



Greater Vancouver Woodturners Guild

130th chapter of the
American Association of Woodturners



Newsletter

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Contents

President s Column	1
<i>Art Liestman</i>	
Focus on Fundamentals — Buying a Lathe..	2
<i>Bruce Campbell</i>	
April s Instant Gallery	3
<i>Art Liestman & John Flanagan (photos)</i>	
Upcoming Events.....	4
<i>Fred Baldwin — Educational Coordinator</i>	
Reducing Timber Drying Defects by Boiling	5
<i>Steven D. Russell ©</i>	
THANKS!	8
CLASSIFIEDS.....	8

President s Column

Art Liestman

The April meeting was very well attended - I think we set a new record.

For the next few months, our newsletter editor Amie Hillaby is travelling, so we will attempt to do the newsletter without her. Please bear with us!

The April meeting began with a panel discussion on Buying a Lathe. Bruce Campbell led the panel in a discussion of the many and various considerations involved in buying a lathe. Several audience members joined in and the whole discussion could have gone on for another hour.

The main speaker for the meeting was Bob Gadd from KMS Tools ably assisted by Andrew Forrest (also of KMS). Bob s focus was on new tools that are becoming available and he was

May 24, 2000 Meeting:

Focus on Fundamentals —

What Do I Do With This?

(starts at 6:30 p.m.)

Main Speaker —

Bill Smith (of the Northwest

Washington Woodturners) -

Turning a Goblet with a Barley Twist

Meeting at Canadian Legion Hall

1025 Ridgeway Ave., Coquitlam

able to answer many of our questions. Thanks Bob and Andrew!

The President s Challenge for April (actually issued by our Vice President) was to make a napkin ring or a yo-yo. Some very handsome napkin rings were produced by Colin Delory, Phil Laliberte, Andrew Forsyth, Doug Schop, Jackie Mays, and an anonymous turner (sign the form!). Most of the napkin rings had just the one hole, but Colin s was more holey than the others were. Some exceptional yo-yos were exhibited by Marco Berera (maple), Mike Dawson (spalted maple), Les Crossley (yo-yo in a box), Brian Billington (maple with inlay), Bruce Campbell (eki with moose antler inlay), and an anonymous turner (perhaps the same one?). Thanks to all for these great submissions! By the way, the VP (who has more maple burl than the P) gave away a nice blank to a randomly chosen entrant - Doug Schop.

Don t forget May s challenge - MUSHROOMS, but don t expect any big hunk of free wood from me.



Challenge entries - yo-yos and napkin rings

We have been offered a site for our summer picnic, but need a coordinator or two to organize the thing. Please give this some thought and raise your hand at the May meeting!

Meeting Food Providers — Reminder

The following people have volunteered to provide food for the May 24 meeting: Larry Stevenson, Doug Schop, Marco Berera, and Brian Billington.

Thanks, guys!

Focus on Fundamentals — Buying a Lathe

Bruce Campbell

The Focus on Fundamentals at the last meeting was Buying a Lathe. Bruce facilitated a panel discussion with the expert panel consisting of Bill Smith, Art Liestman, Steve Hansen, and Larry Stevenson. Using a topic list that I had prepared we looked at a number of things that one might consider when selecting a lathe.

Bill suggested that the first question should be "What am I going to use this lathe for?" We decided that there are three general categories of

lathe - mini lathes, "regular" lathes with ways and a tailstock, and bowl lathes.

Under mini-lathes we discussed several makes and compared them. A number of people have the Jet mini-lathe and sixteen people who attended the Bonnie Klein workshops were able to comment on the Klein Designs mini. People reported that the Jet is quiet, solid, runs very smoothly and has easy toolrest and tailstock adjustments. The Klein Designs lathe is an entire turning "system" with lots of specialty attachments. The quick speed change was an asset as well as being able to stall out the motor if you get into trouble.

We talked about motors and many of us got an eye opening from the few who know lots about this topic. Apparently it has become common for manufactures to vastly over-rate the horsepower on a motor. Larry gave us a simple formula to calculate working horsepower:

$$\text{working amps} * \text{volts} / 746 = \text{horsepower.}$$

The manufacturer quotes max amps * volts/746 but at that amperage the motor will burn out very quickly. We also learned that going to 220 volts (for those motors that can be switched) cuts the amperage in half which means the motor is not straining as hard under load. If you are planning to run a special circuit into your shop to isolate a single tool (like a tablesaw) consider running a 220 volt line. Be sure to check that the motor can be switched to 220 and be sure to use the 220 volt sockets so no one accidentally plugs a 110 tool into it. Bruce will invite Larry to give a whole Focus on Fundamentals session on this topic.

We then talked about the ability to pivot the headstock and everyone seemed to vote for this feature. This allows one to turn bigger stock but also to gain more comfortable access to the inside of bowls especially for those who are left-handed.

The issue of rotating headstocks led to the discussion of supporting the toolrest. One excellent suggestion was to support your tool rest with a pogo stick which runs from the bottom of the tool rest to the floor. This absorbs much of the pressure directly without transferring it back through the swingarm.

Everyone agrees that it is a pure pleasure to work on a lathe that has very little vibration. However, several people talked about the risks of making your lathe too stiff. Without some give tremendous forces can be generated on parts of the headstock. Horror stories of twisted or broken drive shafts and ruined bearings abounded. Perhaps the soundest advice of this topic came from Sandy who recommended that lots of time and care be taken to balance your stock before mounting it on lathe. This eliminates most of the problems in advance.

We had excellent participation on this session and you can look forward to more panel discussions in the future. Next month the topic is *What do I do with this?* Please bring any wood that you think is worth turning but are not sure of just how to attack it. We will talk about things to look for and things to avoid.

April's Instant Gallery

Art Liestman & John Flanagan (photos)

April's Instant Gallery was loaded with interesting and challenging items. Thanks to all who contributed!

Bonnie Klein's visit prompted several gallery items. Some of the items were made in her classes: tops by Bruce Campbell and Art Liestman and threaded lidded boxes by Bruce Campbell and Amie Hillaby. Marco Berera was inspired to make his own chatter tool that he brought for us to see. We also got a look at several of the items that Bonnie turned during her Friday night demonstration.

Another source of inspiration this month was the Pacific Woodworkers Guild's annual 2x4 contest. Bob Vergette brought his large segmented maple urn and Fred Baldwin showed us his three-legged table and flowerpot. Bob's and Fred's pieces were each skillfully executed from an 8 foot 2x4 as per the contest rules. Bob also brought along the steady rest that he built for turning the urn.

Bill Smith visited from the Northwest Washington Woodturners and brought along a bubinga goblet to show to whet our appetite for his presentation at the May meeting.



Bill Smith's Goblet with a Barley Twist

An interesting feature of Bill Olson's maple and cocobolo bowl was that it was joined using a double tenon with no glue! Loren Boyle made a lovely potpourri dish and Sandy Howkins exhibited an excellent maple bowl. Visitor J. Tomson showed us an elm bowl and an olive vase. Phil Laliberte displayed a set of multi-center napkin rings and a large two-toned bowl. Art Liestman brought a bowl made from grafted cherry. Rich Schmid showed a lovely candy dish with a candy treat to bribe the gallery manager. Colin Delory displayed a homemade steady rest that he uses to turn his hollow forms. John Mathers contributed 3 pieces (which I lost my notes on - sorry John), while Amie Hillaby, Keith Greffe, and Matthew Selwood brought in some very nice bowls in cherry, redwood burl,

and padouk, respectively. Bill Luck's ringed globe, and Dave Broomhead's small platter and pierced bowl represented some of the artistic work being done by our members, while Larry Stevenson's group of hollow vessels in plum reminded us that cracks can be features!



Bill Olsen's maple and cocobolo bowl



Padouk bowl by Matt Selwood

Upcoming Events

Fred Baldwin — Educational Coordinator

Guest presenters for upcoming meetings are as follows:

June 28 - Steve Hansen will discuss making your own tools - materials to use, where to buy materials, bending steel, making & mounting cutters, parting tools, hollowing tools etc. and demonstrating these tools.

September 27 - Fred Holder of the Northwest Washington Wood Turners will demonstrate his techniques on making Chinese Balls.

October 25 - Ross Pilgrim will show us how he uses a lathe to make a Watch.

November 22 - Four members will present their ideas on Turning Xmas Gifts.

That's all so far. For future meetings if you have any suggestions please give me a call at 604-224-5780 or email me at fbaldwin@direct.ca.



Dave Broomhead's carved cherry bowl



Globe by Bill Luck

Reducing Timber Drying Defects by Boiling

Steven D. Russell©

In the summer of 1999, several of my Internet woodturning friends urged me to begin a comprehensive series of timber drying tests. My goal was to reduce drying defects to the absolute minimum and to discover faster and more efficient ways to accelerate the drying process. This is the first in a series of articles profiling the results of my continuing drying tests with bowls, platters and hollow forms. This report covers "plain paper bag drying" and pieces that were "boiled, then bagged". Future articles will cover freeze drying, microwave drying, live flame drying, dry heat assisted drying, steaming, vacuum drying, solar kilns and supplemental treatments. These include alcohol immersion baths, mineral spirit immersion baths and Pentacryl immersion baths.

Boiling Experience:

I first started experimenting with boiling approximately three years ago. At the time, I had a supply of green Madrone Burr in my studio. This burr is quite unstable when it is green. Drying defects typically include severe cellular collapse, gross deformation, numerous checks and corrugation. With a supply of the burr in stock, I began to experiment with ways to reduce the drying defects by boiling. The procedure was a tremendous success. From then on, I would periodically boil timbers that were susceptible to significant drying defects. Last summer, I began a large scale-drying test with several local timbers.

Paper Bag Drying Experience:

I have been drying my rough outs in paper bags for almost two and a half years. I have become quite fond of the plain paper bag drying method. It is a significant time saver after a long day roughing out production bowls. It is quick, cheap and I have had good luck with it using a

variety of timbers. However, there are certain times when other methods will work better. It really depends on the characteristics of the piece at hand.

Test Overview:

In March of 2000, the first group of 450 bowls and platters were removed from drying production. All of these bowls and platters were dried in paper bags. Some of the roughouts were boiled for one hour and were placed into paper bags without end grain sealer. The balance was placed into the bag straight off the lathe, without end grain sealer. The species included in this analysis: Maple, Walnut, Mulberry, Sycamore, Pecan, Winged Elm, White Ash, Flowering Plum, Bodark, Sweet Gum, Black Ash, Cottonwood and a few others.

Subject Pieces:

I chose to include some marginal pieces in the test (those with branches or rims very near the pith), because I like to "push the envelope". I usually make my chainsaw cuts to clear the pith, any checks and the smallest growth rings. This leaves a bit of turning stock from the center section, so it is not wasted. However, on smaller logs there is precious little room to do this and still get a nice size bowl.

Therefore, I began experimenting with making a single cut, directly through the pith. This offered minimal waste and gave the largest possible bowl blank (unless bandsawn). However, the small growth rings next to the pith are very prone to splitting during traditional air-drying. (The small growth rings in the test pieces that were boiled, remained intact).

Immature or overgrown branches (I call them "branchlets") are another thing that has challenged me over the years. Most of the Sycamore pieces in this test came from trunks that were approximately 30"-32" in diameter. Sometimes, these immature branches will dry

intact, but most of the time they do not. They tend to shrink and loosen when they dry and at times, even fall out. Liberal doses of thin CA will help, but even CA will not save them all. (All of the boiled test pieces that contained branchlets dried successfully and remained tight in the timber.)

The Procedure:

An open pot is used for boiling, but you can also use a pressure cooker. A pressure cooker will reduce the overall boil time considerably. The problem is getting a large enough pressure cooker to hold your bowls! Whatever you decide to boil in, use a pot that you can dedicate to timber boiling. The extractives in the timber will quickly make a mess of your boiling pot and you will not want to use it for anything else. In the past, I boiled my rough outs with a full rolling boil for the entire boil cycle. I found out that this was not necessary and just wasted propane. Those Cajun cookers can really burn the fuel!

Now, I bring the pot up to a boil and place the bowls and platters into the "soup". I boil most of the items for one full hour, under a low to medium boil (not a simmer, not a full rolling boil). You must monitor the pot to insure it does not boil dry. Periodically, you will have to replace some of the water lost during the boil. You can also cover the pot with a lid to help retain heat, water and conserve fuel. The boiling water may slosh out and stain some surfaces, so take precautions to insure that you have suitable protection.

Some of the smaller items may require a weight to prevent floating. A brick or a large rock works great for this. In unusual circumstances, I will boil for two hours if the piece warrants more time. However, all of the items in this particular test were boiled for approximately one hour. When I remove the pieces from the pot, I let them air dry overnight to reduce some of the excess water and bag them the next day.

In extreme cases (like green Madrone Burr), put the items into cool water and then bring it up to a boil SLOWLY, over the course of two hours. When the water begins boiling (2 hours from the start), boil for two to three hours. When this cycle is up, (4-5 hours from the start) turn off the burner and let the piece sit in the pot until the next day. Then, remove the items from the water and air-dry them for one day before bagging. However, most timbers do not require this extra effort.

Sometimes, the design will limit the amount of pieces you can put in the boiling pot. For example, semi enclosed bowls, hollow forms or tall roughed out vases etc. However, I load as many pieces as I can fit in the pot. You can load quite a few platters into the pot, because they stack so well.

Deciding When to Boil:

Does the piece include branchlets in the sides/bottom? Is there wild grain on one side and straight grain on the other? Is the rim/bottom of the bowl near the smaller growth rings (closest to the pith)? Is the species well known for gross distortion or cellular collapse during drying? Does the species exhibit "honeycomb" degrade or severe corrugation when dried? If so, then I would suggest you augment your "plain paper bag" method (rough out placed in the bag without alteration of any kind) with a boiling cycle. Here's why...

The Results:

Of the four hundred and fifty bowls and platters included in the analysis, the largest amount of drying defects were in the plain paper bag test group. The least amount of drying defects were in the boiled, then bagged test group which had little to no drying defects (splits, fissures etc.) and exhibited significantly less gross distortion, warp, twist or other undulations in the test samples. Species with the largest amount of defects present when turned were Sycamore and

Pecan, followed by Sweet Gum. For example: Several of the Sycamore and Pecan pieces had branchlets in the sides or bottoms of the test pieces.

Of the twenty bowls in the plain paper bag test group containing these branchlets, sixteen showed splits through the branchlets. Most of the splits were limited to the diameter of the branchlet in twelve bowls. The four remaining bowls had splits that extended well past the branchlet boundaries. All of the branchlets received an initial application of thin CA glue before going in the bag.

Twenty -one bowls and five platters in the boiled, then bagged test group revealed NO splits in any of the branchlets. Gross distortion on the rims of the bowls and platters was significantly less on the boiled pieces as well. They still warped a bit, but the overall rate was significantly less than the plain paper bag tests group.

Other comparisons demonstrated similar results. Twelve Black Ash bowls contained heartwood (wild grain) and sapwood in the same piece and were boiled, then bagged. These showed significantly less gross distortion than the plain paper bag test pieces. All of the Black Ash test pieces that were boiled, then bagged had no splits. Of the ten pieces in the plain paper bag test group, two revealed minor splits.

Bowls turned with rims or tops very close to the pith also exhibited similar results. Of the forty-five bowls and twelve platters in the boiled, then bagged test group, only one bowl contained a split. Of the forty bowls and fifteen platters in the plain paper bag test group, thirty-one of the bowls and twelve of the platters exhibited numerous split defects at the rims.

Summary and Advantages of Boiling:

This testing clearly demonstrates that the addition of a boiling cycle helps to prevent or eliminate many common drying defects. For me, I plan to boil, then bag much more often! I will reserve the plain paper bag method for pieces whose grain character and overall defects are within the demonstrated success profile. Other pieces that exhibit various defects or possible grain/growth ring compromises will get a "hot water bath".

I have also found that boiled timber dries up to twenty-five percent faster than non-boiled timber. Another advantage comes when you sand the piece. Species that tend to clog the sandpaper when traditionally air-dried, offer little to no clogging when they are boiled. In addition, most unwanted guests are eliminated in the boil cycle. This is especially important if you dry your bowls inside your home and you want to stay out of divorce court!

It is clear that boiling does have benefits for marginal, as well as sound pieces. It is my guess that the boiling process relieves or relaxes much of the internal stresses. The area around the branchlets on dry (boiled) pieces was very tight and showed no separation from the surrounding timber. I believe that the combination of the heat and hot water loosens the lignin bond between the cell walls. The internal stresses then relax a bit while boiling and when the piece cools, the lignin bond "cures" (for lack of a better word) in the new relaxed state. Wild grain and other defect prone areas are therefore, brought under control.

Most of the platters in this test were crotch pieces and the feathers on the boiled pieces were tight and free of checks. By contrast, the plain paper bagged pieces did contain some minor checking in the crotch feather areas. Even very thin platters (3/8" thick) showed very little rim movement in the boiled samples. By contrast,

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the non-boiled group had some pieces that looked like a potato chip!

Final Thoughts:

Some turners say that the reason they do not like to boil is the inherent color loss. In my experience, the outer 1/16" or so WILL lose color, but below that, the color is unaffected. I have carefully compared the color in air dried and boiled pieces many times. In my opinion, there is no detectable difference between color, shading or tone values in boiled timber and that of traditionally air-dried timber. If your rough out is only 1/8" or less in thickness, you have a valid point.

However, on a 12" bowl with a wall thickness of one inch, the point is mute in my opinion. Obviously, nothing works in every situation, with every timber. I would encourage you to try boiling some of your problem bowls and platters before bagging them. The process is easy and relatively quick and offers amazing results. If you have any questions, please do not hesitate to

contact me via e-mail at benzer@flash.net. Best wishes in all of your turning endeavors.

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 Windsor Plywood (Langley) 530-7355

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Craftsman Wood Lathe complete with stand, motor, 4" face plate, 12" and 4" tool rests and bowl turning tool rest. \$175. Ted Wiltshire — 522-6174.

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