of dead wood on bonsai is covered in the *Driftwood Style Bonsai* chapter in this *Syllabus*.

D. Texture and color

The texture of the bark can be enhanced by avoiding peeling exfoliating bark. Color can be enhanced on some species by gently brushing the surface with a brass brush to remove surface dirt and discoloration.

E. Multiple trunks

The trunks of *Two-trunk* style and *Twin-tree* style bonsai should complement each other.

- a. The trunks should be of different height and girth. The shorter trunk should be either one third or two thirds the height of the taller trunk, and it should have a proportionally smaller girth.
- b. The smaller trunk should attach to the larger trunk at or close to the soil surface.
- c. The smaller trunk should be either forward or toward the rear of the larger trunk. Their bases should not be equal distance from the viewer.
- d. Additional information is covered in the *Two-Tree and Twin Trunk Style Bonsai* chapter in this *Syllabus* .

VII. BRANCHES and FOLIAGE

- A. The longest and thickest branch should be the lowest branch. Girth may be increased in a lower branch by permitting a “**sacrifice leader**” to grow from the branch. When a satisfactory diameter is achieved the leader is removed.
- B. If the trunk is curved, the branches should be curved to complement the trunk shape. Wire to shape.
- C. Each higher branch should be proportionally shorter. After wiring and bending, prune the length of the

branches to establish the outline of an asymmetrical triangle for the tree.

- D. Each higher branch should be smaller in diameter. If higher branches have too great a girth, consideration should be given to removing them and growing or grafting a replacement.
- E. The space between the points of attachment of each higher branch should decrease. This is a consideration when removing branches.
- F. Converging, overlapping and crossing branches should be corrected.
 - 1. Straight lines should generally be avoided.
 - 2. Diagonals may be a major distracting element and should either be avoided or controlled.
 - a. Diagonals generally make humans uncomfortable because they are not static; they generate stress.
 - b. A diagonal leads the eye into space, away from the horizontal and the vertical.
 - c. A diagonal in a composition may be controlled by:
 - (1) Being removed.
 - (2) Being linked as the diagonals in a *broom* style bonsai are linked by the outline of the foliage.
 - (3) Having their direction altered as when a plunging branch's tip is bent upward.
 - (4) Being countered by a reverse elsewhere in the composition as is done in a *slanting* style bonsai.

- (5) Reducing its energy by having foliage pads break up the line.
- G. The basic shape of each branch is the asymmetrical triangle. View each branch from the top and create a long side and a short side.
- H. Rear branches are necessary to create depth in the planting. They should not go directly to the rear, being hidden behind the trunk. Rather, they should be angled to the left rear and to the right rear.
- I. Most species have a tendency to develop an overly full apex, one with too much ramification. Thinning of the branches in the crown is a continuing requirement.
- J. Develop twiggy on the branches. This process of ramification creates secondary, tertiary, quaternary, etc., branches. Systematic pruning (grow and clip) forces dormant buds along the branches to sprout creating a network of smaller branches and a pad of foliage.
1. Many years ago a group of bonsai growers in Lingnan in Kwangtung Province in southern China developed a method of training bonsai by alternately allowing them to grow and then clipping much of the new growth. Their technique, known as the *Lingnan* style, or just “grow and clip”, may be used for the entire formation of a bonsai, for the development of a particular portion of a bonsai or for general ramification.
 2. When refining the branches on a bonsai allow a branch to grow until it reaches the desired size proportion or until it has five or six mature leaves. Then cut it back to leave just one or two. This forces additional secondary and tertiary growth which is allowed to grow until it too reaches the desired size proportion. Then it is cut back. This process continues and each time additional secondary, tertiary and quaternary growth is stimulated creating ramification.

3. Cut the shoots back harder in the upper parts of the tree.
 4. In broad-leafed, deciduous species, the pruning process can be coupled with leaf cutting or defoliation to reduce the tree's growth rate and to increase twigginess and leaf numbers.
- K. Leaf pruning (defoliation) is a refinement technique which removes all or part of the foliage. Defoliation may be done for aesthetic reasons or to reduce the leaf size.
1. Unsightly, dead or damaged leaves are removed to enhance appearance. Leaf damage may have been caused by wind, heat, insects or by mechanical damage.
 2. The size of leaves on most broad leafed deciduous species may be reduced by defoliation. The leaves of the new growth will usually be smaller.
 3. The leaves may be removed three to four weeks after they sprout if there are developing buds at the leaf axils. Insure that the tree is healthy, is growing strongly, and has been well fertilized. Some growers prefer to not remove all the leaves at one time but to space it out over two or three weeks.
 4. Tropical species of material may be leaf pruned any time of the year if they are healthy and protected from stress.
 5. After a tree has been defoliated, it is a good time to re-appraise the branch structure and to make necessary corrections. It may be appropriate to replace some older branches with more suitable finer new ones.
 6. When a tree is without leaves it reduces its intake of water from the soil. If it is over watered the roots may become water logged and rot.

7. Conifers and most other evergreen species should not be leaf stripped. Rather, single, overly large leaves can be removed.

L. If there is a dead tree in a forest planting, consider bleaching the wood and leaving the tree in the composition.

VIII. CONTAINER

A. The type of pot should complement the style and species of bonsai.

1. Glazed pots are usually used for flowering, fruiting or leaf color changing species or to complement bark color.

2. Unglazed pots are usually used for conifers.

3. Pots which are deeper than they are wide are for cascade style bonsai.

4. Square or rectangular shaped unglazed pots are most often used for “masculine” appearing species such as conifers which have a relatively strong, powerful and rugged appearance.

5. Round or oval shaped glazed pots and rectangular shaped glazed pots with rounded corners are most often used for “feminine” appearing species such as broad leaf material which have a relatively soft, delicate and rounded appearance.

B. The size of the pot should be in proportion to the size of the bonsai.

1. As a guide the length (long side) of a pot may be equal to about two thirds either the height of the tree or the width of the foliage mass, whichever is greater.

2. The width (front to rear) of the pot should be slightly less than the spread of the branches above it.
 3. As a further guide, the depth of a pot may be equal to the diameter of the base of the trunk.
 4. There are many exceptions to these guidelines. The major exception is when a pot simply “looks right” with a particular bonsai.
- C. The container should be clean. If mineral deposits are on the pot, the bonsai should be removed, the pot washed and soaked in undiluted Lime Away ®. Again wash the pot and scrub any residue. If the bonsai is being prepared for an exhibit, the exterior of the pot should be lightly wiped with baby oil on a cloth to improve the surface appearance.

IX. SOIL

- A. The base of the tree should be on a slight mound so that the soil surface slopes upward toward the base. At the edges of the pot the soil should be below the inside edge of the container to provide for water retention. Throughout the surface some variation in the elevation is desirable rather than having a flat plane.
- B. Insure that the soil is a proper mixture for the species of material and for the growing conditions and that unsightly additives are not visible on the soil surface.
- C. A ground cover should be on the soil surface as an aesthetic complement to the bonsai.
1. Ground covers aid the illusion of age and provide a transition of color and texture from tree to container. Functionally ground cover retards erosion and assists in retaining moisture in the soil. The type of ground cover used must be in scale with the size of the plant and be shallow rooted. It is acceptable to use more than

- one type of ground cover if it does not detract from the composition.
2. Moss is the most common ground cover. Moss for bonsai should be gathered from other bonsai containers or from sunny locations in nature. It should be planted in small swatches or plugs much as plugs of grass are placed in a lawn.
 - a. Make a small hole, pinch off a small piece of moss and insert it into the hole.
 - b. Spread soil over the edges of the moss to retard drying out and the water.
 3. Moss, or any other ground cover, normally should not cover the soil surface completely. If there is a blanket of ground cover, aeration may be retarded and it is difficult to gauge the dryness of the soil. Additionally, ground covers should not be permitted to grow on the trunk of the tree as they tend to induce rotting.

X. DISPLAYING

- A. The display area should be clean, uncluttered and each bonsai should "have its space".
- B. The background should be relatively neutral and not detract from effectively seeing the plant material.
- C. Interesting rocks, companion plantings, etc., might be displayed with the bonsai.

XI. SUMMARY

- A. Refining a bonsai involves a variety of activities and skills beginning with evaluating the style which is appropriate for the particular bonsai.
- B. The species of the material is of major importance in making refining decisions.

- C. A variety of faults may exist with surface roots, the trunk's attitude, line and shape.
- D. Multiple trunk bonsai have special problems.
- E. Refinement of the branches and the foliage on a bonsai is important
- F. The bonsai's container must be considered in its relationship to the bonsai.
- G. Soil composition and the soil surface are a concern in refining a bonsai.
- H. The method and the medium used in displaying a bonsai are a concern in refining a bonsai.