Fort Wayne Bonsai Club Newsletter

http://home.earthlink.net/~centaura/bindex.html
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October Bonsai Club Meeting Fall Show

The next meeting will be Saturday, October 20th. It is our fall show. We will be setting up at the conservatory at 9:00 am. The show opens at 10:00 am. We will have a brief meeting in an adjoining room at 10:30am. There will be a table of items for sale so if you have items for sale feel free to bring them. The club will keep 10% of the proceeds. **If you are bringing any new trees to the show that we may not have a label for please email me a list of those trees.** If you are not bringing trees to the show we would appreciate you coming to help set up and to participate in the meeting. The show will end at 4:00 pm so you must pick up your trees then.

Our house remodeling is coming along slowly. I will give further reports at the show. It was a struggle to get all tropicals in this past week and some are still in the garage. I will have things for sale.

Last months trip to Gee Farms was only attended by Jerry and I , Kathy Lee, Cat Nelson and her guest Jim Fairchild, President of the Midwest Bonsai Society. We got some great buys and came home with 2 very full vehicles of plants.

You all have an assignment. Come to this meeting with ideas for meetings that you will attend. If you can't make it to the meeting call me with your ideas or email them to me. I plant to work on next years schedule. Also tell me if you would prefer to meet in August. Originally we did not meet in August because it was vacation month but now vacations can be any month. Would we be better off meeting in August and having a mini beginners workshop or something like that? Or a discussion about summer care of your bonsais? Let me know.

See you Saturday!!

This is a long newsletter but I found all these great articles this month and didn't want to leave anything out!!

MABA NEWS

Anyone who hasn't yet done so, I urge you to check out the website for the MABA convention in Indianapolis next June: < www.maba2008.org>. It's still being filled out, but you can learn a lot about the featured artists. And while you're browsing, check out the MABA website at <http://mababonsai.org >. Click the "Articles" link to find some interesting reading, including a knowledgeable article on mugo pine by Vance Wood of Michigan.

Steve Moore, MABA representative

Kathy's Korner

By the time you are reading this, I hope you have selected the plants that you are taking to the show on October 20th at the Conservatory. I'm not going to rewrite all of the tips that were sent in the May newsletter, but I do hope that you will remember that our show represents to the public how we feel about our favorite hobby.

The weather has been so crazy. I've appreciated being able to leave my tender things outside for a longer period of time, because they don't suffer the ravages of scale and mealy bugs outside like they do inside. But, on the other hand, my deciduous trees aren't changing color as they often times do by this time.

A few of us went to Gee Farms last month. I went with the idea that I would buy one tree. I came home with 5. One of them is for Bruce, but gee whiz. What am I going to do with the others? I've got to get control of myself!

Last month I also visited the Chicago Botanic Gardens. Cat Nelson and I were there the same day, but only knew of each other's presence through other members of the Garden Club that I was traveling with. The Chicago Botanic Garden has a bonsai display that is to die for! I kept thinking, "how could I do something like this, but on a smaller scale?" Many of the trees were so big that it must take a machine to lift them. But they were gorgeous!

As it happened, the African Violet Society was having their show at the same time. Ann O'Connell and I were amazed at the varieties of African Violets that were on display. The other display that enraptured me was the scale model railroad garden. There were 14 model trains running through replications of many of our national parks and monuments. The trip was well worth the money!

So, all of this is to let you know that I haven't done any bonsai related reading this month. Therefore, I can't make any recommendations regarding any of our library books. What I have been reading is a book that I found at Hyde Books on Wells Street. The title is *My Weeds: A Gardener's Botany,* written by Sara B. Stein. The book is a winner of the 1989 Washington Irving Award. It is amazing! Ms. Stein does a wonderful job of describing plant function in a down to earth and simplistic manner so that even I can understand the processes. So much of what she is discussing in the guise of weed growth and survival can be applied to our understanding of tree growth and survival. And she is entertaining to boot! I've promised the book to a couple of other friends after I finish it, but if you'd like to be put on the list of interested readers, let me know.

2006 Calendar of Local or Nearby Events

October 20, 2007 9:00 am setup Bonsai Show and Club meeting at Foellinger Freimmann Botanical Conservatory
November 17, 2007 10:30 am meeting
December 15' 2007 11:30 am Christmas Luncheon Location to be determined.
January 19, 2007 10:30 am meeting with Election of officers.

The club has the following items for sale:
Wire assortments: club members $40.00, subscribers $42.00, non-members $45.00
Micromax micro-nutrients: $5.00 for members, subscribers $6.00, non-members $7.00
Bonsai soil, shopping bag of 2 scoops: $5.00 for members, subscribers $6.00, non-members $7.00
New Fertilizer blocks. ½ lb bag $2.50 for members, Subscribers $3.00, non-members $3.50 1 lb bag $5.00 for members, Subscribers $5.50, non-members $6.00

We also have bonsai slabs for forest plantings. Prices range from $25.00 to $50.00. Call Darlene or Ed regarding purchase.

All these products are great buys and priced lower than retail if they are even available in this area. Call or email Darlene or Ed if you want products brought to this meeting.

September Meeting Minutes

Fort Wayne Bonsai Club - Meeting Minutes from 9-15-07

Today's meeting was a field trip back to Gee Farms just outside Jackson, MI. Folks met up with Darlene and Jerry at their house and carpooled up into Michigan. We had an invited guest from Chicago, Jim Fairchild - the President of the Midwest Bonsai Society. It was a great chance to meet up with someone from another regional club.

Gee Farms was fabulous again. They always welcome special gardening groups with discount coupons for the day, and are very helpful with finding specific species. They have a nice selection of smaller starter stock, as well as larger landscape items that are suited for bonsai transformation. Anyone who did not come missed out on some great deals. Everyone who came brought back potential bonsai material, and in some cases species for their yards as well. Following the morning's shopping everyone enjoyed a nice lunch at a local restaurant.

Next month's meeting is our annual show, with set up starting at 9 am. I'll see everyone there with their trees for display!
Respectfully Submitted, Cat Nelson

WHAT TO DO IN OCTOBER

By Ed Hake

With all the summer weather we have been having, make sure your trees are not getting too dry. We have not had much rain lately. There is still time to prepare your winter storage area. Don't put your

trees away too early. Make sure they are dormant first. If there are any fertilizer blocks still on the pots, take them off and put into the compost pile or your soil tub. I have noticed that my pines are losing their 2 yr old needles. Clean them off. Be sure all of your tropical bonsai are inside, if not you may be surprised with a cold snap. Soon the Maples will be showing their beautiful autumn colors. Enjoy the reds, yellows, oranges, pinks, and any other colors they have because they won't last long.
Ed

The Bonsai Traveler

from Cat Nelson

Labor Day weekend brings the tradition of the State Fair to the land of Minnesota. One of the time honored traditions of the MN State Fair is the flower shows held in the Horticulture Building. Along with many other plant societies, the Minnesota Bonsai Society holds their biggest show of the year during the Fair. A small show as regional shows go, with no vendors, but it was still a very interesting event.

There was a lot of emphasis in their show on more traditional three point displays, harkening to the Japanese tradition of representing Earth, Heaven and Man. Several members had small scrolls on display with their trees, and others used both an accent plant and an accent stone in combination. The Society was experimenting with some new screens they had purchased, making a line along one wall of miniature tokanoma.

While there was a lot of tradition being displayed in their show, there was also a refreshing amount of nontraditional bonsai - often called 'American Bonsai'. One tree that impresses me every time I see it is the literati catalpa. If you ever need an example of how any tree, no matter what the leaf size, can be used as a bonsai - this tree is it. The amount of leaf reduction that the gentleman gets with his catalpa is nothing short of amazing - going from dinner plate sized leaves down to leaves about 2 to 3 inches wide.

Another very interesting combination was the antler used as an accent. I had a nice discussion with a club member up there whether the antler was a moss accent plant with an antler on top, or whether the antler itself was a type of suiseki. While a very non-traditional accent, artistically it went very well with the tall, heavily shari-ed pine that it was paired with. The combo of bleached wood and bleached antler told a compelling story about life, death and rebirth in the north woods.

Two other species that caught my attention at this show was a gigantic erodium and several interesting ivies. Erodiums are tiny relatives of the common geranium, with leaves that are typically about 1/4" wide, and trunks no thicker than pencils. This erodium, brought by a gentleman who lives in Duluth if I have it right, is the oldest, largest erodium that I have seen. It had a gnarled root base probably two inches across, and a well developed canopy. It was part of a shohin display of excellent trees There were several ivy bonsai, which are also interesting as it is very difficult to get trunk thickness on ivies - as they are more interested in vining than thickening.

Other notable trees present were a forest by John Naka and a very impressive Greek Myrtle styled by Kathy Shaner.

Antler Accent

Giant Erodium


John Naka Forest


Catalpa Literati

Minnesota State Fair Bonsai Display


Large Ivy

Japanese Tokonama

Mame Display

PENJING - George Buehler

Reprinted from BONSAI NEWS From the Greater Louisville Bonsai Society

Several years ago, I took a workshop on a Chinese elm penjing. When I left with my composition, I was pleasedwith the design. Unfortunately, as often occurs in bonsai, several of the trees in the composition died. Perhaps it was due to over watering, since I readily admit that I had difficulty in determining when and how much water the composition needed. Of course as we all know, any ofa multitude of other reasons could have caused the problem. I tried to replace the trees that died, but the composition never looked the same to me. I couldn't explain it, it just didn't look correct. Perhaps thereplacement trees were too big, or not correctly positioned. I just didn't know. I started reading (studying) the book *Making Bonsai Landscapes – The Art ofSaikei1,* and I realized that I didn't really know the diff erences (if any) between what the Chinese call penjing and the Japanese Saikei. Perhaps the reader, when finishing this treatise, will concludeI still don't. However, what caught my eye in the Gustafson book was "*penjingrelies heavily on shape, angle, drama, and exaggeration*". When I compared the saikei pictures in his book with those of my penjing and other penjing pictures, I had to agree, the saikei was more formal- more Japanese. To compare the two forms, I then went to the old bookshelf and pulled out the Quigquan Zhao *Penjing: Worlds of Wonderment2*. In this book, Zhao discusses the history of penjing, the diff erent types, how to maintain the penjing, and the display stands used in penjing. He also shows a number of penjing compositions and how to put them together.

I decided to try my hand at creating another penjing. I had the suiban from the original penjing, lava rock from a local supplier that I thought I could use, and finally, I had a number of small Shimpaku and deciduous trees purchased from Hollander Tiny Trees. However, I needed to know how to put them together to create a pleasing composition. In gathering all this information, I thought it might make an interesting article for this newsletter. The history of bonsai that many of us believe came from Japan, actually started much earlier with the Chinese. Although not called bonsai in Chinese, the art form appears to have started in the early 600's. While the Japanese 'perfected' the dwarfing of trees, the Chinese concentrated more on perfecting the art form of constructing landscapes in a pot – called penjing. There does not appear to be a lot of differences between the two forms and while the Japanese bonsai artist develops what can technically be called penjing, it is called saikei. If you look at the Chinese and Japanese characters for bonsai (the top calligraphy) and penjing (bottom) you can see that the first character in both sets is identical. In Japanese this is pronounced "bon", while in Chinese it is pronounced pen". The second ideogram is where the difference becomes evident. "Sai" translates as plant or tree; whereas "jing" means scenery. The bonsai ideal restricts the art form to growing trees, and imposes guidelines for presentation, growing, style, color and size of the container. The Japanese concept of bonsai requires the plants be more stylized than penjing. Penjing prefers the plants to be grown in a more 'natural' form and can encompass the use of rocks and various miniatures. The thing that distinguishes the Japanese art form from the Chinese is reported to be in its spirit or intent. The Japanese practice two other art forms which

embrace the techniques of bonsai but allow greater freedom in
composition – Saikei (living landscape) and bonkei (tray landscape). That is to say, they employ the aesthetics of bonsai, but without the rigidity. Saikei creates a miniature landscape using live material, and animal, human, and architectural miniatures to complete its presentation, while bonkei uses living and non-living
material with the miniatures for its presentation. Although there is less rigidity in saikei and bonkei compositions,
many of the 'rules" of bonsai still apply (i.e. the way trees are styled, etc.). So we have four art forms that are
closely related and are sometimes difficult to distinguish. In this article, however, we are trying to concentrate on a discussion of penjing. The Chinese distinguish between
three kinds of penjing: *shumu penjing* (tree penjing), *shanshui penjing* (literally translated as mountain and water but is usually called landscape penjing) and *shuihan penjing* (water-and-land penjing). Shumu penjing (tree penjing) is subdivided into six forms: *straight trunk styles* (what we would call formal upright in the bonsai world), *Slanting trunk style.* (similar to the bonsai slanting), *curved trunk style* (similar to the bonsai informal upright), *cliff hanging style* (cascade types), *vine type* (no bonsai equivalent as far as I can tell), and *forest style* (almost the same in bonsai). It therefore appears
that for the Shumu penjing, there is little difference between the Chinese form and the Japanese bonsai [*I'm sure that scholars in these areas will take a large exception to that statement*]. Shanshui penjing is subdivided into five styles: *Single peak style*, *off center*
style, *opening and closing style, canyon or gorge style,* and *vast mountain style.* The composition is categorized as to how the land mass is styled. Shuihan penjing is usually subdivided into four general categories: type of tree material used, quantity of trees used, size of the penjing and by the type of arrangement. We will give some more details below. A more authoritative explanations of the sub classes as well as some fabulous penjing pictures, are given in Penjing*: Worlds of Wonderment* by Qingquan Zhao AESTHETICS In developing a penjing, the goal of the artist is not only to re-create a natural scene in a container, but also to capture its essence and spirit. To achieve these
goals, the artist can use trees, rocks, mosses, small grasses and water. Each needs to harmonize with the other and contribute to the design in a meaningful fashion. Therefore, each item used has to be carefully selected to ensure harmony between all facets of the design. The harmony can also take the form of opposites. For instance, the use of large and small aspects – as in using large rocks and small rocks or bright and subdued colors. These all add to the harmony in a penjing composition. Both trees and rocks should show a balance of movement. If a tree leans toward the left and then bends upward, complimentary rocks should have a similar movement. Nothing is exact, and a penjing composition shouldn't have a contrived look. However, if you look at some of the classical penjing compositions, you will notice that the 'flow' of the trees, rocks and general design all follow a similar pattern.
Many penjing compositions have a balance between emptiness and substance. By that we mean that parts of
the composition that has nothing showing – the perceived water – is balanced by an equal amount of substance (rock, soil, trees, etc.) In addition to deciding on a container and determining the tentative placement
of the composition, consideration of the tree species, number of trees to be used, their sizes, trunk angles and density of their foliage mass has to be evaluated. Each and every element in the design needs to relate to all the others so that the entire landscape appears a complete
entity. Apart from being beautiful, an outstanding penjing must look entirely natural. COMPONENTS- The container should be light colored and very shallow. The Japanese call them suiban, while the Chinese call them
shuipen. They can be made of ceramic material or natural stone and normally have no drain holes. However, a regular very shallow bonsai pot with drainage holes may be used, but the drainage holes need to be covered by rocks or soil to prevent distraction. If a bonsai container is used, care must be exercised to ensure that a penjing is the result, not
a saikei. The most prevalent penjing container shape is either rectangular or oval, with the rectangular shape denoting a more masculine or stronger appearance
while the oval denotes a more delicate or feminine appearance. The length to width is typically 2:1 while a 1:1 ratio is used for a greater depth perspective. Penjing containers can be as much as five feet in length. Any tree species used for bonsai can be used for a penjing composition. In bonsai, we typically use only one tree

species. In a penjing composition, you will quite often see more than one type of tree. The determining factor is that they compliment each other – you wouldn't want to use an evergreen with a tropical. In choosing trees, the trees should have a variety of sizes and trunk calipers. One to two trees should be more mature and larger than the rest to serve as the dominant tree. If two trees are used as the parent trees, they should be placed in a fashion similar to how we place them in a bonsai setting (i.e. the largest closest to the front to exhibit depth). Rocks are more difficult to use. They are not chosen for their beauty or uniqueness, they are chosen with an eye toward their ability to contribute to the penjing design. In the *shanshui penjing* (landscape penjing), the rock or rocks are the dominant feature and should be chosen for their overall ability to draw the viewers' eye to them. However, in a *shuihan penjing* (water-and-land penjing) both the tree(s) and rock(s) should compliment each other and either can be the dominant feature. In general, most penjing artists choose rocks that display an aged or weathered look. The rocks need to be fl at on the bottom since they will be glued to the shuipen. This can be accomplished manually with a stone chisel, with a grinder equipped with a carborundum grinding wheel, or with a water cooled diamond blade cut off saw. Depending on the type of rock used and where they were obtained, several of the local decorative stone dealers will 'flatten' the stones for you at a minimal cost.

When choosing the rocks, remember that some are heavier than others . If you don't select your rocks with care, you may find that you have a great penjing planting
but can't move it due to the weight of the rocks. Mosses, if used, should be of various types and placed together to show irregularities. Likewise, grasses should be
small (dwarf types) and shouldn't distract from the overall composition. For smaller compositions, mosses can be used to represent grasses quite handily. If miniatures are used, they need to be in proportion to the other components of the composition. They should not
be garish or distracting from the overall composition – minimal is the rule here.

The use of miniatures is entirely optional. The components used in any penjing composition can vary depending on what the artist is trying to represent. The basic idea is that the entire composition needs to be complimented by the individual components.

PUTTING IT ALL TOGETHER

How the composition is designed is dependent on what the penjing artist is trying to convey. When researching
this topic, I could not fi nd any hard and fast rules for designing the penjing. The only rule I could fi nd, if you want to call it a rule, was that the components of the
composition must complement each other. We will list some generalities and construction details for the two types of penjing – land and water (shuihan), and landscape (shanshui). LAND AND WATER PENJING

The land mass is generally enclosed by a rock boundary. There are several reasons for this. The first is that it is a separation distinction between the land and water. The second is that it holds the soil in and keeps it from washing away. Generally, the land and water area are about the same size, although this is not necessary. Types of rocks used should be natural looking. You wouldn't want to use a bunch of lava rocks if you were
constructing a pastoral scene. However, if you were constructing a mountainous composition, the lava rocks could well fit in with the overall design concept. Once the rocks to be used are flattened, they are affixed to the container with silicone cement. This type cement can be obtained at local home improvement or hardware stores. It is less visible than hydraulic cement and gives a more pleasing effect. A liberal coat of cement should be applied to the bottom of the rocks and the rocks placed in the desired position. This type of cement takes about 24 hours to fully set up, and, therefore, this step should be done in advance of completing the composition. Since the penjing container usually doesn't have drainage holes, the use of tree tie downs
is recommended. The tree tie downs are secured to the container with either the silicone cement or, preferably, with hydraulic cement since it hardens within
minutes and makes a stronger bond to the container. The trees used are generally styled prior to construction of the penjing composition. Ideally, the trees have
had their tap root removed during the previous growing season and a good fibrous root system has been developed.

Unlike bonsai, the trees do not need to be placed 'slightly off center from the mid point lines', they can be placed anywhere on the composition depending on the
desired effects and the perspective the artist desires. As previously stated, if mother trees are used, they can be

placed anywhere on the composition, but perspective needs to be considered. Normal bonsai soil is used within the rock land mass. Care in sizing the soil must be exercised, since the depth of the soil can be relatively shallow. Also, a careful screening of the soil should be done because all of the dust needs to be removed prior to use. Since there are no drain holes, there will be no way to wash the dust out. For penjing, muck is not normally used to hold the tree in. However, it may be necessary to use muck to hold a particular tree in a rock crevice.

LANDSCAPE PENJING

For this type of composition, generalities are really hard to list since the composition can represent almost anything. However, it appears that in this form there is always some sort of dividing line between the two sides of the composition. It doesn't necessarily have to be centered within the composition. This can take the form of a small 'perceived' stream, a path, or a valley. In one picture of a classical penjing I found on the net, one side of the composition was a rugged hilly area, while the other side was a more undulating forest area.

The two 'sides' were divided by a small stream. It appears that almost any idea can be used. Construction details are the same as presented in shuihan penjing. Rocks can be interspersed among the land mass at the artist's discretion and can be used to represent any type of outcropping or mountain precipus. Land mass height can be limitless, depending on the overall concept of the composition – it can be shallow going down to a small stream or high representing a mountain plateau. Water feature, although not necessary, should be in proportion to the general concept. Trees used should follow the same principle as in the land and water penjing. Basic training should have been accomplished the prior growing season.

SUMMARY

As previously stated, there are no hard and fast rules to the design of a penjing. It shouldn't be as structured as a normal bonsai. You want your composition to show depth, you will want to have a dominant tree, and, ideally, you want open spaces. Therefore, you will want to plan carefully where youplace the various components. Depending on the type of penjing you are building, you are striving to have the viewers' eye go to the main component – be that a rock mountain or a particular tree. If you use two dominant features (i.e. a large tree and a large rock), placement of these features would be critical so they don't confuse the viewer.

You would probably place one closer to the viewer and the second one back further and slightly to a small off set angle to the other. That way the composition would fl ow from one to the other. There is no need to worry about the scalene triangle in a penjing planting – it is not mandatory. Next month I will show the construction of my new penjing.

(Endnotes)

1 Gustafson, H.L., Sterling Publishing Co., Inc, New York, 1999

2 Venus Communications, LLC, Atlanta, 1998

Reprinted from Milwaukee Bonsai Newsletter

Bonsai from your backyard

Privet

General Information: Privet was originally the name for the European semi-evergreen shrub Ligustrum vulgare, and later also for the more reliably evergreen Ligustrum ovalifolium (Japanese privet), used extensively for privacy hedging (hence "privet", private). The term is now used for all members of the genus Ligustrum, which includes about 40-50 species of evergreen, semi-evergreen or deciduous shrubs and small trees, native to Europe, north Africa, Asia and Australasia, with the centre of diversity in China, the Himalaya, Japan and Taiwan. They are placed in the olive family Oleaceae. The flowers are small and fragrant and borne in panicles. They have four curled-back petals and two high stamens with yellow or red anthers, between which is the low pistil; the petals and stamens fall off after the flower is fertilized, leaving the pistil in the calyx tube. Flowering starts after 330 growing degree days. The fruits, borne in clusters, are small purple to black drupes, poisonous for humans but readily eaten by many birds. In favorable growing conditions, individual shrubs may produce thousands of fruits. Ligustrum, or Privet are found in many species and cultivars with a diversity of leaf colors, leaf forms and growth habits. All are tolerant of heavy pruning. The white flowers are attractive during late spring and early summer.

Family: Oleaceae

Lighting: Part shade to full sun sun
Temperature: Zones 7 - 11.
Watering: Adequate water to keep from drying out and remaining dry.
Feeding: General purpose fertilizer.
Pruning and wiring: Branching can be

Repotting: The tree needs annual repotting.

Not particular about the type of soil, however it should be well drained.
Pests and diseases: Aphids, scale, white fly and spider mites. Diseases include leaf spot and root rot.

From the Society of Greater St. Louis Newsletter

Urban Collecting

Many good books and articles have been written on the subject of creating bonsai from garden stock. Each in their own way presents some well thought out guidelines for selecting future bonsai.

1. *Examine the plant carefully (both in and out of the pot) for good strong roots. Developing good nebari (strong surface roots) is one of the most difficult features to produce in bonsai so if they already exist in a plant the time saved is a tremendous asset.*
2. *Look for taper. Taper is another feature of quality bonsai that takes time to develop so any evidence of existing taper should be considered a positive.*
3. *Look for unique design elements--a strong "first branch", a twisting or curved trunk, an interesting bend, a hollow trunk, etc. Each of these attributes could lend a distinct character to your future bonsai.*

While the list above provides good information, there is one key element that I feel is lacking. The right time to look for "future bonsai". In opinion, the time for collecting bonsai, whether you're looking for unique specimens in the wild or procuring/collecting garden stock is always the fall.

Fall marks the end of the growing season, which, for many, is a sad time. Fortunately, however, for bonsai folk it is the start of the urban collecting *season. In the fall of every year all the neglected garden stock at* Loew's, Home Depot*, and your favorite garden supply shop, sadly sit awaiting their date with the dumpster. Perfectly good, plants; mugo pine, azalea, Alberta spruce, and many others are removed from display benches to make room for next year's stock.*

The amazing thing about this "picked over" plant material is why it was not purchased. All of it was shipped in and displayed in the hope that someone would purchase it as an ornamental shrub or plant. Basically, a plant that exhibits none of the attributes or features previously listed as positives for bonsai. A garden Mugo pine is normally purchased for its "clumping appearance" if it even remotely exhibits something akin to a trunk its destined to be left behind.

Urban collecting in the fall also has one other advantage, the cost. Since the most valuable commodity in any retail outlet is not the merchandise, but the space it occupies, retailers find it more to their advantage to sell castoff plant material at a reduced price than to incur the cost of a full dumpster. For example, I purchased a crabapple (Malus) tree with a 3-4 inch trunk for $5 last October. Now granted it will take a while for the cut scar to heal (I removed about 8 feet of tree) but I look at the whole process as a successful urban collecting trip. I have a very nice future bonsai for a

***total investment of $5 and a trip to* Lowes.** ***What a deal!* – R**

WIRING TREES, A SPECIAL SKILL

by Marty Mann

Bonsai basic training consists of learning to wire the branches and trunks to achieve the proper style, shape and character of each tree. As trees grow, the wiring which has been applied must be watched carefully. One of the more destructive results of careless attention is the scarring and ugly wire marks which can permanently disfigure an otherwise beautiful display. Wires must be removed as soon as any signs become apparent that the woody parts of the tree have begun to squeeze or cover the wire. Often, trees have to be rewired to continue the training process. When rewiring, do not wire in the same groove created by any previous wires.

The following basic rules apply when wire training:

- Wire the trunk first by using an appropriate size wire, firm enough to allow you to manipulate the position and the direction of this main line. The first turn of a wired branch should be very close to the trunk.

- When applying two wires in the same general area, avoid any cross-over. Carry the wiring out to the end of the branch. When cutting wire, do so at the bottom of the branch rather than the top. Wire all small branches to achieve a controlled overall affect.

- Any long wires used for two different branches may be secured by a full turn around the trunk to anchor them and prevent any twisting effect. Wire used for a single branch must also be firmly anchored by a full turn around the trunk for stability.

- Wires should be wound at a 45 angle on the branch or trunk and should be evenly spaced to prevent the slipping of the bark. Heavy wire or wire applied to thin branches may have the turns spaced further apart.

- Apply wire loosely. Tight wiring turns prevent the freedom of movement required when branch placement is desired.

- If a branch or trunk is to be twisted, wire in the direction which will tighten the wire when you twist.

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Reprinted with permission from ***DESCANSO BONSAI SOCIETY NEWSLETTER***, September 1993, p. 3.

Wiring Examples

WIRE-BARK PHYSICS:

Technical But Practical Considerations in the Aluminum vs. Copper Debate

by Les Dowdell les.dowdell@AGRIC.GOV.AB.CA

Jason Krozel wrote: *There was a post (I forget who from) about Peter Adams discrediting copper wiring in his Flowering Bonsai book. I looked up this reference, and he states that copper wire is more likely to damage the delicate bark of many flowering species, and that since it conducts heat better, will burn the tree while in the sun and will ice up in winter.*

Pseudo science rides again. Mr. Adams' premise that copper wire will burn bark on a hot sunny day tends to fall into the realm of modern (bonsai) myths. By studying the science (physics in particular) of the situation, there is no sound, logical basis upon which to support this hypothesis.

1. Solar heating during the day will gradually increase the temperatures of both the tree and the copper (or any) wire at a rate that will not cause their temperatures to be noticeably different. The copper may be a fraction of a degree warmer than the bark next to it and, considering the extreme case of thick, dark copper on white bark, possibly a difference of one full degree (Celsius of course). This does not lead to stress within the bark.
2. Due to the high thermal conductivity of copper (thermal conductivity coefficient of 4.01 watts/sq. cm./degree K) heat will be lost quickly to the air, parts of the wire in the shade, and the bark of the tree. Again, these are all very small amounts. Most of the energy redistribution will be to the air and to the slightly cooler parts of the same wire which are shaded. Only a small fraction is transferred to the bark due to the facts that 1) the bark is just about the same temperature as the wire and, 2) the bark is a good insulator and cannot conduct heat away from the wire as fast as the air and other sections of the wire. (Note: aluminum is also a good thermal conductor with a thermal conductivity coefficient of 2.37 watts/sq. cm./degree K. Compare the values of copper and aluminum with iron which has a coefficient of 0.804 watts/sq. cm./degree K.)
3. Since there are normally no sudden inputs of large amounts of energy, solar or otherwise, the copper wire is able to maintain thermal equilibrium with its surroundings by transferring the small amounts of excess heat to the air.
4. At least half the wire is in shade (on the side of the trunk/branch facing away from the sun) and most of it is usually also shaded by the leafs that form the canopy of the tree. Therefore, there is very little actual wire being heated by the sun. Consequently, any slight heat buildup on this small amount of exposed wire can be quickly and harmlessly dissipated to shaded sections of the same wires as well as the aforementioned air.

In summary:

1) the low temperature differential between the wire and the tree,
2) the slow rate of temperature increase due to normal daytime warming,
3) the rapid loss of excess heat (small amounts) due to excellent thermal conductivity lead to the conclusion that solar heating of wire on a bonsai will not lead to heat damage of the bark in contact with the wire. For cold weather, the same properties of small temperature differences and good conductivity will negate the possibility of freezing damage due to the presence of the wire.

If Mr. Adams would like to protect the "delicate bark" of his trees, he might consider wrapping soft paper around the wire before applying it to the bonsai. This traditional technique will prevent mechanical (as opposed to thermal) damage to the bark from the friction of the wire rubbing against the bark as it is applied to the tree.

Best wishes in bonsai (and bonsai science)

Les Dowdell

Somewhere in Alberta (Zone 3)

ADDENDUM:

Les Dowdell wrote: *Pseudo science rides again. Mr. Adams' premise that copper wire will burn bark on a hot sunny day tends to fall into the realm of modern (bonsai) myths. By studying the science (physics in particular)*

of the situation, there is no sound, logical basis upon which to support Mr. Adams' hypothesis.

I read this post, and, while appreciative of the exact nature of the information, the references to Peter Adams' beliefs left me feeling a little uneasy. I read that reference immediately following reading the post that referred to it, but replied a couple of days later, giving the gist of what I thought I had read. Going back to the book, I have found that Mr. Adams does not, in fact, specifically say that Cu wire heats enough to burn the bark. Please allow me to quote him directly, now that I have the text in front of me:

The metal used is aluminium or copper. Anodized aluminium wire made for bonsai is soft and gentle to the tree. Copper hardens and conducts temperature rather too well, heating up in the summer and icing up in the frost. Aluminium is the wire to use for flowering plants, most of which have sensitive bark.

I had no intention of misquoting Mr. Adams, and the bark burning was an inference I made over the course of a couple of busy days. Just wanted to set the record straight. However, all other info in Les' excellent post is relevant to the icing and heating up, but I still think I'm not worthy to pinch Peter Adams' trees. He has written a lot of informative and accurate educational material.

Jason Krozel jkrozel@eecs.uic.edu USDA Zone 5
University of Illinois at Chicago, Dept of EECS

Reiner Goebel wrote: *In a somewhat similar vein, Colin Lewis, during his demo here in Toronto, suggested that aluminum wire will cut in more slowly than copper wire because it requires a heavier gauge, which means that more of the wire touches the wired surface.*

*It **sounds** OK, but is it?*

Reiner,

The short answer is "No". The long answer comes to the same conclusion but with some reasoning behind it.

One reason that copper wire appears to cause more damage than a larger diameter aluminum wire is because of the visual aspect of the wound. With identical depths of penetration of the two wires, the edges of the wounds give different impressions, both physically and psychologically. The angle that the inner edge of the depression makes with the adjacent bark surface is steeper with the narrower wire. The exact relationship is:

angle = arccos(1-(x/R)) where x is the depth of the wire penetration and R is the radius of the wire.

Therefore, if both wires have become imbedded to a depth that equals the radius of the copper wire, the edge of the copper wire wound will be at 90° to the surface while the aluminum wire wound will be at 60° (assuming the aluminum has twice the thickness of the copper). The smaller edge angle is interpreted by most people as indicating a less severe entry into the bark despite the fact that the depth is identical in both cases.

Thus Alan Walker wrote: *The narrower gauge might be a little more likely to actually lacerate the bark (similar to pressure from a butter knife compared to a razor with the same pressure), but it seems to me that the larger diameter wire would cut in at the same rate as the smaller diameter provided that all other variables are equal, such as the tightness of the wire. The difference is that the wider wire will have a wider indentation which might be more easily disguised later than a narrow indentation.*

When wire is initially applied, there is some slack or looseness in the wire. As the tree grows and the branches thicken, the slack is gradually taken up until the wire can no longer avoid being in contact with the bark. The length of time required for this to happen depends on how tightly it was put on initially. After this point the wire, no matter what its thickness will become imbedded in the branch. Thus, if the branch radius increases by 1 mm, the wire will become imbedded 1 mm in the bark. Thus, all wires, whether thin copper or thicker aluminum, will indent the bark to the same depth. As the last sentence of the above quote from Alan Walker states, the difference is the width of the indentation. The width is a function of the wire radius and is:

width = 2 X sqrt(x(2R-x)) with x and R defined the same as above. 'sqrt' means square root.

The next point to consider when compared the damage caused by wires of differing thicknesses arises from this difference

in width of the wire indentations. The amount of damage to the cambium layer is a function of the depth of the indentation AS WELL AS the width of the indentation. Thus the wider indentation of the aluminum wire will affect (damage) more tissue within and under the bark. Consequently, the bigger injuries due to aluminum will take longer to heal.

In reference to Reiner's initial question Walter Pall wrote: *Yes, I think that's right. Anyway it is my experience. This is a good reason not to wire deciduous trees with copper wire!*

Sorry, Walter, but it is actually the aluminum wire that will cause greater damage to the tree and, therefore, it is safer to use copper wire. Although the copper wire may appear visually to cause a more severe wound, in fact the thicker aluminum wire will damage a larger area when it is left on too long.

To close, I will leave the last word to Alan Walker: *The key, I believe, is to practice your wiring skills, so that you wire tight enough to bend and hold your branch in the desired position, but not so tight that bark bruising and lacerations are likely to occur before they are noticed. Also, routine inspections should prevent these sort of accidents.*

Best wishes in bonsai,
Les Dowdell
Zone 3 somewhere in Alberta

Bonsai Styles The Complete Practical Encyclopedia of Bonsai

by Ken Norman

Windswept – FUKINAGASHII

On cliff tops or mountains, trees grow in many different ways, but mostly in a windswept style caused by constant exposure to the prevailing winds coming from just one direction. Such trees will generally have a slanting trunk, with branches only on the leeward side of the trunk where the forces of nature are less harsh. Many trees in these situations have straight trunks with only the top part curved over away from the direction of the wind. Virtually any plant is suitable for creating a bonsai in the windswept style, although one with a leaning trunk would be easier if you are a beginner.

Raft – IKADABUKI

The raft or straight-line style is based upon a natural phenomenon that occurs when a tree is blown over. Although the trunk of the tree lies flat on the ground, it may survive if some of the roots remain attached and viable. Many of the branches will have been broken off when the tree hit the ground, leaving that side of the trunk in contact with the soil. Eventually, roots will emerge from here, while the remaining branches begin to grow into a vertical position. After many years, the original broken roots will have rotted away, and what remains will look like several trees growing together.