American Bonsai Society

Bonsai in America

Written & Published by Dave Bogan

July 2014 Volume 3, Issue 7

The Bigger

is Better theory of Bonsai

By Andrew Smith

Having a theory about the way things are is the surest way I know to be wrong; at least that's my theory. The world doesn't care how we think it should be: It's just it's own perfect and ugly self, whether we like it or not.

My first theories about bonsai involved some very arbitrary size restrictions: In my mind bonsai were small, so when I went out looking for them I only saw trees of a certain size. My theory of a bonsai tree was something with a fat, curvy trunk, between 10-24 inches tall. That was the tree I searched for. And anything else was invisible.

As time went on I learned new things that opened my eyes a bit. For one, I learned that you could put curves into a trunk that didn't already have them. For another, I learned that bonsai could be more than just short, fat trees. Some were tall and graceful. Some cascaded over the side of the pot. Some had more than one trunk. Some were whole forests. My theory of bonsai had to expand. Now when I went out looking for trees I saw more of them, trees that had been invisible to me before.

And finally I realized that bonsai didn't have to limit itself to a certain size. I saw some perfect tiny bonsai at a show that weren't even two inches tall. I thought they were fakes, but they were not. They were astounding. I saw others that were massive and nearly as tall as I am. They were astounding too. They made me realize that bonsai is more an art of proportion than of size. And that made me realize that there were really no limits to what could be used as a bonsai. The only limits were the ones the bonsai artists put on themselves.

I still clearly remember the first large tree I collected for bonsai. It was an old juniper with a trunk 7 or 8 inches in diameter and a height of maybe 30 inches. I was so impressed by that tree! I had seen a lot of trees of this size but had never tried to collect one because they didn't fit my theory of bonsai –they were too big to even consider. But after I collected this old juniper I revised my theory of how big a bonsai could be.

And that's where I went wrong, I think. Bigger is better with hammers and paychecks, but bonsai is an art of proportion, not of size.

But that old juniper had character, a real, ancient, mountain character; and it had a presence that just grabbed your attention. I was awestruck by it. I immediately changed my scale and began searching for and collecting larger and larger trees for bonsai. My partner and I outdid each other in finding enormous old stunted trees we couldn't possibly lift on inaccessible mountain ledges and then figuring out how to lift them and carry them out of there. It was exciting and exhilarating, and extremely difficult, and probably downright foolish. But we did it.

Now, years later, I try and force myself to leave those giants of the mountain right where I found them rather than bringing them home. It's not that they won't make a beautiful and impressive bonsai –they certainly will. And, because of their more developed root systems, larger trees usually have a very high transplant survival rate. And they have a presence that does not require subtlety to grasp.

But bonsai is an art of proportion, and one of the ingredients in that mix is human. I want to be able to move and manage my bonsai by myself as much as possible, and really big bonsai are just out of my scale. I don't have a forklift to move them. And I don't have the time to sift and mix a bathtub full of soil for just one tree. So I make myself stick to trees that are in proportion to me, so I can take care of them properly. My theory is that a bonsai should be something I can lift.

Except, except, except…well, occasionally my theories don't keep up with reality. I do have some really huge trees in pots, though I can't remember how or why they got there. But since they got there somehow, I might as well enjoy them.

I recently started shaping a big old ponderosa pine that I

carried out of the woods a couple years ago. I had gone out looking for very small specimens when I stumbled across this one. It was probably 12 feet tall, but the base of the trunk was intriguing and it had several low branches. It did not appear to have a good root system for transplanting though, so I left it alone.

But, for whatever reason, I couldn't quit thinking about it. And it was in an area that was marked for logging, so I knew it would not be there too much longer. I decided it wasn't really a foolishly large bonsai; it was a tree rescue mission.

So I stuck a tag on the tree, lopped the top, and carried it out of there. When I got home I built a box big enough to fish from and spent the rest of the day mixing soil and potting it. Surprisingly enough, it seemed to like it's new home and started to grow. And there it has sat, huge and awkward as a wart, ever since. There is no chance I'll ever be able to move it.

I had hoped to repot it this spring. And I do actually have a couple bonsai pots big enough to hold it, but the season got ahead of me. So I started shaping it instead, bending branches the diameter my wrist to bring the foliage in closer to the trunk.

And suddenly, it's starting to look like a bonsai, a really big bonsai! I can't wait till next year when I can put it in the pot I have for it, the one that weighs 96 pounds when it's bone dry and empty. Then it will really be a humongous bonsai tree and I'll need a team of Clydesdales to move it. And I always wanted some Clydesdales. So I'm excited about it.

Now I just need to tweak my theory of bonsai a little bit to fit the tree.

The Next Step—

Advanced Tips & Techniques

By Bjorn Bjorholm

Japanese Black Pine Culture

One of the most popular trees for use in bonsai culture is the Japanese Black Pine (Pinus thunbergii). It also happens to be considered one of the most difficult species to master, though I would argue this is not necessarily the case. Over the years, there have been innumerable articles and books on the subject, but many of them contain contradicting or incomplete information. More recently, a handful of videos online and several articles from professionally trained bonsai artists have been produced, which has helped in consolidating information regarding Japanese Black Pine care and culture. I would like to add to this growing body of practice-based information by giving a brief overview of summer maintenance techniques for the species.

First and foremost, regardless of the plant species we happen to be working with, it's necessary to identify the natural location in which a given species is found. This can help provide us with a basic understanding of the environmental factors that led to the evolution of a particular species and if we can somehow artificially recreate those stimuli in a controlled environment to aid in the development of a plant as a bonsai. For example, with Japanese Black Pines, we know that they are coastal trees in Japan and we also know that typhoons blow through the Japanese archipelago on a yearly basis. The winds from these storms regularly strip the new candle growth off of Pinus thunbergii growing along the coastlines. This natural selective pressure has produced a species that, in order to survive, naturally forces a second flush of candle growth in a single growing season. Knowing this, we can artificially recreate this same effect in bonsai culture to expedite ramification and development.

There are a few techniques for candle pruning. The first one involves cutting ALL of the candles at once – weak, medium, and strong candles. The thought process here is that by cutting all candles, the cuts will activate tissue growth even in weak areas. Make sure to cut the candles completely back to the base (back to last year's growth, leaving no stub). I think this technique is great for larger material and for trees that are in extremely good health. With smaller material and those that

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have seriously unbalanced growth strength, though, I would suggest doing the following, slightly different technique.

This second technique involves identifying the weak, medium, and strong candles. Leave the weakest candles alone, cut the medium strength candles first, and wait 10-14 days to cut off the strongest candles. Leaving the weak ones will provide them an opportunity to strengthen, while cutting the medium strength buds first will allow them a two-week head start in producing secondary bud growth, and cutting the largest ones last will delay the production of new buds. In this way, we can control the energy balance of the plant.

The third technique for candle pruning is similar to the last technique. First, leave the weakest candles alone, cut the medium strength candles back to the base, and cut the strongest ones back, leaving a 1-2 millimeter stub (i.e. cut the medium and strong candles at the same time). Leaving a small stub on the stronger candles will, in theory, create a delayed effect, as it will take 10-14 days for the stub to decay, after which new candles will be produced. In any case, each technique is designed to aid in balancing strength and energy on the plant and create smaller needles and better ramification.

Depending on one's geographic location and the climate found therein, the timing for candle pruning will differ slightly. For example, in Osaka, Japan we begin the decandling process in mid-June, starting with larger trees and working down to smaller bonsai later in the month. However, in Tennessee, we typically decandle earlier, perhaps starting on the last weekend of May. As a general rule of thumb, the later one cuts candles in the season, the smaller the needles will be on the second flush of growth. It's less about how much time one allows the first flush to grow and more about how much time is left in the growing season after cutting the candles.

Lastly, it is also possible to needle pluck at the same time as candle pruning. As a general rule of thumb, in weak areas leave as many needles as possible. In medium strength areas leave 10-12 pairs of needles, and in strong areas leave 6-8 pairs of needles. It's good to try to leave a somewhat radial pattern of needles around the bud; however, it's also good to focus on removing needles between buds and those hanging down beneath buds, as this helps create a clean, more refined look to the tree. It's also possible to wire Pinus thunbergii just after candle pruning and needle plucking. Lastly, make sure to remove fertilizer cakes after candle pruning, and wait to reapply the fertilizer until after the secondary growth has hardened off, typically by September or October.

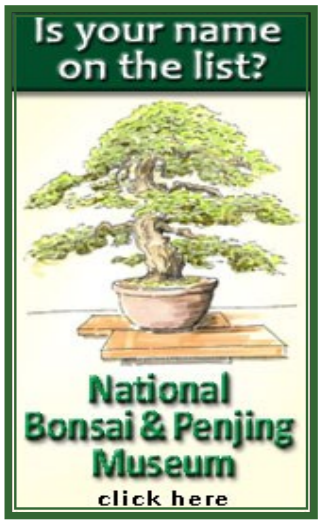
For more information on this subject, please visit

Bjorvala Bonsai Studio **on youtube and watch Episode #7.**

Understanding Watering and its affect on our Trees

We all know or we have been told, watering is probably the most confusing, misunderstood and hardest technique to master in the continuing art of bonsai. After 30 years, I'm still learning. A huge part of watering is to understand a trees needs and how water affects its growth. Of course the area that is most affected initially is the root system. As part of this, we must understand how and when to water. Let's start as summer and very hot weather approaches. Everyone should take a closer look at how, when and why they water. During a normal 90 degree or above hot sunny day, our trees can and probably will suffer if we don't take a few precautions. Soil and pot temperatures can potentially rise close to 100 degrees or even higher. It is also during this time that we must pay very close attention to our watering habits. In this case, it's not as simple as water water water. Keeping your tree's soil too wet during the hot period (or for that matter, anytime) can also have its bad affects. During the hot summer our trees use a lot less moisture due to their semi dormancy and with slowed growth, having continually wet clogged soil can increase chances of disease and actually increase soil temperatures. Briefly, I again feel the need to discuss over watering. Everyone and especially new practitioners hear so many bad tales of trees dyeing from root rot resulting from overwatering. Actually this is a rare occurrence if you practice good soil management.

The key here is to review just what overwatering is or what causes it. Overwatering doesn't simply mean a lot of water, it mean how much water is retained in the soil. If your soil contains a lot of moisture retentive ingredients such as organic materials like bark or small and fine articles, it will naturally hold more water and do so for longer periods of time. This also would be the case if we potted our trees in "potting soil". Normally in Bonsai we create or buy a soil mix that contains ingredients that retain water but the secret here is how they retain water. A very good bonsai soil should always be open (have air spaces) and made up of particles generally larger than



1/4". Additionally, the type of particles you use will very greatly. The key to the type of particle used is how it retains water. Most volcanic or man made expanded soils such as pumas, lava or haydite will retain moisture and just as importantly, air within its microscopic holes and crevasses. Clay type soils (unbaked) like akadama will absorb the moisture and retain it within its structure. Both of these types of soil of course, hold moisture but they do not seem wet or have a lot of moisture on their surface. They slowly release their moisture as needed. Organic soils such as bark also hold lots moisture but, their huge problem is they continually and quickly break down over time which clogs the soil and stops the airflow and good drainage.. Some will use different types of particles but in the end if you use a large particle mix and one that does not contain organic particles, you can almost never over water.

Large particle sized soil mixes actually help in cooling down a root system. The air in the pockets actually act as a sort of air-conditioning system. As we water, a very large portion of the water actually drains out the drain holes in the bottom of the pot cooling the soil as it passes. As this water flushed through the soil, it pushes out stale warm air and brings in fresh cool air that is retained in the openings between the particles. All of this contributes to a cooling effect during the hot weather. Soils that stay continually wet and not draining properly will actually cause soil temperature to rise and not dissipate even after being watered. In addition to the cooling, plants must have this air in order to take in nutrients. Clogged soil drastically affects a trees growth and health by not allowing the roots to do their job.

Once the root system starts shutting down from waterlogged soil the problem will actually increase. You will of course notice this in the trees health and vigor but again in the soil. Inactive plants do not use water so the water will remain longer in the soil. Again, compounding the problems creating a downward spiral ending in death.

Root damage or root rot usually only occurs with plants that set in consistently wet, clogged and warm soil. Again, non draining soil having a tendency to stay warmer and of course can increase the chances of diseases and fungus. In many cases, you can even smell the sour soil. If you notice an unusual odor while watering, you need to inspect the soil and watch not only how it drains but how long it stays wet. Since roots normally do not like to set in constantly wet or soggy soil, they will over time start shutting down and eventually dyeing off. Dead and decaying roots will than create the perfect atmosphere for root destroying bacteria and fungus to start and thus we now have full blown root rot.

The frequency and timing of when we water can also have an affect. During the hot season, water as early as you can. We water typically around 10:00 a.m.. At this time we make sure we saturate all the soil and we also spray all the foliage. Later as dictated by the weather, we will water again in late afternoon. Generally, especially with pines, try not to water foliage at night as it may not dry and could cause a fungus on the foliage. Additionally, many will think just because it rained today, we don't need to water. My rule is if I have at minimum, 1/2" of rain than I check the trees. Just because it rained doesn't mean the soil was properly saturated. In a hard pouring rain, much of it will run off at the trees drip line and not penetrate the soil properly.

How you water is just as important. We always water every tree twice. Once to wet the surface soil or moss and then come back a few minutes later and water deeply ensuring we have saturated the entire soil area, visually watching the water soaking into the soil surface in all areas and then, running out of all the drain holes of the pot.

We all know watering can wash and dislodge the soil. If soil is dislodge or even moved, it can slow, stop or prevent the growth of fine roots in the upper areas of soil. So, always water with a low pressure fine stream and try not to dislodge the soil or top dressing. Always have a shut off next to your nozzle so you can regulate the flow for every individual tree. We also water the foliage. For the foliage, we use a slightly higher pressure or stronger spray based on what the trees foliage will stand. Here again having a shut off valve by your nozzles helps a lot. Spraying the foliage helps with moisture levels but also flushes out any dead foliage, pests and dust. All of which will affect how a plant lives and grows. Some will say it's all in the type of nozzle you use. Some use and swear by masakuni nozzles which are great but any spray nozzle will do if you regulate the flow. When shopping for a nozzle, yes try to get a fine spray but more importantly make sure you have a water shut off at the nozzle. Additionally, you need to occasionally clean your nozzle. Most all bonsai type spray nozzles have removable screens. Remove these and clean out the mineral deposits and sediment. Additionally, hold the screen up to the light to insure all the fine holes are open.

Another point to consider during the hot summer. Make sure you run your water from a hose for a while until it cools off. If setting in a hose, the water will heat up considerably. You and your tree want cool water which will help cool off the hot soil and add additional air conditioning to the soil. During periods of very intense heat and sun, it is advisable to lay a towel over the soil trying to maintain a 1" or so

gap. Lowering the soil temperature during these times is very important. Again, if roots start dying, you can and probably will incur additional problems.

Try to understand and learn each trees needs. Watch as the water penetrates the soil on each and every tree. Some trees naturally like to have dryer soil or less frequent watering's. Smaller trees in small pots will need more frequent watering. Trees that seem root bound may need the occasional soaking in a tray of water to insure full saturation. Trees during rapid growth periods will need more while dormant or sick trees will need much less. Some trees will actually go semi dormant during the hot summer while others like some tropicals will thrive in summer. Remember, water is a growth enhancer and with some trees during certain periods, you need to moderate the growth.

As you can see, understanding water and our trees is somewhat common sense but also complicated when it comer to understanding each and every trees needs and how water can affect its growth.

When you push, you need to know you might lose

Probably the most important thing I have learned in my 30 years of Bonsai is to take my time , have patience and allow my trees to stay healthy. Through the years, I have experimented with numerous techniques to force my trees to do things that were simply not natural. I admit, I was impatient and wanted beautiful bonsai quickly. In my early years, I unfortunately mistreated my trees. I tried the super feeding, potted trees "up" into larger containers to hopefully encourage faster growth, tried multiple leaf pruning in one year, repotted or hard pruned in the "off" season, tried several different types of soil mixes, and worked on trees that were not at their full strength. In the early years, I even tried to mix my soil to hold more moisture to save me on watering. You name it and I have probably tried it. I will admit, I did learn from many of these experiments but in most cases, my trees suffered and I lost several. Finally about 14 years ago, I finally listened to my trees and started taking my time and allowing my trees to progress more naturally. I also learned that in most cases, when I lost a tree, lost a branch or had weak trees, trees that didn't live through winter it could also certainly be traced back to me. Whether it was pushing too hard , not watching my trees closely or simply being impatient it was the reason for the problem. As with most things bonsai, we finally begin to listen to our trees and I hate to say it, become more patient with our trees. Those that truly care about their trees and the true science of bonsai will eventually come to the realization that great bonsai take time

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During this year and early spring, I have heard from a lot of people that either lost trees or now have trees that are struggling. Much of this comes from a previous extremely hot dry summer that brought a winter with extreme temperatures and weather. Trees that suffer in summer, will enter fall and winter in a weakened state. Add a hard winter and you now have dead trees. So, watch your trees this summer and insure they stay healthy and strong. Try not to stress them and keep them healthy.

At this time of year, I avoid giving trees any nitrogen. With plants becoming semi dormant during the heat of summer, very little nitrogen is needed or used by the plant since top or foliage growth is at a minimum. I do though continue with organic type fertilizers and add in micro nutrients. Even though many trees are inactive, we must continue to supply them with nutrients. Keep in mind, as we water daily, most nutrients do not stay in the soil very long. This time of year I use a lot of fertilizer cakes that are slow release maintaining a good nutrient balance at all times. The main objective is to give the plant any nourishment it might need but at a slower rate.

Now that its hot, water your foliage every time you water. A higher pressure stream will keep the foliage clean and additionally keep most insects like mites at bay.

Prairie State Bonsai Society Show

Show dates: Aug. 2-3, 2014

Location: **Morton Arboretum, Lisle, Il**

Hours: 10am-4pm both days
Events: Member's bonsai tree display, workshops, demos, vendors
Masters: Walter Pall, Germany, Jim Doyle, Nature's Way Nursery, Pennsylvania, Brian Ciskowski, Cass Bonsai, Illinois

Info: www.prairiestatebonsai.com
Contact: snipologist86@gmail.com