



VOLUME SIX—ISSUE EIGHT

MAY, 2005

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NEXT MEETING

May 25, 2005

Sapperton Pensioners' Hall
318 Keary St., New Westminster.
Meeting starts at 6.30

The Burl Guy:

Sheldon will be in the parking lot from 5:30 to 6:30 selling burls. He gets a variety of species from loggers on Vancouver Island.

Marketing Your Work:

Laura Fresan from the Wood Co-op will discuss how to sell your wares.

Vacuum Chucking:

Larry Stevenson will demonstrate vacuum chucking.

May Food Providers:

Bill Olsen, Vicki Olson, Gregg Parsons, Ludger Paus, Wayne Pilchak, Ross Pilgrim

PRESIDENT'S COLUMN:

Bruce Campbell

Bruce has been abducted by aliens, so there will be no president's column this month. Hopefully they will be done doing whatever it is they are doing to him and have him back for next month.

APRIL'S MAIN EVENT:

Gary Miller on Ornamental Turning

By Kerry Deane-Cloutier

Gary's work is easy to spot in our instant gallery: it is the piece that makes you wonder how it was made. Gary gave an interesting talk on the history and mechanics of ornamental turning. Ornamental turning is done on a lathe with attachments that convert the plain circular section of plain turning into variants of out-line. He demonstrated the use of a cross slide and power cutter on the club's indexed lathe. His cutter is a Roto-zip with an aluminum plate bolted on so it would be clamped into a cross slide. His cutters are 1/4" shank router bits. Key points were:

- It is easier to turn on a relatively straight sided piece
- Use a hard, dense wood like African Blackwood or box wood
- Alignment is key as a couple of thou make a big difference
- Use hearing protection and a face shield as the cutter may run at 17,000 RPM

Planning is crucial – consider where facets will end on the box edge or lid, and how thick your final wall thickness will be

Since Gary is moving to London, Ontario, somebody else will have to pick up the ornamental turning torch. Enjoy your new locale, and keep turning, Gary!

Gary referred us to an excellent website which belongs to the Society of Ornamental Woodturners—
<http://www.the-sot.com>.

STONE INLAY IN WOODTURNINGS

Stephen Hatcher

(Stephen Hatcher recently visited our club and presented an excellent demonstration and hands on class. This article was his hand out from the class, and we have reprinted it here with permission. Stephen's website is also well worth a visit.)

STONE INLAY IN WOODTURNINGS

Stephen Hatcher

<http://www.stephenhatcher.com> summit@nwlinc.com

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This is the original draft submitted to *American Woodturner* that was published the Winter, 2002 issue. A similar but abbreviated version was published in *Woodworker West* March-April, 2004 issue.

At an AAW chapter meeting a member asked for the best way to turn alabaster. The vastly experienced and fast thinking woodturner Ted Bartholomew responded "in someone else's shop". Good advise - and especially true when working with stone inlay. Stone inlay requires the use of large amounts of CA glue and the fumes are very noxious. The process of sanding stone creates dust that is not as easily captured by a dust collector as is wood dust - your shop may get very messy. At the end of the article I address the health and safety issues in greater depth.

Stone inlay is a technique I have a personal fascination with and I'm glad to share the basic technique with you. The first time I saw this was at the Utah Woodturning Symposium in 1998 or 1999 where Kip Christensen presented his approach. It's a simple process and the only refinement I have added is some research into the minerals more easily worked, a few tricks to minimize CA glue staining, and some improvement in the initial stone grinding efficiency. In the past year I have begun creating scenes of nature such as trees, flowers, and insects but the stone inlay technique is the same. The scenes are freehand drawn and freehand routed with a Dremel tool, but these topics are not the subject of this article. Here I'll describe making a stone inlaid band to accent a small platter.

After a considerable amount of experimentation I've settled on a limited range of colorful minerals that are easily acquired at rock shops, including some on-line. The requisite tools used to form them into inlay are as basic as a chisel, coffee can, CA adhesive (or superglue), and sandpaper.

Selecting Stone

The stone selected for inlay needs to be soft enough to finish with normal power sanding tools, yet durable enough to provide lasting beauty. Within several minerals I have found a wide range of colors and 'reflectivity'. Reflectivity is something akin to chatoyance in wood where the coarsely crushed stone catches the light with facets associated with the mineral crystal structure. Simply put: it sparkles and shimmers in bright light. The Moh's hardness scale is used by rock hounds and geologists to describe a mineral's hardness on a scale of 1 to 10. A hardness of 1 is talc (chalk) and a hardness of 10 is diamond. Aluminum oxide (corundum), used in sandpaper, has a hardness of 9.

At a hardness of 3-4 we find several minerals that are readily available, brightly colored, and/or translucent with high reflectivity. This range of hardness, equivalent to a copper penny, is fairly easy to work while still durable.

My favorites in this range are azurite, malachite, calcite and fluorite. Turquoise with a hardness of 5-6 is popular but not as intensely colorful as these other minerals and usually much more expensive. All of these minerals are common and can be found in most rock shops locally or on-line.

Options certainly exist in other sources of stone, but beware. Soapstone, with a hardness of 1-2, is fun to turn by itself and pretty, but is too soft for a durable inlay. Minerals harder than 6 are very difficult to finish but that doesn't necessarily preclude their use. Layer these beneath a softer translucent mineral like calcite and the color of the harder mineral will show through while the surface mineral is readily finished.

Minerals can be mixed randomly, uniformly, or in patterns. The addition of brass or aluminum filings can enhance the overall effect. In adding metals I've found 'less-is-more': a small amount of metal adds a beautiful gold or silver glint whereas too much metal washes out the mineral colors.



(Photo by Merv Graham, all other photos copyright Stephen Hatcher)

STONE INLAY IN WOODTURNINGS (cont.)

Stephen Hatcher

Preparing the Woodturning

From soft spalted alder to hard maple the inlay results are always great as long as the wood is relatively dry, about 12% or less. In that case the wood movement of a finished piece through the seasons is small enough that I've never had the stone inlay disfigure.

When turning a notch for inlay, the notch needs to be very well defined. If the notch has tear-out in its sides, the inlay edge will look sloppy. On soft woods use a wood hardener to get cleaner cuts.

I use a skew chisel to create the notch sides first, cutting about 3/16" into the wood. I then remove the area between the skew chisel cuts with a cutoff tool. It is not necessary to undercut the notch edge.

On soft woods it is advisable to cover the surface immediately around the area where a notch will be cut with any finishing wax. Then cut the notch leaving this barrier on the wood surface on both sides of the notch. This barrier will keep CA adhesives from staining the wood as you build up the stone in the notch. The notch must be free of wax so if any gets in there, re-trim the notch for a clean surface.



Step 1: Pretrim the inlay band notch with a skew chisel to a depth of about 1/4".



Step 2 Remove the wood between skew lines with a cutoff tool to a depth of about 3/16".



A 3/16" allen wrench makes a handy depth gage.

Placing the Inlay

Large chunks of stone must be crushed to fit the notch width. I use a small coffee can and a concrete chisel held backwards so the flat end strikes the stone. Cover the top of the can with one hand while pounding the stone with the chisel, otherwise pieces of stone will fly all over the shop. A piece of stone the size of a quarter creates a lot of crushed material. The following steps summarize the process.

1. Crush the stone only enough to allow the largest pieces to just fit in the notch. The remaining pieces will be progressively smaller down to a fine powder.
2. Place the largest pieces in the notch in whatever pattern you desire, usually a deliberately 'random' arrangement is a good start. Don't allow the largest pieces to be centered in the notch necessarily. Position the pieces so they are uniformly distributed across the notch width.
3. Add enough super-thin superglue to hold these pieces in place. Use an accelerant sparingly to prevent clouding. I mist a small amount from about 2 feet above a piece just to hurry it along. The superglue will cure to a clear polymer but too much accelerant will result in bubbles or clouding of the CA polymer.
4. Fill voids with smaller pieces but don't use the fine powder yet. Add super-thin superglue but use very little additional accelerant.
5. Add brass or another complimentary material to the voids at this time. The result will appear like veins running through the inlay.

STONE INLAY IN WOODTURNINGS (cont.)

Stephen Hatcher

Step 1 Pre-trim the inlay band notch with a skew chisel to a depth of about 1/4".

Step 2 Remove the wood between skew lines with a cutoff tool to a depth of about 3/16". A 3/16" allen wrench makes a handy depth gage. Add the fine powder to fill the remaining voids and repeat the application of superglue. It is important to build the superglue up in layers with progressively finer material to avoid pockets of liquid superglue within the inlay. These pockets will foul your sandpaper when finishing and pockets of unglued inlay material will tear-out during finishing on the lathe.



Coarse stone placed in the turned groove. It is often helpful to keep the wood in the lathe chuck and remove it from the lathe as a unit to maintain alignment.



The stone glued-up with finer crushed material added around the coarser pieces. Tap the wood gently settle the material then add superthin CA glue.

Finishing the Inlay

Aluminum oxide [AlO] sandpaper has a hardness of 9 so it can cut through any of the minerals I have recommended. If the inlay is thick I use silicon carbide [SiC] sandpaper for the initial sanding then switch to AlO to finish. SiC, also known as stearate, is used most often on stone because of its high friability.

1. Using power sanding, take the stone inlay down to where it is about level with the wood surface. At this time try to get the inlay almost flush with the wood surface. Just enough to see voids in the initial inlay setting.



Use power sanding to finish the stone. Start with 60-80 grit and take the stone down until it's just flush with the wood surface.



Progress through finer grits of sandpaper finishing the entire piece. If a large void occurs remove the wood plus chuck and repair, otherwise fill small voids with thick CA glue.

STONE INLAY IN WOODTURNINGS (cont.)

Stephen Hatcher

Progress through finer grits of sandpaper finishing the entire piece. If a large void occurs remove the wood plus chuck and repair, otherwise fill small voids with thick CA glue.

2. Remove the chuck and woodturning together and blow away any dust in the inlay voids. Apply more wax only to the wood as needed to limit staining the wood by the CA glue. Then add finer mineral pieces and mineral dust on top of the inlay to get the surface level. Reapply super-thin CA glue, this time dripping it onto the fine material and letting it spread. Return the assembly to the lathe and repeat sanding with 120 grit. Sand into the wood slightly to remove stains from the superglue or mineral dust. If needed repeat this step.

3. When the remaining voids are small enough that no wood is visible within the inlay and the largest void is less than about 1/8", use gap-filling superglue to fill these voids. This can be done while the piece is on the lathe.

4. Progress through finer sandpaper grades as you would in finishing any wood piece. The stone inlay may be a little tougher to sand when it's coarse but when the inlay is essentially completed go to 180-220-320-400 grits for the final sanding. Run the lathe slowly during this phase of power sanding and keep the sandpaper cool. In soft woods use care not to erode the wood around the inlay creating a stone 'dome'.

5. Occasionally a small piece of inlay will tear out during the sanding leaving a void. If it's small enough just refill with gap-filling superglue, otherwise add a little mineral dust and use super-thin superglue. For these patches I use whatever grade of sandpaper I was up to when the tear-out occurred.

6. I polish the inlayed surface with a buffer and recheck for defects. The inlay will polish to a nearly perfect luster. Then apply your favorite finish and rebuffer.

Replacing Bark Inclusions

Stone inlay can add spectacular effects to otherwise drab bark inclusions. Using stone that is laminar (naturally occurring in layers) I shape the stone with a file or sanding disc to fit the inclusion void. The void needs to be clear of rotten bark to provide a solid gluing surface. The stone is placed so the layers are parallel to the void surface to get a coral-like effect after sanding or at an angle to the surface to result in parallel lines of color.

Health Concerns

Like wood, sanding stone creates very fine dust. Use a dust collection system, and wear a well fitting mask. The fine dust coming off minerals adheres to the inside of dust collection bags. So give these bags a gentle shake after you've been working with stone to keep the filter pores open.

Do not use wet sanding to try to keep the dust down, at least not with calcite. Calcite can be etched with water and you can damage the surface or edge of the inlay if it stays wet very long.

Stone inlay requires the use of relatively large amounts of superglue. I used about 0.5 ounces in the platter project just described. Superglue fumes are very irritating to your eyes and respiratory system so keep the area very well ventilated.

Suppliers

I've purchased the minerals described here locally and on the internet. I've found that, for me, there is much higher quality and value to be found on-line. Currently I buy only from the following supplier: Great South Gems And Minerals at www.greatsouth.net or 1-888-933-Gems. I have no association with this company and receive no benefit from recommending them but I would appreciate you mentioning I referred you. You can spend \$20-\$30 total and get enough of these minerals to complete several projects.

I get silicon carbide sandpaper from SuperGrit, Klingspor, and Rossini Marble Supply. Supergrit is a good source for smaller quantity purchases: www.supergrit.com or 1-800-822-4003. Remember you only need silicon carbide to so get 60 grit and use your regular aluminum oxide thereafter.

Good Turning.

Stephen Hatcher lives in Renton, Washington and is past President of the South Puget Sound Chapter. He welcomes email at summit@nwlink.com.

STONE INLAY IN WOODTURNINGS (cont.)

Stephen Hatcher

*Finished piece made
in the article.*



Finish the bottom as you prefer and apply any finish you like. This piece was finished with tung oil and carnuba wax. The stone buffs to a high luster.

Addendum: Other Examples



Wetlands (No. 3) 16" diameter fiddleback maple inlaid with calcite, malachite, azurite, and black mica.



Autumn Breeze (No. 6) 16" diameter curly-figured maple inlaid with calcite, dolomite, gold leaf, and black mica.

ANDI WOLFE DEMO AND CLASS

Art Liestman

We are happy to inform you that Andi Wolfe, from Upper Arlington, Ohio, will be here on Saturday, June 25th for a lecture/demo and for a hands-on class on June 26th.

The natural world offers many inspirations, especially when it is examined at high magnification. Andi Wolfe is a botanist by day and a part-time woodturner in whatever spare time she can glean from the week. Her botanical training has served her well in woodturning. Her work has focused on the use of surface enhancements that employ botanical motifs. Some of the motifs are obvious. For example, she sometimes uses a botanical print model to illustrate the various flowering stages of a particular plant, or she'll cover a turning in maple or oak leaves. Other designs are less obviously botanical unless one is used to seeing plants at the microscopic level. Some of her turnings are covered in textures inspired from microscopic cellular structure.

Andi's work has been showcased in American and international magazines as well as being regularly featured in shows and exhibits across the US. Her work is available in major galleries in the US. She has demonstrated at the AAW Symposium and at the Utah Woodturning Symposium as well as many regional symposia and for many AAW chapters. You can see more of Andi's work at www.andiwolfe.com.

On Saturday, June 25th, Andi's demo will be held at the Sapperton Pensioners Hall from 9:30 am to approximately 4 pm. There is a \$25 charge to attend the demo. During the demo, Andi will first turn a small bowl to discuss her design aesthetic and to illustrate how she prepares her "canvas." There will be a slide show and overhead transparency presentation to talk about her work and inspirations. The demo will proceed with a carving/texturing/scorching demo using power carvers, a pyrography demo featuring her leaf motif and texturing processes, including her 'burnt relief technique', plus a coloring demo using both transparent and opaque coloring techniques.

Andi will teach a hands-on class for up to 8 students on Sunday, June 26th at Island Woodcraft in Coquitlam from 9:30 am to approximately 4 pm. The class fee will be \$150. We will have a signup sheet for the remaining class spaces at the May meeting. The class will focus on surface enhancements and should not involve much (if any) turning. Students will

copy a design onto some small rectangular plaques to practice pyrography and coloring. In addition, she will bring some small turned spheres to decorate.

Students are encouraged to bring any woodburning tools that they have, plus

acrylic paints and art markers if you have them.



ISLAND WOODCRAFT--What's It to Ya

Merv Graham

A couple of recent incidents have prompted me to write a testimonial to Island Woodcraft (IWC). First, many of you know that Island Woodcraft has been storing our club lathe and AV gear since the start of the elevator project at the Pensioners Hall. Next, Jay Mapson, our coordinator for the Cloverdale show, told me of a bit of a crisis where we needed to find storage for our plinths quickly. Dave Wagner, manager of IWC, came out on a Sunday evening to open the store so we could add even more stuff to the clubs collection being housed there.

These two events led me to do some investigating into just what else IWC does for us. To investigate required me going to the store; not a good move to lead a turner to a tool store. Yes I did buy something and was surprised to find that Guild members get a 10% discount on many items when shopping there. Good thing I only had enough money to buy a Steb center. I then took a look at the great lot of club stuff that occupies one corner of the workshop and is taken out and returned up to three times a month for meetings, demonstrations, and other Saturday activities. I was pleasantly surprised to find that we not only use the space for a storage locker at no charge but they host our visiting demonstrator classes at no charge.

So to answer, "What's it to ya?" it is very simple. Since the start of the elevator construction at the Pensioners Hall it has saved the Guild (us) a lot of bucks on storage as well as the cost of equipment and space for our classes. Last, but not least, it saves you personally 10% on most purchases you make there. I, being a good Scot that I am, kinda like that part considering that at the other tool stores we frequent (not to mention those by name) don't give any discount.

My intention in writing this is not to make a commercial for IWC, Rather, I think we, as club members, need to show out loyalties to those that help us. Namely Doug Black and Dave Wagner of Island Woodcraft. Go a few hundred meters east past the Coquitlam Ikea on Lougheed Highway, turn north on Schoolhouse and up to their store, save 10% and support those who support us.

INSTANT GALLERY

Weed Pot, Laburnum,
3"x 5", Doug Schop



Oil Lamp,
Mitchell Visser

Hollow Form, Horse Chestnut,
8"x 5", Neno Catania



INSTANT GALLERY (cont.)



Bowl, Jarrah Burl, 11"
Kerry Deane-Cloutier



Hollow Form, Maple Burl,
7" x 5", Neno Catania



Bowl, Acacia, 8"
Al Koehn

PRESIDENT'S CHALLENGE—10 to 1



Stack O' Plates, Various Woods, Bruce Campbell



Rings on a Post, Hackberry, Alan Cusworth



Clock (stuck at 12:50), Yew, Dale Harvey



10 Bowls, Yellow Cedar, Harry Taylor

NOTICES:

Help Still Needed -- May 28 --29

There is still a need for volunteers for the wood carvers show to tend our booth and display your talents.

The show will be held at the Steveston Community Center at 4111 Moncton St. in Richmond. Volunteers will gain access to the show without charge. Also needed are examples of the work we do, so dust off those pieces you have in the living room showing your friends how good you are and bring them out for our display. Pieces can be brought to the May 26 meeting or dropped off at the Steveston Community Center Friday evening 4 till 8 or Sat. morning between 10 and 12. Pick a shift from the times below and come support your club and, while you're at it, see a great collection of wonderful art put on by the carvers.

All shifts need help particularly the 3 to take down shift on Sunday. Shifts are Friday set up from 4 till 8 I will be there getting things organized starting at 4; Sat --11 till 1; --1 till 3; -- 3 till 5. Sunday shifts are 10 till 12; -- 12 till 2: --2 till close up.

Merv Graham contact mervgraham@shaw.ca or phone 604 272 3525

Wood Transformed, Revelstoke Visual Art Gallery

The Revelstoke Visual Art Gallery is planning a show for Woodturners, Cabinetmakers and Carvers, and they are looking for artists. Dates have not yet been announced.

Email Ashley at info@revelstokevisualarts.com for more info.

COMING EVENTS

Russ Fairfield - September 10 demo, classes on September 11 and 12 (if there is interest).

Marilyn Campbell - November 12 demo, classes on November 13 and 14 (if there is interest).
<http://www.marilyncampbell.ca>

If you are interested in some of these classes or if you'd like to request other demonstrators, please contact Art Liestman (artliestman@shaw.ca or 604-939-3843).

GVWG Officers, Appointees and Volunteers

PRESIDENT

Bruce Campbell 604-944-3028

VICE PRESIDENT

Steve Hansen 604-585-0638

SECRETARY

Larry Stevenson 604-438-3947

TREASURER

Merv Graham 604-272-3525

MEMBERS AT LARGE

Fred Baldwin 604-531-9395

Colin Delory 604-576-1172

Andrew Forrest 604-990-9667

John Weir 604-524-5831

Gerry Vickers 604-463-0760

Jay Mapson 604-723-8692

Marco Berera 604-274-7594

David Wagner 604-983-3852

LIBRARY ACQUISITIONS ADVISOR

Don Hoskins 604-939-6808

EDUCATIONAL COORDINATOR

Marco Berera 604-274-7594

LIBRARIANS

Michelle Jacobs 604-581-7097

Russ Selwood 604-224-4126

WOOD EXCHANGER

Steve Kent 604-937-0145

FOOD CHIEF

Rich Schmid 604-538-7012

FOF COORDINATOR

Lorne Nelson 604-596-9848

NEWSLETTER

Dennis Cloutier & 604-468-0605

Kerry Deane-Cloutier

gvwg@runningdogwoodworking.com

DIGITAL PHOTOGRAPHY

Gregg Parsons 604-542-9066

WEBMASTER

Steve Fairbairn

sgfmail@shaw.ca