



Bonsai Pruning



For the Phoenix Bonsai Society
January 2011
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How NOT to Prune Bonsai



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This program on Pruning Bonsai will discuss the “maintenance pruning” of Bonsai and not the creation of a “style” of Bonsai (i.e. Informal Upright, Broom Style, Cascade, etc.) - that is another Demonstration. This program follows that you already have a styled Bonsai and will talk on how to prune the tree.

What Pruning Bonsai Does & Why We Perform It:

- Creates healthy, aesthetic trees promoting growth in structured design
- Improves performance of trees; provides balance between foliage & roots
- Increases branch ramification & foliage density the more it is pruned
- Promotes new growth, strengthens creative style, form, design
- Prune as part of an everyday task, similar to watering, fertilizing, etc.
- Know your trees growing tendencies for effective pruning
- Know trees reaction to removal of its components (i.e. branches, roots, etc.)
- Pruning early when tree is young, defines/directs future growth, style
- For Bonsai to develop proper shape & form, constantly prune
- Pruning limits growth outside of designed shape of trees when training
- Preparing Bonsai for formal Shows, Displays, Presentations
- Bonsai skills in tandem with knowledge & dedication allow trees to develop, promote their health, remain small & to accomplish the Art of Bonsai
- DO NOT PRUNE WEAK TREES! Let them recover & get healthy

Reasons To Prune Bonsai & Examples of Each

Health of the Bonsai:

- Removes dead branches, foliage & weak growth & frost damage
- Removes diseased branches, foliage without chemical treatments
- Remove, eliminate spindly growth, long internodes
- Remove crossing branches that may rub developing bark damage, infection
- Invigorate new branch development & foliage growth

Maintain Aesthetics, Form, Style, Design of Bonsai:

- Obtain balance between foliage & roots
- Develop primary, secondary branches & foliage pad development
- Selective removal of branches for desired style of Bonsai
- Selective removal of buds to increase ramification, change branch direction
- Removal of flowers, fruit to improve tree strength, development, growth
- Promote back-budding

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Control Size of Bonsai:

- Increase/reduce height of tree
- Increase/reduce width of tree, canopy
- Develop/control direction of trunk (informal/formal upright, windswept, Myogi, semi-cascade, etc.)
- Foliage, branch, trunk pruning done in tandem with root pruning

How To Prune Bonsai

When to Prune:

- Many books & articles written on Bonsai care, pruning, etc.
- Best general advice is look at pictures
- Do not follow their maintenance, watering, fertilizing, etc. schedules
- Best reference for Valley (Phoenix/Metro Area) Bonsai is **“Leroy’s Care Schedule”** found in Phoenix Bonsai Society Club Year Book or on its website
- Schedule developed for desert climate/conditions by PBS Sensei Leroy Fujii
- Per this schedule, prune February thru May & September thru November
- Bonsai in the Valley have 2 growing seasons in a year’s time—Spring & Fall
- What does this mean to you? Twice the pruning tasks as described in most publications/articles

How Much to Prune/Remove:

- Do not prune branches, foliage & roots at one time - spread out over days
- Do not prune more than 30-40% of tree’s branches, foliage in 1 year’s time
- Do not prune more than 50% of tree’s roots in 1 year’s time
- Do not remove all foliage on a branch at one time - do a little at a time
- Bonsai should not be wired immediately after heavy pruning - let rest
- Use time between pruning tasks to study/learn characteristics of each tree
- “All-at-once” demo on nursery stock-to-Bonsai puts heavy stress on tree - this is not the “norm” - after demo is done, let tree rest 2-3 months

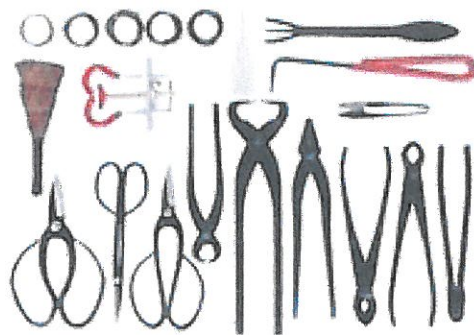
Leaf Pruning (aka Defoliating):

- This method creates another “Spring” in Bonsai by cutting the leaves on a tree in order to develop smaller leaves & more growth in between seasons
- Since the Valley already has 2 “Springs” or growing seasons - leaf pruning (defoliating) actually adds a “3rd Spring” to trees
- This pruning method can be harmful/deadly to weak trees & older trees
- Use this pruning method on young, healthy trees
- This pruning method works well in areas that only have 1 growing season
- More stress imposed on weak trees to have 3 growing seasons in 1 year

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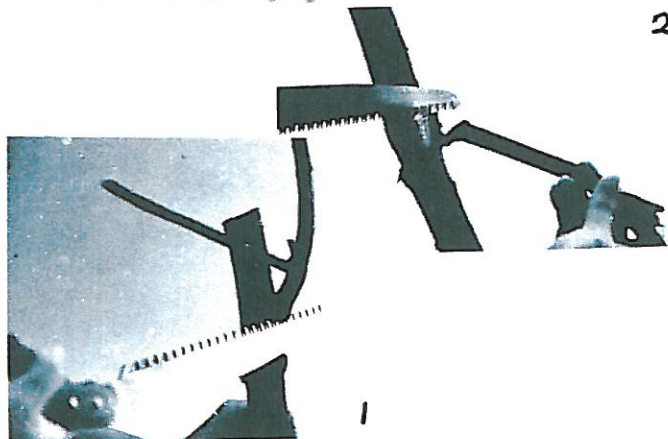
Bonsai Pruning Tools:

- Photo shows selection of tools typically used in Bonsai pruning
- Cutting tools should always be sharp
- Clean, oil tools frequently
- Pruning tools can have plant disease; dirty tools transfer bacteria from tree-to-tree
- Dip pruning tools into 50% Lemon Lysol & 50% water solution often when working on a tree & definitely when moving to another tree; wash hands before moving to a new tree & avoid freshly cut areas



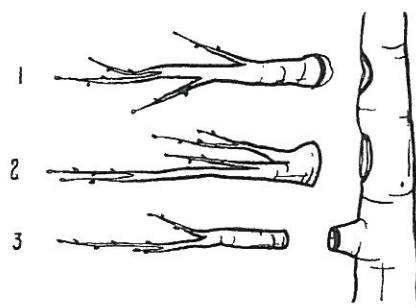
Sawing Large Branches*:

- Use a fine-toothed saw to first undercut (1/8" +/-) the bottom of branch at collar on trunk to prevent damage to bark below
- Now place saw on top of branch at collar on trunk & cut thru all the way
- Clean-up cut flush or concave slightly to seal w/cut-paste or leave alone to let tree seal over w/pitch, depending on tree type



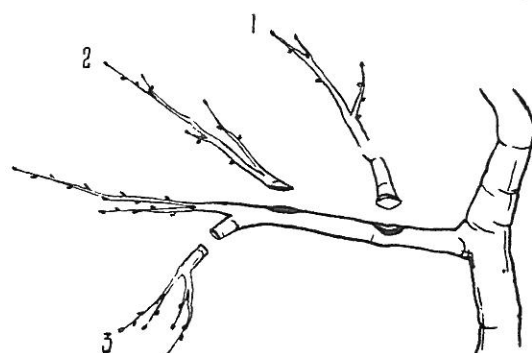
Pruning Primary Branches*:

- 1 - Concave cut is best type; heals faster
- 2 - Flat cut not as good; heals slower
- 3 - Cut leaving a stub is wrong; stub looks bad, takes longer to heal & you have to come back later to remove stub - thus creating another wound to heal



Pruning Secondary Branches*:

- 1 - Concave cut is the best type
- 2 - Flat cut is good
- 3 - Cut leaving a stub is wrong

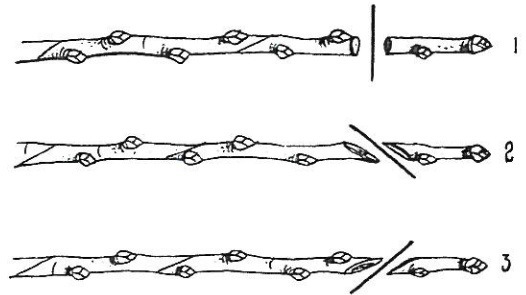


* Information from John Naka's "Bonsai Techniques I"

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Shortening Branches by Cutting/Pruning*:

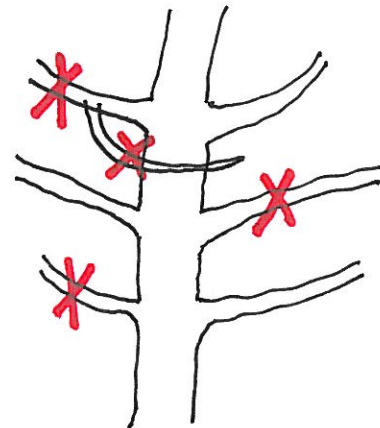
- 1 - Do not use straight cut; heals slower
- 2 - Make cut diagonally w/cut mark facing upwards; scar heals faster
- 3 - Do not cut diagonal w/cut mark facing downwards; this is completely wrong



* Information from John Naka's "Bonsai Techniques I"

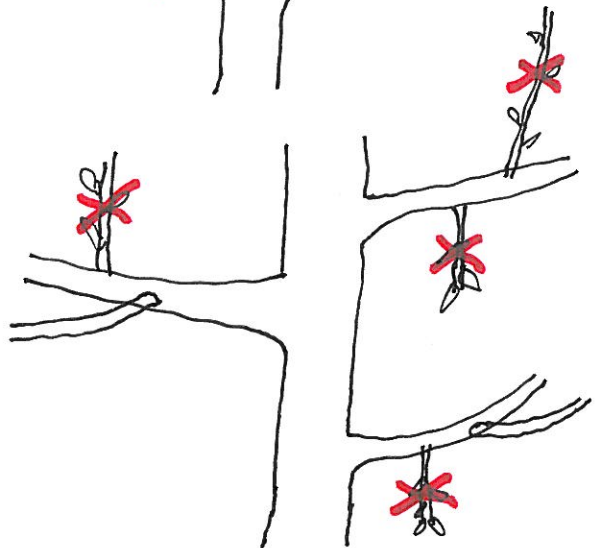
Pruning Bar & Crossing Branches:

- Remove one of the opposite "bar" branches
- Alternate branches to remain
- Prior to cutting - review design/style of tree
- Prior to cutting - assess health of branches & remove weak/damaged branches first
- Remove crossing branches (very rare occasion where crossing branch is kept)



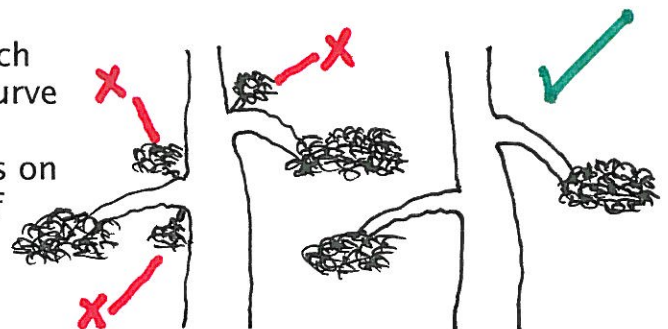
Pruning Waterspouts & Bottom of Branch:

- Remove waterspouts growing straight up
- Remove branches, shoots on bottom of branches
- Exception: Do not remove bottom branches, growth if tree is type/style that grows w/branching on bottom, weeping



Pruning at Crotches & Curves:

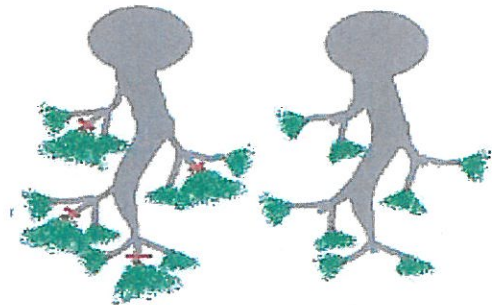
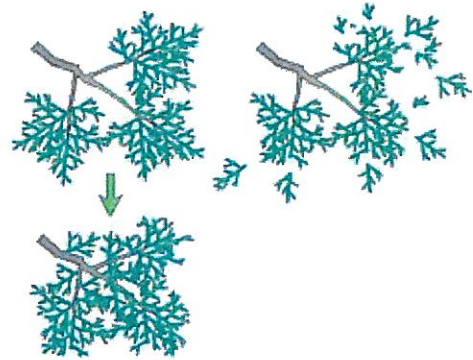
- Remove growth at top & bottom of crotch
- Remove branches, shoots at inside of curve areas on vertical trunks
- Branches okay on outside of curve areas on vertical trunks when at/above middle of curve



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Course-To-Fine Pruning & Tipping:

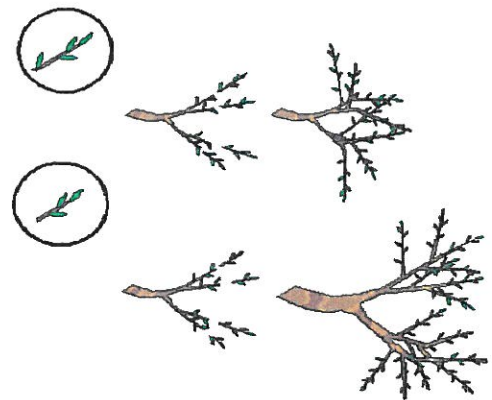
- Use to shorten branches
- Used to reduce pad length, increase width
- Use to increase pad size, density
- Develops lateral growth
- Remove older branches; keep younger, newer growth
- Encourages back-budding, growth
- Eliminates long, leggy branches



Pruning -Top View

Pruning for Branch Ramification:

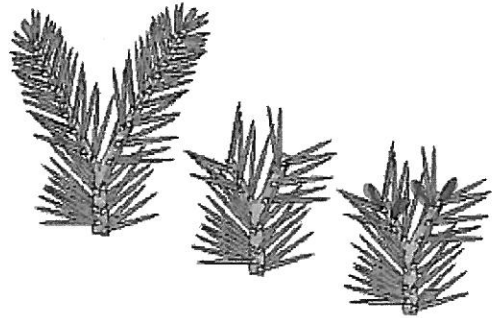
- Pruning branch back to 2 buds, shoots develop some branch ramification in more lateral direction
- Pruning branch back to 3 buds, shoots develop more branch ramification both in a lateral & length direction
- Branch ramification is the creation of more smaller branches from the main branch to build pads
- Ramification adds to the health of tree by providing more branches w/ foliage drawing more water & nutrients throughout tree
- Ramification also improves aesthetics of tree strengthens desired style of Bonsai



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Pruning/Pinching Junipers & Evergreens:

- Left View - Typical bud, shoot growth is equal at each side; left alone, they will grow into long branches
- Middle View - Pruning (cutting w/tool) or pinching (by hand w/fingers) both buds is a method to shorten branches
- Right View - Pruning/pinching buds creates new buds that form new branches



Pruning Versus Pinching:

- Maintaining Bonsai includes necessary pruning & pinching techniques
- These are used to create/maintain the various Bonsai styles
- Pruning & pinching are the essence of developing branch structures & fine branching/pads through ramification & foliage growth
- Pruning methods shape branches; create change in direction of branches; create the taper of branches & also used on trunks
- Pruning can be done with tools (pruning shears, scissors, concave cutters, knob cutters, etc.), by hand with fingers, pruning saws, pruners or chain saws - as long as the pruning cuts are neat & clean
- Pinching achieves the results above on smaller branches on some types of trees - junipers, pines, evergreens, conifers
- Pinching deals primarily with increasing ramification & is not used for altering branch size, directions, etc.
- When the main scaffolding of a branch is completed, only pinching is required to increase ramification
- This is accomplished with the removal on the growing branch of 2 of the 3 bud shoots
- The removal of these shortens the branch & causes the buds behind it to release, thus interrupting the apical dominant growth & allowing remaining buds to open & create new branches (ramification)

Leaf Cutting:

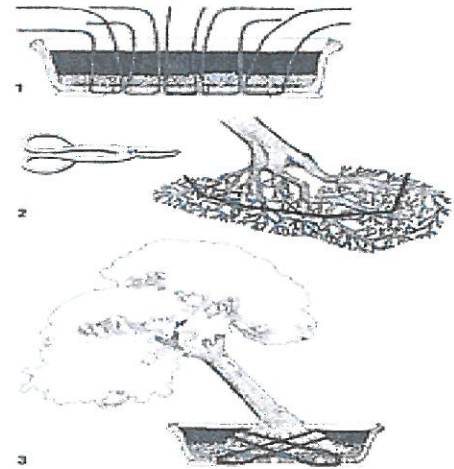
- Cut marks indicate the proper location to cut-off leaves
- Do not leave any part of the leaf on the stem, especially with young leaves
- On Japanese Maples - make cuts a ways beyond last leaf, as long die-back occurs



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Root Pruning:

- Critical to Bonsai - trees cannot remain in pots indefinitely without pruning roots
- Roots grow with access to water & nutrients below the soil, which feed & develop new branch & foliage growth above soil
- Root pruning is required to balance top pruning
- Top pruning Bonsai reduces transpiration & increases water storage in root system
- Without root pruning in balance w/top pruning, trees get root bound & can dry out on hot days
- Root pruning contributes to new root growth, which allows proper absorption of minor & major elements from soils
- General chlorosis, loss of vigor in foliage & branch growth & development are signs of root bound conditions even w/fertilizing
- Cut back strong roots, leave/trim short roots to give Bonsai more density, compactness & keep trees dwarf & living in small pots
- Frequency of root pruning depends on type/species of tree; pot size; & microclimate
- Root prune when signs of chlorosis; vigor & general decline; when tree pushes up out of the pot
- Remove the same amount of top growth as roots pruned; temps in day above 55 deg
- General root pruning removes 30% of roots; sever root pruning no more than 50%
- Root prune during foliage dormant times, spring & on some species in fall - remember BALANCE between top growth & roots



Pruning Deciduous & Flowering Trees:

- Hard pruning can be done on elms, liquidamber, maples & most flowering trees; 30 days prior to pruning these trees - feed them heavily
- Deciduous tree buds form from new shoots on last year's growth & flowers, fruit form on 2nd year's growth—avoid removing these, unless necessary
- Use sharp pruning tools & make clean cuts

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Pruning Junipers, Pines & Evergreens:

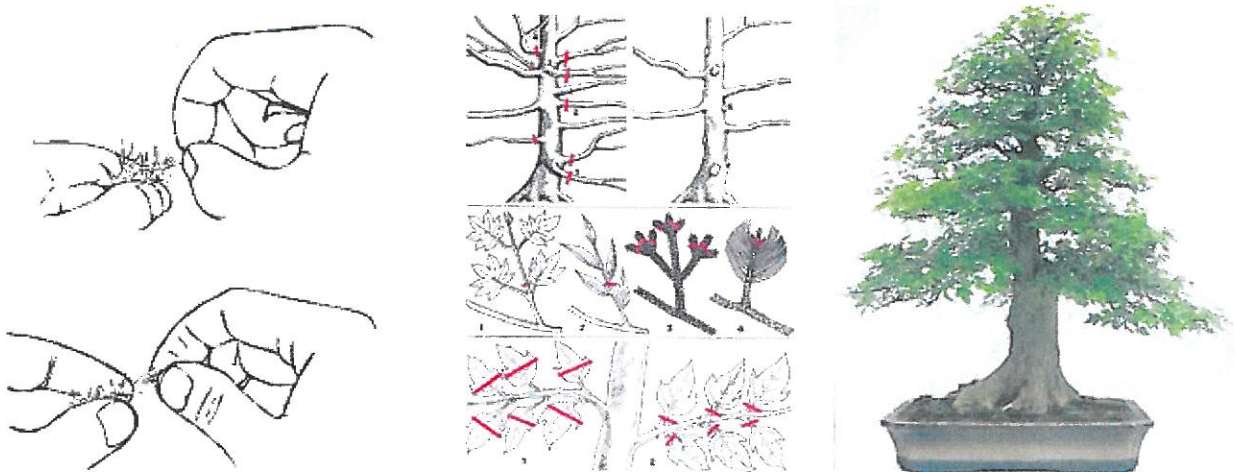
- These types of Bonsai require more selective, detailed pruning
- Pruning by hand pinching, when applicable, is preferred to avoid brown tips
- Pruning w/sharp tools is also used - brown tips may occur - requiring pulling of brown tips w/tweezers to eliminate or wait 2-3 years for new growth
- Use fingers/tweezers/shears to remove tender new shoot growth, candles
- Leave some old growth at branch ends to promote new growth
- Prune buds before growing season activity begins to restrict new growth

Pruning Dormant Trees:

- Do not severely prune deciduous, flowering, fruiting trees at beginning of dormancy period; this includes detailed pruning done in spring/fall
- It's okay to perform light, overall design shaping on dormant Bonsai
- Any pruning should always occur just above the bud (longer on maples)
- Pruning cuts should slant upwards as previously illustrated
- New, fine growth can be pinched often to control growth & shape of tree
- DO NOT fertilize pruned trees for 1 month; only water

Pruning Cut Information:

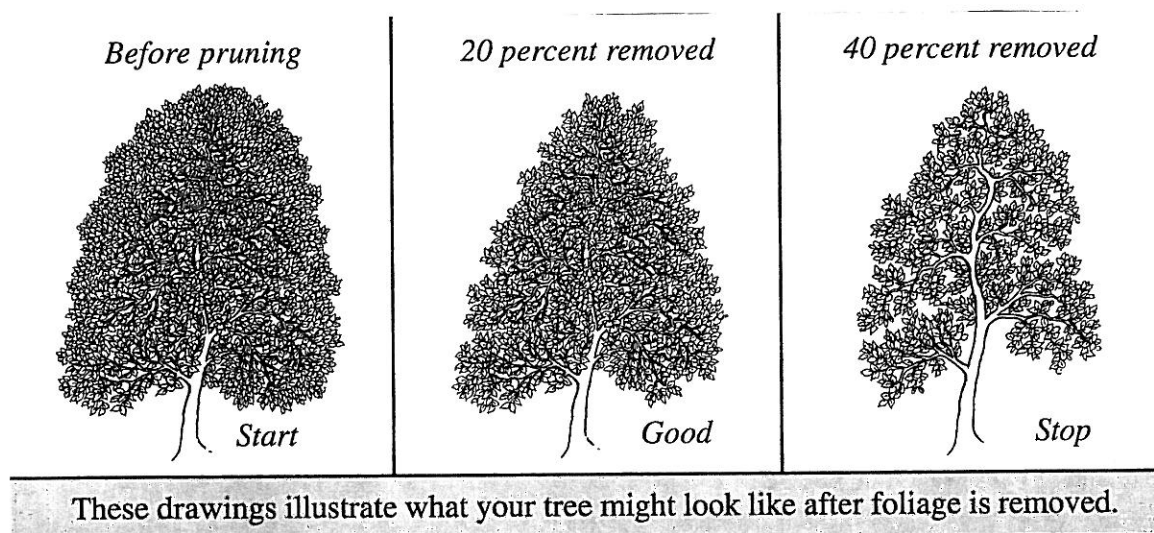
- Make concave or flush & allow to heal after first cut
- Cutting & leaving stubs for removal later, stresses tree again, requiring 2nd healing process - this is NOT recommended on Bonsai pruning
- Large pruning cuts can be sealed w/Japanese Cut Paste, Elmer's White Glue
- Sealing cuts reduce insect damage, bacteria, disease, moisture penetration
- Sealing cuts on evergreens not necessary, as their wounds secrete pitch & resins that seal over damaged areas
- When cutting an evergreen - if it does not seep pitch w/in 15 seconds, tree is weak & should not be pruned any further, until health recovers



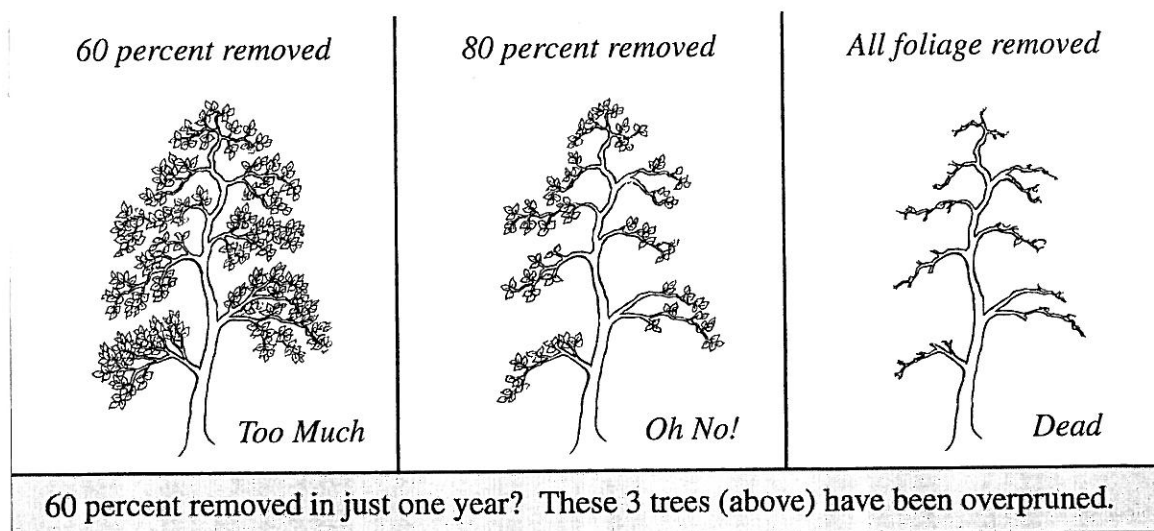
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Of Paramount Importance For The Health Your Bonsai:

- In excitement of trimming, pruning trees, there is a tendency to remove too much live plant material (especially true on initial styling of nursery stock)
- Sensei's at workshops is an example of taking off too much material initially in an effort to drive the final shape
- Putting the proper time & effort into pruning from the beginning will reward your efforts by producing the best outcome with your Bonsai styling
- Good rule of thumb is to remove no more than 30-40% in 1 year's time
- Below are examples of what different pruning percentages will look like:



44 SUKIYA LIVING MAGAZINE (JOJG)

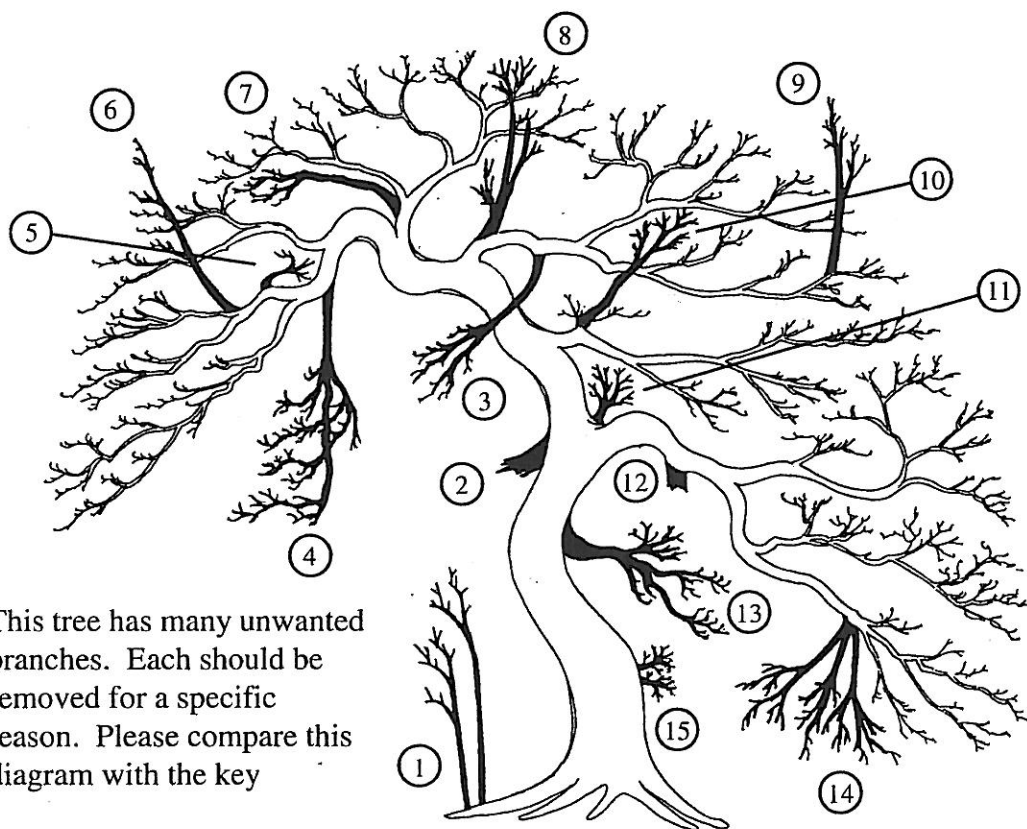


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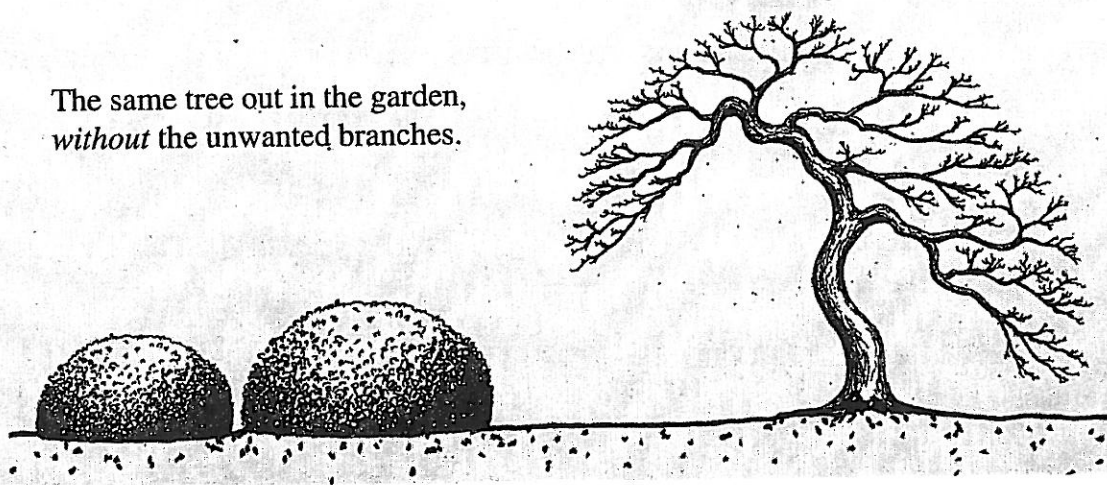
Identifying Unwanted Branches For Removal:

The information shown below & on the following page is courtesy of & as presented in the *"Sukiya Living" Magazine (formerly Journal of Japanese Gardening)* with directives towards Japanese Garden Pruning Techniques, but the principle & ideas are the same as pruning unwanted branches from Bonsai trees. We like the fact the before/after illustration shows the same tree cleaned up to present the beauty of the tree beneath - just as we demand in Bonsai trees.



This tree has many unwanted branches. Each should be removed for a specific reason. Please compare this diagram with the key

The same tree out in the garden,
without the unwanted branches.



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Identifying Unwanted Branches For Removal: (continued)

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Why We Remove the Branches Shown

1. *Suckers.*
2. *A stub.*
3. *Blocks view of the trunk. Crossing, growing inwardly.*
4. *Pointing directly downward. Awkward.*
5. *Returning back toward the center of the tree.*
6. *A crossing branch. Extends beyond the tree profile.*
7. *Parallel to the branch above it. One should be removed.*
8. *A crossing branch. Interferes with the head of the tree.*
9. *Crossing, sticking up, and extending beyond tree profile.*
10. *Crosses and rubs against the branch above.*
11. *A kind of sucker. Not wanted or needed.*
12. *A stub.*
13. *A dead branch..*
14. *A crowded branch cluster. Growing inwardly.*
15. *Water sprouts. Not wanted or needed.*

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In Conclusion on Bonsai Pruning:

- Study, learn, know your Bonsai species/type to understand how to prune them, how they react, take notes for future
- The Art of Bonsai demands proper pruning
- Read more on Pruning Bonsai in: "*Bonsai Techniques I*, by John Yoshio Naka"; "*Bonsai Ideas*, by Marty Mann"; "*Leroy's Care Schedule*, PBS"; "*Sukiya Living*", by ROTH Tei-en
- Quotes applicable to pruning from Sensei Leroy Fujii: "First keep the tree alive. Second, cut it back often"; "Develop the existing material rather than attempt to bend branches to get movement"; "Keep your tools in good repair. Clean them and respect them."

